

1 about, say, the 115- or -20,000 acre per year range.

2 And then the lower-most curve in red with
3 circles is the environmental water requirement which
4 relative to the total of 240- or 50,000 acre feet is
5 a relatively small number, less than 10,000 acre
6 feet per year.

11:33:05

7 MR. ZIMMER: Once again, nonresponsive.

8 There was no question pending to that last offering
9 by Mr. Scalmanini and all the previously stated
10 objections.

11:33:18

11 THE WITNESS: Actually, it was a
12 continuation of the answer that was interrupted.

13 MR. ZIMMER: It wasn't interrupted. There
14 was a significant period of time after you finished
15 talking, Mr. Scalmanini.

11:33:28

16 MR. DUNN: Counsel --

17 MR. ZIMMER: Well, I have to make the
18 record because the record won't reflect it
19 otherwise.

20 MR. DUNN: The record will reflect what
21 was indicated both by counsel and by Mr. Scalmanini.
22 It is the record.

11:33:35

23 BY MR. DUNN:

24 Q. Mr. Scalmanini, if you would direct your
25 attention, please, to Exhibit No. 66.

11:33:41

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1 agricultural water requirements, municipal-type
2 water requirements and environmental water
3 requirements and the tabulated values are summarized
4 for each of those, and in total in Exhibit 66.

5 Q. So if we -- 11:35:41

6 A. In turn of plotted versus time in
7 Exhibit 65.

8 Q. So if we were to compare Exhibit 65 with
9 Exhibit 66, Exhibit 66 has the data from Exhibit 65
10 but in tabulated format; is that correct? Or in 11:35:59
11 table format?

12 A. I'd turn it around in the way that I said
13 it. The data reflected in Exhibit 66 is plotted
14 versus time in Exhibit 65.

15 So if you wanted to know, for example, 11:36:24
16 what number goes with one of the black triangles
17 in Exhibit 65 for total water requirements in a
18 particular year, but take the very last one, for
19 example, which looks by inspection to be somewhere
20 around 220,000 acre feet per year -- 11:36:44

21 MR. ZIMMER: It's nonresponsive.

22 THE WITNESS: -- you could go to
23 Exhibit 66 and go down the right-most column to
24 the last year, which is 2009, and the exact value
25 is 220,591. 11:37:02

1 BY MR. DUNN:

2 Q. Mr. Scalmanini, when you look at
3 exhibits 65 and 66, are you able to determine
4 whether the water requirements in the Antelope
5 Valley were satisfied solely with groundwater 11:37:34
6 pumping?

7 MR. ZIMMER: Same objections.

8 MR. KUHS: The question is vague.

9 THE WITNESS: No.

10 BY MR. DUNN: 11:37:43

11 Q. Let's look, if you would, please at
12 the next exhibit marked in order, Exhibit 67.
13 Exhibit 67 is labeled "Historical Groundwater
14 Pumping Antelope Valley Area of Adjudication."

15 (Whereupon, Scalmanini Exhibit 67 was 11:38:00
16 introduced for identification.)

17 BY MR. DUNN:

18 Q. Do you have Exhibit 67 before you?

19 A. Yes.

20 Q. Who prepared Exhibit 67? 11:38:08

21 A. Our office did.

22 Q. What source or sources of information were
23 used for Exhibit 67?

24 A. Well, the sources were multiple. Of
25 the three curves reflected in Exhibit 67, the 11:38:31

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1 lower-most one is a historical track of municipal-
2 type groundwater pumping versus time. Most of the
3 data that went into that was derived from records
4 provided by the various purveyors that we listed a
5 few exhibits back. I can go dig them out if you 11:38:56
6 want.

7 The exception, of course, is that we
8 estimated rural residential water uses and assumed,
9 since we're not aware of any connections of other
10 water sources to individual rural residential 11:39:14
11 connections, that all of that water supply was
12 met by groundwater pumping.

13 And with regard to the mutual water
14 companies, there are some records available through
15 the State Department of Health Services which we 11:39:31
16 interpreted to come up with the amount of water
17 that was pumped by mutual water companies versus
18 the amount of water that was taken from supplemental
19 water sources; for example, from the state water
20 project treated water. 11:39:52

21 And so we -- as to the total amount of
22 water requirements estimated from the mutual water
23 companies we were able to account for a certain
24 amount being delivered from surface water sources;
25 treated surface water sources, subtracted that away 11:40:06

1 from a total to come up with an estimate of the
2 groundwater pumping.

3 On the agricultural side --

4 MR. ZIMMER: Motion to strike.

5 MR. DUNN: Counsel, if you would please 11:40:13
6 allow Mr. Scalmanini to finish before making your
7 objection or motion.

8 MR. ZIMMER: I don't think it's a
9 requirement.

10 THE WITNESS: On the agricultural side, 11:40:21
11 after going through the analysis as described thus
12 far to estimate total --

13 MR. ZIMMER: Same objections previously
14 stated as well as to the scope of the testimony,
15 the relevance, the failure to provide opinions 11:40:35
16 previously.

17 BY MR. DUNN:

18 Q. You may continue, Mr. Scalmanini.

19 A. Do you think we can kind of like get to
20 the end of a sentence this time? 11:40:48

21 That on the municipal -- excuse me --
22 on the agricultural side, that we had records of
23 deliveries of supplemental water from both local
24 as well as imported sources that were delivered to
25 agriculture. 11:41:06

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1 where we get tied up. The problem is that you'll
2 ask a question that's vague like that as to explain
3 the source and then he goes into a discussion
4 about how he did the calculations, and that's
5 objectionable.

11:44:21

6 I've tried to not object to the questions
7 as to what the source is because what the source is
8 is very simple. How he did the calculations is much
9 more difficult and/or complicated. And how he did
10 the calculations is in fact the objectionable part
11 of the information that he's given, or he's giving.

11:44:34

12 So if you could be clear in the question,
13 that would be helpful as to what you're asking. If
14 it's the source, that's one thing; if you're asking
15 him how he did his calculations, that's a completely
16 different question.

11:44:49

17 BY MR. DUNN:

18 Q. Mr. Scalmanini, would you please continue
19 with your response as to the source of information
20 for this exhibit, and specifically for agricultural
21 information indicated.

11:45:00

22 A. Well, the source of information is
23 a combination of the total agricultural water
24 requirements as developed in earlier discussion
25 this morning, along with accounting for the

11:45:20

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1 contributions to those total water requirements from
2 local surface water supplies, "imported" meaning
3 state water project, water supplies, and recycled
4 water supplies, such that what's reflected in the
5 graph that is Exhibit 67 is a result of arithmetic 11:45:42
6 that nets out the amount of pumping by recognizing
7 the amounts of those other water supplies that were
8 utilized to meet part of the total agricultural
9 water requirements.

10 Q. Mr. Scalmanini, what does Exhibit No. 67 11:46:09
11 show?

12 MR. ZIMMER: Same objections previously
13 stated as to scope, relevance.

14 THE WITNESS: 67 -- Exhibit 67 shows
15 historical trends in total groundwater pumping, 11:46:24
16 agricultural-type groundwater pumping, and
17 municipal-type groundwater pumping versus time
18 from about the end of World War II to the present.

19 It shows that total pumping was in the
20 1950s and '60s, again, up in the same range as has 11:46:50
21 previously been discussed; meaning around 300 and,
22 say, 50 to almost 380,000, or about 380,000 acre
23 feet per year, at a peak, followed by a decline in
24 the 1970s and then an ongoing decline in the 1980s
25 to where total pumping got down to be around 90,000 11:47:14

1 acre feet per year. After which it climbed back
2 up, you know, into the area of 150- to 170,000 acre
3 feet per year early after 2000 and has fluctuated
4 between about 100 and, say, 35 and 155,000 acre feet
5 per year in time since then. 11:47:44

6 Of those two in round numbers, in recent
7 times anyway, about a third of that total pumping,
8 or about 50,000 acre feet per year, is pumped by
9 municipal -- or for municipal-type purposes and
10 about two-thirds or about 180,000 acre feet per 11:48:02
11 year, not a constant number in all years, is pumped
12 for agricultural-type purposes.

13 MR. ZIMMER: I will add to the
14 objection -- you stopped there Mr. Scalmanini.
15 I assumed you're finished? 11:48:16

16 Apparently he's finished.

17 I will add to the objection that the
18 testimony we're hearing over and over -- we've
19 probably heard it four times -- about the
20 agricultural pumping going up in the 1940 period 11:48:27
21 to the 1970s and then decreasing over time to about
22 1990 and then going back up to some degree in 2000
23 and 2010, it has probably been covered maybe ten
24 times.

25 The additional information that 11:48:45

1 historical pumping is taking place and how much of
2 that pumping returned to the groundwater basin as
3 contrasted as to how much of it consumptively, if
4 you will, exhausted back to the atmosphere.

5 So the effort to get to pumping -- which I 11:56:28
6 might note we've only begun to discuss. We haven't
7 discussed it ten times. We've discussed land use
8 and things of that type multiple times, but we've
9 only discussed pumping on this one last exhibit.

10 Then it is important in part to look 11:56:42
11 at the total, but also importantly to look at the
12 two components because the two components of
13 municipal-type use and agricultural-type use
14 contribute different fractions of return flows to
15 the subsurface, all of which needs to be factored 11:56:58
16 into estimating at least using one of the methods
17 that we deployed what the natural recharge to the
18 groundwater basin is, from natural recharge then as
19 illustrated in Exhibit 12, but as to be discussed in
20 greater detail. 11:57:13

21 Then a computation of yield of the basin
22 under native conditions and later independent of
23 natural recharge, a consideration of supplemental
24 recharge which also relies on -- of course on
25 knowledge of how much supplemental water was brought 11:57:33

1 into the basin, but also then fractions of its use
2 by municipal as well as agricultural users and the
3 recharge that derives from that all is relevant to
4 ultimately computing or estimating a safe yield,
5 whether it be native, supplemental or total. 11:57:52

6 Q. Mr. Scalmanini, if I could have you look,
7 please, at the next exhibit marked as Exhibit 68.

8 MR. DUNN: Counsel, this is a substitute
9 for the exhibit packet earlier provided to counsel.

10 I will identify it. It is "Appendix D-7: 11:58:21
11 Table 2 Calculation of Agricultural Groundwater
12 Pumpage," and parenthetically it's -- it indicates
13 an "(AFY)" for in acre feet a -- per year.

14 (Whereupon, Scalmanini Exhibit 68 was
15 introduced for identification.) 11:58:39

16 BY MR. DUNN:

17 Q. Mr. Scalmanini, do you have Exhibit 68
18 before you?

19 A. Yes.

20 Q. Who prepared Exhibit 68? 11:58:49

21 A. Our office did.

22 Q. And the sources of information for
23 Exhibit 68 are what?

24 A. In the second column, historical total
25 agricultural water requirements are derived from the 11:59:10

1 work which we've explained, you know, in preceding
2 exhibits. I can go back to refer to those if you'd
3 like.

4 Then successive columns that are labeled
5 "SWP," which stands for state water project imported 11:59:24
6 water "(AVEK)," which is Antelope Valley-East Kern
7 Water Agency, or the next one which is
8 parenthetically "(LCID)"; Littlerock Creek
9 Irrigation District, and then the last is "(PWD to
10 LCID)," which is Palmdale Water Direct to Littlerock 11:59:46
11 Creek Irrigation District, come from records
12 supplied by those respective three state water
13 contractors; AVEK, Littlerock Creek, and Palmdale
14 Water District, for their importation of water
15 that was not treated or delivered as raw water for 12:00:04
16 agricultural purposes.

17 The next column is a sum of those three
18 for total state water project imported water from
19 those sources.

20 The next two columns have to do with local 12:00:18
21 surface water which is diverted off Littlerock Creek
22 by Littlerock Creek Irrigation District, so those
23 data came from Littlerock Creek Irrigation District.

24 The next column is a total of those.

25 WRPs recycled water is the amount of water 12:00:37

1 reported by the water reclamation plants as having
2 been delivered to agriculture versus time.

3 And then there's a total surface and
4 recycled water which is a summary of local surface
5 water, imported surface water, and recycled water 12:00:56
6 that was delivered to meet part of the total
7 agricultural water requirements.

8 And so arithmetically then groundwater
9 pumping was estimated to be the difference between
10 total surface and recycled water and historical 12:01:12
11 agricultural water requirements in the second
12 column.

13 And so calculated groundwater pumpage is
14 the result or the arithmetic difference between
15 total other -- all the waters used to meet 12:01:27
16 agricultural water requirements and total
17 agricultural water requirements.

18 MR. ZIMMER: Same objections previously
19 stated, and also nonresponsive.

20 MR. DUNN: It's noon. We'll take the noon 12:01:40
21 recess. We'll see everybody at 1:30 -- or actually
22 before 1:30 so we can start at 1:30.

23 THE VIDEOGRAPHER: This marks the end
24 of tape No. 1 of today's testimony of Joseph
25 Scalmanini, Volume III. 12:01:52

1 introduced for identification.)

2 BY MR. DUNN:

3 Q. Mr. Scalmanini, do you have Exhibit 69
4 before you?

5 A. Yes. 13:31:19

6 Q. Who prepared Exhibit 69?

7 A. Our office did.

8 Q. And the information that's depicted in
9 Exhibit 69 comes from what source or sources?

10 A. It comes from the records of primarily 13:31:32
11 Littlerock Creek Irrigation District, but I think
12 also partially from Palmdale Water District and
13 records of diversions off of Littlerock Creek.

14 Q. What does Exhibit 69 show?

15 MR. ZIMMER: Same objections. 13:31:52

16 THE WITNESS: It basically shows that
17 there's been utilization of a small amount, maybe
18 up to a maximum of about 8,000 acre feet in any
19 given year, but typically down around, say, 4,000
20 acre per year of water when it's been available to 13:32:10
21 be diverted directly off Littlerock Creek for local
22 uses.

23 BY MR. DUNN:

24 Q. And, Mr. Scalmanini, is the water that's
25 referenced here in Exhibit 69, is that surface 13:32:22