

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

SUPERIOR COURT OF CALIFORNIA  
COUNTY OF LOS ANGELES

**ANTELOPE VALLEY GROUNDWATER  
CASES**

Included Consolidated Actions:

Los Angeles County Waterworks District No.  
40 v. Diamond Farming Co.  
Superior Court of California  
County of Los Angeles, Case No. BC 325 201

Los Angeles County Waterworks District No.  
40 v. Diamond Farming Co.  
Superior Court of California, County of Kern,  
Case No. S-1500-CV0254-348

Wm. Bolthouse Farms, Inc. v. City of Lancaster  
Diamond Farming Co. v. City of Lancaster  
Diamond Farming Co. v. Palmdale Water Dist.  
Superior Court of California, County of  
Riverside, consolidated actions, Case Nos.  
MC 353 840, MC 344 436, MC 344 668

Rebecca Lee Willis v. Los Angeles County  
Waterworks District No. 40  
Superior Court of California, County of Los  
Angeles, Case No. BC 364 553

Richard A. Wood v. Los Angeles County  
Waterworks District No. 40  
Superior Court of California, County of Los  
Angeles, Case No. BC 391-869

Judicial Council Coordination  
Proceeding No. 4408

Lead Case No. BC 325201

**STATEMENT OF DECISION RE  
PHASE III TRIAL**

Judge: Honorable Jack Komar

1 Cross-complainants Los Angeles County Waterworks District No. 40, City of Palmdale,  
2 Palmdale Water District, Littlerock Creek Irrigation District, Palm Ranch Irrigation District,  
3 Quartz Hill Water District, California Water Service Company, Rosamond Community Service  
4 District, Phelan Piñon Hills Community Services District, Desert Lake Community Services  
5 District, North Edwards Water District (collectively, the “Public Water Suppliers”)<sup>1</sup> brought an  
6 action for, *inter alia*, declaratory relief, alleging that the Antelope Valley Adjudication Area  
7 groundwater aquifer (“Basin”) was in a state of overdraft and required judicial intervention to  
8 provide for water resource management within the Basin to prevent depletion of the aquifer and  
9 damage to the Basin (“Basin”).

10 Several of the cross-defendant parties (collectively, the “Landowner Group”) also sought  
11 declaratory relief in their various independent (now coordinated and consolidated) actions.

12 The first issues to be decided in the declaratory relief cause of action are overdraft and  
13 safe yield. The remaining causes of action and issues are to be tried in a subsequent phase or  
14 phases.

15 This Phase Three trial commenced on January 4, 2011 and continued thereafter on various  
16 days based upon the needs of the parties and the Court's availability. Appearances of counsel are  
17 noted in the Court minutes.

18 Upon conclusion of the evidence, the Court offered counsel the opportunity to provide  
19 written final arguments and the invitation was declined by all counsel. On April 13, 2011, the  
20 Court heard oral argument and the matter was ordered submitted.

21 The Public Water Suppliers (and others) have alleged that the Basin is in a condition of  
22 overdraft and have requested that the Court determine a safe yield and consider imposing a  
23 physical solution or other remedy to prevent further Basin depletion and degradation.

24 Several parties, in opposition to the requests of the Public Water Suppliers, have  
25 contended that while there may have been overdraft in the past, currently, the Basin has recovered

---

26 <sup>1</sup> The United States and City of Los Angeles, though not public water suppliers in the Antelope Valley Adjudication  
27 Area, joined with the Public Water Suppliers. Rosamond Community Services District, though a public water  
28 supplier, did not join the Public Water Suppliers. Instead, Rosamond Community Services District joined the  
Landowner Group parties.

1 and is not in overdraft. These same parties contend that it is not possible to establish a single  
2 value for the Basin's safe yield; instead they have requested that the Court determine a range of  
3 values for safe yield.

4 The Court concludes that the Public Water Suppliers have the burden of proof and that the  
5 burden must be satisfied by a preponderance of the evidence. (Evid. Code section 115.) The  
6 Court finds that the Public Water Suppliers have met the burden of proof by a preponderance of  
7 the evidence as to the safe yield and overdraft of the Basin.

8 The law defines overdraft as groundwater extractions in excess of the "safe yield" of  
9 water from an aquifer, which over time will lead to a depletion of the water supply within a  
10 groundwater basin as well as other detrimental effects, if the imbalance between pumping and  
11 extraction continues. (*City of Los Angeles v. City of San Fernando* (1975) 14 Cal. 3d 199, 278;  
12 *City of Pasadena v. City of Alhambra* (1949) 33 Cal. 2d 908, 929; *Orange County Water District*  
13 *v. City of Riverside* (1959) 173 Cal.App.2d 137.) "Safe yield" is the annual water extraction from  
14 the aquifer over time equal to the amount of water needed to recharge the aquifer and maintain it  
15 in equilibrium, plus any temporary surplus. (*City of Los Angeles v. City of San Fernando* (1975)  
16 14 Cal.3d 199, 278.) Temporary surplus is defined as that amount of water that may be pumped  
17 from an aquifer to make room to store future water that would otherwise be wasted and  
18 unavailable for use. (*Id.*, p. 278.)

19 A determination of safe yield and overdraft requires the expert opinions of engineers,  
20 hydrologists and geologists.<sup>2</sup> Experts in the field of hydrogeology routinely base their opinions  
21 and conclusions concerning overdraft on evidence of long-term lowering of groundwater levels,  
22 loss of groundwater storage, declining water quality, seawater intrusion (not an issue in this case),  
23 land subsidence, and the like. Experts also conduct a sophisticated analysis of precipitation and  
24 its runoff, stream flow, and infiltration into the aquifer, including such things as  
25 evapotranspiration, water from other sources introduced into the aquifer (artificial recharge  
26 including return flows from imported water), as well as the nature and quantity of extractions

27 \_\_\_\_\_  
28 <sup>2</sup> All the experts offer estimates. The American Heritage College Dictionary, Third Edition, defines an "estimate"  
as, *inter alia*, "[a] rough calculation, as of size" or "[a] judgment based on one's impressions; an opinion."

1 from the Basin and return flows therefrom.

2 Generally, neither overdraft nor safe yield can be determined by looking at a groundwater  
3 basin in a single year but must be determined by evaluating the basin conditions over a sufficient  
4 period of time to determine whether pumping rates have or will lead to eventual permanent  
5 lowering of the water level in the aquifer and ultimately depletion of the water supply or other  
6 harm. Recharge must equal discharge over the long term. (*City of Los Angeles v. City of San*  
7 *Fernando, supra*, 14 Cal.3d at pp. 278-279.)

8 The location of the Antelope Valley Adjudication Area boundaries was decided in the  
9 Phase I and II trials. The Court defined the boundaries of the Basin's aquifer based upon  
10 evidence of hydraulic connectivity within the aquifer. If there was no hydraulic connectivity with  
11 the aquifer, an area was excluded from the adjudication. The degree of hydraulic connectivity  
12 varies from area to area within the Antelope Valley Adjudication Area. Some areas seemingly  
13 have fairly small or nominal hydro-conductivity but must be included in this phase of the  
14 adjudication. Pumping in those parts of the Basin may be shown to have *de minimis* effect on  
15 other parts of the Basin while pumping in other areas within the Basin appears to have very large  
16 impacts on adjacent parts of the Basin. All areas were included within the Adjudication Area  
17 because they all have some level of hydraulic connectivity, some more and some less. How to  
18 deal with those differences is ultimately a basin management decision that is well beyond the  
19 scope of this phase of trial.

### 20 21 **Overdraft**

22 The preponderance of the evidence presented establishes that the Basin is in a state of  
23 overdraft. Reliable estimates of the long-term extractions from the Basin have exceeded reliable  
24 estimates of the Basin's recharge by significant margins, and empirical evidence of overdraft in  
25 the Basin corroborates that conclusion. The Basin has sustained a significant loss of groundwater  
26 storage since 1951. While pumping in recent years has reduced and moderated the margin  
27 between pumping and recharge as cultural conditions have changed and precipitation has  
28 increased with the appearance of "wetter" parts of the historical cycle, pumping in some areas of

1 the aquifer is continuing to cause harm to the basin. The evidence is persuasive that current  
2 extractions continue to exceed recharge and therefore that the Basin continues to be in a state of  
3 overdraft, although by a much reduced amount. Since 1951<sup>3</sup> there is evidence of substantial  
4 pumping (principally agricultural in the early years of the period), with continuous lowering of  
5 water levels and subsidence extending to the present time, with intervals of only slight rises in  
6 water levels in some areas.

7 In the areas of increased pumping, in particular in the Palmdale and Lancaster areas, there  
8 is a continual lowering of water levels such that it may have a serious effect on water rights in  
9 other areas, causing cones of depression, altering natural water flow gradients, causing the  
10 lowering of water levels in adjacent areas, and causing subsidence and loss of aquifer storage  
11 capacity. Given population growth, and land use changes, the Antelope Valley is at risk of an  
12 even more serious continuing overdraft in the future.

13 While the lowering of current water levels has slowed, and water levels in some wells in  
14 some areas have risen in recent years, significant areas within the Basin continue to show  
15 declining levels, some slightly so, but many show a material lowering of water levels. Overall,  
16 water levels and storage in the Basin are declining.

17 Thus, the Antelope Valley Adjudication Area has been in a state of overdraft for more  
18 than 50 years, and based on estimates of extraction and recharge, corroborated by physical  
19 evidence of conditions in the Basin as a whole including loss of groundwater in storage, land  
20 subsidence and changes in the amount and direction of groundwater flow to Edwards Air Force  
21 Base. While the annual amount of overdraft has lessened in recent years with decreased pumping  
22 and increased precipitation and recharge, the effects of overdraft remain and are in danger of  
23 being exacerbated with increased pumping and the prospective cyclical precipitation fluctuations  
24 shown by the historical record. The physical evidence establishes that there was significant  
25 subsidence occurring throughout the Antelope Valley Adjudication Area ranging from two to six  
26 feet or more in certain areas caused by such pumping and that measurable water levels fell in a  
27 substantial part of the Valley. While some of the ongoing subsidence may be attributable to

28 <sup>3</sup> Precipitation and well records prior to that year are too intermittent to be relied upon.

1 residual subsidence (from earlier periods of shortfall) a preponderance of the evidence establishes  
2 that ongoing and continued subsidence is caused, in part, by ongoing groundwater extractions in  
3 excess of the Basin's safe yield.

4  
5 **Safe Yield**

6 A safe yield calculation is necessary to manage a basin and create a physical solution to a  
7 potential or actual continuing overdraft. A determination of safe yield requires an initial  
8 determination of average annual natural or native recharge to the aquifer from all sources. The  
9 only sources of natural or native recharge for the Antelope Valley are precipitation from the  
10 surrounding mountains that recharges the Basin and it is therefore necessary to ascertain average  
11 annual precipitation. The calculation of annual average precipitation can only be properly  
12 determined by using a baseline study period that covers precipitation in periods of drought and  
13 periods of abundant precipitation over a sufficient period of time that a reliable estimate of  
14 average future recharge based on precipitation can be made.

15 One Landowner Group expert selected two shorter base periods (the total time span of  
16 which was considerably less than the 50 year period used by the Public Water Suppliers' experts  
17 which the Court believes are more credible), each having different estimated average natural  
18 recharge based upon different precipitation averages from each base period. If the purpose of  
19 selecting a base period is to determine average recharge over time based on precipitation,  
20 choosing two consecutive periods of time with two different average numbers would not serve  
21 that purpose and would preclude estimating a single safe yield. A base period that calculates  
22 average precipitation over a representative period of time permits reliable predictions about future  
23 natural recharge based on regular recurring precipitation cycles. A period of precipitation  
24 fluctuations from 1951 to 2005 satisfies that standard. Shorter periods do not and the Court does  
25 not find those shorter base periods to produce accurate results. The Court accepts the base period  
26 selected by the Public Water Supplier experts as the more credible and accurate representation of  
27 long-term conditions in the Basin.

28 The pumping extractions are not seriously in dispute by any of the experts who testified.

1 All seem to agree that pumping currently is estimated to range from 130,000 to 150,000 acre feet  
2 a year. The major area of dispute between the parties is the average annual natural recharge,  
3 which also involves disputes concerning return flows, the amount of native vegetation water  
4 needs, evapotranspiration, stream flow, runoff, groundwater infiltration, specific yield, lag time,  
5 bedrock infiltration, agricultural crop needs, and the like. Other sources of recharge to the Basin,  
6 including artificial recharge-water introduced into the Basin from external sources are not in  
7 dispute.

8 Evidence established that during the entire historical period presented, population  
9 increased within the Valley and water use changed in a variety of ways. There has been a shift in  
10 some areas to urban uses and away from agriculture although in recent years agricultural pumping  
11 has also increased. The nature of agricultural water duties has changed as well. The type of  
12 irrigation used by farmers has become more efficient and less water is needed per acre (depending  
13 on the crops grown) with more efficient uses of water. But there has also been an increase as well  
14 as a change in the nature of the type of agriculture in the Valley in material quantities in recent  
15 years. Other such changes may occur and it is important to both current and future generations to  
16 ensure that the water resources within the Basin are managed prudently.

17 The Court heard from a very large number of experts, some of whom have provided  
18 opinion testimony about what constitutes safe yield. All the experts testifying acknowledged that  
19 changes in the selection of a base study period, lag time, agricultural water duties  
20 evapotranspiration, specific yield, runoff quantities, well level contours, bedrock infiltration  
21 return flows, playa evaporation relating to run off and bedrock infiltration, chloride  
22 measurements, satellite imaging, and agricultural and municipal pumping estimates, among;  
23 others, would affect the ultimate opinion of natural recharge and return flows including return  
24 flows from State Water Project water.

25 The opinions of all the experts are estimates, based upon their professional opinion. All of  
26 the opinions were critiqued by other experts who often had different opinions. The Court  
27 recognizes the imprecision of the various estimates and the fact that an estimate by definition is  
28 imprecise. But because estimates lack precision does not mean that the Court cannot rely upon

1 such estimates. The scientific community relies upon such estimates in the field of hydrogeology  
2 and the Court must do the same.

3 Reasonable experts can differ as to reasonable estimates of natural recharge and virtually  
4 all other components of water budgets, computations of change of storage, and the like, all the  
5 while using the same formulae and scientific principles to reach their conclusion. For example,  
6 all the experts could agree on the definition of “Darcy's Law” and the physics principle of  
7 “conservation of mass” but still reach different conclusions.

8 Some of the experts opined that the Basin was not in overdraft and that recharge was in  
9 excess of or in balance with extractions so that there was a surplus in the Basin. One Landowner  
10 Group expert opined that loss of storage was merely space for temporary storage. The evidence  
11 presented and observable conditions in the valley are inconsistent with those conclusions. If there  
12 were a surplus, even in the shortened base periods used by the Landowner Group experts, there  
13 would not be land subsidence, nor declining water levels. The Basin’s physical conditions are  
14 inconsistent with those Landowner Group expert estimates that there is and has been a surplus of  
15 water in the Basin and the Court finds these opinions unreliable.

16 Selecting a safe yield number for an aquifer the size of the Antelope Valley is made  
17 difficult because its size and its geologic complexity. As reflected above, hydraulic connectivity  
18 varies considerably between various parts of the Basin. Hydraulic connectivity between some  
19 portions of the Basin and other portions is so slight as to be almost (apparently) nonexistent.  
20 Pumping in those areas may have little or no effect on other areas of the Basin. The Basin is not  
21 like a bathtub where lowering and raising of water levels is equal in all parts of the “tub.”

22 Therefore, different areas of the Basin may require different levels of pumping in order to  
23 maintain equilibrium. No attempt has been made in this phase of trial to define geological  
24 differences in the Basin that would justify different pumping regimes for different parts of  
25 Antelope Valley as a result of the decision in Phase Two regarding hydraulic connectivity.

26 Weighing the various opinions, however, the Court finds by a preponderance of the  
27 evidence that setting a total safe yield at a conservative 110,000 acre feet per year will permit  
28 management of the Basin in such a way as to preserve the rights of all parties in accordance with



1 the Constitution and laws of the State of California. Some Basin areas receive more recharge  
2 than others and pumping requirements vary. These differences require management decisions  
3 that respect the differences in both the geology and the cultural needs of the diverse parts of the  
4 valley. However, the amount of hydro-conductivity between Basin areas was beyond the scope  
5 of the Phase III trial.

6 Out of the total safe yield of 110,000 acre feet annually, the Court finds, by a  
7 preponderance of the evidence, the native safe yield is 82,000 acre feet per year and the  
8 supplemental safe yield is 28,000 acre feet annually. The native safe yield is the amount of  
9 precipitation that recharges the Basin. The native safe yield is the total of the long-term average  
10 annual natural recharge to the Basin in the amount of 60,000 acre feet, and the long-term average  
11 annual return flows attributable to pumping the native recharge in the amount of 22,000 acre feet.

12 Supplemental safe yield is the amount of imported water (i.e., State Water Project water)  
13 that recharges the Basin, plus the return flows from such water after it is pumped and re-applied  
14 to municipal and industrial or agricultural use. (See Scalmanini Exhibits 94 and 95.) The Court  
15 finds that the supplemental safe yield of the Basin is 28,000 acre feet annually, based on  
16 estimated return flow percentages of 28.1% for municipal and industrial use, and 25% for  
17 agricultural use. (See Scalmanini Exhibits 94 and 95.) The Court finds that all subsequent  
18 pumping of return flows are subject to these respective percentages as shown by Scalmanini  
19 Exhibit 95.

20 The Court makes the findings herein based on a preponderance of the evidence presented  
21 by the Public Water Suppliers, the City of Los Angeles and the United States. The Court finds  
22 that the opinion testimony and evidence presented by the Public Water Suppliers<sup>4</sup>, the City of Los  
23 Angeles and the United States to be credible and that the opinion testimony and evidence  
24 presented by the Landowner Group parties to not be as credible as to the safe yield and overdraft  
25 issues.

26 It should not be assumed that the safe yield management number may not change as

---

27 <sup>4</sup> As previously noted, Rosamond Community Services District is a public water producer but it did not align itself  
28 with the Public Water Producers. Instead, Rosamond Community Services District and the City of Lancaster aligned  
themselves and supported the Landowner Group parties.

1 climate circumstances and pumping may change, or as the empirical evidence based on  
2 experience in managing the Basin suggests it is either too high or too low, that is why the Court  
3 will retain jurisdiction over any physical solution to the Basin's overdraft

4

5 Dated: \_\_\_\_\_

\_\_\_\_\_  
Hon. Jack Komar  
Judge of the Superior Court

6

7

26345.0000A\6047518.1

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

LAW OFFICES OF  
BEST BEST & KRIEGER LLP  
5 PARK PLAZA, SUITE 1500  
IRVINE, CALIFORNIA 92614

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**PROOF OF SERVICE**

I, Kerry V. Keefe, declare:

I am a resident of the State of California and over the age of eighteen years, and not a party to the within action; my business address is Best Best & Krieger LLP, 5 Park Plaza, Suite 1500, Irvine, California 92614. On June 6, 2011, I served the within document(s):

**STATEMENT OF DECISION RE PHASE III TRIAL**

- by posting the document(s) listed above to the Santa Clara County Superior Court website in regard to the Antelope Valley Groundwater matter.
- by placing the document(s) listed above in a sealed envelope with postage thereon fully prepaid, in the United States mail at Irvine, California addressed as set forth below.
- by causing personal delivery by ASAP Corporate Services of the document(s) listed above to the person(s) at the address(es) set forth below.
- by personally delivering the document(s) listed above to the person(s) at the address(es) set forth below.
- I caused such envelope to be delivered via overnight delivery addressed as indicated on the attached service list. Such envelope was deposited for delivery by Federal Express following the firm's ordinary business practices.

I am readily familiar with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on June 6, 2011, at Irvine, California.

  
Kerry V. Keefe