1 2 3 4	Michael D. McLachlan (State Bar No. 18170 LAW OFFICES OF MICHAEL D. McLA 10490 Santa Monica Boulevard Los Angeles, California 90025 Telephone: (310) 954-8270 Facsimile: (310) 954-8271 mike@mclachlanlaw.com	CHLAN, APC
5 6 7 8 9	Daniel M. O'Leary (State Bar No. 175128) LAW OFFICE OF DANIEL M. O'LEARY 10490 Santa Monica Boulevard Los Angeles, California 90025 Telephone: (310) 481-2020 Facsimile: (310) 481-0049 dan@danolearylaw.com  Attorneys for Plaintiff Richard Wood and the	
11 12 13	SUPERIOR COURT FOR TH	IE STATE OF CALIFORNIA
14	COUNTY OF LOS ANGELES	
15	Coordination Proceeding Special Title (Rule 1550(b))	Judicial Council Coordination Proceeding No. 4408
16	ANTELOPE VALLEY GROUNDWATER CASES	Lead Case No. BC 325201
17 18	RICHARD A. WOOD, an individual, on behalf of himself and all others similarly situated,	Case No.: BC 391869  NOTICE OF LODGING OF
19 20	Plaintiff,	PROPOSED CASE MANAGEMENT ORDER FOR PHASE 5 AND 6 TRIALS AND MEMORANDUM
21	v.	REGARDING SCOPE OF TRIAL
<ul><li>22</li><li>23</li></ul>	LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40; et al.	
24	Defendants.	
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Plaintiff Richard Wood submits a proposed Case Management Order for Phase 5 and 6 Trials, which is attached here to as Exhibit A. The issues have been debated among the liason committee with some consensus on many points, but disagreement on a few others. The primary points of disagreement concern the scope of trial.

A. THE PHASE 3 TRIAL DID NOT ADJUDICATE RETURN FLOW RIGHTS

The scope of the Phase 3 trial was argued and determined at the March 23, 2010 hearing, during which the Court stated:

THE COURT: I don't want to make any finding, Mr. Sloan, that will have any impact at all on any of the claims that the parties have, vis-à-vis, to each other with regard to prescription, ownership, rights to pump, and so on.

(March 23, 2010 Hearing, at 23:5-9.)

THE COURT: ... So no findings that I'm going to make could possibly affect the claims or the defenses against prescription because I'm not going to make any findings with regard to particular portions of the aquifer or as to rights or duties of particular parties within the aquifer.

(*Id.* at 17:1-6.)

This stated position carried over into the Court's Order which was a very clear that the Phase 3 trial would only relate to the question of overdraft. (Order After Case Management Conference (Dkt. 3493).)

Consistent with its prior rulings on the scope of the trial, the Court's Statement of Decision for Phase Three Trial did not make a finding on the amount of return flows. (Exhibit B (Statement of Decision of July 13, 2011).) Indeed, in its initial draft of the Statement of Decision, filed on June 6, 2011, Waterworks District 40 included specific findings of fact not only as to total safe yield, but also as to native safe yield and return flows. (Exhibit C, [proposed] Statement of Decision (initial draft, filed June 6, 2011; Dkt. 4471) at 8:6-19.) Upon objection from various parties, the Court removed this language from the final Statement of Decision for Phase Three Trial, and simply made a

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By:

Michael D. McLachlan

Attorneys for Plaintiff

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10	SUPERIOR COURT FOR TH	HE STATE OF CALIFORNIA
11	COUNTY OF I	LOS ANGELES
12	Coordination Proceeding Special Title (Rule 1550(b))	Judicial Council Coordination Proceeding No. 4408
13 14	ANTELOPE VALLEY GROUNDWATER CASES	Lead Case No. BC 325201
15 16 17 18 19 20 21 22 23 24 25 26 27 28	RICHARD A. WOOD, an individual, on behalf of himself and all others similarly situated,  Plaintiff,  v.  LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 40; et al.  Defendants.	Case No.: BC 391869  [proposed] CASE MANAGEMENT ORDER FOR PHASE 5 AND PHASE 6 TRIALS
	CASE MANAGEMENT ORDER FO	OR PHASE 5 AND PHASE 6 TRIALS

IT IS HEREBY ORDERED:

- 1. The Phase 5 Trial will commence at 9:00 a.m. on February 10, 2014, in Room 222 of the Superior Court of the County of Los Angeles, located at 111 North Hill Street, Los Angeles, California or such other location as ordered by the court. The trial will continue for one week.
- 2. The Phase 5 Trial the issues of federal reserved water rights and return flows from imported water. As to return flows from imported water, the trial will determine who has the right to recapture and use return flows that result from water imported into the area of adjudication, as well as the amount or percentage of return flows that augment the groundwater basin due to the imported water. The Phase 5 Trial will commence with the issue of the federal reserved water rights.
- 3. The Phase 6 Trial will commence on August 4, 2014 and will continue for two weeks. The Phase 6 trial will determine claims to a prescriptive rights and defenses thereto.
  - 4. The Court sets the following schedule for the Phases 5 and 6 trials:

PHASE 5 SCHEDULE		
DATE	EVENT	
	Deadline to file Notice of Intention to Participate in Phase 5	
10/15/2013	Trial	
10/18/2013	Summary judgment motions filing deadline	
12/27/2013	Oppositions to summary judgment deadline	
01/03/2014	Replies in support of summary judgment deadline	
01/10/2014	Hearing on summary judgment motions	
1/10/2014	Discovery cut-off (expert witness depositions excepted)	
01/17/2014	Expert witness depositions completion deadline	
01/23/2014	Witness and exhibit lists posted	

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02/10/2014	TRIAL
02/03/2014	Parties exchange trial exhibits
01/31/2014	Opposition to motions in limine deadline
01/31/2014	Trial Brief deadline
01/24/2014	Motions in limine deadline

PHASE 6 SCHEDULE		
DATE	EVENT	
02/01/2014 through 03/01/2014	Discovery hiatus for Phase 6 discovery due to Phase 5 trial	
04/18/2014	Summary judgment motion deadline	
4/30/2013	Deadline to file Notice of Intention to Participate in Phase 5 Trial	
06/19/2014	Oppositions to summary judgment motion deadline	
06/27/2014	Replies in support of summary judgment motion deadline	
07/03/2014	Hearing on summary judgment motions	
07/03/2014	Discovery cut-off (expert depositions excepted)	
07/21/2014	Expert witness deposition completion deadline	
07/17/2014	Witness and exhibit lists deadline	
07/18/2014	Motions in filing limine deadline	
07/25/2014	Trial brief deadline	
07/25/2014	Opposition to motions in limine deadline	
07/28/2014	Parties exchange trial exhibits	
08/04/2014	TRIAL	

5. Expert witness designations shall comply with all Code of Civil Procedure requirements and include a statement as to the expert witness's deposition availability.

CASE MANAGEMENT ORDER FOR PHASE 5 AND PHASE 6 TRIALS

The expert witness designation shall include a copy of any report prepared concurrently with his or her designation.

6. All parties designating expert or non-expert witnesses for the Phase 5 Trial are directed to meet and confer in person and/or by telephone by December 1, 2013, to develop a schedule for the taking of depositions of all designated witnesses. Counsel for the Los Angeles County Waterworks District No. 40 is directed to provide telephone conference information to the parties by posting the same to the Court's website by October 4, 2013.

All parties designating expert or non-expert witnesses for the Phase 6 Trial are directed to meet and confer in person and/or by telephone by June 15, 2014, to develop a schedule for the taking of depositions of all designated witnesses for the Phase 6 trial. Counsel for the Los Angeles County Waterworks District No. 40 is directed to provide telephone conference information to the parties by posting the same to the Court's website by June 1, 2014. Similar telephone conference(s) shall take place in the same manner for the supplemental expert witnesses, if necessary. The telephone conferences are to develop schedules to complete depositions before the deposition deadlines.

A party failing to participate in the telephone scheduling conferences or who refuses to schedule its witnesses for deposition shall be deemed to have waived the right to coordinate scheduling, and may thereafter have their witness' deposition set at the convenience of participating scheduling parties on 15 days' notice pursuant to the Court's Electronic Filing and Service Order. To the extent that parties are unable to reach agreement as to any deposition, the Court will conduct a telephonic meet and confer to be scheduled at the earliest time convenient to the Court.

- 7. The parties are directed to utilize the assistance of a liaison committee as a means of attempting to resolve issues quickly and informally, and to streamline the presentations at trial. The existence of this committee, however, shall not deprive any other party from raising issues or concerns to the other parties.
  - 8. All designated witnesses shall be available and prepared to provide

deposition testimony, absent other agreement, as noted in the above schedules. The parties shall make every effort to complete the depositions of the initially designated expert witnesses in time for the depositions of the supplemental experts to take place before the discovery cut-off directed above. More than one deposition may be scheduled to take place on the same day, but only if such depositions will not occur simultaneously.

- 9. All expert witness deponents are directed to produce their file on this matter, and any other requested materials for inspection at least three business days before the date set for the deposition at the expert's place of business or such location as the parties may agree. Such materials may be produced in electronic format.
- 10. Written discovery, including requests for admission, form interrogatories, document production requests, etc., may commence immediately for both Phase 5 and Phase 6. Parties are directed to coordinate these efforts with similarly situated parties.
- dispute before contacting the Court and before filing any discovery motion. If such attempts prove unsuccessful, the Court will conduct a further meet and confer, either by telephone or in person as the Court may direct. The parties will provide the Court with a letter in advance setting forth the text of any written discovery requests and responses thereto that are in dispute, or other information that will assist the Court in conducting the meet and confer. The parties should contact the Court's clerk to schedule any such meet and confer. The Court expects that all discovery disputes will be resolved through the meet and confer process. Any party may thereafter apply *ex parte* for an order shortening time and specially setting a motion to compel for hearing by providing notice thereof pursuant to the Electronic Filing and Service Order.
- 12. Any party intending to participate in the Phase 5 and/or Phase 6 trials must post a Notice of Intention to Participate by October 15, 2013 and April 30, 2014, respectively. Excuse from this requirement may be given upon a showing of good cause.

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13. The parties, when posting witness and exhibit lists, shall provide the name of each witness, a short summary of testimony expected to be elicited, and a testimony time estimate. The exhibit list shall be sufficiently specific as to enable the other parties to identify the exhibit prior to trial. Exhibits shall be sequentially numbered for each party, starting with the Arabic number 1. The parties shall continue with the numbering system utilized in Phase 4.

- 14. The parties shall coordinate with one another to determine the actual date and time of the witnesses' testimony at trial. The parties shall make their best efforts to produce all documents relevant to that witnesses' testimony prior to the witness' deposition. Any other documents not previously produced, but which are intended to be used at trial, shall be made available as soon as practicable.
  - 15. Allied parties are strongly encouraged to file joint briefs.
- 16. Any motion to exclude witnesses or exhibits, or other motions in limine, will be heard at the commencement of the trial for each respective part of Phases 5 and 6. Any such moving papers, opposition papers, including evidentiary objections, or evidentiary objections to evidence submitted in opposition, shall be filed and posted as noted in the timeline, above. No other reply papers are allowed.
- 17. Should any party elect to use a third party provider to assist in the projection or presentation of evidence, that party shall permit said third party provider to contract with any other party for the use the same services provided. Third party providers, in any event, shall work together to coordinate the use of equipment.
- 18. Any party desiring to monitor the Phase 5 or 6 trials by telephone may do so through CourtCall, but will not be allowed to question witnesses or participate in oral argument absent prior arrangement with the Court.
- 19. The Court shall be provided with courtesy copies of all exhibits, except those pertaining to impeachment, preferably in three-ring notebooks with numbered dividers, as noted in the timeline, above. Counsel are directed to coordinate this project

1	with one and	other.
2	20.	Prior to the commencement of each day of trial, counsel shall confer as to
3	the order of	the next day's witnesses, and shall advise the Court of the same at the
4	commencem	nent of that day of trial.
5	21.	The Court will consider whether to request closing trial briefs as the Phase
6	5 and 6 trials	s proceed.
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9	Dated:	Hon. Jack Komar
10		Judge of the Superior Court
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# SUPERIOR COURT OF CALIFORNIA COUNTY OF LOS ANGELES

# ANTELOPE VALLEY GROUNDWATER CASES

**Included Consolidated Actions:** 

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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-CV-254-348

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. RIC 353 840, RIC 344 436, RIC 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 Judicial Council Coordination Proceeding No. 4408

Lead Case No. BC 325 201

## STATEMENT OF DECISION PHASE THREE TRIAL

Judge: Honorable Jack Komar

Antelope Valley Groundwater Litigation (Consolidated Cases) Los Angeles County Superior Court, Lead Case No. BC 325 201

and legal basis for the decision on those issues only closely related to the ultimate issues on the case. (See *People v. Casa Blanca Convalescent Homes* (1984) 159 Cal. App. 3d 509, 523-524.) It is also clear that a court need not respond to requests that are in the nature of "interrogatories." (See *id.* at pp. 525-526.)

The only issues at this phase of the trial were simply to determine whether the adjudication area aquifer is in a current state of overdraft and as part of that adjudication to determine the safe yield. This Statement of Decision focuses solely on those issues.

The standard for a statement of decision as set forth in Code of Civil Procedure section

632 requires a court to explain "... the legal and factual basis for its decision as to each of the

principal controverted issues at trial...." Case law is clear that a court must provide the factual

Cross-complainants Los Angeles County Waterworks District No. 40, City of Palmdale, Palmdale Water District, Littlerock Creek Irrigation District, Palm Ranch Irrigation District, Quartz Hill Water District, California Water Service Company, Rosamond Community Service District, Phelan Piñon Hills Community Services District, Desert Lake Community Services District, North Edwards Water District (collectively, the "Public Water Producers") brought an action for, *inter alia*, declaratory relief, alleging that the Antelope Valley adjudication area groundwater aquifer was in a state of overdraft and required judicial intervention to provide for management of the water resources within the aquifer to prevent depletion of the aquifer and damage to the Antelope Valley basin.

Several of the cross-defendant parties (collectively, the "Land Owner Group") also sought declaratory relief in their various independent (now coordinated and consolidated) actions.

<sup>&</sup>lt;sup>1</sup> The United States and the City of Los Angeles, though not water suppliers in the Antelope Valley adjudication area, joined with the Public Water Producers. Rosamond Community Services District joined with the Land Owner Group.

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

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

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

The Public Water Producers (and others) have alleged that the basin is in a condition of overdraft and have requested that the Court determine a safe yield and consider imposition of a physical solution or other remedy to prevent further depletion of the water resource and degradation of the condition of the aquifer.

Several parties in opposition to the request of the Public Water Producers have contended that while there may have been overdraft in the past, currently the aquifer has recovered and is not in overdraft. These same parties contend that it is not possible to establish a single value for safe yield; instead they have requested that the Court determine a range of values for safe yield.

The Court concludes that the Public Water Producers have the burden of proof and that the burden must be satisfied for this phase and purpose by a preponderance of the evidence. This burden of proof may or may not be appropriate to other phases of this trial. And since the findings here have no application to other phases, such as prescription or rights of appropriators, and the parties have not briefed those or other issues, the Court makes no conclusions as to what standard of proof might be applicable to such other issues or phases of trial.

The law defines overdraft as extractions in excess of the "safe yield" of water from an aquifer, which over time will lead to a depletion of the water supply within a groundwater basin as well as other detrimental effects, if the imbalance between pumping and extraction continues. (City of Los Angeles v. City of San Fernando (1975) 14 Cal. 3d 199; City of

Pasadena v. City of Alhambra (1949) 33 Cal. 2d 908, 929; Orange County Water District v. City of Riverside (1959) 173 Cal. App. 2d 137.) "Safe yield" is the amount of annual extractions of water from the aquifer over time equal to the amount of water needed to recharge the groundwater aquifer and maintain it in equilibrium, plus any temporary surplus. Temporary surplus is defined as that amount of water that may be pumped from an aquifer to make room to store future water that would otherwise be wasted and unavailable for use.

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

Generally, neither overdraft nor safe yield can be determined by looking at a groundwater basin in a single year but must be determined by evaluating the basin conditions over a sufficient period of time to determine whether pumping rates have or will lead to eventual permanent lowering of the water level in the aquifer and ultimately depletion of the water supply or other harm. Recharge must equal discharge over the long term. (City of Los Angeles v. City of San Fernando, supra, 14 Cal. 3rd at pp. 278-279.) But having heard evidence about the aquifer as a whole, the Court is not making historical findings that would be applicable to specific areas of the aquifer or that could be used in a specific way to determine water rights in particular areas of the aquifer.

<sup>&</sup>lt;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."

The location of the Antelope Valley adjudication area boundaries was the subject of the Phase One and Two trials in this matter. The Court defined the boundaries of the valley aquifer based upon evidence of hydro-connection within the aquifer. If there was no hydro-connectivity with the aquifer, an area was excluded from the adjudication. The degree of hydro-connectivity within the Antelope Valley adjudication area varies from area to area. Some areas seemingly have fairly small or nominal hydro-connectivity but must be included in this phase of the adjudication unless the connection is *de minimis*. Pumping in those parts of the aquifer may be shown to have *de minimis* effect on other parts of the aquifer while pumping in other areas within the basin appear to have material impacts on adjacent parts of the basin. All areas were included within the adjudication area because they all have some level of hydro-connection, some more and some less. How to deal with those differences is ultimately a basin management decision that is well beyond the scope of this phase of trial.

### **Overdraft**

The preponderance of the evidence presented establishes that the adjudication area aquifer is in a state of overdraft. Reliable estimates of the long-term extractions from the basin have exceeded reliable estimates of the basin's recharge by significant margins, and empirical evidence of overdraft in the basin corroborates that conclusion. Portions of the aquifer have sustained a significant loss of groundwater storage since 1951. While pumping in recent years has reduced and moderated, the margin between pumping and recharge as cultural conditions have changed and precipitation has increased (with the appearance of wetter parts of the historical cycle), pumping in some areas of the aquifer is continuing to cause harm to the basin. The evidence is persuasive that current extractions exceed recharge and therefore that the basin is

<sup>&</sup>lt;sup>3</sup> The court may exclude truly de minimis connectivity areas based upon evidence in later phases of the trial if shown to have virtually no impact on the aquifer.

in a state of overdraft. Since 1951<sup>4</sup> there is evidence of periods of substantial pumping (principally agricultural in the early years of the period) coinciding with periods of drought, with almost continuous lowering of water levels and severe subsidence in some areas extending to the present time, with intervals of slight rises in water levels in some areas.

Areas of increased pumping, with concomitant lowering of water levels, can have a serious effect on water rights in other areas, caused by cones of depression, which alter natural water flow gradients, causing the lowering of water levels in adjacent areas, with resulting subsidence and loss of aquifer storage capacity. Given population growth, and agricultural and industrial changes, the valley is at risk of being in an even more serious continuing overdraft in the future unless pumping is controlled.

While the lowering of current water levels has slowed, and some levels in wells in some areas have risen in recent years, significant areas within the aquifer continue to show declining levels, some slightly so, but many with material lowering of water levels.

Thus, the Antelope Valley adjudication area is in a state of overdraft based on estimates of extraction and recharge, corroborated by physical evidence of conditions in the basin, and while the annual amount of overdraft has lessened in recent years with increased precipitation and recharge, the effects of overdraft remain and are in danger of being exacerbated with increased pumping and the prospective cyclical precipitation fluctuations shown by the historical record. The physical evidence establishes that there was significant subsidence occurring in parts of the adjudication area ranging from two to six feet or more in certain areas of the valley caused by such pumping and that measurable water levels fell in a substantial part of the valley. While some of the ongoing subsidence may be attributable to residual subsidence (from earlier periods of shortfall) that would not seem to be an explanation for the extent of continued subsidence. The evidence establishes that ground water extractions in excess of recharge are a cause as well.

<sup>&</sup>lt;sup>4</sup> Precipitation and well records prior to that year are too sketchy to be relied upon.

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

It has been suggested that safe yield could be based on using shorter base periods or more than one base period, (the total time span of which was considerably less than the 50 year period the Court believes is more credible). If the purpose of selecting a base period is to determine average recharge over time based on precipitation, choosing two consecutive periods of time with two different average numbers would not serve that purpose and would preclude estimating a single safe yield. Likewise, selecting a base period that does not have completely representative precipitation cycles over time would not provide an accurate evaluation of conditions in the valley. A base period that calculates average precipitation over a representative period of time permits reliable predictions about future natural recharge based on regular recurring precipitation cycles. A period of precipitation fluctuations from 1951 to 2005 satisfies that standard. Shorter periods do not.

The Court finds that current extraction of water from the aquifer by all pumping ranges from 130,000 to 150,000 acre feet a year, but in any event, is in excess of average annual recharge. The major area of dispute between the parties is the average amount of natural recharge, which also involves disputes concerning return flows, the amount of native vegetation water needs, evapotranspiration, stream flow, runoff, groundwater infiltration, specific yield, lag

time, bedrock infiltration, agricultural crop needs, and the like. Other sources of recharge to the basin, including artificial recharge-water pumped into the aquifer from external sources are not in dispute.

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

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

The opinions of all the experts are estimates, based upon their professional opinion. All of the opinions were critiqued by other experts who often had different opinions. The Court recognizes the imprecision of the various estimates and the fact that an estimate by definition is imprecise. But the fact that estimates lack precision does not mean that the Court cannot rely upon such estimates. The scientific community relies upon such estimates in the field of hydrogeology and the Court must do the same.

Reasonable experts can differ as to reasonable estimates of natural recharge and virtually all other components of water budgets, computations of change of storage, and the

like, all the while using the same formulae and scientific principles to reach their conclusion. For example, all the experts could agree on the definition of "Darcy's Law" and the physics principle of "conservation of mass" but still reach different conclusions.

Some of the experts opined that the basin was not in overdraft and that recharge was in excess of or in balance with extractions so that there was a surplus in the aquifer. One expert opined that loss of storage was merely space for temporary storage. Observable conditions in the valley are inconsistent with those conclusions. If there were a surplus, even in the shortened base periods used by the some experts, there should not be subsidence of land, nor the need to drill for water at deeper and deeper levels in those parts of the aquifer most affected by the overdraft. The physical condition of the valley is inconsistent with those estimates that there is and has been a surplus of water in the aquifer.

The selection of a safe yield number for an aquifer the size of the Antelope Valley is made difficult because of not only its size but because of the complexity of its geology. As reflected above, hydro-connectivity and conductivity varies considerably between various parts of the aquifer. The hydro-connectivity between some portions of the adjudication area aquifer and others is so slight as to be almost (apparently) nonexistent. Pumping in those areas may have little or no effect on other areas of the aquifer. The Antelope Valley basin is not like a bathtub where lowering and raising of water levels is equal in all parts of the "tub."

Therefore, assigning a safe yield number (what quantity of pumping from the basin will maintain equilibrium in the aquifer) may require different numbers for different parts of the aquifer (and clearly may also provide for some level of separate management). No attempt has been made in this phase of trial to define geological differences in the valley that would justify different safe yield numbers for different parts of the valley in light of the decision in Phase Two regarding connectivity (the Phase Two trial focused on hydro-connectivity for purposes of determining necessary parties to the action).

Weighing the various opinions of the experts, however, the Court finds by a preponderance of the evidence that conservatively setting a safe yield at 110,000 acre feet a

year will permit management of the valley in such a way as to preserve the rights of all parties in accordance with the Constitution and laws of the State of California. Some portions of the aquifer receive more recharge than others and pumping requirements vary. These differences require management decisions that respect the differences in both the geology and the cultural needs of the diverse parts of the valley.

It should not be assumed that the safe yield management number may not change as climate circumstances and pumping may change, or as the empirical evidence based on experience in managing the basin suggests it is either too high or too low.

JUL 1 3 2011
Dated: \_\_\_\_\_

Høn. Jack Komar

Judge of the Superior Court

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8	SUPERIOR COURT	OF CALIFORNIA
9	COUNTY OF LO	OS ANGELES
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11	ANTELOPE VALLEY GROUNDWATER CASES	Judicial Council Coordination Proceeding No. 4408
12	Included Consolidated Actions:	Lead Case No. BC 325201
13	Los Angeles County Waterworks District No.	
14	40 v. Diamond Farming Co. Superior Court of California	STATEMENT OF DECISION RE PHASE III TRIAL
15	County of Los Angeles, Case No. BC 325 201	Judge: Honorable Jack Komar
16	Los Angeles County Waterworks District No. 40 v. Diamond Farming Co.	
17	Superior Court of California, County of Kern, Case No. S-1500-CV0254-348	
18	Wm. Bolthouse Farms, Inc. v. City of Lancaster	
19	Diamond Farming Co. v. City of Lancaster Diamond Farming Co. v. Palmdale Water Dist.	
20	Superior Court of California, County of Riverside, consolidated actions, Case Nos.	
21	MC 353 840, MC 344 436, MC 344 668	
22	Rebecca Lee Willis v. Los Angeles County Waterworks District No. 40	
23	Superior Court of California, County of Los Angeles, Case No. BC 364 553	
24	Richard A. Wood v. Los Angeles County	
25	Waterworks District No. 40 Superior Court of California, County of Los	
26	Angeles, Case No. BC 391-869	
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Cross-complainants Los Angeles County Waterworks District No. 40, City of Palmdale, Palmdale Water District, Littlerock Creek Irrigation District, Palm Ranch Irrigation District, Quartz Hill Water District, California Water Service Company, Rosamond Community Service District, Phelan Piñon Hills Community Services District, Desert Lake Community Services District, North Edwards Water District (collectively, the "Public Water Suppliers") brought an action for, *inter alia*, declaratory relief, alleging that the Antelope Valley Adjudication Area groundwater aquifer ("Basin") was in a state of overdraft and required judicial intervention to provide for water resource management within the Basin to prevent depletion of the aquifer and damage to the Basin ("Basin").

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

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

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

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

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

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

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

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

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

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

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

<sup>&</sup>lt;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."

from the Basin and return flows therefrom.

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**Overdraft** 

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

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

increased with the appearance of "wetter" parts of the historical cycle, pumping in some areas of

The preponderance of the evidence presented establishes that the Basin is in a state of

overdraft. Reliable estimates of the long-term extractions from the Basin have exceeded reliable

estimates of the Basin's recharge by significant margins, and empirical evidence of overdraft in

storage since 1951. While pumping in recent years has reduced and moderated the margin

between pumping and recharge as cultural conditions have changed and precipitation has

the Basin corroborates that conclusion. The Basin has sustained a significant loss of groundwater

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

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

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

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

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

### Safe Yield

excess of the Basin's safe yield.

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

residual subsidence (from earlier periods of shortfall) a preponderance of the evidence establishes

that ongoing and continued subsidence is caused, in part, by ongoing groundwater extractions in

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

<sup>&</sup>lt;sup>4</sup> As previously noted, Rosamond Community Services District is a public water producer but it did not align itself 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
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5	Dated:
6	Hon. Jack Komar Judge of the Superior Court
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[PROPOSED] STATEMENT OF DECISION RE PHASE III TRIAL

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

### **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 & 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 Courwebsite in regard to the Antelope Valley Groundwater matter.	
	by placing the document(s) listed above in a sealed envelope with postage thereor 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	

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