

SUPREME COURT OF THE UNITED STATES
NO. 141, ORIGINAL

STATE OF TEXAS,)
)
 Plaintiff,)
)
VS.) VOLUME VIII
)
STATE OF NEW MEXICO)
AND STATE OF COLORADO,)
)
 Defendants.)

TRANSCRIPT OF PROCEEDINGS

The above-entitled matter came on for HEARING
before HONORABLE MICHAEL A. MELLOY, SPECIAL MASTER,
held REMOTELY via Zoom, on OCTOBER 18, 2021,
commencing at 11:01 a.m.;

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1 **JUDGE MELLOY:** All right, everyone. Are
2 we ready to get started this morning? This is United
3 States Original No. 141. I'd ask the attorneys who
4 are going to be appearing for the witness this morning
5 to enter their appearance. Who do we have for Texas?

6 **MR. SOMACH:** Your Honor, this is Stuart
7 Somach on behalf of the State of Texas. I am -- if --
8 I am here if you would like to address the motion that
9 we filed on Friday and the response by New Mexico.
10 Theresa Barfield, also for the State of Texas, will be
11 questioning the witness, Dr. Miltenberger, this
12 morning.

13 **JUDGE MELLOY:** I was not planning to
14 address that motion this morning. I was going to wait
15 until we started the Texas case and actually started
16 into those witnesses and we could have a little better
17 understanding of -- of what they're going to testify
18 to and -- and how their testimony may or may not be
19 similar, so I really wasn't planning to take that up.

20 **MR. SOMACH:** All right.

21 **JUDGE MELLOY:** All right?

22 **MR. SOMACH:** That's fine, Your Honor.

23 **JUDGE MELLOY:** Okay. Who do we have for
24 New Mexico?

25 **MR. SOMACH:** I'm sorry. Then

1 Ms. Barfield will be representing the State of Texas
2 this morning.

3 **JUDGE MELLOY:** All right. And who do we
4 have for New Mexico?

5 **MR. DRAPER:** Your Honor, this is John
6 Draper for the State of New Mexico.

7 **JUDGE MELLOY:** Okay. For the United
8 States?

9 **MS. COLEMAN:** Good morning, Your Honor.
10 This is Judith Coleman for the United States.

11 **JUDGE MELLOY:** And for Colorado?

12 **MR. HARTMAN:** Good morning, Your Honor.
13 Preston Hartman for the State of Colorado.

14 **JUDGE MELLOY:** Okay. All right. Then
15 before we get into the exhibits, I guess I'll let
16 Ms. Barfield call your witness. Ms. Barfield?

17 **MS. BARFIELD:** Yes, Your Honor. One
18 other sort of housekeeping matter. On Friday, I
19 believe it was, Texas trial exhibit number stamped and
20 uploaded deposition designations that are pending. I
21 want to make it clear to the Court, we're not offering
22 those into evidence yesterday. We will at the
23 appropriate time during the course of New Mexico's
24 case in chief as we go through the fall. I'll offer
25 those into evidence, but I didn't want Your Honor

1 ruling on them or admitting them before we actually
2 formally offered them so I just want to make sure
3 that's clear.

4 **JUDGE MELLOY:** Okay, thank you. That
5 did raise one issue. Would you provide us with hard
6 copies of those deposition designations?

7 **MS. BARFIELD:** Yes, Your Honor.

8 **JUDGE MELLOY:** All right. I'm sorry.
9 Someone wanted to speak?

10 **MR. DRAPER:** Yes, Your Honor. This is
11 John Draper. I just wanted to note that the parties
12 had previously agreed that those deposition
13 designations to which Ms. Barfield is referring would
14 not be offered, if at all, until the spring trial
15 phase, and so we are surprised that they are
16 suggesting that they are not going to follow that
17 agreement. But we can address that, I suppose, when
18 they make -- make the attempt she refers to.

19 **MS. BARFIELD:** Well, for clarification,
20 Your Honor, the agreement was we would offer them at
21 the time that the witness was testifying. Ms. Thacker
22 isn't going to testify so we may offer her in the
23 fall, but at any rate, whether those witnesses are
24 testifying in the fall or the spring will reflect the
25 timing on when we offer the designations, and we will

1 do so at the appropriate time, and we will not violate
2 any agreement.

3 **JUDGE MELLOY:** All right. We'll take
4 that up when it comes. All right. Ms. Barfield, you
5 may call your witness.

6 **MS. BARFIELD:** Yes, Your Honor. The
7 State of Texas calls Scott Miltenberger to the stand.

8 **JUDGE MELLOY:** Dr. Miltenberger, would
9 you raise your right hand, please? Do you solemnly
10 swear or affirm that the testimony you're about to
11 give will be the truth, the whole truth, and nothing
12 but the truth?

13 **THE WITNESS:** I do.

14 **JUDGE MELLOY:** All right. Would you
15 state your name and spell your name for the record,
16 please?

17 **THE WITNESS:** Yes. Scott Miltenberger,
18 M-I-L-T-E-N-B-E-R-G-E-R.

19 **JUDGE MELLOY:** All right.
20 Dr. Miltenberger, I need to go over a couple of the
21 ground rules with you that we cover with each of the
22 witnesses. First of all, let me ask you: Is there
23 anyone in the room with you during your testimony?

24 **THE WITNESS:** No.

25 **JUDGE MELLOY:** Do you have any documents

1 available to you that you will be referring to during
2 your testimony, other than the exhibit books?

3 THE WITNESS: No.

4 JUDGE MELLOY: All right. And then I do
5 need to advise you, Dr. Miltenberger, that you're not
6 allowed to have any communication devices available to
7 you, including laptops, iPhones, iPads, or any other
8 device with e-mail, texting, instant messaging
9 capability. Do you understand?

10 THE WITNESS: I do.

11 JUDGE MELLOY: All right. Then,
12 Ms. Barfield, before we start the examination, let me
13 go through where we are -- hopefully where we are with
14 the exhibits. First of all, just so there's no
15 confusion, Texas filed an amended exhibit list with
16 objections. That, I think, was filed yesterday or
17 maybe Saturday, but in any event, that supersedes the
18 initial list; is that correct, Ms. Barfield?

19 MS. BARFIELD: Yes, that's correct, Your
20 Honor. We should be working from the one filed at
21 least Pacific Time early evening or late in the
22 afternoon.

23 JUDGE MELLOY: All right. So based upon
24 what I understand to be A exhibits, and it's a very
25 lengthy list so I'll go through these, it'd be

1 Miltenberger Demonstrative Exhibits 1, 2, 3, 4, and 5
2 are admitted; Miltenberger Demonstrative Exhibits 9,
3 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 are
4 admitted; Miltenberger Demonstrative Exhibits 22
5 through 28 are all admitted; then Miltenberger
6 Demonstrative Exhibits, looks like, 29 through 48 are
7 all admitted; Miltenberger Demonstrative Exhibits 51
8 through 62 are admitted; Miltenberger Demonstrative
9 Exhibit 74 is admitted; Joint Exhibit 0458, 0467, 0468
10 are admitted; New Mexico 0175 has previously been
11 admitted; New Mexico 1439, 1473, 1474, and 1484 are
12 admitted; New Mexico 1602 is admitted; Texas 0008,
13 0029, 0486 are admitted; Texas 0607, 0608 are
14 admitted; Texas 0614 and 0618 are admitted; Texas
15 0620, 0622, and 0624 are admitted; Texas 0626 is
16 admitted; Texas 0629 and 0630 are admitted; Texas 0633
17 is admitted; Texas 0636, 0637, 0638, and 0639, and
18 0640 are all admitted; Texas 0644 is admitted; Texas
19 0649 and 0652 are admitted; Texas 0657, 0659, 0660 is
20 admitted; Texas 0663, 0664, and 0665 are admitted;
21 Texas 0667, 0668, and 0669 are admitted; Texas 0673
22 and 0674, 0676, Texas 0677, and Texas 0678 are all
23 admitted; Texas 0710 is admitted; Texas 0715 is
24 admitted; Texas 0730 and 0735 are admitted; Texas 0736
25 is admitted; Texas 1210, 1211 are admitted. I think

1 that is it.

2 **MS. BARFIELD:** Your Honor, I think Texas
3 648 is a Category A that we missed.

4 **JUDGE MELLOY:** Yes, it is a Category A
5 so if I missed 648, it is admitted. And then on the
6 cross-examination list, we have Colorado 0004
7 admitted; Joint Exhibits 0218 and 0426 are admitted;
8 Joint Exhibits 0428 and 0430 have previously been
9 admitted; Joint Exhibit 0432, 0443, 0446, and 0462 are
10 admitted; 0444 has previously been admitted; Joint
11 Exhibit 044 -- excuse me -- Joint Exhibit 0466, Joint
12 -- New Mexico Exhibit 0435, New Mexico Exhibit 0445,
13 New Mexico 0499, New Mexico 0502, New Mexico 0 --
14 excuse me. Those -- those are admitted, Joint 0466
15 and New Mexico 0435, 0445, 0499, and 0502 are
16 admitted. New Mexico 1035, 1419, and 1546 are
17 admitted; New Mexico 1602, 1657, 2119, 2302, 2303 are
18 admitted; New Mexico 3000 previously admitted; Texas
19 504, 513, 0659, 0718, and 0620 are admitted; and Texas
20 -- excuse me -- US-0656 is admitted.

21 Any that I missed anyone note? All
22 right. Then Ms. Barfield, you may proceed.

23 **MR. DRAPER:** Your Honor, I might just
24 say for the record, this is John Draper. We may be
25 hearing some testimony that verges on legal

1 conclusions, Your Honor, and depending -- it can
2 depend on particular wording in the particular
3 instance, and I just wanted to be clear with -- with
4 the Court that we will consider those statements to be
5 statements of fact, either historical or opinion
6 facts, and will not be objecting continually on -- on
7 the basis that it might be a legal conclusion.

8 **JUDGE MELLOY:** All right. Any problem
9 with that, Ms. Barfield?

10 **MS. BARFIELD:** No, Your Honor. That's
11 fine.

12 **JUDGE MELLOY:** All right. And,
13 Mr. Draper, why don't you turn your camera on? There
14 you go. All right. Very good. Ms. Barfield, you may
15 proceed.

16 **MS. BARFIELD:** Your Honor, could I raise
17 a couple other exhibit issues before we start with
18 Dr. Miltenberger's testimony?

19 **JUDGE MELLOY:** You may.

20 **MS. BARFIELD:** Thank you very much, Your
21 Honor. This is a bulk issue, so there are 56
22 historical documents that New Mexico has asserted
23 objections to on the basis of illegible or poor
24 quality citing to Rule 403 for unfair prejudice. Now,
25 38 of those would be Category A, not subject to any

1 other objections. Dr. Miltenberger -- we could go
2 through the exercise of asking Dr. Miltenberger if he
3 was able to read each of these documents. It does not
4 seem efficient. I will represent to the Court that he
5 was able to, and you'll see some of these in the
6 presentation, and obviously they're all in Your
7 Honor's binders. I will commit to the Court and the
8 parties that if we are able to locate better versions
9 of these documents, we're happy to replace them, you
10 know, after today, and give the parties and the Court
11 notice of the replacement, but, however, I would ask
12 the Court to overrule the objections on the basis of
13 illegible and poor quality historical documents to
14 hopefully we can proceed through some of this a little
15 quicker.

16 **JUDGE MELLODY:** All right. Well, let me
17 take a look at some of those documents and see how
18 poor the quality is, and then I'll -- I'll reserve
19 ruling until I've had a chance to look at some of
20 them. All right?

21 **MS. BARFIELD:** Thank you, Your Honor.
22 And one other sort of bulk exhibit issue to address
23 are objections that were raised by the State of
24 Colorado. Colorado has raised 56 -- objections to 56
25 of the historical documents on the basis of relevance,

1 legal opinion, or beyond the scope of
2 Dr. Miltenberger's expertise. Each of these 56
3 historical documents are cited in Dr. Miltenberger's
4 reports and declarations, and Colorado does not object
5 to the introduction of those reports and declarations,
6 and they've already been admitted. For that matter,
7 again, to make this proceed quicker, I would ask the
8 Court to overrule Colorado's objections.

9 **JUDGE MELLOY:** What's Colorado's
10 position on that?

11 **MR. HARTMAN:** Our position is those are
12 giving Texas a heads-up on what we might object to,
13 depending on how Dr. Miltenberger testifies. If what
14 he's saying is legal opinion, much like Mr. Draper
15 mentioned earlier, then we may object, for example.
16 So these are objections we may make, but I also don't
17 intend to object to every -- every exhibit here, Your
18 Honor.

19 **JUDGE MELLOY:** Well, let's get started
20 and see where we are with this, and maybe we can
21 overrule or admit them in a bulk fashion, but until we
22 get a little bit into the testimony, I'm not going to
23 make any ruling on that at this time.

24 **MS. BARFIELD:** Thank you, Your Honor.
25

SCOTT MILTENBERGER,
having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MS. BARFIELD:

Q. Good morning, Dr. Miltenberger.

A. Good morning.

Q. Could you please state your business address?

**A. 2850 Spafford, S-P-A-F-F-O-R-D, Street,
Davis, California.**

**Q. You've been retained in this case by the
State of Texas. Can you please tell us the nature of
your expertise?**

A. I'm a professional consulting historian.

MS. BARFIELD: All right. Why don't we
go ahead and move into Demonstrative No. 2, please.
And for the record, Your Honor, Demonstrative No. 2
contains a document within it Texas 0794.

**Q. (BY MS. BARFIELD) Is this a current copy of
your professional resume, Dr. Miltenberger?**

A. It's current as of August 1st.

Q. Did you prepare this?

A. Yes.

**Q. Is it up to date and current as of August
1st?**

A. Yes.

1 Q. Is there anything significant to your
2 testimony today that's happened since August 1st that
3 you'd like to supplement the professional resume with
4 at this time?

5 A. No.

6 Q. Okay. Is it the full thing -- how many pages
7 is that, seven?

8 A. Yes.

9 Q. Okay. The full thing is a true and correct
10 and accurate copy of your professional resume
11 depicting your educational background and your work
12 experience; is that correct?

13 A. That's correct.

14 MS. BARFIELD: Your Honor, I'd move to
15 admit Texas 0794.

16 JUDGE MELLOY: Any objection?

17 MR. DRAPER: No objection.

18 JUDGE MELLOY: 0794 is admitted.

19 Q. (BY MS. BARFIELD) Dr. Miltenberger, can you
20 tell us a little about your education? And why don't
21 you start with college.

22 A. Yes. I have an AB in history from Colgate
23 University, summa cum laude. I have a master's in
24 United States history from the University of
25 California at Davis, and I have a PhD in U.S. history

1 from the University of California at Davis. My PhD
2 specializations were in urban, cultural, and
3 environmental history.

4 **Q. Did you always want to be a historian?**

5 A. No. At various times in my life, I wanted to
6 be a priest, a physicist, and even an attorney.

7 **Q. Did you ever consider an academic career?**

8 A. I did, yes.

9 **Q. I take it you didn't go in that direction?**

10 A. No. As I worked my way through the graduate
11 program, I -- I decided I really wanted to have a
12 career outside the academy. I maintained an interest
13 in -- in public history. I had worked for the City of
14 New York in its historical park signs program, and so
15 as I wrapped up my dissertation, I wanted to have that
16 kind of level of civic or public engagement in my
17 career.

18 **Q. All right. Now, on Page 1 of your**
19 **professional resume, I see there's kind of a gray box**
20 **area on the right-hand side. Do these represent**
21 **honors, awards, fellowships, that sort of thing during**
22 **the course of your academia?**

23 A. Yes.

24 **Q. Okay. Is there anything in particular that**
25 **you'd like to highlight for the Court today?**

1 A. Well, one that I'm particularly proud of is
2 the Jacob K. Javits Graduate Fellowship.

3 **Q. Why is that? Why don't you explain that to**
4 **us?**

5 A. The Javits Fellowship is one of the few
6 fellowships available to graduate students in the
7 humanity and social sciences. Typically -- it's
8 awarded on the basis of demonstrative need, academic
9 -- prior academic performance, and academic promise.
10 I'm proud of it because it fully funded me through my
11 graduate career.

12 **Q. All right. Why don't you give us -- well, is**
13 **there anything else that you wanted to highlight from**
14 **that before I move on?**

15 A. No. I mean, I'm proud of all my honors here,
16 but that's one I wanted to particularly highlight.

17 **Q. Okay. Great. Now, can you give us an**
18 **overview of your professional experience starting with**
19 **what you did after you received your PhD?**

20 A. Yes. So since 2006, I have provided
21 professional historical consulting services on a
22 variety of natural resources and land -- natural
23 resources and environmental issues, excuse me. In
24 particular, specializing in issues relating to western
25 water, prior appropriations, riparian rights, among

1 others.

2 Q. And when you say "western water" use, does
3 that also include land resources and so forth to the
4 land that's connected to the water?

5 A. That's right, yes.

6 Q. All right. And you currently work for what
7 company?

8 A. JRP Historical Consulting, LLC.

9 Q. And how long have you been with JRP
10 Historical Consulting, LLC?

11 A. Since November of 2006.

12 Q. All right.

13 A. So it'll be 15 years next month.

14 Q. Okay. And does JRP specialize in any
15 research area?

16 A. Yes. There's -- there's two halves of the
17 business. One-half of the business deals with what we
18 call cultural resources management, historical
19 evaluations of the built environment for the purposes
20 of NEPA, the National Environmental Policy Act, or
21 other state environmental legislation, such as --
22 regulation such as CEQA here in California. The other
23 half of the business is the half of the business I
24 work in predominantly which is on the environmental
25 and natural resources issues.

1 **Q. How many people work for JRP?**

2 A. There's approximately 15 professional staff,
3 historians and research assistants. We like to say
4 we're big for what we do.

5 **Q. All right. Are you a partner with JRP?**

6 A. I am, yes.

7 **Q. How long have you been in the partner role?**

8 A. I've been a partner since 2017.

9 **Q. And what -- what was your role prior to being**
10 **a partner?**

11 A. I was a professional -- part of the
12 professional staff. I was historian at various
13 levels.

14 **Q. Okay. And what are your duties and**
15 **responsibilities as a partner with JRP?**

16 A. Project management, for the most part.
17 Client and new business development. But in cases
18 like this, my role is to develop the research
19 strategy, direct those working under me, and author
20 reports of various kinds.

21 **Q. All right. What types of clients does JRP**
22 **have?**

23 A. Well, JRP's clients run the gambit from
24 private parties, private landowners, to irrigation
25 districts, to state and federal agencies. It's really

1 a broad swath.

2 Q. Okay.

3 MS. BARFIELD: Let's go ahead and move
4 onto Demonstrative No. 3, please.

5 Q. (BY MS. BARFIELD) Are there any projects that
6 are significant to the testimony that you're going to
7 offer for the Court today that you'd like to highlight
8 for the Court?

9 A. Yes.

10 Q. Okay. And there appear to be three callouts
11 in the middle of Demonstrative No. 3. Did you choose
12 these callouts?

13 A. Yes, I did.

14 Q. Okay. Why don't we talk about those, and I
15 think why don't we choose the -- the bottom one first.
16 Can you please tell us about that?

17 A. Yes. That was the first project that I was
18 involved in after my graduate time. I consider it
19 something of a post doc in public history, and in this
20 kind of work that I came to do, it was -- JRP for a
21 long time had been involved in the Snake River
22 adjudication up in Idaho. I came on and worked in a
23 variety of capacities researching a variety of issues
24 for the Idaho State Attorney General's Office.

25 Q. Was there anything significant with the work

1 that you did in this Idaho matter that you think is
2 particularly relevant to your testimony today?

3 A. Yeah. Actually, I think, several things.

4 Q. All right.

5 A. One of those was it was a deep dive into
6 federal records and the way that federal agencies
7 manage, control, organize their -- their records. It
8 also gave me exposure -- this particular project gave
9 me exposure to a lot of the issues that I have since
10 come to specialize in, issues of prior appropriation,
11 issues relating to water use on a variety of -- of
12 fronts, native American water claims, federal reserve
13 water claims, working on legislative histories and the
14 like.

15 Q. You mentioned federal records. What are the
16 particulars that you learned from your work in the
17 Idaho matter of how a federal government keeps its
18 historical records that's pertinent to your work in
19 this matter?

20 A. So every federal agency is very different,
21 and that -- that comes across in its -- the management
22 of its records. Understanding how an agency at
23 various times during its own history collated
24 knowledge, analyzed knowledge, preserved knowledge, is
25 essential for identifying those documents that can

1 paint or reveal what decision making was, what the
2 context for events were.

3 **Q. Okay. Anything else?**

4 A. Well, it's -- it is -- some have described it
5 as a bit archaic. It really takes a deep exploration
6 of the records themselves as they're held at federal
7 archives in a variety of different places across the
8 country.

9 **Q. All right. Why don't we look at the -- the**
10 **-- well, either the top callout or the middle callout,**
11 **your choice.**

12 A. Well, these are kind of stacked from earliest
13 to more recent. So the middle dealt with some work I
14 did in California regarding these -- what's referred
15 to as -- or has become referred to as the Area of
16 Origin laws. This was a legislative history that I
17 prepared for examining the broader context for these
18 particular California statutes. That -- that work
19 entailed not just looking at the various drafts of
20 legislation, but getting a -- a clearer picture of the
21 broader historical context that was informing the
22 drafting of that legislation.

23 **Q. And what in particular about that do you find**
24 **was particularly pertinent to the work that you did in**
25 **this matter?**

1 A. Well, that work really underscored for me
2 that laws, legislation, these things don't exist in a
3 vacuum. They're rooted in a particular historical
4 context, and documents themselves are rooted in a
5 particular historical context that I think is
6 essential -- it's essential to understand that context
7 to really -- to really interpret that document or
8 understand what that document means to the broader
9 patterns of history.

10 **Q. All right. Now, what about the -- the last**
11 **callout that you've chosen for the Court?**

12 A. Well, the last one, and this overlapped with
13 when I began working on the Rio Grande, was a -- a
14 more fuller introduction to some of the issues
15 surrounding groundwater development in the west and
16 the issues that are attendant to that. In this case,
17 this particular case, excuse me, I was in a support
18 role researching the history of groundwater
19 development and use in the Antelope Valley relative to
20 federal reserve claim -- federal reserve water rights
21 claims for Edwards Air Force Base in California.

22 **Q. Okay. Is there anything else you'd like to**
23 **highlight about that matter?**

24 A. No, with maybe one exception across the
25 board. I think this sort of demonstrates a cross

1 section of many of my clients. The Idaho work was for
2 the State of Idaho. The legislative history that we
3 did for Herum Crabtree was for a private party, and
4 the history of groundwater was for the U.S. Department
5 of Justice.

6 Q. Okay. Very diverse?

7 A. Yes.

8 Q. I think you told us you had 15 years of
9 experience upcoming in November. Based upon your 15
10 years of experience in research and history of western
11 water use and development, do you consider yourself a
12 specialist in that area?

13 A. I do.

14 Q. All right. You did mention when we first
15 started being retained by the State of Texas in this
16 matter. Additionally, have you or your firm been
17 retained by Somach, Simmons & Dunn before this matter?

18 A. Yes.

19 Q. Okay. On how many occasions?

20 A. One occasion. One other occasion. Excuse
21 me.

22 Q. Okay. And what was that prior matter?

23 A. That was the Klamath River Basin
24 Adjudication.

25 Q. Okay. Who retained you?

1 A. That project actually predated my time at
2 JRP. I think I was actually in high school when JRP
3 was engaged in that particular project. So my
4 understanding from my former business partners and
5 retired partners at JRP was that Somach, Simmons &
6 Dunn retained the firm some time in the 1990s.

7 Q. Okay. But you didn't work on the -- the
8 Klamath matter; is that right?

9 A. That's right.

10 Q. Okay. Have you been retained to act as an
11 expert in a litigated matter before?

12 A. Yes.

13 Q. On how many occasions?

14 A. Ten occasions. Some of those are pending,
15 and I haven't yet been disclosed.

16 Q. Okay. Can you estimate for us how many of
17 those are plaintiff versus defendant, for example?

18 A. Yes. I think it's five -- five instances of
19 working for the plaintiff, three for a defendant, and
20 there are two adjudications which my particular
21 client, the people I'm working for, are both a
22 plaintiff and defendant in the matter.

23 Q. All right. Now, of those approximate ten
24 times that you were retained as an expert, how many of
25 those, if any, were you qualified by a court to

1 **testify as an expert historian?**

2 A. Four times.

3 **Q. Okay. And would you tell us which courts?**

4 A. Yes. So the first was Sacramento County
5 Superior Court in California. The second instance was
6 Santa Clara County in California. The third instance
7 was in Maricopa County, Arizona for the San Pedro Gila
8 River Adjudication, although I should just clarify for
9 the Court that my understanding is that Arizona
10 doesn't have a formal expert witness qualification
11 process, but I provided expert -- I was retained as an
12 expert historian in that matter. And the fourth
13 instance was in U.S. Federal Court in the Northern
14 District in Oakland.

15 **Q. Okay. And, Dr. Miltenberger, have you ever**
16 **been offered to the Court or tendered to the Court to**
17 **testify as an expert historian where that request was**
18 **denied?**

19 A. No.

20 **Q. All right.**

21 **MS. BARFIELD:** Your Honor, the State of
22 Texas tenders Dr. Miltenberger as an expert historian
23 witness with special expertise in the history of
24 western water and related land use and development.
25 Your mic is muted.

1 **JUDGE MELLOY:** Sorry about that. Any
2 response, Mr. Draper?

3 **MR. DRAPER:** No objection, Your Honor.

4 **JUDGE MELLOY:** All right.
5 Dr. Miltenberger can testify as an expert witness.
6 You may proceed.

7 **MS. BARFIELD:** Thank you, Your Honor.

8 **Q. (BY MS. BARFIELD) Dr. Miltenberger, when were**
9 **you first contacted to work on this case?**

10 **A.** My understanding is that JRP was contacted
11 some time in 2012. My direct involvement in the
12 project, because it was when I was employee, began in
13 September of 2012.

14 **Q. Okay. And so in the same year as the first**
15 **contact to work on this matter, correct?**

16 **A.** Correct.

17 **Q. Okay. Was your firm or were you in 2012**
18 **given assignments by the State of Texas for the work**
19 **to do in this matter?**

20 **A.** Yes.

21 **Q. And what was the scope of the assigned work?**

22 **A.** First and foremost, it was to research the
23 historical background, the historical context for the
24 1938 Rio Grande Compact.

25 **Q. And you said "first and foremost." Did that**

1 **evolve or change in any way?**

2 A. In terms of our charge, over time we were
3 asked secondarily to evaluate the historical
4 interpretations advanced by the State of New Mexico.

5 **Q. All right. And can you please, generally,**
6 **describe what you did to research and respond to the**
7 **questions that were posed to you by the State of Texas**
8 **that ultimately formed your opinions in this matter?**

9 A. Yes. We identified document collections,
10 archives, libraries that would provide information
11 that would allow us to arrive at an understanding as
12 to what the historical origins, the context for the
13 1938 Rio Grande Compact were.

14 **MS. BARFIELD:** Why don't we go to
15 Demonstrative No. 4, please.

16 **Q. (BY MS. BARFIELD) Dr. Miltenberger, have you**
17 **seen this map before?**

18 A. Yes.

19 **Q. What does this depict?**

20 A. This depicts graphically all of the places
21 that JRP either went to do research or collected
22 documents from, made request for documents.

23 **Q. All right. Looks like a lot. Let's look at**
24 **Demo No. 5. So how many locations, Dr. Miltenberger,**
25 **did you visit nationwide?**

1 A. Well, as I said, there are some of these we
2 were -- we visited, others we got documents from, but
3 in total, 26 libraries, archives, and various other
4 records repositories.

5 **Q. And how many states all together did JRP**
6 **collect documents from for this matter?**

7 A. Nine states and the District of Columbia.

8 **Q. And what was the purpose of these**
9 **location-specific visits?**

10 A. Well, these locations contained records that
11 we identified that were germane to the history of the
12 Compact. They contain the papers of individuals
13 directly involved, records of the agencies that were
14 concerned with various aspects of that history. That
15 was -- that was why we identified these places.

16 **Q. Of these 26 locations in 9 different states,**
17 **did you have the occasion to need to visit some of**
18 **them more than one time?**

19 A. Yes.

20 **Q. Okay. How many did you visit more than one**
21 **time?**

22 A. Oh, several. Several of these. Our -- our
23 work, for instance, in Colorado at the National
24 Archives in Denver where the records of the U.S.
25 Bureau of Reclamation are kept involve several,

1 several trips, as did trips to the New Mexico State
2 Records Center and Archives, the National Archives
3 Building in DC, the National Archives Building in
4 Maryland. These all involved many trips, voluminous
5 records in all places.

6 **Q. Dr. Miltenberger, why so many states when**
7 **this case is really about the Rio Grande and the areas**
8 **of Texas and New Mexico?**

9 A. Well, because the -- the collections of
10 records relating to those agencies and individuals
11 involved spans through these locations, and so, for
12 instance, a lot of the records regarding some of the
13 positions of Colorado or the records that Colorado
14 used -- excuse me, the records that Colorado reveals
15 Colorado's participation in the Compact were held at
16 several different places. Same was true for New
17 Mexico and Texas.

18 **Q. So why California? What was significant**
19 **about these places you visited in California?**

20 A. Sure. So in California, you know, the
21 Shields Library at the University of California Davis
22 and the Sacramento State University Library, these
23 were places at which we could obtain secondary
24 sources. Other sort of historical monographs that
25 allowed us to identify research collections based upon

1 prior -- prior work. The Water Resources Collections
2 and Archives at the University of California Riverside
3 was actually particularly helpful because it contained
4 the papers of Frank Adams, an agricultural economist
5 who was deeply involved in the National Resources
6 Committee and the work in the upper Rio Grande basin
7 that led to the joint investigation.

8 **Q. Okay. And you personally visited several**
9 **places in New Mexico; is that right?**

10 A. That's correct, yes.

11 **Q. Can you summarize the nature of the documents**
12 **that you found in the New Mexico locations?**

13 A. Well, the New Mexico locations consisted of
14 records of the New Mexico State Governors, the New
15 Mexico State Engineers, records of the Elephant Butte
16 Irrigation District, among others.

17 **Q. Okay. What about Texas?**

18 A. Texas, the records that we examined included
19 the Rio Grande Compact Commission papers at the Dolph
20 Briscoe center -- excuse me -- Dolph Briscoe Center
21 for American History at the University of Austin.
22 That collection is very large and kind of consists of
23 subseries of papers, including Richard Burgess, who
24 was an attorney and advisor to the Rio Grande Compact
25 Commissioner Frank Clayton, the papers of Frank

1 Clayton as a separate document set that related to
2 those Rio Grande Compact records at Texas were the
3 Raymond Hill papers, and Raymond Hill was the
4 engineering advisor to Texas.

5 Q. All right. Now, you mentioned a minute ago
6 that the documents were voluminous. Now, first of
7 all, did you or JRP actually collect documents at each
8 of these locations?

9 A. Yes.

10 Q. Can you estimate for us the total number of
11 documents collected by you and by JRP for research in
12 this case?

13 A. Approximately 10,000 documents.

14 Q. Okay. And of those 10,000 documents, have
15 you reviewed each of those 10,000 documents to prepare
16 for your testimony?

17 A. I certainly reviewed them over the years,
18 yes, some of them several times.

19 Q. All right. What else did you do to support
20 the opinions you're going to give us today in this
21 matter?

22 A. I reviewed documents and reports prepared by
23 the State of Texas, documents produced -- excuse me --
24 State of New Mexico, documents produced by the State
25 of New Mexico, reports and declarations for New

1 Mexico. We examined secondary sources, I examined
2 secondary sources of history. I examined the 1938 Rio
3 Grande Compact, the Texas complaint, and the New
4 Mexico countercomplaint.

5 Q. You mentioned reviewing New Mexico documents.
6 Did you have the opportunity to review and did you
7 review all of the documents, historical documents,
8 that were exchanged by the parties through the
9 discovery process in this matter, so that would
10 include those by Texas, Colorado, the United States,
11 and New Mexico?

12 A. Yes.

13 Q. Did you also rely on any published sources
14 such as scholarly and academic articles and other
15 publications?

16 A. Yes. Those are some of the secondary sources
17 that I mentioned earlier. They include Professor
18 Donald Pisani's work on the Reclamation Service and
19 Reclamation Program, part of the 20th century, Ira
20 Clark's History of New Mexico Water Law, and Douglas
21 Littlefield's Conflict on the Rio Grande.

22 Q. Okay. Does the work that you described to us
23 depict typical research methodology for your area of
24 expertise?

25 A. Yes.

1 **Q. Okay. And then is there a -- is there a**
2 **standard in the industry for the steps or procedures**
3 **involved for this type of historical research?**

4 A. Well, there's no standard, per se, as there
5 might be in, say, the sciences. It -- but the -- the
6 methodological approach is pretty -- there's a general
7 methodological approach that is going to adopt, which
8 is identifying and framing a research question and
9 then on the basis of that question, identifying source
10 material that's going to allow you to answer that
11 question or speak to it in some way. Typically that
12 begins with having framed the question, typically that
13 begins with reviewing the secondary literature to
14 identify those libraries, archives, and repositories
15 that were collections that would be germane to
16 answering the question. Sometimes, the secondary
17 sources help you to formulate your research questions,
18 but it -- in the end, it really does come down to your
19 -- the question you're framing and the source material
20 that you use to answer it.

21 **Q. All right. Are you able to estimate for us**
22 **approximately how many hours JRP has invested in this**
23 **project?**

24 A. As of the first of this month, about 7,400
25 hours.

1 Q. Okay. Of those 7,400 hours, can you estimate
2 for us how many of those were your personal hours?

3 A. Very nearly half.

4 Q. Okay. So 3,400, 3,500?

5 A. About 3,400 hours.

6 Q. Okay. What about the other hours that
7 constitute the 7,400, who worked those hours?

8 A. Those -- those hours encompass work that
9 research assistants and historians, all of whom in the
10 course of this project had masters degrees, the work
11 that they did to support the research, to gather
12 documents, those hours encompass documents and
13 database technician who helped to collate and organize
14 this material internally for us. That time also -- a
15 portion of that time was also my former business
16 partner's time, now retired, Mr. Stephen Wee, and
17 there is, of course, time in there for our front
18 office and administrative staff for handing contract
19 -- contractual issues and billings.

20 Q. Okay. And all of these folks, with the
21 exception potentially of Mr. Wee, who was your
22 business partner, who you have testified to, did they
23 work pursuant to your direction?

24 A. That's correct, yes.

25 Q. And under your supervision?

1 A. Yes.

2 Q. All right. Now, what percentage, if you can
3 estimate for us of your overall working hours, on all
4 matters that you do for JRP, what percentage have you
5 devoted to this case for the last nine years?

6 A. About a fifth of my working time has been
7 spent on this project.

8 Q. All right. Now, ultimately after all this
9 work that you've just described to us, did you form
10 opinions in response to the questions posed by the
11 State of Texas for the assigned work?

12 A. Yes.

13 Q. And have you prepared written reports or
14 declarations to memorialize those opinions?

15 A. Yes. I've prepared two reports and two
16 declarations.

17 MS. BARFIELD: Why don't we move to
18 Demonstrative No. 6, please.

19 Q. (BY MS. BARFIELD) Within the context of
20 Demonstrative No. 6, there appear to be four
21 documents.

22 MR. DRAPER: Excuse me, Your Honor. We
23 have an objection to this -- to this declarative --
24 demonstrative exhibit, and I'd like to state that
25 objection if I may.

1 **JUDGE MELLOY:** You may.

2 **MR. DRAPER:** Thank you.

3 **JUDGE MELLOY:** Go ahead.

4 **MR. DRAPER:** This shows the two expert
5 reports that Dr. Miltenberger prepared, and those are
6 appropriate parts of the record. It also refers to
7 two expert declarations that we are objecting to as
8 being simply affidavits that were prepared by the
9 witness. He's here to testify and, therefore, they
10 should not be admitted into evidence, and this
11 demonstrative should not be including those.

12 **JUDGE MELLOY:** What's your position, Ms.
13 Barfield?

14 **MS. BARFIELD:** Well, Your Honor, I mean,
15 it is a demonstrative that merely shows the front of
16 each of these reports. We are going to have some
17 discussion points of each of these right now. We will
18 get to a discussion of the contents of these two
19 declarations that New Mexico objects to. I do
20 understand they do object to those two declarations,
21 but we're confident that we can lay the necessary
22 foundation to have those admitted. At any rate, the
23 demonstrative has no evidentiary value.

24 **JUDGE MELLOY:** All right. I'm going to
25 allow Texas Exhibit 6 to be admitted for demonstrative

1 purposes without any indication as to whether the
2 documents indicated on the exhibits, specifically
3 Texas 601 and Texas 606, will ultimately be admitted
4 into evidence.

5 You may proceed.

6 **MS. BARFIELD:** Thank you, Your Honor.

7 **MR. DRAPER:** Thank you.

8 **Q. (BY MS. BARFIELD) Dr. Miltenberger, first**
9 **looking at Texas 0008 within Demonstrative No. 6, this**
10 **is just the cover page, but -- but can you describe**
11 **for us what this report is?**

12 A. Yes. This -- this report is the expert
13 report that I prepared to address the sort of -- the
14 broad charge, the scope of our work, and what the
15 origins of the Rio Grande Compact were and -- and the
16 opinions that supported that, and I think memory
17 serves, there's approximately six opinions in -- that
18 are expressed in that report.

19 **Q. Did you author this report?**

20 A. Yes.

21 **Q. Okay. And I see a date, 5/31/19. Is that**
22 **generally when it was published?**

23 A. That's -- that's when I produced it, yes.

24 **Q. Okay. Now, can you estimate for us how many**
25 **footnotes are in this May 31st, 2019, report?**

1 A. I think approximately 140 footnotes.

2 Q. Okay. Do those footnotes reflect citations
3 to the materials that you relied upon to support your
4 opinions set forth in this report?

5 A. Yes.

6 Q. Okay. Were the materials listed in the
7 footnotes compiled by you, as we've previously
8 discussed, or under your direct supervision?

9 A. Yes.

10 Q. And they were all personally reviewed by you?

11 A. Yes.

12 Q. Okay. And then moving on to the second
13 report, what is this report?

14 A. This is a rebuttal report that I prepared in
15 December of 2019, December 30th, 2019.

16 Q. Okay. And for the record, that's Texas 0029.
17 And did you author this report?

18 A. Yes.

19 Q. Okay. Could you generally describe the
20 content and organization of the December 30th, 2019,
21 report?

22 A. Yes. It contains a rebuttal opinion and a
23 supplemental opinion responding to the -- some of the
24 interpretations advanced by the State of New Mexico.

25 Q. Okay. And similar to the questions about the

1 footnotes, does this report also contain a significant
2 number of footnotes?

3 A. Yes.

4 Q. Okay. Approximately how many?

5 A. I believe around 130.

6 Q. All right. And similar to the other report,
7 do these reflect the -- the citations and the
8 materials that you relied upon in order to support the
9 opinions in the report?

10 A. Yes.

11 Q. And those materials were compiled by you and
12 reviewed by you?

13 A. Yes.

14 Q. Okay. And then let's move onto the third
15 document that's listed here, and I'll represent that
16 that is Texas 0601, and what is this document?

17 MR. DRAPER: Your Honor --

18 JUDGE MELLOY: Well, let her -- let her
19 lay her foundation, and then you can make your
20 objection when she moves its admission. Go ahead.

21 MR. DRAPER: Very good. Thank you.

22 Q. (BY MS. BARFIELD) Dr. Miltenberger, what is
23 this document reflected as Texas 0601?

24 A. This document is a declaration that I was
25 asked to prepare in support of the State of Texas'

1 motion for partial summary judgment.

2 Q. What's the date?

3 A. November 2nd, 2020.

4 Q. Did you author this declaration?

5 A. Yes.

6 Q. Can you generally describe the content of the
7 declaration?

8 A. This declaration contained a distillation of
9 the opinions that I had expressed in my expert
10 reports. I believe it comprises five or six separate
11 opinions, if memory -- memory serves, and has, I
12 think, around 115 footnotes.

13 Q. All right. And you said it reflects
14 opinions, a distillation of the opinions that were in
15 the two reports or -- I'm sorry. I want to make sure
16 I'm correct about that. A distillation of the
17 opinions for which report?

18 A. Actually, for all of them. For both of them.
19 Excuse me.

20 Q. Okay. And the footnotes, as we've talked
21 about with respect to the two expert reports, do the
22 footnotes in the declaration dated November 2nd of
23 2020 reflect citations to the materials that you
24 relied upon to support your opinions?

25 A. Yes.

1 Q. Okay. Were those materials compiled by you?

2 A. Yes.

3 Q. Okay. And did you personally review all of
4 the materials?

5 A. Yes.

6 Q. Okay. Did you sign this declaration?

7 A. Yes.

8 Q. And based upon your testimony and your
9 signature, do all of the opinions set forth in this
10 declaration dated November 2nd of 2020, are those all
11 true and correct and accurate statements that do
12 reflect your opinions in this case?

13 A. Yes.

14 MS. BARFIELD: Your Honor, at this time,
15 I would move to admit Dr. Miltenberger's November 2nd,
16 2020, expert declaration marked as Texas 0601 into
17 evidence.

18 JUDGE MELLOY: Mr. Draper, you may lodge
19 your objection.

20 MR. DRAPER: Your Honor --

21 JUDGE MELLOY: Assuming you still have
22 one.

23 MR. DRAPER: Yes, I do. We object to
24 this exhibit. It's merely an affidavit. The witness
25 is here testifying, and it's not -- it's simply

1 hearsay that is in a different category from expert
2 reports, and in this particular case, it was submitted
3 after the close of discovery and contains new -- new
4 opinions that were not expressed in the reports. So
5 we would -- we would move these -- these are
6 objectionable and should be excluded.

7 **JUDGE MELLOY:** Can you be more specific
8 about the new opinions? What paragraphs or what
9 sections you're referring to?

10 **MR. DRAPER:** Yes. They actually set
11 these out in a later demonstrative exhibit, but they
12 are -- they are set out respectively on Pages 5 to 12
13 of the November 3rd declaration, Pages 12 to 17 of the
14 same, and 17 to 26. I can state what they assert as
15 these new opinions if you -- if you would like.

16 **JUDGE MELLOY:** Go ahead.

17 **MR. DRAPER:** They are -- they are shown
18 on Demonstrative Exhibit 8 of the State of Texas as
19 opinions 9, 10, 11, 12, and 13. The first eight
20 opinions come directly from Dr. Miltenberger's reports
21 and then the 9 through 13 group are all newly stated
22 in the -- in these declarations to which we object,
23 and this goes to both -- both declarations, and you
24 can see there the statement and the citation of where
25 they come from. For instance, the first one, No. 9,

1 conflicts over upstream depletions in the upper Rio
2 Grande basin form the essential historical context of
3 the Rio Grande Compact of 1938. No. 10, present
4 conditions and present uses. Those terms are in
5 quotes, in 1938 structured the, quote, equitable
6 apportionment, close quote, of the waters of the Rio
7 Grande, and it further identifies it there. No. 11,
8 the water apportioned to Texas by the 1938 Compact was
9 the water to be delivered by New Mexico to San Marcial
10 sufficient to enable a normal release of 790,000
11 acre-feet of water from the Rio Grande Project. No.
12 12 there the historical record indicates that
13 groundwater was not considered a source of water
14 augmentation to the existing surface water supply at
15 the time of the Compact, and since at least the 1950s,
16 the New Mexico State Engineer has been aware that
17 groundwater pumping could deplete surface waters below
18 Elephant Butte Reservoir, and, finally, No. 13, the
19 body of relevant historical documents for
20 understanding the intent and purposes of the 1938
21 Compact is discrete.

22 **JUDGE MELLOY:** Let me ask Ms. Barfield,
23 what's your response to this?

24 **MS. BARFIELD:** Well, Your Honor, several
25 responses. First, this declaration, as well as the

1 next declaration that we'll discuss in a moment, were
2 both submitted in conjunction with the briefing done
3 by the parties on the motions for summary judgment.
4 To that end, they've already been submitted to the
5 Court and considered to the Court -- by the Court,
6 presumably, in conjunction with Your Honor's
7 consideration of the pleadings, the evidence, the
8 papers, and all of the declarations that supported
9 that -- that body of briefing and Your Honor ruled
10 upon those matters. During the context of those
11 motions when they were before the Court, New Mexico
12 filed a formal motion to exclude certain aspects of
13 Texas' experts' declaration testimony. Among those
14 that they filed against were -- were these opinions
15 that Mr. Draper is now challenging relative to
16 Dr. Miltenberger, and New Mexico withdrew that request
17 formally on June 14th of 2021, thereby withdrawing the
18 objections to these portions of the declaration, so
19 I'm a little surprised that we're hearing about that
20 again right now. But at any rate, in terms of the
21 context and the substance itself and as set forth in
22 the briefing that we did in conjunction with their
23 prior attempt to attack this -- this testimony before
24 they withdrew those attacks, we disagree that these
25 are new opinions. They all arise out of

1 Dr. Miltenberger's fundamental opinions and
2 fundamental role as an expert in this case. I just
3 heard Mr. Draper talk about depletions, uses,
4 deliveries, groundwater and surface water supplies,
5 and intent of the framers of a Compact that is
6 fundamentally what Dr. Miltenberger was assigned to do
7 in this case. It's fundamentally what
8 Dr. Miltenberger is going to testify about here today.

9 **JUDGE MELLOY:** All right. I'm going to
10 admit Texas 0601. You may proceed, Ms. Barfield.

11 **MS. BARFIELD:** Thank you, Your Honor.

12 **Q. (BY MS. BARFIELD)** Dr. Miltenberger, moving
13 onto the fourth and final document that's depicted on
14 this page, and I'll represent for the Court that this
15 is Texas 0606. Could you please describe what this
16 is?

17 **A.** Yes. This is an expert declaration that I
18 prepared in December of 2020 in response -- in support
19 of, excuse me, the State of Texas opposition to the
20 State of New Mexico's motions for partial summary
21 judgment.

22 **Q.** And did you author this declaration,
23 Dr. Miltenberger?

24 **A.** Yes.

25 **Q.** And could you please generally describe its

1 **content?**

2 A. It responded to statements -- asserted
3 statements of undisputed material fact by the State of
4 New Mexico.

5 Q. And let me back up and ask you one question.
6 What did you do or read, in addition to all of the
7 materials and the research and so forth you've already
8 described to the Court, in order to prepare to write
9 this declaration?

10 A. Well, I -- I examined all the documents that
11 New Mexico had appended or presented in support of its
12 motion.

13 Q. Okay.

14 A. Historical documents. Excuse me.

15 Q. Did you also review the pleadings that New
16 Mexico filed?

17 A. Yes, I did.

18 Q. Okay. And can you tell us factually speaking
19 what were the historical facts in terms of just
20 categories, the nature of the testimony, that you were
21 providing in this declaration?

22 A. Well, the nature of the testimony or the
23 nature of the response was going right to the
24 documents or interpretations of the documents that
25 were asserted as supporting New Mexico's motion.

1 Q. Okay. And these were historical documents
2 that you had reviewed prior to this motion work and
3 the context of your work on this matter?

4 A. Yes.

5 Q. In fact, had you collected many of them from
6 these archives and libraries you described to us
7 yourself?

8 A. Yes.

9 Q. Okay. Does this declaration, similar to your
10 other reports and your other declaration, also have
11 footnotes that reflect citations to things that you
12 relied upon to support your opinions?

13 A. Yes.

14 Q. Approximately how many footnotes were in the
15 December 22nd, 2020, declaration?

16 A. Maybe, like, around a hundred.

17 Q. Okay.

18 A. I don't recall -- I don't recall with
19 precision.

20 Q. Does 50 sound right?

21 A. 50 sounds right.

22 Q. All right. And the materials that you relied
23 upon to support your opinions reflected in this
24 declaration, those were compiled by you or under your
25 direct supervision?

1 A. That's right.

2 Q. And personally reviewed by you, as well; is
3 that right?

4 A. Yes.

5 Q. Did you sign this declaration?

6 A. Yes.

7 Q. Okay. And were -- your opinions, were they
8 true and accurate reflections of your opinions that
9 you're offering in this case?

10 A. Yes.

11 **MS. BARFIELD:** Your Honor, at this time,
12 I would move to admit Dr. Miltenberger's December
13 22nd, 2020, expert declaration marked as Texas 0606
14 into evidence.

15 **JUDGE MELLOY:** Mr. Draper?

16 **MR. DRAPER:** Same objection, Your Honor.

17 **JUDGE MELLOY:** Well, it seems to me that
18 these affidavits, which are already a matter of the
19 record, are part of the opinion that this witness is
20 going to testify to and certainly can be
21 cross-examined about. I think that they're admissible
22 as -- as opinion testimony, even though they're in the
23 affidavit form, and I believe that the subject matters
24 of the new testimony, as outlined, we generally
25 encompassed within what this witness has indicated he

1 will be testifying about, and based upon my review and
2 what I know of the New Mexico historian, many of the
3 documents cited are documents that both historians
4 have relied upon in formulating their opinions so I'm
5 going to admit 606. Thank you. You may proceed.

6 **MR. DRAPER:** Very good.

7 **MS. BARFIELD:** Thank you, Your Honor.

8 Could we please advance to the next
9 demonstrative, which is Demonstrative No. 7, and I'd
10 like to look at -- thank you. Demonstrative 7 and
11 Demonstrative No. 8. I'd like to look at those
12 together. They should be appearing as side by side on
13 everybody's screens at this point in time.

14 **Q. (BY MS. BARFIELD) Dr. Miltenberger, what are**
15 **these?**

16 **A.** These are a summary of the opinions that I've
17 offered in my expert reports and declarations.

18 **Q. When you say a summary of these opinions, are**
19 **we talking about a high-level summaries, and we're**
20 **going to talk about some details or --**

21 **A.** Yes. Yes.

22 **Q. Okay.**

23 **A.** These are what I would consider the
24 headlines.

25 **Q. Okay. How many headlines are there reflected**

1 on these two demonstratives?

2 A. 13.

3 Q. Okay. And are each of these 13 opinions
4 reflected in these two demonstratives sourced from
5 your expert reports and declarations?

6 A. Yes.

7 Q. Okay. And on the right-hand side of each of
8 these demonstratives, there's little gray boxes. What
9 are those?

10 A. Those identify the specific opinion within
11 the reports and in the pages, in the case of -- case
12 of the reports, and in the case of the November
13 declaration, covers the pages and paragraphs that
14 these -- these relate to.

15 Q. Did you prepare these demonstratives?

16 A. Yes.

17 Q. Okay. And do these essentially reflect an
18 overview of discussion points that we're going to go
19 through during your testimony today?

20 A. Yes.

21 MS. BARFIELD: Your Honor, at this time,
22 I would move to admit Demonstrative 7 and 8 into
23 evidence.

24 JUDGE MELLOY: Any objection?

25 MR. DRAPER: No, Your Honor.

1 JUDGE MELLOY: 7 and 8 are admitted.

2 MS. BARFIELD: Thank you, Your Honor.

3 Q. (BY MS. BARFIELD) Let's move forward. Let's
4 go to Demonstrative No. 9, please. Appearing on the
5 screen is Demonstrative No. 9. What is this,
6 Dr. Miltenberger?

7 A. This is a basic timeline identifying the --
8 the critical events that lead up to the Compact of
9 1938.

10 Q. Okay. And is this going to assist us to walk
11 through your testimony today in timeline stages?

12 A. That's right. It's really a tool to walk
13 through my analysis.

14 Q. Okay. Great. And as we move forward today,
15 the demonstratives that we're going to see, and
16 there's a significant number of those, did you prepare
17 the substantive content of all of the demonstratives
18 for this presentation?

19 A. Yes.

20 Q. Okay. Let's go ahead and advance, if you
21 would, to Demonstrative No. 10. Dr. Miltenberger, so
22 this takes us into the first substantive segment of
23 your timeline. It's entitled, "The 1880s to the 1890s
24 protests over Rio Grande flows." What is historical
25 significant about the 1880s to the 1890s, as it

1 **relates to the 1938 Compact?**

2 A. Well, it was in this period that the
3 fundamental defining conflict within the basin first
4 emerged. A central tension between upstream flow
5 depletions, upstream water uses, and downstream water
6 uses, a conflict that was focused on downstream water
7 users, particularly in Texas and New Mexico, against
8 Colorado water uses. New Mexico and Texas -- lands in
9 New Mexico and Texas and in Mexico protesting over
10 depleted flows reaching their lands, insufficient
11 flows reaching their lands, because of developments in
12 Colorado.

13 Q. Okay. So why don't we -- well, does the map
14 depicted on Demonstrative No. 10 sort of assist us in
15 understanding this broad overview? And why don't you
16 orient us with this map.

17 A. Yes. So this map depicts the states of
18 Colorado and Texas. Between them is the New Mexico
19 territory, which in this time period actually
20 encompassed that would become the -- the State of
21 Arizona, as well. The sinuous blue line running
22 through the states and forming the boundary between
23 Texas and Mexico, forming the international boundary,
24 is the Rio Grande River. There is a gray callout
25 identifying Fort Quitman, which marks the -- the

1 southern limits of the, what's referred to in the
2 historical record as the upper Rio Grande basin. What
3 we've just called out here at the very top near the
4 head waters of the Rio Grande is the San Luis Valley
5 in Colorado, which was the source of the ire for water
6 users in New Mexico, Texas, and Mexico, that
7 developments in this time period, particularly in the
8 1880s, were depleting flows reaching lands in the New
9 Mexico territory, specifically as called out here in
10 green, the Rincon Valley in New Mexico and the Mesilla
11 Valley below that. The El Paso Valley in Texas as you
12 move downstream, and the Juarez Valley in Mexico,
13 opposite El Paso.

14 **Q. Okay. Now, you described to us a conflict**
15 **and then you used the map to orient us. Did the**
16 **United States at any point get involved in the**
17 **conflict that you described to us?**

18 A. Yes.

19 **Q. Okay. How did the United States get**
20 **involved?**

21 A. Well, the U.S. became involved in three ways.

22 **Q. What was the first way?**

23 A. Well, the first way was in response to
24 international protests and protests in Texas and the
25 New Mexico territory, the United States issued what

1 came to be referred to as the embargo of 1896.

2 Q. All right.

3 A. The --

4 Q. Go ahead. I didn't mean to cut you off,
5 Dr. Miltenberger.

6 A. Excuse me. The embargo was a suspension of
7 action on any and at that time all applications for
8 rights of way on public lands in both Colorado and the
9 territory of New Mexico, rights of way for irrigation
10 projects.

11 Q. Okay.

12 A. The idea being to stop the depletions -- stop
13 any further depletions.

14 Q. And to make sure the record is clear, we're
15 now looking at Demonstrative No. 11, and on the
16 left-hand side of Demonstrative No. 11, there appears
17 to be a page of what appears to be a historical
18 document. What is this document, Dr. Miltenberger?

19 A. This is a letter from then secretary of the
20 interior, D.B. Francis, to the Commissioner of the
21 General Land Office, the General Land Office having
22 responsibility for these applications, having
23 oversight over these rights of way applications,
24 directing him to suspend action.

25 Q. What is the overall significance of this

1 particular document to your historical opinion?

2 A. Well, this document is one phase or one
3 response by the U.S. and it subsequently informs many
4 of the events that followed to the Compact.

5 MS. BARFIELD: Your Honor, at this time,
6 this -- and I would note for the record, this is Texas
7 0720, the letter that Dr. Miltenberger had just
8 described. Texas moves to admit Texas 0720 into
9 evidence.

10 JUDGE MELLOY: Any objection?

11 MR. DRAPER: No objection, Your Honor.

12 JUDGE MELLOY: Texas 0720 is admitted.

13 MS. BARFIELD: Thank you, Your Honor.

14 Let's move on to Demonstrative No. 12,
15 please.

16 Q. (BY MS. BARFIELD) Dr. Miltenberger, you
17 testified that there were three responses by the
18 United States. What was the second response by the
19 United States?

20 A. Well, the second response by the U.S. was to
21 provide for a physical solution to the problem, a way
22 of resolving both the interstate and international
23 tension that had been occasioned. Initially, the
24 focus of the U.S. was on what was referred to as
25 International Dam to be located in El Paso, but in

1 1904, the fledgling United States Reclamation Service
2 proposed a new plan, to locate a dam in New Mexico
3 that would not only provide water to Mexico, but also
4 water lands in New Mexico and Texas.

5 Q. So, Dr. Miltenberger, on the left-hand side,
6 there appears to be a cover page of a historical
7 document. And for the record, this is Texas 0667. It
8 has been admitted already. What is this document?

9 A. This document is a copy of the proceedings,
10 the official proceedings, of the 12th National
11 Irrigation Congress that was held in El Paso in
12 November of 1904. It was at this proceedings that the
13 plan for what was referred to as the Elephant Butte
14 Project was unveiled.

15 Q. Okay. And did that plan ultimately become
16 the Rio Grande Project?

17 A. Yes.

18 Q. Okay. I see what appears to be two callouts
19 from this document that you described to us. Why
20 don't you tell us about the first callout that you
21 have identified?

22 A. The first callout is an excerpt of a plan of
23 the address that was made by B.M. Hall, the
24 supervising engineer for the project and the architect
25 of the project, at which he describes the plan, the

1 plan for the reservoir and the plan to irrigate.

2 Q. And what about the second callout, is that
3 significant to your opinions?

4 A. It is.

5 Q. Why is that?

6 A. It's part of Hall's response or address at
7 the meeting in which he identifies what the real
8 intent of the plan is. He says it very succinctly,
9 all of the water that comes down the river is needed
10 for irrigation, we cannot afford to waste any of it.

11 Q. All right. Is there anything else
12 significant about these particular callouts to your
13 opinion?

14 A. Well, just as much as, again, it's describing
15 the plan as it was in 1904, a plan that would involve
16 a storage reservoir, some estimate of what the amount
17 of water may be impounded by it, and what the thoughts
18 were, the plan was, to irrigate, in this case,
19 irrigate 180,000 acres of land broken down between New
20 Mexico, Texas, and then here, the El Paso Valley below
21 El Paso.

22 Q. Let's move on to Demonstrative No. 13,
23 please. Now, on the left-hand side, the underlying
24 source document is still the document that we were
25 just discussing. Am I right about that?

1 A. Yes.

2 Q. And that's Texas 667. But there appear to
3 be, now, two additional callouts on the left-hand
4 side. Is there significance to the -- oh, those are
5 the ones -- I'm sorry. That's my -- my error. We
6 just discussed those. The new one on this slide is on
7 the right-hand side. Okay. So this is labeled Texas
8 0731. What is this, Dr. Miltenberger?

9 A. This is the federal legislation authorizing
10 the Rio Grande Project.

11 Q. Now, as a historian, Dr. Miltenberger, is
12 there a significance to the text that's called out
13 from this federal legislation authorizing the project?

14 A. Yes, there is.

15 Q. Okay. And what is that significance?

16 A. Well, I think there's a couple aspects to the
17 significance. One is that the Rio Grande Project was
18 unique, and this piece of legislation speaks to that
19 unique character. The Reclamation -- the Reclamation
20 -- the Federal Reclamation Program was predicated upon
21 developing Reclamation projects on public lands. In
22 the case of the State of Texas, Texas wasn't a public
23 land state, so this authorization was -- a special
24 authorization such as this was necessary to apply the
25 provisions of the Reclamation Act to Texas.

1 Q. I see. And, again, as a historian, certainly
2 not as any sort of legal advisor, but does this mean
3 that Congress itself was directing water to Texas?

4 A. Yes.

5 Q. Okay.

6 MS. BARFIELD: Your Honor, this was --
7 Your Honor, I'm going to move to admit Texas 0731 into
8 evidence.

9 JUDGE MELLOY: Any objection? Hearing
10 none, 731 is admitted.

11 Q. (BY MS. BARFIELD) Dr. Miltenberger, can you
12 generally explain what the Rio Grande Project is from
13 an historical perspective?

14 A. It is a physical solution to the -- to a
15 problem. It was -- it is a -- a interstate and
16 international irrigation project designed to water
17 lands in New Mexico and Texas and satisfy Mexican
18 claims for water from the Rio Grande.

19 Q. All right. When it was enacted in 1905, was
20 there someone, an entity in charge of operating the
21 project?

22 A. Yes.

23 Q. At the time of its creation? Go ahead.

24 A. Yes. The United States through the U.S.
25 Reclamation Service, which later became the Bureau of

1 Reclamation.

2 Q. All right. Let's move on to Demonstrative
3 No. 14, please. You had mentioned three responses by
4 the United States. We've talked about two of those
5 responses. What was the third response by the United
6 States to the -- the conflict you described earlier?

7 A. The third response was to resolve Mexican
8 claims to the waters of the Rio Grande. The -- the
9 1896 embargo was a stopgap from increasing depletions.
10 The Rio Grande Project proffered a way to resolve the
11 problem, at least within the states initially, but
12 some manner of defining -- some way of defining the
13 Mexican claim needed to be -- that needed to be
14 resolved, and that was the convention between the
15 United States and Mexico in 1906.

16 Q. And, Dr. Miltenberger, on the left-hand side
17 of this page, there appears to be a historical
18 document. It is labeled as Texas 1209, 1-2-0-9. What
19 is this document depicting?

20 A. This document is the presidential
21 proclamation of the execution of the convention
22 between the -- the United States and Mexico.

23 Q. Did you collect this document?

24 A. Yes.

25 Q. From where?

1 A. This was collected from the national archives
2 at Denver from the records of the Bureau of
3 Reclamation.

4 Q. All right. I do note on the cover page of
5 this document, there's some annotations on -- on the
6 document. Are those your markings?

7 A. No.

8 Q. Do they have any significant to your opinion?

9 A. No.

10 Q. Okay. And then overall, what was significant
11 to your opinions about the 1906 Mexican Convention?

12 A. Well, it defined the -- the Mexican
13 obligation -- excuse me -- the U.S. obligation to
14 Mexico as 600,000 acre-feet per year, the intent being
15 to resolve Mexican claims to the waters of the Rio
16 Grande.

17 Q. And, Dr. Miltenberger, just to make sure, I
18 think you might have misspoken. Did you mean 60,000
19 or 600,000?

20 A. I meant 60,000. Excuse me.

21 Q. Okay.

22 A. 60,000.

23 Q. I thought you might have added a zero. Okay.

24 MS. BARFIELD: Your Honor, at this time,
25 I would move to admit Texas 1209 into evidence.

1 **JUDGE MELLOY:** Let me ask one question.
2 Do we already have the actual Convention in evidence?

3 **MS. BARFIELD:** Your Honor, in -- in -- I
4 don't think so. In our sweep of this, we did sweep
5 admitted documents, and unless there's a duplicate and
6 we missed it, this has not been entered into evidence
7 yet.

8 **JUDGE MELLOY:** So this is the Convention
9 with the presidential declaration attached; is that
10 correct?

11 **MS. BARFIELD:** Dr. Miltenberger, can you
12 --

13 **THE WITNESS:** Yes. Yes, it is.

14 **MS. BARFIELD:** Okay.

15 **JUDGE MELLOY:** Let me take a look at
16 that. A lot of binders here. Any objection?

17 **MR. DRAPER:** Your Honor, this is John
18 Draper.

19 **JUDGE MELLOY:** Go ahead.

20 **MR. DRAPER:** I'm just checking the
21 exhibit -- I'm just checking the exhibit number now,
22 Your Honor. I believe this is the same as Joint
23 Exhibit 439.

24 **JUDGE MELLOY:** Joint 439 is the
25 Convention?

1 **MR. DRAPER:** Yes, Your Honor.

2 **JUDGE MELLOY:** Do you have any objection
3 to this exhibit?

4 **MS. BARFIELD:** To Joint 439, Your Honor?

5 **JUDGE MELLOY:** I'm asking Mr. Draper if
6 he has any objection to 1209.

7 **MR. DRAPER:** Yes. We would object to
8 this. It's already in evidence as Joint Exhibit 439,
9 and this is a nearly illegible document, the one
10 they're proposing at this point.

11 **JUDGE MELLOY:** I'm having trouble
12 finding it. Just a second. The number is, what,
13 1239, did you say? 1209?

14 **MR. DRAPER:** 1209 -- Texas 1209 is the
15 one that they have offered, and Joint Exhibit --

16 **JUDGE MELLOY:** Do we have a better copy
17 in evidence?

18 **MR. DRAPER:** Yes, Your Honor. It's
19 Joint Exhibit 439.

20 **JUDGE MELLOY:** Assuming that's the case,
21 I'll sustain the objection. I'll have to double-check
22 that.

23 **MS. COLEMAN:** Your Honor, may I be heard
24 briefly? This is Judy Coleman for the United States.

25 **JUDGE MELLOY:** Go ahead.

1 **MS. COLEMAN:** Joint 439 is a printout
2 in, like, a Word processing printout of the
3 Convention. It's not from 1907 or 1906, and the Court
4 might appreciate a -- an actual primary source
5 historical version of it.

6 **JUDGE MELLOY:** Is there any dispute
7 about the authenticity of 439? Does anybody question
8 that that is a true and correct copy of the
9 Convention? If not, I think we should just use 439
10 since it is a more legible copy. So I'll sustain the
11 objection.

12 **MR. DRAPER:** Thank you.

13 **Q. (BY MS. BARFIELD)** Dr. Miltenberger, you've
14 described three responses by the United States. Can
15 you tell the Court, what is the significance of all
16 three of these U.S. responses that you've just
17 described to us?

18 **A.** All three ultimately create some of the
19 framework, the conditions that influence subsequent
20 events and decisions that are made that lead to the
21 Rio Grande Compact.

22 **Q.** All right. Let's go ahead and move into
23 Demonstrative 15. Now, Dr. Miltenberger, this is
24 going to take us into our second timeline segment, and
25 this timeline segment is entitled, "The early 1900s of

1 the Rio Grande Project." First, why don't we get some
2 orientation. I see a document on the right. This is
3 an admitted document. For the record, this is Texas
4 1210. What is this?

5 A. This is a copy of a map of the Rio Grande,
6 it's stated here irrigation project, as of 1923.

7 Q. Okay. Where is this document from?

8 A. I collected this from the Charles Warren
9 Papers. Charles Warren was the first special master
10 in the first original action between Texas and New
11 Mexico. These papers are located at the Harvard Law
12 School Library, Special Collections Department.

13 Q. Okay. Did the Rio Grande Project
14 specifically help to address the dispute you've been
15 telling us about?

16 A. Yes.

17 Q. How?

18 A. Well, it provided, as I think I mentioned
19 before, that physical solution, engineering solution,
20 to -- to the problem. So the 1896 embargo was about
21 stopping depletions. The Rio Grande Project was about
22 delivering water to those lands that had complained
23 about those depletions, and the -- the Convention
24 described what the U.S. obligation was to Mexico, so
25 the Project provided for the delivery of those waters.

1 Q. How did the Project operate as a solution, as
2 you described, to address the diminished Rio Grande
3 flows that you also described?

4 A. It created the physical infrastructure and
5 works to bring waters to lands in New Mexico and Texas
6 and to Mexico, to Mexico via the Acequia Madre
7 opposite -- roughly opposite El Paso and Juarez.

8 Q. All right. And were there other ways the
9 Project operated as a solution to address the
10 diminished Rio Grande flows?

11 A. Well, it -- it brought water to two project
12 beneficiaries, two irrigation districts, that in New
13 Mexico and Texas. It also -- two notices were filed
14 for the Project, notices that were filed by the U.S.
15 with the New Mexico territorial engineer, reserving
16 water for these purposes.

17 Q. Why don't we go ahead and move on to
18 Demonstrative No. 16. And, Dr. Miltenberger, there
19 appears to be a document on the left-hand side. And
20 for the record, this is Texas 0642. First of all,
21 what is this document?

22 A. This is a copy of the letter sent by B.M.
23 Hall, the supervising engineer for the Rio Grande
24 Project, to David White, the New Mexico Territorial
25 Engineer in January of 1906.

1 **Q.** Did you collect this document?

2 **A.** Yes.

3 **Q.** And from where did you collect it?

4 **A.** This was collected from the Bureau of
5 Reclamation records at the National Archives at
6 Denver.

7 **Q.** Okay. Did you review this document to
8 support your opinions that you've previously offered
9 and that you're offering today?

10 **A.** Yes.

11 **Q.** Were you able to read the document?

12 **A.** Yes.

13 **Q.** Okay.

14 **MS. BARFIELD:** Your Honor, I'd move to
15 admit Texas 0642 into evidence.

16 **JUDGE MELLOY:** Mr. Draper?

17 **MR. DRAPER:** Your Honor, we did have a
18 legibility objection, but I will withdraw that. I
19 think it can be read with some study. I would submit,
20 also, for the record that Texas Exhibit 513 contains
21 this letter and the subsequent 1908 letter in a more
22 readable fashion. But no objection.

23 **JUDGE MELLOY:** 0642 is admitted.

24 **MS. BARFIELD:** Thank you, Your Honor.

25 Why don't we move to Demonstrative 17,

1 please.

2 Q. (BY MS. BARFIELD) Now, on Demonstrative 17 --
3 and for the record, we are still looking at the Bates
4 document of Texas 0642, which is now admitted into
5 evidence -- there appears to be a callout that you've
6 identified from this notice. Does this callout
7 reflect something significant to your opinions?

8 A. Yes.

9 Q. Okay. Could you please explain that for us?

10 A. Well, it identifies the water to be diverted
11 and stored for the Elephant -- at Elephant Butte or
12 what would become known as Elephant Butte -- at the
13 Elephant Butte Dam, excuse me, for the Rio Grande
14 Project. It identifies 730,000 acre-feet per year to
15 be diverted or stored from the Rio Grande River at the
16 storage dam nine miles west of Engle, New Mexico.
17 This little bit is cut off in the original, but the
18 capacity is for 2 million acre-feet with diversion
19 dams below in the Palomas, Rincon, Mesilla, and El
20 Paso Valleys in New Mexico and Texas.

21 MS. BARFIELD: Why don't we go ahead and
22 advance to Demonstrative No. 18?

23 Q. (BY MS. BARFIELD) Now, populated on the
24 right-hand side is a different historical document,
25 and I'll represent that this is Texas 0683. What is

1 **this document, Dr. Miltenberger?**

2 A. This document is a supplemental notice of the
3 intention of the U.S. to use the waters of the Rio
4 Grande for the Rio Grande Project that was filed in --
5 or submitted in April of 1908.

6 **Q. Did you collect this document?**

7 A. Yes.

8 **Q. And from where did you collect it?**

9 A. The National Archives at Denver, the Bureau
10 of Reclamation records.

11 **Q. All right. And you've reviewed this document**
12 **to support your opinions today; is that right?**

13 A. That's right.

14 **Q. Okay. And you were able to read the**
15 **document?**

16 A. Yes.

17 **Q. Okay.**

18 **MS. BARFIELD:** Your Honor, I'd move to
19 admit Texas 0683 into evidence.

20 **JUDGE MELLOY:** Any objection?

21 **MR. DRAPER:** No objection, Your Honor.
22 That is also included in the Texas Exhibit 513, but no
23 objection to this exhibit.

24 **JUDGE MELLOY:** 0683 is admitted --
25 excuse me -- 0693. I misspoke. 0693 is admitted.

1 **MS. BARFIELD:** I think -- it is Texas
2 0683, Your Honor.

3 **JUDGE MELLOY:** Okay. All right. 0683
4 is admitted.

5 **MS. BARFIELD:** Thank you, Your Honor.
6 Let's go ahead and advance, if you
7 would, to Demonstrative No. 19.

8 **Q. (BY MS. BARFIELD)** On Demonstrative No. 19,
9 there appears to be a callout from Texas 0683. Is the
10 callout on this page significant to your opinions,
11 Dr. Miltenberger?

12 A. Yes.

13 **Q. Okay. Can you describe how?**

14 A. Well, in -- in making his initial notice to
15 the New Mexico territorial engineer, Hall lamented
16 that he wasn't able to file on all of the water that
17 he really felt would be necessary to the Project. So
18 his successor as supervising engineer, Louis C. Hill
19 took the opportunity following the change of the New
20 Mexico territorial law to supplement the initial
21 notice. In this case, the supplemental notice was for
22 all of the unappropriated water of the Rio Grande and
23 its tributaries and then it goes onto identify, once
24 again, the storage dam nine miles west of Engle with a
25 capacity of 2 million acre-feet and diversion dams

1 below in the Palomas, Rincon, Mesilla, and El Paso
2 Valleys in New Mexico and Texas.

3 Q. All right. Let's go ahead and advance to
4 Demonstrative No. 20, please. Now, on the left-hand
5 side, there appears to be a document, historical
6 document. It is for the record labeled Texas 0669.
7 It is an admitted document. What is this document,
8 Dr. Miltenberger?

9 A. This document is a -- it's a very large
10 lengthy document that is essentially a report by the
11 Board of Army Engineers. In the early decades of the
12 Reclamation program, the -- the federal government had
13 commissioned a board of engineers to act as a kind of
14 internal peer review of Reclamation projects, and this
15 particular -- this particular document contains
16 several reports relating to Reclamation projects, of
17 which one is the Rio Grande.

18 Q. All right. Now, there's a callout that
19 you've chosen for this document. Is it significant to
20 your opinions?

21 A. Yes.

22 Q. Okay. And -- and what is significant? What
23 is this?

24 A. Well, it describes circa 1911, what the
25 estimated reservoir water was to be. It identified

1 what the -- what the duty of water was to be. It
2 further identified what was required by treaty and
3 what the -- making allowances for losses in
4 distribution in transit in order to arrive at a
5 figure, an estimated figure of what would be
6 necessary, what the reservoir could store.

7 **Q. Now, according to your --**

8 A. Excuse me. The reservoir supply might be.

9 **Q. All right. Thank you. And according to your**
10 **review of the document, what was the estimated amount**
11 **of the reservoir water supply around the time of the**
12 **project being built out?**

13 A. Approximately 800,000 acre-feet.

14 **Q. Okay. Did you gain an understanding from**
15 **your review of this document how the Board of Army**
16 **Engineers arrived at this figure?**

17 A. Yes.

18 **Q. Could you explain that for us, please?**

19 A. I think it's all captured in this callout.
20 It goes to this duty of water as being 3 acre-feet per
21 acre measured at the farm. There's allowances for
22 losses in both the distribution system and in transit,
23 the -- the amount that was required for diversion to
24 lands in the United States, the 600,000 acre-feet that
25 was required by treaty to Mexico, and I think very --

1 very most notably, in -- in discussing or noting
2 losses in transit, it indicates that those losses will
3 be offset or likely to be partially offset by return
4 seepage, and that will become a critical component to
5 the overall supply of lands downstream from Elephant
6 Butte.

7 **Q. Is that the same thing as return flows?**

8 **A. Yes.**

9 **MS. BARFIELD:** Why don't we advance to
10 Demonstrative No. 21, please?

11 **Q. (BY MS. BARFIELD) Okay. First, to orient**
12 **ourselves, we're still looking at the same map we were**
13 **discussing before, the 1923 map of the Rio Grande**
14 **irrigation project that's Texas 1210; is that correct?**

15 **A. Yes.**

16 **Q. Okay. What does this demonstrative show us?**

17 **A. Well, on this map, we've annotated some**
18 **locations for understanding the project beneficiaries,**
19 **who I mentioned before. That was -- they are Elephant**
20 **Butte Irrigation District in New Mexico, which takes**
21 **in portions of the Rincon and Mesilla Valleys, and El**
22 **Paso County Water Improvement District No. 1, or E P**
23 **No. 1, which encompasses the El Paso Valley.**

24 **Q. All right. Can you explain for us from your**
25 **perspective as a historian in this matter, how did it**

1 work at the beginning with respect to water
2 deliveries?

3 A. Well, orders for water from individual
4 farmers were to be collected by a ditch tender. Those
5 orders would be relayed to the Reclamation project
6 officials at the dam, who would then coordinate
7 releases from -- from the dam.

8 Q. Okay. Anything else?

9 A. Yes. So the deliveries, the water was merely
10 released and diverted at -- at the farms. There was
11 no -- there was no -- well, the project is really
12 operated as a unit, as one as a comprehensive whole.

13 Q. While we're still looking at this map, I see
14 kind of a gray arrow towards the bottom of the map.
15 It says Fabens. What's the significance of this
16 point?

17 A. Fabens was the last major diversion point
18 within the Project. So the releases were made
19 downstream, and individual canals would pull water
20 out. Over time, drains would bring water back -- back
21 in. Fabens is the last major diversion point right
22 just merely above the -- the Tornillo canal heading.

23 Q. All right. Now, on that note, there -- there
24 may have been some confusion during one of your
25 depositions you might recall, but -- but you've just

1 testified Fabens is the last major diversion point.
2 It is not the geographic end of the project; is that
3 right?

4 A. That's right.

5 Q. Okay. From your review and understanding,
6 what is the geographic boundary of the project in this
7 lower end of the project?

8 A. The El Paso Hudspeth County line, which we
9 see here actually in the far corner, the far right
10 corner, we see that marking the end of the Project.

11 Q. All right. I also -- I notice on the far
12 right-hand side, the green lettering, and you added
13 all the green lettering to this slide; is that right?

14 A. That's correct, yes.

15 Q. Okay. On the bottom right, I
16 see, "HCCRD/Hudspeth." What does this reference?

17 A. This references the Hudspeth County
18 Conservation and Reclamation District, that by the 19
19 -- beginning in the 1920s, in 1924, obtained water
20 that was wasted beyond the Project through a Warren
21 act contract, the Federal Warren Act contract. A
22 Warren Act contract provided for entities outside of
23 Reclamation project to purchase water from -- that
24 wasn't used, otherwise used, on the Project.

25 Q. And you mentioned wasted water. What did you

1 mean by that?

2 A. What I mean is water that was released beyond
3 the ability of the Project beneficiaries to use, water
4 that was not utilized within the Project.

5 Q. And why is that significant,
6 Dr. Miltenberger?

7 A. Well, it's significant because that water, in
8 the 1920s, into the 1930s, formed a portion of the
9 water supply to Hudspeth. And, in fact, this water
10 supply, which also represented these return flows,
11 which was another major feature that evolved with the
12 Project over time, that lands further downstream
13 became reliant upon those return flows, that return
14 seepage, as the Army Engineers pointed out.

15 MS. BARFIELD: All right. Your Honor,
16 I'd move to admit Demonstrative No. 21 into evidence,
17 please.

18 JUDGE MELLOY: Any objection?

19 MR. DRAPER: Yes, Your Honor. We
20 objected to this. This -- for the reason that this is
21 misleading in the sense that it lists Project
22 beneficiaries, including Hudspeth, and they are not a
23 Project beneficiary, so it's a misleading
24 demonstrative. They are not part of the Project and
25 so --

1 **JUDGE MELLOY:** I don't think anybody --
2 I think the witness has adequately explained that. I
3 think everybody knows Hudspeth was not part of the
4 Project, so I'll admit the exhibit.

5 **MR. DRAPER:** Thank you.

6 **MS. BARFIELD:** Thank you, Your Honor.
7 Let's go ahead and advance to
8 Demonstrative No. 22, please.

9 **Q. (BY MS. BARFIELD)** Okay. So let's talk about
10 how the Project developed in the decades leading up to
11 the Compact. Why don't I just ask you that question.
12 How did the Project develop in the decades that led up
13 to the Compact?

14 **A.** Yeah. So in the decades leading up to the
15 Compact, the Project was developed, as I think I
16 mentioned before, as a unit. There wasn't attention
17 to geographic or political boundaries. In fact, over
18 time, diversions that satisfied lands in Texas
19 actually were made in New Mexico. The consequences of
20 that were to -- well, I think some of those are -- are
21 reflected in what we're about ready to talk about in
22 this demonstrative here.

23 **Q.** Let's introduce this -- pardon me, the
24 document that's contained within Demonstrative No. 22.
25 So I'll represent for the record that this is labeled

1 **Texas 0849. Dr. Miltenberger, what is this document**
2 **labeled Texas 0849?**

3 A. This is -- well, I think we can think of this
4 as a kind of early info graphic that appeared in the
5 Rio Grande Farmer, a publication out of Las Cruces.
6 This particular piece came itself from newspaper
7 clippings file maintained by the Bureau of Reclamation
8 that we located at the National Archives in Denver.

9 **Q. Did you collect this document?**

10 A. Yes.

11 **Q. And -- well, we're about to walk through, but**
12 **does this document -- does the document help us**
13 **understand what you mean by the Project being built**
14 **out as a unit that you just described?**

15 A. Yes.

16 **Q. Okay. And are you about to explain how that**
17 **informs your opinion in terms of the Project being**
18 **built out as a unit?**

19 A. Yes.

20 **Q. Okay.**

21 **MS. BARFIELD:** Your Honor, I'd like to
22 move to admit Texas 0849 into evidence, please.

23 **JUDGE MELLOY:** Any objection?

24 **MR. DRAPER:** No objection.

25 **JUDGE MELLOY:** Texas 0849 is admitted.

1 **MS. BARFIELD:** Thank you, Your Honor.
2 Let's advance to Demonstrative No. 23.
3 There we go.

4 **Q.** **(BY MS. BARFIELD)** This is just a bigger
5 blowup of the Texas 0849 that we just discussed; is
6 that right?

7 **A.** Yes.

8 **Q.** Okay. So let's walk through what this means
9 to your opinion or what is significant to your
10 opinion, and feel free to ask our technical assistant
11 to blow up sections if that assists you in describing
12 your testimony.

13 **A.** Sure. Before we do that, I think, in
14 general, what this image is capturing is the rather
15 dynamic nature of -- of water delivery, water return,
16 reuse of water as it flows -- waters of the Rio
17 Grande, excuse me, as they flow from Elephant Butte
18 Reservoir all the way down to Fort Quitman. This
19 particular graphic was prepared by B.P. Fleming, who
20 was the manager of the Elephant Butte Irrigation
21 District. Some of the figures we see here are -- were
22 compiled from records of the Bureau of Reclamation for
23 the time period 1928 to 1929.

24 **Q.** All right. So why don't we start on the
25 left-hand side of this graphical depiction, the area

1 that's labeled Elephant Butte Reservoir, and if you
2 would, just take us down the river and explain this
3 for us.

4 A. Sure. So the graphic itself can best be read
5 left to right, and it encompasses three major
6 sections, the Rincon Valley, the Mesilla Valley, and a
7 portion of the Mesilla Valley that bears mentioning
8 extends into Texas, and then the El Paso Valley. So
9 the sinuous line running left to right depicts the
10 flow of the Rio Grande as water is released from
11 Elephant Butte. At the very left edge near Elephant
12 Butte, we have identifications of how many acre-feet
13 were in storage at various times -- well, at one
14 particular time, in January 1st of 1928. What's
15 depicted right above that is inflow to the reservoir
16 that came in during 1928, water that entered at San
17 Marcial. San Marcial was the very head of the
18 reservoir created by the dam. Also entered and
19 forming a portion of the water coming into Elephant
20 Butte is rainfall, a small portion, but a portion
21 nonetheless.

22 Q. Okay.

23 A. Of this portion of Elephant Butte Reservoir
24 water, though, some approximately 835,000 acre-feet
25 were released for irrigation in 1928, and that, as we

1 move down the river, as we move -- follow the lines as
2 they bend down, that's the amount that's released.
3 Before, though, one gets to that amount, there's some
4 portion of the reservoir water that's lost, and so if
5 we look to the left, we see figures given for
6 evaporative losses and seepage, water from the dam
7 that is entering the surrounding lands.

8 **Q. Now, Dr. Miltenberger, I also see on the left**
9 **a notation of return flow drains, so explain that to**
10 **us, if you would.**

11 A. Sure. So as we're following the 835,000
12 acre-feet that was released for irrigation in 1928, a
13 portion of that is pulled off. It's diverted at a
14 canal. So even before we get to the drains, we should
15 note that it's diverted at this canal. Some portion
16 of that water goes to the farms, measured at farms
17 22,000 acre-feet. Another portion of that water goes
18 into the ground or is evaporated, but of that portion
19 that's not used or measured at farms or isn't lost to
20 the underground is returned back into the stream.
21 That's the drainage piece of this. So it also bears
22 mentioning that -- but before we move on, that one of
23 the consequences for developing the project as a unit
24 were -- was to elevate the groundwater table, which
25 caused the problem of waterlogging on the Project.

1 Q. Dr. Miltenberger, as a historian, what do you
2 mean when you use the word waterlogging?

3 A. Well, that the soils became too saturated for
4 cultivation. Too much water present. So in the
5 teens, beginning in the 19 teens and into the mid
6 1920s, the federal government, the Reclamation
7 service, built out drains. These drains came to form
8 a portion of the water supplied for lands downstream.
9 Lands in El Paso in particular became reliant on these
10 return flows or return seepage, and as I think I
11 mentioned earlier, that water also formed a component
12 of the waters, as this graphic will demonstrate,
13 formed a component of the waters that were available
14 to Hudspeth.

15 Q. Who built those or constructed those drains,
16 by the way?

17 A. The Reclamation Service did.

18 Q. Okay so let's keep walking through this
19 graphic depiction of the Project as a unit. You've
20 taken us down the river on the left-hand side and
21 described the return flows. Now, we're kind of in the
22 center, and there's appear to be some I'll use a
23 technical term loopy things happening in the center of
24 this graphic. Can you explain that for us, please?

25 A. Yes. So as the flows enter the Mesilla

1 Valley, the situation becomes a little more complex.
2 So it's interesting to note that actually more water
3 is entering in the Mesilla Valley than was actually
4 released for irrigation above in the Rincon Valley,
5 and that's because of all the things that are depicted
6 above that notation that says entering Mesilla Valley.
7 Specifically, there's water that's entering in the
8 form of return seepage and arroyo discharge between
9 Elephant Butte and Leasburg Dam. Leasburg Dam is the
10 first major diversion dam on the Project. What's also
11 happening is that there is additional water from
12 rainfall that's coming into the valley. There's
13 further arroyo inflows, also entering the Valley, and
14 so the water supply that's coming into the Mesilla
15 Valley is, in fact, somewhat greater than what was
16 released for irrigation above. Once again, though, we
17 have this dynamic in which a portion of the water is
18 diverted for use in the Mesilla Valley, and a portion
19 of the water continues downstream. So we see the
20 large, I believe the technical term was loopy thing,
21 the large loopy thing, we can follow the arrows which
22 show first that the diversion by canals in Mesilla
23 Valley was 621,000 acre-feet. A portion of that will
24 then get consumed by Mesilla Valley farms, 319,600
25 acre-feet. But another portion continues down in the

1 Mesilla Valley, only to be returned -- only to be
2 either lost to the ground or the surface -- excuse me,
3 or to be evaporated, lost through surface evaporation,
4 but another portion of that returns is returned by
5 drains to the Mesilla Valley. So there's diversion
6 above Mesilla Valley, even as water is un-diverted and
7 continues downstream. That un-diverted water will be
8 joined by water that had previously been used, once
9 again, return flows, waters that had been previously
10 used or found their way back into the stream.

11 Q. Now, before we move onto more of the right
12 side of this graphic, you had stated earlier that a
13 portion of the Mesilla Valley does extend into Texas,
14 but -- but I don't see a state line marked on this
15 graphic; is that right?

16 A. That's correct.

17 Q. Okay. And what is the reason for no state
18 line demarcation on this particular graphic, if you
19 know?

20 A. Well, I think it illustrates a
21 well-understood point of the era, which was that the
22 Project was a unit. It was operated as a whole.

23 Q. All right. So let's go ahead and move to the
24 right-hand side, and it appears to get even more
25 complicated on the right-hand side, but -- but why

1 don't you explain to us what's going on because it's
2 really not as complicated as it looks, right?

3 A. Yes. Yes.

4 Q. Okay.

5 A. So as we enter the El Paso Valley, there's
6 yet another amount of water that's identified, in this
7 case 623 -- a little over 623,000 acre-feet. That
8 water, once again, is comprised by water that had been
9 released from the dam and not previously diverted for
10 use, as well as water that had been previously
11 diverted and returned back to the stream for -- for
12 use downstream. So as we enter the El Paso Valley,
13 what's noted here is that there's a number of
14 diversions that are made. The large loopy thing at
15 the very top depicts a number of diversions for canals
16 that served lands in the El Paso Valley, but even
17 before we get to those canals, there are diversions
18 made in Mexico. In this case, what's depicted is a
19 series of approximately, counting here, five
20 diversions that are made, maybe six diversions that
21 are -- that are made, only one of which is the Acequia
22 Madre, which is the official under the 1906
23 Convention, the official diversion point for the
24 Mexican treaty obligation. In this case, the total
25 Mexican diversions is in excess of what is prescribed

1 by the 1906 treaty. The Acequia Madre itself is only
2 diverting slightly less than 50,000 acre-feet, but
3 there's a number of other what at the time was
4 referred to as illegal diversions made -- illegal
5 Mexican diversions that were taking much more water in
6 the El Paso Valley away. Above those, though, as I
7 said, are the diversions made to satisfy the lands in
8 -- in the El Paso Valley, and much like what we see in
9 the Mesilla Valley and the Rincon Valley above that
10 are drains bringing water back into the stream for
11 further use as you move downstream. So some portion
12 of the water comes back into, say, the Tornillo Canal,
13 that it says waste above Tornillo and below El Paso.
14 This is water that is unused and comes back in the
15 stream, maybe unused in the El Paso Valley itself but
16 some portion that may have been used further upstream.
17 We also see that -- again, we follow that sinuous line
18 down, we see various discharges of the river back into
19 the stream. In fact, there's a portion of gains in
20 the El Paso Valley. So if we can highlight that --
21 yes, that area right there, we see there's gains in
22 the El Paso Valley by drainage, seepage, return,
23 arroyos, all of those then serving to form a portion
24 as we move to the furthest end of the graphic serving
25 a portion of the lands that are diverted by Hudspeth,

1 in this case, by the Hudspeth Canal, which is given as
2 a little over 40,000 acre-feet, and then by the
3 Hudspeth heading, a separate diversion point for
4 Hancock amounting to a little more than 30,000
5 acre-feet, even so there is some portion of the water
6 that's not utilized above Fort Quitman as of 1929. In
7 this case, it amounts to something a little more than
8 260,000 acre-feet, the discharge of the -- at Fort
9 Quitman.

10 Q. Okay. So before we move on, is there
11 anything else that you need to point out about this
12 graphic that's significant to your opinions?

13 A. I think there's a couple other things to add.
14 One is -- in fact, this graphic, the stated purpose of
15 this graphic, was to explain to the readers precisely
16 what the, as it says, what happens to the disposition
17 of the water of the Rio Grande, what happens to those
18 waters. I think to sort of combat the sense that
19 water was simply being wasted within the Project.
20 This graphic is presented as indicating what -- or
21 giving a sense to the reader of how the water is used
22 below Elephant Butte. I think it's also notable that
23 it was prepared by the EBID manager, in as much as I
24 think it speaks to all the sort of components that
25 make up the water supply below Elephant Butte, that it

1 comprises not simply a reservoir releases but all of
2 these return flows, water that was previously used
3 upstream that is used downstream, and it further
4 indicates, as we talked even earlier, that the Project
5 -- it was understood that the Project was operated as
6 a unit.

7 Q. All right. Now, you mentioned a few minutes
8 ago one of the consequences of building the Project
9 out as a unit --

10 JUDGE MELLOY: Ms. Barfield, if we're
11 done with this graphic, why don't we take our break
12 now? We've been going for almost two hours, so let's
13 break until about 1:20. All right?

14 MS. BARFIELD: Thank you, Your Honor.

15 JUDGE MELLOY: Thank you.

16 (Recess.)

17 JUDGE MELLOY: All right. Are we ready
18 to go?

19 MS. BARFIELD: Yes, Your Honor.

20 JUDGE MELLOY: You may proceed.

21 MS. BARFIELD: Thank you, Your Honor.

22 Q. (BY MS. BARFIELD) Welcome back,
23 Dr. Miltenberger.

24 A. Thank you.

25 Q. Before we move onto our next questions, I

1 think we need to correct one thing. You just got done
2 testifying regarding the amount of water when we were
3 looking at the graphic, the last graphic that we had
4 up, the amount of water that's diverted to Mexico
5 pursuant to the 1906 treaty. I think you stated or
6 perhaps misstated 600,000 acre-feet. Is that a
7 correction you need to make?

8 A. Yes.

9 Q. Okay. And what's the correct quantity of
10 water?

11 A. 60,000 acre-feet.

12 Q. Okay. So let's pick up where we left off,
13 and before our break, you had mentioned when we were
14 discussing the Project as a -- built out as a unit
15 graphic that one of -- one consequence to the Project
16 being built out as a unit was elevation of the
17 groundwater table, and then you explained waterlogging
18 and the construction of the drains. Were there other
19 consequences to building the Project out as one unit?

20 A. Yes, there were.

21 Q. Okay. And what were those?

22 A. Well, the -- the Project itself relieved the
23 need for groundwater wells. There were wells prior to
24 the -- to the Project, but there's a shift over to the
25 surface flow because of the -- the stream regulation

1 to more assured supply that the Project provides.

2 Q. Okay. Was there anything else?

3 A. Yes. Use of return flows creates -- created
4 a water quality issue.

5 Q. Okay. And before I ask you what water
6 quality -- well, I do want to ask you more about water
7 quality that you just raised. Was there any
8 consequence relative to how the diversions for Texas
9 were made?

10 A. Well, over time, the Bureau found that it
11 needed to release more water downstream that wasn't
12 previously diverted in order to dilute the
13 accumulation of salts that resulted from these return
14 flows. As -- as I stated earlier, the El Paso -- EP1,
15 the El Paso Valley had a number of return flows coming
16 in, and so -- and those return flows formed an
17 important part of the water supply to that area.

18 MR. DRAPER: Excuse me. I need to
19 object, Your Honor. We're getting into areas of
20 technical expertise that are outside the scope of a
21 historian. He's described a graphic that he found,
22 but there is no -- there is nothing that he can
23 testify to as -- as to the technical aspects of that
24 and the correctness of it as a historian, so I would
25 object to his offering technical testimony.

1 **JUDGE MELLOY:** All right. Unless you
2 can lay some foundation, I'm going to sustain that,
3 Ms. Barfield.

4 **MS. BARFIELD:** Well, yes, I'll ask a few
5 more questions, Your Honor.

6 **Q.** **(BY MS. BARFIELD)** And, Dr. Miltenberger, when
7 we started this particular segment of our discussions,
8 we were talking about the consequences to building the
9 Project out as a unit. When I'm asking that question,
10 I'm only asking about your perspective as a historian.
11 I do not want any technical explanation, not that -- I
12 don't want a technical explanation, so we'll leave it
13 at that. But before we get into the reference you
14 made of water quality, laying foundation for that, as
15 a consequence as a historian -- from your perspective
16 as a historian, as a consequence for building the
17 Project out as a unit, was there a geographic
18 consequence to where diversions for water that were
19 headed to Texas were made? Were they made in New
20 Mexico?

21 **A.** Yes. Yes. And I think I may have testified
22 to that earlier.

23 **Q.** Okay. I apologize if I skipped over that
24 part of the testimony. You also referenced a water
25 quality issue. As a historian, is there a

1 significance to your opinions from a historic
2 perspective for your comments regarding water quality.

3 A. Yes.

4 Q. Okay. Could you explain those opinions from
5 the perspective of a historian, please?

6 A. Yes. The historical record discloses that
7 this issue of water quality prompted certain actions
8 on the part of Reclamation.

9 Q. Okay. And what actions were prompted on the
10 part of Reclamation, as you just described to us?

11 A. Reclamation was releasing more water to be
12 utilized downstream in order to dilute -- in order to
13 dilute the salts, in order to improve the quality of
14 the water reaching the lowest portions of the Rio
15 Grande Project.

16 MS. BARFIELD: Could we advance to
17 Demonstrative No. 24, please?

18 Q. (BY MS. BARFIELD) On Demonstrative 24, there
19 is a document that appears to be an historical
20 document on the left-hand side. It is labeled Texas
21 0621. What is the document depicted on the left-hand
22 side of the screen, if you know?

23 A. Yes. It's a -- it's a memorandum that was
24 prepared by then-project superintendent L.R. Fiock,
25 and by "then" I mean as of May 1939. Fiock is

1 informing the Reclamation commissioner, he's providing
2 him with some background regarding a protest that had
3 been lodged by the Hudspeth County Conservation and
4 Reclamation District against proposed plans for the
5 Project.

6 **Q.** And before we get to the callout that's
7 depicted on Demonstrative No. 24, did you collect this
8 document, Dr. Miltenberger?

9 A. Yes.

10 **Q.** Where did you collect it?

11 A. This was collected from the National
12 Archives.

13 **Q.** All right. Did you personally review this
14 document to support your opinions?

15 A. Yes.

16 **Q.** When you reviewed the document, were you able
17 to read it?

18 A. Yes.

19 **Q.** Okay.

20 **MS. BARFIELD:** Your Honor, I would move
21 to admit Texas 0621 into evidence, please.

22 **JUDGE MELLOY:** Any objection?

23 **MR. DRAPER:** No objection.

24 **JUDGE MELLOY:** Texas 62 -- 0621 is
25 admitted.

1 MS. BARFIELD: Thank you, Your Honor.

2 Q. (BY MS. BARFIELD) Now, moving to the callout,
3 did you identify this particular callout on
4 Demonstrative No. 24?

5 A. Yes.

6 Q. Okay. It's a callout from Texas 621; am I
7 right about that?

8 A. That's right.

9 Q. Okay. What is the significance, if any, to
10 the callout that you identified?

11 A. Well, Fiock is presenting to the
12 commissioner, as I said earlier, a background to
13 Hudspeth's protest. So he's describing how -- the
14 circumstances that led to that -- to that protest, and
15 in particular with this callout identifying that
16 because of this necessity, this identified necessity
17 by Reclamation to dilute the quality of the drain
18 water, that more water is being released and thus is
19 made available below the Project, that as he says here
20 to obtain this dilution -- excuse me -- as Fiock
21 writes here, "To obtain this dilution has required
22 approximately a 50/50 mixture of upper valley
23 irrigation water and the drain water charging
24 immediately above Fabens. To maintain this mixture
25 produced total discharge above Fabens about equal to

1 the capacity of the Tornillo Canal or more than twice
2 the amount necessary for the irrigation requirements
3 of the Tornillo area alone, thus making available
4 water for delivery to the heading of the Hudspeth
5 District Canal at the terminus of the Tornillo Canal."

6 Q. Okay. So overall, and from your perspective,
7 again, as an historian, he's addressing the phenomenon
8 of more water being released to address water quality
9 issues downstream; do I have that right?

10 A. That's correct. Water quality issues within
11 the Project.

12 Q. All right. Thank you.

13 MS. BARFIELD: Let's go ahead and
14 advance forward, Demonstrative No. 25.

15 Q. (BY MS. BARFIELD) This brings us into the
16 third segment of your timeline. This is entitled,
17 "The 1929 temporary Compact." Dr. Miltenberger, which
18 is an interstate Compact from a historical
19 perspective.

20 A. An interstate Compact is a -- is an agreement
21 that states enter into with the approval of Congress,
22 and it's a provision that we find expression in the
23 constitution, as the callout here shows. Article 1,
24 Section 10, Clause 3. There have been a number of
25 Compacts over the years, not just limited to rivers.

1 **Q. (BY MS. BARFIELD) Okay.**

2 **MS. BARFIELD:** And you can go ahead and
3 take this down, please.

4 **Q. (BY MS. BARFIELD) Now, how did negotiations**
5 **begin with the interstate Compact?**

6 A. In the 1920s -- in the early 1920s, Colorado,
7 which had long chafed under the embargo, saw a river
8 Compact as a way of getting out of that impasse. It's
9 perhaps no surprise because Colorado, the forefront of
10 these river Compacts, the Colorado River Compact of
11 1922, for instance, but in the early 1920s, Colorado
12 approached New Mexico about concluding a Compact
13 solely with that state.

14 **Q. And where was Texas in the mix of this**
15 **particular point in time if at all?**

16 A. Excuse me. So Texas pushed for inclusion in
17 these talks arguing that really the river Compact
18 needed to speak to all the waters of the upper Rio
19 Grande basin, all the waters above Fort Quitman.

20 **Q. How did Colorado and New Mexico react in**
21 **response to Texas pushing for inclusion in these**
22 **discussions about the possibility of Compact?**

23 A. They conceded the necessity of Texas'
24 inclusion, as well as defining the geographic limits
25 of the Compact to encompass the area down to Fort

1 Quitman.

2 Q. Okay. What did you mean by the geographic
3 limits? I think that's the word you just used?

4 A. I mean the confines of the Compact. That it
5 would aim to apportion the waters of the upper Rio
6 Grande basin above Fort Quitman. So from the head
7 waters in Colorado down to that geographic point.

8 Q. So this geographic area that you just
9 described all the way down to Fort Quitman, is this
10 different than the Rio Grande Project geographic area?

11 A. Yes, it is.

12 Q. Can you describe for us your understanding of
13 how that's different?

14 A. Yes. It takes in an additional area beyond
15 the -- beyond the Project. It takes in Hudspeth.

16 Q. Did you gain an understanding throughout the
17 course of your research into this matter as to why
18 that was being addressed, why those geographic
19 boundaries were discussed to be different?

20 A. Well, the -- the discussion focused on the
21 fact that there was functionally a different river at
22 Fort Quitman, that the hydrologic dynamic above Fort
23 Quitman was different from below Fort Quitman, that
24 much of the waters above Fort Quitman originated in
25 the United States.

1 **Q. All right.**

2 **MS. BARFIELD:** Let's go ahead and put up
3 Demonstrative No. 26, please.

4 **Q. (BY MS. BARFIELD) Let's talk about what each**
5 **state wanted when they entered into Compact**
6 **negotiations. And how about we start with Colorado?**

7 A. Well, Colorado, and this would be a point
8 that it maintained throughout the Compact
9 negotiations, sought what one negotiator described as
10 parody. It sought the opportunity to develop the San
11 Luis Valley in the way that it felt New Mexico and
12 Texas had been able to develop the water resources of
13 the Rio Grande within their states.

14 **Q. What about New Mexico?**

15 A. Well, New Mexico sought to fix the amount of
16 water at the -- at the state line, sought to limit
17 Colorado -- sought a specific figure to be delivered
18 to New Mexico at the state line. It also supported
19 the Project, but it -- it was very inclined towards
20 supporting the middle Rio Grande conservancy district
21 that was developing in the 1920s. This particular
22 Project roughly occupies the area from the
23 Colorado/New Mexico state line down to about San
24 Marcial.

25 **Q. Okay. And when you started that explanation,**

1 you referenced the state line. You were discussing
2 the Colorado/New Mexico state line, not the New
3 Mexico/Texas state line; is that right?

4 A. That's right.

5 Q. Okay. Now, what about Texas, what -- what
6 were they looking to get?

7 A. Texas sought protection for the Project,
8 because only through the Project did Texas receive
9 waters. The whole development of the Project ensured
10 that -- that was the only way -- the Project itself
11 was the only way that Texas would secure water.

12 Q. Now, did the talks between the two states
13 continue unfettered starting in the early '20s?

14 A. No, they didn't.

15 Q. Okay. Explain that to us, please.

16 A. Well, revocation of the embargo in 1925 led
17 to New Mexico walking out on the talks.

18 Q. Now, how long -- how long did this last?

19 A. Well, talks didn't resume until 1928.

20 Q. All right. Now, when talks did resume in
21 1928, what did the states ultimately do?

22 A. The states ultimately decided, after -- after
23 a long set of discussions where they laid their claims
24 forward and discussed the respective rights they
25 believe each possessed to the waters of the Rio

1 Grande, they decided that they didn't have sufficient
2 information to arrive at an apportionment so they
3 agreed to a temporary Compact.

4 **MS. BARFIELD:** Let's advance to
5 Demonstrative No. 30, please. And let's look at the
6 document on the left-hand side. This is Texas 654.

7 **Q. (BY MS. BARFIELD)** Dr. Miltenberger, do you
8 recognize the document that's depicted on this
9 demonstrative?

10 A. Yes.

11 **Q. What is it?**

12 A. It is an excerpt of the -- well, it's a copy
13 of the Rio Grande Compact of 1929 that was reproduced
14 in the report of the New Mexico Compact Commissioner
15 Francis Wilson in February of 1929.

16 **Q. Did you collect this document?**

17 A. Yes.

18 **Q. Where did you collect it from?**

19 A. I believe we collected it from the National
20 Archives.

21 **Q. All right. And have you reviewed this**
22 **document to support your opinions that you're giving**
23 **to us today?**

24 A. Yes.

25 **Q. When you reviewed it, was it legible?**

1 A. Yes, it was.

2 Q. Okay.

3 **MS. BARFIELD:** Your Honor, I would move
4 to admit Texas 0654 into evidence.

5 **MR. DRAPER:** No objection.

6 **JUDGE MELLODY:** Exhibit 654 is admitted.

7 **MS. BARFIELD:** Thank you, Your Honor.

8 Let's advance to Demonstrative No. 31,
9 pleads.

10 Q. **(BY MS. BARFIELD)** Now, Dr. Miltenberger, were
11 there any Compact or temporary, rather, temporary
12 Compact terms that are particularly significant to
13 your opinions?

14 A. Yes.

15 Q. Okay. Why don't you describe those for us,
16 please?

17 A. Well, in the interest of giving the parties
18 time to arrive at a permanent Compact, the 1929
19 Compact froze depletions, upstream depletions, at two
20 points in the basin.

21 Q. What was the first point?

22 A. The first point was at the Colorado/New
23 Mexico state line.

24 Q. What about second?

25 A. At Elephant Butte.

1 **Q.** Okay. And what was the purpose of
2 **restricting the depletions at these two points that**
3 **you just described?**

4 A. Well, to -- to freeze effectively the status
5 quo. I mean, there was -- there was a provision that
6 depletions could increase so long as they were offset
7 by drainage returns, but the whole notion of the idea
8 was to have a placeholder until the -- the parties had
9 enough time to gather the data, the streamflow data
10 and other data they thought would be necessary to
11 arrive at an apportionment. Colorado's position on
12 this was that it -- it could pursue its projects, it
13 could pursue developments in the San Luis Valley
14 without depleting flows downstream, and it was -- New
15 Mexico and Texas were very skeptical of those claims
16 so the 1929 Compact was to give them time to develop
17 that -- the information to really evaluate that.

18 **MS. BARFIELD:** Okay. You can take this
19 down, please.

20 **Q.** **(BY MS. BARFIELD)** Now, this idea of
21 **preserving the status quo that you just described, was**
22 **this to remain in effect as long as the temporary**
23 **Compact itself was in effect?**

24 A. Yes. And the temporary Compact was set to
25 conclude in 1935.

1 **Q. Now, did negotiations for a more permanent**
2 **Compact ultimately resume?**

3 **A. Yes. They resumed in 1934 before the --**
4 **before the expiration date of the temporary Compact,**
5 **but through a series of meetings in late 1934/early**
6 **1935, the parties remained very close to what they**
7 **were previously. There wasn't much movement among the**
8 **parties, so they decided to extend the Compact by an**
9 **additional two years to 1937.**

10 **Q. Okay.**

11 **MS. BARFIELD:** So why don't we advance
12 forward to Demonstrative No. 32.

13 **Q. (BY MS. BARFIELD) Now, this is going to take**
14 **us into the fourth segment of your timeline, and this**
15 **one is entitled, "1935 Board of Review Report/Texas**
16 **Sues New Mexico." Now, first, I want to just ask you,**
17 **the demonstrative notes the National Resources**
18 **Committee Rio Grande Board -- Board of Review. Sorry.**
19 **What is that?**

20 **A. Well, first of all, it's -- I should back up**
21 **and explain what the National Resources Committee is.**
22 **The National Resources Committee was a -- an arm of**
23 **the Roosevelt administration. It was -- it reflected**
24 **the Roosevelt administration's orientation towards**
25 **large regional planning projects. The National**

1 Resources Committee was intended to serve as a unit to
2 develop those -- those plans. An element of that was
3 a water resources committee, which took a look at
4 water resources problems throughout the United States,
5 and a subset of that was this Rio Grande Board of
6 Review that the water resources board commissioned.

7 Q. Okay. So -- so what specifically was the Rio
8 Grande -- I'm sorry -- the Board of Review?

9 A. The Board of Review was commissioned to
10 consider all the various projects that were pending in
11 the Rio Grande basin, projects that were intended to
12 -- either application made for federal moneys or that
13 were anticipated to be applying for federal moneys.

14 Q. Okay. And on the left side of Demonstrative
15 No. 32, there appears to be a page of a historic
16 document, and this is labeled Texas 0653. What is
17 this document, Dr. Miltenberger?

18 A. This -- this document is the -- is a report
19 that the Board of Review released in September of
20 1935.

21 Q. And did you collect this -- this document?

22 A. Yes.

23 Q. Where did you collect it from?

24 A. It was collected from the Frank Adams papers
25 at the Water Resources Collections and Archives at the

1 University of California Riverside.

2 Q. And did you review this report in order to
3 formulate opinions that you're offering to us today?

4 A. I did, yes.

5 Q. Okay. And when you reviewed that report,
6 were you able to read it?

7 A. Yes.

8 MS. BARFIELD: Your Honor, I would move
9 to admit Document Texas 653 into evidence.

10 JUDGE MELLOY: Any objection?

11 MR. DRAPER: Your Honor, we found that
12 document to be very difficult to read, and we have
13 objected on that basis.

14 JUDGE MELLOY: Well, I -- I've looked at
15 some of these documents, and I agree they are
16 difficult to read, but I do think with some effort,
17 they're legible, so I'm going to admit 653.

18 MR. DRAPER: Thank you.

19 Q. (BY MS. BARFIELD) Dr. Miltenberger, what was
20 the purpose of this September, 1935, Board of Review
21 report?

22 A. It was the -- the Board's assessment of those
23 -- those pending projects, and it identified a number
24 of issues with those projects potentially moving
25 forward.

1 Q. Now, did the Board of Review ultimately reach
2 conclusions?

3 A. Yes.

4 Q. Okay. And what was significant, if anything,
5 about the Board of Review conclusions to your
6 opinions?

7 A. Well, they concluded that a conflict existed
8 between existing projects and potentially new ones in
9 the basin that would complicate federal investments.
10 So it made a series of recommendations designed to
11 resolve those -- those issues.

12 Q. Now, I notice that there is a callout
13 depicted on Demonstrative 32. Is this callout from
14 the September, 1935, Board of Review reports?

15 A. Yes.

16 Q. And could you describe for us the
17 significance of this callout to your opinions?

18 A. Yes. So in reviewing these projects and the
19 potential for conflicts with federal funds, the -- the
20 Board of Review reached this conclusion, that the
21 available -- which is depicted here on this callout,
22 that the available water resources of the Rio Grande
23 are fully appropriated. It then went onto say that
24 new projects involving additional graphs upon these
25 resources would damage the vested rights of thousands

1 of citizens and contribute to wastage of human effort.
2 It called for readjustments in the use rather than new
3 uses and it endorsed additions to the supply through a
4 transmountain diversion, as it says, if practicable,
5 not overdrafts on the existing supply.

6 **Q. Now, what significance to your overall**
7 **opinion about what's called out in this document that**
8 **you just described to us?**

9 A. Well, I think, first of all, it's a
10 recognition that the water resources of the Rio Grande
11 were fully appropriated. That what needed to happen
12 was a change in use or some, as it says, readjustments
13 in use rather than new uses, and that really if there
14 was a solution to the problem, it would be through
15 these additions to the supply through a transmountain
16 diversion.

17 **Q. I think you referenced there were some**
18 **recommendations that came out of this board of review**
19 **report. Can you please explain that to us, please?**

20 A. There were two major recommendations.

21 **Q. And what were those?**

22 A. The first was a recommendation that
23 effectively at the re-embargo -- excuse me -- that the
24 embargo be reimposed.

25 **Q. What was the second one?**

1 A. The second was that a -- a joint
2 investigation, a federal investigation involving the
3 Rio Grande Compact Commission, be made to assess the
4 -- assess the situation, identify past, present, and
5 prospective uses of water.

6 Q. Now, I -- I'm fast forwarding a second. Is
7 this investigation that you just referred to, does
8 that ultimately become what we know as the JIR, or the
9 joint investigation?

10 A. Yes.

11 Q. All right. Let's go ahead and move to
12 Demonstrative 33, please. Now, we're still looking at
13 Demonstrative -- Demonstrative 33 is still focused on
14 Texas 653, the September of 1935 Board of Review
15 report; is that right?

16 A. Yes.

17 Q. Okay. Now, there appear to be three
18 additional callouts from that report. Let's talk
19 about the first one. What -- first of all, is there a
20 significance to this callout, and if so, what is it?

21 A. Yes. Yes. This -- this first callout
22 identifies the first recommendation that I just
23 mentioned.

24 Q. Okay. Is there any particular language that
25 you want to point out or you're just showing us where

1 **-- where that recommendation is located in the**
2 **document?**

3 A. Well, I would just point out that it -- it
4 recommended that there would be no further approvals
5 of applications for projects involving the use of the
6 Rio Grande waters without securing the national
7 resources committee's opinion on it, and ultimately,
8 this recommendation, actually later -- later this same
9 month, this recommendation was translated into an
10 executive order.

11 **Q. I see. Okay. What about the middle callout,**
12 **what is significant about the middle callout to your**
13 **opinions, if anything?**

14 A. The middle callout identifies what the Board
15 of Review identified as necessary to consummate a
16 Compact and to provide a way of moving forward.

17 **Q. All right. What about the last one?**

18 A. Well, maybe to explain just a little bit more
19 on the first one, what the -- the Board of Review
20 called for was obtaining basic information. This
21 information would involve, as it states here, an
22 impartial inventory of present water rights and uses,
23 the supply of water in the basin, the quantitative
24 possibilities of increasing the supply through
25 transmountain diversion, and what it saw as being able

1 to obtain that was an investigation or an inventory,
2 as it says in the third and final callout, an
3 investigation or inventory that should be planned and
4 directed cooperatively with the Rio Grande Compact
5 commission.

6 **Q. Is there anything else significant to your**
7 **opinions about these callouts from the Board of Review**
8 **report from September of 1935 that you want to share**
9 **with us?**

10 A. Yes. The Board of Review report was one of
11 the two events in 1935 that served to hasten
12 negotiations to some degree and provide or speak to
13 what ultimately form the Compact took. In this case,
14 the recommendation for the joint investigation that
15 ultimately affirm a lot of the critical data that was
16 utilized to develop the technical basis of the
17 Compact.

18 **Q. Now, you said that there were two events that**
19 **served to hasten negotiations. What was the second**
20 **one?**

21 A. The second one was Texas filing suit against
22 New Mexico in the Middle Rio Grande Conservancy
23 District the very next month, in October of 1935.

24 **MS. BARFIELD:** So why don't we advance
25 to Demonstrative No. 34.

1 Q. (BY MS. BARFIELD) Dr. Miltenberger, on the
2 left-hand side of Demonstrative No. 34, there appears
3 to be a cover page from an historic document. This is
4 labeled Texas 0675. What is this?

5 A. This is a copy of the complaint that the
6 State of Texas filed against the State of New Mexico
7 and the Middle Rio Grande Conservancy District.

8 Q. Did you collect this document?

9 A. Yes.

10 Q. Where did you collect it?

11 A. This document was collected from the Texas
12 State Archives.

13 Q. Have you reviewed this document?

14 A. Yes.

15 Q. Did your -- do you rely on this document, the
16 contents of the document that you reviewed in support
17 of your opinions that you're offering to the Court
18 today?

19 A. Yes.

20 Q. Okay.

21 MS. BARFIELD: I would like to move to
22 admit Texas 0675 into evidence, Your Honor.

23 MR. DRAPER: No objection.

24 JUDGE MELLOY: Texas 0675 is admitted.

25 MS. BARFIELD: Thank you, Your Honor.

1 Q. (BY MS. BARFIELD) Now, Dr. Miltenberger, from
2 your perspective as an historian, what was the gist of
3 this lawsuit that's significant to your opinions?

4 A. Well, the federal board of review, the Rio
5 Grande board of review, weren't the only individuals
6 that were concerned about the development in the
7 basin. Texas was likewise concerned about the
8 development in the basin. In this case, Texas alleged
9 in October that the Middle Rio Grande Conservancy
10 District development was actually depriving the --
11 depleting flows, excuse me, both in terms of quantity
12 and quality that would otherwise reach Elephant Butte
13 Reservoir.

14 Q. Now, from your reading and understanding of
15 this document as a historian, did Texas allege a
16 source of the depletions?

17 A. Yes.

18 Q. Okay. Can you explain that for us, please?

19 A. Yes. It alleged that the El Vado reservoir
20 was capturing flows that would otherwise reach
21 Elephant Butte.

22 Q. Okay. And did you form an understanding as
23 to the issue with El Vado?

24 A. Yeah. Again, it was sort of capturing flows
25 that wouldn't reach Elephant Butte, and there was a

1 related issue of the return flows from the Middle Rio
2 Grande compromising the quality of the water that was
3 entering Elephant Butte.

4 Q. All right. Now, by the way, who was the
5 Texas Rio Grande commissioner or the Rio Grande
6 Compact commissioner advisor at this time?

7 A. Well, the Rio Grande Compact commissioner, I
8 believe, was still Thomas McGregor, but the
9 engineering advisor was soon to be Raymond Hill.

10 Q. All right. Did Raymond Hill provide any
11 testimony in the 1935 Original Action that was
12 significant to your historical analysis and opinions?

13 A. Yes, he did.

14 MS. BARFIELD: Why don't we advance to
15 Demonstrative No. 35, please.

16 Q. (BY MS. BARFIELD) On the left-hand side of
17 this document -- on the left-hand side of this
18 demonstrative, there -- well, this is derived, as I
19 understand it, from a series of documents labeled
20 Texas 611, Texas 612, and Texas 613, and these are
21 volumes of the 1935 proceedings, but am I right about
22 that? And why don't I just ask you to explain what
23 this is.

24 A. Yes. So this is a copy of the plaintiff's
25 case in chief in the original action. As -- as a

1 discrete document, it's -- it actually comprises three
2 volumes, Volumes 5, 6, and 7. The excerpted pages
3 appear on that one single, if you will, volume, a
4 volume that consists of three volumes, that capture
5 the testimony of Raymond Hill.

6 Q. Okay. And just so I want to make sure the
7 record is clear on this because it does get a little
8 bit confusing. Texas 611 are Pages 1202 through 1206
9 of Volume 5; is that correct?

10 A. Yes.

11 Q. Okay. And Texas 612 are Pages 1220 through
12 1221 of Volume 6; is that correct?

13 A. Yes.

14 Q. Okay. And Texas 613 are Pages 1235 through
15 1236 of Volume 7; is that correct?

16 A. Actually, excuse me. I need to correct
17 something. So Volumes 5, 6, and 7 appear as a single
18 large document. It's not -- the document itself is
19 not broken further subdivided into Volumes 5, 6, and
20 7. These -- these are continuous run of pages within
21 that single volume that's really three volumes, if
22 that makes sense. So the volumes here are more parts
23 of. The -- the page numbers relate to portions of the
24 testimony that Raymond Hill gave.

25 Q. And the page numbers, though, the exhibits

1 themselves -- this is what I'm getting to. We have
2 Exhibit Nos. Texas 611, 612, and 613 depicted as
3 sources, and I'm trying to make sure that the Court
4 understands what's in those exhibits. So for Exhibit
5 Texas 611, that represents excerpts of the proceedings
6 contained in Volume 5 at Pages 1202 to 1206; is that
7 right?

8 A. I think it may be better stated this way,
9 that Texas 611 comprises Pages 1202 to 1206. Texas
10 612 comprises portions of 1220 to 1221, and Texas 613
11 comprises 1235 to 1236.

12 MS. BARFIELD: Your Honor, as
13 Dr. Miltenberger just stated, Texas moves to move
14 those three exhibits into evidence.

15 JUDGE MELLOY: Any objection?

16 MR. DRAPER: Your Honor, we object to
17 these selective excerpts from -- from the record.
18 Excluding all other parts of the record, we think the
19 whole document should be offered and accepted, not
20 just these cherry picked pages.

21 MS. BARFIELD: May I respond, Your
22 Honor?

23 JUDGE MELLOY: Go ahead.

24 MS. BARFIELD: First, I object to
25 Counsel's interpretation that these are cherry picked.

1 At any rate, counsel seems to be objecting on the
2 basis of the rule of completeness. The rule of
3 completeness is not an exclusionary rule. To the
4 extent that counsel would like to supplement the
5 portions that Texas is offering into the record, I do
6 believe and agree that the rule of completeness would
7 permit counsel to do so, but it should not operate as
8 an exclusion to the excerpts that Texas has offered.

9 **JUDGE MELLODY:** I tend to agree. If --
10 if New Mexico wants to supplement with any additional
11 pages in order to explain or complete the excerpts
12 that are contained in Texas Exhibits 611, 612, and
13 613, it's certainly free to do so, but I will admit
14 those exhibits.

15 **MR. DRAPER:** Thank you, Your Honor. We
16 would reserve the right to do so. Thank you.

17 **MS. BARFIELD:** Thank you, Your Honor.

18 **Q. (BY MS. BARFIELD)** Okay. So returning, now,
19 back to Demonstrative 35, there appears to be a
20 callout in the middle of the demonstrative. Is that
21 callout sourced from the -- the volumes of the
22 proceedings that we were just discussing?

23 **A.** Yes.

24 **Q.** Okay. And is the callout significant to your
25 opinions in your testimony today?

1 A. Yes.

2 **Q. Could you please describe what is significant**
3 **about the callout to your testimony?**

4 A. Yes. So throughout the proceedings, Hill, as
5 a witness for Texas, took the position that there
6 needed to be an amount of water released for Texas
7 that would address water quality, to achieve what he
8 called equivalent service to balance out the salts.
9 And this excerpt presents what he -- summarizes the
10 effort he made to calculate what that number is.

11 **Q. And --**

12 A. I'm sorry. And then specifically what he did
13 was in order to, as he says so that the requirement
14 under present conditions for the balance of -- excuse
15 me -- for the condition of salt balance in the entire
16 valley, and to supply consumptive use, with allowance
17 for operating waste, he calculated as 870,000
18 acre-feet per year. But, as it's stated at the very
19 bottom when questioned, that actually that was 70,000
20 acre-feet more than what he determined the maximum
21 safe draft could be on Elephant Butte reservoir.

22 **Q. And so on that basis, what was the maximum**
23 **safe draft?**

24 A. In Hill's calculation, 800,000 acre-feet.

25 **Q. By the way, who was the special master? I**

1 think you mentioned this before. The special master
2 in the 1935 original action?

3 A. Charles Warren.

4 Q. Can we move onto Demonstrative No. 36,
5 please? Is this a photo of him?

6 A. Well, this is a photo of him when he was much
7 younger. At the time of the Rio Grande Original
8 Action, he was in his late sixties so this photo, I
9 believe, is probably from when he either graduated
10 from Harvard or from Harvard Law School. Warren was a
11 bit of a serial special master. He was a special
12 master on several other disputes, in fact, including a
13 dispute between New Mexico and Texas regarding the
14 boundary, the state line boundary. He was also --
15 it's worth noting, he was a Pulitzer prize winning
16 author of the history of the Supreme Court.

17 Q. How can you tell how old he is from this
18 photo?

19 A. Well, he generally presents as a younger man,
20 but then it's the style of his dress. He would have
21 completed -- he was born in 1868. He would have
22 completed law school or time as an undergraduate some
23 time in the 1880s, and what he is wearing is
24 consistent with that.

25 Q. Did you form an understanding as to the

1 outcome of the 1935 Original Action by Texas against
2 New Mexico regarding these depletions that you've been
3 describing?

4 A. Yes.

5 Q. Okay. And explain that for us, please?

6 A. After countless hours of testimony, hundreds
7 of exhibits, Warren was ultimately unable to arrive at
8 a set of findings of fact that he believed would
9 enable the Supreme Court to adjudicate the matter. So
10 at the urging of counsel, he recommended a stay in the
11 proceedings to give the joint investigation, which by
12 that point was ongoing, to reach its conclusions and
13 perhaps provide the basis for a Compact.

14 Q. All right. So let's go ahead and advance to
15 Demonstrative 37, please, and this does take us into
16 the next segment of your timeline, and this is
17 entitled, "1936 to 1937 JIR." So, Dr. Miltenberger,
18 from the perspective of an expert historian, what was
19 the Rio Grande Joint Investigation?

20 A. Well, the Rio Grande Joint Investigation was
21 ultimately intended to determine, as it says here, to
22 determine the basic facts needed in arriving in accord
23 among the three states on an equitable allocation and
24 use of Rio Grande waters in the future development of
25 the upper basin.

1 Q. Okay. I think you just jumped into looking
2 at the callout a little bit, which is fine, but let's
3 set some -- let's get the record clear here. On the
4 left-hand side, we have the cover page of the
5 document. It's entitled -- numbered Texas 677. It is
6 admitted. What is that document?

7 A. This document is a copy of the finished Rio
8 Grande Joint Investigation that was released in
9 February of 1938.

10 Q. All right. And there -- there is a callout
11 in the page. You identified this callout; is that
12 right?

13 A. That's correct, yes.

14 Q. Okay. Does it help us describe or help us
15 understand what the purpose of the JIR is?

16 A. Yes.

17 Q. Okay. And you've already described a bit of
18 that purpose. Was there anything else that was
19 significant to your testimony about that callout?

20 A. Yes. In laying out the purpose, it also
21 identified what it described as the essential facts
22 that it aimed to obtain, and those are enumerated
23 here. Those facts relating to the available water
24 supply, water uses and requirements, possibilities of
25 additional water supplies by storage, importation, and

1 salvage of present losses and wastes. It then also
2 goes on to describe the basis for the investigation
3 assessment of the supply of water, which it identified
4 as, in part, including measurements and records of
5 stream flow at all essential points on the Rio Grande
6 and its tributaries, as well as the San Juan Basin
7 streams, particularly on that as -- as relating to a
8 possible transmountain diversion.

9 Q. All right. Now, again, on the basis of -- of
10 your understanding and review of this document as an
11 expert historian, did the JIR determine the water
12 supply?

13 A. Yes.

14 MS. BARFIELD: Let's go ahead and
15 advance to Demonstrative 38, please.

16 Q. (BY MS. BARFIELD) And on Demonstrative 38, we
17 are still looking at the same base document, the copy
18 of the JIR; is that correct?

19 A. That's correct.

20 Q. Only now identified two additional callouts.
21 Let's start with the one on the left. Is the callout
22 on the left, what is significant about the callout on
23 the left that you chose to your opinions today?

24 A. Well, the -- the joint investigation report
25 articulated what, as it called, the essential water

1 problem that was confronting the states, and as it
2 relates here, that that essential water problem was
3 the division of the water supply between three
4 portions of the Upper Rio Grande Basin, with due
5 consideration to past and present uses and
6 requirements and to future development. With regard
7 to that water problem, the elements involved are also
8 the salvage of recoverable wastes, and to the extent
9 feasible, the importation of water from outside the
10 Basin.

11 **Q. All right. Now, what about the callout on**
12 **the right-hand side of the screen, what's significant**
13 **to your opinion about that callout that you chose?**

14 A. Well, this callout speaks to the original
15 action. In this case, there's the essential problem
16 about dividing the water among the three states, but
17 then there's a -- a major problem that involves just
18 two of the sections of the Basin. In this case, the
19 one involving the Middle Rio Grande or the middle
20 section of New Mexico and the Elephant Butte to Fort
21 Quitman section. And in this particular callout, the
22 Joint Investigation articulates it this way, the
23 problem between these two sections and the Basin is
24 the maintenance of an adequate water supply for the
25 Middle Rio Grande Conservancy District and the middle

1 section and, as well, of the Rio Grande Project and
2 Hudspeth County Conservation and Reclamation District.
3 And with regard to the latter section, Elephant Butte
4 to Fort Quitman section, the JIR makes the point that
5 there is a -- there is the further problem of
6 maintaining satisfactory control of salinity from the
7 irrigated areas.

8 **Q. All right. So let's advance to Demonstrative**
9 **No. 39, and let's address this final callout that you**
10 **have chosen from the JIR. What is significant about**
11 **this callout?**

12 A. The significance about this callout is the
13 JIR offering a general observation about what
14 groundwater development might mean for irrigation.

15 **Q. And what was that observation?**

16 A. That observation was that extensive
17 development of groundwater for irrigation would add no
18 new water to the Upper Rio Grande Basin, and that
19 recharge of the groundwater basins would necessarily
20 involve a draft on surface supplies, which are now
21 utilized otherwise. The chief element to be
22 considered in such a development would be the
23 redistribution and -- redistribution of the
24 availability and use of present supplies and the
25 resulting effect on the water supply of lower major

1 units.

2 Q. Now, was the 1938 -- was the JIR the first
3 historical report or treatise to make such an
4 observation that groundwater development would be a
5 draft on surface supplies?

6 A. The first to make it in this way, but there
7 were earlier studies that highlighted a surface flow
8 groundwater interconnection.

9 Q. What were those earlier studies that you're
10 referring to?

11 A. These earlier studies are ones that the
12 special master has noted in his summary judgment
13 order. They include the Slichter and Lee USGS studies
14 of the early 1900s and the John Bliss study of 1936,
15 the Invisible Gains and Losses study.

16 Q. All right. You also mentioned that one of
17 the goals of the JIR was to provide factual data to
18 assist in the development of the Compact itself. How
19 did the JIR accomplish this?

20 A. Well, the JIR accomplished this, as a callout
21 suggested earlier, through assessments or measurements
22 of stream flow. It focused on the three areas of the
23 basin that I mentioned earlier, three sections that
24 were defined by both history and geography. The San
25 Luis section, San Luis Valley from the Rio Grande head

1 waters to the Colorado/New Mexico state line, the --
2 the Middle Rio Grande or Middle Valley, the middle
3 section that encompassed that portion of New Mexico
4 roughly between the state line and San Marcial, and
5 then that portion from Elephant Butte down to Fort
6 Quitman.

7 Q. Okay. Why don't we advance to Demonstrative
8 No. 40, and let's go ahead and orient ourselves with
9 this map to the testimony that you just gave us.
10 First, let's look at the map itself. On the
11 right-hand side, there appears to be an historic map.
12 Now, this is Texas 1211, and this is a
13 previously-admitted document. What is this document
14 from historical perspective, and where did you collect
15 it and such?

16 A. This is Plate 1 of Volume 2 of the JIR
17 report. The report itself was published in -- in two
18 volumes. Volume 1 contains a number of oversized
19 drawings and -- and maps, including this one.

20 Q. All right. And then can you use this map to
21 orient us to the -- the features that you just
22 described before we turn to this demonstrative?

23 A. Yes. And I should note because I think you
24 may have asked this, and I -- I didn't provide an
25 answer. This particular map, this volume was

1 collected from the University of Texas at Austin,
2 Dolph Briscoe Center for American History.

3 Q. All right. Now, what about the orientation
4 of the green words that you've added to this?

5 A. Yes. So these green labels delineate the
6 approximate areas involved, the approximate areas
7 under study, those three sections I was mentioning
8 earlier. So the San Luis Valley encompassing that
9 portion of -- of the Rio Grande -- Upper Rio Grande
10 Basin, excuse me, that exists in Colorado, then the
11 portion within New Mexico, the Middle Rio Grande, and
12 then finally the Elephant Butte to Fort Quitman
13 section.

14 Q. All right.

15 MS. BARFIELD: Let's advance to
16 Demonstrative No. 41, please.

17 Q. (BY MS. BARFIELD) Now, I see with
18 Demonstrative 41, there's some additional features
19 have been added to this map. Can you please describe
20 your intention with the inclusion of these additional
21 features?

22 A. Yes. These identify the location on the maps
23 of some of the major stream flow gages that were used
24 by the joint investigation.

25 Q. And why don't you walk us down and actually

1 **explain the gages to us, if you would.**

2 A. Yes. So what's depicted here are not all the
3 gages. There were many, but these are some of the
4 most critical that came up later. There's the Conejos
5 River gage and Lobatos gage in Colorado. You have the
6 Otowi Bridge gage in the middle Rio Grande. You have
7 the San Marcial gage, which, again, is at the head of
8 the Elephant Butte reservoir. You have the Elephant
9 Butte gage, which is located just below the reservoir.
10 You have the El Paso gage, referred to in the document
11 as the Courchesne gage, and then finally, you have the
12 Fort Quitman gage.

13 **Q. All right. Now, what was the purpose, again,**
14 **from your perspective as an expert historian of the**
15 **gages that you identified?**

16 A. These were a way for the Joint Investigation
17 to assess water use.

18 **Q. Okay. And how did it do that?**

19 A. Well, it did it through looking at the -- the
20 records of the gages, and in particular, for the San
21 Luis Valley and the Middle Rio Grande sections, the
22 Joint Investigation analyzed the stream flow data and
23 arrived at some determinations regarding what the
24 upstream water use was in each of those sections.

25 **Q. Okay. Now, these assessments that were done**

1 in the JIR based on streamflow records, did they
2 reveal anything significant to your testimony?

3 A. They did, yes.

4 Q. Okay. Can you describe that for us, please?

5 A. What they revealed was a stability as -- as
6 the JIR states, in present irrigation development for
7 -- for two different periods of time. So for the San
8 Luis --

9 MR. DRAPER: Excuse me, Your Honor. I
10 need to lodge an objection. We're getting into
11 hydrologic testimony here and this is a historical
12 report, but as to the technical aspects of it that the
13 witness is getting into, it's outside his expertise.

14 JUDGE MELLOY: Well, I'll allow the
15 witness to testify as to what the report says, but if
16 we get beyond that, you can certainly re-lodge your
17 objection, Mr. Draper.

18 MR. DRAPER: Thank you.

19 JUDGE MELLOY: You may proceed.

20 Q. (BY MS. BARFIELD) Dr. Miltenberger, you were
21 just in the middle of describing the two periods of
22 time. Could you please finish your response?

23 A. Yes. So for the San Luis Valley, the federal
24 report noted that there was a stability in water use
25 for a period in time from roughly 1928 through 1935.

1 Q. All right. And I'm sorry. Did you say --
2 what area was that for, did you say the San Luis
3 Valley?

4 A. San Luis Valley, yes.

5 Q. Okay. And the second period of time?

6 A. The second period of time was for the Middle
7 Rio Grande, and that covered 1890 to 1929.

8 Q. All right.

9 MS. BARFIELD: Let's go ahead and move
10 on to Demonstrative No. 42, please.

11 Q. (BY MS. BARFIELD) So we're still looking at
12 the historical map identified as 1211. What about the
13 downstream section?

14 A. Well, for the downstream section, the JIR
15 examined what the demand was on the Elephant Butte
16 Reservoir. Stream flow records formed a portion of
17 that, but other records were utilized in order to
18 determine that amount.

19 Q. What other records?

20 A. Those records were -- consisted of Bureau of
21 Reclamation records regarding diversions, river bed
22 losses, arroyo inflows, return flows, and other --
23 other elements from the JIR itself, including a
24 separate report included with the JIR from the Bureau
25 of Agricultural Engineering that looked at consumptive

1 use within this section.

2 Q. Okay. Now, from your review of the JIR, and,
3 again, just from the perspective of an expert
4 historian, what was the quantity of water identified
5 to satisfy this area of the basin?

6 A. Well, the JIR calculated two different
7 quantities and ultimately recommended one as a
8 conservative estimate in the words of the report.

9 Q. What were those two quantities, including an
10 explanation of the one it ultimately recommended as a
11 conservative estimate?

12 A. Well, that quantity of water took into the
13 account of continued use of return flows, and so for
14 the first number, it was 736,000 acre-feet, but the
15 conservative estimate was 773,000 acre-feet.

16 MS. BARFIELD: Let's go ahead and
17 advance to Demonstrative No. 43, please.

18 Q. (BY MS. BARFIELD) There appears to be a
19 callout, and this is from the JIR; is that right,
20 Dr. Miltenberger?

21 A. That's correct, yes.

22 Q. Okay. Does this relate to the testimony you
23 were just providing us?

24 A. Yes.

25 Q. Okay. Go ahead and explain the significance,

1 **please.**

2 A. Excuse me. So this was -- this figure of
3 773,000 acre-feet was the one that the JIR suggested
4 to be used as a conservative estimate, excuse me, on
5 demand on the reservoir in order to satisfy uses all
6 the way down to Fort Quitman. So this number took
7 into account those records of diversions, water use,
8 return flows, and water quality.

9 Q. All right. Now, did the JIR consider other
10 possible sources of water to augment the then-existing
11 basin supply?

12 A. Yes.

13 Q. Okay. Describe that for us, please.

14 A. The JIR also -- the JIR for those additional
15 sources of supply looked at a transmountain diversion
16 or importation of water from the San Juan River Basin,
17 and secondarily, it recommended recovery or salvage of
18 water that was wasted. The JIR noted a number of
19 places where there were phreatophytes, or sometimes
20 referred to in the area as water-loving plants, that
21 were otherwise utilizing water that could be more
22 beneficially used elsewhere.

23 Q. And so that the record is clear and the
24 intention of the meaning of things, what did you mean
25 by the word "wasted" in this context?

1 A. In this context, water that was not otherwise
2 being utilized for the basin, water that could be put
3 to use in the basin to beneficial purposes.

4 **Q. From your review and analysis of the JIR from**
5 **an historical perspective, was groundwater considered**
6 **to be a source to augment the supply by the JIR?**

7 A. No.

8 **MS. BARFIELD:** Let's go ahead and move
9 into -- well, let's go into the next timeline, and
10 that is the 1937 to 1938 committee of engineers
11 report, but before we see this demonstrative, I'd like
12 to pop forward to Demonstrative No. 54, please.

13 **Q. (BY MS. BARFIELD) Okay. Now, in the blue**
14 **flag at the bottom below this photograph, is it -- it**
15 **states the Rio Grande Compact Commission. First, what**
16 **is the Rio Grande Compact Commission?**

17 A. Well, the Rio Grande Compact Commission was a
18 group of four individuals representing Colorado, New
19 Mexico, Texas, and the United States, who negotiated
20 and ultimately formulated the Rio Grande Compact.

21 **Q. There's also a reference to engineering**
22 **advisors, and is there something called the Committee**
23 **of Engineers?**

24 A. Yes. There was a separate Committee of
25 Engineers that was formed to develop the technical

1 basis for the Compact.

2 **Q. Okay. So let's take a look at the photo**
3 **itself. What is this photo?**

4 A. Well, this photo depicts the signing of the
5 Compact in March -- March 18th, 1938. It depicts many
6 of the individuals involved, including the Compact
7 commissioners themselves, the Committee of Engineers,
8 and then a separate somewhat smaller group of legal
9 advisors.

10 **Q. So did you collect this photo?**

11 A. Yes.

12 **Q. From where?**

13 A. This photo was actually found in the
14 frontispiece to the proceedings of the meeting of the
15 Rio Grande Compact Commission held in Santa Fe, the
16 last set of meetings, and I believe these proceedings
17 were collected from the National Archives, as well.

18 **Q. All right. And can you introduce us, if you**
19 **would, to the folks in this picture?**

20 A. Yes. So starting at the bottom going left to
21 right, you have Governor Teller Ammons of Colorado.
22 Just to the right of M.C. Hinderlider, the
23 commissioner for Colorado and the state engineer for
24 Colorado at the time. To Hinderlider's left is the
25 gentleman with the mustache, that is Frank B. Clayton,

1 who is the commissioner for Texas. To his left is
2 S.O. Harper, who was the U.S. representative and an
3 official with Reclamation. To his left, the gentleman
4 in the lighter colored suit, is Thomas McClure, who
5 was the state engineer and commissioner for New Mexico
6 and to his left is Governor Clyde Tingley of New
7 Mexico.

8 **Q. Okay. Is there anyone else in that photo you**
9 **want to introduce to the Court?**

10 A. Yes. So standing behind -- standing roughly
11 behind Hinderlider and Clayton are the four members of
12 the committee of engineers. So the gentleman all the
13 way in the back is John Bliss. To his left standing
14 slightly in front of him is Royce Tipton. He was the
15 engineer advisor to Colorado. Over Tipton's left
16 shoulder is Raymond Hill, the engineering advisor to
17 Texas and standing in front of him immediately behind
18 Clayton, is E.B. Debler, who was the U.S. engineering
19 advisor and advisor to the chairman. Debler was also
20 a long-time Reclamation employee.

21 **Q. Okay. Are we done with introductions?**

22 A. Yes. There are a couple of attorneys that
23 are represented there, but not all of the attorneys.

24 **Q. We don't need any of the lawyers. Okay.**
25 **Let's go ahead and take that down. Now, we were just**

1 moving into this next segment of your timeline, and it
2 was the '37 to '38 committee of engineering reports,
3 and so now that we've met the engineers, let's talk
4 about the lead up to the committee of engineers
5 reports. How were the findings that you explained
6 from the JIR ultimately translated into a Compact.

7 A. Well, it began with the development of the
8 technical basis, as I referenced earlier, by the --
9 the Committee of Engineers. So the Committee of
10 Engineers -- well, the finds of the Joint
11 Investigation were made available to the Compact
12 commission prior to the actual publication of the
13 report. It had accessed the report in the summer of
14 1937. So when the -- excuse me, late summer of 1937.
15 When the Rio Grande Compact Commission reconvened in
16 September and October of 1937, the Committee of
17 Engineers rather quickly started drawing upon the
18 information from the JIR to develop schedules of
19 delivery for -- for the states. At that point, with
20 the talks being very technical in nature, in October
21 of 1937, the Compact commissioners directed the
22 Committee of Engineers to meet separately to develop
23 the technical basis for the Compact, and they would do
24 that over the course of two meetings, one in Santa Fe
25 in November of 1937, and another in Los Angeles in

1 December of 1937.

2 Q. (BY MS. BARFIELD) Did they ultimately develop
3 a report?

4 A. Yes, they did.

5 Q. What was the name of that report?

6 A. That report is typically known as the
7 December of 1937 Committee of Engineers report or the
8 Committee of Engineers report.

9 Q. Okay. And based upon your historical
10 understanding and review of the committee of engineers
11 report, how much water was Texas seeking?

12 A. Texas, during the course of the negotiations
13 in the late '30s, sought 800,000 acre-feet. That was
14 the figure that Hill had calculated as the maximum
15 draft from the reservoir and a figure that he thought
16 would provide this equivalent service, would provide
17 for a dilution of salts. Colorado and New Mexico were
18 skeptical of that figure. They thought a much smaller
19 figure would address those concerns, something on the
20 order of 750,000 acre-feet.

21 Q. When was this report ultimately produced? I
22 think you said, but I want to make sure I'm correct.

23 A. The report was produced in December of 1937.

24 Q. Okay. Was it modified at any time?

25 A. It would be modified later according to

1 objections from New Mexico, objections that originated
2 from the Middle Rio Grande Conservancy District. That
3 modification would occur in March of 1938, just before
4 the drafting of the Compact document itself.

5 Q. Now, there were significant things that arose
6 out of that December 1937 report, significant to your
7 historical opinions?

8 A. Yes, there were.

9 Q. Can you describe those for the Court, please?

10 A. Well, the -- the report recommended a set of
11 two delivery schedules, one from Colorado to New
12 Mexico and from New Mexico to Texas at Elephant Butte.
13 It further recommended a credits and debits system
14 that would allow for variations in natural flow, but
15 also permit upstream developments, and then they
16 recommended a figure for the normal release or the
17 average release from Elephant Butte.

18 Q. And what was the figure that was recommended
19 for the normal or average release from Elephant Butte?

20 A. 800,000 acre-feet.

21 Q. All right.

22 MS. BARFIELD: All right. Let's go
23 ahead and put a demonstrative up. Let's take a look
24 at No. 44, please.

25 Q. (BY MS. BARFIELD) Okay. To orient ourselves,

1 on the left-hand side, there appears to be a document
2 labeled Texas 616. What is this document?

3 A. This document is a copy of the December,
4 1937, Committee of Engineers report.

5 Q. Okay. Did you collect this document?

6 A. Yes.

7 Q. And where did you collect it?

8 A. We actually collected a variety of several
9 duplicative copies in the course of our research, but
10 this particular version, we collected from appears in
11 the proceedings of those -- last set of proceedings of
12 the Rio Grande Compact Commission in March of 1938.

13 Q. Okay. And did you review this document in
14 support of your opinions that you're offering to the
15 Court today?

16 A. Yes.

17 Q. Okay. When you reviewed the document to
18 support your opinions, were you able to read it? Was
19 it legible?

20 A. Yes.

21 MS. BARFIELD: Your Honor, I would move
22 to admit Texas 0616 into evidence, please.

23 JUDGE MELLOY: Any objection?

24 MR. DRAPER: No objection.

25 JUDGE MELLOY: Exhibit 689 is admitted.

1 Q. (BY MS. BARFIELD) Dr. Miltenberger, there
2 appears to be a callout. Is that callout from the
3 report of the Committee of Engineers, December 1937
4 report?

5 A. Yes. Yes, it is.

6 Q. Okay. So does this callout have significance
7 to the opinions that you're providing for the Court
8 today?

9 A. Yes. I think it may be the -- I think it's
10 the most important statement for understanding why the
11 Compact was structured the way that it was.

12 Q. Well, given the significance or importance
13 that you place on this particular statement, could you
14 please go ahead and read this callout for us?

15 A. Yes. "We" -- that is to say the Committee of
16 Engineers -- "avoided discussion of the relative
17 rights of water users in the three states, and were
18 guided throughout our work by the general policy,
19 expressed at the meeting of the Compact Commission in
20 October, that present uses of water in each of the
21 three states must be protected in the formulation of a
22 Compact for administration of the Rio Grande above
23 Fort Quitman, because the usable water supply is no
24 more than sufficient to satisfy such needs."

25 Q. Dr. Miltenberger, what does this mean in

1 terms of the overall critical importance, as you've
2 described, to the Compact itself?

3 A. I think the critical importance is that at
4 the direction of the Compact Commission, the focus in
5 structuring and designing the Compact was intended to
6 protect those present uses within each of the three
7 states. That was done because the then-understood
8 water supply wasn't sufficient to do anything else
9 than that.

10 Q. All right. Is this the last time that this
11 statement is seen in the work of the Committee of
12 Engineers that you reviewed?

13 A. No.

14 Q. Okay. What's the last time or what's the
15 next time that you've seen this concept?

16 A. It's repeated again in the March, 1938,
17 report.

18 MS. BARFIELD: Let's go ahead and
19 advance to Demonstrative 45, please.

20 Q. (BY MS. BARFIELD) Did the technical advisors
21 ultimately come up with a plan on how water would be
22 delivered through the Compact?

23 A. Yes. They did.

24 Q. Okay. Can you describe that for us, please?

25 A. Yes. It consisted of two delivery schedules,

1 one from Colorado to New Mexico at the Lobatos gage
2 near the state line; two, New Mexico to Texas at
3 Elephant Butte.

4 **Q. And what was the significance of the delivery**
5 **schedules?**

6 A. The significance of the delivery schedules is
7 that they were predicated upon periods of record that
8 the engineers believed would be sufficient to ensure
9 that downstream lands would continue to receive water.
10 So for Colorado to New Mexico, which was developed by
11 Royce Tipton. That period in time was 1928 to 1937.
12 Tipton expanded the period of record from that, which
13 was presented in the JIR.

14 **Q. What was the second?**

15 A. The second was 1915 to 1937.

16 **Q. Okay.**

17 A. For New Mexico to Texas at Elephant Butte.
18 This -- this record should be noted was chosen because
19 it was felt to be the most reliable and the -- the
20 period of record and the delivery schedule itself
21 excluded July, August, and September as months.

22 **Q. Now, you had mentioned -- we were talking**
23 **about the significance of the delivery schedules**
24 **themselves. Was there anything else significant to**
25 **your opinions as a historian to the delivery**

1 **schedules?**

2 A. Well, the delivery schedules, there was -- as
3 I mentioned earlier, there was a credits and debits
4 system that was recommended that would permit Colorado
5 and New Mexico -- would permit upstream developments,
6 as it was called, and to deal with the fact that there
7 was natural variations in the flow of -- of the river.
8 These, though, were intended and were connected to the
9 normal release figure that was also recommended.

10 **Q. I know you testified to this a few minutes**
11 **ago, but that normal release figure is depicted on**
12 **demonstrative 45, that was 800,000 acre-feet a year?**

13 A. That's correct. But it wasn't an absolute
14 figure.

15 **Q. What do you mean by that?**

16 A. There was a provision to modify or that
17 800,000 acre-feet was to be modified based upon
18 reductions in Mexican diversions.

19 **Q. All right.**

20 A. Referring back to those illegal Mexican
21 diversions that were referenced in that graphic.
22 Those diversions that exceeded the treaty amount.

23 **Q. I understand. All right. Is there anything**
24 **else about the delivery schedules that you wanted to**
25 **share with the Court?**

1 A. Not that I can think of at this time.

2 Q. All right.

3 MS. BARFIELD: Let's go ahead and
4 advance to Demonstrative No. 46, please.

5 Q. (BY MS. BARFIELD) Now, on the left-hand side
6 of demonstrative 46, Dr. Miltenberger, is what appears
7 to be an historical document. It is labeled Texas
8 0689. What is this?

9 A. This is a copy of an analysis of the report,
10 the December, 1937, Committee of Engineers report,
11 prepared by Royce Tipton for M.C. Hinderlider.

12 Q. Did you collect this document?

13 A. This document was collected by JRP. I did
14 not personally collect it.

15 Q. Okay. But you've reviewed the document?

16 A. I have.

17 Q. Do you have an understanding of where JRP
18 collected the document?

19 A. I do.

20 Q. And where is that?

21 A. From History Colorado, which was formerly the
22 Colorado Historical Society.

23 Q. All right. Is this document significant to
24 the historical opinions that you're offering to the
25 Court today?

1 A. Yes.

2 **Q. Okay.**

3 **MS. BARFIELD:** Before we talk
4 about the significance, I'm going to move to admit
5 Texas 0689 into evidence, Your Honor?

6 **JUDGE MELLOY:** Any objection? Hearing
7 none, 0689 is admitted.

8 **Q. (BY MS. BARFIELD) Okay. Dr. Miltenberger,**
9 **what's the significance?**

10 A. Well, the significance of this is that Tipton
11 explains for Hinderlider or gives some insight for
12 Hinderlider on the design of the -- of these
13 recommendations, gives him insight into why the
14 Committee of Engineers recommended these delivery
15 schedules and in this case, this particular callout
16 speaks to that.

17 **Q. Okay. So can you describe what's important**
18 **or significant about this callout relative to the**
19 **significance of the delivery schedules?**

20 A. Yes. So the Committee of Engineers, as
21 stated here, were confronted with the task of
22 determining the discharge of the river at various
23 points under the present development of the basin and
24 on that basis, of devising schedules of water
25 delivery. This is Tipton's report to Hinderlider.

1 Schedules of delivery, which would ensure each section
2 of the basin against injury by the acts of water users
3 in another section and yet would permit of the
4 construction and operation of additional reservoirs
5 above Elephant Butte.

6 MS. BARFIELD: All right. Let's advance
7 --

8 Q. (BY MS. BARFIELD) Were you done talking about
9 this particular callout, Dr. Miltenberger?

10 A. Yes.

11 Q. All right. Let's advance to Demonstrative
12 47, please. Now, on 47, we're still talking about
13 this same source of document, the Tipton analysis of
14 the report of Committee of Engineers report; is that
15 correct?

16 A. Yes.

17 Q. Okay. So there are two additional callouts
18 here, and you chose those callouts; is that right?

19 A. That's right.

20 Q. Why don't we start with the top one. Why
21 don't you explain the significant to your opinion of
22 this callout?

23 A. Well, these elaborate on the statement Tipton
24 gave earlier. So in this, he references the
25 agreement. What he's really referencing is the report

1 or the -- the agreement -- the agreed-upon report of
2 the Committee of Engineers. So in the first callout,
3 he reiterates what the Committee of Engineers charge
4 was and what he ultimately thought -- what they
5 ultimately aimed to accomplish. By the terms of the
6 agreement, there is recognized the impracticability of
7 encroaching upon the present legitimate uses of water
8 in any section of the basin, the proposal, the
9 recommendations of the report was designed to permit
10 not only present uses of water, but also to allow
11 increased diversions and consumption of water above
12 Elephant Butte by utilizing water, which otherwise
13 would spill from that reservoir water -- excuse me --
14 from that reservoir. So I think it's important to
15 keep in mind that the -- the central arguments of the
16 upstream states relative to New Mexico and -- well,
17 Colorado to New Mexico and Texas and New Mexico to
18 Texas was that these upstream developments could occur
19 without compromising uses downstream, so what Tipton
20 is saying is that we've achieved that. That's what
21 we've achieved to do. Present uses of water are going
22 to be satisfied, but at the same time are going to
23 permit increased diversions and consumption of water
24 upstream.

25 Q. Okay.

1 A. And so on that, he goes into his last column.

2 Q. Okay. And what --

3 A. Or goes into my last column. Excuse me.

4 Q. It is your callout.

5 A. Excuse me. So to this end, he then says,
6 "The agreement recommends the sets up of schedules of
7 delivery of water at the Colorado/New Mexico state
8 line and into the Elephant Butte Reservoir, the first
9 to represent conditions based on the period 1928 to
10 1937, and the second based essentially on the period
11 1915 to 1937."

12 Q. Okay. Is there anything else significant
13 about this document or this particular callout before
14 we move forward?

15 A. No.

16 Q. Okay. So let's advance to Demonstrative No.
17 48, and we appear to be looking back, again, at the
18 Committee of Engineers report from December of 1937,
19 Texas 616; is that correct?

20 A. Yes.

21 Q. Okay. So you mentioned a few minutes ago
22 that the engineers define 800,000 acre-feet as the
23 normal or average release from Elephant Butte Dam.
24 Can you explain to us from an historical perspective
25 what is the significance of that 800,000 acre-feet

1 **figure?**

2 A. Well, the significance is that that was the
3 figure that Hill had advocated to John Bliss and Royce
4 Tipton and even E.B. Debler as being necessary to
5 satisfy lands in Texas, to assure them of sufficient
6 quality of water. What the engineers ultimately
7 agreed is that 800,000 would be the average, but there
8 would be an adjustment based upon -- adjustment by
9 two-thirds based upon aggregate diversions and losses
10 to Mexico.

11 **Q. And does the callout inform you on --**
12 **regarding that particular testimony?**

13 A. Yes.

14 **Q. Okay. Is there anything else from the**
15 **callout that you'd like to highlight for the Court?**

16 A. No.

17 **Q. Okay. Let's go ahead and advance to**
18 **Demonstrative No. 49, please. Okay. On Demonstrative**
19 **49, there appear to be two documents depicted. First,**
20 **let's start with the document on the left, and this**
21 **one is labeled Texas 649. This is an admitted**
22 **document. What is this?**

23 A. This document on the left is a handwritten
24 table that is entitled, "John Bliss Estimate of
25 Project Requirements at Elephant Butte," dated

1 December 27th, 1937.

2 **Q. Where was this collected?**

3 A. Excuse me. I need to correct the date.
4 December 17th, 1937. This was collected from the
5 Raymond Hill papers at the University of Texas Austin
6 Dolph Briscoe Center.

7 **Q. Did you collect -- I'm sorry. I totally cut**
8 **you off. Did you collect this document?**

9 A. Yes.

10 **Q. Now, based upon your review and your**
11 **collection of the document itself and its original**
12 **form and historical expertise, whose handwriting is**
13 **this?**

14 A. Hill's handwriting.

15 **Q. Okay. So what are we looking at**
16 **substantively?**

17 A. Substantively, we're looking at Hill's notes
18 from John Bliss' estimate of what the project
19 requirements at Elephant Butte would be. Earlier, I
20 -- I believe I said that both Bliss and Tipton believe
21 something like 750,000 acre-feet would be necessary or
22 was all that was needed to achieve certain quantity
23 and quality of water to lands in Texas, and here is
24 how that breaks down as Hill wrote it down.

25 **Q. On the right-hand side, there appears to be a**

1 document -- well, there is a document. It is labeled
2 Texas 0684. What is that document?

3 A. That's a type script version or a typed
4 version of the handwritten notes at left.

5 Q. And did you collect the typewritten version
6 that's labeled Texas 684?

7 A. Yes.

8 Q. Where did you collect that?

9 A. From the same place, the Raymond Hill papers
10 at the University of Texas Austin.

11 Q. Okay. And did you rely upon the document or
12 the content of the document in Texas 684 to formulate
13 your opinions today?

14 A. Yes.

15 MS. BARFIELD: Your Honor, I would move
16 to admit Texas 0684.

17 MR. DRAPER: No objection.

18 JUDGE MELLOY: Any objection? Okay.
19 684 is admitted.

20 MS. BARFIELD: Thank you, Your Honor.

21 Q. (BY MS. BARFIELD) Okay. So, now that we
22 understand what both of these are, why don't we
23 advance to 50. These appear to be callouts, and have
24 you chosen these callouts?

25 A. Yes.

1 **Q. Okay. What is the significance of these**
2 **callouts to your opinions?**

3 A. Well, the significance is that in presenting
4 the 750,000 acre-feet as being what was necessary from
5 Elephant Butte, there's provision in that number for
6 both water to Hudspeth and for a salt balance or
7 service equivalents that's provided here in both
8 places.

9 **MR. DRAPER:** Your Honor, excuse me.
10 We're getting, again, into technical description.
11 This document speaks for itself, and Dr. Miltenberger
12 is not a hydrologist or an engineer.

13 **JUDGE MELLOY:** Well, I'm going to
14 overrule. He's just reading from the document itself
15 so I'll let him continue.

16 **MS. BARFIELD:** Thank you, Your Honor.

17 **Q. (BY MS. BARFIELD) So you mentioned the**
18 **provision for Hudspeth. Describe that for us and what**
19 **it means to you as an expert historian, what it means**
20 **to your opinions.**

21 A. Well, what it means is, is that even a lesser
22 figure had some notion of being able to provide water
23 to Hudspeth and so if we're thinking about the 800,000
24 acre-feet figure that is to be adjusted relative to
25 diversions to Mexico, that that likewise was a

1 quantity of water that was accepted as being
2 sufficient to satisfy present uses down to Fort
3 Quitman.

4 Q. And what about the reference to the salt
5 balance and service equivalents, how did that factor
6 into your opinions?

7 A. That same quantity of water was also intended
8 to address the quality issues that had been noted on
9 downstream lands.

10 Q. Okay. And as a reminder, you stated that
11 these -- on the basis of your review and your -- your
12 expert analysis as a historian, these -- this is John
13 Bliss' writing, correct?

14 A. No. This is Raymond Hill's writing.

15 MR. DRAPER: I'd like to lodge an
16 objection. There's no foundation for the witness to
17 testify as to whose handwriting that is. There's been
18 no foundation laid that he can -- he can recognize
19 that.

20 MS. BARFIELD: May I respond, Your
21 Honor?

22 JUDGE MELLOY: Go ahead.

23 MS. BARFIELD: Just a few moments ago,
24 we actually did lay a foundation, and we discussed how
25 he found the document, where he found the document,

1 and his understanding based upon his expertise and
2 such as a expert historian, and he already testified
3 to the fact that it is Hill's handwriting. I misspoke
4 just now.

5 JUDGE MELLOY: All right. Go ahead.

6 MR. DRAPER: Your Honor, the witness is
7 not a handwriting expert. He may be a historian, but
8 he's -- they've laid no basis for that statement.

9 JUDGE MELLOY: Well, but he's already
10 testified without objection that it was Hill's
11 handwriting and it was found in Hill's paper, so I'll
12 overrule the objection.

13 MS. BARFIELD: Thank you, Your Honor.

14 Q. (BY MS. BARFIELD) And, Dr. Miltenberger, what
15 I was trying to state before I misspoke was these were
16 John Bliss' estimates; that's correct?

17 A. Yes. In my opinion, these are John Bliss'
18 estimates that Hill committed to paper.

19 Q. Okay. And remind us who John Bliss is.

20 A. John Bliss was the New Mexico engineering
21 advisor.

22 Q. All right. Now, you talked about the
23 December, 1937, report as being the technical basis
24 for the Compact. From a historical perspective, how
25 did that factor into the eventual Compact?

1 A. Well, many of its recommendations were
2 ultimately adopted and formed critical features of the
3 Compact, but not all.

4 **Q. Why were not all of the objection or**
5 **recommendations, rather, adopted?**

6 A. Owing to objections that New Mexico made
7 regarding to the Committee of Engineers' reports,
8 objections that were stemming from concerns that the
9 Middle Rio Grande Conservancy District had for the
10 recommendations of the engineers.

11 **Q. Can you describe for us what those objections**
12 **are or were that you're referring to?**

13 A. Well, those -- those objections focused
14 principally on two things. There were several, but
15 they focused on two things. One was on the delivery
16 at Elephant Butte, the schedule -- New Mexico schedule
17 being predicated or -- or New Mexico schedule delivery
18 of Texas being at Elephant Butte, and the other was
19 the quantity of water that the engineers recommended,
20 that 800,000 acre-feet per year to be adjusted by
21 diversions to Mexico.

22 **Q. And you -- can you describe for us the**
23 **substance of those objections?**

24 A. Well, the substance of those objections was
25 that, I think as -- as Thomas McClure articulated, is

1 that it provided the basis or affixed the basis of
2 water to Texas that they felt was inappropriate, too
3 much water being allotted to Texas.

4 Q. Okay. Is there anything else about the
5 objections that were asserted by New Mexico that you
6 would like to explain as part of your opinion before
7 we move on?

8 A. I don't believe so, no.

9 Q. All right. Let's go ahead and advance to
10 Demonstrative 51, please. Now, Demonstrative 51 is
11 populated by three different documents so let's take a
12 look at the document on the left. This is labeled
13 Texas 628, and for the record, it is Page 49 of a
14 larger compilation of documents identified as the
15 Proceedings of the Meeting of the Rio Grande Compact
16 Commission held in Santa Fe in March of 1938. What is
17 this document, Dr. Miltenberger?

18 A. The document on the left is a letter from
19 H.C. Neuffer, who was a consulting engineer to the
20 Middle Rio Grande Conservancy District, in which he
21 proffers his concerns about the Committee of Engineers
22 report.

23 Q. And before we move onto an explanation of the
24 nature of those concerns, did you collect this
25 document?

1 A. Yes.

2 Q. Okay. And where?

3 A. It was also collected from that set of
4 proceedings, which were collected from the National
5 Archives.

6 Q. All right. And did you review and rely upon
7 this document in support of your opinions here today?

8 A. Yes.

9 Q. When you reviewed this document, could you
10 read it?

11 A. Yes.

12 Q. Okay.

13 MS. BARFIELD: Your Honor, I would like
14 to move to admit Texas 628 into evidence, please.

15 MR. DRAPER: No objection.

16 JUDGE MELLOY: 628 is the one that
17 contains the picture that was previously identified as
18 Demonstrative Exhibit -- what was the number -- with
19 -- with the commissioners and the governor at the
20 signing, right?

21 MS. BARFIELD: That's correct, Your
22 Honor.

23 JUDGE MELLOY: Okay. All right. Go
24 ahead. 628 is admitted.

25 MS. BARFIELD: Thank you, Your Honor.

1 **Q. (BY MS. BARFIELD) So what was the nature of**
2 **the concerns expressed in the letter,**
3 **Dr. Miltenberger?**

4 A. Well, the -- the nature -- in this letter,
5 the nature of the concerns was that they had some --
6 they didn't understand the data that was used to
7 develop the relationships, as it says, of the flow of
8 the Rio Grande at various points, and it goes onto say
9 there's some other -- vaguely, it says there's some
10 other elements that they felt would do, quote,
11 permanent or would result in, quote, permanent damage
12 to the Middle Rio Grande Conservancy District and
13 other water users in New Mexico above Elephant Butte.

14 **Q. All right. Any -- any further details that**
15 **-- that inform your opinion regarding the letter on**
16 **the left?**

17 A. Well, the -- Neuffer's -- Neuffer's issues
18 with the Committee of Engineers report were expressed
19 in other documents, but they speak principally to the
20 amount of water that were -- that the Committee of
21 Engineers recommended and to the delivery point being
22 Elephant Butte and the -- the basis for that schedule.

23 **Q. All right. So let's talk about the document**
24 **in the middle, and this is still from those**
25 **proceedings now admitted as Texas 628, and I'll**

1 represent to the Court that this is Page 48. What is
2 this document, Dr. Miltenberger?

3 A. This is a letter that Thomas McClure wrote
4 just -- just shortly after receiving Neuffer's letter,
5 a letter that McClure wrote to S.O. Harper, the chair
6 of the Rio Grande Compact Commission.

7 Q. Could you remind us who Mr. McClure is?

8 A. McClure was the state engineer and Rio Grande
9 Compact Commissioner for New Mexico.

10 Q. Okay. What is significant, if anything, to
11 your opinion about this letter in the middle?

12 A. In this letter, McClure criticized the work
13 of the Committee of Engineers, even though his
14 engineer, John Bliss, signed off on the Committee of
15 Engineers report of December. He called for the
16 Committee of Engineers to reconsider portions of their
17 report, and as I think I expressed earlier, one of his
18 central concerns was that the quantity of water, the
19 -- the recommendations of the Committee of Engineers
20 fixed a quantity of water that -- for Texas that was,
21 in his words, so far out of reason that it could not
22 be considered as a basis for negotiations.

23 Q. All right. Is there anything else from this
24 letter from Mr. McClure that informed your opinions
25 here today?

1 A. Yeah. So he -- as I said, he called for the
2 engineers to revisit their report, and ultimately,
3 that's what happened.

4 **Q. All right. So let's move over to --**

5 **JUDGE MELLOY:** Excuse me one second.
6 I'm getting a little confused here. You, I believe,
7 said that document was at Page 48, and using Texas
8 Exhibit 628, correct?

9 **MS. BARFIELD:** Yes. And for
10 clarification, I think it's Page 48 of the proceedings
11 itself as opposed to 48 -- like, it's not PDF 48.

12 **JUDGE MELLOY:** Oh, okay. I was looking
13 at the bottom where you have Texas 628, Page 47 of 90
14 and so on. So it's -- okay. It's 48 of the
15 proceedings?

16 **MS. BARFIELD:** That is my understanding,
17 but I'm going to ask Dr. Miltenberger if he has a
18 better understanding than I so that I don't --

19 **JUDGE MELLOY:** I found it now.

20 **MS. BARFIELD:** Oh.

21 **JUDGE MELLOY:** It's Page 53 of 90 as
22 part of the exhibit, but Page 48 of the proceedings.
23 All right. Go ahead.

24 **MS. BARFIELD:** Thank you, Your Honor.

25 **Q. (BY MS. BARFIELD) All right. So moving on to**

1 the document on the right, and I'll represent that
2 this is Page 58 of the proceedings, Your Honor, within
3 Texas 628. What is this document, Dr. Miltenberger?

4 A. This document is the resulting revised report
5 of the Committee of Engineers dated March 8th, 1938 --
6 excuse me -- March 9th, 1938.

7 Q. All right. And how was it revised?

8 A. It was revised in three critical ways.

9 Q. Okay. What are those -- well, let's start
10 with the first one. What's the first way?

11 A. Well, the first one was to change the point
12 of delivery from Elephant Butte to San Marcial.

13 Q. And how is that significant?

14 A. Well, that's significant because until 1948,
15 that was the -- that became the delivery point to --
16 to Texas for the waters of the Rio Grande. In 1948,
17 it was changed back to Elephant Butte.

18 Q. All right. And what is the second
19 significant modification?

20 A. Well, the second significant modification was
21 a change in the time frame.

22 Q. How --

23 A. So rather than 1915 to 1937, the Committee of
24 Engineers adopted a period of record prior to 1930.

25 Q. And why is that significant to your opinion?

1 A. Well, that's significant because looking,
2 actually, for just a moment back at the JIR, the JIR
3 had identified a stability in water use in the Middle
4 Rio Grande section for roughly 1890 to 1929. That
5 period of record was identified in the way that it was
6 in part because the federal investigators could not
7 fully assess the impact of the Middle Rio Grande
8 Conservancy District on downstream flows. So the
9 choice to make it prior to 1930 merges in a choice to
10 respect the Middle Rio Grande Conservancy District, to
11 take them in some ways at their word that they
12 wouldn't deprive flows downstream, that whatever water
13 they were utilizing upstream would be returned in
14 sufficient quantity below to be -- to be utilized
15 below. It's worth noting, too, that at the time when
16 these Committee of Engineers revised their report,
17 that Neuffer had joined them in a capacity as a
18 witness, and, in fact, signed off on -- on this
19 report, as well.

20 **Q. Remind us who Neuffer is.**

21 A. Neuffer is the -- or was the consulting
22 engineer to the Middle Rio Grande Conservancy
23 District.

24 **Q. All right. Is there anything else**
25 **significant in terms of the second revision that**

1 you've been describing to us that you want to share
2 with us?

3 A. Yes. The revision in the time record -- the
4 period of record utilized to form its delivery
5 schedule was retained the July, August, September
6 exclusion.

7 Q. Okay. Why don't we move on to -- you
8 mentioned three revisions, and why don't you share
9 with us your opinion regarding the third revision.

10 A. The third revision was to reduce the 800,000
11 acre-feet normal release figure to 790,000 acre-feet.

12 Q. And what was the basis of that, if you have
13 an understanding from an historical perspective?

14 A. Well, my -- that perspective is informed by
15 comments both before and -- and later made by -- made
16 by Hill regarding that figure.

17 Q. Okay. Why don't we advance, I think -- I
18 think there's probably some information coming up
19 that's going to lead us there. So let's move on to
20 Demonstrative No. 52, and on the left-hand side of
21 this demonstrative, there appears to be an historic
22 document. This is labeled Texas 0623. What is this
23 document, Dr. Miltenberger?

24 A. This is a copy of the deposition of Raymond
25 Hill that was taken in the original action from,

1 again, in 1967 with the State of Texas and New Mexico
2 joined against the State of Colorado to enforce the
3 provisions of the Rio Grande Compact.

4 Q. Okay. Let's do a little housekeeping before
5 we move onto that. For the record, I'd like to note
6 there is a duplicate copy of this exhibit, which also
7 includes an additional two pages. Those additional
8 two pages show the box that the document was extracted
9 from at its source, and that is labeled Texas 0625.

10 So, Dr. Miltenberger, where did you collect
11 or did you collect Document 625 and Document 623?
12 Both of those are Texas documents.

13 A. They were collected from the Texas State
14 Archives.

15 Q. Did you personally collect those?

16 A. Yes.

17 Q. Okay. Did you read these documents or read
18 this document?

19 A. Yes.

20 Q. Okay. When you read this document, did you
21 use its contents to inform your opinions that you're
22 offering to the Court today?

23 A. Yes.

24 Q. Okay. When you read the document, could you
25 read it? Was it legible?

1 A. Yes.

2 **MS. BARFIELD:** Your Honor, I would move
3 to admit Texas 0623 and Texas 0625.

4 **JUDGE MELLOY:** Any objection?

5 **MR. DRAPER:** No objection.

6 **JUDGE MELLOY:** 0623 and 0625 are
7 admitted.

8 **MS. BARFIELD:** Thank you, Your Honor.

9 **Q. (BY MS. BARFIELD)** All right. Now, you
10 referenced that this was -- this was about the 1967
11 proceedings, so this is the Supreme Court No. 29; is
12 that right --

13 A. Yes.

14 **Q. -- original?**

15 A. Yes.

16 **Q. Now, speaking only on the basis of your**
17 **review of this as a historian, what is the nature of**
18 **this case?**

19 A. This -- this case concerned New Mexico and
20 Texas filing suit against Colorado for failure to
21 adhere to the provision of the Compact.

22 **Q. Okay. And does this -- this represents a**
23 **deposition transcript that was taken from that case;**
24 **is that right?**

25 A. Yes.

1 Q. Who was the deponent?

2 A. Raymond Hill.

3 Q. Okay. Does the deposition transcript from
4 1968 help inform us as to something that happened back
5 in '37 and '38?

6 A. Yes, it does.

7 Q. And -- and how is that? Explain that to the
8 Court, please.

9 A. Well, in 1968, Raymond Hill was one of the
10 few individuals who was still alive with direct
11 knowledge of -- of the Compact negotiations. I
12 believe Royce Tipton had passed away in 1967. John
13 Bliss may have still been alive at the time, but
14 Raymond Hill was providing testimony for both Texas
15 and New Mexico on this matter, and in doing so, he
16 prepared a report, and he also provided this
17 deposition testimony, and in this particular callout,
18 he provided some explanation for what that 790,000
19 acre-feet was to encompass.

20 Q. All right. And you chose the callout from
21 Texas 623; is that correct?

22 A. That's correct, yes.

23 Q. Okay. Could you please explain to us the
24 significance of the callout that you referred to?

25 A. Yes. So in this, and this is taken from

1 Hill's answer to a question, he identifies that, "The
2 790,000 acre-feet that was arrived at as a normal
3 release so defined the Compact, included the water,
4 which was obligated to be delivered to Mexico under
5 the Treaty of 1906, the 600,000 acre-feet in the
6 Acequia Madre so that the remainder, the allotment on
7 the downstream side of Elephant Butte, was really 730
8 for use -- you might bracket that off and say 730,000
9 for uses in the United States and 60 for uses in
10 Mexico."

11 **Q. All right. And overall, what does that mean**
12 **to your opinions that you're offering to us today?**

13 A. That means that the 790,000 acre-feet, that
14 730,000 of that was intended to serve lands in the
15 United States.

16 **Q. All right. Let's go ahead and did you -- did**
17 **you explain for us everything about this particular**
18 **callout that was significant to your opinion?**

19 A. I believe so, yes.

20 **Q. All right. Let's go ahead and advance into**
21 **Demonstrative No. 53. Now, on Demonstrative 53, there**
22 **appears to be a document on the left-hand side. It is**
23 **labeled Texas 674. This is an admitted document.**
24 **What is this?**

25 A. This -- this document is a memorandum that

1 Clayton -- excuse me -- Raymond Hill prepared for
2 Frank Clayton in November of 1937 following the first
3 set of meetings among the engineers in Santa Fe.

4 **Q. Did you collect this document?**

5 A. Yes.

6 **Q. Where?**

7 A. This document was collected from the Raymond
8 Hill papers at the University of Texas.

9 **Q. All right. Now, there's a callout. You've**
10 **chosen this callout?**

11 A. Yes.

12 **Q. And is this significant to your opinions, and**
13 **why?**

14 A. Yes. Yes, it is. Because I think it sheds
15 still more light on why the 730,000 acre-feet figure
16 was arrived at. In this particular memo, Clayton's
17 explaining to -- excuse me -- Hill is explaining to
18 Clayton the substance of his talks with the -- with
19 the other engineers, and he relates to Clayton that he
20 -- he's finding it difficult to justify or explain to
21 the -- to the other engineers that 800,000 acre-feet
22 was, in fact, what was necessary for lands in Texas,
23 and what he points out is the difficulty that's
24 attended to that is because those lands had been
25 getting on with less water. In this case, as he

1 writes, "Unfortunately, the project with 1.5 million
2 acre feet in storage and more acres in crop than in
3 any year, or in several years, the release from
4 Elephant Butte has been only about 730,000 acre-feet."
5 In other words, the Project has been getting along
6 with less water on, he relates later in this memo that
7 there was plenty of reason to use additional water,
8 but that's what they had been getting on by, and I
9 think that is a sticking point in his talks with the
10 other engineers.

11 **Q. All right. Now, Dr. Miltenberger, we're**
12 **about to move on to the last segment of the timeline.**
13 **Is there anything else from the Committee of Engineers**
14 **report that's significant to your opinions that we**
15 **have not already discussed?**

16 **A.** I think that the Committee of Engineers
17 reports does form this critical technical basis for
18 the Compact, and the provisions of it are ultimately
19 translated into the Compact. That 790,000 acre-feet
20 really encompassed those waters necessary to satisfy
21 lands down to -- to Fort Quitman.

22 **Q. Okay. Is there anything --**

23 **JUDGE MELLOY:** Ms. Barfield, if you're
24 about to change subjects here and move on to a
25 different area, why don't we take a break at this

1 time. We'll break until 3:20.

2 MS. BARFIELD: Thank you, Your Honor.

3 JUDGE MELLOY: Thank you.

4 (Recess.)

5 JUDGE MELLOY: All right. Are we ready
6 to resume? Before we start, I -- it was pointed out
7 to me that Texas Exhibit 616 was moved for admission
8 and there was no objection and then apparently I used
9 the wrong exhibit number when I admitted the exhibit
10 so Texas 616 is in evidence.

11 MS. BARFIELD: Thank you, Your Honor.

12 JUDGE MELLOY: You may proceed, Ms.
13 Barfield.

14 Q. (BY MS. BARFIELD) All right. Welcome back,
15 Dr. Miltenberger.

16 A. Thank you.

17 Q. We're going to move on to the fifth and final
18 segment of the timeline. There are a few topics that
19 are not in the timeline, of course. I didn't want
20 folks to think we were done at the end of this
21 segment, but let's go ahead and take care of this
22 final timeline segment that brings us to Demonstrative
23 No. 54. Now, obviously we've seen this before, and
24 you've introduced us to the individuals here. So,
25 now, what is the context of the picture itself?

1 A. So the context is the signing of the ultimate
2 Compact. With the Committee of Engineers March
3 report, that was ultimately translated into the
4 document that was signed by the commissioners by a
5 committee of legal advisors, some of whom are depicted
6 here, and on March 18th, 1938, the commissioners all
7 signed their approval of the Compact.

8 **Q. All right. So let's advance forward to**
9 **Demonstrative No. 55, and let's talk about what each**
10 **state ultimately obtained with the Compact. Why don't**
11 **we talk about Colorado first.**

12 A. Yes. So Colorado obtained what it long
13 sought. It achieved -- it achieved parody. Colorado
14 had argued throughout the proceedings that it could
15 develop the water resources of the Rio Grande in the
16 San Luis Valley in Colorado without compromising
17 downstream flows, and they believe with the Compact,
18 they obtained that.

19 **Q. All right. Let's talk about New Mexico.**
20 **What did New Mexico obtain with the Compact?**

21 A. New Mexico obtained a couple of things. One
22 is they managed to limit the upstream depletion from
23 Colorado, establish a delivery point at the state
24 line. They protected the Middle Rio Grande
25 Conservancy District from Colorado above and Texas

1 below. It also -- it also -- excuse me. They also
2 brought into the Supreme Court proceedings with the
3 signing of the Compact, and New Mexico further limited
4 the amount of water to Texas.

5 **Q. Okay. How did New Mexico further limit the**
6 **amount of water to Texas?**

7 A. Well, through the reduction in the release
8 figure.

9 **Q. Okay.**

10 A. That in reducing the release figure response
11 to the Middle Rio Grande Conservancy District's
12 concerns.

13 **Q. Okay. Now, let's move on to Texas. Now,**
14 **what did Texas obtain with the Compact?**

15 A. Texas obtained the status quo, circa 1938.
16 It achieved assurance through the delivery schedules,
17 which were embodied in Article 3 for Colorado and
18 Article 4 for New Mexico of the Compact that would
19 enable a 790,000 acre-feet average release for water
20 that would serve needs down to Fort Quitman.

21 **Q. Okay. What about the Texas Rio Grande**
22 **Commissioner, did the Compact from your review provide**
23 **any authority to the commissioner?**

24 A. Yes, it did. It provided the Rio Grande
25 Compact commissioner with the authority to call for

1 releases in upstream reservoirs to ensure a sufficient
2 supply in Elephant Butte.

3 Q. All right. And then in terms of what Texas
4 obtained with the Compact, do you have any opinion
5 regarding return flows?

6 A. Yes. So that 790,000 acre-feet was -- was a
7 quantity of water that would have encompassed or did
8 encompass return -- return flows and -- and water to
9 achieve some -- some manner of salt balance or improve
10 quality of water.

11 Q. All right.

12 MS. BARFIELD: You can take this down
13 now. Thank you.

14 Q. (BY MS. BARFIELD) So was the Compact
15 acceptable to all of the states and the United States
16 from your review and analysis as an historian?

17 A. Well, the -- certainly all the commissioners,
18 and that includes U.S. commissioner, signed off and
19 recommended the adoption of -- of the Compact, but
20 that didn't mean -- that doesn't mean that the Compact
21 pleased everyone. The lower Rio Grande and Texas, and
22 by lower Rio Grande, I mean lands below Fort Quitman,
23 there was concern and questions about what Texas
24 obtained by the Compact.

25 Q. Okay. Were these water users below Fort

1 Quitman?

2 A. Yes, they were.

3 Q. Okay. If you know, did the water users below
4 Fort Quitman express these concerns with Mr. Clayton,
5 who was the Texas Compact commissioner at the time?

6 A. Yes. In fact, Clayton, following the signing
7 of -- of the Compact in March, through much of the
8 spring, summer, and fall attempted to respond to
9 criticisms of the Compact, questions made of it in
10 various quarters, including those down in the lower
11 Rio Grande.

12 Q. All right. Let's go ahead and take a look at
13 Demonstrative No. 59, please. Okay. Now, let's
14 orient ourselves for a second. On the left-hand side
15 of Demonstrative 59, there appears to be a document,
16 and the source document here is New Mexico 0175-0157.

17 MS. BARFIELD: This is an admitted
18 document, Your Honor.

19 Q. (BY MS. BARFIELD) What is this,
20 Dr. Miltenberger?

21 A. This is an excerpt from the minutes of a
22 meeting of EBID in July of 1938, which presents an
23 example of what Clayton was confronting.

24 Q. Did you choose this callout from the
25 document?

1 A. Yes.

2 **Q. Okay. Can you explain for the court the**
3 **significance of this callout and its contents to your**
4 **opinion?**

5 A. Yes. So this -- this minute refers to --
6 well, there was a report given by directors who had
7 attended a meeting in May of 1938, a meeting in which
8 representatives of the Lower Rio Grande, along with
9 Frank Clayton, EP No. 1 officials, even Harlan
10 Barrows, who was chair of that water board of the
11 National Resources committee that they attended and
12 talked about the purpose of that meeting and the
13 outcome.

14 **Q. What's significant about it?**

15 A. At that meeting, these lower Rio Grande
16 interests sought to obtain a guarantee of water for
17 them, that 200,000 acre-feet annually be passed or
18 delivered to Fort Quitman to satisfy those parties
19 below. According to this particular example or this
20 particular minutes, EBID representatives and EP No. 1
21 representatives explained that that guarantee was
22 impossible, that the water could be lost by
23 evaporation or diversions prior to reaching Fort
24 Quitman.

25 **Q. All right. Have you explained to us**

1 everything that was significant to your opinions from
2 this callout?

3 A. Yes.

4 Q. Okay. Let's go ahead and advance to
5 Demonstrative No. 60, please. On the left-hand side,
6 let's orient ourselves again, there's a document that
7 is stamped Texas 0735, and this is an admitted
8 document. What is this document, Dr. Miltenberger?

9 A. This is a letter from attorney Sawnie B.
10 Smith to Frank Clayton in September of 1938 in which
11 he articulates some questions he has about the
12 Compact.

13 Q. Who is Sawnie Smith?

14 A. Sawnie Smith was an attorney from Edinburg,
15 Texas, which was located in Hidalgo County, below Fort
16 Quitman.

17 Q. All right. Did you collect this document?

18 A. Yes.

19 Q. And from where?

20 A. From UT Austin.

21 Q. Okay. Now, did Mr. Smith -- well, who did he
22 represent? Who did he represent as a lawyer?

23 A. As he indicates in his letter, he's
24 representing interests below Fort Quitman, in I
25 believe he says this area.

1 **Q.** All right. Now, you've chosen three callouts
2 to discuss from this letter. Why don't we look at the
3 top one and share with the Court if you would why this
4 callout is significant to your opinion?

5 **A.** Well, Smith, like others in the lower Rio
6 Grande, didn't really understand why the Compact was
7 structured the way that it was and one of the
8 questions that animated Smith's letter was that the
9 Compact had no provision for the division of the
10 waters below Elephant Butte between New Mexico and
11 Texas, and it further noted that there was no
12 provision regarding the amount of water to which Texas
13 was entitled.

14 **Q.** Anything else?

15 **A.** Well, yes. Going down the letter, Smith
16 indicates that he understands that the water in the
17 project storage provided for a proportional
18 distribution of the figures, and he quotes a
19 proportion that's incorrect. But he notes that that's
20 just his understanding. There's nothing in the
21 Compact that actually explains that. So as he writes
22 here, "I do not find anything in the Compact, however,
23 which ties down and limits the use or division of the
24 waters according to present usage and physical
25 conditions," and expresses some concern that there was

1 nothing to prevent future controversy between the
2 states.

3 Q. Okay. Now, what about the third callout?

4 A. Well, given these concerns and questions he
5 has, he asked Clayton to explain matters to him, to
6 advise why the respective rights of Texas and New
7 Mexico were not defined to provide for the Compact in
8 express terms.

9 Q. Did Commissioner Clayton respond to
10 Mr. Smith?

11 A. He did, yes.

12 Q. When did he respond?

13 A. He responded in October, just a few days
14 later.

15 Q. Okay. Why don't we advance to Demonstrative
16 No. 61, and on the left-hand side of this page, there
17 is a letter that's Texas 619, and this is an admitted
18 -- nope, this is not admitted. Okay. What is this
19 document?

20 A. This document is a letter from Frank Clayton
21 to Sawnie Smith replying to Smith's letter, excuse me,
22 of late September. The letter is dated October 4th,
23 1938.

24 Q. Did you collect this document?

25 A. Yes.

1 **Q.** And where did you collect it?

2 **A.** From UT Austin, as well.

3 **Q.** Okay. And you have reviewed this document;
4 **is that correct?**

5 **A.** Yes.

6 **Q.** Okay. And based upon your review of the
7 **contents of this document, does it inform any of the**
8 **opinions that you're offering to the Court today?**

9 **A.** Yes.

10 **MS. BARFIELD:** Your Honor, I would offer
11 to admit -- move to admit, rather, Texas 0619 into
12 evidence.

13 **MR. DRAPER:** No objection.

14 **JUDGE MELLOY:** Okay. 619 is a document,
15 I think, New Mexico has relied upon quite a bit in its
16 pleadings, as well, but in any event, Texas 619 is
17 admitted.

18 **MS. BARFIELD:** Thank you, Your Honor.

19 **Q.** **(BY MS. BARFIELD)** So how did Clayton respond
20 **to Mr. Smith?**

21 **A.** Well, Clayton responded by focusing on what
22 he discerned, I think, is two questions imbedded in
23 Smith's letter. The first is regarding the point of
24 division of the waters of the Rio Grande, and in this
25 is the first callout, that Clayton notes that since

1 the 1929 Compact, that it had been agreed upon that
2 Elephant Butte was to be -- New Mexico's obligations
3 to Texas were to be expressed with reference to
4 deliveries at Elephant Butte Reservoir. That was the
5 functional division point between the -- the two
6 states. Clayton goes onto describe, which I don't
7 call out here, but he goes on to describe the reasons
8 for that, which he identifies as being insuperable.
9 First of all, that the -- the project itself was under
10 the control of the Bureau of Reclamation, and neither
11 Colorado nor New Mexico could be expected to guarantee
12 any fixed deliveries at the Texas state line because
13 of the -- because of Reclamation -- the existence of
14 the project and Reclamation control over the waters
15 below that point. The second point that Clayton makes
16 regarding for why the division is at Elephant Butte is
17 that -- well, it's really by reference to the
18 development of the Project itself, that it had
19 developed as a unit, that it was impossible to provide
20 for any kind of state line delivery. And then he
21 shifts over to the second question, which is how the
22 waters of Elephant Butte were to be divided.

23 **Q. All right. And how did he address that**
24 **second question of how the waters were to be divided?**

25 **A.** Well, he did it with reference to the

1 contracts. So in this case, he references contracts
2 between the districts under the Rio Grande Project and
3 the Bureau of Reclamation, and he goes onto write
4 that, "These contracts provide for lands under the
5 project have equal water rights and the water is
6 allocated according to the areas involved in the two
7 states," and then goes onto reference what has been
8 called at times the 1938 agreement or the 1938
9 interdistrict agreement. "By virtue of the contract
10 recently executed, the total area is frozen at the
11 figure representing the acreage now actually in
12 cultivation, approximately 88,000 acres for EBID, and
13 67,000 for EP1, with a cushion of 3 percent for each
14 figure."

15 **Q. Okay. And do you have an understanding of**
16 **what recently executed contract he's referring to?**

17 A. Yes. I believe he's referencing what we call
18 the -- what has been called the 1938 contract or the
19 1938 agreement.

20 **Q. Okay. Let's -- well, is that everything you**
21 **wanted to tell us about those callouts because I know**
22 **we still have a little more on a different**
23 **demonstrative about this letter?**

24 A. No. Because I think as Clayton goes on, some
25 of this comes into more -- more close relief.

1 Q. All right. So let's go ahead and advance to
2 Demonstrative No. 62, and this is still the source
3 letter, the Clayton to Smith letter of October 4th of
4 1938, which is Texas 619, correct?

5 A. Correct.

6 Q. Okay. So you have another callout here, and
7 -- well, one callout. Can you describe for the Court
8 the significance of this particular callout that you
9 chose?

10 A. Yes. So this is just a continuation of
11 Clayton's earlier statements. So he writes, "The
12 arrangement just mentioned" -- the arrangement, the
13 1938 agreement -- "is, of course, a private one
14 between the districts involved, and for that reason it
15 was felt neither necessary nor desirable that it be
16 incorporated in the terms of to Compact."

17 Q. Now, based upon your historic analysis of
18 this letter and your understanding as an expert
19 historian, I mean, is he saying that the '38
20 downstream contract is irrelevant to the Compact?

21 A. No. I don't think that he is, actually.

22 Q. Okay. And why not? I mean, how did those --
23 how did those fit together?

24 A. Well, I think that what he's saying is that
25 because it's private, it wasn't incorporated into the

1 Compact.

2 Q. Okay. Now, what about the second paragraph,
3 does that have significance to your opinions?

4 A. It does, because Clayton doesn't stop his
5 explanation regarding the division of the waters of
6 Elephant Butte Reservoir with that. He goes onto
7 identify the contract that Hudspeth has as he
8 writes, "The lands above Fort Quitman and below the
9 Rio Grande Project eastern boundary receive only tail
10 water or waste water. The lands in Hudspeth County
11 District taking its water by virtue of a contract with
12 lands privately owned below the district lower
13 boundary only by taking by gravity or pumps what
14 happens to be in the river channel."

15 Q. Now, is this talking, based upon your
16 understanding of this historical document, is he
17 talking about that -- that geographical area between
18 the end of the Project and the end of the Compact?

19 A. That's correct, yes.

20 Q. Okay. And what contract is he referring to,
21 if you understand that from your historical analysis?

22 A. He's referring to the Warren Act contract.

23 Q. Okay. And what water is he referring to?

24 A. He's referring to that water that in other
25 context we talked about is being wasted beyond the

1 Project, that which isn't utilized on the Project and
2 passes below or beyond the use of Project lands.

3 Q. Okay. Now, is there anything else that you
4 derived from this letter that's important or
5 significant to your overall opinions, but not called
6 out here?

7 A. Yes. Clayton also goes onto reference the
8 treaty with Mexico, the 1906 treaty, as also being a
9 component of -- of the waters above Fort Quitman that
10 are to be utilized.

11 Q. Okay. So overall, does this exchange of
12 letters in 1938, what is that -- well, strike that.

13 Overall, what does this exchange of letters
14 in 1938 mean to you as an historian as it applies to
15 the Compact?

16 A. Yes. So this letter has been much picked
17 over in this litigation, but there's two things that I
18 think are worth emphasizing, that, one, the context in
19 which Clayton was writing, it was a context in which
20 those lower Rio Grande users were advocating for a
21 water supply for them under the Compact and so I think
22 this letter needs to be read with that in mind, that
23 Clayton is articulating the fact that the waters above
24 Fort Quitman were committed within -- within the
25 Compact, and secondarily to allow the concerns of

1 water users and other interests in Texas that Texas
2 would not receive its due, he points out the federal
3 control of the reservoir and the system. Those, I
4 think, are very important concepts to appreciate when
5 reading this letter.

6 Q. All right. Now, is there anything else
7 before we move off of this topic and change topics?

8 A. No.

9 MS. BARFIELD: Okay. You can take that
10 down, please.

11 Q. (BY MS. BARFIELD) Okay. So that finishes up
12 the timeline that we've been tracking with. I do have
13 a few more topics for you to discuss before I let you
14 go. So, first, you have heard or have you heard of
15 the concept of the 1938 or the baseline condition?

16 A. Yes.

17 Q. Okay. Now, generally speaking and from your
18 perspective as an expert historian, what does that
19 mean to you?

20 A. That means to me the -- the hydrological
21 state of affairs, as described and captured in the Rio
22 Grande Compact circa 1938.

23 Q. All right. Now, in your expert opinion and
24 based upon the extensive historical investigation that
25 you performed in this matter and that you spent a

1 great deal of time talking with us about today and
2 that's also memorialized in your reports, what is the
3 1938 or baseline condition that Texas bargained for
4 during negotiations for the Compact?

5 A. That is that the waters that were available
6 to Texas as of 1938, return flows, reservoir releases,
7 would continue to be available to Texas, that
8 adherence to the schedules in the upstream states
9 would ensure sufficient waters for those purposes down
10 to Fort Quitman.

11 MR. DRAPER: Your Honor.

12 JUDGE MELLOY: Go ahead.

13 MR. DRAPER: I'd like to lodge an
14 objection here. We -- I was waiting for the
15 demonstratives to come up that uses erroneous term
16 that Ms. Barfield has encouraged the witness to use
17 about a 1938 baseline condition, which ignores your
18 ruling, and it inserts their tendentious idea that
19 this is somehow locked in at 1938 and your ruling on
20 summary judgment carefully avoided that term and so we
21 want to object to this line of testimony and to the
22 demonstrative exhibits that are coming up, 63 through
23 67, that persist in using that same erroneous
24 language.

25 JUDGE MELLOY: What's your position, Ms.

1 Barfield?

2 **MS. BARFIELD:** Well, Your Honor, I
3 object to and disagree with Mr. Draper's
4 characterization of my comments as well as Texas'
5 position and particularly the part that he suggests we
6 are trying to, for lack of a better word, coach the
7 witness or direct the witness in a certain manner and
8 that certainly has not occurred nor would it. I think
9 Texas' position from the outset has been that there is
10 a 1938 condition. That has always been our position.
11 It's in all of our papers, all of our pleadings, and
12 certainly was the subject of the motion for summary
13 judgment. Your Honor's ruling, I will leave to Your
14 Honor to interpret. It says what it says. I will
15 state that Your Honor made statements about the
16 existence of a baseline condition. I don't have it in
17 front of me to quote, but at any rate,
18 Dr. Miltenberger is giving an opinion based upon his
19 expertise from a historical perspective and in no way
20 is trying to interpret Your Honor's motion for summary
21 judgment order. He's giving evidence of the nature
22 and the definition of what that baseline condition is,
23 which as I understand it, was one of the questions
24 that Your Honor did carry over to trial and
25 specifically wanted the parties to address through

1 testimony or evidence.

2 **JUDGE MELLOY:** Go ahead.

3 **MR. DRAPER:** Your Honor, if I may. This
4 -- this issue relates to your ruling on summary
5 judgment on May 21st of this year, and in several
6 places, I'll quote from Page 49, you state, "The
7 Compact protects the Project, its water supply, and a
8 baseline operating condition." And this was in
9 response to the Texas motion that there was a 1938
10 condition, and as we've seen from some of the motions
11 leading up to trial, there's been a lot of effort made
12 to confine the parties to what trial has been defined
13 to be in this case by your -- your rulings. Parties
14 can reserve their right for an exception with the
15 Court, but as I understand it, we're trying this case
16 pursuant to your rulings.

17 **JUDGE MELLOY:** Well, I think as we
18 discussed at some of the hearings leading up to the
19 summary judgment motion and the hearings on the
20 summary judgment motion, Texas is taking the position
21 that there's a 1938 baseline condition. I have
22 difficulty understanding exactly what that means in
23 the context of this case. Does it mean exactly what
24 the condition was on March 18th, 1938? Does it mean
25 the conditions that existed during the preparation of

1 the Joint Investigative Report? Does it mean the
2 conditions that existed during the time periods that
3 were covered by the JIR? So, I mean, I think those
4 are issues that we have to sort out at trial. So
5 having said that, I'll allow the testimony to go
6 forward, but not without any ruling at this point as
7 so what exactly a 1938 condition means because I think
8 it can mean a number of different things, and I think
9 Texas has a right to put into evidence what it
10 believes the baseline condition is, just as New
11 Mexico, Colorado, and the United States may put in
12 some different evidence. But I'll let the witness
13 testify with the understanding that I'm not in any way
14 saying that a 1938 condition that existed on March
15 18th, 1938, is -- is what we're talking about here.
16 You may proceed.

17 MR. DRAPER: Thank you, Your Honor.

18 MS. BARFIELD: Thank you, Your Honor.

19 Q. (BY MS. BARFIELD) Dr. Miltenberger, I'd like
20 to try and pick up where we were when we left off, and
21 I'm not quite sure if your response to the last
22 question that was pending was finished. Was your
23 response complete?

24 A. I actually don't recall my last response.

25 Q. Okay. So we -- we had just got done

1 discussing what your opinion was about defining what
2 the baseline of 1938 condition was that Texas
3 bargained for during the negotiations for the 1938 Rio
4 Grande Compact. I'm going to actually rephrase. I'm
5 going to take 1938 out of that. Now, what was the
6 baseline condition that, in your opinion, as an expert
7 historian, that the parties -- or that Texas bargained
8 for during negotiations for the 1938 Rio Grande
9 Compact?

10 A. I'll put it this way, that upstream
11 depletions would not exceed those over prior years to
12 such a degree that would deplete the flows that would
13 arise from that 790,000 acre-feet release,
14 understanding that there are conditions or provisions
15 in the Compact that create a credit and debit system,
16 that allows for some holding of water upstream, that
17 allows for natural fluctuations in flow, and, of
18 course, issues relating to drought, which are -- which
19 are beyond the control of any human party.

20 Q. Now, does this mean that the states at the
21 time of entering into the Compact intended to limit or
22 restrict development below Elephant Butte Reservoir?

23 A. No, I don't believe so. Not in my expert
24 opinion.

25 Q. Can you please explain that to us?

1 A. I think it goes back to what's important to
2 understand from the beginning that the task in front
3 of the engineers was to apportion an insufficient
4 water supply. So the schedules and the release figure
5 work together to apportion that supply, given the
6 present conditions and present uses, and in this
7 sense, the 790,000 acre-feet or development below
8 Elephant Butte only within the confines of that, only
9 limitations within the confines of that, much as for
10 the upstream states for the delivery schedules,
11 they're bound by the -- by the schedules themselves to
12 provide that water would be -- would reach downstream
13 points in sufficient quantity to enable those present
14 uses -- excuse me -- enable downstream uses.

15 **Q. Okay. Thank you for that clarification. And**
16 **have -- during the course of your review and analysis**
17 **of the historical documents and studying this issue,**
18 **does the concept of freedom of development mean**
19 **anything to you?**

20 A. Yes. Yes. And, in fact, this was a concept
21 that Hill expressed in his 1968 report that was
22 introduced at that 1968 deposition.

23 **Q. So let's go ahead and advance to**
24 **Demonstrative 63. On the left-hand side of the**
25 **Demonstrative 63, there is a document that is labeled**

1 **Texas 608, and what is this document,**
2 **Dr. Miltenberger?**

3 A. This document is the report prepared by
4 Raymond Hill that was introduced in the 19 -- late
5 1960s litigation against -- involving New Mexico and
6 Texas -- New Mexico and Texas being joined together
7 against Colorado.

8 **Q. Okay. And did you collect this document?**

9 A. I collected a copy of this. This is -- I
10 collected an identical copy of this document, but this
11 was a document that I know was produced in the course
12 of New Mexico's motion for summary judgment.

13 **Q. Okay. And does this -- I'll represent for**
14 **the Court that this is an admitted document. Does**
15 **this document help inform your opinion regarding the**
16 **baseline condition?**

17 A. Yes.

18 **Q. And what is that opinion or how does that**
19 **document help inform your opinion rather?**

20 A. Well, Hill's report was prepared at the
21 request of the State of Texas but submitted at his
22 deposition by -- on behalf of Texas and New Mexico,
23 and in it, I think the report attempts to set the
24 record straight about what the Compact proceedings
25 were, what the events were, what the decision points

1 were, and in this particular callout, I think he
2 states very clearly what I just articulated a moment
3 ago. So if I may, as he had been -- as he had been
4 discussing his report, he goes onto say, "It is
5 apparent from the foregoing that at the time the Rio
6 Grande Compact commissioners, at the time of executing
7 the Rio Grande Compact of 1938, anticipated that
8 compliance by Colorado with the schedules of
9 deliveries set forth in Article 3 of that Compact and
10 compliance by New Mexico with the schedules set forth
11 in Article 4 would result in enough water entering
12 Elephant Butte Reservoir to sustain an average normal
13 release of 790,000 acre-feet per year from Project
14 storage for use on lands in New Mexico downstream of
15 Elephant Butte Reservoir and on lands in Texas and
16 also to comply with the obligations of the Treaty of
17 1906 for deliveries of water to Mexico."

18 **MS. BARFIELD:** Your Honor, this
19 particular demonstrative is one of them that was not
20 admitted at the beginning of today's testimony. I'd
21 move to admit Demonstrative 63.

22 **JUDGE MELLOY:** Any objection?

23 **MR. DRAPER:** Your Honor, we object to
24 the series of exhibits, as I mentioned before, 63
25 through 67, for the reasons that I stated regarding

1 their claim of a 1938 baseline condition as being a
2 proper term given the rulings of the Court.

3 JUDGE MELLOY: Exhibit 63 will be
4 admitted for demonstrative purposes.

5 MS. BARFIELD: Thank you, Your Honor.

6 Let's go to Demonstrative 64, please.

7 Q. (BY MS. BARFIELD) Now, this is -- we're still
8 looking at the 1968 document by Raymond Hill; is that
9 correct, Dr. Miltenberger?

10 A. Yes.

11 Q. Okay. And I see that you have another
12 callout. You chose this callout?

13 A. Yes.

14 Q. Okay. And there's two paragraphs to this
15 callout. Can you please describe or explain for the
16 Court what is significant to your opinion regarding
17 the 1938 or baseline condition?

18 A. Yes. So the earlier quotation was from
19 earlier in the -- in re Monday Hill's report. This
20 comes towards the end where he's summarizing much of
21 what he had discussed before and these are also worth
22 reading and considering in full. So as he
23 writes, "The Rio Grande Compact Commissioners, during
24 their meetings in 1937 and 1938, had to divide an
25 insufficient supply among three groups of water users,

1 each of which was antagonistic to the other two.
2 Their solution was to hold to the principles of the
3 1929 Compact and to depart as little as practicable
4 from its provisions. The Committee of Engineering
5 Advisors was instructed to prepare schedules of
6 deliveries by Colorado and by New Mexico that would
7 insure maintenance of the relationships of stream
8 inflow to stream outflow that had prevailed under the
9 conditions existent when the Compact of 1929 was
10 executed. The Committee of Engineers was also
11 instructed to provide for freedom of development of
12 all water resources in the drainage basin of Rio
13 Grande above Elephant Butte subject only to compliance
14 with these schedules."

15 Q. So taking the last comment, so the freedom of
16 development term I heard there, that term is referred
17 to above the reservoir. Did you form an opinion about
18 whether or not this document shed any light on what
19 was to happen below the reservoir?

20 A. Well, Hill goes onto say something to that.

21 Q. Is that on the next demonstrative? It
22 probably is.

23 MS. BARFIELD: Before we move on
24 for this, I would like to move to admit Demonstrative
25 No. 65?

1 **MR. DRAPER:** Same objection.

2 **JUDGE MELLOY:** Overruled. 65 can be
3 admitted.

4 **MS. BARFIELD:** I probably skipped 64.
5 My apologies. They're all the same base document from
6 the Raymond Hill report from 1968. On that basis, I
7 move to admit Demonstrative No. 64, as well.

8 **JUDGE MELLOY:** 64 will be admitted.

9 **MS. BARFIELD:** Thank you, Your Honor.

10 **Q. (BY MS. BARFIELD)** So looking at Demonstrative
11 **No. 65, you chose this callout, Dr. Miltenberger?**

12 **A.** I did, yes.

13 **Q.** Okay. And what's the significance to your
14 **opinion regarding this callout?**

15 **A.** The significance is that -- well, it speaks
16 to the question that you had posed. Hill writes
17 that, "The Rio Grande Compact of 1938 should be looked
18 on as an expansion of the Compact of '29, designed to
19 provide for the maximum beneficial use of water in the
20 basin of Rio Grande above Fort Quitman without
21 impairment of any supplies beneficially used under the
22 conditions prevailing in 1929."

23 **Q.** So overall, Dr. Miltenberger, what does this
24 **mean to you, the contents of this 1968 Hill report**
25 **that we've been discussing?**

1 A. I think that the content relates to what the
2 intent, the design of the Compact, was, to ensure,
3 again -- once again that uses that were preexisting in
4 the basin could -- were protected against upstream
5 depletions or upstream uses, but also to create a
6 mechanism by which that could occur, that some limited
7 upstream depletion could occur, again, provided there
8 wasn't depletion of flow downstream. It really goes
9 fundamentally back to the argument that Colorado made
10 to New Mexico and Texas from the beginning of the
11 Compact Commission and -- excuse me -- Compact
12 proceedings, and that New Mexico made in its arguments
13 before the Supreme Court regarding the Middle Rio
14 Grande Conservancy District, that these developments
15 would not harm developments downstream.

16 Q. Okay. And by uses preexisting, you meant
17 preexisting the Compact; is that right?

18 A. Yes.

19 Q. Okay. Now, regarding this 1938 baseline
20 condition that you have described and testified to,
21 Dr. Miltenberger, was Mr. Hill alone in his
22 assessment?

23 A. No, he wasn't.

24 Q. Okay. And I think -- well, explain that
25 comment.

1 A. Well, I think we can look to the reports of
2 the engineers, the December and March reports, where
3 they articulate this intent to protect or safeguard
4 present uses of water. I think we can also look to
5 Royce Tipton's comments from his analysis of the
6 December 1937 -- excuse me -- Committee of Engineers
7 report in which he uses much of the same language to
8 describe what the design and intent of the schedules
9 of delivery were. I think other engineers, John
10 Bliss, would agree with these sentiments.

11 **Q. Remind us again, who is John Bliss?**

12 A. John Bliss was the engineering advisor for
13 New Mexico.

14 **Q. Okay. And you just referenced Mr. Tipton as**
15 **engineering advisor, and, again, just to refresh our**
16 **recollection on that, who is Mr. Tipton again, for**
17 **what state?**

18 A. Royce Tipton was the engineering advisor for
19 Colorado.

20 **Q. Okay. So why don't we move on and take a**
21 **look at Demonstrative No. 66. Now, on the left-hand**
22 **side of this demonstrative, there is a document, which**
23 **is labeled Texas 618, and this is an admitted**
24 **document. What is this document, Dr. Miltenberger?**

25 A. This document is a report that John Bliss

1 prepared for Thomas McClure outlining the -- the Rio
2 Grande Compact -- the provisions of the Rio Grande
3 Compact and recommending its adoption.

4 **Q. And what year was this?**

5 A. In 1938. The report is dated April 2nd,
6 1938.

7 **Q. Did you collect this document?**

8 A. I did not personally collect it, but it was
9 collected by JRP.

10 **Q. All right. Where was it collected from?**

11 A. This was collected from the University of
12 Wyoming, the American Heritage Center there.

13 **Q. All right. Now, could you tell us what is**
14 **significant to your testimony today that's derived**
15 **from this particular document relative to the 1938**
16 **baseline condition?**

17 A. Well, in this, Bliss discusses the schedules,
18 and he references the -- the time -- the time periods
19 that were used to create them, and he -- he goes onto
20 note with this callout here is that those schedules,
21 given those schedules, "The Rio Grande Project
22 involving lands in both Texas and New Mexico will
23 receive all the water she has received in the past
24 prior to 1930 whenever it is required for her normal
25 releases. She may make annual releases averaging

1 790,000 acre-feet whenever her supply is sufficient to
2 do so."

3 Q. Describe to us why that is significant to
4 your overall opinion on this issue?

5 A. This is significant because I see this, my
6 expert opinion, Bliss is concurring with the
7 sentiments that Hill would express 30 years later,
8 that adherence to the schedules, adherence to the --
9 committed -- commitment to not depleting upstream
10 flows would ensure sufficient water downstream, and in
11 the case of the Rio Grande Project, would ensure
12 sufficient -- a sufficient quantity of water that
13 would serve lands in both Texas and New Mexico.

14 Q. All right. Now, back when we first discussed
15 what each of the states wanted to get from the Compact
16 itself, I recall testimony where you spoke of Texas
17 wanting to preserve the status quo. Did I paraphrase
18 that correctly?

19 A. Yes.

20 Q. Okay. Now, we're post Compact. Does -- do
21 -- does this document speak to that issue at all in
22 your expert opinion?

23 A. It does in this -- in this way, that, again,
24 it's preserving the 790,000 acre-feet that adherence
25 to the schedule would preserve the 790,000 acre-feet

1 for lands in both Texas and New Mexico. And this
2 quantity of water going back to the joint
3 investigation, going back to the Committee of
4 Engineers meetings, was a quantity of water that would
5 serve water uses as of 1938 all the way down to Fort
6 Quitman.

7 Q. All right. And remind us, if you would, back
8 -- back, again, the preservation of the status quo,
9 what historical figure, whose -- whose opinion was
10 that?

11 A. The status -- the status quo?

12 Q. The preservation of the status quo as a view
13 of the Compact, was that from Hill or somebody else?

14 A. Well, I think -- I think that kind of emerges
15 from some of the documents. I mean, Hill's position
16 was on that adherence to these schedules would ensure
17 a condition that would enable this release and enable
18 this water to be made available.

19 Q. Okay.

20 MS. BARFIELD: Your Honor, I'd move to
21 admit Demonstrative No. 66, please.

22 MR. DRAPER: Your Honor, we've stated
23 our objection.

24 JUDGE MELLOY: 66 is admitted. You may
25 proceed.

1 **MS. BARFIELD:** Thank you, Your Honor.
2 Let's advance to Demonstrative No. 67,
3 please.

4 **Q. (BY MS. BARFIELD)** Let's look at the document
5 on the left, and there's sort of a base document
6 underneath the callouts, which is labeled Texas 0751.
7 What is this document, if you know, Dr. Miltenberger?

8 **A.** This document is a copy of an address that
9 S.E. Reynolds, the state engineer in 1968, the New
10 Mexico state engineer, gave at a conference.

11 **Q.** Okay. And did you collect this document?

12 **A.** Yes.

13 **Q.** Where did you collect it?

14 **A.** This was collected from the New Mexico State
15 Records Center and Archives.

16 **Q.** Okay. And you've reviewed the document; is
17 that right?

18 **A.** That's right.

19 **Q.** Okay. And based upon your review of the
20 document, does it inform some of the opinions that
21 you're offering to the Court today?

22 **A.** Yes. So the --

23 **Q.** Right before you go on and talk about your
24 opinions.

25 **MS. BARFIELD:** I'd like to move the

1 Court to admit Texas 0701 into evidence, Your Honor.

2 JUDGE MELLOY: Any objection?

3 MR. DRAPER: No objection.

4 JUDGE MELLOY: All right. Texas 7 --
5 excuse me -- Texas 0701 is admitted.

6 MS. BARFIELD: All right. Thank you,
7 Your Honor.

8 Q. (BY MS. BARFIELD) Okay. And, now,
9 Dr. Miltenberger, there are what appears to be three
10 callouts, one on the left and two on the right. Did
11 you choose these callouts from this document?

12 A. I did, yes.

13 Q. All right. Why don't we start over on the
14 left-hand side, and if you could share with the Court
15 the significance to your opinions regarding that
16 callout?

17 A. Yes. So this notion about a condition of
18 preserving a state of affairs wasn't one that was
19 ultimately limited to the engineers involved with the
20 negotiations of the Rio Grande Compact. In fact, in
21 1968, S.E. Reynolds very closely mirrored statements
22 that Hill had made in his own report of that same
23 year. This addresses, in fact, provides some
24 explanation to New Mexico's opposition to Colorado in
25 that original action, and in this case, what Reynolds

1 offers are, I think, pointed observations about what
2 the Compact was intended to do. So in this case, in
3 the first quote, he states -- or he would have
4 stated, "In fact, the basic objective of the
5 negotiators was to preserve the status quo as of
6 1929." The negotiators being the Compact negotiators.

7 "The equities developed in the river by each state
8 were defined by a study of pre-Compact conditions of
9 flow in each state. On the basis of this study,
10 schedules were drawn to establish the outflow which
11 must be maintained at each level of water supply."

12 **Q. Before we talk about these next callouts, who**
13 **is Mr. Reynolds?**

14 A. Reynolds was the New Mexico State Engineer in
15 1968.

16 **Q. Okay. So these are Mr. Reynolds statements**
17 **from 1968, as reflected in this historical document;**
18 **is that right?**

19 A. That's correct.

20 **Q. Okay. Okay. So what is the significance**
21 **from your expert opinion perspective of the callout**
22 **that you just spoke about?**

23 A. Well, I think it reflects the fact that New
24 Mexico, at least as of 1968, had a very similar
25 understanding as -- as Hill did as to what the Compact

1 was intended to accomplish and why it was designed in
2 the way that it was.

3 Q. And is there significance to the preservation
4 of the status quo as of 1929, as it applies to your
5 opinion on the baseline condition?

6 A. It -- it does. It does. And so -- so
7 perhaps some explanation may be in order here because
8 there's been talk of a '38 condition, and here it is
9 we have statements about a 1929 condition or state of
10 affairs as of 1929. The -- the -- it's important to
11 appreciate that 1929, the temporary Compact was in
12 effect, and effectively limited or restricted upstream
13 depletions. The idea of a 1929 standard really speaks
14 quite a bit to the development of the Middle Rio
15 Grande Conservancy District, that that period prior to
16 -- to 1930 being a period really 1890 to 1921, that
17 gives to the upper -- the Middle Rio Grande
18 Conservancy District the -- the conceit it would not
19 deplete flows downstream, and the stability in water
20 use that was identified and articulated in the joint
21 investigation for Colorado indicated that really for
22 that span a period from -- from '28 to 1937, just
23 prior to the -- to the -- the temporary Compact going
24 into effect, remained static and that there wouldn't
25 be any subsequent depletions within that period of

1 record provided adherences made to them, and that's
2 what the schedule was intended to capture. So I think
3 there becomes a question of what's a -- what's a good
4 label to hang onto what was clearly intended, which
5 was to preserve a state of affairs.

6 Q. All right. Now, did Mr. Reynolds have
7 anything else that was noteworthy to your expert
8 opinion in this particular document, and if the
9 callouts on the right speak to that issue, can you
10 please explain that to the Court?

11 A. Yes. So Reynolds went on to connect the
12 schedules and the Compact itself to groundwater and
13 groundwater development, and that's the first of these
14 -- these callouts in which he writes that -- or
15 acknowledges that, "The Rio Grande Compact makes no
16 specific reference to groundwater. However, the
17 inflow-outflow mechanism for determining delivery
18 obligations makes the control of groundwater
19 appropriations in the upstream states essential for
20 the protection of existing surface water rights in
21 those states and the preservation of their ability to
22 meet the Compact commitments." In other words, to
23 ensure the sufficient supply downstream. He then goes
24 on to state that, "The surface waters and groundwaters
25 in the Rio Grande Valley are intimately related. At

1 some points, the surface flows feed the groundwater
2 reservoirs, and at other points, the groundwater
3 reservoirs discharge into the stream. Along the
4 mainstem of the river, the situation generally is one
5 in which groundwater discharge contributes to surface
6 flow."

7 Q. Okay. So overall explain to us how the
8 primary significance of these callouts to your
9 opinions regarding the 1938 or baseline condition from
10 an historical perspective.

11 A. Well, these -- I believe these callouts
12 demonstrate an overall intent, an agreed-upon intent
13 by the engineers, an intent that was recognized by the
14 State of New Mexico, at least by S.E. Reynolds in
15 1968, to ensure that upstream depletions would not
16 adversely effect downstream water uses. It's the
17 conflict of the basin itself resolved, the conflict
18 that goes back to the 1890s, and in the context of
19 this particular piece, Reynolds is acknowledging that
20 groundwater is a necessary component to be managed in
21 order to preserve that state of affairs, hence the
22 final callout here where he notes that, "Heavy
23 sustained pumping from the groundwater reservoir would
24 cut off this accretion and ultimately reverse the
25 water table gradient so that the water now flowing

1 into the stream and constructed drains would disappear
2 into the groundwater reservoir."

3 Q. Now, as an expert historian and only looking
4 at this from an historical context, is he making a
5 connection between groundwater and surface water?

6 A. Yes.

7 Q. Okay. Is there anything else from this
8 particular document by Mr. Reynolds that you wanted to
9 highlight for the court today that informs your
10 opinions on this subject?

11 A. No.

12 MS. BARFIELD: Your Honor, I'd like to
13 move to admit Demonstrative No. 67 into evidence,
14 please.

15 JUDGE MELLOY: Any objection?

16 MR. DRAPER: Your Honor, objection
17 already stated.

18 JUDGE MELLOY: All right. Exhibit 67 is
19 admitted. Are you moving, also, for -- or have you --
20 let me ask you: Did we admit 701? I can't remember.

21 MS. BARFIELD: We did admit 701, Your
22 Honor.

23 JUDGE MELLOY: All right. Okay. You
24 may proceed.

25 Q. (BY MS. BARFIELD) Dr. Miltenberger, are you

1 familiar with what the current -- our current special
2 master in this matter, Judge Melloy, said in his
3 summary judgment motion relative to the
4 interconnection between groundwater and surface water?

5 A. Yes. I thought it was historically
6 significant and included a callout.

7 Q. Okay. So let's move onto Demonstrative No.
8 68, and I'll represent that the base document here is
9 the May 21st, 2021 order on the motions for partial
10 summary judgment by Judge Melloy at Pages -- and you
11 have highlighted callouts here; is that correct? You
12 chose these callouts?

13 A. Yes.

14 Q. And as you just stated, these are
15 historically significant to you; is that correct?

16 A. Yes.

17 Q. Could you explain for the Court why?

18 A. Because they also acknowledge the same state
19 of affairs, same connection that Reynolds acknowledged
20 in '68, and that earlier studies and studies in the
21 '50s and '60s, and further back were pointing to --
22 towards, that there is a hydrological interconnection
23 between groundwater and surface flow.

24 Q. Now, is it your opinion as an expert
25 historian that the documents in the historical

1 information that you have described for us today
2 during your testimony support the special master's
3 conclusions that are depicted on Demonstrative No. 68?

4 A. Yes.

5 MS. BARFIELD: Your Honor, I'd like to
6 -- I would move to admit Demonstrative No. 68 into
7 evidence, please.

8 MR. DRAPER: No objection.

9 JUDGE MELLODY: 68 is admitted.

10 Q. (BY MS. BARFIELD) Now, let's advance -- we're
11 going to skip 69. Let's advance, if you would, to
12 Demonstrative No. 70. Now, Dr. Miltenberger, do you
13 have an opinion as to when, if at all, New Mexico
14 gained specific knowledge of the relationship between
15 Rio Grande surface water flows and groundwater?

16 A. Yes.

17 Q. Could you explain that for us, please?

18 A. Well, I think there is evidence of a broad
19 knowledge prior to the Compact of an interconnection,
20 and that's captured on this slide here. And in many
21 of the reports that the Special Master has
22 acknowledged in his summary judgment order, these
23 include the Slichter and Lee USGS studies, the
24 development of the project drainage system itself in
25 the 1910s provides evidence of this interconnection

1 between surface flow and groundwater, a letter that
2 was produced by D.C. Henny, a former Reclamation
3 official turned consultant, writing to EBID general
4 manager John Taylor in 1926 in which he attempts to
5 dissuade Taylor from considering groundwater pumping
6 as it would deplete flows. The Bliss 1936 New Mexico
7 study, which looked to identify this direct relation
8 between groundwater and surface flow, and even the
9 JIR's 1938 observations, general observations about
10 the interconnection.

11 **Q. All right. And I just want to make sure that**
12 **we get a very clear record here. On the left-hand**
13 **side, there's a -- the front page of a document. Now,**
14 **this one is Texas 661, and what is that document?**

15 **A.** This document is a copy of Charles Slichter's
16 published report observation of the groundwaters of
17 the Rio Grande Valley that was released as USGS Water
18 Supply and Irrigation Paper No. 141 in 1905.

19 **Q. Did you collect this document?**

20 **A.** Yes.

21 **Q. Where did you collect the document from?**

22 **A.** This was collected from an online repository
23 of official USGS publications called the USGS
24 Publications Warehouse.

25 **Q. Okay. And from the content of this document,**

1 what specifically did you derive from this document to
2 support your opinions regarding interrelation between
3 groundwater and surface water and New Mexico's
4 knowledge of the same?

5 A. Well, Slichter's was the first -- first study
6 of the possibility of an interconnection. It was
7 really an investigation that was prompted by -- by
8 B.M. Hall, B.M. Hall asking Slichter to undertake this
9 work, and notably, Slichter identified this
10 interconnection -- was the first to identify this
11 interconnection between the surface flows of the Rio
12 Grande and the surrounding groundwater.

13 MS. BARFIELD: Your Honor, I would like
14 to move to admit Texas 0661 into evidence, please.

15 JUDGE MELLOY: Any objection?

16 MR. DRAPER: We have no objection, Your
17 Honor. It's -- it is a technical report, but as long
18 as the witness is not testifying as a technical
19 expert, we have no objection.

20 JUDGE MELLOY: All right. Texas Exhibit
21 661 is admitted.

22 MS. BARFIELD: Thank you, Your Honor.

23 Q. (BY MS. BARFIELD) And then you referenced
24 demonstrative itself, Demonstrative 70 itself has
25 documents listed in the center, and you did just

1 provide us some foundational background and explained
2 how you used these documents to support your expert
3 opinion on the interconnection between surface flows
4 and -- and groundwater; is that right?

5 A. That's correct, yes.

6 Q. Okay. So I -- I want to take care of getting
7 some of these moved into evidence. The first one we
8 just took care of, so the second one, which you
9 already testified to, is the Lee 1907 USGS study.
10 It's Texas 0519, and you have reviewed and relied upon
11 this document; is that correct?

12 A. That's correct, yes.

13 MS. BARFIELD: Your Honor, I would move
14 to admit Texas 0519 into evidence.

15 JUDGE MELLOY: Any objection?

16 MR. DRAPER: No objection, with the same
17 comment with regard to the inability of this witness
18 to testify to truly technical issues.

19 JUDGE MELLOY: All right. The exhibit
20 will be admitted.

21 MS. BARFIELD: Thank you, Your Honor.

22 Q. (BY MS. BARFIELD) Dr. Miltenberger, in the
23 next line it states, "Development of Project drainage
24 systems in the 1910s." Do you know specifically what
25 Texas 692 is referring to? Might need to get the

1 binder out because this slide doesn't list it.

2 A. Yes. I'll need to consult the binders that
3 are present.

4 MS. BARFIELD: Can we pull up Texas 692,
5 please?

6 Q. (BY MS. BARFIELD) All right. So,
7 Dr. Miltenberger, I see on the bottom right Trial
8 Exhibit Texas 0692 is listed. Can you tell from 24 --
9 this appears to be a box stamp what this is. We may
10 need to let you look at your hard copy.

11 A. Yes, I will. May I?

12 Q. Just grab it. You've got a set of binders
13 there. You're welcome to use those at any time.

14 A. Yes. Texas 692 is a 1915 report on drainage
15 by a board of engineers working for -- or as a
16 component of the United States Reclamation Service.

17 Q. Have you reviewed that document?

18 A. Yes.

19 Q. And you've just testified that you have
20 relied on that document in support of your opinions
21 that you're giving on this issue today; is that right?

22 A. That's correct, yes.

23 MS. BARFIELD: Your Honor, I'd move to
24 admit Texas 692 into evidence.

25 JUDGE MELLOY: Any objection?

1 **MR. DRAPER:** Your Honor, we had concerns
2 about the legibility of this document. We also have
3 concerns about the ability of this witness to testify
4 to the technical issues covered in it, but subject to
5 those caveats, we don't object to the exhibit.

6 **JUDGE MELLODY:** Actually, for -- this one
7 is a little bit easier to read than some of the others
8 actually, so 692 will be admitted.

9 **MS. BARFIELD:** Thank you, Your Honor.

10 **Q. (BY MS. BARFIELD)** The slide also referred to
11 under the same subject, Dr. Miltenberger, development
12 of project drainage system in the 1910s, there were
13 three documents referred to, and the middle one was
14 Texas 693. That one should come right after 692 in
15 the binder you have.

16 **A.** Yes, it does.

17 **Q.** Okay. Do you have that in front of you,
18 Dr. Miltenberger?

19 **A.** Yes.

20 **Q.** Okay. And do you recognize the document
21 labeled 693?

22 **A.** Yes, I do.

23 **Q.** And what is the document?

24 **A.** It's yet another report, this one specific to
25 Mesilla and El Paso Valley drainage on the Rio Grande

1 Project that's dated February, 1917.

2 Q. Have you reviewed this document?

3 A. Yes.

4 Q. Have you relied upon that document in support
5 of the opinions that you're offering today?

6 A. Yes, I have.

7 Q. Okay. And you're offering opinions based
8 upon that document from a historical perspective; is
9 that correct?

10 A. That's correct, yes.

11 MS. BARFIELD: Your Honor, I'd move to
12 admit Texas 693 into evidence.

13 JUDGE MELLOY: Any objection?

14 MR. DRAPER: With the caveat expressed
15 by Ms. Barfield, no objection.

16 JUDGE MELLOY: Exhibit 693 is admitted.

17 MS. BARFIELD: Thank you, Your Honor.

18 Q. (BY MS. BARFIELD) And, Dr. Miltenberger,
19 still continuing on the development of Project
20 drainage systems in the 1910s, you also reference on
21 Demonstrative No. 70, Texas 694, and could you look at
22 Texas 694 in your binder, which should be next in
23 order?

24 A. Yes.

25 Q. Okay. And what is this document?

1 A. This is a history of drainage on the Rio
2 Grande Project through December -- pardon me --
3 through December, 1918.

4 **Q. And have you reviewed this document?**

5 A. Yes, I have.

6 **Q. Okay. And from an historical perspective,**
7 **have you relied upon this document in support of the**
8 **opinions that you shared with the Court today?**

9 A. Yes.

10 **MS. BARFIELD:** Okay. Your Honor, I'd
11 move to admit 694 -- Texas 694 into evidence, please.

12 **JUDGE MELLOY:** Can I ask a question
13 about 694? Who's the author of this history?

14 **THE WITNESS:** The author is L.R. Fiock,
15 Your Honor, at a more -- an earlier time in his career
16 on the Project.

17 **JUDGE MELLOY:** What was his role on the
18 Project at the time he created this history; do you
19 know?

20 **THE WITNESS:** Yes. He was an assistant
21 engineer. I imagine a somewhat senior but still
22 relatively junior within the Project.

23 **JUDGE MELLOY:** And he was with the
24 Bureau of Reclamation?

25 **THE WITNESS:** That's correct, Your

1 Honor.

2 JUDGE MELLOY: All right. Any
3 objection?

4 MR. DRAPER: I understand it's being
5 offered as a historical exhibit, and we have no
6 objection.

7 JUDGE MELLOY: 694 is admitted.

8 MS. BARFIELD: Thank you, Your Honor.

9 Q. (BY MS. BARFIELD) Now, Dr. Miltenberger, you
10 know, why don't we put Demonstrative 70 up again.
11 Okay. Now, we're on -- I think you referenced this
12 one earlier in your testimony, but that Henny document
13 1926 letter to Taylor labeled Texas 0695, what is that
14 document?

15 A. That document is a letter from D.C. Henny,
16 formerly with Reclamation. In 1926, he had a private
17 consulting business in which he's advising John
18 Taylor, the EBID president regarding proposals to
19 expand the EBID irrigated acreage, and specifically
20 Henny addresses the question whether groundwater
21 pumping was advisable.

22 Q. Okay. And you have reviewed that document, I
23 take it?

24 A. Yes.

25 Q. Okay. And from his -- from an historical

1 perspective as an expert, have you relied upon the
2 contents of that document to support the testimony
3 that you are offering to the Court today?

4 A. Yes.

5 MS. BARFIELD: Your Honor, I would move
6 to admit Texas 695 into evidence.

7 JUDGE MELLOY: Any objection?

8 MR. DRAPER: No objection.

9 JUDGE MELLOY: 695 is admitted.

10 MS. BARFIELD: Thank you, Your Honor.

11 Q. (BY MS. BARFIELD) The next document in order
12 is the Bliss 1936 New Mexico study, and what is this
13 referable to, Dr. Miltenberger?

14 A. This is the study that was prepared by John
15 Bliss, which investigated this phenomenon of invisible
16 gains and losses in the Rio Grande that was produced
17 and provided to Thomas McClure, the state engineer in
18 1936.

19 Q. Okay. And you reviewed that document?

20 A. Yes.

21 Q. And as an expert historian, you relied upon
22 the contents of that document in support of the
23 opinions that you've offered today; is that right?

24 A. That's correct.

25 MS. BARFIELD: Okay. Your Honor, I

1 would move to admit Texas 696 into evidence.

2 JUDGE MELLOY: Any objection?

3 MR. DRAPER: Your Honor, we found this
4 document almost impossible to read and object to it on
5 that basis.

6 JUDGE MELLOY: Well, I'm looking at it.
7 It's not easy to read, but I think with some
8 considerable effort, it's probably readable, so I'm
9 going to admit 696.

10 MR. DRAPER: Very good.

11 MS. BARFIELD: Thank you, Your Honor.

12 Q. (BY MS. BARFIELD) And then, of course, the
13 last document in this particular demonstrative is the
14 JIR, and that's Texas 677, which is an admitted
15 document.

16 JUDGE MELLOY: Let me just ask the
17 witness real quick here. I assume these documents
18 like 696 that are so difficult to read, do they come
19 from microfilm? Is that the reason they're -- was
20 that the medium they were contained on?

21 THE WITNESS: No. With specific
22 reference to 696, Your Honor, no, this was an onion
23 skin report that we took digital photographs of, and I
24 wonder if that -- in the process of rendering those
25 digital photographs into PDFs, if that didn't have a

1 deleterious effect on the quality of the image.

2 **JUDGE MELLOY:** I would just say that to
3 the extent possible, I'd ask Ms. Barfield and the
4 witness to see if we can get enhanced copies of some
5 of these. 696 is not the easiest document to read.
6 Go ahead.

7 **MS. BARFIELD:** Yes, Your Honor. We will
8 commit to seeing if we can't find one of better
9 quality and notify the parties and the Court if we're
10 able to, and we'll swap them out.

11 **MR. DRAPER:** And on an exhibit matter,
12 Your Honor, I understand this last item, Texas 677, to
13 be the joint investigation report. I think we've
14 agreed among the parties that we would be using the
15 version of it that appears as Colorado Exhibit 4,
16 which I believe is already admitted.

17 **JUDGE MELLOY:** All right. I'm not sure
18 if Colorado 4 is in, but is that the agreement of the
19 parties, Ms. Barfield?

20 **MS. BARFIELD:** Honestly, I -- I would
21 have to -- to see Colorado 4 and compare them. I'm
22 assuming, if that's accurate, if it is the JIR, if
23 it's already been admitted, we don't object to that,
24 of course. My interest is in making sure that the JIR
25 is admitted.

1 **JUDGE MELLOY:** We'll assume for today's
2 purposes that it's Colorado 4 is the JIR and has been
3 admitted. If for some reason there's an
4 inconsistency, we'll admit 677.

5 **MS. BARFIELD:** All right.

6 **JUDGE MELLOY:** Go ahead.

7 **MS. BARFIELD:** Your Honor, I'd also like
8 to move to admit Demonstrative 70.

9 **JUDGE MELLOY:** Any objection?

10 **MR. DRAPER:** No objection.

11 **JUDGE MELLOY:** 70 is admitted.

12 **Q. (BY MS. BARFIELD)** Okay. Dr. Miltenberger,
13 let's advance forward a little bit, and we'll do that
14 with the demonstratives, as well as the testimony. So
15 we've just discussed some pre-Compact documents. Do I
16 have that correct? Those were all pre-Compact?

17 **A.** Yes.

18 **Q.** Okay. Now, what about post Compact, are
19 there documents post Compact that inform your opinion
20 on the relationship between Rio Grande surface water
21 flows and groundwater, and more particularly, the
22 state of knowledge regarding that relationship by New
23 Mexico?

24 **A.** Yes.

25 **Q.** Okay. Why don't we look at -- there we go --

1 Demonstrative 70. Now, I see some -- well, first of
2 all, did you prepare the contents of this slide?

3 A. I did, yes.

4 Q. Okay. Why don't you walk us through starting
5 on the left-hand side chronologically with these
6 post-Compact references and explain the significance
7 to the opinions you're offering on this topic?

8 A. Yes. So from the late '40s forward,
9 knowledge about the relationship grew post Compact.
10 The -- one of the most notable of these that the
11 Special Master also takes notice of in his summary
12 judgment order was the Conover investigation that was
13 prepared in preliminary form in 1937 and in that
14 investigation, Clyde Conover with the U.S. Geological
15 Survey and at the request of EBID had investigated the
16 possibilities of pumping, and he concluded, among
17 other things that, quote, "Pumping of groundwater was
18 essentially a change in a point of diversion of
19 existing supply." In other words, capturing return
20 flows from drains that were otherwise used on
21 downstream lands.

22 Q. All right.

23 MS. BARFIELD: Before we move on, I'd
24 note for the record that this 1947 Conover report is
25 referred to in Demonstrative 71 as Texas 517; however,

1 there is a duplicate version of that, which is JT,
2 Joint 0444, which is already admitted. So Joint 444
3 is the 1947 Conover report.

4 **JUDGE MELLOY:** All right.

5 **Q. (BY MS. BARFIELD) So, Dr. Miltenberger, is**
6 **that everything you wanted to say about the 1947 piece**
7 **of this timeline?**

8 **A. Only that that study, what was made**
9 **available, if I didn't mention already, only that the**
10 **findings of that study were made available to the**
11 **Office of the New Mexico State Engineer.**

12 **Q. What do you base that on?**

13 **A. I base that on the cover letter that is**
14 **included with the exhibit from forwarding the document**
15 **from Conover's supervisor to the EBID indicating that**
16 **the report had been made available for release to the**
17 **New Mexico state engineer.**

18 **Q. Okay. And was that -- at what point in time,**
19 **what was the date of that -- what was the date of --**
20 **that the report was made available to the New Mexico**
21 **State Engineer's Office, according to your review?**

22 **A. My recollection was 19 -- my recollection is**
23 **1947.**

24 **Q. All right. Okay. So with that, are you**
25 **ready to move on to the 1952 flag?**

1 A. Yes.

2 Q. Okay. Why don't you describe that for us,
3 please, and the significance to your opinions.

4 A. Well, a 1952 study made by Reclamation of the
5 Project noted a depletion in surface and return flows
6 that it linked to pumping.

7 Q. And what is this 1952 study that you're
8 referring to? And for the record, that is Texas 0707.

9 A. I'll have to refresh my memory as to the
10 exact title.

11 Q. Please do.

12 A. So this is a report prepared by Project
13 staff, and it's entitled, "River Loss, Caballo Dam to
14 El Paso and Irrigation Wells," dated July 1st, 1952.

15 Q. Okay. And you have reviewed that document?

16 A. Yes.

17 Q. Did you collect that document?

18 A. I believe this document was produced by the
19 State of New Mexico.

20 Q. Oh, okay.

21 A. It was one that we reviewed in the course of
22 our research.

23 Q. Okay. Did you rely upon the contents of that
24 document in support of the opinions that you've
25 offered or might offer to the Court today?

1 A. Yes.

2 Q. All right.

3 MS. BARFIELD: Your Honor, I would move
4 to admit Texas 0707 into evidence.

5 JUDGE MELLOY: Any objection?

6 MR. DRAPER: No objection, Your Honor.

7 JUDGE MELLOY: Texas 0707 is admitted.

8 MS. BARFIELD: Thank you, Your Honor.

9 Q. (BY MS. BARFIELD) Do you have any other --
10 any more information you wanted to share from the --
11 the 1952 study that you just referred to that are
12 significant to your opinions on this issue?

13 A. No.

14 Q. Okay. Why don't we move to the 1954 Conover
15 study, and just -- I'll get rid of the housekeeping
16 first. This one is labeled to be Texas 0609. I will
17 represent that this is an admitted document under
18 Texas 0698, the 1954 Conover report.

19 So, Dr. Miltenberger, why don't you explain
20 and share with the Court what the significance is of
21 the 1954 Conover study, from your historical
22 perspective, in terms of the relationship between the
23 Rio Grande surface flows and groundwater.

24 A. Well, the 1954 study was more detailed than
25 the '47 by Conover. The '47 Conover study was a

1 preliminary -- I believe it was called a preliminary
2 memorandum. The Conover study was actually a USGS
3 publication, and it elaborated on the findings of the
4 '47 investigation without -- without altering really
5 its conclusions.

6 Q. (BY MS. BARFIELD) Okay. Is there anything
7 else you wanted to share with us about the 1954 report
8 relative to these opinions?

9 A. I would -- I would note that just as a USGS
10 publication, it would -- it was the kind of document
11 that would be more accessible than the preliminary
12 investigation.

13 Q. All right.

14 A. As it was published and available publicly.

15 Q. Okay. So let's go to the far right, the last
16 blue flag that you have on Demonstrative No. 71, and
17 it's labeled decadal as the 1960s so explain the
18 significance of the 1960s to your opinions on this
19 issue?

20 A. Yes. There were at least two additional or
21 subsequent studies that built on Conover's work by a
22 Narendra Gunaji from the New Mexico State University
23 and by Leggat, Hood, and Lowry from the USGS. These
24 subsequent studies suggest that some water could be
25 pumped without Rio Grande flows and deliveries, but

1 that the potential nonetheless existed to compromise
2 the surface supply. These were also noted in the
3 Special Master's summary judgment order.

4 Q. Did you collect this -- let's start with the
5 610. So 610 is the Gunaji report, Groundwater
6 Conditions in Elephant Butte Irrigation District. Did
7 you collect that document?

8 A. No. That was produced by the State of New
9 Mexico.

10 Q. All right. You reviewed it?

11 A. I did.

12 Q. Okay. And as you just testified to, you
13 relied upon it in support of the opinions that you
14 offered to the Court today on this issue; is that
15 right?

16 A. That's right.

17 MS. BARFIELD: Your Honor, I would move
18 to admit Texas 610 into evidence.

19 JUDGE MELLOY: Any objection?

20 MR. DRAPER: No objection.

21 JUDGE MELLOY: 610 is admitted.

22 Q. (BY MS. BARFIELD) Take a look at 726. All
23 right. Now, 726 is a 1963 USGS water supply paper by
24 -- and I'm sorry -- Leggat? Did I pronounce that
25 correctly?

1 A. That's how I pronounced it.

2 Q. Okay. We'll go with that then. Did you
3 collect that document or was that also produced by New
4 Mexico?

5 A. I believe both. I believe this was both
6 collected by us, and it was also produced by New
7 Mexico in this matter.

8 Q. All right. And you've reviewed the document?

9 A. I have.

10 Q. And you've relied upon the document and the
11 contents of the document in support of opinions which
12 you've offered with the Court today; is that correct?

13 A. That's correct, yes.

14 MS. BARFIELD: Your Honor, I would move
15 to admit Texas 0726 into evidence.

16 JUDGE MELLOY: Any objection?

17 MR. DRAPER: No objection, Your Honor.

18 JUDGE MELLOY: 0726 is admitted.

19 MS. BARFIELD: Thank you, Your Honor.

20 Q. (BY MS. BARFIELD) Now, I would like to focus
21 your attention, Dr. Miltenberger, and the Court's
22 attention to the brown flag at the bottom of your
23 demonstrative, and it states, "During the drought of
24 the 1950s, Project officials and EBID urged water
25 users with wells to transfer their Project water

1 entitlements temporarily." Can you explain -- well,
2 first of all, you created the content of the brown
3 flag at the bottom of Demonstrative 71?

4 A. That's correct, yes.

5 Q. Okay. What does that mean, Dr. Miltenberger?

6 A. Well, what that means is that during this
7 period of drought, and it was a pretty significant
8 drought during is 1950s, that, you know, Project
9 officials, and at least EBID, were urging water users
10 with wells as a Project water users with wells not to
11 utilize both their surface water and groundwater, but
12 rather to allow other water users with Project water
13 entitlements to obtain the benefit of what would have
14 otherwise gone to someone else who has a well.

15 Q. Okay. And you cite several documents by
16 exhibit numbers at the bottom.

17 MS. BARFIELD: I will represent to the
18 Court that Texas 633, Texas 636, Texas 637, 638, 639,
19 and 640 are all admitted A category exhibits today.

20 JUDGE MELLOY: All right.

21 MS. BARFIELD: 634 is a placeholder.
22 It's disregarded and can be stricken essentially from
23 this demonstrative.

24 Q. (BY MS. BARFIELD) Dr. Miltenberger -- oh,
25 there he is. Okay. Dr. Miltenberger, can you explain

1 to us the significance of choosing these particular
2 documents to support the content and the testimony --
3 the content of the brown flag and then the testimony
4 you just gave us?

5 A. Yes. My apologies for going off camera. I
6 wanted to get the binder relative to these exhibits.
7 Yes, so these are -- if memory serves, these are a
8 series of water announcements that Bureau officials
9 made or in some cases, made by EBID.

10 Q. Okay. You have the word temporarily appended
11 at the end of this sentence that you've included in
12 the content of the brown flag. What is that intended
13 to mean?

14 A. That's intended to capture the idea that this
15 was a -- it was designed to meet the exigencies of the
16 moment, that there was -- the documents that are cited
17 here, I don't discern intent to create any kind of --
18 I don't determine -- I don't foresee, I don't
19 interpret them to mean some change in policy, but
20 rather an ad hoc arrangement to address the drought.

21 MS. BARFIELD: Your Honor, could we -- I
22 would like to move to admit Demonstrative No. 71 into
23 evidence, please.

24 JUDGE MELLOY: Any objection?

25 MR. DRAPER: No objection, Your Honor.

1 JUDGE MELLOY: 71 is admitted.

2 Q. (BY MS. BARFIELD) Dr. Miltenberger, when, in
3 your opinion, did New Mexico have specific knowledge
4 of the effect of groundwater pumping in the Rincon and
5 Mesilla Valleys on the surface water flows to Texas?

6 A. The 1980s.

7 Q. Is there -- can you be more specific in the
8 1980s? Was it early, mid, or late, or just the '80s?

9 A. So in -- I should back up and say, the
10 historical record indicates that at least by the
11 1950s, there was an awareness of the potential, but in
12 the 1980s, specifically, I think, in or around 1982, I
13 -- I see evidence of specific knowledge of the impact
14 that groundwater development, specific knowledge on
15 the part of the State of New Mexico about the impact
16 of groundwater development on Rio Grande surface
17 flows.

18 Q. And what is the -- the evidence for this
19 opinion regarding specific knowledge in around the
20 1982 time frame?

21 A. My evidence comes from a document, an office
22 -- as described, an office report produced by the New
23 Mexico State Engineer in 1982.

24 Q. Why don't we --

25 MR. DRAPER: Your Honor, I'd just like

1 to note for the record that we have an objection to
2 this document. So at the appropriate time, we'd like
3 to be allowed to state our objection.

4 **JUDGE MELLOY:** All right. Why don't you
5 go ahead and make your -- lay your foundation, then
6 we'll let New Mexico make its objection.

7 **MS. BARFIELD:** Thank you, Your Honor.
8 If we could advance to Demonstrative No.
9 72.

10 **Q. (BY MS. BARFIELD)** Now, Dr. Miltenberger, on
11 the left-hand side of this demonstrative, there
12 appears to be a document that has been stamped Texas
13 0702. First of all, can you generally describe what
14 this document is, and then we'll ask a series of
15 questions to speak to the foundation issue.

16 **A.** Yes. So this is -- this document is
17 approximately six pages, three pages of text and some
18 appended figures -- maybe seven actually, excuse me.
19 There's four figures that are here. It's a report of
20 a study of streamflow depletion in the Rio Grande
21 Valley between Elephant Butte Dam and El Paso that was
22 made -- actually as the callout states here, was made
23 undertaking -- undertaken, pardon me, using double
24 mass diagrams and a streamflow correlation prepared
25 from stream discharge records.

1 Q. And I know you were just giving us a general
2 description. We'll talk more specifically about the
3 content in a minute, but when you referenced double
4 mass diagrams, you weren't trying to give us a
5 technical opinion, were you?

6 A. No.

7 Q. You were simply stating as an expert
8 historian what's in the document?

9 A. That's correct.

10 Q. Okay. Now, did you collect this document
11 yourself?

12 A. I did, yes.

13 Q. Where did you collect this document from?

14 A. This document was collected from the Joseph
15 Friedkin papers at the University of Texas El Paso.

16 Q. Who was Joseph Friedkin?

17 A. Joseph Friedkin was the long-serving U.S.
18 Section representative on the International Boundary
19 and Water Commission, the IBWC. The IBWC had
20 responsibility, in part, for ensuring the deliveries
21 of water to Mexico under the 1906 Treaty. It's a
22 bilateral position comprising both U.S. and Mexican
23 representatives.

24 Q. All right. Now, returning back to your
25 testimony regarding the collection of this particular

1 document labeled Texas 0702, can you describe for the
2 Court, please, where did you find the document?

3 A. I found this document in a -- in a folder.
4 Perhaps I should back up actually. So at the time
5 that I did my research, the Friedkin papers were only
6 partially described to our standards, and by that, I
7 mean, there weren't a formal finding made as much as
8 there was a general inventory of folders and boxes.
9 The descriptions were very limited in nature, but this
10 particular document came out of a folder, excuse me,
11 entitled, "Mesilla Valley Pumping," I believe 1982.

12 Q. Okay. And when you were -- well, let me ask
13 you this: Are you able to ascertain from your review
14 of the document, as well as from your collection of
15 the document in terms of the location of the document
16 and historical documents that may have been housed
17 with this particular document, are you able to
18 ascertain the source of the origin of document in
19 terms of who created it?

20 A. Yes.

21 Q. Okay. And what is it?

22 A. The New Mexico state engineer. The Office of
23 the New Mexico State Engineer.

24 Q. And how did you form that opinion?

25 A. I formed that opinion because this particular

1 report appears in with other pieces of correspondence
2 dated from 1985. In those pieces of correspondence,
3 they reference this document by -- by name and
4 identify the New Mexico state engineer -- identifies
5 the document, excuse me, as having come from the New
6 Mexico state engineer.

7 Q. All right. At the time that you personally
8 reviewed and collected this document, was the document
9 in a condition from your perspective that created no
10 suspicion about its authority?

11 A. That's right. I have no suspicion about its
12 authority.

13 Q. All right. And was the document discovered
14 in a place where if it were to be authentic, that it
15 would likely be?

16 A. Yes.

17 Q. Okay. And you had mentioned before that the
18 date is 1982, and that's older than 20 years; is that
19 correct?

20 A. That's correct, yes.

21 Q. Okay.

22 MS. BARFIELD: So, Your Honor, I would
23 move to admit Texas 0702 into evidence pursuant to
24 Federal Rule of Evidence 901, Subsection 8.

25 JUDGE MELLOY: All right. Mr. Draper,

1 your objection?

2 **MR. DRAPER:** Your Honor, this exhibit is
3 not properly authenticated. It's -- it doesn't show
4 where it comes from at all. We've heard the witness
5 say that it comes from the state engineer. This is --
6 there's no indication that this is authorized by the
7 New Mexico State Engineer. There's no indication that
8 it comes from the Office of the New Mexico State
9 Engineer. If it does, whether it has any
10 authorization or has any status in the Office of the
11 State Engineer, it's in a form that is very unusual
12 for a document that would be published by the state
13 engineer. We've seen other documents. We just looked
14 at Texas Exhibit 701, which was identified as a
15 document created by the state engineer himself. You
16 don't see anything like that here. I would -- our --
17 our objection is that it has no reliable
18 authentication. It's not the kind of historical
19 evidence that a historian is entitled to rely upon
20 and, in fact, as you see from these other exhibits,
21 it's cumulative, but all we know is that it was found
22 among the papers of a person who was at one of the
23 federal agencies that was involved with the Rio Grande
24 Project, but its provenance is completely unknown.

25 **JUDGE MELLOY:** Let me ask the witness or

1 Ms. Barfield. Dr. Miltenberger indicated that the
2 exhibit was referenced in some letters. I'd like to
3 know more about those letters. What exactly are we
4 talking about there?

5 **MS. BARFIELD:** Really quickly, Your
6 Honor, and -- and I will have Dr. Miltenberger respond
7 to that question. I think that we have another
8 document that might be able to assist with this. It's
9 a -- I represent to the Court but have
10 Dr. Miltenberger provide the foundation and
11 authenticate it, but it's a memorandum -- a providence
12 memorandum that Dr. Miltenberger prepared to document
13 his efforts and his observations and his findings and
14 conclusions regarding the providence of the document,
15 which would include how he collected it. This is
16 US-307.

17 **JUDGE MELLODY:** That's what I was going
18 to ask. Is there anything further about this? Do I
19 have that document?

20 **MS. BARFIELD:** You do, Your Honor. And
21 the U.S. documents in the binders, the direct exhibit
22 binders are located kind of right at the end of all of
23 the binders so they're sequential but after every --
24 all of the Texas prefixes. We can also -- Peder, if
25 you could pull up US-307 for us, as well, please.

1 JUDGE MELLOY: All right. I have it.

2 MS. BARFIELD: Okay.

3 JUDGE MELLOY: Why don't you go ahead
4 and run Dr. Miltenberger through the exhibit.

5 MS. BARFIELD: Okay.

6 Q. (BY MS. BARFIELD) Dr. Miltenberger, we're
7 showing you, now, US-307 on the screen, and perhaps we
8 could look at two pages at the same time. There we
9 go. That's -- can you please describe for the Court
10 what this document is, which is stamped as US-307?

11 A. Yes. This was a memorandum that I was asked
12 to prepare documenting how I came in possession -- or
13 how I located and identified this document as having
14 come from the New Mexico State Engineer. In here, I
15 explain that I collected it in June of 2013 from the
16 Friedkin papers. I discuss Mr. Friedkin's -- who he
17 was and why -- to give some indication of why he may
18 be in possession of it, and then I go on to describe
19 what led me to the conclusion that it was -- it came
20 from the New Mexico State Engineer. There's several
21 pieces of correspondence in the folder that date to
22 July, 1985, in which engineers of the IBWC analyze
23 this document. One particular -- one particular
24 reference in the document I think very clearly
25 identifies the Rio Grande Elephant Butte Dam to El

1 Paso, Texas study this way, and that's at the callout
2 at the very top of Page 2 -- excuse me, the block
3 quote at the Page 2. If we can highlight that. Yes.
4 So in this -- in this particular memorandum that was
5 to Joseph Friedkin, who was the U.S. commissioner,
6 from one of his staff members, Thomas B. Wootton,
7 through a George Baumli writes, "The commissioner and
8 staff met with technical advisor Harshbarger on June
9 25, 1985, to discuss the U.S. Section's position on
10 the paper from the New Mexico State Engineer's Office,
11 Rio Grande Elephant Butte Dam to El Paso, Texas, copy
12 attached," and that is the title of the exhibit that
13 we're discussing.

14 Q. And, Dr. Miltenberger, did the exhibit we are
15 discussing in terms of the order of the documents, as
16 you found them in their original form in the archive
17 as you described it come after in the way that an
18 attachment would come?

19 A. Yes.

20 Q. And did you -- when did you prepare this
21 memo, this providence memo?

22 A. I prepared this in November of 2016.

23 Q. Do you recall or can you estimate for us
24 approximately when you would have collected the
25 subject document?

1 A. I think I may actually have identified it in
2 the memo, and that was in June of 2013.

3 Q. Okay. And are the contents of the
4 memorandum, which is labeled US-307, true and correct?

5 A. Yes.

6 Q. And the contents of the document labeled
7 US-307, this was authored by you; is that correct?

8 A. That's correct.

9 Q. Okay.

10 MS. BARFIELD: Your Honor, at this time,
11 I would move to admit the providence memo, US-307,
12 into evidence.

13 JUDGE MELLOY: Any objection?

14 MR. DRAPER: Your Honor, I would -- I
15 would ask that the -- that the Harshbarger letter
16 that's referred to in this memorandum also be made
17 available to you. It's been identified as Texas
18 Exhibit 1204 and was identified as one of the
19 documents for Dr. Miltenberger's testimony, and I
20 think that throws further light on this document.

21 JUDGE MELLOY: Texas 1204, did you say?

22 MR. DRAPER: Yes.

23 JUDGE MELLOY: Again, the 1204 exhibit
24 was -- that was with this exhibit that you're offering
25 into evidence; is that correct?

1 **MS. BARFIELD:** Dr. Miltenberger? Are
2 you pulling the binder?

3 **THE WITNESS:** Yes. I'm trying to look
4 at the binder. I might have lost all of the exhibit
5 numbers. I don't know what the pending exhibit number
6 is that we're trying to identify.

7 **MS. BARFIELD:** The question right now,
8 but go ahead and pull the binder for Texas 1204.

9 **JUDGE MELLOY:** Let me ask you this, the
10 1204, 1205 series of documents, are they the documents
11 that were with Exhibit 702 that you are using as part
12 of the -- to support the admissibility of the exhibit?

13 **MS. BARFIELD:** I'll ask Dr. Miltenberger
14 to confirm that.

15 **THE WITNESS:** Yes.

16 **MS. BARFIELD:** There we go.

17 **JUDGE MELLOY:** Well, let me say this.
18 How much more do you have, Ms. Barfield, after this
19 exhibit?

20 **MS. BARFIELD:** We have one slide, Your
21 Honor. I do have, off of our slide deck, about a half
22 an hour of testimony.

23 **JUDGE MELLOY:** All right. Well, I would
24 like to look at this a little more closely. I'm going
25 to -- it's after 5:00 here. I think we'll break until

1 tomorrow morning, and I'll let you know in the morning
2 what I'm going to do about Texas Exhibit 702 and its
3 admissibility. All right.

4 **MS. BARFIELD:** Before we break, can I
5 ask one question, Your Honor?

6 **JUDGE MELLOY:** You may.

7 **MS. BARFIELD:** Okay. I think we had
8 pending my request to admit into evidence the
9 providence memo, however, as US-307. I think that
10 Dr. Miltenberger has sufficiently authenticated the
11 memo, as well as provided foundation for the memo,
12 with the admission of the -- the 1982 document being a
13 separate issue.

14 **MR. DRAPER:** Your Honor, I think we
15 should hold off on admitting any of these exhibits
16 until you've had a chance to look at it, and we can
17 have your ruling on all of them at the same time.

18 **JUDGE MELLOY:** Well, I will do that. I
19 don't know that 307 is necessarily objectionable to --
20 objectionable, but I'll hold off on all of those
21 exhibits until I've had a chance to look at them a
22 little more closely.

23 **MS. BARFIELD:** Okay. Thank you, Your
24 Honor.

25 **JUDGE MELLOY:** All right. I'll see

1 everyone in the morning. Thank you, everyone.

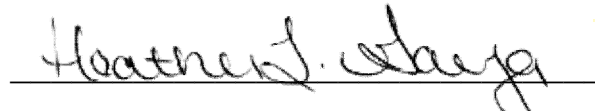
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