

SUPERIOR COURT OF CALIFORNIA

COUNTY OF RIVERSIDE

DIAMOND FARMING COMPANY, a California)
corporation; and WM. BOLTHOUSE FARMS,)
INC., a Michigan corporation,)
Plaintiffs,)

vs.)

Case No. 353840
(c/w Case No. 344668
and 353840)

CITY OF LANCASTER; ANTELOPE VALLEY)
WATER COMPANY; PALMDALE WATER DISTRICT;)
PALM RANCH IRRIGATION DISTRICT; QUARTZ)
HILL WATER DISTRICT; ROSAMOND COMMUNITY)
SERVICE DISTRICT; MOJAVE PUBLIC UTILITY)
DISTRICT; DOES 1 through 200, Inclusive;)
and All Persons Unknown, Claiming any)
Legal or Equitable Right, Title, Estate,)
Lien, or Interest in the Property)
Described in the Complaint Adverse to)
the Plaintiff's Title, or any Cloud Upon)
Plaintiff's Title Thereto,)

Volume 2 of 3
Pages 163 - 414

Defendants.)

AND OTHER RELATED ACTIONS.)

REPORTER'S TRANSCRIPT OF ORAL PROCEEDINGS

BEFORE THE HONORABLE JOAN F. ETTINGER, COMMISSIONER PRESIDING
DEPARTMENT 10

Tuesday, August 6, 2002; ~~Wednesday~~, August 7, 2002

Thursday

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(Appearances continued to the following
page.)

Reported by:

COPY

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Certified Shorthand Reporter
Official Court Reporter
Riverside County Superior Court

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(Appearances continued from the previous page.)

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1 RIVERSIDE, CALIFORNIA - TUESDAY, AUGUST 6, 2002
2 THE COURT: Mr. Dunn?
3 MR. DUNN: Thank you, your Honor.
4 Q. (BY MR. DUNN:) Mr. Scalmanini, before the lunch break,
5 you had described the basin boundaries as your opinion in general
6 terms.
7 You had mentioned earlier that one of the significant
8 criteria for basin boundary determination is the water level
9 difference on each side of a fault line.
10 Can you, on this exhibit, which is Exhibit Number 11 --
11 excuse me -- 127 -- 126, show on a segment-by-segment basis now
12 in detail how that concept is illustrated as part of your opinion
13 here.
14 MR. JOYCE: Your Honor, I would interpose an objection.
15 This very issue was addressed at his deposition. In his
16 deposition, he testified that he had not done an analysis in an
17 attempt to quantify the underflow across any of the boundary
18 lines. And I gather that now that's exactly what's being
19 elicited from him.
20 THE COURT: I don't think you're asking for the flow
21 rate.
22 MR. DUNN: I don't have any intention of doing that.
23 MR. JOYCE: Okay. You're limiting it strictly to a line
24 analysis?
25 THE WITNESS: A what?
26 MR. DUNN: Hopefully, in plain --
27 MR. JOYCE: What do you call it? Water contours?
28 THE WITNESS: Let me answer the questions. Don't use

1 words like "hydrographic" if you don't know what they mean.

2 THE COURT: The question is, you want me to explain how
3 the fault line acts as a barrier?

4 MR. DUNN: Thank you.

5 THE COURT: I have to have these things in real simple
6 terms, but --

7 MR. DUNN: We're trying.

8 THE WITNESS: Okay. Well, how about if, before we walk
9 around the basin, we illustrate what is meant by this water level
10 difference or head difference across the boundary.

11 Q. (BY MR. DUNN:) Would you do that for us first, please.

12 A. There's another -- yet another schematic illustration
13 which we premarked as Exhibit 112.

14 Q. All right. Let me hold you just for a moment while we
15 all get out Exhibit 112 so that we all have it in front of us.

16 And we'll put it up here on the ELMO so that people can
17 generally see what it looks like.

18 A. Okay. If I -- I'll walk up there and point to it.

19 Q. Would you please?

20 If that's okay with the Court.

21 THE COURT: Yes.

22 Q. (BY MR. DUNN:) Up on the ELMO is Exhibit Number 112.

23 Hold on one second, Mr. Scalmanini.

24 All right. Thank you.

25 A. Okay. In my discussion this morning of how you get from
26 calling it in generic definition of the term "groundwater basin,"
27 the application of that to a specific situation in nature -- is
28 that a pointer?

1 Q. Yes, sir.

2 A. I can use that.

3 MR. DUNN: May I approach, your Honor?

4 THE COURT: You may.

5 MR. DUNN: Thanks.

6 THE WITNESS: It's an electronic-type pointer?

7 Q. (BY MR. DUNN:) Yeah.

8 A. Well, then I can probably sit over here and just point.

9 The trouble is I can't read it from that far away

10 either.

11 All right. So I said a collection of criteria had been

12 developed and written down by a man named Richter a number of

13 years ago. And the criteria vary in how applicable they are to a

14 physical setting in nature as to whether or not any of the

15 criteria legitimately forms the boundary of a basin. Some of the

16 criteria are more preferable than others if they conveniently

17 exist in the natural setting.

18 Q. So if I hear you correctly, is it fair to say that some

19 of the criteria are a stronger indicia of a boundary than other

20 criteria? Is that fair to say?

21 A. That's correct. That's exactly right.

22 Q. All right. Please continue.

23 A. Okay. So the most preferable boundary criteria are

24 those -- as summarized in this illustration, is groundwater basin

25 boundaries with no appreciable underflow. Meaning that when you

26 get to the boundary, there is no -- just that -- appreciable

27 underflow.

28 Q. Now, I'm going to interrupt you again.

1 When you say "appreciable underflow," does that mean
2 there could be some type of underflow?

3 A. Yes.

4 Q. All right.

5 A. But ultimately, in terms of the available groundwater
6 supply inside the boundaries, that's not a significant component
7 of that water supply.

8 Q. All right.

9 A. All right. What -- though this looks busy, you know,
10 what I really want to focus on is ultimately this fault that's
11 drawn in here in the middle. But in generally the same shape as
12 we saw with the schematics earlier, we'd have some outermost
13 boundaries, which could be called the watershed boundary, the
14 water that falls on the ground surface is going to be trapped
15 inside those. Okay? And then we have various factors
16 underground that influence whether or not water can be stored and
17 readily flow in those subsurface materials. So over here at the
18 outside, bedrock generally considered to be nonwater-bearing, of
19 no consequence as water supply.

20 Q. This exhibit, it is, in fact, labeled as bedrock; is
21 that correct?

22 A. That's correct.

23 A. Okay. Focusing on the fault for a second, looking --

24 Q. Which is indicated where?

25 A. Which is more or less a vertical line through the middle
26 of this drawing.

27 Q. Okay. With the arrows at the bottom?

28 A. Suggesting that on one side of the fault, the earth

1 materials have been moved up; and on the other side of the fault,
2 the earth materials have moved down. So they don't align well
3 across the fault as they might have before the fault moved.

4 Okay. That's right here.

5 And you can see a line that comes down through the
6 subsurface and abuts the fault labeled "water table" on the left
7 side of the fault, and you can see another line labeled "water
8 table" on the right side of the fault. And today -- earlier,
9 when I talked about significant water level differences, this is
10 what is schematically illustrated here, that the fact that this
11 fault has, I'll call it, sheered the earth materials and offset
12 them from one side to the other, then this is relatively
13 impermeable and will, in effect, in the subsurface, dam up water
14 on one side versus the other.

15 An analogy would be an earthen dam. That it (sic) can
16 go look at one in countless places in California and there's a
17 lake dammed up behind the earthen dam. The water levels are very
18 high relative to what the water levels might be in the downstream
19 creek bed or whatever is downstream of the dam location.

20 Does the earth -- is the earthen dam 100 percent
21 impermeable? Basically, no. Man puts relatively low, low
22 permeability material in the core of that dam to keep it from
23 leaking and ultimately failing, although we've had a lot of
24 instances of cases in the news about dams that have failed,
25 including a couple of -- here in Southern California,
26 historically.

27 But fundamentally, you know, we try to impede the
28 permeability as possible, but there's still some leakage. For

1 all practical purposes, all the water's impounded behind the dam.
2 For all practical purposes, in the subsurface, groundwater is
3 impounded on one side and may, in consequence, leak across this
4 fault, but is of no significant contribution to the available
5 water supply on the other side.

6 That schematically is what I was trying to describe with
7 the discussion of water level differences earlier before lunch.

8 Q. Okay. Now, how does that relate to the boundary lines
9 that you have determined here for this basin?

10 A. Well, the best way to answer that is when you asked me
11 when I interrupted you.

12 Q. All right.

13 A. Which is basically to walk around the boundary.

14 Q. Let's do that in a segment-by-segment basis.

15 A. Okay.

16 Q. And before the lunch break, we ended up just before we
17 were going to get to that southeast corner and sort of get into a
18 detailed explanation of that. Let's avoid that for the moment.
19 Let's kind of go around the basin boundaries and end at that
20 southeast corner.

21 Can you do that?

22 A. I think I can. If you'll allow me to just stand there
23 and sort of -- I don't have it memorized from segment to segment,
24 so I'll just stand there and point and work my way around the
25 boundary.

26 MR. DUNN: If that's fine with the Court.

27 THE COURT: He can do that.

28 Would a highlighter where he can highlight on the map be

1 of any benefit?

2 MR. DUNN: Actually mark it?

3 THE WITNESS: Well, what we'll end up with -- I mean, I
4 have a highlighted version if you want it, but we'll end up
5 highlighting the whole thing.

6 THE COURT: Well, then, let's not do that.

7 Q. (BY MR. DUNN:) Now, Mr. Scalmanini, what you will need
8 to do for the record is take this -- when you go by area --
9 excuse me -- segment by segment, you need to identify for the
10 record which segment on this exhibit you're referring to.

11 A. Okay.

12 Q. And, again, what we would like to have you do, if you
13 would, please, is end up in a southeast corner, because it's
14 noticeably different --

15 A. Right.

16 Q. -- from the other red line on the -- apparent on the
17 exhibit.

18 A. Okay. Well, the first segment can be fairly large.

19 Q. Okay. Can you identify that, please.

20 A. If I start in the southeast corner on the south side of
21 the basin, that -- the red line that's mapped here, which is
22 originally Bloyd's line, has a collection of black dots and the
23 red line. And basically -- and that's identified over here in
24 the legend as saying that this entire -- from the southeast limit
25 of that boundary line almost to the far western side of the south
26 boundary --

27 Q. Okay. Is there a point of reference there on that
28 southwestern boundary?

1 A. Well, let's just say that it is the boundary between
2 township, correction -- yeah. The townships that are on either
3 side of range 16 and 17 west. That would be this north/south
4 line. Okay. On the west side is so-called range 17 west. On
5 the right side is so-called range 16 west. Okay.

6 Okay. So from as far southeast as Bloyd went to that
7 location along the southern boundary, the boundary is basically
8 an unnamed fault associated with the San Andreas Fault zone,
9 meaning that this entire area down here is, I'll say, associated
10 with the San Andreas Fault zone's, a major fault that extends in
11 a northwesterly direction immediately south of this basin.

12 Q. Just so we all understand, when you say "the San Andreas
13 Fault, " we're talking about the commonly known San Andreas Fault
14 down here in California?

15 A. The San Andreas Fault. That knocked down San Francisco,
16 et cetera.

17 So the earliest investigations and subsequent have
18 identified that same boundary based on the fact that there is
19 significant measurable water level differences across a very
20 short distance, which was an application in the -- this case to
21 the illustration I just had in exhibit number -- whatever that
22 was.

23 Q. 112?

24 A. 112. Okay.

25 Complicated by the fact that the geologic materials on
26 the south side of this fault are not exclusively, but for all
27 practical purposes, all mapped to be consolidated bedrock.

28 Q. Okay. Does it make a difference if it's not exclusively

1 consolidated bedrock material, in your opinion?

2 A. If it's not exclusively.

3 MR. ZIMMER: It's vague. Objection. Vague.

4 THE COURT: Well, is there --

5 THE WITNESS: Not to me, it's not.

6 THE COURT: Is there a generally accepted definition of
7 "exclusively bedrock" in civil engineering terms?

8 THE WITNESS: Well, being the same as what I call
9 straight English. Exclusively, is it all bedrock or not? And
10 the answer is no. And so are there -- is there a place where you
11 can find something other than pure bedrock somewhere along this
12 several miles of length?

13 THE COURT: I'll allow that.

14 THE WITNESS: And does it make any difference in terms
15 of defining a boundary, no.

16 Q. (BY MR. DUNN:) Okay. Why?

17 A. Because, as I think I said earlier today, we don't get
18 perfection in nature. So it would be nice if nature had
19 deposited water-bearing materials in nice, neat, clean boundaries
20 with hard, you know, boundaries around them. But it didn't. And
21 so there are places where, for example, a surface stream might
22 drain out of the mountains and down into this valley, this being
23 the big Antelope Valley. Okay. Where it does that, it cuts
24 through on the surface and in the immediate subsurface, what
25 might be considered the perfection of a fault boundary or hard
26 rock baundro (phonetic). So there can be some relatively shallow
27 materials in the subsurface that would allow water to flow in the
28 bed of the stream or something like that.

1 That is of such small consequence both laterally and
2 vertically that it's fair to draw a boundary across it and say I
3 can account for the flow that takes place in that small, quote,
4 unquote, "gap." But it doesn't say now I have to go chasing for
5 some untold distance, you know, upstream trying to find where
6 that's totally enclosed in.

7 Q. Okay.

8 A. All right. Okay. So that's the first lengthy segment.

9 Q. And that runs essentially from the southeast corner to
10 the southwest corner on this exhibit.

11 A. Almost all the way. Yeah.

12 Q. What would be the next segment?

13 A. Well, the next segment, we could go -- the rest of the
14 south boundary, you know, the last -- it's about -- about
15 5 miles. Okay. From that -- that range break. You know, from
16 the end of the fault.

17 Q. You know -- I'm sorry. I'm going to interrupt you. I
18 didn't ask you a question.

19 That first segment, what's your best estimate as to the
20 length of that in miles? Just to give us an understanding of the
21 size of the area that we're dealing with.

22 A. Almost 50 miles.

23 Q. I'm sorry. 50?

24 A. Almost 50, 5-0.

25 Q. Okay. Please continue.

26 A. So the next five.

27 And then turning the corner, so to speak, around the
28 western-most tip of the basin and then proceeding northeasterly

1 to the Cottonwood Fault, the boundary consists of the contact
2 between unconsolidated sands and gravels that form an aquifer
3 system on the inside and consolidated nonwater-bearing materials
4 on the outside. Okay.

5 Q. Okay.

6 A. So the solid red line, no dashing or hatching or
7 anything to color this, is that bedrock contact.

8 Q. So if I understand your testimony correctly, are you
9 saying that there's a difference just in the -- in the porous
10 nature of the material on either side of that segment of the red
11 line that you just described? Is that what you're saying?

12 A. Yes.

13 Q. Okay.

14 A. Both porous and -- well, yeah. Porous nature and
15 permeable nature.

16 Q. All right.

17 A. Both.

18 Okay. So we are now to what might be called the
19 northwest corner of the basin. And now proceeding generally
20 east, maybe slightly southeast direction, for about, say, 4,
21 5 miles, is the mapped Cottonwood Fault. And then another couple
22 of miles is a continuation of that fault, but not firmly mapped.

23 Just let me check one thing here. Yeah. Where
24 approximately located. And so the next segment could be from
25 that northwesterly corner along the Cottonwood Fault to where the
26 Cottonwood Fault intersects the so-called Randsburg-Mojave Fault
27 which extends at great lengths across the Mojave basin and
28 Neenach basin.

1 Q. And the total length of that segment would be what,
2 according to your best estimate?

3 A. Looks like about 6 or 7 miles.

4 Q. All right. And would you see -- or would you expect to
5 see, rather, the type of fault displacement scenario that we have
6 here on Exhibit 112 that's up on the ELMO? Is that what it's
7 illustrated there? Or is it something different?

8 MR. JOYCE: Well, your Honor --

9 THE WITNESS: To be honest --

10 MR. JOYCE: Excuse me. I would object that that's three
11 questions in one. It's compound.

12 THE COURT: The last question?

13 MR. JOYCE: He went from hypothetical, is the condition
14 as illustrated, to is it identical. I mean, he's --

15 THE COURT: Well, is it what's up there, is it
16 different.

17 Why don't you just rephrase.

18 Q. (BY MR. DUNN:) See Exhibit 112 up on the ELMO?

19 A. Yes.

20 Q. Is that indicative of this segment that you just
21 described?

22 A. I'm not sure that -- because here, the -- on -- the
23 previous investigators have not used water level difference to
24 postulate a fault. They've used the fault itself. Okay.

25 So down here where I said, you know, "unnamed fault
26 associated with," and then this dot pattern indicates that the
27 reason the faults are unnamed is that they're postulated to exist
28 from significant water level differences, up here along the

1 Cottonwood Fault, that wasn't the case. He called the Cottonwood
2 Fault the boundary.

3 Okay. Then from the intersection of the Cottonwood
4 Fault and the Randsburg-Mojave Fault, the basin, I'll say, jogs a
5 very small segment up the Randsburg-Mojave Fault about, I'll
6 say -- nominally looks like maybe half-a-mile to the intersection
7 with what's been alternately called the Rosamond Fault and the
8 Willow Springs Fault, the same fault that's had two different
9 names historically in reports. So the short distance there is
10 the Randsburg-Mojave Fault. And there, the investigators have
11 included some postulation of the exact location from the
12 significant water level differences.

13 Then beginning at the intersection of Randsburg-Mojave
14 and Willow Springs Faults, the boundary or next segment extends
15 a -- I'll say a couple of miles in a southeasterly direction
16 based on a postulated fault from significant water level
17 differences. And then there is mapped faulting of that -- as I
18 said, it's been called Rosamond and Willow Springs, alternately,
19 for several miles -- about 5 or 6 miles to -- basically, to the
20 east. And then a continuation of that faulting, but in terms of
21 an estimated location as compared to a precisely mapped location,
22 for another about 8 miles along -- well, what's become a boundary
23 immediately north of Rosamond between the Antelope Valley and
24 Fremont basins.

25 I'll tell you in passing that there -- the -- the
26 mapping of the fault is, in part, supported by observed
27 significant water level differences across the fault along
28 that -- the segment that I just described.

1 Q. And I'll ask you, again, is that indicative of something
2 that we would see in Exhibit 112?

3 A. Yes. That's exactly indicative of what we see in
4 Exhibit 112.

5 Q. All right. Okay. What would be the next segment?

6 A. All right. The next segment, I'll call a -- the short
7 gap that we talked about this morning. It's -- I didn't
8 specifically point it out, but it's in the general vicinity
9 immediately north of Rosamond. I didn't put the Tropical Hills
10 on this map, but the Tropical Hills are, I think, immediately
11 north and slightly west of Rosamond. And immediately east of
12 that is the gap that we talked about that's identified in both --
13 one of the two places where there's some flow across the
14 boundary. This one, I think, was --

15 Q. And you're referring to something.

16 What are you referring to?

17 A. I'm referring to Bloyd.

18 Q. All right.

19 A. And the one I discussed this morning that Bloyd reported
20 the flow there of the quantity of the underflow through the
21 throat of that gap is estimated to be about 300- to 700-acre feet
22 a year. Okay.

23 Q. Okay.

24 A. Okay.

25 Q. And what does that mean, you have a gap and there's a
26 number of acre feet that flow through as you just described?

27 MR. ZIMMER: Your Honor, I have to interpose an
28 objection to that 300 or 700 feet per unit. That's somebody

1 else's calculation, not this expert's. He's also way beyond what
2 he testified to at his deposition.

3 THE COURT: Well, I believe he's relied upon his other
4 calculations.

5 But where is it in the deposition that it's beyond?

6 MR. ZIMMER: He did not rely upon that in his
7 deposition. I think he would admit that.

8 MR. DUNN: Let me just ask him a question for
9 foundation.

10 Q. (BY MR. DUNN:) Are -- these estimates of water, does
11 that come from the Bloyd report?

12 A. Yes.

13 MR. DUNN: You want to withdraw that objection?

14 THE COURT: Wasn't the Bloyd report something he said he
15 relied upon?

16 MR. DUNN: That he produced during his deposition. In
17 fact, he gave you a copy.

18 MR. ZIMMER: He relied upon the Bloyd report, but he
19 said he had no opinion with the flow into or out of this line
20 drawn. He had not studied it, had not analyzed it, and did not
21 know whether it was medium flow, a lot of flow, or no flow.

22 MR. DUNN: I suggest we take that up on
23 cross-examination. We have a disagreement on that.

24 MR. ZIMMER: That's fine, your Honor. As long as it's
25 noted.

26 THE COURT: We can do that.

27 MR. DUNN: One thing that's clear, it comes from the
28 Bloyd report. And it's part of his opinion and it was produced

1 for plaintiffs' inspection. I don't think it should be an issue.
2 If counsel wants to make it an issue on cross-examination, so be
3 it.

4 THE COURT: All right.

5 Q. (BY MR. DUNN:) Anyway, Mr. Scalmanini, talk to us about
6 what the Bloyd report said.

7 A. Well, I just said. Okay. So that's the one of the two,
8 quote, unquote, "gaps" that's about a half-mile wide. An
9 estimated 300 to 700 feet a year flow through the gap. What was
10 the significance of that?

11 Q. Right. That's what I asked you.

12 A. Again, it's the recognition of the gap that we don't get
13 perfection all the time in the real world. And we can map in
14 this case tens of miles of boundaries that, you know, I'll call
15 it, nicely fit criteria of, as summarized on that exhibit on the
16 screen. That's 1- -- I forget now the number.

17 Q. 112.

18 A. You know, no appreciable underflow. We can argue about
19 whether or not 300, 700 feet is appreciable. But the fact is
20 that in contrast to seeing, you know, a significant, you know,
21 cliff-like change in water levels as depicted in Exhibit 112,
22 that there's, call it, a smoothness to the flow through this gap
23 that's been identified, there's some flow. So it may not be a
24 perfect boundary, but it's able to be handled in terms of
25 ultimately analyzing the overall availability of water supply in
26 this basin by recognizing it exists and accounting for any flow
27 that goes across it, whether it's coming in or going out.

28 Q. All right. What's the next segment, again?

1 A. The next segment really can go a long way -- from where
2 we are now is about the north -- we're in the middle of the north
3 boundary, you know, in terms of length. And so we're immediately
4 north of Rosamond Lake. And as you can see here, the red line is
5 solid all the way around to the, call it, I say, two-thirds of
6 the way down the eastern side.

7 Q. All right.

8 A. Okay. All of that with exception of a gap that I've
9 already mentioned, but I'll describe again --

10 Q. And -- I'm sorry. I'm going to interrupt you. When you
11 say two-thirds down the eastern side, can you be more specific as
12 to a point of reference? Is there another perpendicular line
13 there?

14 A. Well, I'll say that the -- that the reference would be
15 to the vicinity of the Saddleback Buttes. And in terms of
16 locations of map-type identifications, it would be about the
17 midpoint of township 7 north.

18 Q. So I don't -- so for the benefit of the Court, can you
19 just show from what point to what point.

20 A. Okay. So the boundary I'm talking about -- but I'll --
21 I really -- I'll break it into the subpieces in just a second.
22 But from immediately north of the west end or west side of
23 Rosamond Lake, a continuing -- around the perimeter in a
24 northeasterly direction, turning northerly and extending around
25 the Lancaster, North Muroc, and Peerless subbasins that were
26 mapped by Bloyd, continuing to the extreme most northeastern
27 corner of the Peerless subbasin, and then down the eastern side
28 all the way past Rogers dry lake, past Edwards Air Force base,

1 and down to what I just said was about the midpoint of township 7
2 on this, is all mapped as a contact between unconsolidated
3 aquifer materials on the inside basin side and consolidated
4 basement rock mapped to be nonwater bearing or considered to be
5 non- -- reported to be nonwater bearing on the outside of the
6 basin.

7 Now, I probably should have stopped, but this morning we
8 also talked about second place where there is a connection that
9 is not literally bedrock. And that would be this throat-type gap
10 between the northeastern, let's say, side or portion of the
11 North Muroc subbasin or the overall Antelope Valley basin and the
12 Fremont basin in the City of California to the northwest. And
13 that one, I discussed, also, earlier, but the gap, I think,
14 was -- is slightly more than a mile wide. And the annual flow in
15 this case, which is outflow from Antelope to Fremont, is
16 estimated to be between 100 -- excuse me -- estimated to be 100-
17 to 500-acre feet per year.

18 Q. And that's according to what report?

19 A. Bloyd.

20 MR. ZIMMER: Same objection. We'll reserve and take it
21 up later.

22 THE COURT: All right.

23 THE WITNESS: Okay. So we are now to this vicinity of
24 Saddleback Buttes in the middle of township 7 north. And the
25 balance of the mapped basin line by Bloyd extends in a
26 southeasterly direction, I'd say, 12 to 14 miles along a fault --
27 an unnamed fault feature postulated from significant water level
28 differences, which, again, would be as illustrated in --

1 Q. Exhibit 112?

2 A. Exhibit 112, yes.

3 Q. Okay.

4 A. So that takes us around the perimeter of what was mapped
5 by Bloyd.

6 Q. So that takes care of the red line coming to the
7 southeast corner?

8 A. That's correct.

9 Q. Now, does the color of the boundary line change from
10 that point in the southeast corner?

11 A. The colors, plural, of boundary lines change, yes.

12 Q. Let me just give you the question: What is shown in
13 that southeast corner?

14 A. Well, what I've attempted to show in the southeast
15 corner is the fact that a number of different maps either with
16 some discussion or without some discussion subsequent to Bloyd
17 have, I'll say, closed in the basin. Bloyd stopped mapping. If
18 you look at his map -- the exhibit number escapes me, but I'll
19 look it up. 113.

20 Q. 113?

21 A. Yes.

22 And, your Honor, if you want, the highlighter might be
23 useful at this point, or I can give you one that's already
24 highlighted so you can see where it ends.

25 THE COURT: All right.

26 Q. (BY MR. DUNN:) Why don't we have you highlight --

27 THE COURT: We can have you highlight.

28 THE WITNESS: This one?

1 Q. (BY MR. DUNN:) -- Exhibit 113.
2 THE COURT: Do you have a highlighter? Otherwise --
3 THE WITNESS: I do, actually.
4 Q. (BY MR. DUNN:) Just so the record is clear, you have
5 Exhibit 113 in front of you.
6 A. Actually, it's a smaller version that has the sticker on
7 it. This doesn't have one of the little stickers on it.
8 Q. I need one with an exhibit sticker.
9 A. Okay.
10 Q. That'll be this one.
11 May I approach?
12 THE COURT: You may.
13 MR. DUNN: Thank you.
14 Q. (BY MR. DUNN:) So on Exhibit 113, you're going to use a
15 yellow marker?
16 A. Yes.
17 Q. All right. You're going to get rid of the yellow marker
18 and use the pink one?
19 A. I'm going to use the pink.
20 Q. All right.
21 A. In the hopes that it's a little more visible.
22 Q. I realize it's sometimes difficult to draw and talk at
23 the same time, but you need to let us know what you're drawing on
24 Exhibit 113.
25 A. All I'm doing is highlighting the outermost boundary of
26 the basin, including the sub- -- the internal subunits as mapped
27 by Bloyd --
28 Q. All right.

1 A. -- in order to ultimately illustrate the fact that he
2 didn't close the basin in its southeastern corner.

3 Q. All right. Please continue.

4 (Pause in Proceedings.)

5 THE WITNESS: Okay. So the pink line highlights on
6 Bloyd's original map the outside of the subbasins, which
7 ultimately is an aggregate to be considered the groundwater basin
8 in the Antelope Valley.

9 And as you can see, there's a gap in the southeastern
10 corner that -- well, it would appear from just the physical size
11 of the map or something along those lines he stopped down there.
12 He discussed, you know, what effectively forms a boundary for
13 practical purposes, but he didn't map it.

14 Q. (BY MR. DUNN:) When you say "he discussed," are you
15 referring now to the Bloyd report?

16 A. I am.

17 So he left a gap. Okay. And so coming forward to
18 Exhibit 126, the ends of the red line on 126 are the same as the
19 ends of the pink line that I just illustrated on Bloyd's original
20 map.

21 Q. Which is 113.

22 A. Which is 113. Okay.

23 Q. All right.

24 A. All right. And so in subsequent, I'll call it, reports
25 on the Antelope Valley groundwater basin area, various
26 investigators have either talked about or shown in mapping some
27 differing boundaries down in this southeastern corner, I'd say,
28 in effect, to do the same thing we're talking about here, which

1 is to close the loop, all generally recognizing that to the east
2 is the so-called El Mirage drainage area and separate groundwater
3 conditions.

4 What I -- so we have reproduced as best we can either
5 from maps or from text descriptions what various investigators
6 have mapped in this southeastern corner.

7 Q. Is that shown on Exhibit 126?

8 A. Yes, it is.

9 Q. Okay.

10 A. Okay.

11 Q. And for -- to clarify for the record, what is -- what
12 are we looking at on Exhibit 126 in terms of those different
13 interpretations?

14 A. Well, we are looking at mappings of surface hydrologic
15 divide, a groundwater divide, and another what are called not
16 well-described line, but map line by various investigators
17 subsequent to Bloyd.

18 Ultimately, I think, it's recognized that there is no
19 hard boundary feature, all a the types that we put on Exhibit --
20 this is 112, again, I think?

21 Q. 113. Excuse me. 112. You're right.

22 A. Where we have no fixed appreciable -- meaning no
23 appreciable underflow at a fixed location. Okay.

24 So what I think it's fair to say Bloyd did is recognize
25 that in that extreme southeast corner, from water level data, you
26 can interpret the fact that water levels go across a peak or a
27 crown. Okay. And the -- at the crown point on one side, water
28 is flowing toward the El Mirage area, and on the other side,

1 water is flowing back toward the Antelope Valley basin. That's
2 commonly known as a groundwater divide.

3 And while it's not a perfect boundary because it
4 potentially can move, the fact that, you know, pumping occurs on
5 one side versus the other can move the divide. So we can't map
6 it at any one point in time and say it will always be there. But
7 recognizing that, A, the gap is fairly small and, B, there is a
8 divide, so at the divide there's no flow, that the boundary can
9 be closed in the southeast corner that way. And that's the way I
10 described it.

11 Q. Okay. So -- just so we're all in understanding with
12 your testimony, we all understand the basin boundary as
13 exhibited -- shown on Exhibit 126 is the red line that begins
14 approximately in the southwest corner of Exhibit 126 and
15 continues as you just described this afternoon until it comes all
16 the way back around to the southwest corner --

17 A. East. Southeast.

18 Q. Southeast corner. I'm sorry. And there, the color -- I
19 can't see very well from where I'm standing. The color changes
20 from red?

21 A. Yes, that's correct.

22 Q. It changes from red to?

23 A. It changes from red to either purple or black.

24 Q. Purple or black. Until it begins again in red.

25 A. Right.

26 But the key, you know, hydrologic feature at
27 approximately the location of the county line is a groundwater
28 divide. It's not a physical feature in the sense of a

1 geologic-type feature, a fault of bedrock content. It's just not
2 there. And so it has been, I'll call it, loosely mapped in this
3 partially straight, partially curved line to the southeast
4 corner. And there's some continuation of the outside boundaries
5 as mapped by Bloyd and others down to the location of the
6 drainage divide, which would be outside the county and into
7 San Bernardino County.

8 Q. Okay. Thank you.

9 One last question, Mr. Scalmanini. Is your basin
10 boundary consistent with your 35 years of experience in numerous
11 projects and assignments of various types in countless number
12 of -- or large numbers of groundwater basins in California?

13 MR. ZIMMER: Vague.

14 THE WITNESS: Yes.

15 MR. ZIMMER: Attempt to enter it as irrelevant matter.

16 THE COURT: I'm going to allow it just from the
17 experience standpoint. We're still back to that legal question
18 on how we're going to define it.

19 But you may answer.

20 THE WITNESS: Yes.

21 MR. DUNN: Thank you.

22 No further questions.

23 THE COURT: Well, actually, before we have
24 cross-examination, I can't see all the specifics on that, but I'm
25 looking at 114.

26 Do you still have that over there?

27 THE WITNESS: That's not this. 114?

28 THE COURT: Yeah. It's a little map on 114.

1 MR. DUNN: The Durbin boundaries?
2 THE COURT: It should be there somewhere.
3 And yours might have it too. It looks like there's
4 subbasins --
5 THE WITNESS: Yes.
6 THE COURT: -- on all these.
7 THE WITNESS: Yes.
8 THE COURT: And from this map, it looks like the
9 subbasins are, to some extent, divided by these faults.
10 THE WITNESS: That's correct.
11 THE COURT: All right. So what is there about a fault
12 that sometimes would divide a basin into subbasins but at other
13 times would divide the entire basin?
14 THE WITNESS: Okay.
15 MR. JOYCE: Thank you, your Honor.
16 THE WITNESS: If you took the groundwater course that I
17 talked about earlier and you went through all this Richter
18 criteria business, you would find that he organized boundary
19 criteria into those with no appreciable underflow, which is what
20 I have here is this illustration, and those with some underflow
21 and those with free underflow. Okay. And he ultimately said
22 that free underflow is not a good boundary unless you just
23 absolutely have to use it.
24 You know, classic illustration of that, for example,
25 would be along the coastline of a basin, you know, connected to
26 the ocean in California. We draw the boundary line along the
27 beach, but we recognize that the groundwater system extends
28 offshore. So there's flow that can go across there. Fresh water

1 can flow out toward the ocean, or saltwater can come back in from
2 the ocean. It's not a great choice, but we have to use it.

3 But the other two, no appreciable underflow and some
4 underflow, faults are listed in both as a physical feature that
5 can impede or retard groundwater flow. So the -- ultimately, the
6 interpretation, you know, left to the investigator is to decide
7 whether or not the fault truly impedes flow or simply retards
8 flow.

9 Now, I'll try to show that situation with one more
10 exhibit, if that's okay.

11 THE COURT: You may.

12 THE WITNESS: Okay. The number -- because the one you
13 were referring to, your Honor, which was 114, doesn't have some
14 key information that one might want to use.

15 So 115 that we prenumbered?

16 Q. (BY MR. DUNN:) Duell's map?

17 A. That's Duell's map.

18 Duell is yet -- we talked about this this morning. And,
19 actually, we did talk about a number.

20 THE COURT: I don't see 115. I have 114 and 113.

21 (The Court handed the exhibits to Mr. Scalmanini.)

22 THE WITNESS: Okay. On -- this is 114?

23 Q. (BY MR. DUNN:) 115.

24 A. 115. Excuse me.

25 Okay. There are a couple of things mapped, including
26 the same groundwater basin boundaries about which I've been
27 talking. But within those, your Honor, are some of these faults
28 that also cross the inside of the basin. And also included are a

1 number of lines -- if you want to get oriented, just look here.
2 I'll point, then you can go back to that sheet of paper that
3 you're looking at closely. But there are lines that are called
4 contours of equal groundwater elevation plotted throughout. And
5 there are arrows drawn perpendicular to those contours.

6 So, for example, if you look up here in the vicinity of
7 Rosamond Fault on 115, you will see to the immediate north words
8 that say "Willow Springs subunit." And you'll see some slightly
9 curved lines labeled 2,600, 2,550, that are close to
10 perpendicular to the Rosamond Fault. And then you'll see an
11 arrow pointing in a southeasterly direction perpendicular to
12 those lines that are labeled 2,550 and 2,600.

13 If you go south of the Rosamond Fault, you will see
14 similar contour lines, several of them, labeled 2,150, 2,200,
15 2,300, 2,350. And those, also, at their end are close to
16 perpendicular to the Rosamond Fault, and you see an arrow that's
17 pointing in a southeasterly direction across the one that's
18 labeled 2,150.

19 The fact that those contours line up and cross the
20 Neenach Fault at an angle that allows -- and there's also some
21 uniformity to the spacing of the contours, that there is flow
22 across the Neenach Fault, and there may be some impedance across
23 that fault, but it doesn't, if you will, stack water up in the
24 dam concept like we talked about earlier.

25 And if you look closely across the Rosamond Fault,
26 you'll see, for example, that if you continue up the 2,200 line
27 and get to the Rosamond Fault and then go across it, you'll see
28 that on that side, the groundwater surface elevation is at 2,550.

1 A. Yes.

2 Q. Okay. Do you have the Durbin report with you today?

3 A. Yes.

4 Q. In its entirety?

5 A. Yes.

6 Q. And how about Carlson? Both Carlsons.

7 A. I think I have copies of both Carlsons. I don't know
8 that I have the original versions that I have at the office.

9 Q. All right. And with respect to Todd, do you have the
10 relevant inserts that you utilized from Todd?

11 A. Yes.

12 Q. Well, then, maybe that's a place to start.

13 THE COURT: Todd?

14 MR. JOYCE: Todd.

15 THE COURT: Okay.

16 Q. (BY MR. JOYCE:) You provided us with a definition of
17 what a groundwater basin was that you've extracted from Todd; is
18 that a fair statement?

19 A. Yes.

20 Q. Didn't Todd also make comment upon what a groundwater --
21 at least, comment upon the acceptability of the term within the
22 discipline that you practice in?

23 A. Not that I recall, no.

24 Q. Didn't he say that it's a loosely defined term?

25 A. He used that -- that phrase in a footnote, yes. He
26 didn't talk about its acceptability, just said it's loosely
27 defined or implied, I think.

28 Q. And by "loosely defined," by that, I mean that there is

1 no universally accepted definition within the discipline, is
2 there?

3 A. I wouldn't agree with that, no.

4 Q. You would not.

5 A. No.

6 Q. Can you tell me what the universally accepted definition
7 is in?

8 A. I don't know that there's the universally accepted
9 definition. I provided two. And I think they are in exactly the
10 same words, but they provide exactly the same thing.

11 Q. Have you ever heard of a groundwater basin being
12 described as an area which also included the recharge area?

13 A. Not that I can instantly think of, no.

14 Q. And you also listed in your reference material a -- an
15 author by the name of -- I believe it's Schneider (phonetic); am
16 I correct?

17 A. Schneider is correct, yes.

18 Q. Didn't she provide a definition of groundwater basin in
19 her glossary at the back of her presentation or her text?

20 A. I don't know. I don't remember.

21 Q. Can you extract that, please, and look for me, if you
22 would.

23 A. In her appendix under definitions, Ms. Schneider said,
24 "There is no" -- "For groundwater basin, there is no single
25 widely accepted definition. See discussion below."

26 Q. And that's -- then that's quoted or cited through her
27 publication, which is a Groundwater Rights in California,
28 Background and Issues, Staff Paper Number 2, at page 98; am I

1 correct?

2 A. That's correct. Dated 1977.

3 Q. Thank you.

4 And, in fact --

5 A. Hang on one second. Just to complete the story, you
6 know, Todd was published in 1980.

7 Q. All right. And in 1980, when Todd's publication came
8 out, isn't what he said -- and I will quote -- "In practice, the
9 term 'groundwater basin' is loosely defined; however, it implies
10 an area containing a groundwater reservoir capable of furnishing
11 a substantial water supply"?

12 A. That sounds right. I'll look it up if I need to. It
13 sounds like what he said, yes.

14 Q. I believe you'll find that in his book called
15 Groundwater Hydrology at page 47.

16 A. That sounds about right.

17 Q. And let me ask this question: Would the area within a
18 drainage basin satisfy that definition, i.e., in practice, a term
19 loosely defined, but nonetheless one which implies an area
20 containing a groundwater reservoir capable of furnishing a
21 substantial water supply?

22 MR. DUNN: Objection. Vague.

23 THE COURT: Overruled.

24 You may answer.

25 THE WITNESS: You could probably draw boundaries around
26 a lot of different things bigger than the groundwater basin that
27 I've described that would contain a significant water supply,
28 yes. So a watershed would be one of those.

1 Q. (BY MR. JOYCE:) And/or a drainage basin?

2 A. I think they're the same, but yeah.

3 Q. That's what I want to just -- that was going to be my
4 next question: For the purpose of discussion, would you accept
5 that within the discipline, if someone is talking about a
6 drainage basin, that they are, in fact, talking about what we
7 have been discussing here in pretrial matters as being a
8 watershed basin or watershed boundary?

9 MR. DUNN: Objection. Speculation.

10 Q. (BY MR. JOYCE:) Within your discipline --

11 THE COURT: I'll allow it.

12 MR. JOYCE: I was going to withdraw it and rephrase it.

13 THE COURT: If you want to rephrase it.

14 MR. JOYCE: I will.

15 Q. (BY MR. JOYCE:) Within the discipline that you
16 practice, is the term "drainage water" and the term "water
17 basin" -- excuse me -- "watershed" interchangeable?

18 A. I'm not a surface water hydrologist, but I'll say I
19 think practically, yes.

20 Q. Well, since you mentioned surface water, I want to make
21 sure you understand something.

22 In the opening statement, a statement was made by
23 Mr. Bunn -- I believe you were present at the time --

24 A. No, I wasn't.

25 Q. Let me tell you what he said. Mr. Bunn said that we
26 need not concern ourselves with precipitation outside of your
27 line that is falling in the mountains and the foothills because
28 all of that precipitation reaches the valley floor as surface

1 runoff and none of it gets to the valley floor as under- --
2 excuse me -- as groundwater underflow.

3 Is that a correct statement?

4 MR. BUNN: Objection. That doesn't characterize
5 correctly what I said.

6 THE COURT: Well, I'm going to just not worry that you
7 said it. I'm going to take your question as: Is this statement
8 a correct statement?

9 Q. (BY MR. JOYCE:) Let me put it to you this way, then --
10 I will make it my statement -- would it be true to say that all
11 the precipitation within the watershed area of the
12 Antelope Valley reaches the innermost boundaries of your proposed
13 line only as a consequence of surface flow, i.e., there is no
14 groundwater underflowing crossing your line anywhere?

15 A. The answer's, obviously, no. I probably acknowledged
16 that today. I've described the fact that there is some
17 subsurface flow in a few locations around the perimeter of this
18 basin which allows water that would be within the overall
19 drainage basin or watershed to flow, in some cases into, in some
20 cases out of the Antelope Valley ground basin.

21 Q. And is it your testimony that the only two places where
22 precipitation within the watershed area would cross your boundary
23 line and make their way into your, quote, unquote, "groundwater
24 basin" is at the two locations that you've identified where
25 there's acknowledged underflow?

26 A. No.

27 Q. Are there other locations along your boundary line where
28 there is acknowledged underflow of groundwater from outside of

1 your line to the inside of your line?

2 A. Well, as I defined "groundwater" in response to a
3 question earlier today -- which is flow in porous media beneath
4 the ground surface, in this case, in the saturated regime -- and
5 I described, for example, that where a surface stream has a bed
6 and there is saturated conditions in the bed, whether there's
7 surface flow or not, if there is that condition and that crosses
8 the boundary, then as I think I said, as I was going around here,
9 it's not perfectly impermeable everywhere. And so it is possible
10 for a small amount of what would be properly called groundwater
11 to flow in the bed of that stream.

12 There is also the, I'll call it, possibility that in
13 superficial soils in various places around the perimeter but
14 particularly along the mountain fronts that precipitation, if
15 sufficiently intends to saturate the sufficient soils for a short
16 period of time, can contribute some flow which is, I'll say, in
17 the immediate subsurface sometimes called mountain front
18 recharge. And so a piece of the recharge to the basin in the
19 strictest sense would be immediately below the ground surface but
20 would not be down, I'll say, across faults in the classic sense
21 of groundwater flow across faults.

22 But in the strictest answer to your question, that since
23 some of that water got into this immediate subsurface, it would
24 be below the ground. It wouldn't be surface flow into the basin.

25 Q. So would be, in fact, groundwater.

26 So far so good? Am I correct?

27 A. In that it's below the surface of the ground, yes. In
28 terms that it's part of the groundwater body, meaning that it's

1 reached the saturated condition of the ground surface, probably
2 not.

3 Q. All right.

4 A. It's a phenomenon associated with more or less the
5 nature of rainfall events and how that rain needs to go
6 someplace.

7 Q. Well, then let me see if I can get back to it this way:
8 You've told us there's two locations where you concede there is
9 groundwater underflow within the existing boundary line as you've
10 drawn it.

11 So far so good?

12 A. Yeah. That's what's been reported in the ledger
13 consistently, that's correct.

14 Q. You also agreed that precipitation falling within the
15 watershed will makes its way from the outside of the line to the
16 inside of the line in those locations where there are streambeds
17 and surface runoff; correct?

18 A. Well, let me put it in context. You asked me if there's
19 a possibility for water to flow in the subsurface.

20 Q. Mr. Scalmanini --

21 A. Hang on a second.

22 Q. Mr. Scalmanini, you hold on.

23 If I misstate my question, then I will try it again.

24 A. No. I'm answering.

25 THE COURT: Wait. If you can, you need to answer the
26 question that is asked.

27 THE WITNESS: I did. Or I'm trying to.

28 THE COURT: If you need the question restated, just say

1 that. We can have it restated.

2 MR. JOYCE: And I will make an effort --

3 THE COURT: We can't be arguing back and forth.

4 THE WITNESS: Okay.

5 Q. (BY MR. JOYCE:) The question I'm asking simply requires
6 you to respond affirmatively or negatively.

7 A. The answer is no.

8 Q. All right. So then in addition to the two leaky points
9 and stream runoff in the form of surface water, what other kinds
10 of infiltration should we expect to see of water across your line
11 other than surface water?

12 A. I think I just described it.

13 Q. And what would that be? Just a mountain range?

14 A. Whatever might be flowing in the bed of the surface
15 stream and this, I'll call, short-term phenomenon of mountain
16 front recharge that results from, I'll say, intense -- such as
17 you can use the word -- intense in this area -- precipitation
18 that would saturate shallow soils and allow it to flow across the
19 boundary. It's not what's known as classic groundwater
20 subsurface flow. It is just that: It's a recharged phenomenon
21 that occurs during rain events.

22 Q. All right. So then am I safe in assuming that it is
23 your opinion that there are no aquifers adjacent to your proposed
24 line, but outside of your line and within the watershed boundary
25 at any point around your line?

26 A. That would be a gross overinterpretation of what I said.
27 To say that there are no aquifers outside that line, no, I didn't
28 say that.

1 Q. Are there aquifers between the watershed line and -- and
2 outside of your line?

3 MR. DUNN: Objection. Lack of foundation as to
4 watershed line.

5 THE COURT: Well, why don't you clue him in. I think
6 you're talking about the one your expert has drawn that was --

7 MR. JOYCE: Well, let me -- let me take it back. I
8 missed an entire part of my intended cross. You got me right
9 back there.

10 Q. (BY MR. JOYCE:) Mr. Scalmanini, your degree is in
11 engineering; correct?

12 A. Both of them are, yes.

13 Q. Okay. And what kind of engineering?

14 A. Mechanical and civil.

15 Q. And -- pardon me?

16 A. Mechanical and civil.

17 Q. Okay. And in civil engineering, one aspect or one
18 discipline of that is surveying; correct?

19 A. Yes.

20 Q. Okay. You yourself do not do surveying work, do you?

21 A. I do not personally, no.

22 Q. And we've already had this discussion in your
23 deposition, but the line that you have proposed is not readily
24 surveyable, is it?

25 A. I wouldn't say it wouldn't be readily surveyable. I
26 think I told you it hasn't been surveyed. It's a massive
27 undertaking, but it's doable.

28 Q. Okay. And how do you survey a postulated fault?

1 A. Well, I'm going to say I'm not a surveyor, so I don't
2 know how I would survey it. Okay. I'm licensed to practice
3 surveying. It's a by-product of being a registered civil
4 engineer, but I do not practice.

5 Q. I appreciate that.

6 As your training in civil engineering and the courses
7 you took which involved surveying, did anyone ever suggest to you
8 that there was an implied -- or there was an application that
9 could facilitate an on-surface survey of a postulated fault?

10 A. Well, the one-word answer to your question is no, but
11 that's because I never took a class in surveying in my training.
12 Okay.

13 Q. As you sit here today, are you aware of any surveying
14 technique that could be applied which would accomplish or
15 facilitate delineating on the ground where a postulated fault
16 was?

17 A. Yes.

18 Q. Okay. By surveying, that is.

19 A. Yes.

20 Q. And how would you do that?

21 A. Well, I would probably hire somebody to do it who
22 practiced surveying as a regular part of his practice. But if --
23 to try to not just duck the question, there are ground surveying
24 techniques in this case which I think would involve the
25 accompaniment of a geologist who would identify on the ground
26 features or locations where the lines that we've talked about
27 today physically exist. And then a surveyor could create a legal
28 description of that. That's one.

1 Q. Okay.

2 A. And the second would be to use, for example, Global
3 Positioning satellite equipment that allows us to, I'll say --
4 again, using the same kind of references in the field -- to move
5 from point to point and establish the so-called coordinates of
6 those points and to ultimately connect those and create a -- a
7 description of that line or lines, whatever they're doing.
8 That's real globally how I would, quote, "do it," unquote.

9 Q. Okay. And in the first instance you're talking about is
10 using the assistance of a geologist because you can go into the
11 field and where a fault has been mapped geologically, usually
12 because it manifests itself as a surface feature; is that a fair
13 statement?

14 A. I think where it's been mapped, I think the answer to
15 the question is yes.

16 Q. Okay. And a postulated fault is a fault that has not
17 manifested itself on the surface. In other words, you can't take
18 me out there tomorrow and show me on the ground where the
19 postulated fault is, can you?

20 A. I couldn't, no.

21 Now, an investigator who has looked at sufficient water
22 level data to come to a conclusion as to where, I'll call it, a
23 significant break as was illustrated in Exhibit 112, I think, the
24 one -- okay -- then that's what I meant by accompaniment of
25 somebody who'd done that kind of work.

26 Q. Well, in the context of a postulated fault, that's
27 really just an approximation or an estimate of the location, is
28 it not?

1 A. Yeah. That's fair, yeah.

2 Q. Okay. And do you know -- and if I understand it
3 correctly, your primary source or reliance for your line is
4 Bloyd; is that a fair statement?

5 A. Well, it was the first. I don't know about the primary.
6 Given that it was repeated by subsequent investigators, you know,
7 I'd give them equal weight in that there was reinforcement or
8 reinforcing their acceptance by investigators. But certainly
9 primary in the sense of first, yes.

10 Q. Well, at the end, when forced to make a choice between
11 Mr. Bloyd's proposed outer line or -- I take that back. I'll get
12 back to that in a moment.

13 With respect to Bloyd's work as contrasted against that
14 of Carlson, you opted to go with Bloyd and not Carlson; correct?

15 A. That's what I said just a little bit ago, yes.

16 Q. Okay. And the reason you did that is because you could
17 not find within Carlson sufficient descriptive and/or supporting
18 information that satisfied you as to why and how he went about
19 drawing the lesser line that he did; correct?

20 A. Yeah. Sufficient is probably right. I mean, certainly,
21 the methodology that he described or the tools, the
22 interpretation that he made of work by others, meaning others
23 between Bloyd and the time he did his work, which was nominally
24 30-ish years of time, that there had been additional drilling
25 into the subsurface and there had been additional, I'll call it,
26 surface geophysical work to interpret the presence of bedrock
27 complex in the subsurface. And so there's a -- those are
28 legitimate methods.

1 But that's -- that's all that they reported. And they
2 didn't draw any changes to the surface geologic mapping. They
3 didn't draw any cross-sections to illustrate the details in the
4 subsurface. So given that lack and the fact that Bloyd's
5 boundary aligns consistently with surface geologic mapping --
6 published geologic mapping, I would pick that if I had to choose
7 between the two.

8 Q. And, in fact, in your deposition, we asked you to pick
9 between the two.

10 A. That's correct.

11 Q. And today you made a selection between the two as well
12 as adopting Bloyd as contrasted with Carlson.

13 A. Same as I did when you asked me in the deposition.

14 Q. Okay. And the question that I have is: In science,
15 isn't one test of science reproducibility?

16 A. Not necessarily.

17 Q. Do you mean within the discipline, two people with the
18 same training and education assigned the same task can come up
19 with conflicting or different results, both being acceptable?

20 A. What I mean is that with the information available to
21 Bloyd in the mid-1960s, he could apply -- whether he said so or
22 not -- the kinds of criteria that I discussed this morning and
23 come to a conclusion as to the extent of the groundwater basin.
24 And nominally 33-ish years later with additional information,
25 another investigator could apply the same criteria and come to a
26 slightly different conclusion.

27 My interpretation of the fact that they're slightly
28 different, you know, suggests that the additional information

1 allows that to happen. You know, as far as what I'll call a
2 concept of a groundwater basin, that's reproducibility. The
3 facts that it's not exactly the same does not invaluate (sic) the
4 science that you apply to the conclusions.

5 Q. Well, if you apply it to science as you suggested, would
6 we expect consistent reproducibility if the charge were to define
7 the Antelope Valley groundwater basin?

8 A. With -- working with the same information multiple
9 times?

10 Q. Currently. Two people given the same task --

11 MR. DUNN: Objection.

12 Q. (BY MR. JOYCE:) -- define the Antelope Valley
13 groundwater basin.

14 THE COURT: Overruled.

15 MR. DUNN: Objection. Lack of foundation. Incomplete
16 hypothetical.

17 THE COURT: Overruled.

18 You may answer.

19 Q. (BY MR. JOYCE:) All I'm trying to find out,
20 Mr. Scalmanini, is with two people with your education,
21 background, and training, given that charge, come up with the
22 same line.

23 A. The exact same line?

24 Q. Yes.

25 A. I guess I'd say I'd be surprised if it was the -- exact
26 same line that you could take, you know, two perfectly
27 identically scaled maps and come up with a perfectly
28 superimposable -- if you'll excuse the word -- conclusion. But

1 that in terms of description of the groundwater basin, I would
2 think that they would.

3 Q. When you say "description," you mean a characterization
4 of what the boundaries should be expressed in words as opposed to
5 mapping.

6 A. That's correct.

7 Q. All right. And earlier, you had referred us to an
8 exhibit taken from Bulletin 119; correct?

9 A. I don't think so.

10 Q. Excuse me. Was that 118? I apologize.

11 A. Yes.

12 Q. All right. And that was the 1975 version of that
13 bulletin; correct?

14 A. That's correct.

15 Q. Are you aware that that bulletin has been updated since
16 then?

17 A. It's not been updated. It's in the process of being
18 updated.

19 Q. Well --

20 A. At least, that's the best of my knowledge.

21 Q. Are you familiar with Bulletin 118-80?

22 A. Yes.

23 Q. Publication date 1980?

24 A. Yes.

25 Q. That's approximately 5 years after the date of the same
26 bulletin that you referred to?

27 A. Okay.

28 Q. Okay. And the bulletin you referred to is 1975?

1 A. That's correct. But just -- just to clarify, that -- if
2 you're referring to 118-80 as the updated version?

3 Q. You have another update?

4 A. No. There is not yet. I used the present tense. Okay.

5 Q. It's in the process of being updated yet again?

6 A. That is correct.

7 Q. All right. So you used the 1975, it has been updated in
8 1980, and it is now in the process of being updated yet again;
9 correct?

10 A. That's correct.

11 Q. All right.

12 A. Wait a minute. Wait a minute. Will you read me the
13 title of 118-80, please.

14 Q. Groundwater Basins in California. A Report to the
15 Legislature in Response to Water Code Section 12924, 118-80,
16 January 1980.

17 A. Okay.

18 Q. It is State of California Resource Agency, Department of
19 Water Resources.

20 A. Okay. Can I look at it for a second?

21 Q. Certainly.

22 THE COURT: You may approach.

23 MR. JOYCE: May I approach, your Honor?

24 THE COURT: You may approach.

25 (Pause in Proceedings.)

26 THE WITNESS: Okay.

27 Q. (BY MR. JOYCE:) What year did Bloyd's work come out?

28 A. 1967, I think. Yes.

1 Q. And is the State of California, the Resources Agency,
2 Department of Water Resources a fairly reliable source?

3 MR. DUNN: Objection. Vague as to source.

4 Q. (BY MR. JOYCE:) In your opinion, do you look to that as
5 a source of information to aid you in conducting your task as a
6 civil engineer, especially the area of water hydrology?

7 THE COURT: I think he withdrew that question.

8 MR. JOYCE: I did. I'm sorry.

9 MR. DUNN: I was waiting for a ruling on the objection.

10 MR. JOYCE: I have a tendency to do that.

11 MR. BUNN: His objection to the latest question, he
12 said, "do you look to that." Vague as to that.

13 Q. (BY MR. JOYCE:) Do you look to materials published by
14 that agency in your normal day-in-and-day-out work? Is it a
15 source you rely upon?

16 A. In general, yes.

17 Q. All right. And the Exhibit 109 that you provided to us
18 is a depiction of what's generally referred to as the
19 South Lahontan area? Did I say that correctly?

20 A. Lahontan.

21 Q. Lahontan. Thank you.

22 And that's a significantly larger area of California
23 than what we're concerned with here, didn't you (sic)?

24 A. I think I testified earlier today that for purposes of
25 mapping groundwater basins, that DWR, as it's known, Department
26 of Water Resources, did that on a number of so-called hydrologic
27 study areas, I think they were. And one of them was called the
28 South Lahontan area. And this area would fall in the

1 South Lahontan area.

2 Q. And are you aware in the 1980 modification one of the
3 significant changes was is that they modified the criteria for
4 the establishment of a groundwater basin to include political
5 boundaries?

6 A. I'm familiar with what went on in 1980 when they revised
7 the boundaries, yes.

8 Q. So within the -- the area within the practice, it as of
9 that point in time became acceptable to use a political boundary
10 for the purposes of defining a groundwater basin; correct?

11 A. Well, I'll say it -- I don't know if it was acceptable,
12 but it was done.

13 Q. All right.

14 A. And there's a -- there's a longer answer that needs to
15 go than just "yes" or "no."

16 Q. In fact, in your deposition, we spent quite some time on
17 this issue, did we not?

18 A. I don't remember if we did.

19 Q. Do you recall in your deposition discussing the
20 San Joaquin Valley and the practical realities that apply to that
21 nature and why you have to use political boundaries that rely to
22 the plans?

23 A. Let's stick with 118-80.

24 Q. Okay.

25 A. The part of the charge to the department that reports
26 back to the legislature --

27 MR. JOYCE: I'm going to object to what you perceive the
28 charge to be. That would be hearsay.

1 And I will move on to my next question.

2 THE COURT: All right. Let's get the next question.

3 Q. (BY MR. JOYCE:) You are aware in the 1975 that they

4 undertook to identify from their view, using the term

5 "groundwater basins," various areas that were segregated and

6 mapped distinct from others; correct?

7 A. Say that again, please.

8 Q. They mapped --

9 A. "They," DWR.

10 Q. Yes.

11 A. -- mapped --

12 Q. Groundwater basins.

13 A. Yes.

14 Q. Using that term; correct?

15 A. Yes.

16 Q. And, in fact, in your Exhibit 109, each of the separate

17 groundwater basins are numbered, are they not?

18 A. Yes.

19 Q. And then you can refer to that publication and there's a

20 table that tells you the name of the groundwater basin that

21 corresponds to the number; isn't that true?

22 A. Yes.

23 Q. Okay. And do you have that table with you?

24 A. I think I do.

25 Q. Could you please locate Antelope Valley on that table

26 and tell me what the number assigned to Antelope Valley was for

27 the groundwater basin identified in that exhibit.

28 A. 6-44.

1 Q. Thank you.

2 THE COURT: All right. We need an afternoon recess. Is
3 this a good --

4 MR. JOYCE: If I can take two minutes, and then I'll be
5 done with this issue.

6 (Pause in Proceedings.)

7 MR. JOYCE: Your Honor, why don't we go ahead and do the
8 break. I'll do it after the break.

9 THE COURT: We'll take a break.

10 (Discussion - Not Reported.)

11 (Recess.)

12 (Discussion - Not Reported.)

13 THE COURT: All right. We can continue.

14 MR. JOYCE: Thank you, your Honor.

15 Q. (BY MR. JOYCE:) Mr. Scalmanini, in looking at your
16 Exhibit 126 -- which is the revised map; correct?

17 A. Yes.

18 Q. All right. And if I understand it, the only difference
19 between this plate and the plate you produced at the time of your
20 deposition is the relaying of this southern boundary line?

21 A. Yes.

22 Q. Having said that, let me ask a few quick questions so we
23 understand something.

24 This outermost line that you have depicted here is
25 Bloyd's line in every respect except for this area down here; is
26 that correct?

27 A. Well, even down there, because there's no Bloyd line.
28 The red line is Bloyd's line, yes.

1 Q. That's my point, is that in this area here, as you
2 testified, Bloyd did not undertake to physically map a barrier or
3 a boundary himself; correct?

4 A. From recollection -- I'll look if you really want to
5 know -- I recall that he described one. He did not map one.

6 Q. I understand that.

7 So to the extent we would rely upon Bloyd coming down
8 into this area, rather than looking at his efforts to map it
9 graphically, we would look at his verbal description of what he
10 called the boundary in that area; correct?

11 A. Yes.

12 Q. All right. And the rest of this is, as you understand
13 it, essentially the same line that he found or that he mapped in
14 his efforts; is that a fair statement?

15 A. I think the way I told you in deposition was that I --
16 we tried by using the surface geological references that he
17 described as well as the map locations of faults to reproduce on
18 a different base map what he produced on -- I forget the figure
19 number -- and the exhibit number that I had up there earlier,
20 yes.

21 Q. And the only issue I'm really trying to get at is simply
22 this: Is that you attempted to use the same boundaries as
23 described by Bloyd and, to the extent, mapped by Bloyd in the
24 same manner that you perceived that he was attempting to draw a
25 line.

26 A. That's correct.

27 Q. All right. And then if I'm also correct on your
28 Plate 126, this dashed black line with these internal dashed

1 black line areas, as well as this little nub down here on the
2 south, that is the result of the work by Carlson and others?

3 A. It's a reproduction of what Carlson and others mapped.
4 It's not a result of their work.

5 Q. All right. Well, it's an attempt to give a graphic
6 mapped depiction of what they proffered as, quote, unquote,
7 "groundwater basin boundaries"; correct?

8 A. Yes.

9 Q. Okay. Did they call it a groundwater basin boundary, or
10 did they call it a study area?

11 A. I don't remember.

12 Q. What is a study area?

13 A. I think the words speak for themselves. It's an area
14 that's under study.

15 Q. Okay. You said that you also, in addition to looking at
16 Bloyd, looked at Duell.

17 Do you recall whether or not Duell called the line that
18 he was using a basin boundary line or a study area line?

19 A. Well, what I recall was that Duell reproduced
20 groundwater basin boundary lines. He may have also had a study
21 area line within which he was looking at establishing a
22 monitoring network for groundwater quality purposes.

23 Q. All right. And in looking at Duell, could you discern
24 whether or not Duell had made an effort to independently map a
25 groundwater basin, or did it appear to you as if he was merely
26 duplicating what you understood had been the work previously done
27 by Bloyd?

28 A. Included in his work was a description of groundwater

1 zones. I don't remember whether he specifically used the term
2 "groundwater basin," but he described the same groundwater zones
3 as Bloyd and others between the time of Bloyd and his work.

4 Q. Okay. And did he call it a -- subbasins or subunits?

5 A. Well, the first, I don't know, reflection of that, he
6 used the word "subdivision."

7 Q. Zones?

8 A. Yes, sir.

9 Q. All right.

10 A. And hang on a second.

11 (Pause in Proceedings.)

12 THE WITNESS: He subsequently uses the word "subunit."

13 Q. (BY MR. JOYCE:) Okay. He does not use the term
14 "subbasins," does he?

15 A. Well, a quick reading, he uses both "zones" and
16 "subunits," I'll say, somewhat interchangeably in the same
17 paragraph.

18 Q. But never uses the word "subbasin."

19 A. I can't say never without rereading the whole thing, but
20 I don't see it instantly.

21 Q. All right. And is it your testimony Bloyd used the term
22 "subbasin"?

23 A. I should look. I think he used "subunits" and -- hang
24 on a second.

25 Q. Actually, he used the words "subunits" and "subareas";
26 am I correct?

27 MR. DUNN: Objection. Document speaks for itself.

28 THE COURT: Overruled.

1 THE WITNESS: Okay. He used "zones," "subunits,"
2 "groundwater basin." He used all those terms.

3 Q. (BY MR. JOYCE:) Okay. To describe the areas within the
4 outer line, what did he call them? Did he ever use the word
5 "subbasin" anywhere in his literature?

6 A. Same answer as before: Without rereading the whole
7 thing, I don't know.

8 Q. If I were to represent to you that I have read the whole
9 thing, and that the word "subbasin" appears nowhere in there, do
10 you have any reason to believe that I'm inaccurate in my
11 observation?

12 A. I have no reason to believe that you're either accurate
13 or inaccurate. My impression from the deposition sessions is
14 that you don't know a lot about this subject, so I probably
15 wouldn't buy what you told me about a technical report in any
16 regard.

17 Q. I will be the first one to tell you that I am dumb,
18 or -- to use your words earlier -- "dummy," but --

19 A. I don't think I used "dummy," did I?

20 Q. Actually, you did. My hydrograph didn't go over very
21 well.

22 But putting that aside, Mr. Scalmanini, I do read
23 English. And I will represent to you that nowhere does Bloyd use
24 the term "subbasin."

25 My question is: Is there any reason you sit there today
26 and can say, "Mr. Joyce, I think you're wrong"?

27 A. I'm not going to tell you I think you're wrong because
28 I -- I'll have to reread.

1 Q. Well, I've got a very strong suspicion between now and
2 Thursday you may have the opportunity. I will invite you to
3 correct me then if I am wrong.

4 Mr. Scalmanini, Mr. Bloyd also used another term called
5 "subarea."

6 Do you know what he was talking about?

7 A. Not without looking at its context.

8 Q. All right. We'll be coming back to that in a moment.

9 With respect to Durbin, do you know whether or not
10 Durbin -- strike that. Let's go back to Duell for a moment.

11 Based upon your review of -- review of Duell's
12 literature, could you discern whether or not Duell himself made
13 an independent effort to define the boundaries of a, quote,
14 unquote, "groundwater basin," or did he merely just redescribe
15 the same geologic features that Bloyd had described in his
16 earlier work?

17 A. As best I recall his work, he didn't do any independent
18 new work to redefine or independently define.

19 Q. He just accepted Bloyd's verbal description of the
20 geologic features and relied upon and essentially duplicated
21 those; fair statement?

22 A. Yes.

23 Q. All right. Moving on to -- now -- let's see -- we have
24 Bloyd and Duell.

25 In time, who would be the next most significant
26 investigator that you were referring to in your direct
27 examination, i.e., one of those many?

28 (Pause in Proceedings.)

1 THE WITNESS: That would include the -- the entire
2 basin? As compared to just any investigation in the --

3 Q. (BY MR. JOYCE:) Just the next in time investigation
4 that you thought was of the least significant note to consider in
5 your table of references.

6 A. You can catch me on sequential dates here because I did
7 everything alphabetically. But I think it was probably Galloway,
8 Phillips, and Ikahara (phonetic), in 1998.

9 Q. Didn't Durbin come in between there somewhere?

10 A. No.

11 Q. All right. Did -- so Durbin came after them?

12 A. No.

13 Q. Okay. When in time did Durbin do his analysis?

14 A. 1978.

15 Q. All right. Did you include Durbin in your table of
16 references?

17 A. Yes.

18 Q. All right. So Durbin came before Duell?

19 A. Yes.

20 Q. And after Bloyd?

21 A. Yes.

22 Q. All right. In looking at Durbin, were you able to
23 ascertain whether or not Durbin referred to the area of his
24 investigation as a study area, or as a groundwater basin? And I
25 will concede up front that he did use the term "groundwater
26 basin." But as far as how he labeled the area he was
27 investigating, can you tell me how he labeled it?

28 A. Well, Durbin refers to the Antelope Valley water basin.

1 Q. Are you looking at his Plate 1?

2 A. I'm looking at his text: "The Antelope Valley water
3 basin covers," parenthesis, "2,300 square kilometers."

4 Can I finish? I think I'm answering here.

5 Okay. "The basin is divided into groundwater subbasins
6 by faults and other structural features. Zones of the
7 Antelope Valley groundwater basin are the Lancaster, Buttes,
8 Pearland, Neenach, West Antelope, Finger Buttes, North Muroc
9 subbasins. The names and boundaries of the subbasins that were
10 proposed by Bloyd 1967 are used" for "this report" -- excuse
11 me -- "in this report."

12 Q. Can we preclude from what you just read to us that he
13 did not do an independent investigation or independent effort to
14 either map or define a line around what you have referred to as
15 the Antelope Valley groundwater basin? Is that a fair statement?

16 A. That's, I'll say, difficult to tell. He goes through,
17 I'll say, a sufficiently detailed -- as part of a modeling
18 report -- description of the geologic features that form the
19 groundwater basin and differentiate the significant water-bearing
20 materials from nonwater-bearing materials.

21 Q. In reading --

22 A. Whether he did it independently or whether he adopted it
23 from somebody else, I'm not a hundred percent sure.

24 Q. All right. Is there anything in the literature that he
25 authored which would let you testify here today that he went out
26 and did any field investigation to locate any of the geologic
27 features that he was commenting upon as being boundaries?

28 A. He doesn't say that he didn't, but his report says that

1 his investigation was divided into two parts: One, the
2 development of a mathematical model of groundwater flow and, two,
3 use of the model to evaluate the impact of each water management
4 plan, which presumably has been prescribed before that paragraph.

5 So with that, I would suspect as part of the modeling
6 exercise he didn't do new independent fieldwork.

7 Q. Based on what you say your conclusion is, that he
8 himself did not do any independent investigation in the field
9 efforts to isolate or locate any geological features described as
10 boundaries; fair statement?

11 A. Did not do any -- say that again.

12 Q. Infield investigation. Didn't go out on-site to locate
13 where the fault was and to confirm it was where it was and
14 anything like that.

15 A. That's correct.

16 Q. All right. Now, in looking at your Plate 1 -- or your
17 revised Plate 1, in your table of references, and, in fact, in
18 your deposition, you testified that for the geology, you relied
19 primarily upon an author by the name of Dibblee; is that a fair
20 statement?

21 A. That's correct.

22 Q. All right. And you had at the time that this map was
23 prepared Dibblee available to you; correct? Strike that.

24 You had available to you at the time that your original
25 Plate 1 was prepared Dibblee's work; is that a fair statement?

26 A. Yes.

27 Q. All right. And can you tell me where in Dibblee he
28 locates the San Andreas Fault.

1 A. I think I pointed to it in passing. I think --

2 Q. I'm not going to mark on this, but am I correct to say
3 that Dibblee maps as a geologic feature the San Andreas Fault
4 essentially right down the middle of the Leona Valley?

5 A. Well, I don't know about right down the middle, but in
6 that -- approximately where you just indicated, yes.

7 Q. Right -- in some places, a mile to a mile and a half
8 south of where your postulated fault line is and other places
9 approximately 5 miles south; is that a fair statement?

10 And as you move up towards the west, it even gets -- the
11 distance becomes greater.

12 A. Well, I can't see the scale from here, but it is that
13 the fault itself, the San Andreas Fault itself is to the south of
14 the boundary of the groundwater basin, yes.

15 Q. All right. And can you tell me where in Dibblee he
16 names this feature called "Unnamed Fault Associated with the
17 San Andreas Fault Zone"?

18 A. I don't think that he does.

19 Q. Okay. With respect to the investigators, who is the
20 first person to ever use the term to identify that line as
21 "Unnamed Fault Associated with the San Andreas Fault Zone," other
22 than you?

23 A. I think it's Bloyd.

24 Q. Okay. Can you get Bloyd out, please, and tell us where
25 we will find that.

26 (Pause in Proceedings.)

27 THE WITNESS: Let's see. I'm looking on first page 20,
28 where --

1 Q. (BY MR. JOYCE:) If you can give me just one moment,
2 please.

3 Page 20?

4 A. Yes.

5 Q. Approximately what paragraph?

6 A. Start with the second.

7 Q. Before you read it, I'd like to see it if I could,
8 please. If you just show me what you're referring to so I can
9 see --

10 May I approach, your Honor?

11 THE COURT: You may.

12 MR. JOYCE: Thank you.

13 (Mr. Joyce conferred with Mr. Scalmanini off the record.)

14 Q. (BY MR. JOYCE:) I think you misunderstood my question,
15 Mr. Scalmanini.

16 The question I posed to you is other than you, can you
17 direct me to any other investigator of this area who has -- who
18 has named this line, "Unnamed Fault Associated with the
19 San Andreas Fault Zone," that phrase? That's what I'm looking
20 for.

21 A. I don't know if I instantly can. I can think of
22 collections of -- between Duell's work and Bloyd's work from
23 instant memory that uses both "unnamed fault" and San Andreas
24 Fault zone." I'll have to dig deeper to see if I can find
25 somebody who used that exact collection of words.

26 Q. Okay. So -- wait a minute. What you're telling me is
27 that based upon your current recollection, this phrase, "Unnamed
28 Fault Associated with the San Andreas Fault Zone," is a phrase

1 created by you, which is a synthesis of other phrases used by two
2 other investigators, at least off the top of your head, Bloyd and
3 Duell; correct?

4 A. In the answer, yes.

5 Q. All right. And would you be at all concerned if you
6 were to learn that the USGS has affirmed that Duell was in error
7 in labeling that line that way?

8 A. Would I be concerned?

9 Q. Yes.

10 A. For the purposes for which we're here today, no.

11 Q. Would you at all be concerned about the integrity of his
12 work --

13 A. No.

14 Q. -- if you were to learn that he was in error in that
15 regard?

16 A. No.

17 Q. All right. Now, in looking at your Exhibit 126, it is
18 your assessment that everything to the north of your line is in
19 the Fremont Valley, or the Fremont groundwater basin?

20 A. Yes.

21 MR. JOYCE: Your Honor, I would like to mark as
22 Plaintiffs' Exhibit 4 a hard copy of what is the vellum.

23 Q. (BY MR. JOYCE:) Mr. Scalmanini, I'm going to hand you
24 this, if I may.

25 May I approach, your Honor?

26 THE COURT: You may.

27 Q. (BY MR. JOYCE:) And if I could, I'll represent to you,
28 Mr. Scalmanini, that over the lunch hour, I had this vellum

1 created in the hard copy, Plaintiffs' Exhibit 4, off of your
2 Exhibit 109, which I understand to be the Bulletin 118 from 1975.

3 Agreed?

4 A. Well, I don't know --

5 Q. I'm making a representation that's what it is.

6 A. I don't know what you did over the noon hour.

7 Q. What I want to make sure is that -- if you'll take out
8 your Exhibit 109 so we can match up here.

9 A. (The witness complied.)

10 Q. In looking at Exhibit 109, do you agree that it labels
11 the basin by number as 6-44?

12 A. It labels what basin?

13 Q. Well, if you look at the preceding -- the page which
14 follows this Exhibit 109 in the bulletin, there's a table that
15 refers us to the name of the groundwater basin depicted on this
16 map.

17 We established that?

18 A. Yes. I understand that.

19 Q. All right. And on that table, isn't 6-44 the
20 groundwater basin called the Antelope Valley groundwater basin?

21 A. In Bulletin 118, yes.

22 Q. Yes. Okay.

23 And if we look at 118, can we agree that basin 6-44, as
24 mapped in 1975, ends approximately in this area right here? Is
25 that the boundary as you understand it, basically looking at 109?

26 MR. ZIMMER: Can you do that again, Mr. Joyce?

27 Q. (BY MR. JOYCE:) Starting from this area right here,
28 dropping straight down that dotted line, is that the

1 southeasterly boundary as reflected on 109?

2 A. Yes.

3 Q. All right. And then in looking at 109, doesn't that
4 boundary extend -- strike that -- doesn't that boundary continue
5 through this dark area and pick up and start moving to the
6 northwest all along this line that I'm now tracing?

7 A. I don't know about going through the dark area, but --

8 Q. Well, if we ignore this one little segment of the dark
9 area, is the southernmost boundary as depicted on your
10 Exhibit 109 the bottom line of this dark area down to the
11 southeastern corner?

12 A. Ask me the question again.

13 Q. If we ignore this one little section moving north to
14 south but go strictly beyond that and to the south and start
15 moving back towards the west, where is the bottom most point
16 where we should draw the line as depicted on your Exhibit 109?

17 MR. DUNN: Objection. Vague in terms of for the record.
18 There's just no way of knowing exactly what he's pointing out
19 here. There's got to be some kind of point of reference.

20 THE COURT: I'll sustain that objection.

21 Q. (BY MR. JOYCE:) Let me ask the question this way: In
22 looking at your Exhibit 109, they described in the legend younger
23 alluvium and older alluvium; correct?

24 A. Yes.

25 Q. Okay. Is it your understanding that both the younger
26 alluvium and older alluvium determined the basin boundaries as
27 delineated here combined?

28 A. Here?

1 Q. Yes.

2 A. It would appear that way, yes.

3 Q. In other words --

4 A. Although, the extent of alluvium is not the limits of a
5 groundwater basin.

6 Q. I appreciate that.

7 A. Okay.

8 Q. But what I'm trying to make sure I'm clear about is that
9 you don't read this depiction as intending to exclude the old
10 alluvium as water-bearing materials for the purposes of including
11 it or excluding it within the basin boundaries; correct?

12 A. I'll say that I can't read at this scale with enough
13 specificity to be able to answer your question.

14 Q. Well --

15 A. And -- let me finish.

16 Q. I'm sorry.

17 A. Okay. And in Bulletin 118, I don't think it says as to
18 any kind of description of what the superficial or spacial extent
19 of the groundwater basin is. What's shown in these figures is at
20 a very, very small scale. Something in the quarter of an inch
21 equals 25 miles. I'm talking about the original. I don't care
22 what you did with the blowups. I'll call it very, very generally
23 and conceptually illustrates the extent of alluvium which, if you
24 want to literally interpret the outermost limits of the alluvium
25 as being the edge of the basin, then that's what this shows.

26 Q. All right. Well, if it shows alluvium, can we then, at
27 least, reach the conclusion that we have groundwater-bearing
28 materials?

1 A. You mean, as to the specificity of this scale?

2 Q. No. As a concept.

3 A. As a concept, in general, yes.

4 Q. If the material that we're talking about is called
5 "alluvium," whether it's either old or young, are we talking
6 about groundwater-bearing materials?

7 A. Water-bearing materials, yes. Alluvium is considered to
8 be a water-bearing material, yes.

9 Q. And your concern in my current exercise is that the
10 scale may not facilitate a fair correlation of your line as
11 contrasted with this proposed boundary line as outlined in your
12 Exhibit 109; a fair statement?

13 A. Yes.

14 Q. Well, let's move up to the north area because I know the
15 scale's going to have a lot of effect up there.

16 Your line runs down in this area; isn't that a fair
17 statement?

18 A. Yes.

19 Q. And you agree that in Exhibit 109, even in the small
20 scale that you have before you, that we have to conclude that the
21 groundwater basin boundary depicted therein runs at least this
22 far up to the north. Do you agree?

23 MR. DUNN: Objection. It's just vague from the oral
24 description exactly where we're talking about on this particular
25 exhibit.

26 THE COURT: Sustained.

27 Q. (BY MR. JOYCE:) Well, then, let me make the record very
28 clear.

1 If we go from the Cottonwood Fault and the
2 Willow Springs Fault lines, moving across to the east to the
3 Rosamond Lake area, that essentially bisects what has been
4 characterized as the Antelope Valley groundwater basin in your
5 Exhibit 109 by about two-thirds moving from south to north.

6 Did I roughly characterize that correctly?

7 A. If you're trying to get a relative scale as to the
8 location of the Willow Springs Fault, you know, somewhere
9 between, I'll call it, the northern boundary of just north of
10 Mojave as mapped by DWR and the southern boundary, I'd say it
11 moves it half again as far north as the fault would be.

12 Q. Well, let's see if we can get some additional help from
13 Bulletin 118.

14 If you could, please, go to Bulletin 118 and tell me
15 what groundwater basin is identified by the code number 6-46.

16 A. I'm pretty sure it's Fremont.

17 Q. So am I.

18 A. Fremont Valley.

19 Q. Okay. So in this Exhibit 109, we have the entire --
20 strike that. Let me start the question again.

21 In Exhibit 109, as proffered by you this morning, we
22 have the two groundwater basins referred to by Bloyd in his
23 study, both likewise identified on this Exhibit 109; correct?

24 A. Yes.

25 Q. We have the Antelope Valley groundwater basin, and we
26 have the Fremont Valley groundwater basin; correct?

27 A. Yes.

28 Q. Okay. Any doubt in your mind that Bloyd's line and your

1 line does not match Bulletin 118?

2 A. No doubt.

3 Q. Thank you.

4 And just so I'm clear and the record's clear, that
5 portion denoted 6-46 is the Fremont; correct?

6 A. In Bulletin 118, yes.

7 Q. Yes.

8 A. Yes.

9 Q. Okay. And the line separating 6-46 from 6-44 is this --
10 is, in part, this dashed line up here at the top that I am
11 referring to, this dotted line. Is that what you understand to
12 be what they're identifying as the dividing line between the two?

13 A. They used dashed or dotted lines to -- as boundary lines
14 across alluvium to show edges of basins as they've mapped them
15 elsewhere. So that's the line that one would interpret to be the
16 line between 6-46 and 6-44, yes.

17 Q. Now, in other words -- in other words, you understood,
18 in looking at your Exhibit 109, that the intent which was
19 intended to be communicated was that that's the point of
20 demarkation between the two groundwater basins called Fremont and
21 called Antelope Valley.

22 A. Ask it again. What I did, or what they did?

23 Q. No. It was your understanding in looking at what they
24 did that they intended to communicate to anyone reading
25 Bulletin 118 that the point of demarkation between the two basins
26 was that dotted line.

27 MR. DUNN: Objection. Lack of foundation, calls for
28 speculation.

1 THE COURT: Overruled.

2 You may answer.

3 THE WITNESS: If one dug out this bulletin, you would at
4 first blush look at that line and say that's what DWR maps as the
5 line between the two basins -- groundwater basins, yes.

6 Q. (BY MR. JOYCE:) All right. And, in fact, if that same
7 depiction is existent in the 1980 update, then we have another
8 intervening 5 years where they apparently made no choice to
9 change it; correct?

10 A. If that's true, I'll say yes.

11 Q. Let me see if I can locate -- in the interest of time,
12 I'll come back to that.

13 Your Honor, can I just have a moment, please?

14 THE COURT: Why don't we take about a 5-minute recess.
15 Everyone can stretch a little bit.

16 We'll let the witness step down.

17 (Recess.)

18 MR. JOYCE: May I proceed?

19 THE COURT: You may.

20 Q. (BY MR. JOYCE:) Mr. Scalmanini, I'm sorry. I've
21 located the 1980 version. And there's essentially three issues
22 I'd like to make sure I'm clear about.

23 If you can compare Figure 12 of the 1980 update to
24 Bulletin 118 and just confirm that the map is essentially
25 identical except that they have added one additional feature, and
26 that is an outline around groundwater basins having problems.

27 Did I describe that roughly correctly?

28 A. Well, quote, "with special problems," yes.

1 Q. Yeah. And just so we're clear, neither the Fremont nor
2 the Antelope Valley are depicted in the 1980 bulletin as being
3 areas having problems; correct?

4 A. As having special problems, yes.

5 Q. All right. The area that -- the area indicated as
6 having special problems is the Owens Valley area; fair statement?

7 A. Yes.

8 Q. Okay. And if you'll go back in Bulletin 118 in 1980, in
9 the text, there is a description of the mapping process used in
10 the 1980 update.

11 If you'll hand it to me, I can help you with that.

12 Okay. If you can just read into the record for me under
13 definitions where it says "groundwater basin," just the first
14 full -- excuse me -- first, the -- the first full paragraph.

15 MR. ZIMMER: For the record, this is from the 1980?

16 MR. JOYCE: Bulletin 118.

17 MR. DUNN: I believe it's not yet been marked as an
18 exhibit.

19 THE COURT: We don't have that whole bulletin marked.
20 We just have that page.

21 Why don't we mark --

22 MR. JOYCE: Your Honor, I will at the next recess if I
23 can arrange to get a copy. I'm reluctant because this is
24 Stanford University's --

25 THE COURT: We only really need to mark the portion
26 that's being referred to.

27 MR. JOYCE: I was just reluctant to --

28 THE COURT: What is plaintiffs' next in order?

1 MR. ZIMMER: 5, I think.

2 THE COURT: 5?

3 Q. (BY MR. JOYCE:) Mr. Scalmanini, if you could, just look
4 at that one section I'm most concerned about --

5 A. Well, it's a little out of context, but I'll read it:
6 "In this report, the groundwater basins are defined on the basis
7 of" geologic and hydro- -- excuse me -- "geological and
8 hydrological conditions and consideration of political boundary
9 lines whenever practical since Bulletin 118 (1975) identifies all
10 of the State's basins solely on geological and hydrological
11 bases. The additional purpose of this report is to identify
12 those basin boundaries that reflect political boundaries and thus
13 could be used for groundwater basin management purposes."

14 Q. Thank you.

15 And the only thing I was attempting to confirm -- if I
16 could have that back, please, sir -- is that the 1975 bulletin,
17 when issued, the intent was to depict all of the groundwater
18 basins based upon boundaries which were premised upon
19 hydrological and geologic conditions; correct?

20 A. That's what it says.

21 Q. Okay. And in the 1975 bulletin, there was no effort at
22 that time to incorporate into basin boundaries political
23 boundaries; correct? At least, in Bulletin 118.

24 A. There's, to the best of my recollection, no reflection
25 in Bulletin 118 of any boundary criteria.

26 Q. Well, what I'm saying is they certainly were not
27 contemplating drawing lines premised upon political boundaries in
28 1975 when Bulletin 118 was issued and published; correct?

1 MR. DUNN: Objection. Lack of foundation.
2 THE COURT: Overruled.
3 You may answer.
4 THE WITNESS: Same answer as I gave you before. You
5 can't tell from reading Bulletin 118 what the department used as
6 boundary criteria in defining groundwater basins.
7 Q. (BY MR. JOYCE:) I anticipated, Mr. Scalmanini, that was
8 likely going to be a response I was going to get. That's the
9 reason I wanted you to look at the 1980 bulletin to confirm that
10 the first time political boundaries were included was in 1980;
11 correct?
12 A. According to 118-80 -- okay -- they superimposed or
13 utilized political boundaries. And the way the text reads, it
14 would imply that they did not consider political boundaries as
15 basin boundary criteria in the preparation of Bulletin 118.
16 Q. All right. And the whole point is whether we look at
17 the map as it is depicted in Bulletin 118-80 or the
18 Bulletin 118-75, these dotted lines do not depict political
19 boundaries, do they?
20 A. They don't appear to. I don't know what they depict
21 because they're not described anywhere.
22 Q. Well, if we can go back to 118-75, is there not in that
23 publication a similar statement as to the basis for the lines
24 drawn?
25 A. I don't remember there being one. Maybe --
26 Q. If you can take a look at 118-75.
27 A. Okay. And where would you suggest I look?
28 Q. Probably close to the beginning, because it's the same

1 place that it shows up in 118-80.

2 And all I want you to confirm is whether or not the
3 content was to base the lines upon hydrologic or geologic
4 procedures and/or conditions.

5 MR. DUNN: Objection. Speculation as to intent.

6 THE COURT: Overruled.

7 THE WITNESS: I'll give you the best answer I can.

8 Q. (BY MR. JOYCE:) All right.

9 A. It's a little bit long-winded. I don't see quickly a
10 discussion in Bulletin 118 of boundary criteria.

11 Q. Okay.

12 A. And --

13 Q. Does Bulletin --

14 A. Hold on. Let me finish. I said it's a little bit
15 long-winded. I'm answering.

16 Q. In that case, you said you can't answer my question, so
17 I think we're done with the question.

18 A. I don't think we are.

19 Q. I think I am.

20 THE COURT: I'll allow you to go back into it on
21 redirect.

22 THE WITNESS: Okay.

23 MR. JOYCE: Your Honor, I'd like to mark as next in
24 order -- and I will defer offering it until after Mr. Sheahan and
25 Professor Gorelick have had an opportunity to add some additional
26 foundational information -- what I have -- what would be
27 Mr. Scalmanini's Plate 1 with the vellum overlay of that section
28 reproduced from the US- -- excuse me -- from the Bulletin 118-75

1 map that was introduced as Exhibit 109 this morning.

2 THE COURT: All right. We'll mark it as 6.

3 MR. JOYCE: That's correct, your Honor.

4 Q. (BY MR. JOYCE:) Now, yesterday at 1:30, Mr. Scalmanini,
5 I was handed a stack of documents by your counsel indicating that
6 those were the exhibits that you intended to rely upon today, and
7 they were premarked. And one I'm holding in my hand, I do not
8 know what number it was premarked.

9 Maybe I'll ask counsel to assist me.

10 (Counsel conferred off the record.)

11 Q. (BY MR. JOYCE:) I have what's marked as -- by counsel
12 for the defendants on the back with a blue tag -- Exhibit 111.
13 And it is entitled Groundwater Basin Boundary Criteria, DWR
14 Bulletin 118.

15 Are you familiar with that document, Mr. Scalmanini?

16 A. DWR Bulletin 118?

17 Q. No. This actual document itself.

18 A. Yes, I am.

19 Q. How did this document come about? Was that -- somebody
20 typed it up, or did you have somebody type it up, or did you
21 direct somebody to type it up?

22 A. Having it typed up and directing somebody to type up in
23 this case are one in the same, yes.

24 Q. But -- so as far as the content of it, you're
25 responsible for picking and choosing what went into this piece of
26 paper; correct?

27 A. Yes. Mm-hmm.

28 Q. Okay. Is the information set forth on here

1 all-inclusive of groundwater basin boundary criteria as set forth
2 in DWR Bulletin 118? Or did you selectively --

3 A. This one?

4 Q. Yes. I guess -- first of all -- let me ask a
5 foundational question -- where did this information come from?

6 A. Earlier, I think, this afternoon, you asked me was I
7 familiar with the update of Bulletin 118.

8 Q. Okay. The update being?

9 A. And I said, you know, something along the lines of
10 tense. You mean -- I said, "is being updated," not "has been
11 updated." And then I didn't think about 118-80 as an update, so
12 I was focusing on what is going on today. All right.

13 So what you see in this which we've already marked as
14 Exhibit 111 -- okay -- are criteria extracted from information
15 that's available from DWR today that --

16 Q. Let me hold you up one second if I may.

17 THE COURT: I'm going to let him finish his answer on
18 this.

19 THE WITNESS: The Department of Water Resources is in
20 the process of updating Bulletin 118 today. That's why I talked
21 about the present tense. Okay.

22 I had told you a few minutes ago that I couldn't find
23 quickly in here criteria used by DWR to delineate groundwater
24 basins when it did this. Okay.

25 MR. BUNN: By "here" -- excuse me --

26 THE WITNESS: Here. I'm sorry. Bulletin 118. I
27 couldn't find criteria in there.

28 And that is true as to 80, except they've added as a

1 factor for groundwater management purposes.

2 The subject of groundwater basins has been discussed by
3 people, including myself. And I participated, I want to say, a
4 year and a half or 2 years ago in a panel discussion on that
5 subject with the principal, what I'll call, subject
6 representative of Department of Water Resources on this subject,
7 a man called Carl Haugo (phonetic) who is with their office of
8 public affairs, and some assistance or words to that effect.

9 And I made note of the fact that it's interesting that
10 you can look at the department's publications on groundwater
11 basins and you can't find a discussion -- excuse me -- a
12 definition of the term "groundwater basin" or a delineation of
13 criteria whereby you would -- or a listing of criteria whereby
14 you would delineate them.

15 MR. JOYCE: Your Honor, may I --

16 THE WITNESS: I'm still answering.

17 THE COURT: I'm going to let him finish. I think we're
18 getting there.

19 MR. JOYCE: Tomorrow?

20 THE WITNESS: I think that the department took it as a
21 charge that in updating, they ought to do both. And so what's
22 reflected in this Exhibit 111 is an extraction verbatim from the
23 draft publication that says that groundwater basins were
24 delineated and separated from each other by the following
25 features or conditions.

26 Now, this is a work in progress. But the listing of the
27 six criteria that are up there, I think, is directly extracted
28 from DWR, the current update, not the one 20 years ago.

1 THE COURT: Okay. The one that you've referred to is in
2 progress.

3 THE WITNESS: That is correct.

4 Q. (BY MR. JOYCE:) All right. And then let me ask this
5 question: I assume that the map has, likewise, been updated.
6 Can you please provide that to us.

7 A. The map, to the best of my knowledge, has not been
8 updated.

9 Q. And do you know whether or not they're going to make any
10 changes?

11 A. I do not know. I can only tell you what criteria they
12 have been able to extract as what they will use in defining
13 boundaries between groundwater basins.

14 Q. Okay.

15 A. Or at the edges of groundwater basins.

16 Q. Well, to the extent that the 1975 bulletin was premised
17 upon hydrologic and geologic features, do you know what the
18 hydrologic or the geologic feature would be up at this dotted
19 line that would support or justify its location at that point?

20 A. No, I do not.

21 Q. And if that were the case, then do you also notice that
22 there's a dotted line separating the Fremont from the
23 Antelope Valley over here, which is almost in the same place as
24 your bottleneck before you? Do you see that?

25 A. Yes, I do.

26 Q. Okay. I presume you would conclude that that dotted
27 line is the same -- same line that forms that -- that divide up
28 at the top of your Peerless subbasin area?

1 A. Whether it's Peerless or North Muroc escapes me, but
2 yes. Between that and whatever subbasin is in the Fremont basin,
3 yes.

4 Q. Okay. And then down the southeasterly, this dotted
5 line, you know what hydrologic or geologic feature supports that
6 line?

7 A. I've told you already, I think, several times that DWR
8 does not list in Bulletin 118 or in 118-80, to the best of my
9 recollection, any boundary criteria. It just provides maps at a
10 very small scale, as I told you in this case, probably something
11 on the order of an inch equals 25 miles.

12 And as a result of that, it is, I think, for all
13 practical purposes, impossible to look at this map at its
14 original scale, in particular, but even at this scale, and be
15 able to extract anything that says that DWR used any particular
16 criteria as between basins at the edge. At the edge of basins,
17 it appears that they used the extent of, quote, "alluvium."

18 Q. Okay. Is it your suggestion that they may have just
19 used arbitrary reasons to put dots on this map?

20 MR. DUNN: Objection. Calls for speculation. Lack of
21 foundation.

22 THE COURT: Sustained.

23 Q. (BY MR. JOYCE:) Okay. Well, would you agree that it
24 would be inappropriate to use -- or to fix a line for arbitrary
25 reasons?

26 A. No. I wouldn't agree that it's totally inappropriate to
27 pick a line for arbitrary reasons, depending on what the
28 arbitrary reasons are.

1 What I would say is that to pick that line, whether in
2 1980 -- excuse me -- '75 or '80, without explanation, with
3 alluvium on both sides, and no criteria listed in the book, and
4 then particularly to fast-forward to today and to look at their
5 criteria as listed and to note that the third criteria is the
6 same as what we talked about earlier originally from Richter and
7 applied by me, you know, that a fault that crosses permeable
8 materials generally forms a barrier to groundwater movement.
9 This is usually indicated by noticeable differences in water
10 levels and/or flow patterns on either side of the fault.

11 And in that light, it -- recognizing DWR criteria today
12 and where the line is that you've been focusing on between
13 6-44 Antelope and 6-46 Fremont, that DWR, particularly if they
14 were to perpetuate that line, you know, would violate the very
15 criteria that it lists as a basis for defining the limits of the
16 groundwater basin.

17 Q. My question, though, is do you agree that it would be
18 inappropriate to assign or draw a line premised upon either
19 convenience or for arbitrary reasons? Not supported by geology.

20 MR. DUNN: Objection. Argumentative. Asked and
21 answered.

22 THE COURT: I think he answered it, depending on what
23 the reasons were.

24 Q. (BY MR. JOYCE:) Okay. And do you agree that Bloyd
25 provided a narrative of the methodology or, at least -- strike
26 that -- a narrative defining the delineation of the groundwater
27 basins in his study area?

28 A. Yes. I think that's a fair depiction of the way he

1 worded it, yes.

2 Q. If you could extract Bloyd and go to page 19, I'd
3 appreciate it.

4 A. Okay.

5 Q. And under the heading "Delineation of Groundwater
6 Basins," I'll quote -- just make sure I'm quoting this
7 accurately -- "There are two major groundwater basins in the
8 AVEK" -- that's A-V-E-K -- "area: Antelope Valley and
9 Fremont Valley basins (Figure 2" -- excuse me -- "Figure 2).
10 Each is divided into groundwater zones by faults, bodies of
11 consolidated rock, groundwater divides, and, in some instances,
12 by convenient and arbitrary boundaries."

13 Is that the first sentence under Mr. Bloyd's title
14 "Delineation of Groundwater Basins"?

15 A. No.

16 Q. It's not the first sentence under that?

17 A. No.

18 Q. What is the first sentence?

19 A. "There are two major groundwater basins in the AVEK
20 area: Antelope Valley and Fremont Valley basins (Figure 2)."

21 Q. All right. Then the second sentence. Thank you very
22 much. See, I'm not even very good at English.

23 A. Yeah. I'm just starting to notice that.

24 Q. I lost hydrology at the beginning, now I'm losing at
25 English too. How did I ever get out of college?

26 A. I'll admit I was just being picky.

27 Q. Did I quote the first two sentences accurately?

28 A. Yes, you did.

1 Q. Thank you.
2 And if I understood it earlier, you were referring us
3 Mr. Bloyd's Plate Number 10; is that correct?
4 A. That's it.
5 Q. Is this it here?
6 A. No. Keep going.
7 Q. Okay.
8 A. It's either -- no. It's the next one under.
9 Q. All right.
10 A. That's it. The one I --
11 Q. Okay.
12 A. Yeah.
13 Q. In looking at Bloyd's Plate Number 10 --
14 A. It's actually Figure 10, but go ahead.
15 Q. Figure 10?
16 A. Yes.
17 Q. Thank you.
18 There's an area out here called the Rosamond-Bissell
19 area.
20 Do you see that?
21 A. Yes.
22 Q. Okay. There's an area over here called Hi Vista area.
23 Do you see that?
24 A. Yes.
25 Q. There's an area down here to the south called the
26 Foothill area.
27 See that?
28 A. Yes.

1 Q. Then he has an area called the Acton area.

2 See that?

3 A. Yes.

4 Q. Okay. Is it your testimony that Bloyd did not
5 incorporate any of those -- strike that. Let me ask the question
6 more precisely.

7 Is it your testimony that Bloyd did not incorporate into
8 the Antelope Valley groundwater basin a portion of the
9 Rosamond-Bissell area, the Hi Vista area, and the Foothill area?

10 A. Okay. I'll do my best. Okay. To --

11 Q. My question -- my question's very simply this: Based
12 upon your understanding of what Bloyd did, was it Bloyd's intent
13 to incorporate into what he called the Antelope Valley
14 groundwater basin, the Foothill area, the Vista area, and a
15 portion of the Rosamond-Bissell area, as delineated on his
16 Figure 10?

17 A. I'm pretty sure the answer is no.

18 Q. All right. Then I would direct you to page 20 of his
19 textural material.

20 A. Yes. Go ahead.

21 Q. And it says "Zones of the Antelope Valley Basin";
22 correct? That's the title?

23 A. Yes.

24 Q. Okay. The very first paragraph reads as follows, and I
25 quote: "The subdivision of the Antelope Valley basin are the
26 Lancaster, Buttes, Pearland, Neenach, West Antelope,
27 Finger Buttes, North Muroc, and Peerless subunits, and the
28 Hi Vista, Foothill, and Rosamond-Bissell area (Figure 10)."

1 Is that the first sentence?

2 A. That is the first sentence, yes.

3 Q. Okay. And I may not be a hydrologist, but I understand

4 the term "and" to be a conjunctive term, which means to include;

5 am I correct?

6 A. Well, I don't profess to be an English professor. I'm

7 related to a couple, but --

8 Q. Well, as to two laymen in English, do you agree that the

9 word "and" means to include?

10 A. Yes.

11 Q. Thank you.

12 A. That doesn't mean to be included in the groundwater

13 basin. It's included in the word "basin." And that's a

14 difference between the two.

15 Q. Now, are you telling me there's something different

16 between the groundwater basin to something called a basin that's

17 different than a groundwater basin?

18 A. Absolutely.

19 Q. Okay. What is a basin then? That's a term we have not

20 yet explored. We've got watershed worked out.

21 A. In that context -- okay --

22 Q. I'm not talking context. I want to know within the

23 discipline within which you practice --

24 A. Yes.

25 Q. -- called hydrogeology or engineering, whatever it is,

26 what is the accepted definition of a basin? I agree.

27 A. No. I'm just trying to think of a decent textbook

28 definition.

1 I think, again, in this context, he is not subdividing
2 the Antelope Valley groundwater basin. He's subdividing the
3 Antelope Valley probably -- well, some hybrid in this case of the
4 groundwater basin and part of the watershed that drains toward
5 the groundwater basin, but not the whole thing.

6 Q. Well, then --

7 A. It's clear -- hold on a second. Okay. It's clear that
8 as regards -- what'd you call them? -- Foothill --

9 Q. That's what he called them.

10 A. Hi Vista -- yeah. Okay. And Rosamond-Bissell areas,
11 and you mentioned Acton when you were at the map --

12 Q. The reason I mentioned Acton --

13 A. -- they're all within the AVEK area. And so, you know,
14 he acknowledges them.

15 But, you know, subsequent reading of this document makes
16 it clear and subsequent reading of other documents makes it clear
17 that the Foothill area, the Hi Vista area, and the
18 Rosamond-Bissell area, while they may be within AVEK's called
19 service area, are not -- do not contain subsurface materials
20 that -- that qualify. And he does not include them in his
21 listing of the groundwater subunits or subbasins, whatever words
22 he uses, as part of the overall basin.

23 Q. Fine.

24 If you go back to 109, which is the Bulletin 119 --

25 A. 118.

26 Q. -- 118 delineation of where old alluvium and new
27 alluvium is present in that area, would you please confirm for me
28 that you would agree that there is both old and new alluvium in

1 the area identified by Bloyd as the Foothill area to the south of
2 your line.

3 A. No, I wouldn't agree. Bloyd did not include older or
4 younger alluvium south of, quote, "my line," which is his line.

5 Q. No. No. I didn't say that he did. I'm saying that in
6 Bulletin 118-75, the alluvial deposits depicted on your
7 Exhibit 109 revealed the existence of old and new alluvium south
8 of your line, but nonetheless, in the same area that Bloyd
9 labeled Foothill area on his Figure Number 10.

10 MR. DUNN: Objection. Vague.

11 THE COURT: Overruled.

12 You're just referring to the little green on here.

13 MR. JOYCE: That's correct.

14 THE WITNESS: Literally interpreted, Bulletin 118 would
15 suggest that there's alluvium that extends beyond the Bloyd line,
16 which I've embraced.

17 Q. (BY MR. JOYCE:) Okay.

18 A. Now, hang on a second. Okay.

19 Q. I think --

20 A. Bloyd 118 is far from anything that can closely be
21 considered a geologic -- call it a citeable geological reference.
22 And as I tried to emphasize a couple of times, at the scale of
23 about an inch to 25 miles, to try to extract even with photo
24 enlargement, as you've done here, some precision as to the extent
25 of alluvium from a document like Bulletin 118, which, you know --
26 and, particularly, 118-80, which is written for the legislature,
27 primarily focused for them, is inappropriate.

28 And I've emphasized, I think, in discussion here today

1 that the line that we've mapped is our best effort to, in effect,
2 superimpose what Bloyd first and others subsequently have mapped
3 and described ultimately on a geologic map which is, you know, a
4 genuinely citeable reference, meaning deliberately, and to show
5 the line as best we could ultimately on a topographic base, which
6 is what -- I can't remember the number now, but the Plate 1 from
7 our report, the exhibit that hangs down there, to show that on a
8 topographic base map.

9 Okay. Bulletin 118, the fact that there is discrepancy
10 between, you know, boundaries via some photo enlargement is just
11 an illegitimate approach to try to say there's differences
12 between extent of alluvium.

13 Q. Well, all I really want --

14 THE COURT: And then, Mr. Joyce, I'm going to remind you
15 we need to get to a stopping point in the next couple of points.

16 MR. JOYCE: The stopping point would be this.

17 Q. (BY MR. JOYCE:) Mr. Scalmanini, are there water-bearing
18 aquifers to the south of your line?

19 A. What's your definition --

20 Q. Within a mile's distance moving south, can I go out
21 there today and find productive groundwater-pumping wells?

22 A. Well, you'll have to put the term "productive
23 groundwater-pumping wells" into some context for me.

24 Q. I mean somebody thought it was worthwhile drilling it,
25 and they're presently using it.

26 A. Well, I can think of two wells that exist south of the
27 line --

28 Q. Only two?

1 A. I can think of two wells, you know, south of the line,
2 that -- about which I know something that, quote, "somebody
3 thought it was worth drilling." And -- but there's -- there's,
4 I'll say, a fair number of wells that are in existence that
5 somebody thought were worth drilling, and they're not pretty
6 productive.

7 And, secondly, in this case, your criteria that they are
8 presently using, and the answer is no.

9 Q. Well, then let me ask you three questions, and I think
10 we can wrap it up for the day.

11 Would you agree, sir, that whether or not your line is
12 in the right place might be verifiable by checking out to see the
13 nature, extent, and quantum of groundwater production on either
14 side of it as contrasted to each other? Would that be one way of
15 looking at it? Would you agree that's at least one thing we can
16 do?

17 A. We could do that, yes.

18 Q. Okay. Would you also agree, sir, that that's not
19 terribly hard to do because you can call the Department of Water
20 Resources and they will give you the plotted locations of all
21 wells in the area? True?

22 A. No.

23 Q. It's not true?

24 A. No.

25 Q. You cannot get the well location data from the
26 Department of Water Resources?

27 A. You can try. Pardon me for laughing. I've been doing
28 this for 30 years. I've been going to DWR digging out well

1 loggage for several decades. A, you don't get the plotted
2 location of the well. And B -- hold on a second -- you don't get
3 them all.

4 The Water Code was revised in 1951 to require that
5 anybody constructing or modifying a water well submit a copy of a
6 report called a Water Well Driller's Report to the State Water
7 Resources (sic) documenting that. It's been fought over, sued
8 over, people have lost licenses over compliance of that
9 requirement.

10 To think that you can go to DWR and get, quote, "all the
11 well information is a pipe dream."

12 Q. Then I apologize.

13 What you're saying is some people haven't complied with
14 the law and didn't report and, therefore, their wells are not
15 identifiable; correct?

16 A. That is correct.

17 Q. Some people did, though, didn't they?

18 A. Some people have, yes.

19 Q. In fact, a lot of people did, didn't they?

20 THE COURT: That's a lot more than three questions.

21 MR. JOYCE: I'm sorry.

22 Q. (BY MR. JOYCE:) The bottom line, Mr. Scalmanini, is you
23 did not make any effort to ascertain the quantum or degree of any
24 water production south of this line?

25 A. When did I not do this?

26 Q. You have not done it at any time up to the time of your
27 deposition. I know that for sure.

28 A. It wasn't necessary for me to do that, to draw this

1 line, given the criteria. The existence -- think back to the
2 exhibit that had criteria. Nowhere on there is groundwater
3 pumping, well details, anything of that type. They are, I'll
4 say, geologic and hydrologic criteria. And one is able to define
5 the extent and limits of a groundwater basin without knowing that
6 detail.

7 I have done some of that since then, but because -- now
8 I recognize that some people want to make their boundary very
9 much bigger. But I did not do it before and didn't think I
10 needed to and still needed to.

11 Q. Are you aware the Water Department of Resources (sic)
12 has mapped this area and on that map has plotted the well
13 densities for that entire area?

14 A. No, I'm not.

15 MR. JOYCE: Thank you.

16 I have no further questions for today.

17 THE COURT: We're going to break for today.

18 I'll have our witness step down.

19 Does someone have a copy of your stipulation you entered
20 into as to what I'm supposed to make findings on?

21 MR. ZIMMER: I do, your Honor.

22 MR. BUNN: It's quoted exactly in our trial brief, your
23 Honor, the entire stipulation.

24 MS. FUENTES: Your Honor, it's also attached to my
25 stipulation.

26 THE COURT: I looked at my notes. Looks like I'm
27 supposed to make findings as to an area for including and
28 excluding parties from the lawsuit, and where pumping from that

1 area has no effect on areas outside; right?

2 MR. JOYCE: That's correct.

3 MR. ZIMMER: That's basically it.

4 MR. BUNN: That's --

5 THE COURT: Am I getting evidence where I can make those
6 findings?

7 MR. JOYCE: That's an interesting question we may have a
8 legal argument about at the conclusion of defendants' case in
9 chief.

10 THE COURT: I see someone shaking their head yes.

11 I was trying to think about this a little bit. The
12 evidence I'm getting still goes to the basin, whether we call it
13 a basin or we call it a watershed or we call it whatever.

14 MR. JOYCE: The area.

15 THE COURT: The area.

16 MR. ZIMMER: This is the area.

17 THE COURT: Now, we've concluded direct. I don't have
18 any evidence on direct, and nor do I think any of the experts --
19 did they? -- make -- because the calculation part all comes later
20 on. So how can I make a determination from what I'm hearing as
21 to whether pumping is going to have an effect on the area
22 outside -- outside the area?

23 MR. JOYCE: Your Honor, that's the very reason we
24 opposed the motion to bifurcate at the time is because,
25 analytically, this inquiry makes no sense without looking at the
26 in-real-world effects of what's happening both around whose line.

27 MR. ZIMMER: I would say, your Honor, that that is the
28 reason why we have used the watershed. Because outside the

1 watershed, even Mr. Scalmanini agrees, that pumping outside that
2 line will not have any effect on pumping inside. And that's why
3 everything else was deferred to Phase 2.

4 THE COURT: I've been reading piecemeal because none of
5 these cases are quick.

6 MR. ZIMMER: Not at all.

7 THE COURT: Made me think how long my statement of
8 decision's supposed to be when I ultimately do that. But the
9 case --

10 MR. BUNN: You can start a new trend.

11 THE COURT: Yeah. Abbreviated version.

12 The cases do talk in terms of basin. They don't talk in
13 terms of watershed. Although, they tend to use watershed too.

14 But, you know, I know what you're saying. Your concern
15 is that when, ultimately, you make the calculations, if we've
16 excluded areas outside the basin, somehow that could be an --
17 have some effect. I don't know. I'm not that far in these
18 hydrology and engineering lessons.

19 If I were just to say what I'm looking at from the case
20 law, I mean, they really do seem to talk in terms of basin. So
21 what I'd have to be hearing from plaintiffs' expert is that
22 there's some argument that the watershed is actually the basin.

23 But then I'm looking at what I keep thinking in terms of
24 the stipulation as to what my ultimate findings are going to be.
25 And we're not going to discuss it now because the staff gets off
26 at 4:30 and they're all on overtime and we're in a state crisis
27 and there's no money whatsoever for overtime.

28 MR. BUNN: Can I reserve the -- first thing on Thursday

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to respond to then?

THE COURT: We have to. We have to talk about this first thing on Thursday before we get into any more evidence.

MR. ZIMMER: Can I reserve for second?

THE COURT: The entire stipulation is in the brief. Because I think I saw something referenced.

(Discussion - Not Reported.)

(Proceedings were adjourned.)

1 RIVERSIDE, CALIFORNIA - THURSDAY, AUGUST 8, 2002
2 THE COURT: Let's go through some time estimates first.
3 Then you can respond if you wanted to.
4 MR. BUNN: I'm rearing to go, your Honor.
5 THE COURT: How long do we need to finish with
6 Mr. Scalmanini for cross?
7 MR. JOYCE: Your Honor, I would anticipate 1 1/2,
8 worst-case scenario; 2; 2, 15 -- 2 hours 15 minutes.
9 THE COURT: So we're looking at the morning.
10 MR. JOYCE: The morning.
11 THE COURT: And redirect?
12 MR. DUNN: There may be 20, 30 minutes of redirect.
13 THE COURT: All right.
14 MR. JOYCE: And I will make an effort to see if I can
15 pare it down even more.
16 THE COURT: Then -- when we finish with him, who then is
17 next?
18 MR. JOYCE: That would likely be Mr. Sheahan.
19 THE COURT: All right. And I take it he's here?
20 MR. ZIMMER: Yes, your Honor, he's here.
21 THE COURT: So we'll start him, but probably not finish
22 him.
23 So then the question is this -- I'm trying to figure out
24 how we can best accommodate the court schedule and your schedule,
25 because Mr. Scalmanini is not available next week.
26 MR. DUNN: That's correct, your Honor.
27 THE COURT: And I take it, because some people are
28 traveling distances, you don't want to come out just for Monday

1 and Tuesday to finish whatever we can.

2 MR. ZIMMER: I'd like to do that if we can.

3 THE COURT: Oh, you would? All right. Tell me what you
4 want to do.

5 MR. ZIMMER: I talked it over. My feeling is just,
6 generally speaking, that even court trials are better off getting
7 as much of the testimony done as you can at one time,
8 particularly in a case like this where you have somewhat
9 complicated issues and facts so that -- so that you don't have to
10 go back and reinvent the wheel every time. Otherwise, the trial
11 ends up being longer than it should be.

12 I do recognize Mr. Dunn's desire to have Mr. Scalmanini
13 hear the testimony of our experts. My suggestion was that we
14 allow those to be videotaped so that he could watch those at his
15 leisure and still have the opportunity to listen to the
16 testimony, take the same amount of time as it would if he sat
17 here in court. That way we can continue going on Monday and
18 Tuesday, whatever else the Court wants to do the next week.

19 My problem is I've got another trial backed up the
20 Monday -- following Monday, and my fall has about two trials
21 every Monday throughout the fall until we get to, like, January.

22 THE COURT: Well, if we finish everything but
23 Mr. Scalmanini's rebuttal, as I'm thinking, I can probably clear
24 a Friday's calendar to give you a date certain on that.

25 How long do you think rebuttal's going to be?

26 MR. DUNN: I can't imagine it would take more than a
27 single day.

28 THE COURT: That's what I'm thinking.

1 MR. ZIMMER: That shouldn't be too hard.

2 THE COURT: Do you have any opposition to just finishing
3 everything we can possibly finish next week? And then -- and I'm
4 not sure. You'd have to actually --

5 MR. JOYCE: Transcripts.

6 MR. ZIMMER: We can use transcripts in that time.

7 THE COURT: You can get the transcripts. It's just how
8 important they think it is that he actually see him testify.

9 MR. DUNN: I don't --

10 MR. ZIMMER: I hadn't thought about it, but given the
11 Court's comment, if you're going to work in a day later for
12 Mr. Scalmanini's testimony, then -- on rebuttal, then there may
13 very well be time to transcribe -- make transcripts. I think
14 that would be sufficient to read the transcripts.

15 THE COURT: You can certainly get the transcripts.

16 MR. ZIMMER: Might even be faster because he can skim
17 through what he wants and won't have to sit and watch the whole
18 thing.

19 MR. DUNN: One of the concerns we have is that the --
20 having the experts sit through the direct examination -- as
21 Dr. Gorelick and Mr. Sheahan have done -- also provides an
22 opportunity for counsel to use your own expert's, you know,
23 hearing and seeing what the other expert says to help him on
24 cross-examination as well.

25 So while I'm comfortable with what Mr. Zimmer has
26 proposed in terms of finishing up the rebuttal, there still is
27 the whole issue that, in fact, we would start potentially
28 cross-examination of both Dr. Gorelick and Mr. Sheahan without

1 having Mr. Scalmanini present. That puts us at a disadvantage
2 that perhaps the plaintiffs have had.

3 THE COURT: Let's see how much progress we can make
4 today. Let's do that.

5 MR. DUNN: If I can just offer a -- it may be
6 possible -- I don't know if counsel's willing -- we haven't
7 discussed this -- but to just -- put on just directs of both
8 experts and then we come back. But that probably is not
9 workable.

10 THE COURT: No. I probably should decide to continue my
11 2-hour court trial that I'm sure is a collection case to a day
12 next week and just give you Friday, which would give you another
13 day.

14 MR. JOYCE: We would be, in my estimation, getting real
15 close to the end at that point. And the reason I suggest that is
16 that I think, as this matter progresses, that the true issues in
17 contest are going to become more significantly focused and
18 narrowed and is not going to necessitate the same breadth we
19 anticipated on the outside.

20 (Discussion - Not Reported.)

21 THE COURT: We need to really try to get this done as
22 quickly as possible.

23 MR. JOYCE: The only other consideration, I think is
24 somewhat important, is the fact that Phase 2 is presently
25 calendared for April. The further we go out with uncertainty as
26 to Phase 1, the more difficult it is to address Phase 2.

27 THE COURT: All right. Let's -- let's just briefly,
28 though, allow some discussion on what the -- I guess the depth of

1 the stipulation is or what it encompasses. Because what I've
2 heard is, you know, "we have this basin." And I've heard an
3 explanation of the barriers. And I've heard that, really,
4 there's no appreciable water flow from the basin to the areas
5 outside of it, although water does pass to some extent. There's
6 no, I guess it would be, quantitative information that I've
7 gotten. Now, how, then, do I relate that to what the terminology
8 of the stipulation is?

9 Which -- you've gotten away from the basin. You've
10 gotten it to be, really, the area where -- that would pretty much
11 include all the pumping that's going on.

12 MR. BUNN: And I'd like to answer that. I'd like to
13 answer another question first, if I may, that you asked
14 yesterday. And that is: Does the stipulation require you to
15 make a finding of whether pumping on one side affects groundwater
16 levels on the other? And then, after I answer that, I'll talk
17 about the evidence that we've had so far. Because my answer to
18 that is no, you don't. And the reason is that the parties have
19 stipulated to that.

20 Now, let me explain what I mean. If you look at the
21 language of the stipulation, it says, "Phase 1 will determine the
22 area within which claims of groundwater rights will be
23 adjudicated in this lawsuit and will include or exclude overlying
24 properties from the lawsuit." That is intended to be a
25 definition of what Phase 1 is.

26 Then it goes on: "The parties agree, and based on such
27 agreement the Court finds, the groundwater production from
28 outside the area does not have and has not had any legally

1 adverse effect on groundwater production inside the area and vice
2 versa." That is intended to be in agreement about the effect of
3 the boundary once it's determined.

4 And I remember just how we came up with this language in
5 this stipulation. At that time, we already had Mr. Scalmanini's
6 report out and knew what his boundary line was. And one of the
7 properties of Mr. Zimmer, is Buttes' property, is outside that
8 line. And the question was discussed, well, say we take
9 Mr. Scalmanini's boundaries, what effect is that going to have on
10 the property outside this line? And the defendants said, "We
11 will stipulate that our pumping within the area is not adverse to
12 your rights as to your property outside that line."

13 Now, that's not quite what the stipulation says. The
14 stipulation is a little more general than that. What happened
15 was, I started thinking, at that time we still believed that the
16 purpose of doing Phase 1 first was to shorten and simplify and
17 save judicial resources. And we -- turns out we're a little
18 naive in that belief. But that's where we were going.

19 And I found myself thinking that it would not do us any
20 good to come up with a boundary of the basin if we still had to
21 go to Phase 2 and litigate whether pumping -- the effect of
22 pumping outside the basin. We'd have to do everything all over
23 again. And so I proposed that we stipulate.

24 THE COURT: So, in essence, you're saying any overlying
25 property outside the line that I determine -- which, assuming it
26 was your expert's line -- that you're not making any prescriptive
27 claim.

28 MR. BUNN: That's correct. They have an overlying right

1 to whatever they can get out of the fractured bedrock or whatever
2 it is out there, and we don't have any adverse claim to it. And
3 that's exactly what we're --

4 THE COURT: Doesn't that do plaintiffs more -- isn't it
5 better for plaintiffs to have a smaller line?

6 MR. JOYCE: May I respond, your Honor?

7 MR. BUNN: I'd like, if I could, your Honor --

8 THE COURT: Let him finish.

9 MR. BUNN: Because you gave me a day and a half, I've
10 got this whole speech that I wrote out when I was driving here.

11 MR. JOYCE: You mean, you worked?

12 MR. TOOTLE: He's ready to go.

13 MR. BUNN: I worded this morning what -- I figured out
14 what I was going to be saying.

15 And, also, this morning, I thought to print out the
16 drafts of the e-mails going back and forth. And I think that's
17 instructive as far as what -- what this meant. And with the
18 Court's permission, I'm going to read from a couple of these
19 drafts.

20 MR. ZIMMER: Your Honor, I have a suggestion.

21 MR. BUNN: And I'd be happy to testify that this is, in
22 fact, the way it went, and this is the intention of the party.

23 THE COURT: Let me hear the suggestion.

24 MR. BUNN: Okay. I'd be happy to introduce these if the
25 Court feels --

26 THE COURT: Hold on.

27 MR. ZIMMER: My concern is this, your Honor: I'm not
28 exactly sure where this is going to lead us, that we will have

1 this discussion, I'm sure, at the end of the evidence no matter
2 what happens. If we were talking about some very brief comment
3 on what we think the stipulation means, that's -- I don't have
4 any problem with that. But the problem is we've got three expert
5 witnesses that are all sitting waiting. We have got 3 days to
6 try to get them on.

7 MR. BUNN: This will not be long.

8 THE COURT: Let me give him another 5 minutes. Then
9 we'll stop at this point. And if I need to bring you back early
10 from lunch just to deal with this, we can do that.

11 MR. BUNN: Okay.

12 THE COURT: Okay.

13 MR. BUNN: The initial draft of our stipulation said,
14 "Phase 1 will involve establishing the outermost boundaries of
15 the groundwater basin in which conflicting claims of groundwater
16 rights will be adjudicated and overlying properties identified
17 and excluded with the understanding that the internal subbasin
18 boundaries and the scientific significance of those boundaries
19 will be deferred to Phase 2." You remember I made reference to
20 that in my opening statement, that that was the -- deferring the
21 internal subbasin boundaries was the principal subject of
22 negotiation.

23 I then proposed the following -- maybe I should give a
24 copy to the Court and you can -- and I'll give it to counsel as
25 well.

26 MR. ZIMMER: If it's what you just read, I'm not sure I
27 need a copy of it.

28 MR. BUNN: That's the first one.

1 I then proposed on the bottom of the second page,
2 "Phase 1 will determine the area within which conflicting claims
3 are adjudicated," et cetera, and added the sentence "groundwater
4 production from outside this area is considered to have an
5 insignificant effect," and then I gave the plaintiffs an
6 alternative, which was equally acceptable to me, "or is
7 considered not to have any adverse effect on the groundwater
8 within the area and vice versa." This is considered -- I think
9 clearly shows that my intention, at least, was to have that be an
10 effect of the determination of the boundaries and not a finding
11 that the Court had to make in order to come to the boundaries.

12 Then we have Mr. Zimmer's counteroffer in which, among
13 other things, he changed it to, "The parties agree that
14 groundwater production doesn't have any adverse effect," and
15 changes the order of it. And that was fine with us, "the parties
16 agree," because it was a stipulation. But we defendants also
17 felt that we needed to have a court finding on that issue so that
18 we could go ahead with Phase 2. And the final draft has us
19 putting in that the Court finds based on such agreement that that
20 happens.

21 So that's --

22 THE COURT: Okay.

23 MR. BUNN: -- that's my point on the first question,
24 that determining the basin boundaries will have that effect. And
25 that's legally -- I wasn't looking at the San Fernando case when
26 I drafted this. But it's very similar in language to the
27 San Fernando case, that that's what a groundwater basin boundary
28 does.

1 Now, I do want to get to your other question because I
2 can understand that the Court may be uneasy in determining a
3 basin boundary that's going to have that effect without finding a
4 factual basis for that stipulation and finding.

5 And you -- your Honor said at the beginning this morning
6 that you understood the concept of the no-flow boundaries, the no
7 appreciable flow, the gaps in the boundary where there is some
8 flow, but not very much. And I would point, your Honor, again, to
9 the San Fernando case, which, on rereading, is extremely similar
10 to our case. The trial court in that case found that between the
11 Sylmar basin and the San Fernando basin, there were two gaps over
12 which approximately 750-acre feet could flow in this state of
13 nature. And based on that finding, the Court determined that
14 groundwater production in one area could not significantly affect
15 the other area.

16 In other words, there's a connection here between
17 groundwater flow across the boundary and the effect that pumping
18 on one side can have on the other.

19 Thinking back over Mr. Scalmanini's testimony, I believe
20 he testified to that, but we didn't make it as clear as we could
21 have, that the one implies the other. And the reason that we
22 didn't was we anticipated the way this trial would go would be
23 Mr. Scalmanini would testify to the basin boundaries. Then the
24 plaintiffs would come up and say, but we shouldn't be using those
25 boundaries because there's flow from one basin to the other, from
26 the Antelope to the Fremont basin or the Leona Valley to the
27 Antelope Valley. There's flow there. And if there's flow, that
28 means the levels on one side can affect the other side, and,

1 therefore, we shouldn't use that boundary.

2 And in rebuttal, we were planning to get into the
3 effects from one over the boundary to the other. Now, I realize
4 when your Honor asked the question Tuesday night that I had said
5 in my opening statement that Mr. Scalmanini would testify that
6 pumping on one side of the line would not materially and
7 significantly affect levels on the other. And I don't think we
8 asked that precise question on his direct examination. But he is
9 prepared to testify that -- to that. And I hope that the Court
10 would allow us the opportunity to have him do that either in
11 rebuttal or in redirect today.

12 MR. JOYCE: I will give them the opportunity to say that
13 on cross.

14 THE COURT: All right.

15 MR. ZIMMER: Your Honor, if I could just be heard on
16 this since I was involved in this stipulation.

17 The stipulation, even as you can tell from what Mr. Bunn
18 has handed you, without getting into all the back and forth on
19 that, originally, the defendants wanted the Phase 1 described as
20 a groundwater basin. Because of the plaintiffs' view of this
21 matter and, I think, what is reality, that groundwater basin is a
22 loosely defined term. Because of the fact that it is used
23 differently in different cases, depending upon the type of case
24 and what legal issues are presented to the Court, because of the
25 fact that it's used with different meanings in studies which are
26 done by different investigators for different purposes that we
27 were unwilling to have the Phase 1 be a determination of a,
28 quote, "groundwater basin."

1 From the plaintiffs' perspective, a groundwater basin is
2 simply one of many different terms -- zones, subunits, subbasins,
3 basins -- to describe whether two parties are pumping from areas
4 which derive from a common water source, whether they're
5 hydraulically connected.

6 So the question wasn't so much whether we call it a
7 groundwater basin as it was do the two -- are the two properties
8 hydraulically connected? Are they pumping from a common source?
9 Because that's what gives you a dispute because you're both
10 pumping from the same common source. That's how you end up with
11 a dispute. If you're not pumping from a common source,
12 obviously, there's no dispute.

13 So at least, from the plaintiffs' perspective, that's
14 why we would not agree to the groundwater basin term because it's
15 not a term of art. It's just different terms that have been used
16 to describe hydrogeologic character. It's in a valley. And
17 that's why we use the term "area."

18 Now, in terms of the Court's question about
19 quantification, I don't think that quantification needs to or
20 should be done in Phase 1. I don't think the defendants needed
21 to do that. I don't think we need to do that. To determine an
22 area outside of which there is no legally adverse effect. We're
23 just determining an area that we can -- that we can say and come
24 up with a reasonably definable ascertainable area, outside of
25 which we can all agree or the Court can find that there is no
26 effect of pumping outside versus inside. And the reason that's
27 so important is because we need to include all of the area in the
28 lawsuit, include all of the area in the lawsuit which needs to be

1 included from a hydrogeologic perspective to then, in Phase 2,
2 evaluate whether pumping in various locations, given all the
3 inflow and outflow, will have any legally adverse effect on the
4 plaintiffs' pumping, which, of course, is the legal issue that's
5 presented to the Court.

6 So if there's a line, which I think there is, that the
7 Court can determine which includes all of that area, then that is
8 the area that's defined for Phase 2 or further evaluation. In
9 other words, a study area.

10 I've talked to Mr. Dunn and maybe some of the others.
11 And to me, the plaintiffs would like -- or the defendants would
12 like to make some arguments with regard to a groundwater basin
13 and what the existence of a groundwater basin means and what
14 effect that has on prescriptive rights that are involved in this
15 case.

16 Whether we define in this part of the case an area for
17 litigation, we can do that and it can include the study area.
18 And they can still, in Phase 2, make all the arguments that they
19 want to make in terms of what a groundwater basin is, in their
20 belief, from a hydrogeologic perspective, what it means, whether
21 it means that all these areas are a hydraulically connected
22 common source of water or not. So I think -- I don't think
23 there's any -- any downside to the defendants. And that's why
24 I've -- I saw a stipulation saying if -- when I was talking to
25 Mr. Dunn this morning, I said, "We're simply defining an area for
26 the litigation to give us some parameters for a study area
27 outside of which we can say there's no -- there's no effect from
28 pumping out here to pumping inside."

1 And if they were worried about a particular ramification
2 of the Court's ruling in that respect, then let us know what it
3 is. And if we can agree that that's not covered by Phase 1 or
4 that that's -- that there's no effect to them from the finding in
5 Phase 1, and that's a Phase 2 issue, then we're done. We can all
6 go home.

7 But we did reach a stipulation. The stipulation is a
8 Phase 1 area for all the reasons we've described. Our experts
9 will testify that there is a line that works. It will discuss
10 Mr. Scalmanini's line and a line that works and why his line
11 doesn't work for an area outside of which pumping will not affect
12 to any significant degree inside pumping and which will allow us
13 to do in Phase 2 what we need to do, and that is to evaluate
14 pumping inside, as we said the other pumping inside.

15 And I know the Court hasn't had a chance to look at all
16 the cases in the area. And I know that the Court is concerned
17 because the Court has looked at some of the cases and you see
18 this term "groundwater basin" popping up. What I'd like to
19 suggest to the Court, that it's not a term of art per se. It's
20 been used in many different ways, in many different definitions,
21 depending on what kind of a case it was procedurally, what legal
22 issues were presented to the Court. Or on the scientific side,
23 it's been used in many different ways, depending on the scope of
24 the scientific study. And that's why we were talking about a
25 negligence case, you're talking about a breach. There's many
26 different -- or duty. There's many different ways to describe
27 what a duty is and why somebody in a particular circumstance has
28 that duty. But in this case, groundwater basin is not a decisive

1 issue. All we're doing is determining an area for purposes of
2 the lawsuit.

3 Now, in Phase 2, they're still going to argue that
4 groundwater basin means this and means that these parties are
5 hydraulically connected. It doesn't mean -- it doesn't mean -- I
6 know Mr. Tootle's concerned about -- there's the Buttes'
7 property, which is our plaintiffs' property, which is outside of
8 the Scalmanini line. There's, I believe, part of the
9 Los Angeles County's property which is outside the county line.
10 Or -- no? Or outside Scalmanini's line?

11 MR. ABBOTT: If I can answer counsel's question. I have
12 two clients here: District Number 40, District Number 37.
13 District Number 37 is in Acton. It's on the other side of
14 whatever line Mr. Sheahan drew. It's on the other side of the
15 line that Mr. Scalmanini drew. I have a second client, District
16 Number 40, that has one well that is within Mr. Sheahan's line,
17 but is outside Mr. Scalmanini's line.

18 THE COURT: All right. But didn't I hear that
19 defendants are willing to basically stipulate they're making no
20 prescriptive rights against the Buttes property if I accept
21 this -- Mr. Scalmanini's line? Is that not good for the
22 plaintiff? I mean, where am I missing? Isn't that what you --
23 isn't that --

24 MR. ZIMMER: Let me finish.

25 THE COURT: Isn't that the ultimate ruling that you're
26 seeking at the end of this trial?

27 MR. ZIMMER: If they disclaim that -- any prescriptive
28 rights on the part of that property, that doesn't change the area

1 within which you need to evaluate in terms of pumping and inflow
2 and outflow that is necessary to -- to properly proceed with
3 Phase 2.

4 I agree that if they disclaim prescriptive rights as to
5 those properties, they're out of the case as to that legal
6 entity, and I don't have any problem with that.

7 And in terms of Mr. Tootle's concern, if their area
8 includes that, I'm not saying that once we actually sit down and
9 look at the actual pumping values and the amount of flow over the
10 line, that that -- that will have any effect on pumping somewhere
11 else or not. It may not because of the insignificant nature or
12 not. But as Mr. Joyce correctly pointed out in opening statement
13 and otherwise, you do not want to exclude that property from the
14 area because it could very well have a potential or significant
15 effect on pumping. And that needs to be analyzed in -- by
16 actually looking at flows in Phase 2.

17 THE COURT: All right. Well, let's do this: Let's --

18 MR. JOYCE: If I could answer the one question that
19 seems to be perplexing the Court. The effect of the stipulation
20 wouldn't be only that they are, in essence, saying we're going to
21 stipulate. We have no prescriptive rights. Because what nobody
22 has yet mentioned is that what they implicitly or expressly
23 want -- and there's not a one of them that's going to deny it --
24 is they want the flip side of that too. And that is, is that if
25 we are pumping outside of Mr. Scalmanini's line, you, the
26 overlying owner, cannot challenge that pumping because the effect
27 of drawing a line is to say it can't be adverse to you.

28 And the issue in this case, ultimately, is going to

1 return upon complex hydrologic issues concerning whether or not
2 there's overdraft, and then more significantly, who caused it or
3 who's causing it, if that's the case.

4 One of the issues is you have an interruption of water
5 rights, overlying correlative rights, appropriate rights,
6 prescriptive rights. If, in fact, there is overlying groundwater
7 pumping occurring in the Fremont Valley area and if that would
8 be, in a hydrologic sense, an effect upon the groundwater levels
9 in any sense in the Antelope Valley area, then to exclude Fremont
10 is to exclude from the equation whether or not the overdraft is a
11 correlative result as opposed to an appropriative prescriptive
12 result. You start doing that, you lose quantities of water that
13 don't get considered.

14 Most significantly -- and I'll tell you my background
15 getting here, and that was at the outset of this matter when I
16 was first asked to look at it, I read a lot of water law cases
17 because I don't do water law. And I did the same thing and I
18 think I initially found myself in the same state of mind that I
19 think the Court presently has. And that is that there's some
20 magic and some truly defined significance to the term
21 "groundwater basin." And that's what I thought. I thought,
22 "Wow, man. This is going to be easy because all these cases talk
23 about groundwater basins. All I have to do is find out where
24 that is." Then I started reading more, and technological
25 literature. At the time this occurred, I had not been educated.
26 Since then I've got a lot smarter.

27 What I found out is that, depending on the litigation,
28 the objective litigation, the area that gets adjudicated, it may

1 be a drainage basin, it may be a groundwater basin, it may be
2 subbasin on the groundwater basin. Depending upon what the
3 objective is. That's why when we got to the point where we
4 talked about the stipulation, you will notice in the series of
5 e-mails that I'm fairly silent until up to the last one. You
6 will note that I was not available, and then I got available.

7 And what I said is, "Gentlemen, I will not accept any
8 stipulation that cannot be scientifically justified and
9 supported, beginning and end."

10 So my position is simply this: Is that unless they can
11 say the pumping has no effect, they can't exclude it at this
12 point in trial.

13 MR. BUNN: Your Honor, I know we don't want to belabor
14 this, but Mr. Joyce made a statement that none of the
15 defendants -- he said -- would deny that we're trying to
16 establish a certain thing. And I vehemently deny that.

17 As a matter of fact, since Mr. Joyce has raised the
18 issue, when we -- when your Honor invited us to go out and try to
19 stipulate on the Phase 1 issue, we offered and still offer to
20 exclude the effects of any of our pumping outside the line, which
21 is de minimus --

22 THE COURT: I think what you all need to do when we do
23 take the lunch break is spend some time talking about the
24 ultimate result of what everyone is seeking and what stipulation
25 you can reach in light of that. But --

26 MR. BUNN: We did spend, what, 10 hours on it Tuesday.
27 I'm happy to try to do it again.

28 THE COURT: You need to spend a little bit more time

1 over the lunch hour in light of this.

2 But let's -- let's get Mr. Scalmanini back into the
3 witness box.

4 MS. FUENTES: Your Honor, if I can take 60 seconds, and
5 you can time me. I want to answer one quick question you had on
6 Monday.

7 THE COURT: Yes.

8 MS. FUENTES: You asked if there was a case,
9 specifically, a quiet title action, where bifurcated basins were
10 the issue for trial. And nobody really responded. What I'd like
11 to do is just direct the Court to the Corona Foothill Lemon
12 Company case, which is discussed at page 6 of our brief, which
13 specifically stands for the proposition that first you have to
14 define a basin before you can move forward. And I've printed a
15 copy of the case for the Court's benefit.

16 And if I can also direct the Court to the case of Wright
17 versus Goleta Water District, again, which I printed for the
18 Court's convenience, which is simply a case where the issues were
19 bifurcated for trials, and the Court can see how this was handled
20 previous.

21 THE COURT: All right. Thank you.

22 MR. JOYCE: Your Honor, in that regard, I would direct
23 the Court to the recent California Supreme Court opinion in the
24 Mojave case and, more specifically, ask the Court to read the
25 hydrologic condition described by the California Supreme Court
26 commencing on page 2 of the opinion and concluding on page 3.
27 And I suspect after the Court hears all the testimony, the
28 Court's going to find that there is a significant hydrologic

1 correlation between our fact pattern and that case. And the
2 Court will note in that case that the area that was adjudicated
3 was a drainage basin, not a groundwater basin.

4 THE COURT: All right. Thank you.

5 (Pause in Proceedings.)

6 THE COURT: Good morning. And you are still under oath.

7 MR. JOYCE: May I proceed?

8 THE COURT: You may.

9 MR. JOYCE: Thank you, your Honor.

10 Q. (BY MR. JOYCE:) Mr. Scalmanini, I want to, if I --
11 initially attempt to create at least some chronological
12 relationship between the various investigations that have been
13 done and, to some extent, referenced or relied upon by you.

14 If I could -- if you could just kind of go to your table
15 of reference material in your report because that may assist in
16 this exercise.

17 A. Go ahead.

18 Q. And if we use Bloyd as a starting point in time, then
19 Bloyd would be an investigation undertaken in 1967, or at least
20 the results in which were published in 1967; is that correct?

21 A. Yes.

22 Q. Okay. And in chronology, then, the next investigation
23 would have been the Department of Water Resources Bulletin 118-75
24 published in 1975; is that correct?

25 A. On what subject?

26 Q. On the subject of groundwater basins and/or that
27 addressed and/or involved the Antelope Valley groundwater basin
28 area.

1 A. That would be a little bit of an overstatement, I think.
2 But the Antelope Valley was one of -- I forget the exact
3 number -- I think 450-something basins in California that were in
4 that publication, yes.

5 Q. Okay. And then in time, the next investigation or -- or
6 consideration of the area was Durbin in 1978; is that correct?

7 A. Are we limiting ourselves to this list, or --

8 Q. To this list.

9 A. Well, the one you just mentioned isn't on this list.

10 Q. Okay.

11 A. So --

12 Q. So if I understand --

13 A. If you want to mix and match dates to anything that has
14 to do with the Antelope Valley?

15 Q. All right. Then let me ask this question: Durbin isn't
16 on your list of references, is it?

17 A. Yeah, it is.

18 THE COURT: Durbin is.

19 Q. (BY MR. JOYCE:) You say it's not on this list.

20 What list are you referring to?

21 THE COURT: He's referring to the prior -- the 1975;
22 right?

23 THE WITNESS: No. Durbin -- was an investigator for the
24 U.S. Geological Survey -- prepared and calculated a mathematical
25 model of the Antelope Valley water basin, and the results were
26 published in the --

27 THE COURT: I'm going to stop you though. I think what
28 was not on this list was the one right before this.

1 MR. JOYCE: I'm sorry.

2 Q. (BY MR. JOYCE:) Are you saying that the --

3 THE COURT: The 1975 paper or whatever it was.

4 MR. JOYCE: I apologize.

5 Q. (BY MR. JOYCE:) What you're saying is that in your

6 reference materials cited in your report, you at that time had

7 not yet considered the Department of Water Resources

8 Bulletin 118-75; correct?

9 A. That wouldn't be correct.

10 Q. Okay. You had considered it but had not included in

11 your list of references.

12 A. That's not correct either.

13 Q. Okay.

14 MR. BUNN: Your Honor, excuse me --

15 Q. (BY MR. JOYCE:) Maybe I'm having a problem in --

16 MR. DUNN: I'm sorry. Mr. Scalmanini is covering his --

17 MR. BUNN: That was my point too.

18 MR. DUNN: It's hard to understand him.

19 THE WITNESS: Sorry.

20 Q. (BY MR. JOYCE:) So -- well, then, maybe I can approach

21 it from this vantage point: If you can at least confirm that the

22 ones that I am most concerned about are chronologically correct,

23 at least as I'm addressing them.

24 MR. DUNN: Objection. Calls for speculation as to what

25 Mr. Joyce is concerned about.

26 THE COURT: Well, he's going to go through that.

27 Q. (BY MR. JOYCE:) I think -- you'll agree that Bloyd was

28 in '67; correct?

1 A. Yes. I already said that.

2 Q. And DWR Bulletin 118 was '75?

3 A. There is a Department of Water Resources bulletin that I
4 think was published in 1975, yes.

5 Q. Okay.

6 A. It's not on my list, so I'm a little lost as to -- you
7 asked me to refer to the list.

8 Q. All right. Fine. But Durbin did his work and published
9 results of his work in 1978; correct?

10 A. The paper was published in 1978, yes.

11 Q. Okay. And then in 1980, the Department of Water
12 Resources did an update of Bulletin 118-80; am I correct as far
13 as the timing?

14 A. Yes.

15 Q. Okay. Duell did a USGS monitoring network study in
16 1987; correct?

17 A. That's correct.

18 Are we -- are we sticking with chronology here?

19 Q. I'm just trying to make sure that I'm going
20 chronologically as far as the ones I'm identifying. Okay?

21 A. Just the ones you're identifying.

22 Q. Okay.

23 A. Okay. Because it's not complete. But go ahead.

24 Q. That's fine.

25 And in 1995, Galloway did a study, did he not?

26 A. Are you talking about Galloway and others?

27 Q. Yes.

28 A. I don't think so.

1 Q. Is that a resource or a source identified in your table
2 of references?

3 A. There's -- there's a report by Galloway and others.

4 Q. And what year do you reflect that as having been
5 published?

6 A. 1998.

7 Q. 1998? All right.

8 Carlson and others did a water table changes analysis in
9 1998; correct?

10 A. Actually, the changes were over the period 1975 through
11 '98, and it was, I guess you would say, published as an open-file
12 report in 1998, yes.

13 Q. Okay. And the same year, Carlson and Phillips did a
14 water level change -- or published a -- water level changes for a
15 period of time preceding that date?

16 A. Yes.

17 Q. Okay. And then in the year 2000, the Department of
18 Water Resources has updated Bulletin 118; is that a fair
19 statement?

20 A. No.

21 Q. Okay.

22 A. I don't think so.

23 Q. Okay. In the year 2000, did they initiate a process to
24 complete a review and a revision of Bulletin 118?

25 A. I don't know about the specific date. As far as I know,
26 it's under work -- or in work. Whether it started in 2000, I
27 don't know.

28 Q. Okay. And you understand the intent is to complete that

1 revision sometime this year.

2 A. No. I don't understand what the target date for
3 completion is.

4 Q. All right. And Lighten (phonetic) and Phillips
5 completed a -- strike that.

6 There is currently in draft but not yet published USGS
7 groundwater model that was conducted by Lighten and Phillips;
8 correct? You know what I'm referring to?

9 A. Well, I think I know what you're referring to. I don't
10 know the authors. I know Phillips is one of the authors. I
11 don't know the other. I don't know about Lighten.

12 Q. Maybe someone can focus. You know currently as we speak
13 there has been sent out in draft and in circulation to interested
14 parties a groundwater model for the Antelope Valley area that has
15 not yet been published in its final form; correct?

16 A. You exaggerate a little bit. But if I can clarify what
17 you've said, that yes, there is a report in preparation. It has
18 been circulated not to interested parties.

19 Q. Okay.

20 A. But to cooperating agencies, which I think is basically
21 the County of Los Angeles because they funded a fair piece of
22 this work. So they were given the opportunity to review a draft.
23 And as far as I know, the document is at the, quote, unquote,
24 "peer review stage" within the USGS as part of the overall
25 publication procedure.

26 Q. All right. You in your answer address an interesting
27 issue. You said "peer review stage."

28 What does that mean?

1 A. Well, I don't know the details of the USGS publication
2 procedures, but my understanding from having been through an
3 exercise of reviewing and, I guess you could say, overturning the
4 results of the USGS publication some 20 years ago and had an
5 opportunity to, I'll call it, review all the files at that time
6 that the investigator or investigators do their work, it is
7 reviewed by supervisorial people at a local level. The GS has
8 offices throughout the country. And, ultimately, the work, I'll
9 call it, draft publication stage, is reviewed by independent
10 peers within the USGS before it's published. And that is, as
11 best I understand it, what's going on today.

12 Q. All right. And yesterday -- 2 days ago, we were talking
13 about the current efforts of the Department of Water Resources to
14 update Bulletin 118. And you, in fact, had provided or extracted
15 from some source criteria for defining the parameters of a
16 groundwater basin; correct?

17 A. That's correct.

18 Q. Do you have that original material with you that you
19 would -- that you got that information from?

20 A. I might.

21 (Pause in Proceedings.)

22 Q. (BY MR. JOYCE:) Mr. Scalmanini, have you had a chance
23 to locate that?

24 A. I have two pages here.

25 Q. May I see the pages you have?

26 A. (The witness complied.)

27 Q. Did you acquire these two pages by making a request of
28 the Department of Water Resources in getting a hard copy from

1 them? Did you acquire them off the internet? What was your
2 original source for these?

3 A. To be honest, I don't remember. I had staff do it.

4 Q. All right. You are aware that the Department of Water
5 Resources maintains a Web page where the current published
6 revisions can be located, are you not?

7 A. I guess I am. I don't spend much time chasing that kind
8 of stuff, so --

9 Q. All right.

10 MR. BUNN: Your Honor, may I take a look at what
11 Mr. Joyce is --

12 THE COURT: You may.

13 MR. JOYCE: I'll let you have Mr. Scalmanini's two
14 pages. I have my own.

15 Q. (BY MR. JOYCE:) Now, Mr. Scalmanini, one of the
16 criticisms you had of the efforts of the State Water Resources --
17 the Department of Water Resources was the audience for whom
18 Bulletin 118 was original generated. And what you perceived, at
19 least as far as the 1975 version was concerned, that it didn't
20 have very much technical support for defining the groundwater
21 basin area.

22 Is that a fair statement?

23 MR. DUNN: Objection. Compound.

24 THE COURT: Overruled.

25 THE WITNESS: I wouldn't call that a criticism.

26 Q. (BY MR. JOYCE:) Well, I think you said that the object
27 of their efforts was to prepare information to make available to
28 the legislature as part of the charge arising out of legislation

1 which originated with a mandate to undertake to do the
2 Bulletin 118 analysis; correct?

3 A. I remember discussing 118-80 in the -- I'll call it the
4 context of one of the charges was to report to the legislature,
5 and the cover of 118-80 says exactly that. But I don't remember
6 that I criticized or otherwise commented about why Bulletin 118
7 originally was prepared.

8 Q. All right. Well --

9 A. What I did say as far as what I'll call technical is
10 that the illustrations are schematic, and I think the words I
11 used -- you had it here in photo-enlarged form -- is that's not a
12 citeable geologic reference.

13 Q. All right. And you could not find any significant
14 textural description within 118-80 to assist you in determining
15 whether or not it was a fair and reasonable representation of the
16 area; is that a fair statement?

17 A. We're talking about 118-80.

18 Q. Yes.

19 A. Yeah. Yeah. Basically, that 118-80 says in passing
20 that the original boundaries in Bulletin 118 were based on
21 geologic and hydrologic considerations, and that, I think, for
22 management purposes where practical in the update, the department
23 took political considerations into account. And if you read
24 elsewhere in the document, because they considered that there
25 could be political frustrations to managing the resource if they
26 didn't take political boundaries into account.

27 Q. What you're saying is that in addition to relying solely
28 upon hydrologic or hydrogeologic features to define the

1 groundwater basin, they then added to acceptable boundaries
2 political boundaries; correct?

3 A. That's what it says. That's not what they did, but
4 that's what it says.

5 Q. All right. And in trying to provide us with the six
6 areas of -- or six acceptable boundary criteria that you
7 extracted from the current revised Bulletin 118 -- or the current
8 revision, that was the second page of a two-page document that
9 you had; correct?

10 A. That's correct. What I said Tuesday was that I had
11 previously commented that if you look at Bulletin 118 or 118-80,
12 you fail to find two key things. One, any definition of what a
13 groundwater basin is, yet it maps and briefly discusses, as I
14 said, 450-some groundwater basins in California. The second
15 thing you fail to find is any definition of the bases on which
16 the boundaries of those basins were defined. And in
17 Bulletin 118, I'll call it, update, current, both of those
18 details are addressed on the two pages that you've referred to.

19 Q. Okay. And you were offering up the information
20 contained on the second of those two pages, but you did not offer
21 the information reflected on the first of those; is that correct?

22 A. Well, I guess you could say sort of. Because what's
23 offered on the first page is almost verbatim in terms of a
24 definition, the same as what we had here. I didn't think there
25 was any need to put it up -- on a third time.

26 And as far as the fact that technical criteria have been
27 selected and applied in order to take the general definition of a
28 groundwater basin to some specificity in any given setting, then

1 the department has now listed specific criteria -- technical
2 criteria that it would use or has used, apparently, in its
3 efforts to do this updating recently.

4 And I'll go a half step farther since you brought the
5 exhibit out and I didn't. The list was basically put together --
6 I mean, for exhibit purposes, if needed, to support the fact that
7 the criteria previously used by that, basically, list of
8 investigators who either originally defined the boundaries of
9 this basin or subsequently embraced them were consistent with the
10 original criteria that I extracted from Bloyd's -- correction --
11 from Richter and these criteria which are listed by DWR today.

12 Q. All right. Well, in fact, though, on the first page of
13 the two-page document, they give a full paragraph narrative of
14 how they went about revising the map area reflecting the
15 Antelope Valley groundwater basin in the year -- or at least as
16 of May of 2002; correct?

17 A. I don't see any reference to the Antelope Valley.

18 Q. Well, doesn't it say that the methodology that they
19 employed to outline groundwater basins within the State of
20 California was as follows? And I will read and quote into the
21 record: "The identification of current groundwater basins was
22 initially based on presence and aerial extent of unconsolidated
23 alluvial soils identified on 1:250,000-scale geologic maps
24 provided by the California Department of Conservation, Division
25 of Mines and Geology."

26 Next paragraph, quote: "Well completion reports for
27 wells present in basin areas identified from the geologic map
28 were then reviewed to identify the depth to the top of the water

1 table and the top of impermeable bedrock. If less than 25 feet
2 of permeable material was present or if there was no groundwater
3 within the permeable material, the area was eliminated from the
4 map.

5 "The well completion reports were also reviewed to
6 determine if water supply wells located within the delineated
7 basin area were extracting groundwater from the permeable
8 materials underlying the area or from the bedrock beneath the
9 permeable material. If the wells only extracted groundwater from
10 the bedrock, the area was eliminated from the map. This resulted
11 in the elimination of some areas identified as basins and
12 previous Bulletin 118 reports. If there were no wells present in
13 basin areas identified from the geologic map and no other
14 information on the geology underlying these areas, the areas were
15 retained in the current version of the map until additional
16 information could be collected."

17 Have I read that accurately, Mr. Scalmanini?

18 A. Yes.

19 Q. Okay. And Mr. Scalmanini, isn't there, in fact, a
20 revised Bulletin 118 map showing the Antelope Valley groundwater
21 basin as the Department of Water Resources believes it to exist
22 available on the Web site?

23 A. I don't know. I didn't look for it.

24 Q. Was there a reason why you didn't?

25 A. I think I told you as regards Bulletin 118 originally.
26 118-80, the update that you didn't mention, in '82. And I'll
27 just say those. That I didn't rely on those. They are schematic
28 illustrations of groundwater basins.

1 Q. Okay.

2 A. And I emphasized, I think, at some length here on
3 Tuesday that I wouldn't, you know, and I don't think anybody else
4 should rely on something that at a scale of 1 inch equals
5 25 miles. I'll have to go to this 1 to 250,000 scale that you
6 just read into the record. But that basically means an inch on
7 the map they used equals 250,000 inches on the ground.

8 And so I think I've emphatically said that I didn't rely
9 on that. It's not listed in my references. And I wouldn't rely
10 on what's there today. I knew they were in the process of
11 updating it. I frankly don't care what they come up with --

12 Q. All right.

13 A. -- as far as this conclusion that I've reached and the
14 technical bases on which I drew these lines.

15 Q. Well, did you, in attempting to give, for the benefit of
16 this Court, your proposed line, look at any well completion
17 reports at all?

18 A. No.

19 Q. Did you look at any well production data anywhere around
20 your red line?

21 A. At any time?

22 Q. At any time prior to the time your deposition was
23 completed.

24 A. No.

25 Q. And, in fact, at the time your deposition was taken, you
26 did not believe that the rate or the quantity of underflow from
27 outside of your line into your line was an issue you needed to
28 then concern yourself with; fair statement?

1 A. I wouldn't say that's a fair statement, no.

2 Q. All right. Well, let me ask you this question: Of all
3 of the investigations or materials that I identified just a few
4 moments ago, which of those was the most significant as far as
5 attempting to quantify the amount of groundwater available in the
6 area and/or the amount of groundwater making its way into the
7 area from outside of the area?

8 MR. BUNN: Objection. Compound.

9 Q. (BY MR. JOYCE:) Would that be Durbin?

10 THE COURT: Well, it is compound, but I think it's a
11 fair question.

12 If you can answer that.

13 THE WITNESS: Yeah. I don't think you can say which of
14 those is -- what was the way you phrased the question at the
15 end? -- significant or the most reliable or the most important or
16 something to that effect.

17 THE COURT: Significant.

18 Q. (BY MR. JOYCE:) Let me ask you this question: Do you
19 know what a groundwater model is?

20 A. Yes, sir, I do.

21 Q. Do you have the technical expertise and capability to
22 generate a groundwater model?

23 A. I might argue it, my, quote, unquote, "advanced age"
24 that I might be a little rusty in that regard. And I have
25 younger, smarter people that do that. And I oversee it as
26 compared to do it.

27 Q. All right.

28 A. But basically, yes.

1 Q. And did you understand Bloyd's investigation to be a
2 groundwater model?

3 A. No.

4 Q. Okay. Did you understand --

5 A. Well, hang on a second. You could call a lot of things
6 a model. But I think in the context that you're using the term,
7 you're really talking about a numerical groundwater flow model;
8 is that correct?

9 Q. I am.

10 And the significant term is "numerical"; right?

11 A. Yes.

12 Q. Because it's a quantification, is it not?

13 A. Well, there are lots of, quote, "models" used to
14 quantify things. They don't all happen to be -- you know, run
15 through computers. And in the 60s, we didn't do numerical
16 groundwater flow modeling as we do it today. But we still had
17 things that could be called models, meaning equations, that will
18 allow us to calculate how much flow takes place across -- there's
19 a boundary of a basin or a line period that we draw anyplace. So
20 that science has been around for well over a hundred years.

21 MR. BUNN: Your Honor, could I again ask that the
22 witness take his hand away from his mouth. I'm having difficulty
23 hearing him.

24 THE COURT: Yes.

25 Q. (BY MR. JOYCE:) Sir, Durbin, in fact, created for the
26 Antelope Valley area a groundwater -- a numerical groundwater
27 model, did he not?

28 A. A numerical groundwater flow model, yes.

1 Q. In fact, in his investigative report, he provides
2 quantification of the hydrology of the area. In other words, he
3 gives us values as to what's happening in terms of flow, flow
4 rates, source of water, those kinds of pieces of information,
5 doesn't he?

6 A. I think so. I haven't read all of Durbin with regard to
7 those subjects.

8 Q. In fact, isn't it true, sir, that at no time before the
9 completion of your deposition you made the decision to not rely
10 upon Durbin?

11 A. No, that's not true.

12 Q. Okay. Did you consider Durbin in your report?

13 A. Yes.

14 Q. Can I direct you, if I may, to your deposition
15 commencing on page 108 --

16 THE COURT: Which volume?

17 MR. JOYCE: That would be Volume 2, your Honor.

18 MR. DUNN: Your Honor, I don't believe the witness has a
19 copy of the deposition transcript.

20 THE COURT: He doesn't.

21 First, give me the lines on page 108.

22 MR. JOYCE: Commencing on line 19, your Honor. And I
23 believe the discussion would continue over through page 111,
24 line 11.

25 Your Honor, may I just read it into the record?

26 THE COURT: Hold on. Let counsel read it, because
27 that's quite a bit. The only --

28 MR. BUNN: I'm sorry. What are the lines?

1 MR. JOYCE: It would be page 108, line 19, through
2 page 111, line 11.

3 MR. DUNN: I'm sorry. The previous question was whether
4 he considered Durbin?

5 THE COURT: Yes.

6 MR. DUNN: Can we give the witness a chance to read it?

7 THE COURT: I think counsel's offering it to the extent
8 that you believe it's impeachment.

9 MR. JOYCE: That's correct, your Honor.

10 THE COURT: All right. It's -- any objection? I'm
11 going to allow him -- I think it will be quicker just to let
12 counsel read it into the record.

13 MR. JOYCE: That's what I intend to do.

14 THE COURT: And if he wants to follow-up on questions,
15 you can follow-up on redirect.

16 MR. DUNN: That's fine.

17 MR. BUNN: That's fine. No objection.

18 MR. JOYCE: The question posed was, quote: "Did you, in
19 terms of your analysis, consider the extent of movement of
20 groundwater from the area to the south of this line generally to
21 the north of this line, or did you assume that it was nothing?"

22 And I believe, your Honor, at the time that was being
23 referred to was the San Andreas Fault rift zone.

24 MR. DUNN: Well, I object to that conclusion and
25 speculation --

26 MR. JOYCE: Well --

27 MR. DUNN: -- and ask that that be stricken from the
28 record.

1 MR. JOYCE: Noted. I will withdraw the observation.

2 The answer to the question, though, as reflected in the
3 transcript is as follows: "Basically, neither. I didn't try to
4 compute a flow rate, nor did I assume that it was nothing. I
5 looked at the map. I called it interface from the end of the
6 unconsolidated materials in the beginning of the consol- -- in
7 the beginning of the consolidated materials. That is a
8 legitimate boundary criteria for drawing the edge of a
9 groundwater basin, and agreed with all the previous investigators
10 who had chosen the same boundary and application.

11 "Are you aware of any studies which show the flow rate
12 from one side of that red line we have been discussing to the
13 other?

14 "Answer: I think that some recent work by the USGS may
15 take that into account. Not just at that location, but elsewhere
16 in the overall basin. That is to say, the magnitude of
17 subsurface flows that may be taking place across any of the
18 boundaries.

19 "Question: When you say you think that may be the case,
20 what do you mean by that?

21 "Answer: Well, the GS is in publication on a -- of a
22 report in its work to develop the numerical groundwater flow
23 model of the Antelope Valley. And I would expect that in
24 developing a calibrated model of the groundwater flow system in
25 the valley that it would account for all the components of flow
26 into or out of the groundwater basin, one of which would be any
27 boundary-type flows, however small.

28 "Question: That's not published yet?

1 "Answer: That's correct. To the best of my knowledge,
2 it was supposed to be published sometime this summer.

3 "Question: Are you aware of any study before the one
4 that's not published that has evaluated the flow between these
5 two areas, these two areas being the area south of the red line
6 versus north?

7 "Answer: You are talking about in the West Antelope and
8 Finger Buttes subbasins?

9 "Question: Right.

10 "Answer: No. It's possible that Durbin -- Durbin's
11 work, which followed Bloyd's, and I think they would model, but
12 I'm not sure if it was for the whole basin -- would have
13 addressed any boundary-type flows as well.

14 "Question: You have not taken that into consideration
15 in your report?

16 "Answer: No, I have, I think, made it pretty clear
17 that, you know, I went through a set of criteria as to what
18 constitutes the basins, boundaries of a groundwater basin, and
19 tried to apply those. I didn't compute flows. I recognize that
20 flow can and frequently does occur across very low permeability
21 boundaries that are commonly used to define groundwater basins.
22 I didn't try to compute whether it was big or small as a factor
23 in determining whether or not a geologic feature constituted the
24 boundary of a groundwater basin.

25 Later in the investigation of defining boundaries, the
26 analysts can consider whether or not there is real small to no to
27 very significant flows across the boundaries as a function of, I
28 will call it, local conditions in those" areas. "In this case,

1 consolidated, unconsolidated boundaries."

2 Q. (BY MR. JOYCE:) Now, Mr. Scalmanini --

3 MR. DUNN: Objection. Rule of completeness. I'm not
4 quite sure what the purpose of this so-called evidence was to
5 impeach.

6 The preceding question was whether or not he considered
7 Durbin's report. Mr. Joyce's lengthy reading of the deposition
8 transcript indicates that, in fact, his witness testimony in the
9 transcript is the same as his testimony in court that he had.
10 The rule-of-completeness objection is inserted at page 108 where
11 it refers to Dibblee's map and where it says that he did not --
12 excuse me -- 108 discusses Dibblee's map. And that wasn't made
13 clear at all by Mr. Joyce in this reading of the transcript.

14 So to the extent that we just went through this whole
15 exercise, there's been no impeachment.

16 THE COURT: Well, I think the question just -- prior
17 question related to whether he considered Durbin.

18 MR. DUNN: Correct. And he testified in court that he
19 had. This transcript says that he had. So where's the
20 impeachment?

21 MR. JOYCE: Well, the impeachment is pretty close to the
22 conclusion --

23 THE COURT: It said, "Question: You have not taken that
24 into consideration in your report?" The question right after
25 when he says, "It's possible that Durbin's work . . . would have
26 addressed any boundary . . . flow."

27 MR. JOYCE: And that's, in essence, correct, your Honor.

28 MR. DUNN: Well, wait a minute.

1 THE COURT: I think the question's relating to that
2 specific portion of Durbin versus not taking into consideration
3 anything --

4 MR. DUNN: Then let the record reflect, again, that
5 line 17 on page 110 of that deposition transcript is the answer
6 to the question, question on the -- beginning on line 15, "You
7 have" -- it's a bad question, quite frankly, it's a double
8 negative: "You have not taken that into consideration in your
9 report?"

10 And, again, on line 17 begins the answer: "No, I have,
11 I think, made it pretty clear that" -- and then it continues.

12 So to the extent that there's been some kind of effort
13 to impeach him on the Durbin report, that's been improper.

14 MR. JOYCE: Well, then let me ask this question. Maybe
15 we can clear it up

16 Q. (BY MR. JOYCE:) Mr. Scalmanini, at the time you
17 prepared your report, you knew that Durbin existed; correct?

18 A. Yes.

19 Q. At the time you prepared your report, did you look at
20 any of the quantified flow rates reflected in Durbin in order to
21 validate any of the lines you had drawn? And you're under oath.

22 A. Thanks for the reminder.

23 MR. DUNN: Objection. Move to strike the "under oath"
24 as argumentative.

25 MR. JOYCE: Withdrawn, your Honor.

26 THE COURT: Sustained.

27 MR. JOYCE: And I apologize.

28 THE WITNESS: The blunt answer at this moment is I can't

1 remember for sure because I've looked at it subsequently in some
2 detail. So the sequence of when I exactly looked and focused on
3 what Durbin map as regards flow directions and flow boundaries,
4 I'll call it, runs across dates. All right. But I'll try to
5 explain, again, which I think I have numerous times in
6 deposition, and I think --

7 Q. (BY MR. JOYCE:) I think --

8 A. Hang on a second. Okay.

9 Q. I think you've answered my question. I do not want a
10 colloquy.

11 THE COURT: At this point, I think the question is
12 answered, so I'll allow you to go into that on redirect.

13 MR. JOYCE: Thank you.

14 Q. (BY MR. JOYCE:) Can you as you sit here today, based on
15 any work you've done, including any work you've done after your
16 deposition was concluded -- strike that.

17 Let's, for the aid of clarity, address a term. That
18 term I want to talk about is "recharge."

19 Is recharge the amount of water that eventually makes
20 its way back into a groundwater system?

21 A. Well, the word "back" doesn't belong in there.

22 Q. All right. Makes its way into the groundwater system.

23 A. Yeah. You could lump the -- the -- a -- water that
24 makes its way into a groundwater system as recharge. It would be
25 overbroad to use "recharge" to include all the flow into a
26 groundwater system, yes.

27 Q. Okay. And recharge comes from precipitation within a --
28 an area; is that a fair statement?

1 A. It includes that. It doesn't just come from that.

2 Q. Okay. Well, recharge can also occur as a result of
3 man's activities. By way of example, if my client is a farmer
4 and he extracts water and he spreads it for irrigation purposes,
5 some of that water becomes recharge; is that a fair statement?

6 MR. DUNN: Objection. Incomplete hypothetical and
7 certainly lacks foundation.

8 THE COURT: Overruled.

9 If you can answer whether that fact in and of itself
10 would constitute recharge, you can.

11 THE WITNESS: Infiltration and depercolation of water
12 from man's activities can be grouped in "recharge." It's
13 sometimes broken out and called something else, but that can be
14 grouped into the term "recharge."

15 Q. (BY MR. JOYCE:) That's all I was trying to make sure I
16 was clear about.

17 And as far as natural recharge is concerned, that's
18 generally a consequence of precipitation within a defined area;
19 correct?

20 A. Well, that's a pretty exceptional oversimplification,
21 particularly in this setting.

22 Q. Well, then let's get oversimple setting again.

23 Where does the new water come from?

24 MR. DUNN: Objection. Vague as to "new water."

25 THE COURT: You're talking about recharge.

26 MR. JOYCE: Yes.

27 THE COURT: All right. You may answer.

28 THE WITNESS: In this setting, the bulk of the recharge

1 has been documented to be from, basically, stream flow that comes
2 out of the mountainous regions surrounding the basin and that
3 infiltrates from the stream. And if I remember correctly -- but
4 I can't remember whether this is including or excluding recent GS
5 work, but I think it goes back in time -- generally recognized
6 that precipitation on the valley floor itself effectively
7 contributes almost nothing to, quote, "recharge" because it's too
8 small and it -- meaning that it only rains out there, whatever,
9 3 or 4 inches a year. And so that's not enough quantity to fully
10 saturate the surface soils and that ultimately depercolate to
11 effectively -- or to effectively recharge the groundwater basin
12 or the groundwater body below.

13 And then as regard -- well -- okay. So that's where the
14 bulk of recharge, you know, or new water, as you called it, comes
15 from.

16 Q. (BY MR. JOYCE:) All right. And so what you're saying
17 is that --

18 A. I should say natural.

19 Q. Yeah. And so rainwater falling upon the valley floor
20 generally is not a source of recharge because in a hydrogeologic
21 sense, Mother Nature and the sun take it away before it has the
22 opportunity to percolate back down into the ground soil; correct?

23 A. Could you differentiate between Mother Nature and the
24 sun for me.

25 Q. They're one and the same in my mind.

26 A. Since you listed them both, I thought I'd get squared
27 away on that.

28 Basically, yeah, that the -- I'll call it generally

1 sandy nature of the soils, or they may be even lumpy in places --
2 let's not get worried about the details of the soils, but the
3 soils are such that they can hold the precipitation that falls on
4 them, let's say, long enough for it to be consumed by a
5 vegetation on the surface or to evaporate away and not
6 effectively depercolate in any consequence to contribute to
7 recharge.

8 Q. Okay. And then the water that is actually getting back
9 into -- if the groundwater system is not attributed to
10 precipitation reaching the valley floor but, in fact,
11 precipitation in the mountainous or hill areas surrounding the
12 valley floor; fair statement?

13 A. I think so.

14 Q. And if you were desirous of drawing a line at which
15 point you know the point of demarkation where precipitation is
16 contributing to the Antelope Valley as opposed to other
17 geographic locations outside of the Antelope Valley, where would
18 you draw that line?

19 A. Well, you're into the whole subject of water supply
20 hydrology, you know, as ultimately ends up in a groundwater
21 basin. So to account for all the water that, you know, as a
22 result of, in this case, precipitation and runoff which
23 contributes to stream flow which gets to the valley floor which
24 infiltrates to provide recharge, you'd go out and look at the
25 water supply at the watershed boundaries.

26 Q. Okay. And/or drainage basin boundaries, as the case may
27 be.

28 A. Same thing.

1 Q. All right. And it's your testimony -- or, at least,
2 it's your opinion that the significant quantity of recharge
3 occurs through surface stream infiltration from out of the hills
4 and mountains and down into the valley floor and then recharges
5 at the termination point? And along the way.

6 A. Well, since you're into this impeachment thing, I
7 testified about this before, which was that I can't comment
8 today -- as to what the significant component of recharge is
9 today because, A, I haven't studied that yet as part of trying to
10 pick groundwater basin boundaries.

11 But thus far in this conversation, we've been talking
12 about natural recharge, if you will. And in the years resulting
13 from significant declines in groundwater conditions out there,
14 the states built a water project. There's a canal system that
15 now delivers what I'll call imported or supplemental water to the
16 basin, and there's a faction of that that considers to recharge.

17 I've done nothing to differentiate between that or the
18 natural recharge, but there's now another component of recharge
19 that some might call, quote, "artificial" and -- but certainly
20 supplemental to local precipitation in the watershed. That also
21 becomes a part of the overall system.

22 I guess you could say if you want to play the game that
23 I think you're playing, you might as well go up to Lake Oroville
24 and figure out what the watershed that contributes to the canal
25 system that gets to the Antelope Valley as a supplemental water
26 supply.

27 Q. Mr. Scalmanini, let me assure you that I don't perceive
28 this to be a game.

1 A. Fine. I do, so --

2 Q. As a component of recharge, is the recognized and
3 accepted term called "underflow"? Or "subsurface flow"?

4 A. Well, as a form of recharge, no, there's not an accepted
5 form that's called "underflow."

6 Q. Okay.

7 A. That has to do with -- I'll call the term "underflow,"
8 as I've used it and as I think is commonly used, affixes to water
9 that would be -- and I think we talked about this the other day
10 too -- in the, I'll call it, the bed of the stream so that if you
11 see -- for example, water flowing on a surface watercourse is
12 common for that streambed to have just that, a bed that is
13 usually -- because of the characteristics of how the stream got
14 there itself, that it has some porous permeable material that
15 forms its bed, and some water can be in that bed of whatever
16 extent the bed is. And it's that water which is, strictly
17 speaking, in the subsurface that is, I think, referred to as
18 underflow.

19 Q. Well, then let me ask you this question: What would you
20 call -- strike that. Let me set the stage a little bit if I may.

21 As you move off of the valley floor and start moving up
22 increasingly at higher elevations, up into the hills and then
23 eventually into the mountain, there is not a radical demarkation
24 between unconsolidated and consolidated materials, is there?

25 A. Along a stream channel?

26 Q. No. Along -- along any geologic reality of where you
27 start moving away from -- from consolidated -- I realize there's
28 a line you can draw where they're too neat, but what I'm

1 suggesting is that the subsurface gradient isn't a straight line,
2 perpendicular drop; is that a fair statement?

3 A. What subsurface gradient?

4 Q. Maybe I can grammatically help you -- graphically help
5 you.

6 A. Why don't you draw it over there to some reasonable
7 scale.

8 Q. Whatever makes -- whatever helps you out.

9 THE COURT: Let's do this: Let's go ahead -- the court
10 reporter's going to need a break. We'll take a 10-minute break.
11 You can maybe just draw a little diagram on the break.

12 MR. JOYCE: That's fine.

13 THE COURT: And our witness may step down.

14 (Recess.)

15 Q. (BY MR. JOYCE:) Mr. Scalmanini, if we set this point
16 right here as being the point at which alluvium meets
17 consolidated bedrock or impermeable materials, working our way
18 down the slope of the hills and the mountains, would we expect
19 that where the alluvium begins that the alluvium would go like
20 this?

21 MR. DUNN: I don't have an objection, but for
22 clarification purposes, can we --

23 Q. (BY MR. JOYCE:) And "like this" would be straight up
24 and down.

25 MR. DUNN: Could we do like an "A" and an "A-prime"?

26 THE COURT: We need to mark the drawing as next in
27 order, which I think is 7.

28 MR. BUNN: No. Excuse me.

1 MR. JOYCE: It's 8.

2 THE COURT: What was 7?

3 MR. JOYCE: 7 were the two pages taken from the
4 Department of Water Resources Web site. Actually, the copies
5 that Mr. Scalmanini had relied upon.

6 THE COURT: All right.

7 Q. (BY MR. JOYCE:) And we'll use A.
8 The question I'm trying to find out is, the general
9 proposition in Mother Nature when the alluvial conditions are
10 created, they don't happen this radically, do they?

11 A. Meaning -- "radically," as a vertical line?

12 Q. Yes.

13 A. No. I think you can find that on Exhibit 107.

14 Q. Okay. And, in fact, you'll have the commencement of
15 alluvial material, and as you work -- work your way towards the
16 valley floor, that alluvial material has a tendency to get
17 thicker and thicker and thicker as you go downslope; fair
18 statement? And, again, we're talking in general terms.

19 A. Yes.

20 Q. Something like this? And/or maybe getting much deeper
21 as we go? I mean, we can probably even suggest that it can go
22 down like this.

23 MR. DUNN: Objection. Incomplete hypothetical.
24 Objection. Assumes facts not in evidence in this case.

25 MR. JOYCE: I'm just trying to get a general feel for
26 geologic topography.

27 THE COURT: I'm going to sustain the objection.
28 You can rephrase your question.

1 Q. (BY MR. JOYCE:) Mr. Scalmanini, what I'm really trying
2 to discern is that the water-bearing or the kinds of material
3 that will hold water once water's been introduced to it, from the
4 point where they -- termination with unconsolidated materials, as
5 a general proposition, have a tendency to get thicker and thicker
6 in-depth as you move from the sides of the mountains and hills
7 down into the valley floor; is that a fair statement?

8 A. General tendency. Okay.

9 Q. Okay. And when rain falls, some surface runoff may come
10 from the top of the mountain, make contact with alluvial
11 water-bearing material, and water, as a matter of Mother Nature's
12 reality, has a tendency to try to seek the path of least
13 resistance typically; is that a fair statement?

14 A. Yes.

15 Q. Okay. And it's also influenced by gravity?

16 A. Yes.

17 Q. Okay. And as it starts to flow across the surface of
18 the alluvium and as the rain's falling likewise on the alluvium,
19 it has a tendency to penetrate down into it, does it not?

20 A. That's exactly what I said a few minutes ago, yes.

21 Q. All right. So then we could expect --

22 A. And mind you, you know, it's flowing in a watercourse.

23 Q. Okay. Well, is it your understanding that in the entire
24 Antelope Valley area that no precipitation on alluvium working up
25 from the valley floor penetrates the alluvium and becomes then
26 subsurface water?

27 A. We went through a definition of groundwater yesterday.
28 And what I described to you --

1 Q. Mr. Scalmanini, my question is very simple. All I want
2 to know --

3 A. No.

4 Q. So you would concede that some of that precipitation is
5 going to become groundwater in the alluvium working upslope from
6 the bottom of the valley floor.

7 A. Within the overall definition of the term "groundwater,"
8 which I described to you 2 days ago as being water that gets
9 below the surface of the ground and is either contained in soil
10 moisture or the so-called rest of the unsaturated zone until it
11 gets to the water table, the water gets below the ground surface
12 as a result of precipitation for some period of time, yes, it
13 becomes, quote, "groundwater."

14 Q. All right.

15 A. Does it contribute to the groundwater body that is the
16 saturated medium at depth in which wells are completed and from
17 wells extract water, no.

18 Q. And how is it that you reach that conclusion? Or strike
19 that. Withdraw the question.

20 Let me ask this question: If, on my illustration and my
21 hypothetical, I introduce in this area a fault line that would
22 be --

23 A. Fault line or a fault zone?

24 Q. Fault zone.

25 A. Okay.

26 Q. Fault zone would be analogous to your San Andreas Fault
27 zone.

28 If it's your understanding that none of the water in

1 this alluvial material would get to the other side of that fault,
2 at least not in any significant quantity; fair statement?

3 A. No. Not globally.

4 Q. Well, when you say "not globally," then do we understand
5 that some of this water is going to cross over?

6 A. Which water?

7 MR. DUNN: Objection.

8 Q. (BY MR. JOYCE:) The water.

9 MR. DUNN: Vague as to location. I'm sorry.

10 THE COURT: I'll sustain the vague (sic).

11 Rephrase your question.

12 Q. (BY MR. JOYCE:) The water that is starting to become
13 subsurface water in the alluvium moving downslope from Point A
14 and to the point where I have identified a fault zone, which I
15 will call B --

16 MR. BUNN: Objection, your Honor. Is he talking about
17 the Antelope Valley now or --

18 MR. JOYCE: I'm talking about --

19 THE COURT: I think he's talking a hypothetical.

20 MR. JOYCE: I am.

21 THE COURT: But don't we have to have some determination
22 as to how far down, whether it's in a basin or not in a basin?

23 Q. (BY MR. JOYCE:) Let's assume that this fault zone is
24 down at the valley floor. Okay?

25 A. It's on the valley floor someplace.

26 Q. All right. All I'm trying to discern is whether or not
27 the water that has now become subsurface water is going to get
28 across moving downslope.

1 A. Okay. Well, the answer to your question is -- you're
2 talking about some precipitation falling on those soils; is that
3 correct?

4 Q. I'm talking about the water that has made its way into
5 the soils as a result of precipitation and without giving any
6 consideration to any man-made influences.

7 A. I understand that.

8 Q. Okay.

9 A. You have to break that water into two pieces.

10 Q. Okay.

11 A. Okay. There is the precipitation that falls on the
12 alluvial soils, as you called them, inside or to the right of
13 Point A, and there's the water that falls on the harder rock
14 component to the left of Point A and gets into a watercourse and
15 then passes Point A.

16 Q. Okay.

17 A. Okay. So let me answer both parts. Okay.

18 Q. All right.

19 A. So the part that falls on the ground to the right of
20 Point A -- okay -- infiltrates into the ground. You can consider
21 it to be analogous to irrigating your lawn to irrigating a
22 flowerpot. The water is put on the ground surface and it
23 infiltrates into the subsurface. Okay.

24 Soils in that region -- okay -- I haven't studied it in
25 detail, but just generally, soils will hold water at the rate of
26 about 1 to 1 1/2 inches of water per foot of depth. Okay. It
27 rains in the Antelope Valley 3, 4, 5 inches a year. Okay. So if
28 it holds 1 to 1 1/2 inches of water per foot of depth, the soil

1 does, and it rains that much, the soil can hold all that water in
2 a few feet of depth. Okay. It will hold it by the tension on
3 the soil particles.

4 It cannot depercolate to the groundwater body. There's
5 just not enough there to do it. You have to bring the soil to a
6 certain degree of saturation before water will move down.

7 So the precipitation that falls on the ground surface
8 out there is within the capture zone of either sun and
9 Mother Nature, as you described it, which includes plant
10 materials. So effectively -- and, again, I haven't studied this
11 to great detail because this really is Phase 2 stuff -- but
12 effectively, as has been reported, incident precipitation on the
13 valley floor does not depercolate enough because there's not
14 enough of it. It's partially why they call it a desert.

15 Now, the other piece of water that you talked about,
16 which is that in a watercourse, as I read -- again, this is
17 Phase 2 stuff -- it comes in a creek or a river or whatever you
18 want to call it, a surface watercourse past Point A. And it's
19 flowing in sufficient quantity to stay in a watercourse. But
20 ultimately, I'll call it, it fans out onto the valley floor. And
21 once upon a long time ago, it may have run in this case to what's
22 now called a dry lake bed. But in recent time -- and you can see
23 the evidence from the air, for example, that there are these
24 fanned-out washes that are creeks that disburse onto the valley
25 floor as a function of just how intensely the water comes down.
26 It infiltrates into the ground surface at much higher rates than
27 what I just described and can ultimately bring the shallow soils
28 to a sufficient degree of saturation to then depercolate and

1 become true recharge.

2 Q. Okay. Mr. Scalmanini --

3 A. Now, you want to get to the Fault B with regard to those
4 two things?

5 Q. No. I want to start asking questions again.

6 A. Okay. You ultimately asked me a minute ago did the
7 water ultimately get past Point B.

8 THE COURT: I don't think we know that if the water in
9 the watercourse gets past Fault B. I don't think I have an
10 answer yet.

11 MR. JOYCE: He's suggesting the surface flow will fall
12 over Fault B and recharge the ground area.

13 Q. (BY MR. JOYCE:) Is that what you're saying?

14 A. Don't suggest anything from me.

15 THE COURT: Let's not argue. Let's get the answer to
16 this question.

17 Q. (BY MR. JOYCE:) Let me ask this question: When you
18 were talking about the surface flow a moment ago, what you're
19 trying to tell us is the surface flow will continue down and
20 cross over B and then percolate down into the groundwater area.
21 Is that what you're trying to tell us? Did I summarize that
22 fairly?

23 A. No. I'll summarize it.

24 Q. No. Then don't. I'll withdraw the question.

25 A. Okay. Fine.

26 Q. The question I'm really most concerned about here is
27 this: Is that this water that is becoming underground water,
28 once it gets down into the soil, then it's no longer exposed and

1 doesn't evaporate; correct?

2 A. Man, you don't hear very well. I just said that some of
3 it does.

4 Q. Okay. But not all of it does, does it?

5 A. That is correct.

6 Q. All right. And, in fact, if we were to look at a
7 geologic period of time and go out far enough, would you not
8 expect, sir, that eventually enough water would accumulate behind
9 B moving upslope so that it would manifest itself on the surface?
10 On the assumption we're talking strictly Mother Nature, no
11 influences of man.

12 A. I'll answer it the way I answered a question in your
13 telephonic deposition. I can envision the condition where that
14 might be the case and I can envision one where it might not be.
15 That is to say, there is one complete universal answer to the
16 question, yes or no, there isn't.

17 Q. Okay. Wouldn't you agree, though, that if this was
18 truly an impermeable barrier, it would be a dam? And as a dam,
19 then the water over a significantly lengthy geological time, back
20 up from behind it and eventually keep rising and rising and
21 rising until it manifested itself on the surface?

22 A. If it was truly impermeable.

23 Q. That's right.

24 A. And there's recharge that rains in this environment and
25 sufficient quantities to produce runoff, et cetera, et cetera,
26 yeah, then it's conceivable to think that that would happen.

27 Q. And if you take and add time as an additional factor and
28 you look at it over a sufficient length of geologic time, it's

1 going to happen if that's a truly impermeable barrier; true?

2 A. That if that's a truly impermeable barrier, that's
3 probably true, yes.

4 Q. And you're not aware of any surface manifestations of
5 lakes, ponds, or anything of that nature south of the San Andreas
6 Fault zone that you've mapped on your map, are you?

7 A. South of the San Andreas Fault zone, any impoundments?
8 Well, yeah, I'm aware of impoundments south of the San Andreas
9 Fault zone.

10 Q. What I'm talking about is on the line that you've drawn
11 on your map, moving from the topographical area on your map down
12 towards the San Andreas Fault zone that you've mapped, you're not
13 aware of any historical evidence of any lakes manifesting
14 themselves to the south side of that fault zone?

15 MR. DUNN: Objection. Vague.

16 THE COURT: Overruled.

17 You may answer.

18 THE WITNESS: Well, we can't use the schematic that
19 you've drawn to discuss the question that you've drawn.

20 Q. (BY MR. JOYCE:) Okay. Well, the question I'm asking is
21 simply this: In looking at all the material you've used in your
22 investigation, is there any evidence that there was ever any
23 surface manifestation of impoundments of water to the south side
24 of the San Andreas Fault zone?

25 A. Okay. Which is not located at B schematically in the
26 Antelope Valley. But fundamental answer is I didn't look and I
27 don't have an answer one way or the other.

28 MR. JOYCE: All right. Let me read, if I could --

1 Q. (BY MR. JOYCE:) Let me ask this question,
2 Mr. Scalmanini: Do you know the names of any surface water
3 features that become the source of the recharge that you were
4 talking about a moment ago?

5 A. Not well enough from memory to want to sit here and say
6 it.

7 Q. I notice in looking at your plate that you've labeled a
8 couple. You have the Big Rock and Little Rock down here in this
9 area?

10 A. Yes.

11 Q. Okay. And you have Cottonwood Creek in this area?

12 A. Yes.

13 Q. Okay. And I'm not sure if I can tell or not, but in
14 looking at your map, it shows that Cottonwood Creek coming in
15 roughly at the apex between this northwesterly red line and the
16 black line which runs north/south or in an angle north/south --
17 from the north in a southerly direction, which is labeled the
18 Cottonwood Fault. Could you just confirm that I'm correct about
19 that.

20 A. Yes.

21 MR. BUNN: Your Honor, is he looking at Exhibit 6?

22 MR. JOYCE: I'm looking at Exhibit 126.

23 THE COURT: 126.

24 MR. BUNN: 126. Thank you.

25 Q. (BY MR. JOYCE:) That appears to terminate -- or cross
26 over the Finger Buttes subbasin that you've identified and into
27 the Neenach; is that a fair statement?

28 A. Yes.

1 Q. All right. Would there be any significance if that
2 creek, in fact, were further to the north and, in fact, crossed
3 over what you have identified as Fremont Valley area and then
4 crossed over the Willow Springs Fault and into the Neenach?

5 A. I don't know what you mean, would there be any
6 significance. Yeah. The creek would be in a different place
7 than it would in any reality. I guess you could call that
8 significant. What do you mean by is there any significance?

9 Q. Well, how about this: If, in fact, it were as I
10 suggest, to the north, and, in fact, crossed over the
11 Fremont Valley and then crossed into what you've identified as
12 the relevant area, i.e., the Antelope Valley, would pumping to
13 the north of your line but in the vicinity of that creek bed have
14 an influence upon the ultimate groundwater that would recharge
15 the Antelope Valley area?

16 MR. DUNN: Objection. Hypothetical. Assumes facts not
17 in evidence.

18 THE COURT: Well, I mean, it's ultimately the start of
19 what we're going to get to in Phase 2.

20 I'm going to allow -- if the witness can answer it based
21 upon the facts in the hypothetical.

22 MR. JOYCE: That's all I'm limiting it to.

23 THE COURT: It might be missing a few that we need. I
24 don't know. But if he can answer it, I will let him.

25 MR. JOYCE: I will rephrase the hypothetical so I will
26 make sure I've got it completely typed.

27 Q. (BY MR. JOYCE:) Mr. Scalmanini, I want you to assume --

28 A. I understand that.

1 Q. -- that the creek originates in the Tehachapi mountains
2 to the northwest, that the stream runs down across a section of
3 the Fremont Valley and then across the Willow Springs Fault line
4 as mapped by Carlson in 19- -- or, at least, that you've referred
5 to it here as Carlson in 1998. Okay?

6 MR. DUNN: Objection. Assumes facts not in evidence.

7 MR. JOYCE: Okay. Well, in that case, then let me mark
8 as next in order and we'll get this straightened out.

9 THE COURT: Well --

10 MR. JOYCE: What's my next number?

11 THE COURT: It would be 9.

12 MR. DUNN: I'll withdraw the objection, your Honor.

13 THE COURT: Go ahead. Because for the hypothetical
14 answer to have any validity, you'd have to establish all of the
15 facts reported. So let's try to shortcut it a little bit.

16 MR. JOYCE: I understand.

17 Q. (BY MR. JOYCE:) If that were the surface watercourse,
18 and if you further, then, were to assume that agricultural
19 interest in the Fremont Valley were pumping groundwater within
20 a -- a fairly close proximity to the watercourse itself, could
21 that have any impact upon the amount of recharge that would have
22 otherwise made its way into what you call the Antelope Valley
23 groundwater basin? That's the hypothetical.

24 A. Okay. So the farmer in the Fremont basin, valley,
25 whatever, is pumping groundwater?

26 Q. Is pumping groundwater.

27 A. From a well.

28 Q. From a well. Within the vicinity of the watercourse as

1 it crosses through the Fremont Valley and ultimately terminates
2 in the Antelope Valley.

3 A. Okay. No.

4 MR. JOYCE: I will mark as next in order, which I
5 believe would be Plaintiffs' Exhibit --

6 THE COURT: 9.

7 MR. JOYCE: -- 9. Thank you, your Honor.

8 Q. (BY MR. JOYCE:) This is an original USGS map by -- this
9 is the -- one of the Carlson maps that I believe you referred to.

10 Can you just confirm that for me, Mr. Scalmanini?

11 A. Yes.

12 Q. Can you just show me where --

13 THE COURT: What do we want to call it for our clerk?

14 MR. JOYCE: This would be technically titled Regional
15 Water Table 1996 and Water Table Changes in the Antelope Valley
16 Groundwater Basin, California, by Carl S. Carlson,
17 David A. Lighten.

18 THE COURT: We'll call it Regional Water Table
19 Number 96.

20 Q. (BY MR. JOYCE:) In any event, Mr. Scalmanini, if you
21 can just confirm for me that Carlson maps the Cottonwood Creek,
22 does he not?

23 A. He shows it schematically, yes.

24 Q. Does Carlson show the Cottonwood Creek originating at
25 the same point of apex that you show it in your map?

26 A. Well -- well, I can't see the origination of
27 Cottonwood Creek on my map from here.

28 Q. If you would like to step down, please feel free to do

1 so.

2 THE COURT: You may.

3 (Pause in Proceedings.)

4 THE WITNESS: Well, I can't tell for absolute sure. The
5 base that Carlson used is basically a photo mosaic of the ground
6 surface. This is a topographic map. Our base map is a
7 topographic map taken from a -- call it patchwork of published
8 topographic maps.

9 I'm trying to get a line where Cottonwood Creek -- you
10 asked where it originated. I can't tell.

11 Q. (BY MR. JOYCE:) The issue I was most significantly
12 concerned about is, as depicted on your map, the Cottonwood Creek
13 does not traverse any portion of the Fremont Valley; is that a
14 fair statement?

15 A. Well, what's the limit of the Fremont Valley?

16 Q. Well, apparently, you have -- I would have to defer to
17 you since you have suggested that the Fremont Valley is to the
18 north of your line.

19 A. That's correct. And the Cottonwood Creek, you know,
20 comes out of the mountains on what I'll call the Fremont Valley
21 side of a line that I've drawn to differentiate between two
22 groundwater basins.

23 Q. Okay. Well -- but am I correct that Cottonwood Creek,
24 as depicted by Carlson, is over here coming roughly into the
25 area?

26 A. No, it's not.

27 Q. Apparently even on your map, there's some manifestation
28 of a creek or a stream in that same location that crosses Fremont

1 and terminates into the Neenach subbasin; correct?

2 A. There is a whole collection of what I'll call
3 finger-like drainage courses that come off of the southeastern
4 slope of the Tehachapi mountains and drain out and end in the
5 valley -- the flat portion of the valley or valleys that are to
6 the southeast.

7 Q. And, in fact, many of those cross over the northern
8 portion of your boundary line across the Fremont Valley and
9 into -- and terminate into what you have outlined as the
10 Antelope Valley; correct?

11 A. That's correct.

12 MR. JOYCE: All right. Your Honor, I'd like the Court
13 to take judicial notice of the California Supreme Court opinion
14 in Mojave versus Barstow.

15 MR. DUNN: Object.

16 MR. JOYCE: And -- pardon me?

17 MR. DUNN: Improper subject of --

18 THE COURT: I'm not sure I can take judicial notice of
19 an opinion.

20 MR. DUNN: It's a recorded case. It is what it is.

21 THE COURT: I can certainly -- it's going to be reviewed
22 as part of the research, so --

23 MR. JOYCE: I was only interested in reading, from
24 Mr. Scalmanini's benefit, a hydrologic condition described by the
25 Court. I want to have -- have him explain an issue to me.

26 MR. DUNN: Well, objection. This is clearly outside the
27 scope of his direct examination. We're concerned here with the
28 Antelope Valley. What happened in a separate basin in Mojave and

1 what those facts were and -- I don't think -- if it's of any
2 relevance at all, it's got to be of such marginal relevance to be
3 outweighed by the time --

4 MR. JOYCE: I'll see if I can get a foundation. I may
5 get there; I may not.

6 THE COURT: Okay.

7 Q. (BY MR. JOYCE:) Mr. Scalmanini, given that your
8 interest is groundwater and groundwater hydrology, I assume that
9 you intend to follow disputes in groundwater rights whenever you
10 become aware of them?

11 MR. DUNN: I'm going to object to that because I
12 attempted to ask him precisely other basins and other basin
13 disputes --

14 THE COURT: I'll sustain that objection. I sustained
15 the objection.

16 MR. JOYCE: Thank you, your Honor.

17 Q. (BY MR. JOYCE:) Let me go back, if I -- Mr. Scalmanini,
18 to Bloyd for a moment.

19 In Bloyd, in his written literature, he attempted to
20 give a written description of what he did to arrive at the lines
21 he drew; correct?

22 A. What lines?

23 Q. Well, the subunits or subareas that he identified as
24 being the subbasin units -- or subunits, rather. And then, in
25 addition to that, he also gave a description of what he had
26 attempted to do to delineate the groundwater basin itself.

27 A. Hang on a second.

28 Q. If you'll refer to page 19, it might be of assistance.

1 (Pause in proceedings.)

2 THE WITNESS: Yes.

3 Q. (BY MR. JOYCE:) In the very first paragraph, he says,
4 "Each is divided" -- here he's talking about the two groundwater
5 basins, I believe -- I'll just read the entire paragraph. Maybe
6 we can get it focused. "There are two major groundwater basins
7 in the AVEK area, Antelope Valley and Fremont Valley basins.
8 Each is divided into groundwater zones by faults, bodies of
9 consolidated rock, groundwater divides, and in some instances by
10 convenient and arbitrary boundaries." Okay?

11 A. Yep. That's already in from today. But go ahead.

12 Q. All right. And then, also, on the next page, which is
13 20, he goes through the process of identifying the zones of the
14 Antelope Valley basin itself; correct?

15 A. Beginning on page 20, yes.

16 Q. Okay. If I understand it, in your deposition, you
17 confirm for us, and I believe you have here too, is that your map
18 is, in essence, taken from Figure 10 of Mr. Bloyd's report;
19 correct?

20 A. It's not literally taken from, but it is, I'll say, a
21 reproduction of.

22 Q. A reproduction.

23 And Bloyd's Figure 10 was an attempt in his part to
24 illustrate the subunits; fair statement?

25 (Pause in Proceedings.)

26 THE WITNESS: Yes.

27 Q. (BY MR. JOYCE:) Okay. What I'm really most concerned
28 about is can you tell me which of the lines shown on your

1 Exhibit 126 are the convenient -- are the lines that were drawn
2 as a matter of convenience by Bloyd?

3 A. I don't think I can.

4 Q. Okay. And is that because Bloyd, in his textual
5 material, doesn't describe which lines he adopted as a matter of
6 convenience; correct?

7 A. That is correct. If I remember correctly -- I have to
8 look through the whole text, but what I remember correctly is
9 that he -- using the quote that you just said, he described
10 boundaries to the limit of his -- of his mapping. As I discussed
11 in some detail, he didn't close in the southeast corner, but he
12 described everything that he described as -- as I recall, as
13 being either a fault, a body of consolidated rock, or a
14 groundwater divide.

15 Q. All right.

16 A. I don't remember anything around the perimeter where he
17 called it a convenient or arbitrary boundary.

18 Q. But isn't it also true that you can't identify what he
19 was referring to as those lines drawn for the purposes of
20 convenience or those lines drawn which were, in his view,
21 arbitrary?

22 A. I just told you that --

23 Q. Mr. Scalmanini, all I'm trying to ask you is very simply
24 this: Which lines did you understand Bloyd to be referring to
25 when he said some of these lines are arbitrary and some of these
26 lines are for purposes of convenience?

27 A. As regards the Antelope Valley, I understood none to be
28 drawn for convenience or for arbitrary reasons. I assumed that

1 when he wrote the sentence that you just said, that is to say
2 that he divided on several bases, including faults, bodies of
3 consolidated rock, ground divides, and in some instances by
4 convenient and arbitrary boundaries, he was talking about both
5 the Antelope Valley and Fremont Valley. I did not look at what
6 he did to draw boundaries around basins or subbasins in the
7 Fremont Valley. I only looked at what he did in the
8 Antelope Valley.

9 Q. Mr. Scalmanini --

10 A. He did not label any of those as "convenient" or
11 "arbitrary."

12 Q. Well, then can you direct me to where he labeled the
13 ones in the Fremont Valley as being "convenient" or "arbitrary"?

14 MR. DUNN: Objection. Outside the scope of direct
15 examination.

16 THE COURT: Overruled.

17 MR. DUNN: Irrelevant.

18 THE WITNESS: I have not looked at how he did or didn't
19 map any of the subbasin boundaries or outermost basin boundaries
20 of the Fremont Valley other than where it abuts the
21 Antelope Valley, so I don't know.

22 Q. (BY MR. JOYCE:) Okay. And --

23 MR. BUNN: Your Honor, the language that Mr. Joyce read
24 from says in it that he's referring to subbasin boundaries. I
25 don't know where Mr. Joyce is going with this.

26 MR. JOYCE: That's my -- exactly my point. I'm trying
27 to find out which of these subbasin boundaries that
28 Mr. Scalmanini has put on Exhibit 126 that he's taken from Bloyd

1 were put there, because Bloyd put them there either as a matter
2 of convenience or because they're arbitrary.

3 MR. DUNN: Objection. Relevance. We're not concerned
4 with subbasins in this phase.

5 THE COURT: Well, overall, it might have some relevance
6 to his ultimate depiction of basin boundaries as to how it
7 relates.

8 MR. JOYCE: To be more clear, your Honor, is that the
9 red line Mr. Scalmanini has drawn is just the outer line of each
10 of the subunits as mapped by Bloyd. If I don't know whether or
11 not Bloyd chose by way of example to simply pick the fault rift
12 zone as a place to draw the line out of convenience or if that's
13 an arbitrary line, then I think that has some relevance here.

14 THE COURT: I'm going to allow you to go into it.

15 THE WITNESS: Okay.

16 Q. (BY MR. JOYCE:) All I'm trying to ascertain --
17 Mr. Scalmanini, I've read Bloyd from front to back and I cannot
18 find in there whether in Fremont or in Antelope Valley where he
19 tells us which lines were arbitrary and which lines were
20 convenient.

21 Do you have any reason to believe that I didn't read it
22 accurately?

23 MR. DUNN: Objection. Calls for speculation.

24 THE COURT: Overruled.

25 THE WITNESS: Are we talking about outermost boundaries,
26 or all basin or subunit boundaries?

27 Q. (BY MR. JOYCE:) What I'm suggesting to you,
28 Mr. Scalmanini, is that nowhere in any discussion of basin

1 boundaries, groundwater basin boundaries, subunits, zones,
2 subareas does Mr. Bloyd ever tell us which lines he was referring
3 to when he used the term "convenience and arbitrary" in his
4 initial introductory paragraph describing what he did.

5 Do you have any reason to believe that I am in error in
6 that observation?

7 MR. DUNN: Objection. Compound. There are two
8 questions pending.

9 THE COURT: I'll sustain that objection. Just let's
10 answer the first one, not about him being in error.

11 THE WITNESS: So what was the first one?

12 Q. (BY MR. JOYCE:) I'm simply asking you if you have any
13 reason to believe that you can find in Bloyd texturally where he
14 identifies what lines he was referring to when he used the term
15 "convenient and arbitrary" in the introductory paragraph to what
16 he was attempting to do.

17 A. I don't think -- I'll look line by line through the
18 Antelope Valley, again, which is what I've, you know, referred to
19 before and used as reference material as regards to this whole
20 discussion.

21 I can't remember a place where he used a convenient or
22 arbitrary bound as regards the outside or inside and said so. I
23 described the same types or specifically the same physical
24 features when we walked around Bloyd's line, whatever it was,
25 mile by mile or segment by segment a couple of days ago.

26 MR. JOYCE: Your Honor, I would move to strike as
27 nonresponsive. My question is simply --

28 THE COURT: I'll allow the answer. I'm going to deny

1 that. But I think we have an answer. Now let's get our next
2 question.

3 MR. JOYCE: That's not responsive.

4 Q. (BY MR. JOYCE:) I will resay it one more time so we're
5 clear.

6 Can you direct me to the page or anywhere within the
7 text of Bloyd where he tells us which lines were placed upon his
8 Plate 10 or any other plate he used in his report which he was
9 referring to when he used in his introductory paragraph the term
10 "convenience or arbitrary"?

11 MR. DUNN: Objection. Bloyd's report speaks for itself.

12 THE COURT: Overruled. Although, I thought we had an
13 answer that was -- although, did we just say no -- was
14 essentially a no answer.

15 If you can answer this question, sir, "yes" or "no," I'm
16 going to just have you do that.

17 MR. JOYCE: Thank you, your Honor.

18 THE WITNESS: Yes, I can answer it. And the answer
19 would be no.

20 THE COURT: Okay. Thank you.

21 Q. (BY MR. JOYCE:) Now, Mr. Scalmanini, in formulating the
22 map that you have formulated, you relied upon Bloyd's Figure 10;
23 correct?

24 A. In part, yes.

25 Q. Okay. And Bloyd's Figure 10 was the figure that he
26 referred to in the body of his textural description of his
27 efforts when he was talking about the zones or the subunits; fair
28 statement?

1 A. Yes.

2 Q. Okay. In the paragraph where he first starts off and
3 says "delineation of groundwater basins," the very first sentence
4 says, quote, "Again, there are two major groundwater basins in
5 the AVEK area: Antelope Valley and Fremont Valley basins." Then
6 he has a parentheses, Figure 2, parentheses, period; correct?

7 MR. DUNN: Objection. Asked and answered repeatedly
8 over 2 days.

9 MR. JOYCE: This is foundation to the next question,
10 your Honor.

11 THE COURT: Well, I think that's in the report. Let's
12 just get to the next question.

13 Q. (BY MR. JOYCE:) The question I have simply is this,
14 Mr. Scalmanini: Why didn't you use Figure 2 to illustrate the
15 groundwater basins of both Fremont and Antelope Valley as
16 depicted by Bloyd in his Figure 2 as opposed to the subunit map,
17 i.e., Figure 10?

18 A. I'd say primarily maybe almost exclusively as regards
19 Bloyd, because on the next page that you took me to, page 20, and
20 continuing on, he provides a detailed description of each of the
21 subbasins or subunits or zones, whatever word he used. And all
22 with regard to the overall Antelope Valley groundwater basin.

23 I think I've said at least once, probably multiple
24 times, that I looked at this question from -- I'll call it day
25 one or minute one as has an entity or a physical feature known as
26 an Antelope Valley groundwater basin previously been defined or
27 not. Do we need to start from scratch, or can we pick up with
28 previous investigations? And in --

1 MR. JOYCE: Your Honor --

2 THE WITNESS: -- in deciding whether or not I could draw
3 this line on Exhibit 126, then I went back, in effect, to
4 fundamental definition of a groundwater basin and then criteria
5 that would allow you to draw lines and apply physical features to
6 a given setting and to conclude whether or not there was a
7 groundwater basin in that location.

8 And in doing so, I looked to see whether or not somebody
9 like Bloyd -- in this case, Bloyd specifically -- had applied
10 criteria that were consistent with that. And in his report, he
11 goes through a discussion of those criteria on a
12 subbasin-by-subbasin basis referring to Figure 10. So I used the
13 mixture of the text that he describes and, in effect, applies the
14 physical criteria or technical criteria to determining
15 ultimately -- or initially the individual subbasins which in
16 aggregate formed the total groundwater basin. And that's what I
17 stated in Figure 10. It's why I used Figure 10 in context with
18 his textural description.

19 Q. (BY MR. JOYCE:) Okay. Well, in his opening sentence in
20 describing the two groundwater basins, he refers us to Figure 2.

21 And I would mark that next in order, which would be?

22 THE COURT: 10.

23 MR. JOYCE: Thank you.

24 Q. (BY MR. JOYCE:) I have it on the blowup here.

25 Is that an accurate reproduction of his Figure 10? His
26 Figure 2? Excuse me.

27 A. I can't tell with the light shining on it.

28 Q. Do you have Figure 2 available to you, Mr. Scalmanini?

1 Would you agree, sir, that on Bloyd's Figure Number 2,
2 which is referred to in the opening sentence of his description
3 of the delineation of the groundwater basins, that he identifies
4 Fremont Valley and Antelope Valley?

5 MR. ABBOTT: Your Honor, may the witness have a chance
6 to examine the whole document? We only have a portion of it up
7 on the screen.

8 THE COURT: We -- yes. The whole Figure 2.

9 MR. JOYCE: I believe he has just extracted the entire
10 Figure 2 from his files.

11 THE WITNESS: No. This isn't Figure 2.

12 MR. BUNN: What's the title of it, please?

13 MR. JOYCE: It's Figure 2 from Bloyd.

14 MR. BUNN: Is there a title on it?

15 MR. JOYCE: Yeah. There's a map. A title on Figure 2.

16 MR. BUNN: Could you tell me what --

17 MR. JOYCE: I'm concerned about Figure 2.

18 MR. BUNN: I understand. Could you tell me what the
19 tile is?

20 MR. JOYCE: I'll let Mr. Scalmanini tell you when he
21 gets it out of his --

22 THE WITNESS: I don't have it.

23 THE COURT: You don't have -- do you have the Bloyd
24 report? Somewhere we do.

25 Q. (BY MR. JOYCE:) It's page 6 of the report,
26 Mr. Scalmanini. That might be helpful.

27 A. It's in the text?

28 Q. It may very well be part of the text report itself.

1 THE COURT: So we'll call it page 6 of the report.
2 MR. BUNN: Thank you, your Honor.
3 Q. (BY MR. JOYCE:) Do you now have it before you?
4 A. Yes.
5 Q. Just so we're clear so I'm not misleading anyone, I'm
6 going to hand you 10. Just want you to compare your page 6 of
7 Bloyd's report with what I've now marked as 10.
8 A. Okay.
9 Q. Okay. Is Plaintiffs' Exhibit 10 a true and correct copy
10 of page 6 of the Bloyd report that you're looking at which sits
11 before you?
12 A. Looks like it is.
13 Q. Thank you very much.
14 And on Exhibit 10, does not Bloyd identify the
15 Antelope Valley?
16 A. On Figure 2?
17 Q. Yes.
18 A. Well, Figure 2 is --
19 Q. Just answer my -- does he identify the Antelope Valley
20 in words on there?
21 A. He has the words "Antelope Valley" on this figure, yes.
22 Q. Okay. Does he also have the words "Fremont Valley"?
23 A. Yes.
24 Q. Does he also have a line which separates the two?
25 A. Yes.
26 Q. Okay. And in the legend, that line is identified as to
27 what kind of line it is; is that not true?
28 A. Yes.

1 Q. What is the line that's identified in the legend?
2 A. Drainage boundary.
3 MR. JOYCE: Thank you.
4 I have no further questions.
5 THE COURT: All right. I take it cross is done.
6 So we'll start redirect after -- oh.
7 MR. ZIMMER: Your Honor, I have about --
8 THE COURT: I was going to exclude you from questioning.
9 MR. JOYCE: Did I do that?
10 MR. ZIMMER: I have a brief -- your Honor, it will
11 probably take me 15 minutes, 20 minutes.
12 THE COURT: Let's do it after lunch.
13 I'm going to let the witness step down.
14 We need to, for my clerk -- we're a little confused on
15 our exhibits. So let's go over the exhibits.
16 From plaintiffs' exhibits, I have a 1, 2 -- I didn't
17 write down a 3, but I had a 4, 5, 6, 7, 8, and 9. And my clerk
18 says 3 was Mr. Sheahan's something-or-other.
19 MR. ZIMMER: Slide 17, which shows two sets of
20 boundaries.
21 MR. BUNN: It was a map that I borrowed from the
22 plaintiffs for use in my opening statement.
23 THE COURT: All right.
24 MR. BUNN: And it had both sets of boundaries on it.
25 THE COURT: All right. It was not in the actual
26 testimony. It was --
27 MR. BUNN: That's correct.
28 THE COURT: That's why I don't have it written down.

1 Nothing has been admitted. Do plaintiffs want 1 through
2 10 admitted first?

3 MR. JOYCE: Your Honor, can I reserve and I will make an
4 offer right after lunch? Because I am not real sure. Some of
5 them, I think --

6 THE COURT: Take a look at them.

7 And then I need to know if we're going to have any
8 objections for 1 through 10.

9 For defense, I'll make sure mine corresponds with the
10 clerk's: 106, 107, 109, 110, 113, 114, 115, 126, 112, and 111.
11 Now, I could have missed one or two.

12 Madam Clerk?

13 MS. FUENTES: Your Honor, this morning, we submitted to
14 your clerk an amended list which has all of the exhibits we may
15 potentially use and the -- exact titles of them. According to my
16 notes, you've gotten everything that's been used so far.

17 THE COURT: All right. Then what I want to do, because
18 we need to make the minutes so far because I want to know if we
19 want those admitted and have an objection on that.

20 MR. JOYCE: Thank you, your Honor.

21 THE COURT: Maybe we can get an agreement. If everyone
22 agrees, I'll have the numbers to go over. If there's an
23 objection, we'll talk about it and take up that objection
24 briefly.

25 We probably should -- at this point, we're getting to
26 enough, we have -- should handle them at the end of the --

27 MR. JOYCE: Afternoon?

28 THE COURT: Yeah.

1 MR. JOYCE: I apologize. I meant to do that, but I was
2 not thinking.

3 THE COURT: That is all right.

4 So we'll break for lunch.

5 I'm going to ask just the attorneys to come back by
6 1:20. And that way you can make sure we've got -- we know what
7 we're doing on the exhibits.

8 My court reporter will be back right at 1:30, so
9 whatever's on the record we'll start right at 1:30. But I want
10 to make sure we have a prompt start.

11 MR. JOYCE: Do we have any indication about tomorrow?

12 (Discussion - Not Reported.)

13 (Lunch Recess.)

14 THE COURT: Did we get an agreement on exhibits?

15 MR. ZIMMER: Your Honor, I talked to Mr. Dunn, and quite
16 frankly, I spent most of the time trying to pare down my
17 examination of Mr. Scalmanini. There are a couple of areas I'd
18 like to talk to Mr. Dunn about -- about coming to an agreement
19 about -- so we don't have to waste the Court's time arguing about
20 things we don't need to argue about.

21 THE COURT: Why don't we see if we can't by tomorrow
22 morning have a list.

23 MR. DUNN: As to the plaintiffs' exhibits, we can do
24 that now if you'd like.

25 THE COURT: All right. I'm sure they won't object.

26 MR. JOYCE: Not in the least.

27 MR. BUNN: We've agreed that Plaintiffs' Exhibits 3, 4,
28 5, and 7 through 10 can be admitted.

1 THE COURT: Okay.

2 MR. BUNN: 1 and 2 were opening statement things and not
3 admissible.

4 THE COURT: They're just marked for illustrative
5 purposes.

6 MR. BUNN: Right. And Number 6, Mr. Joyce intends to
7 furnish some further foundation later on.

8 THE COURT: All right. That's fine.
9 Then 3 through 5 and 7 through 10 are admitted.

10 MR. DUNN: Without objection.

11 THE COURT: All right.

12 MR. ZIMMER: I'm sorry, your Honor --

13 THE COURT: Quickest thing accomplished in this whole
14 trial so far.

15 MR. ZIMMER: 3 through 5?

16 THE COURT: 3 through 5 and 7 through 10.

17 MR. JOYCE: And it was by agreement. Surprise.

18 THE COURT: All right. Mr. Zimmer, you're up.

19 MR. ZIMMER: Thank you, your Honor.

20 CROSS-EXAMINATION

21 BY MR. ZIMMER:

22 Q. Mr. Scalmanini, I expect that my questioning of you will
23 be fairly brief.

24 If you could, I would appreciate it if you would answer
25 "yes" or "no" when that can be done so that we can move through
26 this without a lot of extra things that I'm not asking you.

27 Fair enough?

28 A. Okay.

1 Q. Mr. Scalmanini, is it a true statement, sir, that at the
2 time of your deposition, you were not aware of any treatise that
3 was commonly available as to what a subbasin is?

4 A. I think no.

5 Q. Did you testify to that at your deposition?

6 A. I don't remember being asked about a treatise as to what
7 a subbasin was, to be real honest. But since I used the same
8 reference material to define subbasins as basins, meaning the
9 criteria I had here -- I forget the exhibit number -- and that's
10 embedded in a treatise, if I was asked, you know, a treatise,
11 that's probably what I would -- that's -- I would say I was
12 embedded in that and I was aware existed.

13 Q. So is the answer no, you did not say that?

14 A. I don't remember.

15 Q. Do you remember testifying -- well, I guess you could
16 get into some quibble about what a, quote, "treatise," unquote,
17 is. Basically, you're not aware of anything that's commonly
18 available in the way of a treatise on what a subbasin is?

19 A. That'd still be true. A treatise by itself on that
20 subject, I'm not aware of. The fact that there is material
21 inside of a bigger volume that might be considered a treatise and
22 the subject of subbasins is just a small part of that, then I'd
23 answer differently.

24 Q. I didn't ask you for an explanation, sir, why you said
25 or did not say you said. I'm just asking you whether you said
26 it.

27 You admit that you said it; correct?

28 A. Say the words again.

1 Q. In other words, when I'm asking you questions, I'm not
2 asking you to explain why you said what you said. I'm just
3 asking you whether you said it. And you can answer that "yes" or
4 "no."

5 And I take it you said, "Yes, I did say it."

6 A. If that's what's written down and I didn't change it,
7 then yes, that's what I said.

8 Q. Did you say, sir, at your deposition that the
9 literature, including textbooks, is generally devoid of a
10 treatise on the subject of what a basin is and what a subbasin
11 is?

12 A. Yes.

13 Q. Is it true, sir, that a watershed basin can, in fact, be
14 surveyed; correct?

15 A. Yes.

16 Q. Is it true, sir, that in mountains, there are permeable
17 areas within a mountain?

18 A. Yes.

19 Q. We know that trees grow on top of mountains; correct?

20 A. I don't know about on top of, but trees grow on
21 mountains, yes.

22 Q. They gain their water from the mountain.

23 A. Yes. What does that have to do with what you just asked
24 me?

25 Q. I'm not asking you what it has to do. We can save that
26 for argument later.

27 There are mountain springs that grow from mountains;
28 correct?

1 A. There are springs that flow from the sides of the
2 mountains, yes.

3 Q. And they grow from permeable area within the mountains
4 that pull water; correct?

5 A. Fundamentally, yes.

6 Q. And it is true that groundwater accumulates in mountains
7 as well as in valleys.

8 A. Yes.

9 Q. You agree, sir, isn't it correct, that pumping outside
10 of a watershed generally would not affect pumping inside the
11 watershed?

12 A. Generally, yes.

13 Q. And you agree that water in what you describe as a
14 groundwater basin comes from the watershed, either by runoff or
15 by migration of groundwater in addition to whatever's imported
16 into the valley?

17 MR. BUNN: Objection. Compound.

18 MR. ZIMMER: Would that be correct?

19 THE COURT: Overruled.

20 THE WITNESS: Can you break it into its three parts
21 again?

22 Q. (BY MR. ZIMMER:) Is it true --

23 A. I agree that it comes from runoff? Is that the first
24 part?

25 Q. In other words, some water ultimately ends up in what
26 you have described as a groundwater basin; true?

27 A. Some water does, yes.

28 Q. And in this particular case, that water gets there from

1 the -- one of three sources: The watershed, the runoff from the
2 watershed, the migration of groundwater, and what's imported.

3 A. You -- the first subdivision was the watershed. Now,
4 water falls in the watershed and then becomes runoff from the
5 watershed. And I agree that that is a form of -- or mechanism
6 whereby water gets to the groundwater basin eventually.

7 Q. Do you also agree that migration of groundwater that
8 percolates in the fractured bedrock is also a part of what makes
9 its way to the -- what you describe as a groundwater basin?

10 A. Can, yes. Not necessarily does, but can.

11 Q. And the only other source of water that's available is
12 what's imported into the valley.

13 A. I don't know if I want to be held to the only other, but
14 that's -- in this particular case, that's the predominant other
15 component, yes.

16 Q. Is there anything else that we're missing here? Because
17 you said that water that falls by way of rainfall inside the
18 valley floor is insufficient to work its way into the water
19 table. Is there any other source of water other than runoff,
20 groundwater migration, and importation?

21 A. Not that I can instantly think of, but I haven't done
22 that much work on that subject in the basin.

23 Q. It is true, sir, other than taking some data with regard
24 to flow across what you've described as the boundary line in a
25 couple of small areas, you have not done any study or evaluation
26 of the amount of flow anywhere around the line that you have
27 drawn; is that correct?

28 A. That's correct.

1 Q. There was some discussion of the USGS report, that new
2 USGS report that's in the works now but has not been published,
3 doesn't that report go into in much greater detail a more
4 comprehensive evaluation of the Antelope Valley in terms of
5 assessing in that study flow across these lines that you have
6 indicated?

7 A. Much more comprehensive than what?

8 Q. Than what's been done in the past.

9 A. I don't think so.

10 Q. The new USGS study, you will admit, does study flow
11 across the lines that you have drawn on your diagram?

12 A. My best answer to that is I haven't seen the new USGS
13 study in any detail. Is that like its predecessor, which is the
14 American Groundwater -- it documents a new tool, meaning
15 numerical groundwater, it does Durbin, which is from the '70s if
16 I'm remembering right. It accounts for all components of inflow
17 and outflow to the Antelope Valley ground basin.

18 Q. And that includes flow across the line that you have
19 drawn on your diagram as the line for the basin boundary.

20 A. That is correct. Both --

21 Q. That's all I asked, is whether it did.

22 A. Yes.

23 Q. Sir, you are a civil engineer and mechanical engineer by
24 education; is that correct?

25 A. Yes.

26 Q. You are not a registered geologist; is that true?

27 A. That's correct.

28 Q. You are not a certified engineering geologist; is that

1 true?

2 A. Yes.

3 Q. You are not a registered geophysicist; is that correct?

4 A. Yes.

5 Q. You are not a certified hydrogeologist; is that correct?

6 A. Yes.

7 Q. And you're not a certified professional geologist;

8 correct?

9 A. Yes.

10 Q. You do admit, sir, that groundwater can permeate through

11 fractures in a fault zone; correct?

12 A. What do you mean by "permeate through fractures in a

13 fault zone"?

14 Q. Can migrate as groundwater through fractures in a fault

15 zone?

16 A. Meaning cross the fault through, I'll call it, breaks in

17 the fault?

18 Q. Yes.

19 A. Is that what you mean? Yes.

20 Q. And logically speaking, the more fractured an area is,

21 the more water you might expect to migrate through that fractured

22 material.

23 A. Well, now we're talking about fractured faults or

24 fractured material?

25 Q. Well, faults cause fractured material, do they not?

26 A. If you're asking about them flowing through the

27 fractured material, that in general, logically, the more

28 fractured a consolidated earth material is, the more potential

1 there is for flow to go through, yes.

2 Q. At the time of your deposition, you admitted that a
3 water supply can, in fact, be developed in the Leona Valley; is
4 that correct?

5 A. I probably speculated on that, but if you want to say
6 admitted, that's okay.

7 Q. You didn't say in your deposition that you were
8 speculating that, did you?

9 A. I don't remember.

10 Q. Do you remember testifying that there were (sic)
11 sufficient thickness in aquifer material that water supply can be
12 developed from groundwater in the Leona Valley?

13 A. Yes.

14 Q. Although you had not studied Leona Valley for purposes
15 of your deposition?

16 A. That's correct.

17 Q. You admitted at the time of your deposition that you did
18 not know where to draw a line in the southeast corner of your
19 map; is that correct?

20 A. I don't think so. I think I ultimately said how I'd
21 close it in, so to speak.

22 Q. You postulated that you could potentially close it in by
23 using a groundwater divide; correct?

24 A. I don't know about postulation, but I would have -- I
25 think I said that I could close it in by groundwater divide.
26 It's how other investigators have done it. I didn't disagree
27 with that.

28 Q. A groundwater divide can move, isn't that correct, over

1 time?

2 A. Yes, it can.

3 Q. That's because of the changes in head on one side versus
4 the other?

5 A. Fundamentally, yes.

6 Q. You also have admitted that basin boundaries sometimes
7 depend on the focus of the inquiry; is that correct?

8 A. Groundwater basin boundaries?

9 Q. Yes.

10 A. I don't think I admitted that, no.

11 Q. Did you say that basin boundaries sometimes depend on
12 the focus of the inquiry?

13 A. I don't remember being asked about basin boundaries. I
14 remember talking about study area boundaries can move as a
15 function of the focus of the investigation. I don't remember
16 basin boundaries moving as a function of that.

17 Q. But certainly study areas can move.

18 A. No question.

19 Q. Based on what you're trying to accomplish; correct?

20 A. That's what I just said. No question.

21 Q. You had not requested at the time of your deposition any
22 materials from your client regarding well data on either side of
23 your line; is that correct?

24 A. I have not what?

25 Q. Requested from your clients any information on well data
26 or compiled any well data at the time of your deposition as to --

27 A. I certainly haven't compiled. I don't know whether I
28 requested. No. Probably not.

1 Q. And you had not looked at the issue of whether a well
2 placed on one side of the line would have an effect on pumping on
3 the other side of your line at the time of your deposition; isn't
4 that correct?

5 A. That's correct. Not within a focus, analysis, or
6 anything like that.

7 Q. You have admitted, sir, that a boundary is rarely
8 perfect. And in this case, that there's no acknowledgement
9 that -- or strike that.

10 You do admit that a boundary is rarely perfect; correct?

11 A. Yes.

12 Q. And that there is some flow across; correct?

13 A. Yes.

14 Q. And you have admitted that pumping outside of your line
15 could affect groundwater inside that basin line.

16 A. I think the way I was asked the question was could I
17 conceive of the impacts of pumping on one side having an effect
18 on the other. And I said I could conceive of conditions whereby
19 the answer would be yes; and I could conceive of conditions
20 whereby the answer would be no.

21 Q. And you also conceded that pumping outside the watershed
22 would not have an effect on the groundwater inside.

23 A. I think I just answered that a minute ago by saying
24 generally, yes.

25 Q. Can you tell me, sir, how many square miles are
26 contained in the area that you have drawn with your line.

27 A. No, I can't. It's measured in hundreds, but I can't
28 remember. I've never planimetered it if that's what you really

1 want to know.

2 Q. In the Carlson study, I recall that this more narrow
3 line was described as, like, 940 -- do you have the Carlson study
4 up there, Mr. Scalmanini?

5 A. I don't. It's down in that box down there. At least, I
6 think it is. Or wait a minute.

7 Q. I think it's this one, Mr. Scalmanini.

8 MR. BUNN: I think you're looking for Exhibit 9.

9 Q. (BY MR. ZIMMER:) Do you remember seeing,
10 Mr. Scalmanini, in the Carlson's report?

11 A. I think I've seen in a reference of places the number of
12 miles, but I don't remember the numbers. I remember it to be in
13 the number of square miles, but that's a very general answer.

14 Q. Do you know just generally whether it's less than a
15 thousand square miles?

16 A. Can I get out this box down here for a second?

17 MR. BUNN: I don't know what the question is. He said
18 it.

19 THE WITNESS: Whether it exceeds.

20 MR. JOYCE: The square miles.

21 (Discussion - Not Reported.)

22 MR. JOYCE: I found it, Mr. Scalmanini.

23 THE WITNESS: Okay.

24 Q. (BY MR. ZIMMER:) Referring for the record to a USGS --
25 U.S. Geological Survey Water Resources Investigation Report
26 98-4022.

27 THE COURT: Are we marking this?

28 MR. ZIMMER: Not at the moment, your Honor. I was going

1 to use it to refresh the witness's recollection.

2 THE WITNESS: Yeah. I assume their boundaries, meaning
3 Carlson, et al., the Antelope Valley groundwater basin covers
4 about 920 square miles.

5 Q. (BY MR. ZIMMER:) And that line is the more restrictive
6 line that you have drawn on your diagram, your line; correct?

7 A. Yes.

8 MR. ZIMMER: Thank you, sir.

9 I have no further questions, your Honor.

10 THE COURT: Thank you.

11 Redirect.

12 MR. DUNN: I have no further questions. Other counsel
13 may.

14 THE COURT: All right.

15 MR. BUNN: I do have a few, if I may, your Honor.

16 THE COURT: You may.

17 CROSS-EXAMINATION

18 BY MR. BUNN:

19 Q. Mr. Scalmanini, can you look at Exhibit 10, which is
20 page 6 of the Bloyd report.

21 Do you still have it up there?

22 A. I do.

23 Q. What is the title of that figure?

24 A. Map of the AVEK area. It's A-V-E-K. And that's an
25 abbreviation for Antelope Valley/East Kern. Showing location of
26 stream flow gauges and weather gauges.

27 Q. And can you tell from the Bloyd report what the purpose
28 of this figure is?

1 MR. JOYCE: I'm sorry. I don't mean to interrupt. Are
2 we talking about 10 or 2?

3 MR. BUNN: 10.

4 THE COURT: We're talking about Exhibit 10, Figure 2,
5 page 6.

6 MR. BUNN: You introduced it as Exhibit 10.

7 (Discussion - Not Reported.)

8 THE COURT: It's the same one we discussed on cross.

9 MR. JOYCE: Thank you.

10 THE WITNESS: Can I tell what it is? Is that the
11 question you asked me?

12 Q. (BY MR. BUNN:) What its purpose is.

13 A. As far as referenced in the document, it's an
14 illustration of the AVEK area. And so there's a line that shows
15 the boundary of the Antelope Valley/East Kern area. And its
16 secondary purpose is to illustrate the locations of various types
17 of stream flow and weather gauges.

18 MR. JOYCE: Your Honor, I'm going to interpose an
19 objection. Lacks foundation as to the source and the author of
20 the map and what that person's expectation and intent was in
21 preparing it.

22 THE COURT: Well, I'm going to allow him to testify on
23 cross as to just generally his understanding of what it is. I
24 think that's really what the question's calling for.

25 MR. BUNN: Yes.

26 MR. JOYCE: The question's phrased, is what was its
27 purpose, not what was your understanding of its purpose.

28 THE COURT: Why don't we have a rephrasing of the

1 question.

2 Q. (BY MR. BUNN:) How is that figure used in the document?

3 A. It's used to illustrate the location of stream flow
4 gauges, whether existing or proposed; precipitation; temperature
5 and evaporation measurement locations; precipitation and
6 temperature measurement locations; precipitation gauges;
7 evaporation measurement devices; pans; and then, lastly, there
8 are illustrations of an aqueduct system, whether it belongs to
9 the Los Angeles Department of Water and Power or to the
10 California State Water Project System, the aqueducts that cross
11 or enter into the areas illustrated in the AVEK area. And
12 there's an illustration of drainage boundaries around and across
13 the AVEK area.

14 Q. At the very end of Mr. Joyce's cross-examination, he
15 referred to a line on this figure which you identified as the
16 drainage boundary; correct?

17 A. Yes.

18 Q. Is there anything on this figure that shows that that
19 line is a groundwater basin boundary?

20 A. No.

21 Q. Does this figure show groundwater basin boundaries at
22 all?

23 A. No.

24 Q. Now, you testified in your direct examination, I
25 believe, that other researchers have used the Bloyd boundaries;
26 correct?

27 A. Yes.

28 Q. When they used the Bloyd boundary, did they use the

1 drainage area boundary shown on Exhibit 10, which is Figure 2, or
2 did they use the basin boundaries shown on Figure 10, which is
3 exhibit something else?

4 MR. ZIMMER: Objection. Vague and speculation.

5 THE COURT: Well, I'm going to have you rephrase it
6 somewhat because it might be vague as to what researchers were
7 talking about. But I'll allow the question if you want to be
8 specific as to the specific researchers.

9 Q. (BY MR. BUNN:) Would you mind explaining which
10 researchers used Bloyd's boundaries.

11 A. Durbin and Duell are the two that immediately come to
12 mind.

13 Q. And do you know whether they used the Figure 2
14 boundaries or the Figure 10 boundaries?

15 A. Clearly, the Figure 10 boundaries. Figure 10 of Bloyd.
16 And I should say, and the text that describes the boundaries in
17 Figure 10 of Bloyd.

18 Q. Now, Mr. --

19 MR. JOYCE: Objection as to the last comment as being
20 speculation.

21 THE COURT: Overruled.

22 Q. (BY MR. BUNN:) Mr. Joyce also asked you about an area
23 in the northwest portion of the Antelope Valley where
24 Cottonwood Creek comes into the valley.

25 Do you recall that?

26 A. I do.

27 Q. And he asked you a question about whether pumping in the
28 Fremont Valley would affect the amount of water that came into

1 the Antelope Valley and Cottonwood Creek.

2 Do you remember that?

3 A. I do.

4 Q. What was your answer?

5 A. It was -- let's see. The way I remember the question
6 was whether or not pumping by, you know, farmers in the
7 Fremont Valley would affect the flow and the stream and, in
8 particular, that the flow that would then enter the
9 Antelope Valley if it entered across the northern boundary of the
10 groundwater basin as I've drawn it. And my answer was no.

11 Q. And on what do you base that?

12 A. I really need to draw you a picture to address that.

13 Q. All right. Please do that.

14 THE COURT: You may.

15 We probably need to change what's on the easel.

16 MR. BUNN: Could we identify this drawing that he's
17 making as next in order, which I think is 127.

18 MR. ZIMMER: How are we identifying this?

19 MR. BUNN: Exhibit 127. Oh. I don't know what he's
20 drawing yet.

21 THE WITNESS: This is what I'll call a simple schematic
22 illustration of the ground surface shown here. And I'll
23 crosshatch that a little bit. And then just a stream that's
24 flowing, that can be Cottonwood Creek or any other one in this
25 area. And I've shown a second line immediately below the bottom
26 of the creek which I'll refer to as the bed of the stream. Okay.
27 And then I've drawn a blue line across the stream channel with a
28 little, I don't know, triangle at the top of it commonly used to

1 illustrate the water surface.

2 And so this would be looking through a slice of the
3 ground with the stream incised at the ground surface. It's drawn
4 not to a good scale because this bed would be very small in the
5 context of that -- in this case, whether it be the -- well, it is
6 the Fremont Valley where this creek supposedly crosses the
7 Fremont Valley.

8 Q. (BY MR. BUNN:) So it's a cross section.

9 A. That's it. It's a cross section.

10 Q. And the direction up on the schematic is up in real
11 life.

12 A. Yeah. The ground surface is at the top. And it's --
13 some distance below the ground surface is another blue line
14 intended to show the so-called static water level in the
15 groundwater body, that depth. So I'll label that, if that's
16 okay, SWL for "static water line."

17 And it so happens -- well, let me say, one more thing
18 that's on this figure is a schematic, I'll call it, as a matter
19 of fact over to the right in close proximity to the stream that's
20 intended to look like a well. So this is, in lay materials, a
21 piece of pipe on end that is drilled down into the subsurface.
22 And near the bottom of it, I've put some crosshatching that's
23 illustrative of perforations in the pipe that would allow water
24 in the ground basin to get into this well.

25 I've not tried to draw a pump, but inside this casing or
26 pipe is a pump extending from the ground surface down or
27 connected -- excuse me -- from the ground surface down to below
28 the water table so that ultimately an operator can turn the pump

1 on or turn the electric motor, whatever other-type drive he has,
2 he can turn that on. And there's a shaft -- in most cases in
3 terms of agricultural application, there's a shaft that extends
4 down to this pump. It turns the pump, and then the pump
5 discharges up through the inner pipe and discharges to the
6 surface for any irrigation purposes or other purposes at the
7 ground surface.

8 If you go out and look at one of these in the field, you
9 usually see a small concrete-type pedestal and electric motor on
10 the top and a pipe coming out the side.

11 Q. Mr. Scalmanini, with respect, could I ask you to get to
12 the point?

13 A. Yeah. When you turn this pump on, then it depresses the
14 water surface immediately inside and immediately surrounding the
15 well. Okay. And it creates what's commonly known as a cone of
16 pumping compression around the well. And in doing so, then it
17 creates a gradient. We talked about that term on the first day
18 that basically says water will flow down this gradient into the
19 well and picked up by the surface.

20 The extent by this depression is indicated by a number
21 of factors that have to do with the characteristics of the
22 aquifer material in which the well is completed but it only
23 affects -- that is to say, the pumping only affects the
24 groundwater surface below the saturated medium in the water
25 level.

26 In the Fremont Valley, the static water level is
27 hundreds of feet below Cottonwood Creek. And all of this
28 material up here is unsaturated. That means the material above

1 the static level and above the pumping level. So there no effect
2 that is propagated from the pumping of this well, agricultural or
3 otherwise, all the way up to induce more water to come out of
4 this creek that is flowing in the wintertime.

5 Practically speaking, the creek flows in the wintertime,
6 and the agricultural pumping to which you refer takes place in
7 the summertime. But discounting that temporal distance that
8 there is no hydraulic connection between the groundwater
9 saturated body and the surface stream or its immediate underflow.

10 So the stream and its underflow leak because water will
11 flow into the ground which is unsaturated up here, but it leaks
12 as a function of how permeable the terms are in the bed of the
13 stream, and it leaks as a function of how much water there is in
14 the surface stream. It does not leak more or less in response to
15 pumping at great depth below the creek.

16 Q. So if I understand your testimony correctly, at least as
17 to the recharge from Cottonwood Creek, groundwater pumping in the
18 Fremont Valley cannot have an effect on the amount of that water
19 that reaches the Antelope Valley.

20 A. Not out where Mr. Joyce crafted his question, out in the
21 basin where a farmer pumps from the saturated groundwater.
22 Meaning, the aquifer at depth, because it's hydraulically
23 disconnected.

24 Q. Okay. Thank you.

25 You and Mr. Joyce had a conversation about
26 reproducibility of scientific results.

27 Do you remember that?

28 A. Yes.

1 Q. Of the different investigators in the Antelope Valley
2 that you relied on for your opinions, are they consistent in
3 where the basin boundaries are located?

4 A. Consistent, yes; identical, no. But consistent --

5 Q. Would you explain the difference there.

6 A. Sure. I think I've described, you know, the application
7 of certain we'll call technical parameters to apply to any local
8 setting to defy the limits of something that you can call a basin
9 that contains groundwater. And I've described how an
10 investigator starting from scratch, I'd say, would today apply
11 those parameters to define the extent of this basin.

12 I looked in hindsight 35 years later at what Bloyd did
13 and could interpret from what he wrote that he applied those
14 kinds of criteria. And with the amount of available physical
15 information at the time, which would be 35-plus years ago when he
16 actually did the work, he concluded what the boundaries were.

17 Q. Could I ask you to take your hand away from -- thank
18 you.

19 A. A couple of subsequent investigators did not, apparently
20 from the way they document their work, reinvestigate the specific
21 details of the boundary, but then I'll call it a third that we're
22 now to Carlson in about 1998 or 2000, whatever it was but
23 nominally 30-plus years later, did look at additional available
24 information in the intervening time. And based on borings into
25 the subsurface which would allow you to add to what you know
26 about the nature of materials underground and with the results of
27 surface geophysical exploration, which is a way that man can,
28 with remote-sensing, if I can call it that, devices determine the

1 nature of materials underground that Carlson, et al.,
2 interpreted, whether I'll call it bigger data set or more
3 complete set of information using, I'll call it, the same basic
4 technical parameters that the basin was slightly smaller.

5 So, you know, was science repeatable? Yes. Was it
6 exactly duplicated? No. Because additional information allowed
7 the application of scientific principles to come up with a
8 slightly different physical, you know, drawing. But the
9 repeatability of the science in its application was the same.

10 MR. BUNN: Okay. Thank you.

11 I have nothing further.

12 THE COURT: Anyone else?

13 MR. ABBOTT: I have no questions.

14 MR. TOOTLE: Your Honor, I just have a couple.

15 THE COURT: All right.

16 CROSS-EXAMINATION

17 BY MR. TOOTLE:

18 Q. Good afternoon, Mr. Scalmanini.

19 When you were first testifying, you drew us a picture of
20 a free body diagram for hydrologic balance.

21 Do you remember that?

22 A. Yes.

23 Q. I believe it was Exhibit 107.

24 A. Okay. I'll take your word for it. You want to check
25 the number?

26 Q. That's fine.

27 A. Okay.

28 Q. Later, in his cross-examination, Mr. Joyce attempted to

1 also draw almost a similar type of diagram. And I believe it
2 was --

3 MR. BUNN: 8.

4 Q. (BY MR. TOOTLE:) Diagram Number 8.

5 Are you familiar or have you ever seen a diagram similar
6 to that drawn for the Antelope Valley groundwater basin?

7 A. Well, "similar" would be stretching it, but there have
8 been cross sections of subsurface to illustrate the nature of
9 materials on both sides of the groundwater basin by a number of
10 investigators over time. So the -- Mr. Joyce's was, I'll call
11 it, a piece of a cross section, and there are more complete ones
12 in the literature. But yes, they have been done.

13 Q. On your Plate 1, I believe it's Exhibit 126.

14 A. Yes.

15 Q. You have -- you walked us around the groundwater basin.

16 A. That's correct.

17 Q. And at that time, you also indicated that there was
18 another line on the map marked "A-prime"; is that correct?

19 A. Yes.

20 Q. Can we take a look at that?

21 A. Sure. It extends -- the line you refer to, A-prime
22 extends generally in a northeasterly/southwesterly direction from
23 just across the southern boundary of the Antelope Valley
24 groundwater basin across the so-called Lancaster subbasin, past
25 the Rogers dry lake bed, into the North Muroc subbasin, and then
26 across the northeasterly boundary of the -- of the overall
27 groundwater basin.

28 Q. Did you prepare a -- a cross section? Or did you -- let

1 me rephrase the question.

2 Are you familiar with anyone who has done a cross
3 section at that area?

4 A. Yes.

5 Q. Can you show us that cross section.

6 A. Sure.

7 THE COURT: What number is this?

8 MR. TOOTLE: I believe this would be 128.

9 MR. ZIMMER: 128.

10 THE COURT: Should we call it the cross section?

11 MR. ZIMMER: I think it's called "A-prime."

12 THE WITNESS: Properly called a geologic cross section.

13 THE COURT: If we can just -- "A-prime geologic cross
14 section"?

15 Q. (BY MR. TOOTLE:) On this cross section, can you
16 identify where the boundaries to the groundwater basin are that
17 you drew?

18 A. Fundamentally, yes. The purpose of drawing a section
19 like this is, in your mind's eye, imagine that you're underground
20 and you're looking, in this case, west. So you're able to look
21 at a profile of this basin underground, what materials are there
22 from the ground surface down. That's what's on this figure.

23 And what is shown basically is an interpretation from
24 various, I'll call it, available information as to if you were
25 standing on that. In this case, a profile across the location of
26 where this A-prime was located. So you're just to the east
27 looking west. And you would see to your left this hatched
28 material, and you would see it to your right that's bedrock.

1 It's consolidated materials we've referred to in here over the
2 last few days.

3 You would also see so-called unconsolidated materials --
4 sands, gravels, silts, clays -- that are inside the boundaries of
5 that bedrock.

6 So to the far right where the bedrock effectively comes
7 to the surface, and if we extend this farther, would continue on
8 up into the hills, we've reached the limit of the unconsolidated
9 materials against the side of the basin.

10 And at depths in various locations, the bedrock is not
11 uniformly shaped like a tub, but it generally has a basin-type
12 shape, which is one reason that the word "basin" gets used. But
13 you would encounter -- if you were moving down from the ground
14 surface, you'd encounter this rock at various depths. But
15 inside, you would encounter these unconsolidated materials. So
16 you'd expect then that you could, in effect, see the entire
17 profile of the groundwater basin along that particular section.

18 And then since you asked me about the limits, the main
19 reason that we drew this was that, as I think I talked about on
20 Tuesday --

21 MR. ZIMMER: It's nonresponsive.

22 THE COURT: Sustained.

23 We'll get our next question.

24 THE WITNESS: Well, I didn't finish on the left side,
25 so --

26 THE COURT: All right.

27 THE WITNESS: The extent of the basin is basically where
28 the fault is on the far left side. But it also shows the extent

1 of the basin vertically. That's the other point.

2 Q. (BY MR. TOOTLE:) Okay. Why did you draw the map?

3 A. I drew the map because groundwater basins and
4 groundwater bodies have three-dimensional boundaries. Okay. And
5 in all the mapping that we've seen until we looked at this, we
6 were looking down from the ground -- or looking down from above
7 the ground surface at the aerial extent.

8 When I testified a couple of days ago, I said there's a
9 third dimension, and we never got to the fact that there's a
10 third dimension. But in the subsurface, the basin goes only so
11 far. And it's not vertical sides, you know, through the earth to
12 great -- well, it is great depth, as it turns out, but it's not
13 vertical. But there is a slope to the side that is dictated by
14 how in geologic history these materials were placed there.

15 Q. Would it be a fair statement that if one was to draw
16 water from these aquifers that those would be known as the common
17 supplies within those boundaries?

18 MR. ZIMMER: Vague.

19 THE COURT: Overruled.

20 THE WITNESS: Yes.

21 Q. (BY MR. TOOTLE:) And can you -- I believe before you
22 were interrupted -- would you complete your description as to
23 what the boundary would be on the southern side.

24 A. The southern side would be the west side. And this
25 particular section which we extracted from literature -- we
26 didn't draw this ourselves -- extends basically to the faulting
27 that forms the southern boundary. And so the unconsolidated
28 materials would butt up against that faulting at the far left

1 side of this drawing.

2 Q. Have others drawn similar diagrams?

3 A. Yes. Not all in the same location, but, generally,
4 previous investigators -- this being one of them, but this being
5 more recent in time, this was prepared in the year 2000 -- in a
6 report that was published in 2000, I should say. But earlier
7 investigators, maybe not quite as pretty a picture, but same
8 basic concept of illustrated both the consolidated and
9 unconsolidated materials in the subsurface, yes.

10 Q. To the best of your knowledge, do any of those
11 significantly differ from the drawing that we have here before us
12 today?

13 A. Conceptually, no. And then specifically, yes, because
14 they're drawn in different locations. This does not illustrate
15 that the basin has that cross section uniformly anyplace you
16 would do it.

17 Q. Right.

18 A. And so illustration -- other illustrations depict depth,
19 width, and nature materials within the overall basin in different
20 locations. So they don't look exactly like this.

21 Q. Do you feel that this diagram supports the boundaries
22 that you showed on your Plate 1?

23 A. Absolutely, yes.

24 MR. TOOTLE: Thank you.

25 I have no further questions.

26 THE COURT: All right. Ms. Fuentes?

27 MS. FUENTES: No.

28 THE COURT: Mr. Connel; right? You haven't said a word

1 yet. This is your chance. No?

2 MR. BUNN: I bought him lunch and told him I was buying
3 his silence.

4 THE COURT: Well, that's all right.

5 MR. ZIMMER: I'm surprised you didn't cut his tongue
6 out.

7 THE COURT: Further cross.

8 MR. JOYCE: Thank you, your Honor.

9 RE-CROSS-EXAMINATION

10 BY MR. JOYCE:

11 Q. Mr. Scalmanini, in response to questioning by Mr. Bunn,
12 he asked you how Figure 2, page 6, was used by Bloyd in Bloyd's
13 report.

14 Did you understand that to be the purpose of his
15 question?

16 A. I believe so, yes.

17 Q. Okay. And I think his words were, "How did he use the
18 document," referring to page 2 -- excuse me -- Figure 2, page 6.
19 And then you went through and listed a number of things that are
20 reflected on Figure 2, page 6.

21 But what I would like to do is take his question a bit
22 further and ask you to go through the report and show me where
23 all those things are talked about by Bloyd so we can see how he
24 used those things you were identifying.

25 A. Okay. I think the first reference to Figure 2 is on
26 page 5, where he says, "The AVEK area, most of which is within
27 the Mojave Desert region of Southern California (2)," so, to me,
28 that says the AVEK area and the Mojave Desert region, as

1 illustrated in Figure 2. And the sentence goes on to say, "Lacks
2 adequate natural supply of water to meet the long-term needs."

3 Q. Where would be the next place, moving from that page
4 into the report, where Bloyd discusses the information reflected
5 on Plate -- on Figure 2, page 6?

6 A. Next paragraph discusses the California aqueduct and
7 says, "The tentative alignment of the branches of the aqueduct in
8 the AVEK area is shown in Figure 2."

9 Q. Okay. And the next place?

10 A. I think -- I might have missed one, but at the top of
11 page 8, he says that, "The AVEK area, which is about 35 miles
12 north of Los Angeles, is in the southwestern part of the Mojave
13 Desert region of California, Figure 2."

14 Q. Okay. And the next reference to Figure 2?

15 MR. DUNN: Objection, your Honor. This report speaks
16 for itself. To have these continuing questions about what the
17 language in a report says, the report speaks for itself.
18 Regardless of what he says about the report, it doesn't change
19 the fact of what the report says.

20 MR. JOYCE: Well --

21 MR. DUNN: Mr. Joyce is certainly as capable as anybody
22 else in reading the report and picking out the language that he
23 wants.

24 THE COURT: It's up to --

25 MR. JOYCE: The entire report is not before the Court.

26 THE COURT: His opinion is based on the report. I don't
27 think the report is in evidence.

28 MR. JOYCE: Hasn't been offered, your Honor.

1 THE COURT: I'm not sure it's been marked.

2 MR. JOYCE: It has not.

3 THE COURT: So I'll allow some cross-examination on
4 that.

5 Q. (BY MR. JOYCE:) And the next location in Bloyd's
6 narrative where he refers to Figure 2 would be where?

7 MR. DUNN: Same objection.

8 THE COURT: Overruled.

9 THE WITNESS: Also on page 8.

10 THE COURT: You could just put it into evidence. It
11 would be interesting to read.

12 THE WITNESS: "The AVEK boundaries enclosed most of the
13 surface water drainage basins of Antelope and Fremont Valley, the
14 surface water drainage basins of Peace (phonetic) and Lower Hungry
15 (phonetic) Valleys, and part of the Santa Clara river basin
16 (Figures 2 and 5)."

17 Q. (BY MR. JOYCE:) Okay. Where would be the next location
18 where Bloyd refers us back to Figure 2, page 6?

19 MR. DUNN: Same objection.

20 THE COURT: Overruled. But I'll let you have a
21 continuing objection.

22 MR. DUNN: Thank you, your Honor.

23 THE COURT: On that basis.

24 MR. DUNN: Thank you.

25 MR. BUNN: Your Honor, I'd kind of like to take you up
26 on your suggestion here and see if we can offer the Bloyd report
27 in evidence. If we have a copy that we can give to the Court, I
28 would move that it be admitted.

1 THE COURT: Do we have any objection to admitting it?

2 MR. JOYCE: Can I ponder that, your Honor?

3 THE COURT: You may.

4 MR. JOYCE: Thank you. I'm not quite certain yet, one
5 or the other. And I certainly at least want to consult before I
6 did that.

7 Q. (BY MR. JOYCE:) The next place, Mr. Scalmanini?

8 A. There's a reference to a Figure 2 on page 9, but I do
9 not think it's the Figure 2 in this report. It's the Figure 2 in
10 the citation in this report.

11 Q. Okay. I'm only looking for the reference to Figure 2 as
12 that Figure 2 is reflected on page 6.

13 MR. TOOTLE: Your Honor, can we take a minute so that
14 the witness --

15 THE COURT: We can.

16 Do you want to take about a 5-minute recess?

17 MR. DUNN: Yes. Thank you.

18 THE COURT: All right.

19 (Recess.)

20 Q. (BY MR. JOYCE:) I'm not certain, I may need help by the
21 court reporter.

22 After page 9, what would be the next report within the
23 Bloyd report where he references Figure 2 on page 6?

24 A. Page 19.

25 Q. Page 19?

26 A. Yes. That's the next one I found.

27 Q. Okay. And there, he references for what purpose?

28 A. To note that there are two major groundwater basins in

1 the AVEK area. They're known as the Antelope Valley and
2 Fremont Valley basins.

3 Q. Okay. And then he notes that by referencing the reader
4 of his report back to Figure 2 appearing on page 6; correct?

5 A. Well, that might be how you interpret it, but basically
6 he's making a statement that there --

7 MR. ZIMMER: Your Honor, that's --

8 THE WITNESS: -- no groundwater basins in the AVEK area.

9 MR. ZIMMER: That's not responsive. He didn't ask him
10 for the interpretation. He asked what he said.

11 THE COURT: I'm going to overrule the objection. Let's
12 get our next question.

13 Q. (BY MR. JOYCE:) Let me ask this question: Where he
14 says there are two major groundwater basins, the Antelope Valley
15 and the Fremont Valley, and then ends the sentence with the
16 reference to Figure 2, does he anywhere in that paragraph
17 discussing the two groundwater basins refer us to Figure 10?

18 A. Yes.

19 Q. Where?

20 A. Well, the next two or three sentences go on to say,
21 "Each," meaning each of the groundwater basins, "is divided into
22 groundwater zones by faults, bodies of consolidated rock,
23 groundwater divides and, in some instances, by convenient and
24 arbitrary boundaries."

25 Q. Is that a different --

26 A. "Previously available data and data contained during
27 this investigation make it possible to provide the -- make the
28 problem to define the boundaries of most of the subdivision

1 (Figure 10.)"

2 Q. And on this issue, then, my next question would be as to
3 those zones that he identifies as being within the
4 Antelope Valley groundwater basin, those are identified in the
5 next page, 20 and 21, where he discusses the zones themselves; is
6 that a fair statement?

7 A. Yes.

8 Q. And as we discussed 2 days ago, he identifies each of
9 the subunits within the Antelope Valley and likewise identifies
10 the three subareas, the Foothill area, the Bissell area, as well
11 as the -- I forgot which one's on the west side -- on the east
12 side. Excuse me. There's a third subarea. Can you help me with
13 that?

14 A. Hi Vista.

15 Q. Thank you very much.

16 And, in fact, is not those three subareas within the
17 outer line reflected and labels Antelope Valley on page 6,
18 Figure 2?

19 A. This is going to take a few minutes.

20 Q. It's not in the folder. It's just in the text,
21 Mr. Scalmanini.

22 A. I know it's in the text, but you asked me if these
23 boundaries -- subbasins and areas were within the overall
24 boundaries of what's shown in Figure 6, I think.

25 Q. Okay. That's correct, yes.

26 A. It's a little difficult to do kind of a visual overlay,
27 but it appears that the answer to your question is yes.

28 Q. Thank you.

1 A. Or closely so.

2 Q. All I'm really trying to make sure that we're clear
3 about is that the depiction or the delineation of the
4 Antelope Valley and the Fremont Valley groundwater basins or
5 groundwater areas or whatever else we want to call them reflected
6 on page 6, Figure 2, would be sufficient in their outer diameter
7 so as to incorporate the three subareas he talks about in his
8 narrative report in addition to the subunits that you have called
9 subbasins.

10 A. Yeah. Same answer. I think they would all fit on --
11 you could draw the features that you just listed on Bloyd's
12 Figure 10, you could also draw on Figure 2. They would fit on
13 that piece of paper, I think. Or they would come awfully close.

14 Q. Thank you.

15 And I think the last issue I just wanted to address is
16 the issue regarding scientific reproducibility.

17 A. Wait a minute. Do you want to get the rest of the
18 Figure 2s in this report?

19 Q. I got to the one I was interested in.

20 A. That was the question, so I wonder --

21 THE COURT: I think at this point you've --

22 MR. JOYCE: My intent, your Honor, was to merely
23 demonstrate that Figure 2 used as a reference point by Mr. Bloyd
24 was used by Mr. Bloyd to demonstrate his perception of the
25 appropriate delineation between the Fremont and the
26 Antelope Valley and, in fact, used a drainage basin outline to
27 describe a groundwater basin.

28 THE COURT: That's fine. We'll get our next question.

1 MR. TOOTLE: Objection. Your Honor --

2 THE COURT: I'll let you go on it in redirect if you
3 wish to.

4 Q. (BY MR. JOYCE:) In any event, my next area,
5 Mr. Scalmanini, would be going back to scientific
6 reproducibility. And it may be a given or it may be kind of
7 silly to ask the question, but I would assume within your
8 discipline that over time the techniques and the ability to do
9 analysis has improved since Bloyd did his initial study back in
10 '76; correct?

11 A. Yes.

12 Q. Okay.

13 A. No. Bloyd did his work in the 60s, not '76.

14 Q. Whatever point in time coming forward he did his work
15 that science has gotten better in more recent years and in the
16 intervening period of time; fair statement?

17 A. Yes. As has the availability of information with which
18 to apply science, yes.

19 Q. Okay. And, in fact, quantification of flows and
20 underground flows within as well as across boundaries has
21 likewise improved over the same period of time; correct?

22 A. Don't know about that.

23 Q. All right.

24 A. The fundamental equations that Bloyd used to estimate
25 those flows that I read into the record the other day, those
26 equations haven't changed in the last 35 years. So --

27 Q. I wasn't suggesting that the -- that the equations had
28 changed, but the technology and the scientific techniques

1 available to verify and quantify more closely and precisely the
2 assumptions contemplated by the equations has improved over time,
3 has it not?

4 A. Oh, wow. That's tough. Better read all those words
5 back to me.

6 Q. Simply the ability to be more accurate has gotten
7 better.

8 A. The ability to generate what I'll call for precise
9 numbers, meaning you can calculate it to, you know, I'll say more
10 decimal points, although that's not literally true, has
11 definitely improved.

12 The ability to verify it in the field, to go out into
13 the Antelope Valley to say I can measure something several
14 hundred feet below the ground surface better today than I could
15 35 years ago is probably not true.

16 Q. Okay. Well --

17 A. So to -- we can apply tools today that didn't exist in
18 the 60s and we can think that we understand the system better and
19 I think that in fairness, we do. But to say that we can now
20 quantify and go out and verify in the field that a subsurface
21 flow across a boundary -- we can measure it, you know, no, I
22 wouldn't agree with that.

23 Q. Well, in your map, which is Exhibit 126, at least for
24 the purposes of an aerial illustration of the area in issue, we
25 have both Bloyd and Carlson; true?

26 A. Yes.

27 Q. Okay. We know that this little dotted black line is
28 representative of Carlson, is it not?

1 A. It's reproduced from Carlson, et als., mapping, yes.

2 Q. Okay. And I assume that when you map this, you are
3 making an attempt to make sure that the Bloyd scale and the
4 Carlson scale equated each other. In other words, that they were
5 both done to the same scale so that they both either travel the
6 same distances linearly as each other? In other words, an inch
7 is an inch is a mile or whatever it happens to be?

8 A. The result is all to the same scale, yes.

9 Q. All right.

10 A. So there's one scale as relates to my Plate 1, which is
11 126.

12 Q. Okay. And this area where they differ in large part, I
13 understand, would be this little piece down here; is that
14 correct? Where this black dotted line is facially?

15 A. They don't differ at all down there.

16 Q. Okay. But that -- is this both -- both Carlson and
17 Bloyd down in this area?

18 A. Oh, I think I've said pretty emphatically several times
19 that Bloyd did not go down -- he did not map down to that area.
20 He described a boundary, but he didn't map it.

21 Q. All right. Did Carlson map it down to that area?

22 A. I have to look.

23 Q. Okay. More importantly -- this is really what I want to
24 get to -- is this upper area here the only real significant area
25 that we're talking about where they differ?

26 A. No. I'd say probably not. There are also a couple of
27 areas near the south boundary that are different. And arguably,
28 they're significant also. In the vicinity of Palmdale and

1 southwest of Lancaster and over toward the Neenach Fault where
2 he's highlighted, I think, some buttes as being outside the
3 basin. Those are, I'd say, probably significant also.

4 Q. Okay. But if we were to contrast the -- well, if I
5 understand what you're telling me, they have taken some other
6 areas out that are circled by the dotted black line; is that a
7 fair statement?

8 A. Yes.

9 Q. All right. I assume it's not your view that Carlson
10 reduced the entire surface area of Bloyd's subunit map in half,
11 did he? In other words, Carlson's line isn't one-half the total
12 area of what Bloyd had mapped as his subunits, is it?

13 A. No. Not even close.

14 Q. Not even close.

15 A. No.

16 Q. Well, if the Department of Water Resources, in its
17 revised Bulletin 118 that's presently in the process of being
18 reviewed, has quantified the surface area of the Antelope Valley
19 groundwater basin as being 1,730 miles -- or square miles, do you
20 have any understanding or explanation as to how they came up --
21 strike that. Let me rephrase the question.

22 Do you know how they arrived at that figure?

23 MR. BUNN: Objection. Beyond the scope.

24 THE COURT: Overruled.

25 THE WITNESS: No, I'm not familiar with the figure.

26 I've not seen it. And I have no idea how they arrived at it.

27 MR. JOYCE: Thank you.

28 I have nothing further.

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THE COURT: Mr. Zimmer?

RE-CROSS-EXAMINATION

BY MR. ZIMMER:

Q. Mr. Scalmanini, you claim to have adopted Bloyd's line from Figure 10 in his report; is that correct?

A. Basically, yes.

Q. And you've indicated to the Court that other individuals have adopted Bloyd's same line, or some of them have adopted Bloyd's same line.

A. Yeah. Others have, yes.

Q. Some have; some have not. Correct? In other words, some other -- some other individuals have adopted Bloyd's line and some have come up with different lines.

A. In the sequence of what I'll call studies of the groundwater basin that Bloyd and the subsequent investigators to Bloyd until Carlson, which is -- what? -- 1998 or 2000, used the same boundaries.

Q. Who are you saying, used the same boundary?

A. We've already been through this. Durbin and Duell.

Q. And neither of those individuals did their own independent study to determine what they thought the boundary should be.

A. That's correct.

Q. And you did not do your own independent study to determine what the boundary should be. You adopted Bloyd; correct?

A. Well, you said this to me several times, did not do any independent study. I did not go and do field mapping.

1 Q. That's what I mean.

2 A. I applied technical criteria, looked at the existence of
3 physical features as mapped by others that fit those criteria,
4 and agreed that Bloyd that -- I'll call it, applied those in
5 selecting outermost boundaries of a number of groundwater
6 subbasins that in aggregate can be called a groundwater basin.
7 So, you know, I didn't go do new fieldwork.

8 Q. That was my question.

9 A. I did not apply those standards to come to the same
10 conclusion. I didn't just take Bloyd and adopt it.

11 Q. And nobody else has done that since Bloyd either.

12 A. Nobody else has done what?

13 Q. Actually gone out and done field studies to come up with
14 their own line to form a location as opposed to simply adopting
15 Bloyd.

16 A. Well, I did. I agree with that also.

17 Q. Who's done it?

18 A. That what -- I think we marked it, but if somebody can
19 hand me a copy of Carlson, I'll try to read it from the text.

20 Don't tell me how to try the answer the question,
21 please. I know what I'm trying to say.

22 THE COURT: No arguments.

23 Q. (BY MR. ZIMMER:) Did Carlson map a different line?

24 A. Carlson mapped a different line based by the subsequent
25 work preceding him. There had been work in terms of geophysical
26 separations and subsurface borings that log materials in the
27 subsurface. He makes reference -- I should say "they, " Carlson,
28 et al., mentions that in a brief paragraph on their map and then

1 drew different boundaries. They didn't do the work themselves.
2 They took the results of other people's work and with a different
3 set of data -- meaning a more expanded set of data -- applied the
4 same technical criteria and drew slightly smaller boundaries.

5 Q. Did anyone who adopted the same line as Bloyd do field
6 studies as opposed to simply adopting Bloyd's line?

7 A. As best I can tell, no, not as documented in the
8 reports.

9 MR. ZIMMER: I have no further questions.

10 Thank you, sir.

11 MR. BUNN: Nothing further.

12 THE COURT: Anything further from the defense?

13 All right. We're -- our witness is done?

14 MR. BUNN: And as you know, we're going to intend to
15 call Mr. Scalmanini on rebuttal later.

16 THE COURT: I understand. But for now, sir, you may
17 step down.

18 Our next witness?

19 MR. ZIMMER: Your Honor, has the defense rested?

20 MR. DUNN: Except for moving in our exhibits.

21 THE COURT: All right. Which we'll hold off on till
22 tomorrow so everyone can have a chance to look at whatever they
23 wanted to look at.

24 MR. JOYCE: Your Honor, I don't want to engage in a
25 futile exercise, but I'd almost be tempted to make a motion for
26 nonsuit. But I'm not sure if the Court would be kind enough to
27 entertain it, and I think she'd be inclined to entertain more.
28 Will the Court entertain the fact that I have made the motion

1 and --

2 THE COURT: Tell me in a streamline motion.

3 MR. DUNN: We'd like to know what the basis of the
4 motions are.

5 MR. ZIMMER: Your Honor, can we reserve this till later
6 to discuss it so we can at least get this witness on?

7 THE COURT: We can do that. I'll note that you've made
8 your motion with the basis for the motion and your factual
9 statement to support that basis will be reserved till --

10 MR. JOYCE: That's fine. It won't take very long.

11 THE COURT: Then let's do that.

12 MR. JOYCE: Thank you, your Honor.

13 MR. ZIMMER: So the defense has rested subject to
14 admitting exhibits.

15 THE COURT: And rebuttal.

16 MR. DUNN: That's correct.

17 MR. ZIMMER: At this time, your Honor, the plaintiffs
18 call N. Thomas Sheahan.

19 THE CLERK: You do solemnly state that the evidence you
20 shall give in this matter shall be the truth, the whole truth,
21 and nothing but the truth, so help you God?

22 THE WITNESS: I do.

23 THE CLERK: Thank you very much, sir. You may be
24 seated.

25 THE WITNESS: Thank you.

26 THE CLERK: Will you state your name and spell it,
27 please.

28 THE WITNESS: My name is N., period, Thomas Sheahan,

1 S-H-E-A-H-A-N.

2 THE COURT: We're going to need another slight break.
3 Let's go through all of the background information and the
4 materials he reviewed and then before we get into the actual
5 opinion, then we can take about a 10-minute recess --

6 MR. ZIMMER: That's fine, your Honor.

7 THE COURT: -- for the reporter. Because I think the
8 other one was right around 5.

9 So go ahead.

10 MR. ZIMMER: Thank you, your Honor.

11 N. THOMAS SHEAHAN,
12 called as a witness by and on behalf of the Plaintiffs, having
13 been first duly sworn, was examined and testified as follows:

14 DIRECT EXAMINATION

15 BY MR. ZIMMER:

16 Q. Sir, would you please state your name for the record and
17 spell your last name.

18 A. Yes. N. Thomas Sheahan, S-H-E-A-H-A-N.

19 Q. Mr. Sheahan, what is your occupation, sir?

20 A. I am a hydrogeologist. I serve as principal
21 hydrogeologist for the firm of Geomatrix Consultants
22 Incorporated.

23 Q. And what kind of work do you do in your capacity with
24 that organization?

25 A. Well, my work has generally for the past 40-some years
26 been focused on groundwater studies; evaluations of groundwater
27 flow; transport; water quality issues; in some cases, water
28 rights issues; production of groundwater at -- for water supply

1 purposes for municipal, industrial, and agricultural uses;
2 protection of groundwater supplies; augmentation of groundwater
3 supplies through recharge; and evaluation of means for cleaning
4 of groundwater.

5 Q. And Mr. Sheahan, can you tell the Court a little bit
6 about your background in terms of education and experience that
7 makes you qualified to testify in the area of hydrological issues
8 and the issues that are involved in this particular case.

9 A. Yes. Well, I'm a graduate of the University of Missouri
10 with a degree in geology and geography. I began my professional
11 practice in 1960 working for the corps of engineers doing,
12 principally, engineering geology type of work.

13 But in 1961, I became interested in groundwater. I
14 began a graduate program at the University of Arizona in what was
15 then called groundwater geology. That was a long time ago.
16 Names have changed now. It's now hydrogeology.

17 And in 1965, I began working as a research groundwater
18 geologist for a group which I'll refer to as the Layne
19 Organization, L-A-Y-N-E. It's gone through a number of name
20 changes, but it's essentially the same Layne Group. I was with
21 the Layne Group from 1965 to 1972. And in that role, I both was
22 a research groundwater geologist, and I participated very
23 strongly in design and construction and development of
24 groundwater resource collection facilities: Wells, pumps,
25 pipelines, water treatment systems, geophysical analyses of
26 groundwater resource, environments to locate groundwater
27 resources, to evaluate water quality, and essentially the full
28 range from investigation and consulting through design,

1 construction, and operation of groundwater systems.

2 In 1972, I moved to California and I became a consulting
3 groundwater geologist with a firm of Brown and Caldwell. I
4 served there as chief geologist for 12 years until the early
5 '80s.

6 At that time, I changed to one or two other consulting
7 firms over a couple-year period. I was with -- without going
8 into too much detail, Woodward Clyde Consultants. I was with
9 Geraghty & Miller. I managed the Geraghty & Miller -- that's a
10 groundwater consulting firm -- managed their offices.

11 In 1990, I joined Dames & Moore. I served in the
12 capacity there as principal hydrogeologist for approximately
13 12 years through a merger with another corporation called
14 URS Corporation up until January of this year.

15 And in January, I left URS Corporation and opened an
16 office for Geomatrix Consultants.

17 So that's been my history.

18 Q. Can you tell us, sir, a little bit about your
19 licensure -- licenses and certification.

20 A. Yes. I'm licensed in California and Oregon both as a
21 geologist, a registered geologist. I'm -- under that licensing,
22 there are several certifications. Actually, I should say, there
23 are two certifications. One is in engineering geology which, in
24 general, is essentially the application of geologic principals to
25 engineering structures and principally faults and the
26 relationship of faults and their effects on the soil. The other
27 specialty is hydrogeology, which is the application of geologic
28 and other scientific principals to the development of groundwater

1 resources.

2 I'm certified as a specialist in both engineering
3 geology and in hydrogeology in California. And I'm certified as
4 an engineering geologist in Oregon.

5 I'm also licensed in California as a geophysicist.
6 Geophysics is essentially the application of indirect techniques
7 to the evaluation of geologic conditions. So I'm licensed in
8 those areas.

9 Although it's not a license, I am also certified as a
10 professional geologist under the American Institute of
11 Professional Geologists, a national organization that has a --
12 what we think is a high set of criteria for the assessment of the
13 certification process. So I've been a Certified Professional
14 Geologist under that organization for a number of years.

15 Q. How does being a registered geologist assist you in
16 rendering expert opinions in this particular case?

17 A. Well, in this particular case, we are looking to assess
18 the effects eventually of groundwater pumping on from one place
19 on groundwater pumping in another place. Groundwater exists in
20 the geologic environment and various kinds of geologic
21 formations. So as an underlying science, it's extremely
22 important to understand the geology associated with the area in
23 the vicinity of the Antelope Valley so that we can then apply
24 other scientific techniques to evaluating the groundwater flow
25 conditions.

26 Q. And how does being an engineering geologist assist you
27 in rendering opinions?

28 A. Well, in this particular area, there are a number of

1 significant faults, and large fault zones as well as smaller
2 faults. And there are some data that indicate that there are
3 faults that have not been actually observed in the field but
4 which are -- have been postulated. Having an understanding of
5 the principles of engineering geology helps me understand the
6 faulting systems and judgment on the effects of the faults of the
7 groundwater system.

8 Q. Is there a different between being a civil engineer or
9 mechanical engineer and being an engineering geologist?

10 A. Yes. Very much difference.

11 Q. What's the -- generally, what's the difference?

12 A. Well, engineers focus on defining things to build
13 generally. If I were to build a road, I would hire a civil
14 engineer because they do a very good job of building roads.

15 If I were to hire a dam -- sorry -- if I were to build a
16 dam, I would hire a civil engineer to do those kinds of
17 structures.

18 But if I were to want to do an evaluation of what is
19 happening underground in a complex geologic environment, I would
20 be more inclined to hire a hydrogeologist because a
21 hydrogeologist has the science and background that deals with all
22 of those aspects.

23 Q. Which brings me to my next question, which was how does
24 being a certified hydrogeologist assist you in rendering
25 opinions? And I suppose it's just in the way you just described.

26 A. Yeah. Essentially that. Hydrogeology is the science
27 that focuses on all of the aspects of evaluation of groundwater
28 resources and the effects of pumping and the effects of recharge

1 and water quality changes. All of the effects of groundwater in
2 our geologic environment.

3 Q. How does being a registered geophysicist assist you in
4 rendering expert opinions in this case?

5 A. Well, as I mentioned, some of the faults that we see on
6 maps and other data -- so-called data that we see in other
7 reports in this data refer to as postulated. What postulated
8 means is that geology -- you know, an engineering or a geologist
9 or any other sciences cannot go out in the field, walk in that
10 area and look at the ground and see any evidence of faulting.
11 But there are other data, other indirect data, such as water
12 level differences that can be interpreted in such a way as to
13 help us judge whether or not there may be a fault in those areas.

14 So my experience in geophysics is experience in using
15 indirect data to help interpret the physical conditions in the
16 subsurface. And so it applies directly to the evaluation of
17 faults and the presence of faults and the effectiveness of faults
18 in the groundwater system in this area.

19 Q. So, for example, in this particular case, we've had a
20 great deal of testimony about something called postulated faults.
21 Those are presumed faults; correct?

22 A. I would hesitate to call them "presumed faults." I
23 think "postulated" is the correct term. And it's been used
24 relatively appropriately. They are postulated as being a fault
25 at that location, but they're postulated based on a set of
26 indirect data.

27 Q. So that would be something that a geophysicist is
28 especially good at interpreting because you're determining from

1 an indirect source what's happening underground.

2 A. Well, I -- all else being equal, I like to think so.
3 Because a geophysicist is experienced at looking at indirect data
4 and looking at physical interpretations underground. Whereas a
5 geologist without any experience in geophysics would be very good
6 at finding a fault at the surface but may not be as good as a
7 geophysicist looking at the fault based on indirect data.

8 Q. Are complex lines one of the things that geophysicists
9 look at?

10 A. Yes, geophysics -- all of the geologic professions look
11 at contour lines.

12 THE COURT: Before your next question, may I get your
13 definition of a fault?

14 THE WITNESS: Yes. A fault is a break in the earth's
15 surface along which there has been movement. And by movement, I
16 mean relative movement from one side to the other. And that
17 movement can be lateral where one side moves left or right with
18 regard to the other side. It can be vertical, or it can be any
19 combination of those things. And the fault line can be anything
20 from a vertical line to a horizontal line.

21 When I say "line," that's really a plane. And it
22 doesn't need to be a straight plane or a flat plane. It can be
23 almost any shape.

24 THE COURT: Is it, in essence, where the earth has moved
25 so the planes are in a different location? Up next to each
26 other?

27 THE WITNESS: Yes. In essence, it is. There are many
28 places where the subsurface materials -- and I'll call them rocks

1 just for general purposes -- where the rocks are fractured, that
2 is, that they are broken, that they have not moved, those are not
3 faults. They're called fractures or joints. It's only where
4 they have been moved such as the rocks are now juxtaposed on the
5 other portions of the rock there are faults. So movement is an
6 essential part of the fault.

7 THE COURT: All right. Thank you.

8 Q, (BY MR. ZIMMER:) Since we're on that subject, is a
9 fault a clearly defined, you know, one crack?

10 A. In some instances, a single plane can be found that
11 could be characterized as a fault. In other instances, we refer
12 to fault zones which is a -- a zone of several maybe tens to
13 hundreds to thousands of feet wide within which the ground is
14 fractured as a result of movement of the fault.

15 In the area that we're looking at, we have two faults
16 that are actually fault zones. We have the San Andreas Fault
17 zone and the Garlock (phonetic) Fault zone. The San Andreas is
18 in the southern portion of the Antelope Valley general area. And
19 the width of the fault zone is approximately up to a mile -- a
20 mile in width. And in that zone, there has been movement. You
21 could characterize that as a whole series of parallel faults
22 within that zone, but it's essentially a very intensely fractured
23 crumbled-up zone due to movement of the two plates on either
24 side.

25 The Garlock Fault is similar. The Garlock Fault occurs
26 on the northwest portion of the Antelope and Fremont valleys.
27 And it -- the zone is along the western boundary of those
28 valleys. But it's a similar kind of thing. I'm not absolutely

1 sure that the movement there is lateral as it is with the
2 San Andreas Fault, but it's, to a large extent, a lateral
3 movement.

4 Q. Again, would that be described as a fault zone of highly
5 fractured material?

6 A. Yes, it would.

7 Q. Mr. Sheahan, what were you asked to do in this case,
8 sir?

9 A. Well, in general, I was asked to look at the geology and
10 the hydrogeology in the vicinity of the Antelope Valley, to
11 familiarize myself with the other physical and physiographic
12 characteristics, the topography, the -- again, the geology,
13 variations in the geology, the -- the nature of deposition of the
14 materials so I would have an understanding of the subsurface
15 conditions, and, to some extent, the climate. All those types of
16 things that might apply to the groundwater resources in the area.

17 Q. Can you tell us, sir, what generally you have done in
18 this case from start to finish generally in terms of looking at
19 things and doing analysis and going to the scene and attending
20 depositions, all that kind of stuff.

21 A. Okay. I can't seem to slide up closer to the
22 microphone, but that's all right.

23 In general, I began by reviewing maps of the area to
24 familiarize myself with the general topography, the cultural
25 development of the area, roads and streets and surface features.
26 I also looked at other documents that I obtained either from my
27 own resources through my own librarian or that were provided from
28 one source or another. Some of these documents are documents

1 produced by agencies such as the United States Geological Survey,
2 by California State Department of Water Resources, by other
3 authors.

4 So I generally looked at a number of documents, reviewed
5 those to absorb the information that they provided concerning the
6 hydrogeology of the area.

7 I also made several trips to the area. Just to, again,
8 familiarize myself. I looked in the field at the geology, the
9 topography, the conditions, the cultural development and so
10 forth. And so I did those kinds of things.

11 Q. In addition to that, did you receive a copy of a report
12 from Mr. Scalmanini?

13 A. Yes. One of the documents that was provided to me was a
14 report. I believe it's -- now I guess I should make a reference
15 to the date, but I believe it's January of this year. Excuse me
16 a moment. I think I have that. I think I have that date
17 referenced. Yes. January of 2002. The report is titled
18 Technical Memorandum, Ground-Water Basin and Subbasin Boundaries,
19 Antelope Valley Ground-Water Basin.

20 And I'm not sure I have all the other things that are on
21 the cover page. But yes, that's a report by a firm called
22 Luhdorff & Scalmanini.

23 Q. Did you also attend Mr. Scalmanini's deposition?

24 A. Yes. Mr. Scalmanini was deposed on 3 separate days, and
25 I attended all 3 days.

26 Q. In addition to that, have you done any other general
27 things in terms of reaching your conclusions and opinions?

28 A. Well, I've been in court since almost the beginning. I

1 missed the early session when the lawyers were talking, but I
2 believe I've been here since -- since Mr. Scalmanini began
3 testifying. And so I've listened to all of his testimony here as
4 well.

5 I've also done some other studies of my own. I've
6 looked at other documents such as the Phase 1 stipulation. I've
7 considered, you know, a number of things with regard to that.

8 MR. ZIMMER: Did you want to take a break?

9 THE COURT: Good time for a break? All right. We'll be
10 in a 10-minute recess. You may step down.

11 (Recess.)

12 (Discussion - Not Reported.)

13 THE COURT: Let's have Mr. Zimmer finish on whatever
14 information he wants to go. Then I'll let defense go on voir
15 dire.

16 You're not saying, though, he's not qualified.

17 MR. BUNN: It would be as to the basis of his opinions.

18 THE COURT: All right.

19 MR. ZIMMER: The thing I would suggest is I'll just ask
20 him what his general opinion is and then that'll frame-up the
21 issue, I think, for Mr. -- what Mr. Bunn wants. Then we can --

22 MR. BUNN: I don't care.

23 THE COURT: Well, we'll let you do that. I mean, I
24 still need to rule on the motion in limine, although I was
25 inclined to deny it. But let's -- so for that reason, I'll let
26 you ask that. If you can convince me otherwise, I can always
27 strike if anything specific comes out.

28 But go ahead then.

1 MR. ZIMMER: Thank you, your Honor.

2 Q. (BY MR. ZIMMER:) Just a couple of quick things here.

3 Sir, you provided a 10- or 11-page resume, and I don't
4 want to bore everybody here to tears with all of this. Is it
5 fair to say you belong to all of the traditional professional
6 affiliations and associations?

7 A. Well, I belong to many of them. I can't afford to
8 belong to all of them, but I belong to the Association of
9 Engineering Geologists for decades. And I belong to the -- what
10 I consider to be the leading groundwater technical organization
11 in the United States, which is the National Groundwater
12 Association. Incidentally, I've served as a -- as a member of
13 the board of that. I've served as the -- the chair of the
14 certification committee for certifying hydrogeologists under
15 their rules. And I belong to the California Groundwater
16 Association and some others. I'm not sure I can remember them
17 all. Inland -- the Inland Geological Society and so forth, yes.

18 Q. And you've been involved with various groundwater issues
19 in California and, in particular, Southern California?

20 A. Yes.

21 Q. And you published numerous different articles in your
22 field?

23 A. Yes, I have.

24 Q. Sir, can you tell us generally what your opinion is in
25 this case?

26 A. Well, yes. In general, I've reviewed the Plate 1 and
27 the revised Plate 1 that Mr. Scalmanini presented in his report
28 and presented during his testimony today, which I believe a copy

1 of it is up on the board. If I'm not mistaken, I believe is
2 Exhibit 126, but I'm not sure of that.

3 I've reviewed that with regard to the requirements of
4 the Phase 1 stipulation, and it's my opinion that the boundary
5 line -- in fact, any of the boundary lines shown on
6 Mr. Scalmanini's Plate 1 do not meet the requirements of the
7 Phase 1 stipulation for an area because they do not include other
8 appropriate areas, which areas I have included in Exhibit B, a
9 map that's included with my report on this matter.

10 MR. DUNN: Objection. Move to strike the witness's
11 opinion testimony as to the legal effects of the Phase 1
12 stipulation on the grounds that it would be up to the Court, not
13 this witness, to decide what evidence and testimony comports and
14 does not comport with the Phase 1 stipulation.

15 THE COURT: Well, I --

16 MR. BUNN: Again, I would hope to get into that in a
17 minute on voir dire.

18 THE COURT: I'm going to overrule the objection because
19 I believe what he's doing is simply taking the language of the
20 stipulation as to whether it affects or doesn't affect that,
21 essentially, language and giving his opinion as to what areas
22 that would include. I don't think that calls for him to come up
23 with a legal analysis.

24 So I'll overrule that. Let's have Mr. Bunn voir dire.

25 MR. BUNN: Thank you.

26 VOIR DIRE EXAMINATION

27 BY MR. BUNN:

28 Q. Mr. Sheahan, are you familiar with the designation of

1 expert witness which went into the -- what your testimony would
2 consist of in this case?

3 MR. ZIMMER: And, your Honor, that's going to be asking
4 about a legal question.

5 THE COURT: We can save some time, because I've looked
6 at the designation.

7 MR. BUNN: Okay.

8 THE COURT: And the designation does not -- well, it
9 basically --

10 MR. BUNN: Let me go on then, if I could.

11 THE COURT: Okay.

12 Q. (BY MR. BUNN:) In preparing your report, you set five
13 tasks for yourself, did you not?

14 A. That's -- yes, that's the way to characterize it. I
15 tried to organize the work that I did into five tasks to assist
16 in communicating what I was doing and in communicating the
17 results of my work.

18 Q. And Task 1 was to review and critique the L & S
19 Technical Memorandum; correct?

20 A. That's correct. And I've defined in my report that
21 L ampersand S refers to Luhdorff & Scalmanini.

22 Q. Mr. Scalmanini's report.

23 A. Well, it's not clear from the report who wrote the
24 report. The report is not signed. As I recall, Mr. Scalmanini
25 testified during his deposition that he wrote parts of it, but he
26 had staff members working for him write other parts of it. So I
27 refer to it as the Luhdorff & Scalmanini report.

28 Q. And Task 2 was to review the Phase 1 stipulation to

1 develop an understanding of the requirements for Phase 1 that are
2 stated therein; correct?

3 A. Yes.

4 Q. Then you go on with Task 3, select scientifically based
5 and other appropriate methods for defining the boundary of an
6 area that would meet the requirements of the Phase 1 stipulation;
7 correct?

8 A. Yes.

9 Q. Then you go on to Task 4, determine whether the
10 boundaries shown on Plate Number 1 of the L & S Technical
11 Memorandum define an area that meets the requirements of the
12 Phase 1 stipulation; correct?

13 A. Yes.

14 Q. And finally, define the boundary of an area that meets
15 the requirements of the Phase 1 stipulation using the methods
16 selected as part of Task Number 3.

17 I correctly read that last one, didn't I?

18 A. I believe so.

19 Q. Now, in your review of the Phase 1 stipulation, did
20 anyone tell you what that meant, or did you come to your own
21 conclusion on reading it?

22 A. Well, as my report indicates, my task was to read it and
23 review it and to determine based on my expertise as a
24 hydrogeologist what the requirements of the Phase 1 stipulation
25 were. No one told me that. That was my job to do that review.

26 Q. And using your expertise as a hydrogeologist, did you
27 come to a conclusion about what the phrase "legally adverse"
28 means in the Phase 1 stipulation?

1 MR. ZIMMER: Sounds like a legal opinion, your Honor.

2 THE WITNESS: No.

3 THE COURT: Well, I'm going to overrule the objection.

4 And the answer was "no."

5 THE WITNESS: Yes.

6 Q. (BY MR. BUNN:) Did you use an understanding of the
7 phrase "legally adverse" in coming to your opinions in that --
8 this matter?

9 A. No. And, in fact, just the opposite. I was able to
10 understand from that phrase that -- and from my understanding of
11 the English language that "legally adverse" modified the word
12 "effect." "Effect" is a physical condition, and I can determine
13 what effects there are of groundwater pumping which, if I recall
14 right, that's what the Phase 1 stipulation is referring to. And
15 I concluded in my report that in an instance where there was no
16 effect whatsoever, it wouldn't matter whether it was legally
17 adverse or otherwise. And I was very careful in the report to
18 explain that. So the only thing that I looked at was the
19 physical effect.

20 Q. You state in your report at page 8, "The Phase 1
21 stipulation refers to both physical, or scientific,
22 characteristics, ('groundwater production') and legal
23 characteristics ('legally adverse effect'). Thus, the Phase 1
24 stipulation intends to address both of these aspects as
25 appropriate in selecting the Phase 1 area boundary."

26 Is that a correct quotation from your report?

27 A. Yes, it is.

28 Q. And going back to your Task Number 5, it was, in fact,

1 to select a boundary that meets the requirements of the Phase 1
2 stipulation, was it not?

3 A. It was more than that. But in essence, yes.

4 Q. I'm sorry if I misquoted it.

5 THE COURT: Well, just Task Number 5.

6 MR. BUNN: Yes. Task Number 5.

7 THE WITNESS: Yes. Task Number 5 has added to it,
8 though, the phrase using the methods selected as part of Task
9 Number 3.

10 Q. (BY MR. BUNN:) Okay. And Task Number 3, then, talks
11 about selecting scientifically based and other appropriate
12 methods to define the boundary.

13 A. Of an area that would meet the requirements of the
14 Phase 1 stipulation, yes.

15 Q. And did you do that?

16 A. Which?

17 Q. Task Number 3?

18 A. Yes.

19 Q. Did you do Task Number 5?

20 A. Yes.

21 MR. BUNN: Okay. Your Honor, I would move to exclude
22 the testimony of the witness to the extent that it does not
23 constitute a critique of Mr. Scalmanini's work. I have no
24 problem with Tasks Number 1 and 4.

25 THE COURT: All right. Well, the motion in limine was
26 brought primarily on the grounds of failing to produce the
27 reports.

28 MR. BUNN: I just felt that it was appropriate to --

1 THE COURT: I think what you're really doing is you're
2 expanding and focusing on a claim that the expert witness
3 designation was more limiting than what he actually testified to
4 at deposition --

5 MR. BUNN: Correct.

6 THE COURT: -- correct? All right.

7 Now, the way I look at this, first of all, as far as the
8 reports go -- and I've looked at that Bonds -- I think it was
9 Bonds versus Roy (phonetic). But that's a different issue. That
10 was a medical malpractice case -- I think that's the one where
11 they did not, either in the expert witness designation or at time
12 of deposition, proffer any opinions on standard of care. But at
13 time of trial, they wish -- the doctor wished to testify as to
14 standard of care. And that was excluded.

15 We have something a little different here. The expert
16 witness designation is probably vague. We can all do better,
17 again, in hindsight. What it says is an evaluation and critique
18 of the scientific evidence proffered by the defendants at trial,
19 including without limitation of science implied and the opinions
20 rendered by the defendants' expert witness who testify.

21 Now, I looked at both of them. I think the both of you
22 used the same language. What does that mean? What is an
23 evaluation and critique? Does that really mean that they're not,
24 as they're evaluating and critiquing, going to give their own
25 opinion? I suppose a very narrow reading would say all they're
26 going to do is evaluate and critique and have no independent
27 opinion. But, I mean, we're all --

28 MR. BUNN: Your Honor, that's not the point that mine

1 was directed to.

2 THE COURT: It is, isn't it? Because what you're saying
3 is he did not have in his designation the fact that he was going
4 to give opinions of boundaries.

5 MR. BUNN: No. That's not it.

6 THE COURT: Okay. What is it?

7 MR. BUNN: I don't have a problem with his testifying as
8 to his opinion on the scope of Mr. Scalmanini's work, which was
9 to define a groundwater basin boundary.

10 If you look at our designation --

11 THE COURT: I think we're saying the same thing. He
12 wants to offer his own independent opinion as to what the
13 boundary is.

14 MR. BUNN: No, ma'am. He wants to define a, quote,
15 unquote, "Phase 1 boundary" based on the requirements of the
16 Phase 1 stipulation. And he will testify, I assume, that that's
17 not a groundwater basin boundary at all. It's something
18 completely different. And that's what I would move to exclude.

19 If he wants to testify about what the groundwater basin
20 boundary is, I think that's great. I'd move to hear it. But he
21 wants to testify to something completely different based on his
22 understanding of the requirements of the Phase 1 stipulation.

23 THE COURT: All right. Well, I think --

24 MR. BUNN: And I do have a short legal memorandum here
25 about --

26 THE COURT: Isn't the problem, though -- I mean, at one
27 time when we bifurcated this, the idea was we were going to
28 determine a basin. Now, from that point on, you all met, you all

1 conferred, and you came up with a stipulation. And your
2 stipulation is not having me determine truly what a basin is.
3 You're wanting me to determine the area within which claims of
4 groundwater rights will be adjudicated.

5 Now, that area may be the basin. It may be broader than
6 the basin. I don't know. We're still getting to all of that.
7 But you chose to -- for whatever reason -- I'm not sure -- chose
8 to stipulate to this particular terminology.

9 MR. BUNN: At this point, I'm not sure either, your
10 Honor.

11 THE COURT: I'm not sure -- we may want to revisit
12 exactly where we're going on this. Good thing about a bifurcated
13 trial is it's not final judgment. We can fix this as we go
14 along.

15 But the true -- what we need to determine is probably
16 what is in the stipulation, what areas are going to be
17 adjudicated ultimately?

18 Now, I kept thinking maybe it was a good thing for
19 plaintiff that they were going to disclaim their rights. But
20 then as I was thinking about it more, then what you're probably
21 going to say is they don't have overlying rights because it's
22 outside of the area of the basin, so you're really not
23 disclaiming anything to their property. I'm not sure, but I
24 think that's probably why they're not wanting to go there.
25 That's the only reason I could think.

26 MR. BUNN: We would stipulate they have the right to
27 pump whatever quantity of water they can get out of the ground on
28 that property and use it on the property.

1 But that's a little bit off the point. We did choose to
2 enter into this stipulation. Mr. Joyce and Mr. Zimmer, at the
3 time they did their expert designation, they had Mr. Scalmanini's
4 report in hand. And they designated that what they were doing
5 was not -- they did not designate -- select an area that meets
6 the Phase 1 stipulation. They said, "Critique Mr. Scalmanini's
7 report." And Mr. Scalmanini's report deals solely, I think
8 you'll agree, with basin -- boundaries of the Antelope Valley
9 groundwater basin.

10 So they had an opportunity to say at that time and we
11 want to suggest a whole different basin than Mr. Scalmanini.
12 They did not. They waited till two weeks before the trial to
13 spring that on us.

14 THE COURT: Wasn't it at the time of the deposition?

15 MR. JOYCE: Day before.

16 MR. BUNN: That's right. Which was --

17 THE COURT: Which just happened two weeks before trial,
18 which was probably scheduling and I know there were some problems
19 there.

20 I mean, I'm not -- it would be a different thing if it
21 wasn't testified to at the deposition. I would agree with you at
22 that point in time you can't give your deposition testimony. But
23 I think there's that area where, when your deposition testimony
24 differs from what is in your expert witness designation, that we
25 are governed by the testimony, especially -- you know, I just --
26 I'm not -- I'm convinced that you all are not surprised in any
27 way by the fact that plaintiffs' experts want to give some
28 boundary area, whether they call it watershed basin boundary, or

1 just the area as set forth in the stipulation. I mean, that's
2 what this whole phase was about to some extent. So I can't
3 believe there's any surprise that they don't have their
4 independent opinion of what the area is, no matter what we want
5 to call it.

6 I don't think the fact that there wasn't a report
7 produced is any basis for exclusion, because I can't find
8 anything that required a mandatory duty to prepare a report. So
9 the fact there was no report done when the exchange took place,
10 once he did prepare a report, it looks like it was provided as
11 soon as it could practically be done. So I don't think that's a
12 basis.

13 So then I really do think your basis for exclusion is
14 that it was not set forth in the designation.

15 MR. BUNN: That's -- that's only part of it.

16 THE COURT: And you're right. I think these words could
17 have been written better. On the other hand, at the time of his
18 deposition, when he did go set forth everything, I think I gave
19 you a chance to go through and depose him. And I have no doubt
20 that we're pretty thorough in looking at -- some are exhibits.
21 We probably have as much exhibits as testimony.

22 MR. BUNN: We never got to his opinions, your Honor.
23 Never got to his opinions in that one day of decision (sic). And
24 we were unable to schedule another day.

25 THE COURT: All right. So what is your question?

26 MR. BUNN: But the thrust of my motion is not the expert
27 witness designation. It's the fact that Mr. Sheahan's
28 conclusions are based entirely -- and I can cite you chapter and

1 verse from the deposition, but I think it's right here in his
2 report, based entirely on his legal conclusion about what this
3 Phase 1 stipulation requires. That is impermissible testimony
4 for this witness.

5 THE COURT: Well, I'm not sure he's making a legal
6 conclusion. He's taking, is he not, this -- the language, the
7 area within which claims of groundwater rights will be
8 adjudicated -- actually, the area -- the area will include or
9 exclude overlying properties from the lawsuit.

10 All right. He's taking that --

11 MR. DUNN: Well, can I --

12 MR. BUNN: Just as he couldn't --

13 THE COURT: To some extent. And then he's taking his
14 geological interpretation to say the overlying properties should
15 be included in the whole watershed because pumping's going to
16 have some significance on it.

17 MR. DUNN: Well, can I weigh in on this just briefly?

18 THE COURT: You can.

19 MR. DUNN: And I think it probably ties in several days
20 together of discussion on this.

21 THE COURT: Before you say anything, is this really a
22 good stipulation?

23 MR. BUNN: No, ma'am.

24 MR. DUNN: No.

25 MR. BUNN: Had we to do it over again, we certainly
26 wouldn't do it again.

27 THE COURT: Do plaintiffs truly like it?

28 MR. ZIMMER: Your Honor, I think the stipulation will do

1 what we need to do in this phase and leave us with --

2 THE COURT: Well, this is where I keep going back to --
3 you'll get a chance to be heard on it.

4 MR. DUNN: Okay. I'm sorry.

5 THE COURT: Just hold the thought.

6 MR. DUNN: I'm sorry.

7 THE COURT: But is not -- do we not go back to the
8 Complaint? It's quiet title. We go back to what they're trying
9 to do, which is quiet title rights of their overlying property,
10 would we not have to include in whatever area all areas to which
11 they have overlying rights when I absolutely make that final
12 determination? So --

13 MR. BUNN: Part of the determination is a determination
14 of that area. But I remind you to -- what Ms. Fuentes called
15 your attention this morning. That's got to be done first so that
16 we can then go through further technical investigations to
17 determine the nature of those rights, how much the water is
18 coming into that area. And there's going to be a big difference
19 if we choose basin or watershed. The amount of water coming in
20 is very different in those two things.

21 THE COURT: That probably will make a big difference.

22 But let's say we choose your basin. The minute we
23 choose your basin, a lot of plaintiffs' property is not overlying
24 that basin.

25 MR. BUNN: One piece.

26 THE COURT: All right. Now, I'm still thinking the
27 reason they didn't want to stipulate on that is because if they
28 have no overlying rights, I'm thinking they're thinking your

1 disclaimer's not going to have any effect upon whatever
2 prescriptive rights might be happening against their property
3 that's not overlying the basin.

4 MR. BUNN: I don't think so, your Honor, but I suggest
5 you ask them.

6 MR. ZIMMER: I think it's both -- it's both that and the
7 fact that you don't have the proper study area to be able to
8 evaluate the hydraulics in the area.

9 For example, you could draw this area so narrow that you
10 had one square going back to my opening statement of one parcel
11 of plaintiffs' property and one appropriator's pumping. And if
12 you simply looked at that, you could not properly assess
13 hydrogeologically whether the pumping here is affecting the
14 pumping here, because you need to understand the hydrogeology of
15 the entire area to be able to properly assess that because there
16 could be another pumper not in this lawsuit on the other side
17 of -- just outside whatever this narrow line is who's also
18 pumping. And if he's pumping, he's going to have the effect of
19 potentially drawing down our well. And rather than the defendant
20 appropriator doing it, taking the hostile adverse action, it's
21 actually somebody else who's causing that effect. And if it's
22 somebody else who's causing that effect, then they don't get
23 prescription.

24 MR. JOYCE: Your Honor, to take that issue one step
25 further, the way the stipulation was drafted -- and we've had
26 discussions about this amongst counsel after the stipulation.
27 And one of the issues I expressly address is that it is your
28 intent or do you mean to say that the Court were to adopt a line

1 that on the outside of which there was pumping, that that pumping
2 could not then be considered in analyzing whether or not it may
3 or may not be a source of any adverse results manifesting
4 themselves within the area. And the answer to that question by
5 them was yes. Which means then, as exactly what Mr. Zimmer's
6 pointing out, is that you don't get to analyze scientifically
7 hydrologically whether or not a depressed water table may or may
8 not be the result of activities occurring elsewhere. Therefore
9 giving them the presumptions, it must be us. If it must be us,
10 then it must be adverse. That's what they're trying to get into.

11 THE COURT: Wouldn't we --

12 MR. BUNN: I --

13 THE COURT: I'm not sure that's it. Wouldn't we
14 still -- if there's pumping outside the basin when we're actually
15 determining all of the flow and these technical things, is that
16 not still part of the calculations?

17 MR. BUNN: Yes and no.

18 MR. JOYCE: No. Because --

19 MR. BUNN: They stipulated, you'll recall -- we all
20 stipulated --

21 MR. JOYCE: Your --

22 MR. BUNN: -- that --

23 MR. JOYCE: That is not legally adverse.

24 MR. BUNN: Am I making your point?

25 MR. JOYCE: You are.

26 MR. BUNN: They agreed that we didn't need to consider
27 the pumping outside the area because it wasn't significant.

28 MR. JOYCE: No. No. No.

1 MR. DUNN: Can I try and break through this?

2 THE COURT: Go ahead.

3 MR. DUNN: And I apologize and I didn't mean to cut off
4 anybody, but as I understand it -- and help me out,
5 Mr. Sheahan -- Mr. Sheahan, as I just heard, he has a line that
6 we've all seen and we're aware of. And if it's fair to say, what
7 Mr. Sheahan is telling us is that on his line, he didn't consider
8 this whether it's legally adverse or not. What he did for his
9 work is he just says, "I'm going to pick a line where there's no
10 impact" --

11 MR. JOYCE: Where there can be no impact.

12 MR. DUNN: Right. And if I understood him correctly --
13 and I don't want to put words in anybody's mouth -- and the
14 result of that under his thinking is if there's no impact at all,
15 then we don't get to the legally adverse issue.

16 MR. ZIMMER: Can't be legally adverse.

17 THE COURT: In other words, anything outside that line
18 has no impact.

19 MR. JOYCE: Right. Now.

20 THE WITNESS: If I may interject, that's only partially
21 correct.

22 MR. DUNN: Oh, I'm sorry.

23 THE WITNESS: But to the extent it's partial, that is
24 correct.

25 MR. DUNN: And, generally, that line is going to be
26 outside the line that Mr. Scalmanini has come up with.

27 THE COURT: Right.

28 MR. DUNN: Okay. I've -- I am prepared on behalf of my

1 client to agree that Mr. Sheahan's line, in fact, is a -- I'm
2 going to call it a watershed line. You can call it whatever you
3 want. It's outside here. And I'm prepared to stipulate that
4 there is no impact at all. Okay. So --

5 THE COURT: On anything outside that line.

6 MR. DUNN: Yes. For purposes of this case.

7 THE COURT: I think everybody would stipulate to that.

8 MR. BUNN: Yes.

9 THE COURT: If we're outside the watershed --

10 MR. DUNN: So I think we're making progress. Because I
11 know Mr. Sheahan is here at least in part to establish that, and
12 I on behalf of my client will stipulate to that.

13 We're still stuck with this Phase 1 stipulation, that
14 language. I just want to say that I wasn't involved in any way
15 in drafting the stipulation.

16 THE COURT: He's disclaiming.

17 MR. DUNN: It was already signed. They were bugging me
18 to sign the darned thing, and I did it. Anyway --

19 MR. JOYCE: I want to --

20 MR. ABBOTT: Is that your signature, Mr. Dunn?

21 MR. JOYCE: I want to side a little bit with Mr. --

22 THE COURT: I have to say I was concerned on the
23 stipulation that everyone has concerns over being the basis of
24 adjudicating basin. I mean, what are we doing here?

25 MR. ZIMMER: That goes back to whether you're
26 adjudicating basin.

27 MR. ABBOTT: Let's look at the practical aspects.

28 THE COURT: -- just establishing quiet title. I'm

1 trying to get through the books to see if it helps, but they sort
2 of lump it all together.

3 MR. ZIMMER: I don't think we're adjudicating basin.
4 We're adjudicating whether there's descriptive claims. The
5 defendants will make arguments based on what they consider the
6 basin to be or how they define basin in Phase 2. That's why I
7 said before along the lines of what Mr. Dunn is saying is that
8 agreeing to this -- this outside line indicating that pumping
9 outside there will, as a matter of law, be determined by the
10 Court to have no legally adverse effect on pumping inside. That
11 gives us our study area.

12 And then in Phase 2, we're all going to go in and look
13 at pumping inside the study area and figure out how that all
14 works hydrogeologically and whether the defendants have true
15 prescriptive claims against the --

16 THE COURT: Wouldn't it be better to -- since we all
17 agree on the watershed, that anything outside that we don't have
18 to worry, isn't it better to have all of the calculations when
19 I'm trying to make a determination as to whether the pumping has
20 any adverse effect? In other words --

21 MR. ZIMMER: You will.

22 THE COURT: But I don't know how much more it costs. In
23 other words, if we run two scenarios, run the scenario of the
24 basin as it's outlined and then run the scenario of the entire
25 watershed.

26 MR. ZIMMER: Well, your Honor, the -- what's wrong with
27 that is you don't ever have to get the calculations in Phase 1.

28 THE COURT: Well, that's what I'm saying, though,

1 what -- maybe we don't really need any real findings in Phase 1.
2 Again, I -- my take on it initially was that the defendants
3 collectively thought what we now see as a basin that has
4 subbasins, those subbasins were much more separate than they
5 were. And that is -- has proven not to be the case.

6 So since that's not the case, then do we really need to
7 make a determination and can I, legally based on what I'm getting
8 here, which is no -- really, none of the scientific calculations
9 that you need to go through all this, can I make a determination,
10 and can they exclude that -- I guess it's the gray area between
11 what is the basin and what is the watershed without having any
12 scientific calculations done?

13 MR. ZIMMER: Well, you will be able to do that based on
14 scientific testimony of Mr. Sheahan. But there's no effect --

15 MR. BUNN: Well, Mr. Abbott's been waiting patiently.
16 Let him go first. But I have something to say.

17 MR. ABBOTT: When we look at the practical aspects of
18 what we're dealing with, we've got the Buttes property out here,
19 which is outside Mr. Scalmanini's line but inside Mr. Sheahan's
20 line. And if you use Mr. Scalmanini's line, the defendants can
21 disclaim, you know, no legally adverse effect on their own lying
22 rights to that property.

23 We've got one well of District Number 40 that's south of
24 Mr. Scalmanini's line but within Mr. Sheahan's line.

25 You've got how many wells?

26 MR. TOOTLE: I know I have one south and I have -- I
27 don't -- Fremont Valley too. So I have at least two.

28 MR. ABBOTT: And Palmdale's got two wells south of

1 Mr. --

2 MR. BUNN: Yes.

3 MR. ABBOTT: -- Scalmanini's line. And the troubling
4 part is, from what I understand plaintiffs, they don't want to
5 kick those wells loose from the case.

6 MR. JOYCE: It's not wholly correct, Steve -- sorry --
7 Mr. Abbott. It's not that we're not wanting to kick those loose.
8 The concern is fairly simplistic. Is it -- the way you all
9 insisted upon tying the words together in the stipulation is, is
10 that once the line gets drawn, then the next thing that has to
11 happen is she has to then make a finding that that line is the
12 line within which and out of which there is no, quote, "legally
13 adverse effect." As soon as she does that, then any pumping
14 outside of the line, whether it's yours or anybody else's, would
15 not, cannot be considered for the purposes of doing the necessary
16 quantification and tracing the source of any problems there are,
17 if there are any, to where they're coming from.

18 So back to what I said earlier where you guys get to is
19 you suddenly get to say, "Gee, your water tables are going down
20 in the Neenach area, Mr. Joyce, which is where one of your pieces
21 of property is. And guess what? We drew this line here cutting
22 this off. Here's the Neenach, here's my property. And your
23 water levels are going down. It must be because what we're doing
24 down here. Where, in fact, it would be a result of what's
25 happening north of here."

26 MR. ABBOTT: I don't think we are precluding that
27 argument.

28 THE COURT: Are you going to disclaim any pumping for

1 the areas outside the line?

2 MR. BUNN: They have all the rights to the water outside
3 the line.

4 THE COURT: Outside the line. So no matter whether the
5 well is within the line or outside the line, no one's making any
6 prescriptive claims on the property outside the line.

7 MR. BUNN: That's correct.

8 And, your Honor, I'd like to make a suggestion --

9 MR. JOYCE: Your Honor, I didn't articulate -- let me
10 one more time. The issue is going to become -- in Phase 2 is
11 whether or not what's happening in the concentrated appropriative
12 municipal area down here whatever the area is ultimately chosen
13 to be.

14 Once the line is drawn, though, you of necessity then
15 have to incorporate as are the fact finding of that line a
16 factual determination -- factual legal determination. That is,
17 that any pumping outside of that line is not, quote, unquote,
18 "legally adverse." That's where the problem comes in, because
19 then if there's a manifestation within the area on a piece of
20 property that my client owns in this area and there's a
21 declining well, that that should be the case. Then they get to
22 advance the proposition that it has to be a result of their
23 activities or some other activity within the area. But more
24 importantly, because of the way it was worded, cannot, as a
25 matter of law, be the result of any activity happening to the
26 north.

27 MR. BUNN: Your Honor --

28 THE COURT: I'm not sure that's what legally adverse

1 means.

2 MR. JOYCE: That's what they intend.

3 MR. BUNN: May I make a suggestion? First of all, I
4 think the short answer to what Mr. Joyce is saying is what --
5 they agreed to do it that way.

6 MR. JOYCE: They give it up. Take the adverse out.

7 MR. BUNN: That's just what I was about to propose. I
8 would suggest that we dump the Phase 1 stipulation. I'm prepared
9 to --

10 THE COURT: I think that idea --

11 MR. BUNN: I'm prepared to stipulate on behalf of my
12 client, to take a line from Mr. Dunn, that we can consider all
13 the inflows into the groundwater basin and everything that
14 affects those inflows. That's what I would stipulate to.

15 But I still would like a determination by the Court that
16 plaintiffs' overlying rights are limited to the groundwater basin
17 as defined by Mr. Scalmanini. Or perhaps Mr. Sheahan does have
18 an opinion on that subject.

19 THE COURT: But that is also based on your stipulation
20 to disclaim any prescriptive rights on overlying land out.

21 MR. BUNN: It's not based on the -- well, we'll still do
22 that.

23 MR. TOOTLE: We'll do that.

24 MR. ZIMMER: We can't do that, your Honor.

25 THE COURT: Why not?

26 MR. ZIMMER: Because we are litigating this case and
27 there's a collateral estoppel issue. And if it turns out that
28 pumping from one of these other people out here is affecting our

1 pumping, then we would be collaterally estopped arguably because
2 we have a judicial ruling that this pumping outside that line is
3 not legally adverse to our pumping. It doesn't have an effect on
4 it.

5 MR. BUNN: I just said we'd take that out.

6 THE COURT: He's going to take that out.

7 MR. ZIMMER: What is the -- what is the downside from a
8 legal standpoint to having the Court determine an area outside of
9 which there's no effect?

10 MR. JOYCE: Whatsoever.

11 MR. ZIMMER: So pumping outside versus pumping inside.
12 Someone tell me what the problem is with that from the legal
13 standpoint.

14 MR. BUNN: Your Honor, this is just where we got wrong
15 when we talked about no effect.

16 THE COURT: But, see, it's not --

17 MR. BUNN: That's not what we should be talking about.
18 We should be talking about the area within water rights are
19 determined.

20 THE COURT: It's the water rights area.

21 MR. ZIMMER: That comes down to hydraulically connected
22 properties.

23 THE COURT: Right. And what I think -- I mean -- and I
24 am certainly less than all of you on the technical part of this.
25 But I still think in the real part of this trial we can consider
26 the effect of pumping inside and outside and how all the water
27 gets in and all the water leaves and all of that.

28 MR. ZIMMER: We can certainly do that.

1 MR. DUNN: Correct.

2 MR. BUNN: We can do that.

3 THE COURT: So if we consider all of that, I think
4 it's -- the legally adverse probably is the problem in the
5 stipulation. I mean, you're willing to disclaim and I would
6 think that would take care of a big part of the trial, the -- any
7 prescriptive rights you have as to the property outside whatever
8 we agree that a basin is; right?

9 MR. BUNN: That's only one out of many properties.

10 THE COURT: That gets rid of something.

11 But then when it comes to all of the overlying property,
12 we're still going to do all the calculations, are we not, for
13 what comes in, what comes out, how much is used, what your
14 pumping does, what your pumping does, and it doesn't matter if
15 it's inside the area or outside the area. And then I come up
16 with something; right?

17 MR. ZIMMER: Well, there's no --

18 MR. BUNN: It doesn't matter in terms of effect whether
19 it's inside the area or outside the area. I contend that it does
20 matter in terms of defining overlying rights.

21 THE COURT: I'm looking at it at that point from the
22 quiet title. Okay. Which basically is going to turn again on
23 you. I think your burden of proof of establishing open,
24 notorious, hostile --

25 MR. ABBOTT: They've put in the deeds and leases --

26 MR. JOYCE: That's exactly right.

27 THE COURT: And all of that. And I just think we're
28 complicating things with this stipulation.

1 MR. BUNN: Well, ultimately --

2 THE COURT: Because I'm not convinced these experts are
3 so far off on what they're saying. There's obviously a basin?
4 What -- similar to what's been outlined. It's been recognized by
5 quite a few different experts.

6 MR. JOYCE: I would --

7 THE COURT: I'm not sure you're going to say there is a
8 basin.

9 MR. DUNN: And there's a watershed too.

10 THE COURT: And there is a watershed. What I'm not
11 clear of is in between this basin and the watershed if there
12 isn't another basin coming up there somewhere. Maybe there is;
13 maybe there isn't. But, you know --

14 MR. BUNN: And I would be perfectly happy to litigate,
15 if we need to do this, whether the two basins are sufficiently
16 connected to be called one basin. And, as a matter of fact, I
17 think if we put Mr. Scalmanini and Mr. Sheahan and Dr. Gorelick
18 together, they will come to the right answer on that.

19 I do want to point out, though, that there's another
20 significance --

21 THE COURT: Isn't there another basin up there?

22 MR. BUNN: Fremont Valley.

23 MR. TOOTLE: Fremont Valley.

24 MR. ZIMMER: Your Honor, it depends on how you define a
25 basin.

26 MR. ZIMMER: The problem is you then want to define a
27 basin a different way because they think legally it means
28 something. The fact is they do not describe it the same as any

1 of these people. And after Mr. Sheahan's testimony, I think that
2 will be crystal clear.

3 MR. BUNN: If they want to use the same tests as in the
4 San Fernando case.

5 MR. ZIMMER: If you let me finish Mr. Bunn.

6 MR. BUNN: These areas are considered one basin or
7 two --

8 THE COURT: Let Mr. Zimmer finish.

9 MR. ZIMMER: If you want to take the term "legally
10 adverse" out of the stipulation, stipulate that this is the area
11 of the litigation, and this will be the area that we're going to
12 consider in the litigation, we can go to Phase 2 and we can argue
13 with basins what they mean, what they are, what -- how these
14 areas are interconnected hydrogeologically.

15 THE COURT: That's how I see it should happen, but --

16 MR. ZIMMER: And I would consider doing that.

17 MR. JOYCE: Your Honor, I would consider adopting
18 Mr. Zimmer's suggestion on this condition: One, legally adverse
19 is out. Two, no reference to groundwater basin. It's just the
20 area. That way we get a geographic surface. We know who's in
21 it, we know who's out of it. Because I do not concur with
22 Mr. Scalmanini's depiction of what the, quote, unquote,
23 "groundwater basin" is. And if we're going to start arguing
24 about that for legal significant purposes in Phase 2, I want that
25 to be left as an open issue.

26 MR. ZIMMER: Absolutely.

27 THE COURT: I think it would be. I wouldn't be making
28 any findings because I'm sure there is room for dispute, again,

1 as to the exact boundaries.

2 MR. BUNN: And in that regard, it's probably wise to get
3 that done now.

4 THE COURT: I don't think so.

5 MR. BUNN: That portion of it. Because the -- there's a
6 scientific reason as well as a legal reason. And the scientific
7 reason is that the future evaluations of this area are all done
8 in terms of a safe yield of that basin.

9 MR. JOYCE: Now he's getting to the very issue I was
10 concerned about.

11 THE COURT: But I keep going through these cases and I'm
12 not finding any real findings with respect to basin that's made
13 ahead of time. It looks like there's basically what you all were
14 willing to stipulate to at this point, a general agreement as to
15 what area the over- -- basically, the overlying area is going to
16 include.

17 MR. BUNN: Well, I'd refer, again, to the Corona
18 Foothill case that Ms. Fuentes cited this morning, which says, in
19 so many words, you've got to define the basin before --

20 MR. JOYCE: Your Honor --

21 THE COURT: Does it say define it ahead of time?

22 MR. BUNN: Yes, it did.

23 THE COURT: But, I mean, in an absolute separate phase
24 without all of the technical calculations? No.

25 MR. BUNN: It didn't say anything about the trials, no.

26 THE COURT: And see, I think you're right, you have to
27 define the basin. But I'm concerned at this point in truly being
28 able to define it the way it should be in this context without

1 all of the mathematical computations that eventually have to
2 happen. I don't know. These cases are of prominent importance
3 when -- and even though you say we're not adjudicating a basin, I
4 kind of go back and forth on that. I think we are adjudicating
5 the basin to the extent it is a quiet title prescriptive rights
6 case, they still seem to suggest those are basin adjudication
7 cases.

8 So when we're --

9 MR. ZIMMER: The difference I see in that, your Honor,
10 just to clarify, that is, you're determining water rights.
11 Considering water rights only because they're hydraulically
12 connected. The term "basin boundary," "subdivision," "subunit,"
13 "drainage basin," these are all just factual geologic terms which
14 are discussed in these cases in the discussion of whether they're
15 hydrogeologically connected.

16 THE COURT: But I think once we determine these water
17 rights, we're, in essence, adjudicating a basin.

18 MR. DUNN: Right.

19 MR. BUNN: The distinction is that it's not a general
20 adjudication in the sense that not all water rights --

21 THE COURT: We don't have everybody there.

22 MR. DUNN: Yes.

23 MR. BUNN: Yes.

24 THE COURT: But it's an adjudication to the extent that
25 these are prescriptive claims.

26 MR. DUNN: Yes.

27 MR. JOYCE: That's correct.

28 THE COURT: Now, the concern is when you get this kind

1 of stipulation and then we're going to go to all this work and
2 get a determination -- and I'm not sure what an appellate court
3 would do with a faulty stipulation.

4 MR. BUNN: Well, I think that everyone's now said that
5 they -- they're at least willing to take "legally adverse" out of
6 the stipulation.

7 THE COURT: This is what I would like to see, although I
8 know we spend a lot of time. But you're better off to spend the
9 time now so we don't create a bigger problem next year. Talk
10 about this. In fact, come back tomorrow because you're all here,
11 you have your hotel rooms. And if you -- need be, we can talk
12 about it tomorrow. I would still like to see because even
13 though, you know, there's a little bit of back and forth with the
14 experts on the questioning, I think all of these experts
15 generally speak the same language and can probably work out an
16 agreement among themselves that you might all agree to.

17 MR. DUNN: Yes.

18 THE COURT: If you all agree, again, to do it in terms
19 of somewhat of a mediation privilege, in other words, nothing
20 that is said during their discussions can never be held against
21 them at any point in time, you might be able to make a lot of
22 progress on this type of thing.

23 MR. DUNN: I can speak from experience that that is
24 generally how it is done.

25 MR. BUNN: And I would say, too, that if we get down to
26 where I think your Honor is driving us, resistant though we may
27 be, if we get down to that point, it's really going to come down
28 to do we include the Leona Valley and the Fremont Valley within

1 the territory to be adjudicated? And I'm happy to leave that up
2 to the experts.

3 THE COURT: All right.

4 MR. JOYCE: Well, you can address that issue depending
5 upon what you're trying to get out of Phase 1. If you just
6 merely want a line on the geographic surface, then we're going to
7 say these are pumping within this line and any adversity between
8 the pumping in and ownership in is the area we're focusing upon,
9 but not call it a groundwater basin, not intend to exclude from
10 Phase 2 the consideration of effects of pumping outside of it.
11 Not excluding any of the Piper (phonetic) hydrologic issues that
12 are going to have to be investigated. Then you're getting to a
13 closer point. But you guys have been locked --

14 MR. BUNN: Can we go work on that, your Honor?

15 THE COURT: I think you need to. We want everyone
16 back --

17 (Discussion - Not Reported.)

18 THE COURT: We need a better stipulation. I really
19 think we do.

20 MR. DUNN: I do too.

21 THE COURT: I'm not so concerned -- I mean, if you want
22 to include all of the overlying property, but I think if you do
23 that, you're probably getting into a different basin maybe; maybe
24 not.

25 MR. ZIMMER: That doesn't matter, though, if it's
26 hydraulically connected.

27 THE COURT: If you're willing to stipulate that the only
28 prescriptive rights you're seeking are the ones as to this basin,

1 it might be better to exclude the other one and just deal with
2 this as long as you can take into account all the pumping
3 anywhere and all the inflow and outflow and whatever those terms
4 are.

5 MR. DUNN: Sure.

6 THE COURT: I don't know.

7 MR. DUNN: I think that sounds exactly right.

8 THE COURT: No? He's --

9 MR. DUNN: No?

10 THE WITNESS: If you like, I'd be happy to explain.

11 MR. JOYCE: -- by the Department of Water Resources
12 seems to suggest that the acreage or the square miles is about
13 twice the size of this. And really, the most revised Department
14 of Water Resources map carries this area up to a groundwater
15 divide right up here and then carries Fremont running north of
16 that. So there's a groundwater divide up here.

17 Am I right, Tom, about this?

18 THE WITNESS: Yes.

19 MR. JOYCE: And so all I'm saying, that's one of the
20 issues that I'm concerned about not shutting the door on right
21 away.

22 THE COURT: That would be all within the same basin.
23 You're saying, this basin other --

24 MR. BUNN: He's proposing different boundaries for the
25 basin.

26 MR. JOYCE: It would take this northerly line a bit
27 further north.

28 MR. DUNN: Okay.

1 MR. JOYCE: And I'm not suggesting that I necessarily
2 need that for the purpose of what we're concerned about
3 litigating within the, quote, unquote, "phase area" for having
4 properties in or out. I'm concerned if we're going to later on
5 try to talk about the hydrology and the influence that we get the
6 right basins that we're talking about the right area. And that's
7 my concern.

8 THE COURT: I think everyone wants to do the same thing.
9 And I -- you know, I don't really think -- and I don't think you
10 can possibly define in concrete terms a boundary anyways.
11 Because it seems like it does move a bit.

12 MR. JOYCE: It's a moving target.

13 MR. ZIMMER: As close as I can get is a watershed.

14 THE COURT: Up, down, all of that.

15 I mean, even though I know you don't like the idea of
16 the watershed, if you use the watershed, just an altogether
17 limiting, I'm not sure that is such a bad idea. But I think
18 you're better off if you can eliminate some more because I think
19 it's going to make a big difference in all of the mathematical
20 calculations that go into the flows and different things.

21 But I think you should sit down with attorneys and
22 experts and not argue and simply explain where you're at and come
23 back and see if you can't work something out.

24 And we can spend tomorrow to the extent you need some
25 time to do that. I can monitor you every now and then, see where
26 we're coming from.

27 MR. ZIMMER: If we're going to do that, your Honor, I'd
28 better do that tonight so that we don't have more down time.

1 MR. BUNN: He wants another glass of wine, I think.

2 MR. ZIMMER: No. No. I don't drink.

3 THE COURT: You'd better find a good one.

4 (Discussion - Not Reported.)

5 MR. ZIMMER: I just like to make as much production time
6 and court time as we can. If we can come to an agreement, let's
7 do it.

8 MR. JOYCE: Pretty soon the cost of Phase 1 is going to
9 exceed the value of Phase 2.

10 THE COURT: I still think if you take out some of the
11 language of the stipulation, then there's really nothing to
12 determine, is there? If you all agree it's a watershed area, you
13 take out the "legally adverse" language.

14 MR. BUNN: The Court still has to determine the area
15 within which rights are to be adjudicated. That's essentially --

16 MR. JOYCE: But that does that, Tom. And then once
17 you're there, then you can really address in the fair, full, and
18 comprehensive manner the interrelated hydrology of what's
19 happening within that area in Phase 2. That's where it's going
20 to become important.

21 If you can demonstrate in Phase 2 that there is no -- no
22 conceivable significant correlation between production on one
23 side or the other side, then guess what? That's where the
24 evidence is going to take her or she's going to come to the
25 conclusion that anything from this side has no impact.

26 MR. BUNN: Well --

27 MR. TOOTLE: Your Honor --

28 MR. BUNN: -- I think that's more to what the plaintiffs

1 are saying than they're sharing with the Court.

2 MR. TOOTLE: Your Honor, the Complaint originally said
3 quiet title over the aquifer. They never define the aquifer.
4 And clearly, the aquifer does not extend to the watershed.

5 MR. JOYCE: Back to their Exhibit D to their trial
6 brief, their own citation said that it is not yet clear in
7 California law whether or not overlying rights extend this to the
8 boundaries of the, quote, unquote, "groundwater basin" or the
9 watershed when they're not conterminous. I don't know the answer
10 to that.

11 MR. BUNN: I didn't argue with you when you first said
12 that. You're taking that out of context.

13 THE COURT: Isn't an aquifer, basin, whatever we want to
14 call it. But whether or not -- it's not so much that -- how
15 would we put this? I think all they want to be able to do is
16 show the effect on the area outside the basin but up to the
17 watershed.

18 MR. ZIMMER: Yeah. Because that's where all the water
19 comes from.

20 MR. BUNN: I said my client will stipulate to that.

21 MR. DUNN: We will stipulate to that as well.

22 MR. ABBOTT: Yes.

23 MR. DUNN: We'll include all that water.

24 MR. BUNN: The problem that I have is ultimately you
25 need to define supply and demand at a basin level. We've cited
26 cases up the wazoo (phonetic) that say you have to do that.
27 That's what safe yield is all about. As long as we can do that,
28 I have no problem taking into account all inflows to the basin

1 and all effects on those inflows from outside the basin.

2 MR. DUNN: Sure.

3 MR. ZIMMER: Your Honor, to make this simple, if you
4 guys want to agree that the area is the watershed, I will agree
5 that we're not going -- that you can still make safe yield
6 arguments based on your basin concept as you believe it to be.

7 MR. BUNN: I'll have to think about that.

8 THE COURT: All right. Go meet and confer.

9 I'm going to deny the motion in limine to exclude
10 testimony. I can't see any basis as to why we want to exclude an
11 expert's testimony on something that is as of paramount
12 importance of this.

13 And I do not see this as any type of surprise or
14 sandbag. I mean, the real question is whether you should have
15 had a right to a further deposition and whether you could have
16 possibly accomplished that. But I don't think that's being
17 raised. So the motion in limine is denied.

18 But we will resume at 9:30 since it's --

19 MR. BUNN: And, your Honor, I also made an oral motion
20 to exclude based on legal opinion. And do I take it that the
21 Court's denying that as well?

22 THE COURT: I'm encompassing it all together.

23 (Discussion - Not Reported.)

24 (Proceedings Adjourned.)

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