

CERTIFIED COPY

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF RIVERSIDE

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

Plaintiffs,)

vs.)

No. RIC 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)
PLAINTIFF'S TITLE, OR, ANY CLOUD UPON)
PLAINTIFF'S TITLE THERETO,)

Defendants.)

AND OTHER RELATED ACTIONS.)

DEPOSITION OF STEVEN M. GORELICK

Friday, July 19, 2002

Jonnell Agnew & Associates

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DIAMOND FARMING COMPANY VS. CITY OF LANCASTER

DEPOSITION OF STEVEN M. GORELICK

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CONDENSED TRANSCRIPT AND CONCORDANCE
PREPARED BY:

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DEPOSITION OF STEVEN M. GORELICK, taken on
behalf of the Defendant Palmdale Water District, at
301 North Lake Avenue, 10th Floor, Pasadena,
California, commencing at 9:36 a.m., on Friday,
July 19, 2002, pursuant to Notice, before JONNELL
AGNEW, CSR No. 5437, Registered Professional
Reporter, No. 000453, a Notary Public in and for the
County of Los Angeles, State of California.

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I N D E X

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QUESTIONS INSTRUCTED NOT TO ANSWER

None.

INFORMATION REQUESTED

None.

1 PASADENA, CALIFORNIA; FRIDAY, JULY 19, 2002

2 9:36 A.M.

3
4 STEVEN M. GORELICK,

5 called as a witness by and on behalf of
6 the Defendant Palmdale Water District,
7 being first duly sworn, was examined and
8 testified as follows:
9

10 EXAMINATION

11 BY MR. BUNN:

12 Q. Dr. Gorelick, in the course of your work in
13 this case, have you formed any professional opinions
14 concerning the subject matter of the case?

15 A. Good morning, Mr. Bunn. Can you please be
16 more specific about "opinions." Opinions about what
17 in particular?

09:36:24 AM

18 Q. Anything concerning the subject matter of
19 the case. Have you come up with any professional
20 opinions that you'll be able to testify to at trial?

09:36:37 AM

21 MR. JOYCE: First of all, we would
22 appreciate, Counsel, that from the time of his
23 initial retention to this date there have been
24 changes in the scope of litigation.

25 This is Phase 1, and, obviously, his focus

09:36:53 AM

1 has been narrowed. And so I assume you are referring
2 to Phase 1 only?

09:36:55 AM

3 MR. BUNN: Okay.

4 MR. JOYCE: Okay.

5 THE WITNESS: I was given a very particular
6 charge in the case.

09:37:06 AM

7 BY MR. BUNN:

8 Q. Okay. What was that?

9 A. I would have to retrieve a document, if you
10 don't mind.

09:37:17 AM

11 Q. Uh-huh.

12 MR. JOYCE: Go ahead.

13 MR. BUNN: Off the record.

14 (A discussion was held off the record.)

15 MR. BUNN: Back on the record.

09:38:00 AM

16 THE WITNESS: The question?

17 BY MR. BUNN:

18 Q. What was your charge?

19 A. The -- this is a letter from Mr. Joyce dated
20 June 27th. And would you like me to read it into the
21 record, or how would you like to handle it?

09:38:11 AM

22 Q. Well, may I see it?

23 A. Sure.

24 Q. Okay. And did you do the work called for in
25 this letter?

09:38:50 AM

1 A. Yes. I need to see it again, please. Thank 09:38:51 AM
2 you.

3 MR. BRUYNEEL: Can we please mark that
4 letter.

5 MR. BUNN: I was going to continue the same 09:39:03 AM
6 sequence. I suppose we could start with A again.

7 MR. JOYCE: I prefer that we isolate the two
8 in that sense and mark his A.

9 MR. BUNN: If that is what you want, Bob,
10 that is what I will do. 09:39:17 AM

11 (Defendant's Exhibit A was marked for
12 identification by the court reporter
13 and is attached hereto.)

14 THE WITNESS: Repeat the question, please.

15 BY MR. BUNN: 09:39:39 AM

16 Q. Whether you did the tasks that are requested
17 in this letter.

18 A. Yes.

19 Q. Did you come to any conclusions?

20 A. Conclusions about this particular task? 09:39:50 AM

21 Q. Yes.

22 A. Yes.

23 Q. What were they?

24 A. Well, we can go through it in detail.

25 "This is to confirm that you have 09:40:03 AM

provided -- been provided with various materials" -- I'm reading from the letter, by the way, including Mr. Scalmanini's report as well as his Plate 1 -- "You are free to access and consider any other materials you deem to be relevant."

09:40:05 AM

Let's see. "First task I believe is a request that you review and evaluate Mr. Scalmanini's report and his deposition testimony, and, in particular, assess whether or not groundwater production outside of his proposed line could not significantly change groundwater levels within the area and vice versa."

09:40:13 AM

09:40:29 AM

09:40:43 AM

So I do have opinions about that line and whether it meets this specific criteria.

Q. Okay. And what are those conclusions?

A. That it fails to meet the criteria at various locations around the boundary.

09:41:03 AM

Q. Because?

A. That there's some areas where Mr. Scalmanini has stated that there is a connection between the area inside his boundary or one of the boundaries

09:41:37 AM

1 shown on Plate 1, and outside.

09:41:43 AM

2 So by admission on his part, in other areas
3 there are boundaries that are allowed to flow -- to
4 cross from inside to outside or outside to inside,
5 and those are particular places on his plate line.

09:42:05 AM

6 Q. Perhaps we should go around the line and
7 have you explain to me what you mean.

8 Would that be okay?

9 A. Sure.

10 MR. JOYCE: Let the record reflect that
11 counsel has extracted and is opening up for the
12 deponent a copy of Mr. Scalmanini's Plate 1.

09:42:34 AM

13 Is that accurate?

14 MR. BUNN: Yes.

15 BY MR. BUNN:

16 Q. If you want to refer to the text of
17 Scalmanini's report, you are welcome to do that.

18 Where would you like to start?

19 A. There is an area to the north, and I don't
20 want to point to a very particular place without
21 further documentation.

09:42:59 AM

22 But it is an area over here where there was
23 some flow coming in north of Rogers Lake -- I can
24 find it on the map more exactly -- where there is
25 flow coming in and out of this red line as shown.

09:43:15 AM

1 Q. Okay. You say "there is flow." On what do
2 you base that?

09:43:20 AM

3 A. On the documents I received and reviewed.

4 Q. Which documents would those be?

5 A. I believe in this case Mr. Scalmanini talked
6 about some flow in that vicinity, and he based his
7 belief on the same documents that I can show. There
8 are various reports, but one I would like to point
9 out is the report of Durbin where he shows flow in
10 this vicinity going in and out of that area.

09:43:36 AM

09:44:01 AM

11 Q. Okay. Excuse me. When you say Scalmanini
12 talked about it, you mean in his report?

13 A. I would have to go through the report and
14 see whether it was in his report and/or his
15 deposition, but that is what I recall.

09:44:15 AM

16 MR. BRUYNEEL: Counsel, do you mind if we go
17 off the record just for a second?

18 MR. BUNN: Yes.

19 MR. JOYCE: We are off.

20 (A discussion was held off the record.)

09:46:13 AM

21 MR. BUNN: Back on the record.

22 Would you like to --

23 MR. JOYCE: We had a colloquy off record.
24 Professor Gorelick professed concerns that he is not
25 a draftsman. He indicated that he would be a little

09:50:56 AM

1 hesitant to try to be exact without any reference to
2 material which shows the feature that he was
3 previously expounding about.

09:50:59 AM

4 And so the procedure he would prefer to
5 follow, and which we will follow, is he will access
6 the reference material and then attempt to
7 approximate on this map -- recognizing that the maps
8 are not on the same scale -- as reasonably as
9 possible the same feature that he was opining about.

09:51:10 AM

10 Is that a fair characterization, Mr. Bunn?

09:51:31 AM

11 MR. BUNN: Yes.

12 BY MR. BUNN:

13 Q. Is that acceptable to you, Dr. Gorelick?

14 A. I was looking at the map, but I think that I
15 can probably reference material and try to show you
16 at least on the other maps where things are. And
17 then if that is not precise enough, we can circle it,
18 and it would be a large circle to make sure I at
19 least include the areas that I am concerned about.

09:51:39 AM

20 But you will have the other reference
21 material, and you can get it exactly as you want from
22 those materials, because I am basing my opinion on
23 those materials.

09:51:52 AM

24 Q. Okay. Could we go back to the area you were
25 talking about north of Rogers Lake. Could you please

09:52:06 AM

1 mark for me on the map that area after consulting
2 whatever you need to consult.

09:52:08 AM

3 MR. BRUYNEEL: For the record, Plate 1 is
4 Exhibit B; is that correct?

5 MR. JOYCE: It has not yet been marked, but
6 apparently it will be marked.

09:52:52 AM

7 MR. BRUYNEEL: But it will be marked as
8 Exhibit B, Mr. Bunn?

9 MR. BUNN: Yes.

10 (Defendant's Exhibit B was marked for
11 identification by the court reporter
12 and is attached hereto.)

13 THE WITNESS: Okay. We can start if you
14 want.

15 MR. BRUYNEEL: How long were we off the
16 record while we looked for the documents?

09:59:33 AM

17 THE REPORTER: 9:53 to 10:00.

18 THE WITNESS: I have a total of one, two,
19 three, four, five, six -- five maps, and then your
20 original. And I think what I'll do is -- I started
21 talking about the Durbin, and to make the point
22 pretty clear, along the southern boundary here.

10:00:29 AM

23 MR. JOYCE: Sorry -- actually, go ahead.
24 They wanted to go a spot at a time.

25 THE WITNESS: I am switching and going to go

10:00:54 AM

1 to another spot because it's easier to demonstrate
2 clearly and quickly.

10:00:56 AM

3 BY MR. BUNN:

4 Q. Could you identify the document?

5 A. Sure. This is a map from the Durbin report
6 which I have. And it is titled "Calibration of a
7 Mathematical Model of the Antelope Valley Groundwater
8 Basin California," by Ken Durbin.

10:01:05 AM

9 Q. Which map is it or is it the only map from
10 that report?

10:01:30 AM

11 A. No, it is Plate 6.

12 Q. Okay. Go ahead. I would ask you to keep
13 your voice up so we make sure we hear you.

14 A. So in the southern boundary, there are the
15 areas that are called "point," "recharge," and
16 "discharge areas," and there are circles shown. And
17 the circles are areas that are proportioned to
18 recharge or discharge in acre feet per year, and the
19 open circles are recharge entering this region. And
20 the patched circles in this figure are discharge.

10:01:46 AM

21 And so along the southern boundary, you can
22 see there are a series of open circles indicating
23 that there are recharge along this boundary.

10:02:10 AM

24 And then along the western boundary as well
25 there are more open circles indicating more recharge

10:02:38 AM

1 along this boundary. And that's indicative of water
2 crossing this line. And then there is the area to
3 the north along the Cottonwood and Rosamond fault
4 shown on this Plate 6 as well, indicating flow
5 crossing this boundary.

10:02:42 AM

6 And there are other smaller areas to the
7 southeast that also show open circles indicating
8 water on this side of the boundary.

10:03:03 AM

9 So those are areas where I feel that, based
10 on the geology and the -- this document, that water
11 would be able to be transmitted across this boundary
12 or this boundary, or these various fault boundaries,
13 for example, or propose -- the southern boundary is
14 actually -- it is a suspected fault.

10:03:25 AM

15 In that sense, if you look back at my
16 scientific charge, that pumping on one side of this
17 boundary would have an influence on water levels on
18 the other side of the boundary.

10:04:00 AM

19 It is my opinion that that would occur.

20 Q. So let's get back to the one area that you
21 were looking at north of Rogers.

10:04:19 AM

22 A. North of Rogers there is an area that is a
23 discharge point, and that is an area where there is
24 flow going north, this way, and towards the --
25 basically towards the north.

10:04:40 AM

1 MR. BRUYNEEL: Let me interrupt at this
2 point.

10:04:43 AM

3 The map you have been referring to is from
4 Mr. Durbin's report, and it is which plate?

5 THE WITNESS: Plate 6.

10:04:51 AM

6 MR. BRUYNEEL: And the area where you are --
7 you just indicated in your last answer the water is
8 flowing north, is just above the Muroc, M-u-r-o-c,
9 fault and the two shaded circles; is that correct?

10 THE WITNESS: That is what is shown on this
11 particular figure, yes.

10:05:08 AM

12 MR. BRUYNEEL: And the hand motion you made
13 was at the top of that page indicating the flows; is
14 that correct?

15 THE WITNESS: The flow is, as far as the
16 Durbin model shows, as I recall -- I think I need to
17 go check, perhaps.

10:05:19 AM

18 He had discharge leaving his model area at
19 this point.

20 MR. BRUYNEEL: In other words, just so we
21 have a clear record, he has discharge leaving the
22 model area -- you are indicating two overlapping
23 shaded circles over the top of that plate; is that
24 correct?

10:05:40 AM

25 THE WITNESS: Yes.

10:05:52 AM

1 MR. BRUYNEEL: Okay.

10:05:54 AM

2 MR. JOYCE: In the future, I would only ask
3 that we are going to try to keep it a
4 one-lawyer-at-a-time approach.

5 MR. BRUYNEEL: I agree with that, but the
6 problem I'm having with how this is going -- and you
7 know this, Counsel -- when you get this transcript,
8 nobody is going to understand.

10:06:01 AM

9 MR. JOYCE: I appreciate it, and I --

10 MR. BRUYNEEL: It needs to be described.

10:06:12 AM

11 MR. JOYCE: I was expecting further
12 questioning would have brought clarity to the issue,
13 but I prefer to have one lawyer at a time doing it.

14 THE WITNESS: I understand the concern
15 personally. I agree. I think it is reasonable.

10:06:23 AM

16 MR. BRUYNEEL: If it doesn't get done now, I
17 am going to do it at my turn and go over it.

18 MR. JOYCE: At some point I would ask
19 Mr. Bunn to make sure the record is clear, or I would
20 have done it myself. Anyway, enough said.

10:06:37 AM

21 THE WITNESS: I want to point to --

22 MR. JOYCE: Is there a question pending?

23 THE WITNESS: I think I'll move to this
24 other map and see -- this is from --

25 Okay. This second plate I'm referring to

10:08:28 AM

1 here is Plate 2 from a U.S. Geological Survey Water
2 Resources Investigation 84-4081 by Duell 1987. It is
3 the geohydrology of the Antelope Valley area,
4 California, and there are other -- there is more to
5 the title.

10:08:30 AM

6 And in this particular -- this particular
7 map indicates the directions of groundwater flow with
8 arrows and shows water level contours, and I will use
9 the key that Duell uses. And it says "Water level
10 contour shows altitude of water levels in wells," and
11 there is more to it.

10:08:55 AM

12 BY MR. BUNN:

13 Q. So you are reading from the legend to the
14 map?

15 A. That's correct.

10:09:17 AM

10:09:26 AM

16 And so as a hydrogeologist, when one looks
17 at a contour of 2200 and then going down to 2190 to
18 2170, heading this way the water has to go somewhere.

19 And so the flow basically goes -- in most
20 typical situations, the flow will be perpendicular to
21 the contour lines and will flow this way out of this
22 basin or out of this -- excuse me, this area or this
23 line.

10:09:55 AM

24 Scratch that out, of this boundary line
25 shown here.

10:10:13 AM

1 Q. Excuse me. Can we satisfy my co-counsel by
2 describing where you are on the map, or if you like,
3 I'll do it.

10:10:17 AM

4 A. Why don't you try to do it, and if you want
5 to testify, go ahead.

10:10:31 AM

6 Q. The line of groundwater flow started from --
7 on the map from approximately where it says "North
8 Muroc subunit," and followed an arrow on the map up
9 to North Edwards and then curved around to the
10 northwest, roughly perpendicular to contour lines
11 2190 and 2170. Okay?

10:10:51 AM

12 A. I thought that is what I said, but I think
13 you did a good job. You're hired.

14 So I see that these documents -- and I can't
15 recall offhand without studying more, but there is a
16 consistency among the things I've read that there is
17 some flow in this area, beginning with the earliest
18 work and going on. I have noticed this leaky area.

10:11:13 AM

19 Q. Okay. I would like to ask you some
20 questions, then, about that, if I may.

10:11:38 AM

21 First of all, what Mr. Joyce asked you to do
22 is to assess whether or not groundwater production
23 outside the line could not significantly change
24 groundwater levels within the area.

25 Your answers responded in terms of.

10:12:04 AM

1 groundwater flow. And from that, I take it that if
2 there is flow across the line, then levels could
3 significantly affect wells on the other end of the
4 line; is that correct?

10:12:06 AM

5 MR. SMITH: Objection; vague and ambiguous,
6 assumes facts not in evidence.

10:12:19 AM

7 THE WITNESS: Can you clarify that? What
8 I -- I don't know, maybe you could be more specific
9 about --

10 BY MR. BUNN:

11 Q. Sure. Tell me the relation between what you
12 were describing as groundwater flow across a line and
13 what Mr. Joyce was asking for, which was whether or
14 not groundwater production outside --

15 MR. JOYCE: He wants to know is it based on
16 your idea -- since there is flow, how would
17 groundwater production, given that observation, be
18 affected?

10:12:50 AM

19 THE WITNESS: If the groundwater system is
20 such that there is flow and there is an ability for
21 water to go to the north, as the contours of
22 groundwater levels indicate, then there is a
23 connection between a point on one side of the line
24 and the other side of the line.

10:13:00 AM

25 And when -- basic concepts in hydrogeology

10:13:23 AM

1 are if that situation occurs and I pump on one side
2 of the line, then I can't influence the hydraulic
3 heads, or water levels as you guys refer to them, on
4 the other side.

10:13:27 AM

5 BY MR. BUNN:

10:13:39 AM

6 Q. What other factors might influence whether
7 pumping on one side of a line affects groundwater
8 levels on the other, if any?

9 A. Well, the first would be whether there is a
10 well there to begin with. I would say if you can
11 have a well there and it doesn't -- I wasn't
12 restricted in my particular case to having -- it
13 was -- it-can-occur type situation, so I have to deal
14 with looking for particular wells.

10:13:53 AM

15 One factor would be is there a well. And
16 two would be, there may be other elements to the
17 hydrogeology that I would want to consider in terms
18 of the lithology and the aquifer's hydraulic
19 properties.

10:14:15 AM

20 Q. And did you consider those factors?

10:14:38 AM

21 A. Yes.

22 Q. I think for now let's stick to this one
23 example that you have been using, Northrop Rogers
24 Lake in the northeastern part of the valley.

25 Could you tell us how you took those factors

10:15:00 AM

1 into account?

10:15:02 AM

2 A. I looked at the overall hydrogeologic
3 picture and saw no compelling reason why the
4 hydrogeology would prevent pumping on one side to
5 influencing water levels on the other side.

10:15:24 AM

6 Q. Now, Mr. Joyce in his letter talks about
7 production outside of the proposed line significantly
8 changing groundwater levels within the area, and
9 vice versa.

10 What is your -- how did you use the term
11 "significantly" in getting to your results?

10:15:42 AM

12 A. That -- I felt that pumping would have a
13 measurable influence on water levels.

14 Q. So if it is measurable, it would be
15 significant, in your view?

10:16:04 AM

16 A. It may be significant and it can have a
17 significant result, and that was sufficient.

18 Q. Okay. So if I understand you correctly, if
19 it is measurable, you are not saying that it is
20 necessarily sufficient, but it was sufficient for you
21 to conclude that water levels could be affected?

10:16:26 AM

22 MR. JOYCE: No, that misstates his
23 testimony. He said it was measurable; that was
24 sufficiently significant, and that it could have a
25 significant effect depending on how much pumping you

10:16:42 AM

1 ramped up.

10:16:48 AM

2 I think his testimony speaks for itself.
3 You mischaracterized it.

4 MR. BUNN: I think that is what I said.

5 MR. JOYCE: It is.

10:16:56 AM

6 THE WITNESS: Why don't we read back what I
7 just said, because that is what I will say again.
8 It -- what I stated was not unclear.

9 BY MR. BUNN:

10 Q. The point that I was trying to get at is
11 your threshold of "significant," and it sounds to me
12 you are using whether it is measurable.

10:17:08 AM

13 A. I am saying it can be significant, and if I
14 believed it could be measured, meaning that there was
15 an ability to pump on one side and notice the water
16 level change on the other side, that this could be
17 significant.

10:17:26 AM

18 And you could conceivably have various
19 pumping rates; that if at some low pumping rate you
20 were to measure the water level change and it was
21 merely just modestly measurable, and then increasing
22 those pumping rates would necessarily cause water
23 levels to decline or change even more, that would be
24 more significant.

10:17:48 AM

25 Q. So in order to determine significance, you

10:18:06 AM

would need to know pumping rates; is that correct?

10:18:09 AM

A. The level of significance, that would be one factor. But I wasn't asked to evaluate the level of significance. It was just whether there could be a measurable significant change, is what I interpret that as.

10:18:24 AM

Q. All right. Let me try again to paraphrase your testimony, and you tell me whether it is correct or not.

MR. JOYCE: The record will speak for itself. So the paraphrasing is for what purpose?

10:18:41 AM

MR. BUNN: To ask him the question.

MR. JOYCE: You asked him the question. He has given you the answer. If you want to rephrase, it can only be for one purpose: because you like your words better than you like his. It is not his function to adopt your characterization of what he said.

10:18:52 AM

MR. BUNN: Is that an objection?

MR. JOYCE: That is an objection.

10:19:01 AM

MR. BUNN: I haven't asked the question.

MR. JOYCE: I know. But I know what you are going to do and I am preempting you. Go.

BY MR. BUNN:

Q. Is it a fair characterization of your

10:19:15 AM

1 opinion that, under certain pumping scenarios, the
2 effect on groundwater levels across the boundary
3 could be significant, but it would depend on what
4 pumping scenario?

10:19:17 AM

5 A. No.

10:19:33 AM

6 Q. Okay. Where did I go wrong?

7 A. What is a "scenario"?

8 Q. What is a scenario?

9 A. Yes. What do you mean by "scenario"?

10 Q. I'll get a dictionary.

10:19:44 AM

11 A. Good.

12 (Mr. Bunn leaves the room to
13 get a dictionary.)

14 MR. BUNN: Okay. On the record.

15 BY MR. BUNN:

10:21:07 AM

16 Q. "Scenario" is designated as "An account or
17 synopsis of a projected course of action or events."

18 MR. JOYCE: I'll stipulate that is what
19 Webster says. Now, so what?

20 MR. BUNN: He asked me what the word meant
21 for purposes of my question. I defined it.

10:21:29 AM

22 THE WITNESS: It didn't help me at all. It
23 helped you.

24 MR. JOYCE: I think --

25 MR. SMITH: In terms of context, you used

10:21:35 AM

1 the term "pumping scenario," and I think that is the
2 undefined term, not "scenario." So perhaps you want
3 to explain what pumping scenarios you are talking
4 about.

10:21:36 AM

5 BY MR. BUNN:

10:21:50 AM

6 Q. Does the significance -- I will try and
7 rephrase the question.

8 Does the significance of the potential
9 changes in groundwater levels depend on how much
10 pumping there is in the neighborhood of the line?

10:22:09 AM

11 MR. JOYCE: In the neighborhood or on either
12 side of it?

13 MR. BUNN: Well, first, in the neighborhood.

14 MR. JOYCE: I presume you mean -- never
15 mind. I am not going to presume anything.

10:22:26 AM

16 If you understand the question -- I don't
17 know what he means by "neighborhood."

18 THE WITNESS: It depends on what you mean by
19 "neighborhood" in the sense that there may be some
20 influence of the degree of water level change based
21 on the proximity of the pumping well to the
22 observation point where the water level is being
23 measured. It would be --

10:22:39 AM

24 BY MR. BUNN:

25 Q. So another factor affecting the significance

10:22:59 AM

1 is how close the pumping wells are to the line;
2 correct?

10:23:02 AM

3 MR. JOYCE: Does or could?

4 MR. BUNN: Pardon me?

5 MR. JOYCE: In your question, are you saying
6 "does" or "could"?

10:23:09 AM

7 MR. BUNN: Could you read back my questions.
8 (The previous question was read back
9 by the court reporter as follows:

10 "QUESTION: So another factor
11 affecting the significance is how
12 close the pumping wells are to the
13 line; correct?")

10:22:59 AM

14 MR. BUNN: I didn't say either "does" or
15 "could."

10:23:24 AM

16 THE WITNESS: I'm not charged with
17 evaluating, quantifying in any way the significance
18 of -- in my view it is -- can have a significant
19 change.

20 It is triggered by the fact that there is
21 free flow across this boundary, and water on one side
22 of a potential line -- of a particular line is -- is
23 flowing across that line, and the source of water for
24 the well can be water on one side or the other of the
25 line. That is not the pumping side.

10:23:44 AM

10:24:19 AM

1 And so I don't feel obligated to get into an
2 arm-wrestle about level of significance, because that
3 was not my charge. It was whether or not it can have
4 a significant influence.

10:24:23 AM

5 And there is a variety of factors that I
6 think you are probing at here to get at levels of
7 significance, and I simply am charged with saying
8 "can it have a significance?" And the answer is
9 "yes."

10:24:41 AM

10 BY MR. BUNN:

11 Q. I'm not intentionally trying to arm-wrestle
12 with you, and I apologize if I gave you the
13 impression that I was.

14 What I'm trying to do is find out what you
15 used for "significant," because "significant" was
16 included in Mr. Joyce's charge to you.

10:25:11 AM

17 So with that in mind, I'll ask you, if there
18 is any measurable flow, would you consider that it
19 could have a significant effect?

20 A. My charge was not flow, per se; it was that
21 there was a change in water level, if you read this.

10:25:31 AM

22 So no. It was --

23 Q. Well, but in your answer, all of your
24 answers to me about your conclusions, you talked in
25 terms of groundwater flow.

10:25:50 AM

1 A. I talk about the implications of there being 10:25:51 AM
2 groundwater flow.

3 Q. That is what I am trying to explore now.

4 If there is groundwater flow, does that
5 imply that there could be a significant effect on the 10:26:00 AM
6 water levels from one side to the other?

7 A. In the cases I have looked at around this
8 basin, the -- if there is flow crossing a boundary
9 line and the hydrogeology is such that I feel there
10 is a flow connection, then there can be a significant 10:26:33 AM
11 influence of pumping on one side of the line versus
12 measuring water levels on the other side of the line.

13 Q. No matter what the magnitude of the flow is?

14 MR. JOYCE: Well, that assumes facts not in
15 evidence. It is lacking in foundation, and that is 10:26:55 AM
16 whether or not the rate of flow itself can be
17 influenced by pumping.

18 MR. BUNN: I am not assuming anything about
19 that. I am just asking him about the magnitude of
20 the flow, would that affect his conclusion. 10:27:07 AM

21 MR. JOYCE: At what time? Static nature?

22 MR. BUNN: At all, if it affects it. He can
23 explain how it affects it.

24 THE WITNESS: If the magnitude was
25 sufficient, that I saw in the documents, that -- for 10:27:34 AM

1 example, to develop a groundwater flow model they had
2 to put in and specifies a quantity of flow, then I
3 would say that would be what I used in this
4 particular case.

10:27:47 AM

5 If you are asking me if one molecule of
6 water moves and that was the flow, and that is where
7 you are trying to trap me, then the answer is no. It
8 has to be something that's -- one of these documents,
9 took the time and needed scientifically to do its
10 analysis or to make a conclusion about.

10:28:03 AM

10:28:22 AM

11 MR. BUNN: Could you please read back his
12 answer.

13 (The previous answer was read back by
14 the court reporter as follows:

15 "THE WITNESS: If the magnitude
16 was sufficient that I saw in the
17 documents that -- for example, to
18 develop a groundwater flow model they
19 had to put in and specifies a quantity
20 of flow, then I would say that would
21 be what I used in this particular
22 case.

10:27:30 AM

10:27:55 AM

23 "If you are asking me if one
24 molecule of water moves and that was
25 the flow, and that is where you are

10:28:08 AM

trying to trap me, then the answer is
no. It has to be something that's --
one of these documents, took the time
and needed scientifically to do its
analysis or to make a conclusion
about.")

10:28:11 AM

BY MR. BUNN:

Q. So in this example that we are using, in the
part of the Northeast Antelope Valley, one of the
things that you see from this Durbin map is that the
discharge at that point is significant enough for him
to put those little hatched circles in that
neighborhood. So that is leading to your conclusion
that flow is significant; correct?

10:29:45 AM

A. I don't know about the flow is significant,
but it led me to answer your last question the way I
answered it.

10:30:05 AM

That he did require having flow in this area
as he required flow along these other areas, and to
me that meant there was enough flow there that he had
to do it, or he wouldn't have put those values in in
the first place.

10:30:26 AM

Q. If those circles hadn't been there, would
your conclusion be the same for that area?

A. If the circles hadn't been there and he did

10:30:40 AM

1 the analysis as he did now and he got the wrong
2 answer, then no.

10:30:43 AM

3 Q. By "he," who are you talking about?

4 A. Durbin. If he eliminated the circles, it
5 would have changed his results and it wouldn't have
6 matched. His model would have not been
7 representative of the system.

10:30:57 AM

8 So just by taking out -- you cannot
9 arbitrarily just take out the flow that is required
10 in your analysis.

10:31:08 AM

11 Q. That wasn't my question.

12 A. Sounded like your question.

13 Q. My question is, if you were reviewing the
14 map by Durbin in order to give your opinion in this
15 case, and the map was identical to this one except it
16 didn't have those circles, would you then reach the
17 same conclusion about whether there was significant
18 flow across the boundary?

10:31:22 AM

19 A. No, I wouldn't characterize it that way,
20 because just because the map doesn't show a
21 particular circle or set of circles is not the key;
22 it is the fact that he had to include the flow in his
23 model and in his report, and not the fact that
24 somebody put some circles on this particular map.

10:31:40 AM

25 Q. How do you know that he included --

10:31:57 AM

1 A. That is in his document. In this report.
2 It is not just a map. The map was Plate No. 6 of a
3 publication by Tim Durbin.

10:32:00 AM

4 Q. If you had a report by someone else, which
5 had done a groundwater model using the same
6 methodology as Durbin and which had not shown --

10:32:19 AM

7 Well, strike that whole question.

8 A. Could you show me where in the report you
9 are talking about that he indicates that there is
10 significant flow?

10:32:38 AM

11 A. I might be able to. It might take some time
12 for me to go through it.

13 Q. That's okay.

14 A. If I am looking for one particular line --
15 okay. I found it. It is on the Page 13 and
16 continuing on to Page 14.

10:34:12 AM

17 Q. Go ahead and read that, please.

18 A. Subsurface outflow -- this is a quote now,

19 "Subsurface outflow" -- Page 13 --

20 "north of Rogers Lake, the land

10:34:34 AM

21 surface along the divide between

22 Antelope Valley and Fremont Valley is

23 less than 100 feet higher than the

24 lowest point in Antelope Valley

25 although consolidated rock outcrops --

10:34:45 AM

1 crops out" -- excuse me -- "on both
2 sides.

10:34:49 AM

3 "The divide for width of about one
4 mile, 1.6 kilometers, is underlined by
5 as much as 1,000 feet, 300 meters of
6 unconsolidated deposits. At this
7 location some groundwater is
8 discharged from the Antelope Valley
9 groundwater basin into the Fremont
10 Valley groundwater basin as subsurface
11 outflow Page 6 -- Plate 6."

10:34:59 AM

10:35:15 AM

12 Q. Okay. Let me digress for a minute and ask
13 you what you took him to mean when he said "the
14 Antelope Valley groundwater basin" and "the Fremont
15 Valley groundwater basin."

10:35:44 AM

16 A. I think he was adopting the terminology of
17 Bloyd, and I think he was -- I'll leave it at that.

18 Q. Okay.

19 MR. SMITH: I'm going to object to that last
20 question as assuming facts not in evidence and
21 calling for speculation as to the thinking of the
22 author.

10:36:12 AM

23 THE WITNESS: Well, that is true.

24 BY MR. BUNN:

25 Q. Okay. I was asking for your interpretation

10:36:22 AM

1 of his document. Did you understand that?

10:36:24 AM

2 A. My interpretation does call for speculation
3 in this instance. If he does use this term, it is
4 not a term that is defined.

5 Q. Are you telling me that if he uses the term
6 "groundwater basin," you are not qualified to know
7 what that means?

10:36:36 AM

8 A. I am saying that I'm perfectly qualified to
9 know what it does and does not mean. It is not
10 defined. It is a term of convenience, not a term of
11 art.

10:36:48 AM

12 Q. What I'm asking for or did ask for is your
13 interpretation of his use of those terms in the
14 sentence you just read.

15 Do you know what those terms mean in that
16 context?

10:37:02 AM

17 MR. SMITH: Again objection; calls for
18 speculation as to the thinking of the author of the
19 report.

20 MR. JOYCE: He says, the best he can tell,
21 he was adopting Bloyd's terminology. That was his
22 answer.

10:37:12 AM

23 MR. BUNN: I am trying to get at -- he then
24 made a statement that indicated that even that was
25 speculation, and I'm trying to find out whether that

10:37:23 AM

1 is in fact true.

10:37:25 AM

2 MR. JOYCE: He said that the term itself in
3 his perspective is a term of convenience. That is
4 what he testified to.

5 MR. BUNN: He testified that my asking for
6 his interpretation would call for speculation. That
7 is what I am trying to get at.

10:37:33 AM

8 MR. JOYCE: He said that -- what he did is,
9 he is adopting the objection and said he was
10 speculating that Durbin adopted Bloyd's language.

10:37:46 AM

11 BY MR. BUNN:

12 Q. Dr. Gorelick, are you speculating or do you
13 know?

14 A. I don't know. How could I know that? He
15 doesn't state what it means, and I'm speculating,
16 based on the fact that he referenced this Bloyd
17 elsewhere in this document.

10:37:58 AM

18 Q. Thank you.

19 Now, in that same sentence that you read, he
20 talks about some flow across that boundary. Did the
21 word "some" influence your conclusion at all or is
22 it, again, is any flow enough?

10:38:19 AM

23 A. It is the things lawyers say "asked and
24 answered."

25 He puts them in sufficient -- in a

10:38:36 AM

1 sufficient quantity that he shows them as circles.

10:38:40 AM

2 And again -- I stated this before -- that if one is
3 talking about a single molecule moving across a
4 boundary, that would take you into the realm of not
5 possibly being measurable.

10:38:57 AM

6 And I think the fact that he has to include
7 it in his analysis means to me that there was a
8 decent quantity of flow, sufficient quantity of flow
9 to be important to the analysis of this groundwater
10 system.

10:39:17 AM

11 Q. Okay. I would like to mark this map, if I
12 may.

13 MR. SMITH: We have been going for about an
14 hour and I have been drinking coffee. Is this a
15 convenient time for a break?

10:39:48 AM

16 MR. BUNN: Yes.

17 (Defendant's Exhibit C was marked for
18 identification by the court reporter
19 and is attached hereto.)

20 (Recess.)

11:31:45 AM

21 BY MR. BUNN:

22 Q. Before the break we were talking about flow
23 that was significant enough for Durbin to use it as a
24 recharge or discharge point in his model.

25 Do you have any idea what threshold he used?

11:32:00 AM

1 A. I disagree with what you said about "point." 11:32:05 AM
2 It is actually an area.

3 Q. Area, yeah.

4 A. Cross-sectional area. And I don't recall
5 offhand that he describes a threshold. 11:32:15 AM

6 Q. So as you recall now, he doesn't have -- he
7 didn't specify what his threshold was?

8 MR. JOYCE: He said he doesn't recall that
9 he did or didn't.

10 THE WITNESS: That's correct. 11:32:39 AM

11 BY MR. BUNN:

12 Q. You are very familiar with groundwater
13 modeling yourself, are you not?

14 A. Yes.

15 Q. What thresholds of significance would you
16 use? 11:32:58 AM

17 A. Thresholds of significance, can you tell me
18 what you mean? You have generalized this to a case
19 where you are talking about all groundwater modeling
20 now. So I need to know a lot more, please. 11:33:14 AM

21 Q. Well, what you said to me, I think, is that
22 if the flow is significant enough for him to put it
23 into his model as a boundary condition, then it is --
24 you didn't use the word "boundary condition" -- then
25 it is significant enough for our purposes here. And 11:33:35 AM

1 I am trying to get at what that level of significance
2 is.

11:33:39 AM

3 So if you were doing a model for this study
4 area, what would you consider to be a significant
5 level of recharge or discharge?

11:33:51 AM

6 MR. SMITH: Objection; incomplete
7 hypothetical.

8 MR. JOYCE: I think you would have to say
9 what was the purpose of doing the model. What is the
10 objective?

11:34:06 AM

11 MR. BUNN: Durbin's objective, whatever that
12 was.

13 MR. SMITH: Objection; calls for
14 speculation.

15 MR. JOYCE: That assumes facts not in
16 evidence, that he knows what Durbin's objective was.

11:34:13 AM

17 THE WITNESS: You said "for our purposes
18 here." I don't know that means. And as regarding
19 your conversations with Mr. Joyce, I don't recall
20 that there was a statement of the particular purpose
21 or underlying purpose of the Durbin model, per se.
22 It was somebody who hired him to do something. It
23 wasn't clear to me.

11:34:26 AM

24 BY MR. BUNN:

25 Q. So if you don't know, then, what his purpose

11:34:50 AM

1 was, you won't know what threshold levels he used?

11:34:52 AM

2 MR. SMITH: Objection; misstates testimony.

3 MR. BUNN: It is a question.

4 THE WITNESS: Well, let me say this about
5 the north. I think I can see one thing here, is that
6 he does have these circles that indicate levels of
7 recharge or discharge.

11:35:03 AM

8 And there are circles that are smaller
9 indicating less flow in places than the larger
10 circles shown to the north. So clearly it was
11 beyond -- significantly beyond other lower flows that
12 he has elsewhere displayed with similar, as you call
13 them, boundary conditions. Not quite boundary
14 conditions but fluxes throughout the system.

11:35:19 AM

15 BY MR. BUNN:

16 Q. Is there a legend that shows what a
17 particular diameter means?

18 A. Yes, there is.

19 Q. What, according to that legend, do those two
20 shaded circles up north of the Muroc fault represent?

11:35:54 AM

21 A. The legend doesn't show it precisely enough
22 without further work to do that estimate. It gives
23 general parameters of diameters of circles versus the
24 circles shown on the plate itself.

25 So one cannot answer that question without a

11:36:11 AM

1 little more work.

11:36:14 AM

2 Q. Is that work you can do here today?

3 A. I don't work that way, no.

4 Q. I beg your pardon?

5 A. I don't do things like off-the-cuff. I
6 usually have to take my time and do it carefully and
7 review it and see that that is the right way to do
8 it.

11:36:22 AM

9 Q. As we stand here today, even though Durbin
10 came up with some kind of quantification for how much
11 discharge there was in that area, you can't tell us
12 what that is; correct?

11:36:42 AM

13 A. From this map?

14 Q. From any of the materials that you have.

15 A. Well, I could look at other materials if you
16 would like me to sort through it and find out exactly
17 what particular portion of the valley he attributed
18 those flows to. We can go through data and try to
19 sort through it and see if that is represented
20 anywhere.

11:36:51 AM

21 But your question had to do with the map and
22 the diagnosis of what a circle means and what its
23 quantification is based on the map, and that is what
24 I said I really have difficulty doing.

11:37:05 AM

25 Q. What I'm really trying to get to is how you

11:37:20 AM

1 determined whether something was significant or not.
2 That's -- I don't think "trap" is an accurate word,
3 but where I'm trying to pin you down --

11:37:25 AM

4 A. You said "something was significant." Can
5 you please --

11:37:43 AM

6 MR. JOYCE: The question has been asked and
7 answered. He testified already the fact that Durbin
8 accounting for the out-load as part of his modeling,
9 suggests that it was significant enough to warrant
10 consideration by Durbin and, therefore, significant
11 enough for him to consider. That is what he
12 testified to.

11:37:59 AM

13 MR. BUNN: That's right.

14 BY MR. BUNN:

15 Q. Would that conclusion depend on the purpose
16 of Durbin's model?

11:38:07 AM

17 A. To the degree that his -- the purpose of
18 doing the groundwater model is to accurately
19 represent the groundwater flow system, the hydraulic
20 head and fluxes through that system, that, I think,
21 you would need to account for flows throughout the
22 system under any of those purposes.

11:38:26 AM

23 That purpose that I just mentioned was to
24 account for flows coming in and out under the
25 assumption that he accounted for them, so --

11:38:50 AM

1 Q. As an experienced groundwater modeler, what
2 threshold of significance would you use in making a
3 numerical model of this study?

11:38:52 AM

4 A. Thresholds of significance of what? See,
5 the -- the threshold of significance that is in my
6 charge has to do with how pumping on one side of a
7 line affects water levels on another.

11:39:10 AM

8 It doesn't have to do with thresholds. It
9 may have to do it but it isn't what you just said.
10 It is not the threshold of significance of developing
11 a model.

11:39:31 AM

12 I'm a little confused because you've used
13 the word "significance" in two different settings,
14 and there is a creep of your line of questioning from
15 the charge to something else which has to do with
16 groundwater modeling.

11:39:44 AM

17 Q. Feel free to clarify. What I'm trying to
18 do, in your testimony -- as admirably restated by
19 Mr. Joyce -- I asked you how you determined that this
20 was significant enough to pay attention to. And you
21 said if it was significant enough for him to put it
22 in his model, then it is probably significant enough
23 for me to pay attention to.

11:40:01 AM

24 And my question now is: What is significant
25 enough to put in a model?

11:40:18 AM

1 A. When one constructs a model, they want it to
2 be as accurate as they can, knowing that there is
3 various implications and constraints on what you can
4 do with modeling.

11:40:31 AM

5 And that is a function of the data
6 availability, the modeler to some degree, as you call
7 it, a purpose, the conceptual understanding of the
8 system and to what degree the model is going to be
9 used for -- for what purpose. That could actually
10 influence the decision.

11:40:48 AM

11:41:16 AM

11 Q. Okay. Thank you.

12 A. So it is not just one thing. As a general
13 statement of modeling, you develop models for
14 different reasons. And what I can say is that his
15 quantification of flows was substantially smaller
16 elsewhere in the system compared to this north area.

11:41:34 AM

17 So I think that speaks -- modelers would
18 typically want to include that. I would think so.

19 Q. All right. Let's shift focus a little bit
20 now to the San Andreas Fault Zone and not referring
21 to this particular map anymore.

11:41:59 AM

22 Are you aware of significant groundwater
23 flow across that?

24 A. Can you point to what you mean by "San
25 Andreas Fault Zone" on this figure?

11:42:13 AM

1 Q. I am not referring to this figure.

11:42:15 AM

2 A. You are not?

3 Q. I am just asking if you are aware of
4 significant groundwater flow across the San Andreas
5 fault.

11:42:24 AM

6 MR. SMITH: Anywhere in California or
7 talking about in general?

8 MR. BUNN: This general study area, yeah.

9 MR. JOYCE: So the question is limited to
10 the study area or to the Antelope Valley region?

11:42:41 AM

11 MR. BUNN: Right.

12 MR. JOYCE: Okay.

13 THE WITNESS: In the area marked -- I'm
14 going to use this, maybe, the Durbin map Plate 6.
15 There is -- there are -- I've seen other reports and
16 I can dig them out -- wells along this region of the
17 San Andreas Fault Zone.

11:43:02 AM

18 And so there is some permeability along the
19 fault and to the degree it can interact with other
20 surface water drainage, and there was a connection
21 between surface and groundwater. You can get flow
22 basically coming across the fault.

11:43:25 AM

23 BY MR. BUNN:

24 Q. Well, you are saying if there is surface
25 water that crosses the fault, then certainly that is

11:43:40 AM

1 possible.

11:43:43 AM

2 I am asking for subsurface -- about
3 subsurface flow.

4 A. There is -- there is a place here where
5 the -- as I recall, the drainage intersects here. It
6 is a number of those that intersect the fault.

11:44:04 AM

7 So there can be some flow into --
8 potentially into Amargosa Creek, that can be as
9 groundwater just in the vicinity of the fault.

10 Q. Okay.

11:44:31 AM

11 A. So that could occur.

12 Q. And elsewhere?

13 A. It's a fault zone, and it is fractured in
14 various locations. It's possible to get flow across
15 it as shown on the fault zone shown on this map, but
16 I don't have particulars about flow across the fault
17 zone. I never saw enough beyond what I have said in
18 the Amargosa Creek and the Leona Valley area that I
19 can comment on.

11:44:52 AM

20 Q. I didn't hear you say anything about the
21 Leona Valley area, or is that the same as the
22 Amargosa, A-m-a-r-g-o-s-a, Creek?

11:45:11 AM

23 A. Yes.

24 Q. Let me ask you if this Plate 6 by Durbin
25 indicates that there is any flow across that zone.

11:45:29 AM

1 A. This particular plate indicates any flow
2 across the fault?

11:45:39 AM

3 Q. Yes.

4 A. No.

5 Q. Do any of the materials that you refer to in
6 coming up with your opinion indicate that there's
7 flow across the -- subsurface flow across the San
8 Andreas fault?

11:45:50 AM

9 A. The analysis of Mr. Sheahan is -- I'm
10 paraphrasing what he said -- is similar to what I
11 just described for the Amargosa Creek area. So in
12 that sense, yes. I haven't seen other documents talk
13 about the fault, per se, and flow across the fault,
14 per se.

11:46:15 AM

15 Q. Okay. How about the Muroc Garlock fault.
16 Are you aware of subsurface flow across that?

11:46:32 AM

17 A. Let me qualify what I just said, also, about
18 this --

19 Q. Sure.

20 A. -- this San Andreas, the San Andreas fault.
21 The way -- let me go back to Durbin here, if
22 I might. There is something here about how we are
23 defining subsurface flow, and really what has
24 happened dynamically when you have a mountain --
25 mountainous area running into a desert basin.

11:46:49 AM

11:48:09 AM

1 That I think is typical, and described by
2 Durbin on Page 10. It says,

11:48:14 AM

3 "In the mountain areas, the
4 average annual precipitation is
5 generally greater than 12 inches,
6 30 [sic] millimeters." He quotes
7 Rantz 1969. "Part of this
8 precipitation becomes surface
9 runoff, and part becomes soil
10 moisture. For most of the mountain
11 areas, precipitation that infiltrates
12 the soil mantle is in excess of the
13 moisture requirements of vegetation
14 and soil evaporation.

11:48:24 AM

15 "Much of the surplus soil
16 moisture moves along the subsurface
17 contact between a thin soil mantle
18 and the underlying bedrock. This
19 water moves downslope and eventually
20 may reach the groundwater basin."

11:48:59 AM

21 So, in that sense, there can be what I'll
22 call shallow groundwater that can potentially cross a
23 fault boundary near the surface on that basis.

11:49:14 AM

24 Q. But what you just read doesn't talk about
25 fault boundaries, does it?

11:49:39 AM

1 A. It doesn't matter that there is a fault
 2 necessarily there. That it can cross the fault -- if
 3 there is a segment of the fault where you find that
 4 it's significantly impermeable, that it is not a
 5 transmissive barrier, transmissive fault; that the
 6 water would flow from excess precipitation, we call
 7 it recharging through the soil, get into a saprolitic
 8 weathered bedrock region, and then continue to flow
 9 downslope towards a basin. And under those
 10 circumstances, the flow can cross the fault, and
 11 would cross the fault.

11:49:41 AM

11:49:58 AM

11:50:28 AM

12 Q. Giving the clarification you have just given
 13 us, is it your opinion that there is significant
 14 groundwater movement across the San Andreas Fault
 15 Zone? And I'm going to exclude the Amargosa/Leona
 16 area now that you have already testified about.

11:50:46 AM

17 A. I didn't break it out, per se, as -- the San
 18 Andreas Fault Zone, as mapped here, that's not within
 19 my charge. So I didn't look at that in the detail
 20 that you are asking, because that is not the
 21 boundaries that I was asked to inspect.

11:51:18 AM

22 Q. You are saying that Scalmanini did not use
 23 the San Andreas Fault Zone as his southern boundary?

24 A. I'm saying that Mr. Scalmanini labeled this
 25 as the San Andreas Fault Zone on his map. But in

11:51:40 AM

1 fact what is the San Andreas Fault Zone is further
2 south.

11:51:42 AM

3 And so in that sense, yes.

4 Q. That he drew the line in the wrong place?

5 A. I don't necessarily think he drew the line
6 in the wrong place. You will have to ask
7 Mr. Scalmanini that.

11:51:55 AM

8 Q. If he intended to draw it in the area of --
9 well --

10 MR. JOYCE: If he intended to use the San
11 Andreas fault as the barrier, then is his line in the
12 wrong place? Probably.

11:52:10 AM

13 THE WITNESS: I can be pretty explicit about
14 this if you want to go back to Dibbelle. We can look
15 where the San Andreas Fault Zone is explicitly mapped
16 by Dibbelle, and then we can compare it to the words
17 and the location and information shown on
18 Mr. Scalmanini's map. But what he labels the San
19 Andreas Fault Zone is addressed falsely.

11:52:24 AM

20 BY MR. BUNN:

21 Q. Let's not use his line. Let's use the real
22 San Andreas Fault Zone line and go back to
23 Mr. Joyce's charge.

24 Are you able to assess whether or not
25 groundwater production outside of the San Andreas

11:53:02 AM

1 Fault Zone could not significantly change groundwater 11:53:08 AM
2 levels inside of the San Andreas Fault Zone?

3 MR. JOYCE: Are you asking could he do that
4 analysis if asked to?

5 BY MR. BUNN: 11:53:18 AM

6 Q. Can you today give us a conclusion about
7 whether that's --

8 MR. JOYCE: Can you, sitting there right
9 now, give him an answer to whether or not that could
10 happen or does happen? 11:53:27 AM

11 THE WITNESS: I didn't look at it. I'm not
12 going to speculate about something that wasn't my
13 charge. I think I gave you as much information as I
14 could get from my understanding of the system in a
15 generic way, and I don't -- I wasn't charged with 11:53:42 AM
16 that mission, so --

17 BY MR. BUNN:

18 Q. All right. So you didn't evaluate that; is
19 that correct?

20 A. By "that," I evaluated what is spoken, what 11:53:56 AM
21 is stated on that charge.

22 Q. Okay.

23 A. That the lines that Mr. Scalmanini versus --
24 then we can talk later perhaps about Mr. Sheahan's
25 lines. But the San Andreas fault, as you refer to it 11:54:10 AM

1 and I refer to it, on Mr. Durbin's map versus
2 Mr. Scalmanini's map are different. And I am
3 convinced that Mr. Scalmanini is incorrect.

11:54:13 AM

4 Q. Okay. In Mr. Scalmanini's report on Page 9,
5 he describes his boundaries, and he says,

11:54:29 AM

6 "Almost the entire southern
7 boundary of the basin is noted to
8 be unnamed faults all postulated
9 from groundwater level data associated
10 with the San Andreas Fault Rift Zone."

11:54:46 AM

11 You read that sentence in his report;
12 right?

13 A. Yeah.

14 Q. And you have just concluded that the line
15 was drawn in the wrong location. If that is what he
16 intended to do, he drew the line in the wrong place?

11:55:00 AM

17 A. I didn't say that, no.

18 Q. I'm sorry.

19 A. I didn't say he drew the line necessarily in
20 the wrong place.

11:55:12 AM

21 Q. That is just what I thought I heard you say.

22 A. What I am saying is that the San Andreas
23 Fault Zone is, in fact, further south than his line
24 shown in orange with some black dots, corresponding
25 to the sentence that you just read.

11:55:36 AM

1 Q. Okay. Is this sentence an inaccurate
2 description of where the line is drawn on his map?

11:55:40 AM

3 A. What sentence is that?

4 Q. "Almost the entire southern boundary
5 of the basin is noted to be unnamed
6 faults all postulated from groundwater
7 level data associated with the San
8 Andreas Fault Rift Zone."

11:55:51 AM

9 A. Based on the description of -- in the best
10 mapping that has been done by Dibbelle -- for example
11 where he actually maps the San Andreas fault -- I
12 don't believe that is a correct statement.

11:56:15 AM

13 However, associated with such a general term
14 and without him here to explain it to me, one might
15 be able to discuss that a little more and say why he
16 feels that way.

11:56:35 AM

17 This is a postulated fault as shown, and is
18 not the mapped fault that one can readily map and is
19 a very famous fault in California known as the San
20 Andreas fault.

11:57:00 AM

21 What he is mapping is not what others call
22 the San Andreas fault.

23 Q. Okay. Now, let's go to the line that he
24 drew.

25 A. Okay.

11:57:11 AM

1 Q. In that southwestern portion of the page --
2 I am talking about on his plate. I'm talking about
3 this area that is fairly straight, going from his
4 Point A northwesterly until it intersects with the
5 Neenach fault.

11:57:11 AM

6 A. That is just the area that he calls the San
7 Andreas Fault Zone. It is pretty clear.

11:57:36 AM

8 MR. JOYCE: Why don't we use the township
9 range and notations to get us east to west?

10 MR. BUNN: I can, but I think it is more
11 precise to say in the Neenach fault intersection with
12 the Neenach fault up here to -- perhaps it is the
13 intersection with the sub-basin boundary down in --

11:57:48 AM

14 MR. JOYCE: All right. Which is the green
15 line running about a 45-degree angle from the
16 south -- should be from the southwest to northeast.

11:58:05 AM

17 MR. BUNN: Yes. Adjacent to the word
18 "Palmdale."

19 THE WITNESS: It's from southeast to
20 northwest.

11:58:23 AM

21 BY MR. BUNN:

22 Q. Are you aware of significant groundwater --

23 MR. JOYCE: Geography is not my strong
24 point.

11:58:30 AM

25 ///

1 BY MR. BUNN:

2 Q. Are you aware of significant groundwater
3 movement across that line?

4 A. Aware of? By reading these reports you
5 mean, did I -- is there flow across the line
6 according to the published reports that I reviewed,
7 groundwater flow across that line?

11:58:58 AM

8 Is that what you are asking?

9 Q. No. Have you concluded as your own opinion
10 that there is significant flow across that line, and
11 therefore that line shouldn't be used as a boundary?

11:59:14 AM

12 A. Again, I wonder what the "significant" is
13 being thrown in there. But there is flow across the
14 line.

15 Q. I didn't throw in the word "significant."
16 That was in your charge here.

11:59:26 AM

17 A. But my charge was not significant flow. You
18 keep on changing the charge. If you want to do that,
19 you can hire me.

20 Q. What I am trying to say is that I'm --
21 Mr. Joyce's letter expresses his charge in terms of
22 significance.

11:59:38 AM

23 A. Of what?

24 MR. JOYCE: I didn't ask him to determine
25 the significant flow. I asked him to determine

11:59:50 AM

1 whether or not pumping on one side of a line could
2 significantly lower water levels on the other side of
3 the line.

11:59:53 AM

4 MR. BUNN: But he has testified several
5 times that the basis for his doing that is a
6 determination of significant flow.

12:00:01 PM

7 MR. JOYCE: He has never said that. He said
8 if there is flow and it is measurable flow, then you
9 created the environment where that could happen.

10 MR. BRUYNEEL: He said "sufficient flow."

12:00:16 PM

11 MR. JOYCE: Thank you.

12 THE WITNESS: Thank you.

13 BY MR. BUNN:

14 Q. In your opinion, is there sufficient flow
15 across that portion of the line that I just
16 described?

12:00:21 PM

17 A. To? Finish the question, please.

18 Q. So that groundwater production outside the
19 line could not significantly change groundwater
20 levels within the area?

12:00:34 PM

21 A. Could not or could? The way you phrased
22 it --

23 Q. I am quoting from this, and it is a "not."

24 MR. JOYCE: "Could" or "could not" is
25 interchangeable. Either way.

12:00:43 PM

1 THE WITNESS: I would think if you pumped on 12:00:46 PM
2 one side of that line, that it would affect water
3 levels on the other side of the line, yes.

4 BY MR. BUNN:

5 Q. Okay. On what do you base that conclusion? 12:00:53 PM

6 A. The fact that if you look at both the
7 groundwater contour maps and the map that we have
8 been studying here, Plate 6 with Durbin, it shows
9 recharge along this boundary.

10 Q. Okay. By "this boundary," you are talking 12:01:19 PM
11 about the one north of the San Andreas Rift Zone on
12 Durbin's plate that has all the circles?

13 A. Yes. It is the same one that Mr. Scalmanini
14 discusses as the San Andreas Fault Zone.

15 Q. Okay. So you based it in part on Durbin 12:01:45 PM
16 saying that there was recharge there?

17 A. Well, you can independently look at the
18 water level, to be a little bit helpful here. If you
19 want to look at the groundwater flow -- I think it
20 will be a little lesson in groundwater flow. 12:02:00 PM

21 There is --

22 Q. I appreciate it.

23 A. You're welcome.

24 There is --

25 MR. BRUYNEEL: Please tell us what you are 12:02:08 PM

1 referring to.

12:02:09 PM

2 THE WITNESS: Let me see which one.

3 Here is a map from Durbin, and there is a
4 later map we can also pull out. This is just one of
5 an example which --

12:02:23 PM

6 MR. BRUYNEEL: Doctor, which map?

7 THE WITNESS: Thank you. This is Plate
8 No. 2 coming from the Durbin report. Is it
9 sufficient to say "Durbin report?"

10 MR. BUNN: Yes.

12:02:35 PM

11 THE WITNESS: Now, if you look at this sort
12 of map, and this is back in predevelopment time in
13 1915 or near predevelopment time when the hydraulic
14 and hydraulic -- hydrologic situation of the basin
15 was somewhat different because there wasn't as much
16 extraction at the time.

12:02:50 PM

17 What you see here are these arrows
18 indicating groundwater flow, and you see these
19 potential lines which indicate what we call "water
20 levels." And he calls them "potentiometric
21 contours."

12:03:08 PM

22 It is sufficient to call those "water
23 levels" for this conversation.

24 And water will travel from -- groundwater
25 will travel in a direction from higher hydraulic head

12:03:28 PM

1 water levels, potentiometric surfaces, from higher
2 levels to lower levels. As you can see here, it is
3 going from 2600 to 2500 down.

12:03:33 PM

4 And these arrows indicate flow going in this
5 direction. Water doesn't invent itself. It has to
6 be coming from somewhere. There is an example where
7 the flow is going across this boundary.

12:03:48 PM

8 BY MR. BUNN:

9 Q. Does this Plate 2 of Durbin show any water
10 levels south of the boundary?

12:03:59 PM

11 A. No, it does not.

12 But if you have a patent to invent water,
13 tell me how it works.

14 MR. BUNN: Do you all want to take a break
15 now?

12:04:36 PM

16 MR. BRUYNEEL: I am willing to pass on
17 lunch.

18 THE WITNESS: I want to express a
19 preference, that I do have this constraint. I would
20 like you to feel comfortable that you have had your
21 time to examine me. I know that I haven't been
22 examined because there has been a lot of cross talk
23 among the lawyers, and I would very much like to
24 offer myself available.

12:04:48 PM

25 I did this morning as early as you wanted to

12:04:59 PM

1 wake up and come here, to work through lunch or
2 whatever, to make sure that I can get out of here and
3 you don't feel that I am in any way obfuscating or
4 delaying this proceeding.

12:05:01 PM

5 MR. BUNN: Let's go off the record.

12:05:14 PM

6 (Recess.)

7 BY MR. BUNN:

8 Q. Before the break I asked you about flow
9 across the southerly boundary, and we defined the end
10 points of what I was talking about. Besides what you
11 already testified to, is there any other basis for
12 your conclusion that there's flow across the
13 boundary?

12:20:28 PM

14 MR. JOYCE: That section you just discussed?

15 MR. BUNN: That very boundary.

12:20:41 PM

16 MR. JOYCE: Okay.

17 THE WITNESS: The general discussions are --
18 the basis for it is the same, but I've seen maps and
19 data from other folks besides that which is
20 represented in the Durbin report.

12:21:05 PM

21 BY MR. BUNN:

22 Q. Okay.

23 MR. JOYCE: That suggests the same --

24 THE WITNESS: Suggests the same -- suggests
25 the same behavior.

12:21:14 PM

1 BY MR. BUNN:

2 Q. On the same basis as this Durbin report?

3 A. The same basis -- I'm not sure what you
4 mean.

5 Q. That was the term you used, I thought.

12:21:25 PM

6 MR. SMITH: Define "basis" you are talking
7 about.

8 THE WITNESS: The fact is that there is --
9 there were water -- there is a water-level difference
10 that emanates from this boundary and moves to the
11 north/northeast, and that is shown on other --
12 actually, I'm looking at a Plate 3 now, which is not
13 what I referred to earlier.

12:21:43 PM

14 But it shows the same general behavior.
15 This is Plate 3 for 1961, and the previous plate
16 number I was looking at was Plate 2, and that was
17 1915. So over that fairly substantial period of many
18 decades, you see the same sort of behavior.

12:22:07 PM

19 BY MR. BUNN:

20 Q. Okay. It is Plate 3 to the Durbin report?

12:22:26 PM

21 A. It is Plate 3 to the Durbin report, yes.

22 Q. Now I would like to go back to
23 Mr. Scalmanini's plate at the bottom of this pile.

24 A. Here we can --

25 Mr. Bunn left the room. I wonder if --

12:22:51 PM

1 Q. I am listening.

12:22:54 PM

2 A. Here is your -- you are back.

3 Q. You should be a lawyer.

4 A. I take that in the worst possible way.

5 My sister is a lawyer, so I can't say that.

12:23:11 PM

6 Q. Could you now draw on this map the area that
7 you were talking about north of Rogers Lake, first of
8 all.

9 A. And by "this map," you are referring to
10 exhibit --

12:23:31 PM

11 Q. Well, it is Plate 1 -- I'm sorry. It is an
12 exhibit. It is Exhibit B.

13 A. I don't really think it is necessary. You
14 have the maps, and the only thing that I would get
15 wrong here is the translation of information from one
16 map to another.

12:23:43 PM

17 So there is no additional information that I
18 can give you, other than me making a drafting
19 mistake. I don't see the point of this.

20 You have the Durbin map. It is what it is.

12:23:58 PM

21 Q. Excuse me. What I'm after is getting on one
22 document all the areas in which you feel there is
23 flow.

24 A. We can do that on the Durbin map. Let's use
25 the Durbin map, because that works for me. And I

12:24:19 PM

1 don't know what you mean by --

12:24:23 PM

2 Q. So by "Durbin map," in this case we are
3 talking about Exhibit C.

4 A. All the areas in which there is flow -- I
5 don't want to use those words, because they are not
6 constrained enough.

12:24:34 PM

7 If you are talking about areas in which
8 there is flow crossing these boundaries, I'm happy
9 using the Durbin map.

10 Q. I'm happy to have you use the Durbin map,
11 but let me change the question. I want you to show
12 every area where you believe groundwater production
13 outside of Mr. Scalmanini's proposed line might
14 significantly change groundwater levels within the
15 area --

12:24:49 PM

16 A. Okay.

17 Q. -- and vice versa.

18 A. Okay.

19 Q. And so the areas are shown along the
20 southern boundary where there are circles. Would you
21 mark that, please. Mark each endpoint of that
22 boundary, and we will give it some label.

12:25:18 PM

23 MR. JOYCE: He wants you to mark each little
24 segment with a pencil that you are referring to.

25 THE WITNESS: In a general way -- you see my

12:25:35 PM

12:25:40 PM

1 charge was -- is one in which if I can -- how do I
2 want to say this? If I can show this is a set of
3 lines or don't meet this criteria, I don't --
4 technically, I don't know that I have to do it in any
5 place but one particular location to meet that
6 standard, as far as I'm concerned, in my charge.

12:25:57 PM

7 MR. JOYCE: The scope of charge as I gave it
8 to you, that is correct. If one line is wrong --

9 THE WITNESS: So what I don't want to do is
10 to indicate that an entire area that I'm circling has
11 the same -- that has the same properties everywhere,
12 because that is not what I am saying.

12:26:13 PM

13 There are -- there's lots of ways in which
14 the hydrogeology of this area can yield a flow that
15 goes across this boundary that amounts to the same
16 thing on this scale.

12:26:39 PM

17 And what I am saying is that in a general --
18 in -- it is sufficient for my conclusion to say that
19 this -- this area where the circles are located from
20 one circle to the next, and the -- coupled with the
21 hydraulic head information, is sufficient.

12:27:01 PM

22 So I'm a little reluctant to draw particular
23 places, because that wasn't my charge, and I didn't
24 do an analysis that would lead me to make such a
25 drawing. Not in that specificity.

12:27:28 PM

1 MR. SMITH: I want to make an objection on
2 the record. What you asked him to do also is to mark
3 areas on the Durbin map with reference to the
4 Scalmanini line.

12:27:33 PM

5 The Scalmanini line is not on the Durbin
6 map, which requires Dr. Gorelick to mentally
7 transpose the Scalmanini line onto the Durbin map,
8 which may or may not be something he can accurately
9 do.

12:27:41 PM

10 MR. BUNN: He represented that he could. As
11 a matter of fact, I suggested that he did do it on
12 the Scalmanini map, and he felt that he could more
13 accurately --

12:27:59 PM

14 MR. JOYCE: No. What he said he could do is
15 draw a large circle around the generalized area where
16 the phenomena are manifested. He did not say he
17 could transpose the same area draftsman-wise
18 accurately. That is the concern he has been
19 expressing over and over. Part of the problem is the
20 maps are not to the same scale.

12:28:08 PM

12:28:26 PM

21 MS. FUENTES: His concern is noted on the
22 record. Anybody reading the record would reference
23 his marks on this map with those qualifications. So
24 at this point I don't see why, given the
25 qualifications he has given, he is hesitating to draw

12:28:37 PM

1 the lines.

12:28:40 PM

2 THE WITNESS: Because I have to raise --
3 what is it that I am drawing, exactly? Can you
4 please specify, according to this criteria, what you
5 are you saying that I am actually being asked to
6 draw, and I will see whether I can do that or not.

12:28:49 PM

7 BY MR. BUNN:

8 Q. Well, I'm not necessarily making reference
9 to this criteria right now. Let me ask you a
10 question that may help clarify things.

12:28:59 PM

11 Are any of Scalmanini's boundaries
12 impermeable barriers?

13 A. I think Mr. Scalmanini has testified that
14 nothing is impermeable.

15 Q. Okay. Substantially impermeable on the
16 scale of the Antelope Valley.

12:29:31 PM

17 A. Can you define "substantial"?

18 MR. SMITH: Objection; vague and ambiguous.

19 BY MR. BUNN:

20 Q. Sure. Significant in terms of the Antelope
21 Valley groundwater supply.

12:29:39 PM

22 A. I wasn't asked to look at that.

23 MR. BRUYNEEL: Do you mind if we go off the
24 record for one second? I need to clarify something
25 with Counsel here.

12:29:56 PM

1 MR. BUNN: Sure. Let's go off record.

12:29:56 PM

2 (A discussion was held off the record.)

3 MR. BRUYNEEL: I want to go back on the
4 record.

5 Our off-the-record conversation with Counsel
6 has clarified that this witness is only going to be
7 called as a rebuttal witness at Phase 1 of the trial
8 and not as part of the plaintiffs' case in chief; is
9 that right?

12:30:57 PM

10 MR. JOYCE: The purpose of Phase 1, the
11 Court has already assigned the burden of proof on the
12 defendants. So consequently, by definition he would
13 have only been rebuttal in any event.

12:31:09 PM

14 MR. BRUYNEEL: I was not aware of that.
15 Thank you.

12:31:22 PM

16 MR. JOYCE: Having said all of that --

17 MR. BUNN: I think the pending question was
18 whether any of Scalmanini's boundaries are
19 substantially impermeable, and I defined that in
20 terms of the groundwater supply of the Antelope
21 Valley.

12:31:36 PM

22 MR. JOYCE: And his response was he has not
23 analyzed it from that vantage point.

24 THE WITNESS: There are lots of things I
25 could have analyzed in looking at the hydrogeology

12:31:47 PM

here. And my specific mission was to see whether this line or the lines that were drawn by Scalmanini met the criteria.

12:31:50 PM

If I can show that they didn't meet the criteria that he should have by the materials that I have looked at -- it is evident that pumping on one side of the line would affect groundwater levels on the other side of the line -- then I don't, and didn't, feel an obligation to proceed completely around the basin to make another determination.

12:32:02 PM

12:32:23 PM

I was satisfied that along the southern boundary, along the western boundary, along this northern area along the Cottonwood and Rosamond faults, and along the very north, that the tests, so to speak, didn't pass. It didn't pass the test.

12:32:43 PM

And so I can't say that I have looked at every other boundary to answer some other question.

Is that fair enough?

BY MR. BUNN:

Q. Yes. However, I would still like to have you designate the areas that you just talked about: The southern boundary, the western boundary, and so forth, as being areas that didn't pass.

12:32:57 PM

A. Didn't pass in the sense that -- and I will put this on the record -- that I'm saying that there

12:33:14 PM

1 is some interpretation of exactly where flow might
2 cross this boundary. And I can make a big circle,
3 and within -- included within that circle, are places
4 where there is a connection.

12:33:20 PM

5 And I'm not saying that I know exactly where
6 those are. So please don't come back to me at a
7 later date and say, "You said this, and everything in
8 there is blah, blah, blah and impermeable." I am not
9 saying that.

12:33:39 PM

10 MR. JOYCE: He understands that if you draw
11 a circle, it is --

12:33:50 PM

12 THE WITNESS: It is generalized, and there
13 can be exceptions to it. But that criteria that I
14 was asked to look at, at some places along here would
15 show that their pumping on one side would affect
16 water levels on the others. Under those conditions,
17 I am willing to sketch.

12:34:01 PM

18 BY MR. BUNN:

19 Q. Not necessarily along that whole boundary?

20 A. Say that again.

12:34:17 PM

21 Q. I am trying to clarify what you are saying.
22 You are saying somewhere along this line there will
23 be places where groundwater levels on one side affect
24 the other, but not necessarily along the entire line?

25 A. That could be. I am not saying that it is

12:34:30 PM

Xerox Document Centre Network Scanning Confirmation Report

XEROX

Job Status: SUCCESS

Job Status Details:

Job Information

Device name: XEROX
System date: 03/08/06
System time: 09:38 AM
Submission date: 03/08/06
Submission time: 09:37 AM

Scan Settings

Status

Images Scanned: 70

Basic

Original Type: MIXED
Auto Exposure: LEAD_EDGE
Lighten/Darken: 0
Sides Imaged: ONE_SIDED
Resolution: RES_300 x 300
Bits per Pixel: 1
Contrast: 0
Sharpness: 0

Image Size

Original size: AUTO

Template Information

Name: Imaging.xst
Owner: —
Description: Imaging Scanning Profile

File Settings

Status

Images Filed: 70
Bytes Filed: 5649440

Login

Repository name: 192.168.1.12
Protocol: FTP

NDS tree:
NDS name context:
Login name: anonymous

Destination

Volume:
Path: /users/imaging
Name: DOC001
Format: TIFF_V6

Attributes

Policy: NEW_AUTO_GENERATE

1 or isn't. I'm just saying that there is not enough
2 detail, from what I have inspected so far, to be
3 precise about where -- let's call them "leaks" --
4 might be, or connections might occur.

12:34:33 PM

5 Q. Okay.

12:34:49 PM

6 A. Is that fair?

7 Q. With that in mind, would you do your best
8 job of identifying the areas of concern.

9 A. (Witness complies.)

10 I will delineate it with two markings right
11 here along this -- along the southern boundary.

12:34:58 PM

12 Q. Could we label those?

13 A. Go ahead.

14 Q. I would like to ask you to do it.

15 A. You said "we," so I think that would be that
16 you were participating.

12:35:14 PM

17 MR. JOYCE: How do you want them labeled?

18 MR. BUNN: I'm open, but maybe just a number
19 with a circle around it so we can say from .1 to .2.

20 MR. JOYCE: That's fine. You can do that.
21 Left or right to left? Your preference. Put a
22 circle.

12:35:32 PM

23 BY MR. BUNN:

24 Q. Start numbering with 1.

25 A. Start from here to here. This is what I am

12:35:43 PM

1 afraid of, that this could actually go further. It
2 is not correct.

12:35:44 PM

3 Q. You've said that, and we understand that.
4 I'm asking you to do the best job that you can --

5 A. Okay.

12:36:00 PM

6 Q. -- of estimating where this condition --

7 A. I understand. There is some --

8 MR. JOYCE: He wants you to label with a
9 little "1" and a little "2."

10 (Witness complies.)

12:36:11 PM

11 MR. JOYCE: And the next will be 3 and 4.

12 Am I correct?

13 THE WITNESS: There may be some in here, and
14 I won't necessarily specify it, but --

15 MR. JOYCE: If you believe that this
16 represents --

12:36:21 PM

17 THE WITNESS: It may or may not be. I'll
18 cancel on that.

19 There are some areas in here where there are
20 slightly some -- and this -- I'm going to give myself
21 some slack here.

12:36:32 PM

22 Here and here.

23 MR. JOYCE: You need to start to --

24 THE WITNESS: Okay. Let me get the --

25 At the very least, the ones that I am -- I

12:36:55 PM

1 reserve the right to make corrections or amendments
2 to this. Doing it real-time is not my style.

12:36:58 PM

3 BY MR. BUNN:

4 Q. That is why I gave you a pencil.

5 A. I mean over the course of many more -- much
6 more time than we are going to spend here today. I'm
7 not going to be held to this. I'll tell you that
8 right now.

12:37:05 PM

9 MR. BRUYNEEL: The problem is, of course,
10 this is the only opportunity to examine this person
11 before trial.

12:37:17 PM

12 Is he going testify to this stuff at trial?

13 MR. JOYCE: Only if you want to ask him
14 about it. If you want to ask him to do the same
15 thing at trial, I guess he would.

12:37:27 PM

16 MR. BRUYNEEL: You are not going to ask him?

17 MR. JOYCE: I don't have any reason to ask
18 him. The Durbin map is clear to me. I wouldn't have
19 him make marks on it.

20 THE WITNESS: Sorry.

12:37:41 PM

21 MR. BRUYNEEL: Give him a pencil with an
22 eraser.

23 MR. JOYCE: All you can do is approximate.

24 THE WITNESS: I am going to leave this as a
25 maybe right now in the sense that --

12:38:32 PM

1 MR. JOYCE: Explain what you are doing.

12:38:36 PM

2 THE WITNESS: There is a translation of the
3 boundaries here. It is not clear where we are in
4 relation to the Scalmanini map. I'll say it is
5 possibly somewhere in this vicinity.

12:38:48 PM

6 MR. JOYCE: Draw a big circle and put a "3"
7 by it.

8 THE WITNESS: I'll put an "M" there.

9 I think that is sufficient for what I'm
10 trying to say.

12:38:59 PM

11 BY MR. BUNN:

12 Q. Do you want to mark the northern that we
13 talked about before?

14 A. Yeah, but I'm going to do something really
15 big because I don't know where we are. It could be
16 like that, as far as I am concerned. I'll circle
17 those dots -- it could be higher or it could be
18 lower -- to make you happy. I want to please you.

12:39:09 PM

19 I have called the upper portion "3."

20 Where else would you like to go, Counselor?

12:39:41 PM

21 Q. I'm asking you.

22 A. You are asking me what?

23 MR. JOYCE: He wants you --

24 BY MR. BUNN:

25 Q. For your best estimate.

12:39:47 PM

1 A. You said along the southern boundary, and
2 you said the northern boundary.

12:39:48 PM

3 MR. JOYCE: Now he wants you to go to the
4 next area.

5 THE WITNESS: Okay. I would say something
6 like that.

12:39:56 PM

7 MR. JOYCE: Make that 4.

8 THE WITNESS: That is from this particular
9 map here.

10 BY MR. BUNN:

12:40:27 PM

11 Q. Are these all the areas where you believe
12 that there was a potential -- that groundwater
13 outside the line significantly affects groundwater
14 inside the line?

15 A. There was a possibility that can happen.
16 There is another area to the southeast where I think
17 that that can happen. That is not --

12:40:40 PM

18 Q. Let's mark that one as No. 5.

19 MR. JOYCE: It is not depicted on the Durbin
20 map.

12:40:58 PM

21 MR. BUNN: You mean it is off the edge of
22 the map?

23 MR. JOYCE: It appears to be.

24 THE WITNESS: It is clear it is in the
25 vicinity of Mr. Scalmanini's right-hand corner of his

12:41:05 PM

1 map.

12:41:11 PM

2 MR. BRUYNEEL: Upper or lower?

3 THE WITNESS: Lower right.

4 MR. JOYCE: Is it the area where his purple
5 blue line is?

12:41:21 PM

6 THE WITNESS: In the vicinity of the lower
7 right-hand corner of the map. I think that was the
8 areas that I found that I believe are along the lines
9 of my charge.

10 BY MR. BUNN:

12:41:38 PM

11 Q. Okay. Is it your understanding that
12 Mr. Scalmanini admits the possibility of groundwater
13 flow across any of these areas of his boundary?

14 A. I believe he did, and I don't recall exactly
15 where or which ones. But I believe so, yeah.

12:42:13 PM

16 Q. You can't tell me now which ones?

17 A. Not from memory. I can look at his report
18 and tell you.

19 Q. We've talked about the area between 1 and 2,
20 sort of switched designation from designating
21 endpoints to designating areas.

12:42:29 PM

22 Can you tell me about the one that you've
23 labeled "M." What's your bases for your conclusion
24 there?

25 A. As I said, I didn't make a firm conclusion

12:43:09 PM

1 there, so I put a "maybe" on that particular zone.

12:43:11 PM

2 Q. Okay.

3 A. So I'm not going to necessarily proclaim
4 this until I look at it more carefully. As I said,
5 it was sufficient for me to define the zone that is
6 defined as what you will call 1 to 2, the area marked
7 3 and 4, and I'm going to leave this area to the
8 south of line -- Segment 1-2 for further analysis.

12:43:23 PM

9 Q. You don't know as you sit here today whether
10 there's groundwater flow around that area of the
11 boundary?

12:43:48 PM

12 A. It actually depends on exactly where the
13 boundary is placed, and I would have to go back and
14 look at the groundwater contours again in that area.

15 MR. JOYCE: Is it fair to say, Doctor, that
16 the problem with that area right now is the scale
17 differential in the maps?

12:44:07 PM

18 THE WITNESS: It's hard for me to tell where
19 we are on that boundary. I don't think I need to
20 rely on that. I am just not ruling it out. I'm
21 happy just talking about these three areas that we've
22 decided on so far.

12:44:21 PM

23 MR. SMITH: I want to reiterate my objection
24 earlier as to the difficulty in transposing the
25 Scalmanini line onto the Durbin map line. I think

12:44:34 PM

1 that is some of the difficulty that Dr. Gorelick has
2 encountered.

12:44:37 PM

3 MR. BUNN: Thank you.

4 THE WITNESS: We can proceed with these.

5 BY MR. BUNN:

6 Q. Let's do Area 4. What is the basis for your
7 conclusion there?

8 A. It is the same basic idea as we have with
9 Line Segment 1-2, that there is a -- there is a flow
10 across the Cottonwood and Rosamond fault that is
11 documented in various reports. It was necessary for
12 Mr. Durbin to include the flow along that particular
13 boundary, as well as along the Tehachapi Mountain
14 boundary as well in his model.

12:45:05 PM

15 Q. Other than that fact that Mr. Durbin
16 considered it necessary to include the flow in his
17 model, do you have any estimate of how much the flow
18 across the Cottonwood and Rosamond fault may be?

12:45:34 PM

19 MR. JOYCE: At what point in time? When
20 Durbin did his study? Today?

12:45:51 PM

21 MR. BUNN: Today.

22 MR. JOYCE: Tomorrow?

23 MR. BUNN: Today. 12:45 p.m.

24 MR. JOYCE: I assume, then, by virtue of
25 your question that you are presuming that there is

12:46:04 PM

1 such a thing as a static flow?

12:46:07 PM

2 MR. BUNN: I am not presuming anything. I
3 am asking him whether he has any idea of how much
4 flow there is.

5 THE WITNESS: At this particular moment
6 right now, as we speak?

12:46:14 PM

7 BY MR. BUNN:

8 Q. Yes.

9 A. You are asking me if I have the numbers
10 right now for flow across a boundary, no, I don't.
11 That is a silly question, actually, but go ahead. I
12 just think it is an unreasonable thing that one could
13 know that.

12:46:19 PM

14 Q. I am not asking you for a precise number of
15 acre feet.

12:46:35 PM

16 A. It is not possible for one to know that
17 right at this very moment in time. It can change
18 with time.

19 So, I mean, you can see here by the -- by
20 the values shown on Durbin, you can get some idea
21 from the size of the circles shown along the
22 Cottonwood and Rosamond faults that there is some
23 flow across the boundary, and it is quantifiable.

12:46:46 PM

24 Q. Okay. One more question.

25 A. In his modeling --

12:47:01 PM

1 Q. One more question, and then I think I'm
2 going to let my colleagues have a chance here.

12:47:03 PM

3 Are you aware of any area along
4 Mr. Scalmanini's boundary where groundwater pumping
5 of groundwater basin water on one side of the line
6 has, in fact, affected groundwater levels on the
7 other side?

12:47:17 PM

8 A. I have been asked to look at that. I didn't
9 look at actual pumping. I have been asked, "Can it
10 happen?" And I will stick with what I've done.

12:47:40 PM

11 Q. Okay. But on the basis of your experience
12 and what you did read, are you aware of any such
13 time?

14 A. I didn't do an analysis of actual wells.
15 I'm saying that hydrogeologically, given these
16 situations, that it is scientifically justified and
17 reasonable to conclude that pumping on one side of
18 the fault can have an effect on water levels on the
19 other side. And in specific, if you are asking did I
20 test that by looking at particular pumping rates, I
21 haven't.

12:48:02 PM

22 Q. I do understand.

23 A. I think that is answering --

24 Q. I am asking a "yes" or "no" question, and I
25 think I am entitled to a "yes" or "no."

12:48:27 PM

12:48:40 PM

1 Are you aware of any instance where pumping
2 on one side of Mr. Scalmanini's line has, in fact,
3 affected groundwater levels on the other?

12:48:43 PM

4 MR. SMITH: At any known time in the 20th
5 Century?

12:48:56 PM

6 THE WITNESS: I haven't looked at that in
7 particular. If I've read information about that, I
8 didn't note it in any -- mentally.

9 And it may actually be something that can be
10 documented that I could easily get at or could
11 readily get at, but I didn't do the analysis. So I'm
12 hesitating, because I actually did read materials
13 that might have information pertinent to your
14 question. I didn't do the analysis.

12:49:15 PM

15 So when you say "do you know," I don't know
16 to the degree that I could actually pull it out right
17 now and show you. But I think there may be
18 information that I read that might be sufficient to
19 help get at the answer.

12:49:30 PM

20 And that is as close as I can get to a "no."
21 Okay? But leaving myself with the idea that I have
22 reviewed reports, and I don't want to say that there
23 is not that information in those reports.

12:49:43 PM

24 BY MR. BUNN:

25 Q. You have them all here; right? Would it be

12:49:58 PM

1 helpful to give you some time to look at them?

12:50:01 PM

2 A. It would be helpful in the sense that we
3 spent a lot of time with me reading reports, but I
4 wasn't charged with that task.

5 Q. Okay.

12:50:12 PM

6 A. So I don't think it would be worth your time
7 for me to do that.

8 MR. BUNN: Very good. I have nothing
9 further. Why don't we -- if you want to ask
10 questions --

12:50:24 PM

11 MR. TOOTLE: I'll go next.

12
13 EXAMINATION

14 BY MR. TOOTLE:

15 Q. Are you --

12:50:28 PM

16 In your duties, were you made aware of the
17 plaintiffs have properties that were specifically
18 stated in this lawsuit, that they are concerned about
19 overlying properties? Were you ever made aware of
20 where those properties were located?

12:50:45 PM

21 A. To some degree, yes.

22 Q. In general.

23 A. Generally. And because of my charge, I --
24 to be helpful here, I rapidly lost concern with those
25 locations.

12:51:02 PM

1 Q. Are you aware that --

12:51:03 PM

2 Would any of them be within or outside the
3 Durbin model? Do you have any idea if they lie
4 inside or outside?

5 A. I honestly did not look at that. I couldn't
6 tell you.

12:51:15 PM

7 Q. How about if you have any idea if they lie
8 within or outside the Scalmanini model boundaries?

9 You don't know?

10 A. I really don't know if they are inside or --
11 I suspect that -- from what I have seen, I know there
12 are ones inside. But you asked me if I know if there
13 are any outside; I don't.

12:51:30 PM

14 Q. And the same question with regard to
15 Mr. Sheahan's map?

12:51:46 PM

16 A. No, I don't know. But -- no, I don't know.

17 Q. Okay. As far as the Durbin model is
18 concerned, are you -- did you peruse his document?

19 A. Peruse -- I read the document.

20 Q. So you are intimately familiar with that
21 document?

12:52:11 PM

22 A. I read the document.

23 Q. Would you say that his document did a fair
24 job of modeling this area that he studied, or was it
25 incomplete?

12:52:34 PM

1 A. His document did a job of modeling this?

12:52:37 PM

2 No, I wouldn't say that. I don't think the document
3 did any modeling.

4 I'm not sure what the question is.

5 Q. He defined a study area which may or may not
6 be called a groundwater basin. But there is
7 boundaries to the study area; is that correct?

12:52:49 PM

8 A. I don't know about the "may or may not" part
9 of that question. But he defined the study area.

10 Q. And that study area has boundaries?

12:53:12 PM

11 A. The study area for the purposes of his model
12 had boundaries, yes.

13 Q. Okay. For the area within his boundaries,
14 that was the subject of his study area; is that
15 correct?

16 A. That's the area that his --

17 Q. Maybe it will help if I rephrase the
18 question.

19 A. Okay.

20 Q. Was the study area inside his boundaries or
21 outside his boundaries that he was -- that he --

12:53:45 PM

22 A. Well, he does do other types of analyses
23 that go beyond the boundaries.

24 Q. As to what their impact is on the inside of
25 the boundaries? Are his conclusion with regard to

12:54:03 PM

1 the area outside the boundaries --

12:54:06 PM

2 A. Impact, you mean --

3 Q. -- or inside the boundaries?

4 MR. JOYCE: You might want to rephrase the
5 entire question. I hate to get everybody lost.

12:54:26 PM

6 BY MR. TOOTLE:

7 Q. The conclusions of his report deal with the
8 area inside his boundaries or outside his boundaries?

9 A. I would have to look specifically at what he
10 concludes. I don't remember it well enough to tell
11 you his conclusions.

12:54:48 PM

12 Would you like me to read his conclusions
13 now? Do you have a particular conclusion you are
14 talking about?

15 Q. What I'm trying to ask is if what Durbin has
16 analyzed, whether he was analyzing -- his focus for
17 his analysis was on properties outside the basin or
18 inside the basin?

12:54:58 PM

19 Would it be fair to say that he was looking
20 at properties inside the basin?

12:55:20 PM

21 A. I don't think he looked at properties.

22 Q. Well, area --

23 A. As I said, he looked at an area that is
24 broader than those -- that area defined by his
25 boundary line to do a more complete hydrologic

12:55:32 PM

1 analysis and include some other aspects of the
2 regional geology and physiography. He did address
3 issues that go around the boundary of his model area.

12:55:40 PM

4 Q. He did have boundary lines in his study; is
5 that correct?

12:56:09 PM

6 A. Yes.

7 Q. And he made some findings based on those
8 boundary lines; is that correct?

9 A. I guess I need to know more what you mean by
10 "findings." If you are going to ask me about
11 particulars --

12:56:22 PM

12 Q. For instance, he found that there was a
13 certain amount of water within those boundaries.

14 MR. JOYCE: Are you asking if he did?

15 MR. TOOTLE: Uh-huh.

12:56:38 PM

16 THE WITNESS: Did he conclude there was a
17 certain -- I didn't see that number that there was a
18 certain amount of water. You mean water stored
19 within the boundaries?

20 BY MR. TOOTLE:

12:56:49 PM

21 Q. Right.

22 A. I didn't see that number. I don't recall
23 that number in his analysis..

24 Q. Okay. Did he find that there is any amount
25 of water that comes into his boundaries?

12:57:02 PM

1 A. Comes into his boundaries?

12:57:07 PM

2 Q. Crosses the boundaries into his study.

3 A. Crosses his boundaries, yes.

4 Q. Okay. Did you find those numbers were
5 reasonable or did you have reason to suspect that
6 they were not reasonable?

12:57:20 PM

7 A. I didn't -- I have to back up a little. I
8 spent a chunk of my career working at the U.S.
9 Geological Survey. About eight years. I know Tim
10 Durbin, and I think he is a capable individual.

12:57:47 PM

11 I think at the time that he did this
12 analysis, it was a good analysis. I think it was
13 quite a long time ago, as far as the technology goes,
14 in developing a groundwater model in terms of,
15 perhaps, even the interest in the area.

12:58:08 PM

16 And the database on this one could rely in
17 terms of the calibration tools that are available; in
18 terms of the types of tests and pumping and the
19 hydrologic stresses to the system which are sort of
20 like you being on treadmill and being able to say
21 there is something wrong with you because that is the
22 stress on the system.

12:58:25 PM

23 So there is a lot more information now about
24 changes to the system. So with that, I would say
25 that I didn't -- I found his report to be a fairly

12:58:38 PM

1 good report. I would -- and I think his analysis is
2 exceptionally correct.

12:58:42 PM

3 As far as the exact numbers go, I don't have
4 a fix on that because I wasn't asked to do that. Had
5 I done this myself, would I get the same numbers? I
6 am not quite sure.

12:58:57 PM

7 Q. Thank you. That answers my question.

8 I want to go back to the Zone 3 that you
9 identified on the map.

10 A. Okay.

12:59:11 PM

11 Q. In this case, you indicated that there was
12 water that was being discharged from the Antelope
13 study area north; is that correct?

14 A. At the time that that boundary existed,
15 that's an area where there was discharge appearing to
16 go to the north. According to the information that I
17 see here, yeah.

12:59:47 PM

18 Q. In the documents that you looked at, would
19 you have any reason to believe that that has changed
20 since the time he did that report? And if so, can
21 you somehow give us an idea of how it has changed, in
22 general terms?

01:00:11 PM

23 A. I do recall reading -- can I look at
24 something.

25 Q. Sure.

01:00:31 PM

1 A. Other information that I do have that
2 relates to this -- and it may not particularly
3 address your question -- is this report by Duell,
4 D-u-e-l-l. And Duell reports on Page 16 that north
5 of Rogers Lake, water flows into Fremont Valley.

01:01:05 PM

6 So there is other supporting information.

01:01:19 PM

7 Q. What year was that report?

8 A. That was an older one, I think. Let's see.
9 Anyway, that is why I say -- 1987. That is
10 actually --

01:01:37 PM

11 Q. That is newer?

12 A. That is newer, yeah.

13 And then there is other information. I
14 could spend some time going through it, but I believe
15 some of these areas where they have focused in the
16 Edwards Air Force Base area, and I am quite familiar
17 with that area because I've spent about six years
18 working up at Edwards.

01:01:47 PM

19 I have done a lot of detailed work, and I do
20 recall they have talked about flow in this area, and
21 I just don't remember in particular.

01:02:07 PM

22 I'm more than willing to go through these
23 reports and look for the particulars. But I think
24 one of them, I'll speculate, might be the Rewis
25 report, 1992.

01:02:27 PM

1 Q. Can you spell that.

01:02:28 PM

2 A. R-e-w-i-s, but please don't hold me to it
3 without me going through the suitcase of stuff that I
4 brought.

5 And there may have been changes over time,
6 and there may have been changes in flow direction,
7 but it doesn't change the basic notion that you do
8 have a hydrogeologic situation in which I think you
9 can get communication.

01:02:37 PM

10 Q. Okay. Would, in your -- here. In your
11 charge, you were asked to look to see if pumping on
12 one side of a line would affect pumping on another
13 side of the line. Or vice versa, I think is
14 essentially -- not necessarily pumping, but water
15 levels.

01:02:57 PM

16 A. Thank you. I was going to correct you but
17 you corrected yourself.

18 Q. Would -- if you take the northern part of
19 Durbin's line, because I think that is the easiest
20 one for you to work with.

01:03:35 PM

21 A. Okay. Not along the bottom, Rosamond,
22 but --

23 Q. Here, going up towards the Fremont Valley.

24 A. I see.

25 Q. Would it be fair to say that the pumping

01:03:48 PM

1 inside the Antelope Valley would have an impact on
2 the pumping in the Fremont Valley, but not
3 necessarily pumping on the Fremont Valley having an
4 impact on pumping in the Antelope Valley?

01:03:51 PM

5 A. You corrected yourself once and you should
6 have stuck with the correction.

01:04:07 PM

7 Q. Okay. Let me redo this, because I even know
8 how to correct myself.

9 Would pumping in the Antelope Valley have an
10 effect on the water levels in the Fremont Valley, and
11 would pumping on the Fremont Valley have an effect on
12 the water levels in the Antelope Valley?

01:04:18 PM

13 A. Again, that --

14 Q. Either way you want.

15 A. I understand. Thanks for the correction.

01:04:30 PM

16 I don't think that was my charge, exactly.
17 And I understand why you are interested in asking
18 that sort of thing.

19 However, my charge was, can pumping on one
20 side of a line affect the water levels on the other
21 side of the line, and I'm happy to do that here on
22 just where the line is.

01:04:42 PM

23 And in your description of -- how you phrase
24 the question, you pointed to areas that may be
25 substantially removed from the boundary themselves.

01:05:05 PM

1 So the criteria I am setting up was maybe
2 not answering what you said, and I am not prepared to
3 give that answer, because I'm talking about just a
4 boundary flow, and it may very well be that there can
5 be those effects you talked about, but I'm not
6 claiming that.

01:05:08 PM

7 I'm claiming that the test was whether there
8 is flow crossing the boundary such that, when you
9 pump on one side, you get a water level change on the
10 other. I think that is still true.

01:05:20 PM

11 Am I being here -- I'm a little long-winded
12 on that one.

01:05:37 PM

13 Q. I think you are.

14 I guess what I am asking is, if you were to
15 pump in this area here, would it raise or lower the
16 water level north of it? Do you have any --

01:05:50 PM

17 A. Yes.

18 Q. It would raise it or lower it?

19 A. If you pumped on one side.

20 Q. If you pumped --

01:06:13 PM

21 A. -- on one side of the line, it would lower
22 the water levels on the other side.

23 Q. It would lower the levels on the north
24 side --

25 A. -- if you pumped on the south side.

01:06:22 PM

1 Q. Okay. In the documents that you have read,
2 do you have any indication if that has had a -- I
3 hate to use this word -- significant impact on water
4 levels to the north?

01:06:38 PM

5 A. Again, we are not looking at actual pumping.
6 Okay?

01:07:00 PM

7 Q. Okay.

8 A. What I am saying is that my charge was
9 aiming towards the scientifically secure basis for
10 describing a boundary and having reproducible
11 criteria for the boundary that one can impose, so
12 that any two knowledgeable hydrogeologists would end
13 up with the same scientific line.

01:07:14 PM

14 And in meeting that criteria, it was neither
15 necessary for me nor did I necessarily look at
16 particular pumping scenarios and do anymore than I
17 did.

01:07:36 PM

18 Q. Okay.

19 MR. BUNN: Excuse me. What you do you mean
20 by "pumping scenarios"?

01:07:48 PM

21 THE WITNESS: Touche.

22 MR. TOOTLE: Significant pumping.

23 BY MR. TOOTLE:

24 Q. I don't know if you can answer this. What
25 if you were to pump in Fremont Valley. Would that

01:08:03 PM

1 have --

01:08:08 PM

2 A. Where you are pointing is near California
3 City.

4 Q. I'm sorry. Over. And that is California
5 City. Where is Fremont Valley? I guess Fremont
6 Valley would be here.

01:08:16 PM

7 A. Everything north of this line.

8 Q. Somewhere up in here.

9 Would it have -- pumping up here, would it
10 have an effect on any water levels within the
11 boundary, and would that water level go up or would
12 that water level go down?

01:08:32 PM

13 MR. SMITH: You are looking at the Cal map.

14 BY MR. TOOTLE:

15 Q. Or you can use Durbin. Whichever one you
16 feel comfortable.

01:08:49 PM

17 A. I think the answer is the same: It could.
18 And my charge was "can" -- okay? -- not "did." And
19 it is on one side of the line versus the other.

20 Now, the threshold for "can" is I can put
21 them right near the boundary. That is all I am
22 saying triggers that. So when you -- again, when you
23 move away, that is a different charge than I
24 understood I had.

01:09:09 PM

25 And it is not to rule it out. It is just to

01:09:27 PM

say that I don't have to go that far.

01:09:29 PM

Q. Okay. In your review of documents, did you look at any wells that were close to either the Scalmanini's or Durbin's lines, whichever you feel most comfortable with, that showed the impact on water levels by pumping on the other side of the line in the northern region?

01:09:53 PM

A. As I say, there are wells in these reports that are on the plates, and I did notice where they were to some degree, to make sure I understood how the groundwater contour levels were drawn. That was my main interest.

01:10:19 PM

I am just curious about some of the map where pumping was done, just to kind of get a fix on the whole system, but I did not take a look at particular wells and did not analyze in particular what did happen. Counsel said -- can I use your word "scenarios"?

01:10:35 PM

So I think I'll leave it at that. The last three answers I think I've given are basically the same.

01:10:55 PM

Q. And would it be fair to say, then, your charge did not include, since Durbin did his report, how activity -- and by that I mean pumping activity -- has possibly affected those flows across

01:11:16 PM

1 the boundaries that Durbin established?

01:11:22 PM

2 MR. JOYCE: I see what you mean. You mean
3 activity occasioned by additional new changes in the
4 system since Durbin, and up to today?

5 MR. TOOTLE: Right.

01:11:36 PM

6 THE WITNESS: I read reports that describe
7 changes in the system that describe different water
8 levels over time. I've discussed subsidence. I've
9 read a variety of materials.

10 But in this particular charge, other than
11 providing me with kind of background information, I
12 am not concluding anything with regard to particular
13 pumping wells and where they are located.

01:11:56 PM

14 I'm saying that it is a statement about the
15 justifiability of the boundary, and that was my
16 charge. So it is very limited. It doesn't mind. I
17 didn't look at that information. It is just that I
18 didn't have to consider it in detail to draw my
19 conclusion.

01:12:15 PM

20 BY MR. TOOTLE:

21 Q. So you can't tell whether or not pumping
22 inside or outside of Durbin's -- you can't opine as
23 to whether or not pumping inside or outside of
24 Durbin's boundary has really impacted the other
25 side -- is that correct? -- because you never really

01:13:05 PM

1 looked at that?

01:13:06 PM

2 A. What I can say is that the pumping on one
3 side of the boundary can influence water levels on
4 the other side of the boundary, and --

5 Q. But you don't know how that has happened
6 over time?

01:13:17 PM

7 A. I know, hypothetically, that there is
8 communication, and depending on where we are looking
9 for water level changes versus where the pumping is,
10 how much pumping there is, a variety of other
11 hydrogeologic circumstances and practicing
12 circumstances and measuring locations, we could
13 get --

01:13:34 PM

14 Q. You could get a sense of it, but that wasn't
15 part of your charge?

01:13:51 PM

16 A. That wasn't part of my charge, no.

17 Q. Now, you had indicated that you were
18 familiar with the Edwards Air Force Base area.

19 A. Yes. To a limited degree. The area that I
20 worked on for about six years now.

01:14:21 PM

21 Q. There are a number of studies in that area.
22 Can you tell whether -- from those studies, whether
23 pumping from inside or outside the boundaries that
24 were drawn by Scalmanini had any impact on that area?

25 A. I could tell. Was I asked to look at that,

01:14:51 PM

no.

01:14:55 PM

Q. Just your general knowledge, do you know if it did?

A. I'm not going to speculate. You can hire me separately. I really am not being flippant. I didn't look at it. It wasn't my --

01:15:01 PM

Q. You didn't think it was relevant in this case?

A. It may very well be relevant in the case. It is just that my charge is limited, and I don't -- when I undertake a particular job in this kind of work in consulting, I agree -- I agree to do certain things and not to go beyond that.

01:15:13 PM

Q. Okay.

A. It is not my business. I want to do it and I demand that I do it in a way that I feel comfortable doing, but it is not necessary for me to go that far.

01:15:38 PM

Q. Okay. We have talked a little bit about the southern boundary and the differences between possibly what Scalmanini stated in his report and what was put on the map.

01:16:01 PM

And without mixing words, it is -- there may be some issue as to whether or not where he drew his southern boundary was in alignment with exactly his

01:16:32 PM

1 words, or maybe not. It depends upon how you read --
2 specifically how you, probably, read his words.

01:16:37 PM

3 Do you know of any other areas that he drew
4 his lines that did not match up with -- I'm going to
5 say the boundaries that he described; for instance,
6 faults or ridges that he described as being
7 boundaries -- typical boundaries in his test?

01:16:57 PM

8 A. Could you be more specific about which? One
9 of the things about the properties of the Scalmanini
10 report is that he has an orange line that says "Basin
11 boundary Bloyd 1967." He has another one that is a
12 dashed black line that says "Basin boundary Carlson
13 and others, 1998."

01:17:32 PM

14 He has another one that says -- green, that
15 says, "Basin boundaries Bloyd 1967, Carlson and
16 others, 1998."

01:17:54 PM

17 And then he has two areas that are marked in
18 the south. One of them is Antelope Valley
19 groundwater basin, water basin boundary "Carlson and
20 Phillips 1998." That is shown as a purple line.

01:18:14 PM

21 So can you be more specific?

22 Q. Let me rephrase the question. Once you
23 point that out, it may help.

24 Are you aware that when he drew this map,
25 that any of those lines do not properly reflect those

01:18:29 PM

1 boundaries which he has in his -- indicated?

01:18:37 PM

2 MR. JOYCE: Are you asking did he go back
3 and check whether or not this was an accurate attempt
4 to duplicate Carlson or Bloyd?

5 MR. TOOTLE: Whether there were any
6 misstatements. In other words, if he says Carlson
7 was around this line.

01:18:57 PM

8 MR. JOYCE: He wants to know whether or not
9 you double-checked this back against Bloyd, Carlson
10 and the other sources.

01:19:08 PM

11 BY MR. TOOTLE:

12 Q. Is there any reason why we should doubt
13 whether or not these lines reflect --

14 A. As you said, this one area of the San
15 Andreas fault, I don't know if you can misread it. I
16 think he got it wrong there.

01:19:17 PM

17 There is -- this area in the southeast I did
18 some overlays of transparencies and tried to check
19 where things were in some way.

20 But one area that is just -- it may or may
21 not be wrong. I can't tell you exactly. But when I
22 look at the Carlson and Phillips line -- that is the
23 1998 line down in the southeastern corner -- it
24 doesn't have the right shape from the smaller inset
25 map, and you would have to have some more graphic

01:19:37 PM

01:20:00 PM

1 capabilities than I have to analyze that fully.

01:20:06 PM

2 But I believe that there's the potential
3 that there is some problems down in this corner.

4 Where he has another line that says the
5 Antelope Valley and Mojave river drainage basin
6 boundary, I am not sure that is exactly located where
7 others might locate it on more detailed topographic
8 maps.

01:20:19 PM

9 I'm trying to think if there are others I
10 noticed. I didn't do a full-fledged analysis of
11 overlaying checking against Bloyd, but I looked at a
12 number of maps that used Bloyd.

01:20:39 PM

13 And those are the observations I have about
14 things that could be somewhat problematic versus
15 somewhat wrong.

01:20:58 PM

16 (Whereupon, at the hour of 1:20 p.m.
17 a luncheon recess was taken, the
18 deposition to be resumed at 1:56 p.m.)
19
20
21
22
23
24
25

PASADENA, CALIFORNIA; FRIDAY, JULY 19, 2002

1:56 P.M.

STEVEN M. GORELICK,

having been previously duly sworn,
was examined and testified as follows:

EXAMINATION

BY MR. TOOTLE:

Q. This is -- I am going to call it orange.

01:58:14 PM

A. The reddish color is the basin boundary,
Bloyd 1967.

Q. Okay.

A. Counsel, if I could interrupt, I want to
thank you very much for sharing your sandwich with me
over lunch.

01:58:34 PM

Q. All right.

Did you review the Bloyd report?

A. Bloyd?

Q. Bloyd.

01:58:47 PM

A. Yes, I did.

Q. And in his report, he designated these
boundaries?

MR. JOYCE: Did he designate a boundary or
exactly the same one here?

01:59:01 PM

1 BY MR. TOOTLE:

2 Q. Did he designate a boundary? I think I
3 tried to establish before that this was close to his
4 boundary.

5 MR. JOYCE: He didn't do the overlay
6 comparison, is what he testified to.

01:59:13 PM

7 THE WITNESS: He designated lines on a map,
8 and whether he called them boundaries, I don't
9 recall. We could pull the report and see.

10 And these are reproductions by a third party
11 onto a base map of --

01:59:28 PM

12 BY MR. TOOTLE:

13 Q. Of his?

14 A. -- of unknown origin, of presumably those
15 lines. That is where we are starting.

01:59:40 PM

16 Q. Okay. When you reviewed his report -- once
17 again, I'm going to try and ask sort of the same
18 question that I asked about the Durbin report, and
19 that is, did you find anything in his report with
20 regard to the boundaries that you would disagree with
21 from a professional standpoint?

01:59:58 PM

22 MR. JOYCE: Bloyd or who?

23 MR. TOOTLE: Bloyd.

24 MR. JOYCE: Okay.

25 THE WITNESS: I'm not sure what you mean,

02:00:12 PM

1 did I find anything?

02:00:14 PM

2 BY MR. TOOTLE:

3 Q. Would --

4 A. The location?

5 Q. The location.

02:00:17 PM

6 You wouldn't have put that boundary there?
7 You would have -- you would have drawn the boundary
8 somewhere else?

9 MR. JOYCE: I think I would object that goes
10 beyond his charge. I didn't ask him to analyze the
11 accuracy of Bloyd per se.

02:00:31 PM

12 MR. TOOTLE: Okay.

13 MR. SMITH: I am going to object also in
14 terms of use of the word "boundary." I think he
15 testified that he didn't know whether Bloyd actually
16 set boundaries.

02:00:41 PM

17 BY MR. TOOTLE:

18 Q. Would you look and see if you used the word
19 "boundaries," or what word he used so we can use his
20 word.

02:00:53 PM

21 A. Yes, I have the report here. It will take a
22 second to see if there is a statement like that.

23 Well, according to this, it talks about the
24 EVEK boundaries enclosed most of the surface water
25 drainage basin of Antelope and Fremont valleys, the

02:01:53 PM

1 surface water drainage basin of Peace and lower
2 Hungry valleys, and parts of the Santa Clara River
3 drainage basin, Figure 2 and 5..

02:01:59 PM

4 So I think there is more than one boundary
5 that we would have to refer to. If we were going on
6 Bloyd, you would probably need to specify which
7 boundary he is referring to and which plate it
8 actually came to -- from Bloyd to go further on this.

02:02:14 PM

9 Q. Does he have that on this?

10 A. There are no figures. Those are oversized
11 figures, and I don't have them.

02:02:30 PM

12 Q. So you can't tell whether or not what he has
13 drawn here matches up with what he's considering to
14 be the boundaries?

15 A. The way it has been reproduced a number of
16 times. I checked it against Duell, and there have
17 been -- Durbin -- various other reports that seem to
18 use these boundaries. I was confident for my
19 purposes it was adequate.

02:02:54 PM

20 Q. Could you say that his boundaries --

02:03:12 PM

21 A. Again, I don't know if he is calling them
22 "boundaries," but we can use this line as a -- we can
23 adopt the term.

24 Q. Line?

25 A. For the specific thing, or just call it the

02:03:23 PM

1 Bloyd line.

02:03:26 PM

2 Q. Why don't we call it "the Bloyd line."

3 A. Okay.

4 Q. The Bloyd line, you are saying that it maybe
5 doesn't precisely follow the Durbin line, but is --
6 it is close enough that you felt that it was
7 correctly drawn on this map?

02:03:34 PM

8 A. If we can look at Durbin, perhaps we can see
9 any or all of those.

10 This particular figure of Durbin doesn't
11 show a north boundary. They are looking at Plate 6.

02:04:12 PM

12 So you will have to tell me what you would
13 like me to compare in the Durbin versus the Bloyd
14 look-alike.

15 Q. Well, is it possible for you to point out
16 where the Bloyd line is significantly different than
17 the Durbin line?

02:05:00 PM

18 MR. JOYCE: Again, I would interpose the
19 objection that that is beyond what he was asked to
20 do. I don't know if he has even attempted that
21 before he came here today, and I don't know if he can
22 do it here. That is my objection.

02:05:30 PM

23 BY MR. TOOTLE:

24 Q. In your review -- okay. If you can do that,
25 that would be great.

02:05:42 PM

1 A. I'm not sure which Durbin line you are
2 referring to, because the figure I have in front of
3 me isn't showing I think what you needed to show for
4 purposes of comparison.

02:05:48 PM

5 Q. Okay. When you read the Bloyd report, did
6 you -- I believe previously you stated that that line
7 closely resembled or was in the vicinity of the
8 Durbin line.

02:06:04 PM

9 A. I think -- there is a couple of
10 conversations about lines and what they looked like
11 and where they were different. I know that one area
12 that I had concern with was this area of Carlson and
13 Phillips down here.

02:06:28 PM

14 And I was comparing what Mr. Scalmanini did
15 comparing Carlson and Phillips down here, and then
16 the line that is labeled "San Andreas fault" on the
17 Scalmanini map which I don't believe is the San
18 Andreas Fault Zone.

02:06:41 PM

19 That is my recollection of that part of it.
20 If you are thinking of something else, I need to be
21 filled in on what it is.

02:06:54 PM

22 Q. I guess what I am asking is, you didn't find
23 that the general area that was talked about in the
24 Bloyd report was significantly different than that
25 talked about in the Durbin report, or was it

02:07:17 PM

1 basically the same?

02:07:20 PM

2 A. Well, the big difference is that the Bloyd
3 report, from my recollection, includes a bigger area.
4 And it included the Fremont Valley, as far as I can
5 recall.

02:07:35 PM

6 Q. Okay.

7 A. I can check that quickly.

8 Q. You mean in the study area?

9 A. In the study area. So let's take a quick
10 look.

02:07:42 PM

11 Yeah, he includes -- in Bloyd's Figure 2, he
12 talks about the Antelope and Fremont Valley. So they
13 wouldn't be the same on that score.

14 Q. So you are not sure how Scalmanini ended up
15 with this line from the Bloyd report?

02:08:37 PM

16 A. Well, it is not -- no.

17 Q. The Bloyd line.

18 A. That is the line that as far as I recall
19 separates the Fremont region from this region to the
20 south. And I think that line likely was on the Bloyd
21 map, and it was reproduced by Carlson 1998.

02:08:51 PM

22 Q. Okay.

23 A. Now, whether Mr. Scalmanini got that
24 information from Carlson or went back to Bloyd, I
25 couldn't say.

02:09:05 PM

1 Q. All right. And as far as these reports or
2 any other reports that you've looked at, is there any
3 reason that -- did you look at any specific pumping
4 along these lines to determine whether or not pumping
5 on the inside would change the water level on the --
6 I'm going to say the outside of the lines -- or
7 pumping on the outside of the line, rather, would
8 change the pumping on the inside of the line?

02:09:06 PM

9 MR. JOYCE: Counsel, the question has been
10 asked and answered. He already testified he is not
11 analyzing specific instances of pumping. He was to
12 ascertain whether or not there were any demonstrable
13 influences. He already testified he didn't do that.

02:09:29 PM

14 BY MR. TOOTLE:

02:09:48 PM

15 Q. So as far as these lines on Scalmanini's
16 map, you are not -- you're not sure whether or not
17 pumping on one side would have a significant impact
18 on pumping on the other side by reviewing those
19 reports or by reviewing well data; is that correct?

02:10:05 PM

20 A. I'm sure that if you pumped on one side of
21 this line and observed water levels on the other side
22 of the line in the region where various authors,
23 including Durbin, have noted that there is flow
24 across this region, that there would be a measurable
25 influence.

02:10:24 PM

02:10:47 PM

Now -- so I think that I'm confident that that can happen. If you are asking me are there particular instances that I can target where that has happened, that, again, as Mr. Joyce has pointed out, is beyond my charge and I did not pursue that. It could be done, but I did not do it.

02:10:48 PM

Q. And additionally, you would not have -- you were not charged with determining if over a period of time any pumping activity on the inside has lowered levels on the outside of these lines, or levels -- or pumping on the outside has lowered levels on the inside over a period of time?

02:11:02 PM

02:11:23 PM

MR. JOYCE: He has not yet been given that charge.

MR. TOOTLE: Okay. All right.

02:11:34 PM

MR. BUNN: Is that a threat?

MR. JOYCE: No. Just leaving the door open.

BY MR. TOOTLE:

Q. And to save us some time, I'm going to ask, the last few questions that I have asked, would your answers be the same for -- who is the next line on the list? Carlson, I think, is the next one.

02:11:53 PM

-- for the Carlson line?

A. Which of these various lines we are talking about?

02:12:04 PM

1 Q. Yes.

02:12:06 PM

2 A. Well, the Carlson and others 1998 line, you
3 have to be very specific because those lines are
4 shown in green on Scalmanini's plate. And those
5 lines are internal.

02:12:20 PM

6 Q. Okay.

7 A. And so let's avoid those, because that was
8 something I was not --

9 Q. Actually, as far as -- I'm going to call,
10 when they are internal, sub -- sublines?

02:12:31 PM

11 A. Let's call them "the green lines," for lack
12 of a better word.

13 Q. The green lines, with the exception of the
14 internal green lines, could you answer -- sort of go
15 back and answer those questions? They would be the
16 same --

02:12:55 PM

17 A. I think you need to ask me the question and
18 I will give you a --

19 Q. Have you studied whether or not pumping on
20 the outside of the -- the outer green lines or --

02:13:08 PM

21 A. There's no outer green lines.

22 Q. Then we will go with the Carlson.

23 A. Okay.

24 Q. We will start next with the Carlson.

25 A. Okay.

02:13:26 PM

1 Q. The Carlson lines.

02:13:26 PM

2 A. This is the "Carlson and others" line that
3 is listed on this map.

4 Q. Right.

5 A. The difficulty there is that the Carlson and
6 others contains the dashed line and the green line.
7 If you would like me to turn this around, maybe you
8 can have an easier time with it.

02:13:32 PM

9 Q. I have a hard time seeing green.

10 A. I'll help you. This one is green and this
11 one is red.

02:13:47 PM

12 Q. I can see it here. It is on the map I have
13 a hard time.

14 A. This is red and this one is green.

15 Q. But the dashed --

02:13:56 PM

16 A. The dashed line is over here. Here and
17 here. You can see the dash. It is not a color.

18 Q. I can see that.

19 A. The only difference is down here.

20 Q. So you would say that in the -- as -- using
21 the dashed line as an outer line outlining the
22 largest area, anywhere where pumping on one side of
23 that line -- you haven't looked at where pumping on
24 one side of that line would affect pumping on the
25 other?

02:14:09 PM

02:14:37 PM

1 A. I looked at "could" and not "would." So I
2 didn't look at specific wells.

02:14:38 PM

3 But again, where there are areas where there
4 is flow across the line, you can get an influence of
5 pumping on the inside and versus heads on the other.
6 But I didn't look at specific wells as part of this
7 test.

02:14:51 PM

8 Q. And over a period of time -- once again, you
9 didn't look at data that would show over a period of
10 time whether or not pumping on one side of the line
11 impacted pumping on the other side, or well levels on
12 the other side?

02:15:05 PM

13 A. I likely do look at data that can be used
14 and properly would be used if one did that analysis,
15 but I'm not offering any analysis of my own of those
16 data. But I --

02:15:21 PM

17 Q. So you haven't formed any conclusions?

18 A. I haven't formed any conclusions based on
19 those, to the degree that I am saying that something
20 did actually occur.

02:15:34 PM

21 Q. Okay. All right.

22 A. So that is a general statement.

23 Q. Yeah.

24 A. And I'm happy saying that that is true
25 around that line, and we can call it a day if you

02:15:50 PM

1 would like. If you want to go line by line, we can.

02:15:54 PM

2 Q. No, that's fine, because I don't think I
3 would be able to.

4 In the case of the line that is solid, dash,
5 dotted, it would be -- basically your statement would
6 be true for that line as well?

02:16:14 PM

7 A. That is the line we were talking about?

8 Q. This one here.

9 A. Pretty much.

10 Q. That's fine.

02:16:25 PM

11 This is sort of a general question. But is
12 it fair to say that because you didn't look at --
13 because you didn't look at the impact of wells
14 specifically in the area of the lines and their
15 effect on the other side of the lines, would it be
16 fair to say that you are not sure of the significance
17 or the -- I don't want to use the word
18 "significance." I will put the impact that pumping
19 on one side of the line would have on the well level
20 on the other side?

02:17:21 PM

02:17:46 PM

21 MR. JOYCE: Would have or does have?

22 MR. TOOTLE: Does have.

23 MR. JOYCE: Are you asking him whether he
24 has any current knowledge about what is happening on
25 either side?

02:17:55 PM

MR. TOOTLE: Yeah. In a sense, yeah.

02:17:57 PM

BY MR. TOOTLE:

Q. If I understand your testimony correctly, what you said is because you weren't asked to look specifically at wells, that you have not looked to see if there was a well here, what -- how it would draw down or impact the water level on the other side of the well -- on the other side of the line.

02:18:05 PM

MR. JOYCE: That is not totally accurate.

The charge was, is that -- in looking at the line, if you were to assume that there was a well on one side, and given what you know about hydrology, could that well or could groundwater production cause reduction of the water on the other side.

02:18:25 PM

MR. TOOTLE: I understand that. I --

02:18:43 PM

MR. JOYCE: Okay.

MR. TOOTLE: I guess what I am trying to do is ask the question, is -- because he didn't look specifically at data, he can't quantify how much. Do you see what I am --

02:18:56 PM

MR. JOYCE: Go ahead and a --

THE WITNESS: That is a fair question. I understand the question. I think it is fair.

MR. SMITH: Actually, before you answer, let's get the record clear. If you want to rephrase

02:19:04 PM

1 it and ask it --

02:19:08 PM

2 MR. JOYCE: Let's get a clean question. I
3 think I misunderstood you.

4 BY MR. TOOTLE:

5 Q. Is it correct that because you have not at
6 this time looked at specific well data in the
7 vicinity of the lines on Scalmanini's map, you cannot
8 quantify the impact that pumping a well on one side
9 of the line will have on the water level on the other
10 side of the line?

02:19:14 PM

11 MR. JOYCE: Hold on a second.

12 You used the word "will have" which is
13 futuristic.

14 MR. TOOTLE: Or may have.

15 MR. JOYCE: You asked him could you do that
16 calculation or can he, without knowing more, give you
17 an answer to that question right now. Because if it
18 is the latter, then tell us what the pumping rate is.
19 Tell us what the well depth is. Tell us what the
20 gallons per minute is, and so we know what we are
21 dealing with.

02:20:10 PM

22 MR. TOOTLE: The latter.

23 MR. JOYCE: Okay. Then I interpose an
24 objection to the question as incomplete, because it
25 is lacking in foundational information.

02:20:24 PM

02:20:39 PM

MR. SMITH: I'll second that, and just object to vague and ambiguous with respect to "impact." I'm not sure what you mean.

02:20:41 PM

THE WITNESS: I think there was a bunch of conditions and wells in the same sentence. I think that is my problem with the question.

02:20:49 PM

BY MR. TOOTLE:

Q. Answer it any of the three ways you want, and just tell us which one you are inserting.

A. As I said numerous times now, I think it is clear that I didn't -- I didn't look at information about the -- specifically wells. Okay. So there is where I disagree with your use. I didn't look at that.

02:21:05 PM

But to meet the charge that I had quite specifically, I didn't need to do an analysis of existing wells where we had to specify a series of values such as the pumping rate, number of wells, proximity, diameter of well, et cetera, in order for me to reach the conclusion that the particular boundary would -- meets the criteria that flow from the well -- pumping from that well would cause water -- would cause water level declines on the other side of the line.

02:21:20 PM

So I think my answer is the same as the last

02:22:16 PM

perhaps five or six answers. And I am not sure what new information you would like from me.

02:22:20 PM

Q. And as a follow-up to that, to your answer there, it would then be -- you would also be correct to say that because you didn't do it now, and you hadn't done -- you didn't look at past data and you didn't look at current data, then you would not know if during that time period pumping on one side of the basin, one side of that line, has raised or lowered the level on the other side?

02:22:39 PM

02:23:07 PM

MR. SMITH: I'm going to object. I think it mischaracterizes the testimony.

MR. JOYCE: I think what he said is he has seen data but he didn't feel a need to look at more data in reaching the conclusion necessary to fulfill his charge, because once he determined that there was cross-flow, that as a hydrologist his experience tells him if you change the level on one side, you are going to influence the other part.

02:23:18 PM

THE WITNESS: The vague part for me, if I can interject here, is that data -- I am not sure what you mean by "data." If you would care to define it, because I certainly looked at data, it is clear.

02:23:34 PM

BY MR. TOOTLE:

Q. Well-pumping.

02:23:45 PM

1 A. That is the particular type of data. If you
2 are asking me did I look at specific well-pumping
3 rates at specific well locations and do an analysis
4 of what pumping on one side would do versus another,
5 I didn't do that in a way that -- I could do that,
6 but it wasn't necessary for me to do that under the
7 charge.

02:23:46 PM

8 Q. That is what I was trying to get at, but I
9 didn't know how to ask the right question.

02:24:05 PM

10 MR. TOOTLE: Okay. I'm going to pass the
11 baton to someone else.

02:24:28 PM

12 MS. FUENTES: I don't have any questions.

13 MR. TOOTLE: Tom, do you want to ask some?

14 MR. BRUYNEEL: I have a few questions.

15 MR. TOOTLE: If I may come back and ask you
16 some questions regarding cross-sections; before I do
17 that, I would like to think about it so I don't waste
18 your time and my time.

02:24:38 PM

20 EXAMINATION

02:25:21 PM

21 BY MR. BRUYNEEL:

22 Q. Could you give me Exhibit A, please, and
23 also the document that was written by Tim Durbin.

24 A. (Witness complies.)

25 Q. The document written by Mr. Durbin, I am not

02:25:40 PM

1 going to mark it unless Counsel wants me to, because
2 I understand that everybody has a copy.

02:25:44 PM

3 There is a Xerox, however, of a Post-it that
4 says "1978." Did you put that on there, on this
5 copy?

02:25:58 PM

6 A. No.

7 Q. Do you know where that came from?

8 A. No.

9 Q. Is that the date of this report?

10 Well, let me withdraw that and ask you this:
11 How do you refer to this document? Did you call this
12 a "report"? By "this document," I mean the document
13 written by Tim Durbin.

02:26:06 PM

14 A. It is the U.S. Geological Survey water
15 supply paper by Tim Durbin.

02:26:21 PM

16 Q. Do you have a shorthand way that you as a
17 hydrogeologist would refer to it?

18 A. I don't know if I as a hydrogeologist -- if
19 you want to say "the Durbin study," "Durbin report,"
20 those are fine with me.

02:26:35 PM

21 Q. How many times would you say you read this
22 particular report over your career?

23 A. My career?

24 I don't know how we are counting that
25 because there are different sections of it, more than

02:26:52 PM

1 one. And I probably read the report in its entirety
2 twice.

02:26:55 PM

3 Q. All right. For purposes of formulating your
4 opinions and conclusions in this case, did you read
5 the report in its entirety?

02:27:07 PM

6 A. I read the report in its entirety. And the
7 conclusions that I reached in this case are limited
8 to the mandate that I had in the letter before you.

9 Q. I understand that. But in order to reach
10 the conclusions limited by the mandate in the letter
11 marked as Exhibit A, did you read the report by
12 Timothy J. Durbin in its entirety?

02:27:32 PM

13 A. It wasn't the only thing I read, but I did
14 read it in conjunction with other information. I
15 would say that I considered it, yes.

02:27:50 PM

16 Q. I understand it is not the only thing that
17 you read. My question right now is --

18 MR. JOYCE: He already answered it. He read
19 it in its entirety.

20 BY MR. BRUYNEEL:

21 Q. Is that your answer? For purposes of
22 formulating your conclusions pursuant to your work in
23 this case, you read this in its entirety? All I need
24 is a "yes" or "no."

25 A. I'm not sure where you are going.

02:28:13 PM

1 Q. It doesn't matter where I am going.

02:28:14 PM

2 A. I matters to me where you are going. In the
3 sense that I read this and the way you are praising
4 it, as I said just a minute ago, suggests that it is
5 exclusive to this report.

02:28:30 PM

6 As long as you are saying did I include
7 my -- in my considering this document and did I read
8 the whole document in considering it, the answer is I
9 considered the whole document.

10 Q. Okay. Thanks.

02:28:44 PM

11 What other documents did you consider in
12 coming to your conclusions in this case?

13 A. In this case -- again specifying the
14 mandate?

15 Q. Until I change it, it will always be as
16 delineated by what you referred to as the mandate set
17 forth in Exhibit A.

02:29:01 PM

18 A. I relied on a series of documents. And I
19 can list them for you if you would like.

20 Q. Please do.

02:29:18 PM

21 A. Okay. This is a document entitled
22 "Geohydrology of the Antelope Valley area, California
23 and design for a groundwater quality monitoring
24 network." And it is U.S. Geological survey water
25 resources investigation report 84-4081, and it was

02:29:43 PM

1 written by Lowell F.W. Duell, 1987.

02:29:53 PM

2 Is that a sufficient reference for your
3 purposes?

4 Q. Thank you, it is.

5 A. I read this document entitled "Water
6 Resources of the Antelope Valley East Kern Water
7 Agency Area, California," by R.M. Bloyd, B-l-o-y-d,
8 1967.

02:30:12 PM

9 I have read a report entitled "Numerical
10 Stimulation of Groundwater Flow and Land Subsidence
11 at Edwards Air Force Base, Antelope valley," and its
12 by Tracy Nichikawa, Diane Rewis and Peter Martin.
13 And it is dated 2001. It's U.S. Geological Survey
14 Water Resources investigation report number 01-4038.

02:31:10 PM

15 I have the report entitled "Aerial
16 Geology" --

02:31:57 PM

17 Q. Excuse me. You say you have it. The
18 question is what reports or documents did you rely
19 on?

20 A. I have the report that I relied on entitled
21 "Aerial Geology of the Western Mojave Desert
22 California," by Thomas B. Dibbelle, D-i-b-b-e-l-l-e,
23 Jr., and "Geological Survey Professional" paper 522,
24 1967.

02:32:07 PM

25 There is a map report in these reports and a

02:32:44 PM

1 Water Resources Investigation report 98-4022.

02:32:49 PM

2 "Regional Water Table and Water Table Changes in the
3 Antelope Valley Groundwater Basin, California," by
4 Carlson, Layton, Phillips and Metzger.

5 Is that enough?

02:33:10 PM

6 Q. I think so. Let me see that one moment.

7 MS. FUENTES: Can you give a date on that
8 one?

9 THE WITNESS: I'm sorry. Can you please
10 read the date.

02:33:18 PM

11 MR. BRUYNEEL: Regional Water Table, parens,
12 1996.

13 BY MR. BRUYNEEL:

14 Q. What you have handed me is an empty
15 envelope.

02:33:26 PM

16 A. The other pieces of envelope -- that is what
17 you pointed to when you asked me to hand it to you.
18 These are the two maps that accompanied those.

19 Q. Those are maps?

20 A. What is entitled on the map report -- if you
21 are familiar with these sorts of things that are
22 produced by the Geological Survey, they produce a
23 series of maps, and on the maps they have written
24 material on the map itself. And then sometimes there
25 is the map, and sometimes there is data shown in

02:33:41 PM

02:33:56 PM

1 tables, as well as in this case a conversion factor
2 table.

02:34:01 PM

3 And so it is a combination of a little bit
4 of reporting and a lot of graphs.

5 Q. Thanks. Here is the envelope back.

02:34:13 PM

6 A. There is another report by Carlson and
7 Phillips entitled "Water Level Changes 1975 to '98 in
8 the Antelope Valley, California," by Carlson and
9 Phillips. And that U.S.G.S. open file report
10 98-561, and again there are two map enclosures -- map
11 report enclosures.

02:34:36 PM

12 As I recall on this one, there is a bit of
13 writing, and it is mostly the -- some data tables and
14 maps.

15 There is a report by Law Environmental
16 that's entitled "Water Supply Evaluation, Antelope
17 Valley, California" prepared for Palmdale Water
18 District, November 25th of 1991. And there are a
19 series of maps associated with that report.

02:34:58 PM

20 In looking at Mr. Scalmanini's report, I
21 considered the report of Ann J. Schneider entitled
22 "Groundwater Rights in California, July 1977";
23 however, I didn't read this report in anywhere near
24 its entirety.

02:35:25 PM

25 Q. Let me see the Palmdale report that you just

02:35:53 PM

1 referenced, for a moment. No, the other one; that's
2 Schneider.

02:35:55 PM

3 Before you get to the next document, could I
4 ask you a question. In the Palmdale report -- again
5 for the record, that is the Water Supply Evaluation,
6 Antelope Valley, California, prepared for the
7 Palmdale Water District, dated November 25, 1991.

02:36:44 PM

8 At the back, there looks like several maps
9 or drawings of some sort. One of them has got a
10 Post-it on it.

02:36:58 PM

11 Did you put that on there?

12 A. I did.

13 Q. What was your reason in doing that?

14 A. I put it on a couple of them that I
15 actually --

02:37:05 PM

16 Q. Good. Why?

17 A. -- that I actually looked at.

18 Q. Why?

19 A. Can I look at it and see.

20 Q. Sure. Tell us for the record which is the
21 first one that you opened. How is it identified?

02:37:16 PM

22 A. It is a map by Law Environmental,
23 Incorporated, groundwater contours, March 1956,
24 identified as Plate No. 1. And I used it, as I
25 recall, specifically to look at the nature of

02:37:39 PM

1 groundwater flow in the southern area where the
2 southern line was that was on Scalmanini's --
3 Mr. Scalmanini's map.

02:37:46 PM

4 And actually, as far as I can tell, it looks
5 like -- let me finish, please.

02:38:04 PM

6 I think I may have misspoken. I want to
7 make sure I get this absolutely straight, because I
8 said that I wasn't -- I didn't necessarily have data
9 that shows that there was flow -- there was hydraulic
10 head measurements on one side of what Mr. Scalmanini
11 entitles the San Andreas Fault Zone.

02:38:24 PM

12 And, in fact, this map indicates that there
13 is hydraulic head contours on one side versus the
14 other. I correct myself. There is some flow going
15 across there for the groundwater contours.

02:38:41 PM

16 Q. You are indicating where on this particular
17 map?

18 A. This map, it is in the Los Angeles County
19 line right below the word "Neenach" as we go south
20 towards the San Andreas fault.

02:38:56 PM

21 Q. And you are indicating the contour that is
22 labeled 2700?

23 A. I am indicating a series of contours that
24 show arrows and a progression of flow going across
25 this dashed dotted line.

02:39:10 PM

1 It says, "Fault, solid where exposed; dotted 02:39:17 PM
2 where buried."

3 Q. And this line just to the south of that
4 where it is two parallel lines, is the way it is
5 drawn -- I don't know how you described that. 02:39:29 PM

6 According to the legend, what is that line?

7 A. Those lines are groundwater contours, flow
8 direction and elevation in feet above sea level.

9 Q. I'm sorry. I misspoke. I must have
10 confused you. I am not talking about the lines with 02:39:43 PM
11 numbers. Those are contours. I am pointing to this
12 line here which is crossed in this instance by the
13 contour 2700.

14 What is that line?

15 MR. JOYCE: That is a surface feature. It 02:39:54 PM
16 is a canal.

17 MR. BRUYNEEL: Thanks.

18 THE WITNESS: That is the California
19 Aqueduct, and the contour goes on both sides of that
20 line crossing it. 02:40:04 PM

21 I think one of the reasons I targeted this
22 particular map was in my consideration of potential
23 flows and potential -- well, my mission statement or
24 whatever it is called, the letter you have in front
25 of you. 02:40:21 PM

1 BY MR. BRUYNEEL:

2 Q. I think you consistently referred to it as
3 your charge.

4 A. My charge. Thank you. I seem to be useful.

5 I also used, associated with -- in another
6 plate from that Law report. And it is Law
7 Environmental, Incorporated, and it is Plate No. 4
8 well location map.

02:40:35 PM

9 And so I did want to see that there were
10 wells and where they were placed. I recall spending
11 some time looking along the San Andreas fault; what
12 is labeled as the San Andreas Fault Zone on this map,
13 and just seeing some other aspects of the general
14 distribution of wells on both sides of these lines
15 which are called "Faults, solid where exposed, dotted
16 where buried."

02:41:06 PM

17 This is to get some sense of where wells
18 were, just for my interest and not for any particular
19 quantification of impacts.

02:41:27 PM

20 Q. Thank you. You answered the question.

02:41:49 PM

21 And why don't you get back to telling us
22 which documents you relied on in coming to your
23 conclusions in this case.

24 A. I have a transcript that was -- it is a
25 condensed transcript of the deposition of Chris

02:42:23 PM

Whitley, and I read brief segments of that to learn a little more about and to understand Mr. Whitley's position about the nature of a pumping in the Leona Valley.

02:42:26 PM

Q. Are you able to identify for us which parts of that you read?

02:42:45 PM

A. I did. I may be leaving some out, but I can say at least the very beginning part of this, to get a flavor for who Mr. Whitley was and what his role was.

02:43:04 PM

So those segments of the report that had to do with what his job is, so I understood what the fellow is involved with.

And then Pages 41 through 44 and 97, 98, were areas that I looked at in that vicinity.

02:43:19 PM

Q. All right. How do you know what pages? Did you make a note of that or were you asked to read those pages?

A. I was given the whole report. And I wanted to -- this came to me quite late. This came to me July 16th or so, or even later. And this is a letter from Mr. Joyce that targets the particular pages.

02:43:32 PM

Q. So what you've handed me is a copy of the condensed transcript of the deposition, and attached to it is a letter to you from Mr. Joyce, and that

02:43:55 PM

1 letter is dated July 15, 2002; is that correct?

02:44:01 PM

2 A. That's correct.

3 Q. Instead of marking it, I will read it into
4 the record. It is captioned, "Re: Diamond Farming
5 Company versus City of Lancaster, Riverside Superior
6 Court Case No. 344436. Dear Mr. Gorelick" --

02:44:14 PM

7 Am I pronouncing that correctly?

8 A. You are, sir. Thank you.

9 Q. "Enclosed you will find a condensed
10 copy of the deposition transcript of
11 Chris Whitley taken on April 1, 2002
12 in the above, hyphen, referenced
13 matter, period. Please take note of
14 Pages 41 through 44 and Pages 97 and
15 98 regarding the fractured rock well.

02:44:26 PM

16 Very truly yours," dictated but not
17 read, not signed but typed, "Bob H.
18 Joyce."

02:44:41 PM

19 Did you read any other parts of this
20 transcript --

02:44:54 PM

21 A. Yes.

22 Q. -- other than the beginning, to get a flavor
23 for who Mr. Whitley is?

24 A. Yes. I kind of skipped around. I don't
25 like getting excerpts, and I did skip around a bit.

02:45:03 PM

1 But the main parts I read at the beginning, and I
2 think I read beyond the segments to make sure I got
3 context.

02:45:07 PM

4 Q. Did you keep any kind of a record as to what
5 parts of this transcript you read?

02:45:17 PM

6 A. No, I did not.

7 Q. What is the fractured rock well that is
8 referred to in Mr. Joyce's letter?

9 A. If you want me to be specific, I can try to
10 find it in the deposition.

02:45:29 PM

11 Q. I'm satisfied at this point in time with
12 just your recollection. If you have no recollection,
13 just look -- you can, of course, look. But if you
14 have no other way to describe it, that's fine.

15 A. I think without spending too much time,
16 because I see that we are perhaps spending time on
17 this -- I know it has only been a couple of
18 minutes -- it is sufficient to say that there is some
19 well that is referred to in the Leona Valley and
20 vicinity that is a fractured rock well. And the
21 particular name of the well or the exact location I
22 would have to spend more time to try to identify.

02:46:50 PM

02:47:04 PM

23 Is that sufficient?

24 Q. Just let me ask you this.

25 Did any testimony that you read in that

02:47:19 PM

1 transcript regarding any fractured rock well affect
2 your conclusion with regard to this matter at this
3 time?

02:47:21 PM

4 A. It was supportive of my analysis of the
5 potential for flow along the actual San Andreas
6 fault, as I described this morning, and its
7 relationship to potential recharge of or flow along
8 Amargosa Creek and the interaction of groundwater
9 basin water in the Leona Valley area and interaction
10 with the Amargosa Creek.

02:47:40 PM

11 So the fact that they are able to obtain
12 information, water from a fractured rock well or
13 series of wells in this area, supported what you
14 would expect to see in a fractured, tectonically
15 active area such as the San Andreas fault.

02:48:36 PM

16 Q. According to your memory, are you able to
17 locate on this map that is before you -- which is
18 what? Is this Exhibit B? Yes, it's Exhibit B -- the
19 approximate location of the well that was testified
20 to in that deposition?

02:48:56 PM

21 A. Not from memory, no.

22 Q. Do you have any kind of best estimate as to
23 the location of that well?

24 A. In the Leona Valley area as marked on this?

25 Q. If that is the best you can do.

02:49:09 PM

1 A. That is the best I can do without more work,
2 thanks.

02:49:10 PM

3 Q. Let's get back to, then, the documents that
4 you considered in coming to your conclusions in this
5 case.

02:49:18 PM

6 A. There is the letter report on summary of
7 assessment of Phase 1 issues by Mr. Thomas Sheahan of
8 Geomatrix Consultants, dated July 16, 2002.

9 Q. When did you receive that?

10 A. This report?

02:49:41 PM

11 This report I received -- gosh, Wednesday of
12 this week? Yeah, I am pretty sure that is right.

13 Q. But before you received the report dated
14 July 16, were you provided with a draft of that
15 report?

02:50:10 PM

16 A. Yes.

17 Q. And was that on or about July 13?

18 A. I was provided with that report Monday.

19 Q. Of this week?

20 A. Yes.

02:50:21 PM

21 Q. Before Monday of this week were you provided
22 with a draft of that report?

23 A. No.

24 Q. Or any part of it?

25 A. Any part of it, yes; I was provided with a

02:50:30 PM

1 map that was a draft map, but with no report.

02:50:34 PM

2 Q. When were you provided with the draft map?

3 A. Sometime the week before, but I don't recall
4 the exact date.

5 Q. Sometime the week before?

02:50:53 PM

6 A. The week before last -- last week.

7 Q. Sometime last week?

8 A. Yes.

9 Q. Before you were provided with the draft map,
10 were you provided with any other drafts pertaining to
11 that report?

02:51:01 PM

12 A. No.

13 Q. When you received the draft map, did you
14 review it?

15 A. Can you say what you mean by "review."

02:51:15 PM

16 Q. Look at it and consider it, think about it.

17 A. Yes, I looked at it and thought about it.
18 Yes, in that sense I did review it.

19 Q. At any time before you looked at and thought
20 about it or after you looked at it and thought about
21 it, did you discuss it either in person,
22 telephonically, electronically or otherwise, with
23 Mr. Sheahan?

02:51:37 PM

24 A. Sheahan?

25 Q. I'm sorry. I don't mean to mispronounce

02:51:49 PM

1 your name. I didn't do it on purpose.

02:51:53 PM

2 A. I didn't review a draft of that map per se.
3 But I did have conversations with Mr. Sheahan, and
4 did have discussions with him in which there was the
5 beginnings of his map outlined on a figure that I
6 saw. That is as close as I can get.

02:52:22 PM

7 Q. When did you see that figure?

8 A. I believe it was Monday of last week, if I'm
9 not mistaken. But I can be wrong.

10 Q. You don't have any kind of a record as to
11 when you received that?

02:52:54 PM

12 A. I didn't receive it. I actually visited his
13 office, and I am trying to recall the date. I think
14 it was Monday of last week.

15 Q. What was your purpose in visiting his
16 office?

02:53:06 PM

17 A. My charge was, as it says there, to interact
18 with -- and can I please have the charge, and I can
19 read it.

20 Q. I am going to hand you Exhibit A.

02:53:20 PM

21 A. Thank you, sir. It says,

22 "Additionally, I would request
23 that you consult with and review the
24 work of Tom Sheahan and likewise
25 determine whether or not his proposed

02:53:30 PM

1 line satisfies the same criteria."

02:53:32 PM

2 And so that is what I am referring to. That
3 is a line taken out of context from Exhibit A. So I
4 did that.

5 Q. All right. Before that particular occasion,
6 had you met with Mr. Sheahan with regard to this
7 particular task or mission or whatever you call that?

02:53:46 PM

8 A. No.

9 Q. So that is the first time you met with him
10 in person regarding this case?

02:54:02 PM

11 A. Yes.

12 Q. All right. When you met with him on that
13 first occasion, what happened?

14 A. He had prepared by having a series of maps
15 put up on the walls around his office, and I -- these
16 are various maps that we've had out today; for
17 example, the geologic maps, the topographic maps --
18 and then described to me what his line was going to
19 be based upon. And then how, mechanically, he was
20 going to identify that line.

02:54:32 PM

02:54:53 PM

21 Q. And did you discuss that with him, the
22 reasons why the line was going to be the way he
23 described it to you, and so forth?

24 A. Discuss with -- he told me what those --
25 what his criteria were. And I understood what his

02:55:06 PM

1 criteria were, and I didn't intervene in the sense of
2 making changes to his concept of the criteria on
3 which he was basing his line.

02:55:12 PM

4 So in that sense, the word "discuss" -- it
5 was more me -- "information-gathering" is what I am
6 trying to get across.

02:55:33 PM

7 Q. So you just listened?

8 A. I didn't only listen. I'm just saying that
9 I was more concerned with listening.

10 Q. You just told us you didn't only listen.
11 Now, the next question is, what did you say?

02:55:46 PM

12 A. I thought that it -- that the criteria we
13 had set up made sense to me. I thought that he had
14 these two criteria, and he went through where, you
15 know, if only one of the criteria was met, why that
16 wouldn't be a sufficient -- the line wouldn't meet
17 the conditions that I was evaluating.

02:56:09 PM

18 We talked about -- just sort of worked our
19 way around his boundary or his line on this map. And
20 I can -- I'm not sure exactly what information -- I'm
21 trying to paraphrase in a day-long meeting.

02:56:45 PM

22 Q. Let's try all of it.

23 A. Try all of it.

24 I was interested in seeing whether or not,
25 you know, exactly how the topographic contours and

02:57:09 PM

1 watershed boundary were being determined, and there
2 is a series of various contour maps that one could
3 use to do that.

02:57:15 PM

4 And Mr. Sheahan had obtained very detailed
5 contour maps, seven-and-a-half-minute quadrangle maps
6 and was attempting to make this line very explicit
7 and very -- as detailed and precise as he can do
8 that. In fact, it was reproducible by anybody else
9 as possible.

02:57:27 PM

10 We looked at the geology, topography. We
11 went around the entire region and spent some time
12 discussing the eastern boundary where he had a --
13 partially on his map he had a topographic line
14 coupled with his other criteria of low hydraulic
15 conductivity or transmissivity.

02:57:51 PM

16 And then when this area moved off into
17 abutting against the Mojave region, I guess that is
18 what they call the adjudicated region. And so he
19 just showed me that, and that is -- I understood that
20 it was to follow the topographic contours, and the
21 low conductivity criteria all the way around would
22 have taken in a very large area. And that from his
23 perspective, it was logical to stop at the Mojave
24 boundary.

02:58:26 PM

02:59:04 PM

25 That is what I recall about that

02:59:25 PM

1 conversation.

02:59:27 PM

2 Q. Okay. Well, you say you looked at the
3 geology of the area. You remember you just said that
4 to us?

5 A. I do.

02:59:38 PM

6 Q. Where is Mr. Sheahan's office?

7 A. In Southern California, in Ontario.

8 I don't mean looked at the geology. I mean
9 looked at the geology map.

10 Q. I am trying to get clear --

02:59:49 PM

11 A. I apologize. That is what I meant.

12 Q. Have you ever gone out to this area and
13 looked at the geology there?

14 A. I have spent quite a bit of time studying
15 the area and visiting on a few occasions the Edwards
16 Air Force Base area. As I said, I worked there for
17 probably six years studying an innovative set of
18 remedial technologies for groundwater contamination.

03:00:02 PM

19 We put in, in the last experiment that we
20 did, 60 monitoring wells going into bedrock and going
21 down through the lacustrine and through the alluvial
22 deposits, and have spent quite a bit of time with
23 data up in the Edwards area.

03:00:22 PM

24 And I've visited that, but that is the
25 extent that I'll say I'm real familiar with firsthand

03:00:45 PM

1 knowledge of the region.

03:00:49 PM

2 Q. Well, the Edwards area, is that shown on
3 Exhibit B here? The Edwards area that you have just
4 been referring to?

5 A. It is Edwards Air Force Base, and I don't
6 know that -- it would be probably in this region near
7 Rogers Lake and the flight lines.

03:00:57 PM

8 Q. With regard to any of the other areas
9 depicted on Exhibit B, have you ever physically been
10 there?

03:01:19 PM

11 A. Lancaster. I would say that we stayed --
12 you live in Lancaster, and the students that I had
13 worked at Edwards, and other staff people lived in
14 Lancaster. So I've been there. And through
15 Palmdale. That is all I can recall at the moment.

03:01:39 PM

16 Q. Have you of done any work as a geologist in
17 any of the areas other than the Edwards Air Force
18 area? And by "the area," I mean the area depicted on
19 Exhibit B.

20 A. As I said, I worked in the Edwards area.

03:01:57 PM

21 Q. I excluded that had from my question.

22 A. And the hydrogeology of that region. I
23 have -- when you say "work as," I've read regional
24 geologic information pertinent to the Edwards Air
25 Force Base, including Dibbelle, for example.

03:02:25 PM

1 So that is something I would have
2 encountered just studying this. As a hydrogeologist
3 and geologist, when you look at a particular region
4 and I am studying that, I would tend to kind of start
5 broad and then look smaller, and I would say that's
6 work that I did do in relation to Edwards.

03:02:29 PM

03:02:40 PM

7 But that took me -- took into consideration
8 a broader area.

9 Q. Besides that, the answer would be "no"?

10 MR. JOYCE: Is this a good time for the last
11 break of the day?

03:02:55 PM

12 (Recess.)

13 MR. BRUYNEEL: Back on the record.

14 BY MR. BRUYNEEL:

15 Q. You were talking about your meeting with
16 Mr. Sheahan, and you mentioned that during the course
17 of that meeting he discussed with you the criteria
18 that he had developed.

03:15:21 PM

19 Do you remember telling me that?

20 A. Yep.

03:15:31 PM

21 Q. What were the criteria that he had developed
22 for plotting his line on his map?

23 A. There were two that I was most interested
24 in, were the watershed boundaries which, when coupled
25 with being underlain by low conductivity or low

03:15:56 PM

1 transmissivity material -- those were the criteria.

03:16:02 PM

2 Those two.

3 Q. Did you discuss with him the reasons for
4 selecting that criteria?

5 A. He explained to me his criteria. In that
6 sense we discussed them, and he said that you -- that
7 in his view you needed to have both criteria to have
8 a defensible line.

03:16:15 PM

9 And I looked at the line, and there was a
10 particular region -- we don't have this map in front
11 of us. Perhaps I can pull it up here. Actually, it
12 is here.

03:16:44 PM

13 He described the line and indicated that
14 there was a -- going through the middle of his area,
15 a water -- technically a watershed boundary, but it
16 didn't meet criteria of low permeability. And
17 therefore, it wasn't a sufficient line because flow
18 could easily cross from one side to the other of that
19 line. So you had to couple both criteria to make
20 sense of this.

03:17:08 PM

03:17:28 PM

21 That is pretty much what those criteria were
22 about, the technical criteria.

23 Q. Based upon either his report or your view of
24 any documents or your discussion with him, do you
25 know how or what basis he had for concluding that the

03:17:41 PM

1 area had low permeability?

03:17:43 PM

2 A. Which area are you referring to?

3 Q. The area underneath the line, the second of
4 his criteria.

5 A. It wasn't only low permeability. It could
6 have been low hydraulic conductivity or low
7 transmissivity. And based on the geology of the
8 region, the typical rock types through which his line
9 met, both criteria were ones in which there was
10 either low hydraulic conductivity or low
11 transmissivity or both.

03:17:57 PM

03:18:22 PM

12 Q. Do you know how it was determined what rock
13 types were there?

14 A. Looking at the geologic map of Dibbelle for
15 the most part, and perhaps other more regional
16 information on the geology as well. But in
17 particular, the main emphasis was Dibbelle.

03:18:44 PM

18 Q. Is that your understanding, that it was
19 mainly Dibbelle and perhaps some others? Did you
20 review the maps that he looked at?

03:19:04 PM

21 A. Did I review the maps that he looked at? I
22 reviewed -- I have overlain the line that Mr. Sheahan
23 developed with the geologic map of Dibbelle, and saw
24 that there were -- and understood what he did, and
25 reviewed what he did in that sense.

03:19:33 PM

1 Q. Aside from the geologic map by Dibbelle, do
2 you know whether or not Mr. Sheahan looked at any
3 geologic maps done by anybody else?

03:19:36 PM

4 A. Without reviewing the report again, I
5 have -- maybe I can look, because I think there is
6 one other report.

03:19:51 PM

7 There are two that he cites. One is the
8 Dibbelle 1967, and the other is Duell 1987 which is
9 one of the reports that I mentioned to you that I had
10 looked at. So both of those. And I also -- I also
11 looked at Duell, which is a map that I have.

03:20:19 PM

12 Q. Okay.

13 A. I think those are the only two that are
14 here. And then there is another report that he
15 cites. Groundwater Manual, a water resource
16 technical publication.

03:20:41 PM

17 Q. Did that give him information as to the
18 geologic formation underlying his line?

19 MR. SMITH: Objection; calls for
20 speculation.

03:20:51 PM

21 MR. BRUYNEEL: That is why I am asking him,
22 because he is supposed to be answering that.

23 MR. JOYCE: Wait. Then you are lacking in
24 foundation, because you need to ask him did you
25 discuss this with Mr. Sheahan. If he considered that

03:21:01 PM

1 in reaching the two criteria. You haven't gotten the
2 foundation. He right now is just referencing that he
3 notes it is cited in the report itself.

03:21:03 PM

4 BY MR. BRUYNEEL:

5 Q. Are you telling me it is stated in the
6 report because you believe, based on a conversation
7 with Mr. Sheahan or otherwise, that he relied on that
8 report in order to determine the geology underlying
9 his line?

03:21:15 PM

10 A. No.

03:21:24 PM

11 Q. That is all I am interested in right now, is
12 what was relied on to determine the geology beneath
13 Mr. Sheahan's line.

14 A. To determine the geology.

15 Q. I got it, okay.

03:21:36 PM

16 If so, you mentioned the two maps. Is there
17 anything else that you are aware of that he relied on
18 to establish that geology?

19 MR. JOYCE: Right. Your last question and
20 his last response, he just now has noted there are
21 three technical papers referred to by Mr. Sheahan in
22 Mr. Sheahan's report. I assume he is assuming that
23 Mr. Sheahan relied upon those. So I think I'm trying
24 to find out are you asking him --

03:21:46 PM

25 MR. BRUYNEEL: Withdraw the question.

03:22:03 PM

1 MR. JOYCE: All right. Very good.

03:22:04 PM

2 BY MR. BRUYNEEL:

3 Q. Aside from what you already told us, are you
4 aware of anything else that Mr. Sheahan relied on to
5 establish the geology beneath his line?

03:22:11 PM

6 MR. JOYCE: Based upon his conversation with
7 Mr. Sheahan or anything else?

8 MR. BRUYNEEL: Anything else.

9 MR. JOYCE: Including what Mr. Sheahan put
10 in his report?

03:22:19 PM

11 MR. BRUYNEEL: Anything else. That is
12 all-inclusive.

13 THE WITNESS: Not that I recall. What he
14 has in his report are the two that I mentioned.

15 BY MR. BRUYNEEL:

16 Q. Okay. The two that you mentioned, fine.
17 Let's get back to the documents that you relied on in
18 coming to your conclusions in this case.

19 Aside from what you already told us, what
20 other documents did you rely on or consider?

03:22:38 PM

21 A. I apologize. The report by Richter, a
22 document that I have by Richter, and I don't see it
23 at this moment.

24 Q. I think we know what that refers to. That
25 was cited in the Ann Sheridan paper?

03:23:39 PM

1 A. Schneider. 03:23:42 PM

2 Q. Schneider, whatever.

3 A. Yes.

4 Q. And you can't currently locate the copy?

5 A. I have it. 03:23:50 PM

6 MR. JOYCE: To be fair to the deponent, what
7 he has from Richter is from what Scalmanini gave to
8 me, which he got.

9 MR. BRUYNEEL: So long as we know, Tom.

10 BY MR. BRUYNEEL: 03:24:04 PM

11 Q. Are there any other documents you relied on
12 or considered in coming to your conclusion in this
13 case?

14 A. I read the, I would say, the book by Todd
15 that is cited by Mr. Scalmanini. The -- necessarily 03:24:16 PM
16 the deposition and reports. So let's go through
17 that.

18 Q. Let's do it quickly, please.

19 A. I want to get it right.

20 Q. I am not asking you to do otherwise, but 03:24:42 PM
21 let's do it quickly.

22 A. Well, you can't do both.

23 I did find the Richter report. It is
24 "Concepts of Groundwater Management," and it is by
25 Raymond C. Richter, 1974. 03:24:56 PM

1 And what I have is a thing called Chapter 2, 03:25:01 PM
2 and it is just a bunch of typed, Xeroxed pages.

3 Q. That's fine. I think you have sufficiently
4 identified that to us.

5 A. A very limited thing, and it is very 03:25:19 PM
6 limited.

7 Q. Richter's document is very limited?

8 A. Limited in the sense that it is only -- I
9 have Chapter 2, and I don't know really -- I never
10 saw it properly cited as a document. 03:25:38 PM

11 The other is the transcript of
12 Mr. Scalmanini, and I have three portions of the
13 transcript. One is the March 11 deposition of Joseph
14 C. Scalmanini, compressed transcript, and that is
15 March 11th. And then I have the June 10th, 03:25:54 PM
16 Volume II, of the deposition of Joseph C. Scalmanini,
17 and then I have a June 24th, Volume III of Joseph C.
18 Scalmanini.

19 So those are there. And let's see. Did we
20 introduce Mr. Scalmanini's report? Is that anywhere 03:26:21 PM
21 to be found in this pile?

22 Q. No. But it is sufficient identifying for
23 you to tell me that you reviewed, considered and
24 relied on his report. So you don't need to find it.

25 A. Well, I did find it. I did all the 03:26:38 PM

1 prefacing pages that accompanied his report along
2 with his resume', and then there is this technical
3 memorandum by Mr. Scalmanini of January 2002.

03:26:42 PM

4 There are various other reports that I read
5 and maps that I looked at. But when I thought about
6 which ones I relied on more heavily to -- for this
7 particular task, is this stack that I just elicited
8 to you.

03:27:01 PM

9 Q. We will come back to the others.

10 A. Okay.

03:27:24 PM

11 Q. Let me show you Defendant's Exhibit A.
12 You've consistently referred to this throughout the
13 day as the document from which you took your
14 assignment. I realize you didn't use the word
15 "assignment," but you would agree with that
16 statement?

03:27:41 PM

17 A. Yes, I understand what you are saying.

18 Q. The letter starts out,

19 "This is to confirm that you have
20 been provided with various materials
21 including Mr. Scalmanini's report as
22 well as his Plate 1."

03:27:48 PM

23 Aside from Mr. Scalmanini's report and his
24 Plate 1, what other materials were provided to you
25 prior to or at the same time as this letter?

03:27:59 PM

1 A. Gosh. There are a series of materials.

03:28:07 PM

2 Some of the materials are here. There was that
3 report by the Law Engineering that we looked at. The
4 report -- there is -- I could go dig it out.

5 Q. Why don't you tell me what it is and --

03:28:28 PM

6 A. I don't remember the title.

7 Q. Okay. Let's move on. I have other things I
8 prefer to get to.

9 Were there materials other than documents
10 and maps that were provided to you? This letter
11 states "various materials."

03:28:40 PM

12 A. I think -- you mean --

13 Q. I mean were there videotapes, aerial
14 photographs?

15 A. Technical matters, no, not that I was given.

03:28:54 PM

16 Q. Who provided you with various materials
17 referred to here?

18 A. Mr. Joyce's office. I think that is what
19 he's referring to.

20 Q. The next sentence says,

03:29:09 PM

21 "You are free to access and
22 consider any other materials you
23 deem to be relevant."

24 Did you deem other materials to be relevant
25 and access and consider them?

03:29:14 PM

1 A. Yes, some of the materials that are in the
2 pile I obtained on my own.

03:29:17 PM

3 Q. By "this pile," you are referring to the
4 documents you've already identified for us; is that
5 correct?

03:29:27 PM

6 A. Yes, I guess so, yeah.

7 Q. The next sentence in this letter states,

8 "I request that you review and
9 evaluate Mr. Scalmanini's report and
10 his deposition testimony and, in
11 particular, assess whether or not
12 groundwater production outside of his
13 proposed line could not significantly
14 change groundwater levels within the
15 area and vice versa."

03:29:37 PM

16 Did you do that?

03:29:50 PM

17 A. Yes.

18 Q. And did you come to any conclusions
19 regarding that?

20 A. Yes.

03:29:58 PM

21 MR. SMITH: Objection; asked and answered.

22 MR. BRUYNEEL: Not by me.

23 BY MR. BRUYNEEL:

24 Q. And are those conclusions those which you
25 testified to earlier under examination by the other

03:30:08 PM

1 attorneys?

03:30:11 PM

2 A. Here earlier? Yes.

3 Q. In regard to that, did you come to any
4 conclusions about what you have not yet testified
5 here today?

03:30:22 PM

6 A. At all, or with regard -- are we going
7 sentence by sentence?

8 Q. Yes, we are. So with regard to that. And
9 "that" meaning Scalmanini's report and his deposition
10 testimony, and in particular whether or not
11 groundwater production outside of his proposed line
12 could not significantly change groundwater levels
13 within the area and vice versa.

03:30:38 PM

14 A. I'm satisfied that what I told you today are
15 my conclusions with regard to Mr. Scalmanini's report
16 and this statement.

03:30:54 PM

17 Q. Okay. Doctor, I need to be clear on this,
18 because I may not get another chance to depose you
19 before trial. So bear with me.

20 Have you given us all of your opinions
21 regarding that subject?

03:31:10 PM

22 A. Mr. Scalmanini's report and his deposition
23 testimony?

24 Q. And whether or not groundwater production
25 outside of his proposed line and so forth as stated

03:31:23 PM

1 in that letter.

03:31:27 PM

2 A. I've given you all the opinions I have
3 regarding the assessment of whether or not
4 groundwater production outside of his proposed line
5 could not significantly change groundwater levels
6 within the area and vice versa.

03:31:47 PM

7 Q. Have you given us all of the bases for those
8 conclusions?

9 A. Can you establish what you mean by "bases"?

10 Q. The reasons that you've used to come to
11 those conclusions.

03:32:04 PM

12 A. Reasons I came to the conclusions were
13 illustrated with what I showed today. And as I
14 stated earlier, there were other maps such as the one
15 that you asked me to pull out with regard to the Law
16 map which told the same story, and it was somewhat
17 redundant. Although in that particular case, it
18 showed flow actually crossing the boundary, which is
19 something I had wrong, I had misstated, in further
20 support of my conclusion.

03:32:23 PM

21 So the foundation in the generic sense of
22 why I believe that Mr. Scalmanini's report --
23 Mr. Scalmanini's line does not meet this criteria
24 that I was given, I've given you that as best as I
25 can, as simply as I can.

03:32:43 PM

03:33:05 PM

1 But I am saying there is other supporting
2 materials that we go through in detail in each of
3 these reports, and some other materials perhaps that
4 support that.

03:33:06 PM

5 It wouldn't change the basic story, is what
6 I am trying to say.

03:33:16 PM

7 Q. And the criteria that you just referred to
8 in your last answer as to whether or not production
9 of groundwater outside of the proposed line could
10 significantly change groundwater levels within the
11 area and vice versa; is that true?

03:33:28 PM

12 A. That is true.

13 Q. So all of the bases for your conclusions in
14 that regard, you've either testified to here today or
15 are based on the documents that you referred to and
16 considered and relied on in coming to those
17 conclusions; is that right?

03:33:39 PM

18 A. I am getting a little tired. Can you please
19 repeat?

20 (The previous question was read back
21 by the court reporter as follows:

22 "QUESTION: So all of the bases
23 for your conclusions in that regard,
24 you've either testified to here today
25 or are based on the documents that you

03:33:39 PM

referred to and considered and relied
on in coming to those conclusions; is
that right?"

03:33:41 PM

THE WITNESS: They are based on those
materials, and I think there are some others that are
supportive of that same set of -- the same
conclusions that I reached, but I say are redundant
in the sense that they should show the same.

03:34:17 PM

BY MR. BRUYNEEL:

Q. The others are maps?

03:34:32 PM

A. Maps; reports that describe the maps,
reports that describe the geology. And almost all of
these reports, they have a background section, so if
you read it in one report, you've read it in all of
them. It is very redundant. So you can say you are
relying on one report or another report; however, it
is the same information.

03:34:44 PM

And therefore, some other maps that might
have a different year plotted up for certain data or
just a slightly different way of wording things, that
still tells the same story. But it is a somewhat
different document.

03:34:59 PM

I don't want to leave you with the
impression that I didn't read the other documents and
they weren't in some way considered. It is just that

03:35:13 PM

1 I think it is somewhat redundant to have to go
2 through those. But if you want to, I'll be glad to.

03:35:18 PM

3 Q. I agree with you. It would be redundant,
4 and repetitive too, probably.

5 Now let's -- I need to be clear about some
6 other things that you have testified to earlier here
7 today.

03:35:29 PM

8 In coming to the conclusions about this
9 particular criteria that we have in this letter, if
10 you could go to those conclusions.

03:35:44 PM

11 You may have seen but you did not consider
12 or analyze any well records or water contour records,
13 water level records; is that true?

14 MR. JOYCE: I think he already testified
15 that some of his opinions were influenced by water
16 contours.

03:35:56 PM

17 MR. BRUYNEEL: I will change the question.
18 You are right.

19 BY MR. BRUYNEEL:

20 Q. In coming to these conclusions, you did not
21 consider any well records vis-a-vis water levels, did
22 you?

03:36:04 PM

23 A. That is incorrect.

24 Q. Okay. Tell me how it is incorrect.

25 A. Well, most -- many of the maps that I looked

03:36:12 PM

1 at actually will have plotted the water levels on the
2 same map that they have contours. And they have
3 tables of those numerical values if one wants to look
4 at those in more detail.

03:36:15 PM

5 So in that sense, I don't think your
6 statement is right.

03:36:34 PM

7 Q. I understand that.

8 A. It is not just a picture with some lines on
9 it; there is data supporting it. When one contours
10 something, they base it on those data.

03:36:45 PM

11 Q. But you did not look at any well production
12 records and determine whether or not -- or any other
13 records and determine whether or not they had
14 affected groundwater levels?

15 A. "They" meaning?

03:36:56 PM

16 Q. The production from that well -- from any
17 given will.

18 A. They had affected groundwater levels?

19 Q. Uh-huh.

20 MR. SMITH: For the record, I'm going to
21 object. I think "affected" is vague and ambiguous as
22 the question is phrased.

03:37:05 PM

23 THE WITNESS: There are -- when I look at a
24 contour map of water levels in this area and there
25 are wells plotted and pumping wells plotted either in

03:37:27 PM

1 the Durbin report or elsewhere --

03:37:30 PM

2 Durbin, for example, does report pumping,
3 and there was a huge map here showing, you know, his
4 distribution of the pumping centers. And he shows in
5 concert with that the water levels that changed in,
6 let's say, the Lancaster area as a consequence of
7 those pumping rates.

03:37:43 PM

8 So to say that I didn't look at that is
9 incorrect.

10 BY MR. BRUYNEEL:

11 Q. All right. I am going to ask you -- I
12 thought I understood something different from your
13 earlier testimony -- did you do anything to confirm
14 your thesis that the criteria had been met? That is,
15 that extraction of water or operation of wells did
16 affect groundwater levels?

03:38:09 PM

17 A. Well, it is not a thesis. I think it is
18 my --

19 Q. Okay. Your opinion.

20 A. -- my opinion. And it is based on some
21 pretty firm hydrogeology.

03:38:24 PM

22 Q. My question is, did you do anything to
23 confirm it?

24 A. But you said -- that is not the way you
25 phrased the question.

03:38:35 PM

1 Q. Okay. I will withdraw the question and ask
2 you again, because we are running out of time.

03:38:36 PM

3 A. Okay. Go ahead.

4 Q. Did you do anything to confirm your opinion
5 that operation of a well on one side of the line
6 affected the groundwater level on the other side of
7 the line?

03:38:43 PM

8 A. Did affect?

9 Q. Could affect.

10 A. Could effect.

03:38:54 PM

11 Q. I will modify. I will ask you "could
12 effect."

13 That is your opinion?

14 A. That is my opinion.

15 Q. Did you do anything to confirm that opinion?

03:39:00 PM

16 A. It doesn't need to be confirmed.

17 Q. So is the answer "no"?

18 A. The answer is that when you have a glass
19 here and I drop it, it is going to drop. It is the
20 law of physics. I mean, you can't --

03:39:14 PM

21 You can't have an area where there is flow
22 crossing a boundary and you have pumping on one side
23 not affecting the flow on the other. It's a
24 scientifically based fact that will occur. And so
25 I'm not sure what you mean confirm that something can

03:39:39 PM

1 happen.

03:39:43 PM

2 I could conceivably confirm that something
3 did happen. And I didn't do that, if that is really
4 where you are going.

5 Q. That's fine.

03:39:52 PM

6 You say flow crossing a barrier?

7 A. Crossing this line.

8 Q. Do you have an opinion that subterranean
9 flows cross over or through the San Andreas fault?

10 A. Where?

03:40:06 PM

11 Q. Anywhere in this area.

12 A. The San Andreas fault. I think for purposes
13 of clarification, do you mean cross over the line
14 that has been labeled San Andreas fault?

15 Q. No. The fault itself.

03:40:19 PM

16 A. Do I have --

17 Q. Let me withdraw the question and ask it more
18 clearly.

19 Do you have an opinion that groundwater
20 flows through the San Andreas fault?

03:40:28 PM

21 MR. JOYCE: Well, I just interpose the
22 objection as vague and ambiguous as to where along
23 the San Andreas fault.

24 MR. BRUYNEEL: Anywhere in this area that we
25 have been talking about today.

03:40:45 PM

1 THE WITNESS: The Scalmanini line labeled
2 "San Andreas Fault Zone" is the line which is where I
3 think we are talking about his boundary. Okay? Now,
4 that was -- in my statement here of what I'm supposed
5 to consider, is the lines drawn by Mr. Scalmanini.

03:40:53 PM

6 And although he labels it San Andreas fault,
7 it is not the same San Andreas fault. The San
8 Andreas fault I am indicating is further south.

03:41:16 PM

9 So I didn't look at, per se, this flow
10 crossing the San Andreas fault in the vicinity of
11 Mr. Scalmanini's line in doing that analysis for
12 Mr. Scalmanini.

03:41:32 PM

13 BY MR. BRUYNEEL:

14 Q. So you only looked to see whether or not
15 there was flow across Mr. Scalmanini's line, not the
16 San Andreas?

03:41:42 PM

17 A. But this mission we are talking about of the
18 Scalmanini task -- okay? -- that assess whether or
19 not groundwater production outside his proposed line
20 could not significantly change groundwater levels
21 within his care and vice versa, we are talking about
22 this region labeled "San Andreas Fault Zone" by
23 Mr. Scalmanini.

03:42:00 PM

24 And that is where I looked; so yes, in that
25 sense.

03:42:13 PM

1 Q. Okay.

03:42:13 PM

2 A. Okay.

3 Q. You did not make an evaluation in that
4 regard with regard to the true San Andreas fault or
5 San Andreas Fault Zone; is that correct?

03:42:23 PM

6 A. For -- in doing the work essentially for
7 Mr. Scalmanini's -- the analysis of Mr. Scalmanini's
8 line, he didn't have his line when --

9 What I think you are referring to -- and I
10 could ask you, but I won't, and you can correct me if
11 I am wrong -- the true San Andreas fault is down
12 here. I only looked where he shows -- I only
13 consider his line where we are talking right now.

03:42:39 PM

14 Q. Next in this letter, it stated,

15 "Additionally, I would request
16 that you consult with and review the
17 work of Tom Sheahan and likewise
18 determine whether or not his proposed
19 line satisfies the same criteria."

03:43:01 PM

20 Did you do that?

03:43:12 PM

21 A. Yes.

22 Q. And what was your conclusion with regard to
23 whether or not Mr. Sheahan's proposed line satisfied
24 the same criteria?

25 A. Okay. When we did Mr. Scalmanini's -- my

03:43:21 PM

1 analysis of Mr. Scalmanini's line, we went to
2 particular places.

03:43:30 PM

3 Would you care to pull out the map of
4 Mr. Sheahan and we can talk about it?

5 Q. If you have it, pull it out and give me the
6 answer to the question, please. I presume that
7 initially you can answer that with a "yes" or "no" as
8 to whether or not you did it, and then we can follow
9 up with a question as to what your conclusions were.

03:43:39 PM

10 MR. JOYCE: He just testified that yes, he
11 did.

03:43:55 PM

12 THE WITNESS: I apologize if it was not made
13 clear.

14 MR. JOYCE: You've already done it.

15 THE WITNESS: If I indicated that. I did,
16 yes.

03:44:03 PM

17 BY MR. BRUYNEEL:

18 Q. What was your conclusion with regard to
19 that?

20 A. That with regard to the criteria established
21 in the letter which is this Defendants' Exhibit A,
22 Mr. Sheahan goes in segments. And in these different
23 segments, I think, going around -- where is A? We
24 can start at A.

03:44:10 PM

25 Going from A to B, I agree that this

03:44:34 PM

1 criteria is sufficient.

03:44:38 PM

2 Q. Let me interrupt you.

3 I don't know what you mean by the "criteria
4 is sufficient." The criteria, as I understand it, is
5 to determine whether or not groundwater production
6 outside of the proposed line could not significantly
7 change groundwater levels within the area and vice
8 versa.

03:44:48 PM

9 A. His line meets criteria.

10 Q. Meaning what?

03:45:00 PM

11 A. Meaning that if one pumped on one side of
12 his line, it would not significantly affect
13 groundwater levels on the other side of his line.

14 Q. That is true so far from A to B; is that
15 right?

16 A. From A to B.

17 Q. Okay.

18 A. And then he had in his report, he had a line
19 that went from B to E across the valley here which
20 is -- which meets the first criteria -- first
21 established criteria Mr. Sheahan had for making his
22 line, which was the watershed boundary.

03:45:27 PM

23 But it didn't meet the criteria of low
24 hydraulic conductivity or transmissivity because this
25 is all material that is quite permeable and

03:45:50 PM

1 transmissive. So this was ruled out. And that
2 particular -- his line doesn't go from B to C.

03:45:53 PM

3 And that Line B to C, taking it all the way
4 around to D and over to E, did meet -- was sufficient
5 in my view to -- that groundwater pumped on one side
6 would not influence hydraulic heads on the water
7 levels on the other side.

03:46:10 PM

8 Q. In making that statement, does it matter to
9 you which side the pumping takes place?

10 A. No.

03:46:35 PM

11 Q. And then as we get toward this, where he
12 deviates from the topographic boundary and we get
13 down through here --

14 A. Through here, meaning where?

15 Q. I'm sorry. E, F. And I'm just trying to
16 remember where the county line occurs. It occurs in
17 the legend; correct?

03:46:56 PM

18 A. Yes, county line. And this is the watershed
19 line.

20 This is the watershed line. And here, as we
21 get south of Line F, Mr. Sheahan deviates from -- no,
22 that is the watershed line. There is the watershed
23 line, and I agreed that this line, where it is
24 topographically and hydraulically limited by the two
25 criteria Mr. Sheahan established, does not allow flow

03:47:17 PM

03:47:43 PM

1 from one side to the other.

03:47:48 PM

2 Q. That is from E to where?

3 A. Without reviewing the report -- and I don't
4 have it in my memory. I didn't memorize the report,
5 so I would have to go and look.

03:48:06 PM

6 So E to F is the same criteria, and then F
7 to G is the Mojave adjudication area, if I have this
8 right. Beginning at Point F.

9 Q. Let me ask you another question, because we
10 are running out of time.

03:48:47 PM

11 A. Okay.

12 Q. What is the basis for your opinion that
13 these areas, A to C to D to E and F, in your words
14 meet the criteria that pumping on one side won't
15 affect the groundwater level on the other side of the
16 line?

03:49:00 PM

17 How do you conclude that?

18 A. Well, based on the material properties
19 that -- this line.

20 Q. Which line?

03:49:25 PM

21 A. The line that he drew as the watershed
22 boundary, first of all, is a line that I could
23 follow. Any two people can come up with that line,
24 and so I know where we are talking, is my point; that
25 we know it is this particular line.

03:49:40 PM

1 And so there is no great uncertainty about
2 where this line would be drawn at. Had anybody --

03:49:42 PM

3 Q. The question is how do you determine that
4 pumping on one side does not affect the groundwater
5 level on the other side. And I would like to have
6 you explain how being able to define a line affects
7 that.

03:49:56 PM

8 A. I have to know where the line is, and I want
9 to be able to be certain that I can identify that
10 line and it is reproducible.

03:50:08 PM

11 I like to know where the line is and what
12 the criteria is based on, and that is something that
13 is important in terms of not being an arbitrary
14 position. The identification of that line also makes
15 it a bit easier to identify on other maps as well.

03:50:24 PM

16 But the geology of this area is such that we
17 have hard rocks throughout; largely hard rocks that
18 are -- based on hydrogeologic and geologic grounds,
19 would have low hydraulic conductivity, and low or --
20 low transmissivity throughout this region.

03:50:58 PM

21 And you can go through different rock types.
22 And that is where Mr. Sheahan has referred to this
23 other reference that you -- that we stopped talking
24 about briefly.

25 Where is it here?

03:51:13 PM

1 This 42 U.S. Department of Interior 1995
2 Groundwater Manual. And if I'm not mistaken, that
3 describes the hydraulic conductivity and
4 transmissivities of a wide range of geologic
5 materials including unconsolidated deposits and
6 consolidated rock formations.

03:51:15 PM

7 Q. Do you know the aerial extent of those
8 geologic formations -- or materials, I mean?

9 A. Do I know?

10 Q. Yes. Are you able to tell us the aerial
11 extent of the geologic materials that you have just
12 referred to?

03:51:33 PM

13 A. Without looking at a map, no. But with
14 looking at a map, one could look at a map and
15 determine it.

03:51:48 PM

16 Q. You cannot tell by looking at Mr. Sheahan's
17 map the aerial extent of those geological materials?

18 A. This isn't a map that has geology on it.

19 Q. So you can't? Is that right, you cannot?

20 A. What I am trying to say is -- let me try to
21 educate you a tiny bit about what is shown on this
22 map and why that question doesn't make any sense to
23 somebody like me.

03:52:01 PM

24 That there is an underlying geology, and
25 Mr. Sheahan's line is based on -- now, it is really

03:52:13 PM

03:52:24 PM

1 important that I identify why we have this drainage
2 basin boundary or why this is shown, because this
3 only refers to the topographic pictures. This is not
4 a geologic map. This is a topographic map, and so --
5 let me finish.

03:52:28 PM

6 The geology is based on additional
7 information that one would superimpose upon this, and
8 that tells you the aerial extent, as you call it, of
9 different geologic formations. And those can be
10 looked at as one traverses this region, going from,
11 you know, Point A all the way around.

03:52:42 PM

03:52:57 PM

12 Q. Exactly. To coordinate this line with the
13 geologic materials, one would have to take another
14 map showing geologic materials and overlay it on this
15 map; is that correct?

03:53:12 PM

16 A. Yes.

17 Q. Or vice versa?

18 A. Yes, that is what you have to do. That is
19 probably what you would do.

20 Q. You say the "aerial extent as I call it."
21 How would you describe the extent or the location of
22 the geologic materials that have been referred to, if
23 not aerial?

03:53:17 PM

24 A. I'm not sure what the point of the question
25 is.

03:53:36 PM

1 Q. Just to educate me.

03:53:36 PM

2 A. The aerial extent of the geologic
3 formations?

4 Q. No. Not formations. The materials. We are
5 not into formations yet. We will get there, but it
6 will be another day.

03:53:45 PM

7 A. I'm just repeating what you said.

8 Q. Okay.

9 MR. BRUYNEEL: What time is it?

10 MR. BUNN: You have about two minutes.

03:54:02 PM

11 THE WITNESS: Actually, I can help you a
12 little.

13 BY MR. BRUYNEEL.

14 Q. I want to withdraw the question and ask you
15 another question. I don't need anymore help.

03:54:08 PM

16 MR. JOYCE: He doesn't need any help. I'll
17 get more help tomorrow.

18 BY MR. BRUYNEEL:

19 Q. It states here if you were called as a
20 witness, you will testify with an evaluation and
21 critique of the scientific evidence proffered by the
22 defendants at trial.

03:54:17 PM

23 At this point in time, do you have a
24 critique and an evaluation of the scientific evidence
25 that is going to be offered by the defendants at the

03:54:31 PM

1 trial of this case?

03:54:34 PM

2 A. I haven't read that since the early days.
3 Can I please look at it again.

4 Q. Sure.

5 MR. JOYCE: I think he is looking at the
6 designation.

03:54:41 PM

7 MR. BRUYNEEL: I am reading the
8 representation. It is a representation that has been
9 made to us as to what you are going to testify to.

10 THE WITNESS: Okay. Let me just read it.

03:54:52 PM

11 I would say that I am prepared to do that
12 under direction of Defendants' Exhibit A. And I am
13 not sure what trial we are talking about, but this I
14 guess is this first -- does this refer to all trials
15 or --

03:55:15 PM

16 MR. JOYCE: It is the very first
17 designation.

18 THE WITNESS: Very first designation. Does
19 that refer to all trials? Because --

20 MR. JOYCE: No. By the time this was done,
21 for your benefit, Doctor, the case had been
22 bifurcated.

03:55:22 PM

23 THE WITNESS: So then it would be only for
24 this first part. And then my statement is that I
25 would be limited to this task that I have been --

03:55:35 PM

1 that we have been talking about in this letter. Can
2 I just make sure I have it right?

03:55:43 PM

3 BY MR. BRUYNEEL:

4 Q. I'll hand it back to you, or Counsel can
5 show you his copy.

03:55:53 PM

6 A. So I think that answers your question.

7 Q. No, it doesn't. It answers the first
8 question but not the next question about what is your
9 evaluation and critique of the scientific evidence to
10 be offered by the defendants at trial.

03:56:05 PM

11 MR. JOYCE: It is not to be offered. It is
12 that it has been offered in presumably
13 Mr. Scalmanini's report.

14 MR. BRUYNEEL: I will accept the question as
15 modified by Mr. Joyce.

03:56:16 PM

16 MR. JOYCE: Recognizing that at the time the
17 designation was made, we had not yet been informed.

18 MR. BRUYNEEL: We don't need to go into
19 that. I modified the question as you wish. I
20 couldn't give you anything more other than you ask it
21 all together yourself.

03:56:28 PM

22 THE WITNESS: After this question, it is the
23 last question.

24 MR. BRUYNEEL: I want the record to show I
25 have more questions.

03:56:36 PM

1 THE WITNESS: I tried to be as forthright as
2 we can. We tried to work through lunch. I have done
3 what I can. We offered to go earlier.

03:56:37 PM

4 MR. BRUYNEEL: We have no criticism of you.

5 THE WITNESS: It -- I don't want it to
6 appear that way.

03:56:48 PM

7 MR. JOYCE: Given the fact you have more
8 questions, that may be a place to break.

9 The last question is going to be, where have
10 you been all day? Because the whole day he has been
11 talking in large part --

03:57:01 PM

12 THE WITNESS: My answer is that as far as
13 that latter statement goes, I'm prepared to discuss,
14 as I discussed today, the Scalmanini map and his
15 report.

03:57:21 PM

16 BY MR. BRUYNEEL:

17 Q. Doctor, I know you are prepared to discuss
18 that. What I've asked for now is what is your
19 evaluation and critique, not the fact that you are
20 prepared to give one.

03:57:31 PM

21 What is it?

22 MR. JOYCE: One part of it, obviously, his
23 first conclusion stating that his --

24 MR. BRUYNEEL: Tom, I don't want you to
25 testify.

03:57:40 PM

1	THE WITNESS: I am prepared to testify that	03:57:41 PM
2	Mr. Scalmanini's line does not meet the criteria	
3	established in this Defense Exhibit A, that it does	
4	or does not -- and I will say it indicates that his	
5	map does not -- indicate a line that would prevent	03:58:03 PM
6	water from pumping on one side from causing water	
7	level changes on the other side.	
8	Okay. So that is what I have talked about	
9	this morning. I am not trying -- I am just a little	
10	tired, so I am not speaking as clearly as I could.	03:58:21 PM
11	But that is what we talked about this morning, is	
12	what I --	
13	BY MR. BRUYNEEL:	
14	Q. Is that your only evaluation and critique of	
15	the scientific evidence proffered by defendants at	03:58:32 PM
16	trial?	
17	A. No. I think there will be other aspects	
18	regarding Mr. Scalmanini's report and deposition that	
19	I'm prepared to talk about, and have little tags	
20	here, but we don't have time to do that.	03:58:47 PM
21	Q. I agree with that.	
22	MR. BRUYNEEL: At this point, I would like	
23	to adjourn?	
24	THE WITNESS: I will say that is something I	
25	was given in this mission statement, but I am	03:58:59 PM

1 prepared to discuss this and other aspects of his
2 deposition.

03:59:00 PM

3 MR. BRUYNEEL: By "this mission statement,"
4 you are referring to --

5 THE WITNESS: Exhibit A.

03:59:07 PM

6 MR. BRUYNEEL: You must give Exhibit A back
7 to the court reporter.

8 I am going to ask that this deposition be
9 adjourned. And we will have to stipulate to agree to
10 a new date.

03:59:19 PM

11 MR. SMITH: One point we discussed earlier
12 concerning how Mr. Gorelick could be offered at
13 trial, I just wanted to clarify that with regard to
14 plaintiffs' cases in chief, I want to clarify that,
15 of course, that the Court has ruled defendants will
16 be going -- presenting their evidence first, that the
17 burden of proof is on them; that Mr. Gorelick will be
18 offered to rebut after Mr. Scalmanini testifies.

03:59:58 PM

19 MR. BUNN: Let's have a stip to send the
20 original to Mr. Joyce.

04:00:37 PM

21 MR. JOYCE: As to Mr. Gorelick, send it to
22 me, and I will make it available to him for his
23 review, corrections and interlineation.

24 If there are any changes or corrections, I
25 will advise counsel, by page and line number by

04:00:50 PM

1 reference to those changes and corrections, by letter
2 within 48 hours of receipt of those back from
3 Mr. Gorelick.

04:00:53 PM

4 MR. BUNN: But we weren't talking about
5 Mr. Gorelick, but we were talking about Mr. Sheahan.

04:01:05 PM

6 MR. JOYCE: She wants a stipulation for the
7 deposition. Now you will take care of Mr. Sheahan.

8 MR. BRUYNEEL: So stipulated.

9 MR. SMITH: We will handle the same way,
10 Mr. Zimmer will advise counsel of any corrections or
11 changes thereto within 48 hours of receipt from the
12 witness.

04:01:24 PM

13 MR. BRUYNEEL: So stipulated.

14 I need copies of these two depositions.

15 (The deposition was adjourned at 4:01 p.m.)
16
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18
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25

--o0o--

Please be advised the foregoing deposition was read,
and I state there are:

(Check one)

_____ NO CORRECTIONS

_____ CORRECTIONS ATTACHED

STEVEN M. GORELICK

Date Signed

--o0o--

DEPONENT'S CHANGES OR CORRECTIONS

Note: If you are adding to your testimony, print the exact words you want to add. If you are deleting from your testimony, print the exact words you want to delete. Specify with "Add" or "Delete" and sign this form.

DEPOSITION OF: STEVEN M. GORELICK

CASE: DIAMOND VS. CITY OF LANCASTER

DATE OF DEPOSITION: JULY 19, 2002

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Deponent's Signature _____ Date _____

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25	Deponent's Signature _____		Date _____

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5 STATE OF CALIFORNIA)
6) ss.
7 COUNTY OF LOS ANGELES)

8 I, STEVEN M. GORELICK, having appeared for
9 my deposition on July 19, 2002, do this date declare
10 under penalty of perjury that I have read the
11 foregoing deposition, I have made any corrections,
12 additions or deletions that I have deemed necessary
13 to make in order to render the within transcript true
14 and correct.

15 IN WITNESS WHEREOF, I hereunto subscribe my
16 name this _____ day of _____, 2002.
17
18
19
20

21 _____
22 W I T N E S S
23
24
25

REPORTER'S CERTIFICATION OF CERTIFIED COPY

I, JONNELL AGNEW, CSR No. 5437, Registered Professional Reporter, No. 000453, a Notary Public for the County of Los Angeles, State of California, do hereby certify that the foregoing pages constitute a true and correct copy of the deposition transcript of STEVEN M. GORELICK, taken on Friday, July 19, 2002.

I further certify that I am neither counsel for, nor related to any party to said action, nor in any way interested in the outcome thereof.

IN WITNESS WHEREOF, I hereunto subscribe my name and affix my seal this 24th day of July, 2002.

Jonnell Agnew
Notary Public in and for the County
of Los Angeles, State of California

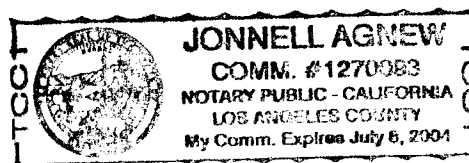


EXHIBIT A

DAVID R. LAMPE
BERNARD G. LE BEAU, JR.
DENNIS R. THELEN
THOMAS S. MCINTOSH
THOMAS A. CREAR
J. NILE KINNEY
BOB H. JOYCE
W. STEVEN SHAYER
THOMAS P. FEHER
KERRY L. LOCKHART
ALAN J. MISH
PATRICK C. CARRICK
LORNA H. BRUMFIELD
PAUL A. LAFRANCHISE
J. SUZANNE HILL
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June 27, 2002

VIA FACSIMILE & U.S. MAIL

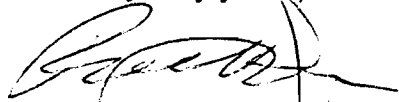
Steven M. Gorelick
Department of Geological and
Environmental Sciences
STANFORD UNIVERSITY
Stanford, California 94305-2115

Re: **Diamond Farming Company vs. City of Lancaster**
Riverside Superior Court Case No. 344436

Dear Mr. Gorelick:

This is to confirm that you have been provided with various materials including Mr. Scalmanini's report as well as his Plate One. You are free to access and consider any other materials you deem to be relevant. I request that you review and evaluate Mr. Scalmanini's report and his deposition testimony and, in particular, assess whether or not ground-water production outside of his proposed line could not significantly change ground-water levels within the area and vice versa. Additionally, I would request that you consult with and review the work of Tom Sheahan and likewise determine whether or not his proposed line satisfies the same criteria. After you have made an assessment and reached a preliminary conclusion, please telephone the undersigned so that we may discuss.

Very truly yours,


BOB H. JOYCE

BHJ:sf

cc: Richard Zimmer, Esq.
Jeff Green, Esq.

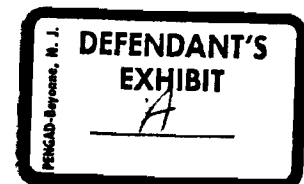


EXHIBIT B

Map too large to post on website. If you wish a copy of the map, please contact LeBeau-Thelen, LLP, 5001 E. Commercenter Drive, Suite 300, Bakersfield, CA 93309; (661) 325-8962; with reference made to the groundwater litigation matter. All cost associated with a photocopy of the map will be paid by the requester.

EXHIBIT C

Map too large to post on website. If you wish a copy of the map, please contact LeBeau-Thelen, LLP, 5001 E. Commercenter Drive, Suite 300, Bakersfield, CA 93309; (661) 325-8962; with reference made to the groundwater litigation matter. All cost associated with a photocopy of the map will be paid by the requester.