1 SUPERIOR COURT OF THE STATE OF CALIFORNIA 2 FOR THE COUNTY OF SANTA CLARA 3 4 5 \_\_\_\_\_ 6 ) 7 ) Santa Clara 8 ANTELOPE VALLEY GROUNDWATER CASES, ) Case No. 9 ) 1-05-CV-049053 10 ) 11 1213 14 15 TRIAL TESTIMONY OF JOSEPH SCALMANINI 16 MONDAY, JANUARY 10, 2011 17 VOLUME I (Pages 1 - 138) 18 19 20 21 22 23 24 **REPORTED BY:** 25 JANIS JENNINGS, CSR 3942, CLR, CRP Page 1

1	and experience, did you reach any opinions in this	
2	matter for the Phase 3?	
3	A. Yes.	
4	Q. What are the opinions?	
5	A. Well, you asked about yield first and so	11:11:59
б	my opinions would be that in concert with others;	
7	you know, meaning that the analysis is not all mine,	
8	that it would be my opinion or my conclusion that	
9	the native or natural yield of the groundwater basin	
10	is about 82,000 or you know, we used, you know, a	11:12:26
11	third digit, the 82,300 acre feet per year, meaning	
12	that's the yield that derives from waters that are	
13	local to the Valley itself.	
14	As I think most know, that the Antelope	
15	Valley has made use of supplemental waters primarily	11:12:50
16	from the state water project since the 1970s, and	
17	the importation and use of that supplemental water	
18	contributes in an indirect fashion additional	
19	recharge to the basin which augments the yield of	
20	the basin.	11:13:10
21	And I'm sure we'll get into it in more	
22	detail later, depending on what time period you	
23	analyze as representative cultural conditions, that	
24	that use of supplemental water contributes something	
25	on the order of 25,000 to 28,000 acre feet per year	11:13:29
		Page 30

1 of additional yield.

2	So that in total the native yield plus a	
3	supplemental yield would add up to the better part	
4	of 110,000 acre feet per year. The single number	
5	that has been probably used the most or gotten the	11:13:52
6	most publicity is that of the different cultural	
7	conditions that we analyzed, if 2005 were selected	
8	as the single representative year of typical	
9	cultural conditions in the basin, then the total	
10	safe or we use the words "sustainable" quite a	11:14:13
11	bit in our work yield in the basin would be	
12	110,500 acre feet per year.	
13	Q. And as you use the term "safe yield" and	
14	"sustainable yield," are those terms interchangeable	
15	for your purposes?	11:14:28
16	A. Yes. Both intended to convey the same	
17	concept, as I described earlier; meaning, you know,	
18	long-term renewability or sustainability of the	
19	resource.	
20	Q. And do you have any opinions regarding	11:14:41
21	pumping as in comparison to the safe yield?	
22	A. Well, again, it gets into sort of a time	
23	frame, but lots could be said about the Antelope	
24	Valley historically; you know, significant, you	
25	know, buildup of irrigated agriculture and	11:15:02
		Page 31

1 result. 2 Exhibit 10 is included to list what the term "undesired result" might mean. And John Mann, 3 who was extensively involved in the San Fernando 4 matter, wrote a paper in 1968 to list what those 13:31:36 5 6 undesirable results might be, and so they're listed 7 here. But important in this case, because as 8 I'm sure we'll get to, the idea of operating at a 9 safe yield is to basically avoid these potential 10 13:31:56 11 undesirable results, such as permanent removal of groundwater from storage, and then the last one in 12 this case, subsidence of land surface, although the 13 others would be equally applicable, or could be 14 15 equally applicable. 13:32:16 Mr. Scalmanini, I would like to turn your 16 Ο. 17 attention, if you would, please, to the exhibit that 18 has been remarked as Exhibit No. 12. (Whereupon, Scalmanini Exhibit 12 was 19 introduced for identification.) 20 13:32:22 THE WITNESS: Okay. 21 22 BY MR. DUNN: Do you have Exhibit No. 12 before you? 23 Q. I do. 24 Α. 25 It is labeled at the top "Sustainable 13:32:33 Ο. Page 67

1	Yield." Was this exhibit prepared by you or by	
2	someone under your direction?	
3	A. Yes.	
4	Q. And this Exhibit No. 12 is intended to	
5	depict what part of the analysis that supports your	13:32:44
6	opinions in this case?	
7	A. Well, strictly speaking, it's not intended	
8	to support or to illustrate some one part of the	
9	analysis, but really to conceptually illustrate what	
10	"sustainable yield" means in the field, so to speak.	13:33:03
11	That the central part of the figure which	
12	is, you know, called cross hatched or shaded blue	
13	would be the groundwater in storage, you know, below	
14	the surface of the ground which is depicted by a	
15	brownish-type line, you know, that's flat across the	13:33:30
16	figure. And to the left would be upland areas where	
17	some combination of runoff from the watershed and	
18	then infiltration into the ground surface and then	
19	so-called mountain front recharge, or subsurface	
20	flow from the mountain front into the subsurface of	13:33:53
21	the basin, would combine to form natural recharge to	
22	the basin.	
23	And that natural recharge conceptually	
24	flows toward in this case a single well, but	
25	basically to water wells from which water can	13:34:10
		Page 68

1	be pumped and then used for typical beneficial	
2	purposes. Such as this well is shown to	
3	figuratively divide the discharge to so-called	
4	M and I pumping; meaning municipal industrial, water	
5	uses to the left and agricultural irrigation or	13:34:34
6	agricultural water uses to the right.	
7	And from each of those a fraction	
8	of the water is consumptively used; meaning	
9	evapotranspirated or just evaporated back to the	
10	atmosphere, illustrated by arrows pointing up and	13:34:49
11	labeled as "CU" for consumptive use, and then "mi,"	
12	means municipal industrial on the left, or "CUag"	
13	meaning agricultural on the right.	
14	But some fraction from the use of	
15	those waters also potentially flows back into the	13:35:09
16	groundwater basin; meaning it deep percolates past	
17	the ground surface and is not taken up by plants or	
18	otherwise used by or used consumptively. And so	
19	those fractions of deep percolation labeled "RF" for	
20	return flows from municipal uses on the left or	13:35:31
21	agricultural uses on the right go back into the	
22	groundwater basin.	
23	So ultimately the sustainable yields, or	
24	safe yield, which is the large arrow in the middle	
25	above the well, is there to conceptually illustrate	13:35:49
		Page 69

1 how much can be pumped that utilizes a combination 2 of the natural recharge flowing in from the left, in 3 this case, plus the return flows from the use of the water for beneficial purposes at the land surface, 4 such that ultimately groundwater storage does not 5 13:36:13 6 decline, which is labeled as "delta S"; "delta" being a typical term for change in technical terms. 7 So change in storage equals zero. 8 We've attached kind of a simple hydrograph 9 to the edge of the water table over to the 13:36:37 10 11 right-hand side of the figure which shows that over 12 time groundwater levels might be expected to 13 alternately increase and decrease by small amounts 14 as the groundwater basin goes through wet and dry 15 cycles, but then on a long-term basis the average 13:36:52 16 water level stays unchanged and groundwater storage 17 is not depleted. 18 So that is what's intended to be conveyed, again conceptually, to illustrate the concept of 19 20 safe or sustainable yield in the groundwater basin. 13:37:10 21 We'll ultimately put numbers on all these flows to 22 come up with estimated yields for this basin; "this" being the Antelope Valley. 23 Mr. Scalmanini, I'd like to show you 24 Q. 25 the next exhibit that has been premarked as 13:37:28 Page 70

1 CERTIFICATE OF REPORTER 2 3 I, JANIS L. JENNINGS, a Certified Shorthand Reporter of the State of California, do 4 5 hereby certify: 6 That the foregoing proceedings were taken 7 before me at the time and place herein set forth; 8 that any witnesses in the foregoing proceedings, prior to testifying, were placed under oath; that a 9 10 verbatim record of the proceedings was made by me 11 using machine shorthand which was thereafter 12 transcribed under my direction; further, that the 13 foregoing is an accurate transcription thereof. 14 I further certify that I am neither 15 financially interested in the action nor a relative 16 or employee of any attorney of any of the parties. 17 IN WITNESS WHEREOF, I have this date 18 subscribed my name. 19 20 Dated: January 20, 2011 21 2.2 23 JANIS JENNINGS 24 CSR NO. 3942, CLR, CRP 25 Page 132