Letter No. 14

SCOPE
Santa Clarita Organization for Planning and the Environment
TO PROMOTE, PROTECT AND PRESERVE THE ENVIRONMENT, ECOLOGY AND QUALITY OF LIFE IN THE SANTA CLARITA VALLEY
POST OFFICE BOX 1182, SANTA CLARITA, CA 91386

5-4-06

Jeff Hogan
Community Development
City of Santa Clarita
23920 Valencia Blvd.
Santa Clarita, CA 91355

Re: Gates/King Additional Information Document

Dear Mr. Hogan:

Thank you for the opportunity to comment on this document. We have divided our comments on water supply into three sections based on each source of the water supply. We have also attached a number of documents to this submittal to support our comments. 1

Imported Water Supply

We wish to begin by stating why we are concerned about the City's and Castaic Lake Water Agency's continued reliance on the 41,000 AF Monterey Transfer prior to completion of the required statewide EIR for this project. 2 It is now a matter of accepted fact by the scientific community as well as water agencies throughout the state that global warming is occurring. This temperature change will wreck havoc on how much and when water can be supplied from the state water project. The reason that potentially severe impacts will occur is that the largest "reservoir" in the State of California is the Sierra snow pack. This snow pack feeds the state water project and provides a large amount of water to Southern California. When this snow pack is either diminished by lack of snowfall from global warming, or by snow melt off that occurs earlier (say in December rather than April) than it has for the last 72 years of State Water Project (SWP) operation, water supply in Southern will be considerably diminished. 3

The newest CalSim model used to predict water supply from the SWP does not take into account the effect of global warming, making it highly inaccurate. However, the Commission might get an idea of the severity of the impacts by reviewing the prediction included in Castaic Lake Water Agency's (CLWA) latest Urban Water Management Plan. As required, the plan evaluates supplies for drought years. During such a year, the State Water Project might only be able to supply as little as 7% of a contractor's entitlement. Our community would be severely impacted should this occur. That is the first reason it is 4

important for the City and Castaic Lake Water Agency to wait for the new statewide EIR before relying on this water. 4

The second reason is that requirements for water quality and impacts to fish and farming in the Sacramento Delta from whence the State water originates, have not been addressed. Several appellate court decisions (Example, exhibit 1 verify this statement along with comment letters from the Planning and Conservation League. (Exhibit 2). Additional pumping from the Delta may not be approved and water transfers may be curtailed in an effort to restore fisheries and rectify water pollution problems. Again, all of these issues will be addressed in the statewide Monterey EIR that is not yet complete. 5

Therefore, we concur with and re-iterate the statements of other commentors regarding the Monterey Settlement Agreement, to which Castaic Lake Water Agency is a signatory. (Additional comments attached as exhibit 3). This Agreement precludes reliance on the 41,000AF transfer and on projects approved after March 26, 2001 until the new Monterey agreement EIR is completed. Per the Court Order filed June 6th, 2003, exhibit 4: 6

> "As part of the Settlement Agreement, DWR and the SWP Contractors who are signatories to the settlement agreement have agreed that, pending DWR's filing of a return in satisfaction of the Writ of Mandate and this Court" dismissal of the Writ of Mandate, they will not approve any new project or activity (as defined in Section VII.A of the Settlement Agreement) in reliance on the 1995 Environmental Impact Report for the Implementation of the Monterey Agreement." 7

Since the environmental work for this transfer is not complete, the neither the water District nor the City may not rely on it as an "existing" source of water under section 10910(d)(2) of the Water Code and this report will not comply with state legislation regarding water assessments for new projects. 8

CLWA argues that the Monterey water transfer is final because no court has enjoined its delivery. The reason that has not occurred was because CLWA General Manager, Dan Masnada, submitted a verified declaration under oath that the water transfer was needed for existing residents. The trial court did not want to take water away from existing residents (and neither did anyone else), but said that the issue could be brought back if it appeared that the transfer was going to be used to approve new development (Declaration and minute order attached as exhibit 5) 9

CLWA has tried to plan for drastic water cutbacks by acquiring water storage in the Semitropic water storage project and other storage agreements. The City should be aware that there are both water quality and supply constraints that may impede the delivery of this water to the Santa Clarita Valley (see exhibit 6). These constraints should be disclosed in the EIR. A recent Appellate Court Decision made it clear that this stored water may NOT be relied upon for "planning purposes", i.e. approvals of new projects such as this proposal. (C-Win v. Castaic Lake Water Agency, decision submitted by the Sierra Club). 10

Even the Dept. of Water Resources in a letter dated July 30th, 2004 (exhibit 7) admits that additional environmental work must be completed. A discussion of this issue in the West Creek EIR, written by the same consultant hired by the City to complete this Information Document (Impact Sciences) also affirms this statement. (Exhibit *3*). 11

Ground Water Supply from the Santa Clara River

We would like to begin this section by explaining why we are concerned about the over-draft of our alluvial aquifer which is the Santa Clara River. We currently get around 50% of our water from local ground water sources, so it is very important for us to take good care of this source. When an aquifer is over-drafted, surface flows disappear. Die off of riparian vegetation begins to occur as the water levels sink below the root zone and loss of habitat follows. Such die off is already visible in many places along the Santa Clara River. Loss of surface flows and habitat is a violation of the public trust doctrine. 12

But perhaps the most destructive result of over-draft is that the surface flows lose their connectivity with the aquifer (please see the illustration and discussion of this phenomenon by USGS in Exhibit 8). That means that re-charge of the ground water is reduced as well as the aquifer's ability to store water.

Several previous reports of yield from the Santa Clara River were based on a thorough investigation of well logs, water level fluctuations and water quality data. No report before 2001 states that the Santa Clara River can be sustainably pumped at 35,000AF as the document before you concludes. Instead, they make conclusions such as:

> "The annual perennial yield for the alluvial aquifer is 32,500 Acre-feet per year. This quantity of water represents an amount of water that can be pumped annually from the aquifer on a long term basis and during dry year conditions without causing an undesirable effect" [1]
>
> "The basic intent of the operational yield value is that it should not exceed the perennial (or average) yield of the ground water basin over multi-year wet and dry cycles"[2] 13

All hydrological reports investigating the Santa Clara River prior to the 2001 report indicate that the perennial "sustainable" yield from the Santa Clara River is 32,000 AF or less. (Example, exhibit 9). We therefore believe that the 2005 Urban Water Management Plan does not provide sufficient data on which to base the assumption that additional pumping could occur without further damage to the Santa Clara River Aquifer. The Water Agencies argue that the river has been pumped in excess of this level for the last several years with no indication of overdraft (generally identified through loss of surface flows, a consistent drop in ground water level, water quality degradation and subsidence). However, no studies as to whether subsidence has occurred have been conducted. Water levels dropped precipitously over the last ten years, resurging only after last year's record rainfall. (see attached chart, exhibit *4*) A study completed for Evidentiary Hearings before the California Public Utilities

[1] Executive Summary Santa Clarita Valley Water Report, prepared February 2000 (this statement was also found in the 1998 and 1999 reports.)

[2] R.Slade, 2001 Update Report on the Hydrological conditions in the alluvial and Saugus Aquifer Systems

Commission (Exhibit 10) finds degradation of ground water quality (indication of over-pumping). 14

Further, since agricultural pumping yields are merely estimates, the amount of water used to calculate past and current alluvial aquifer production may be over stated (see attached letter exhibit 11). Also, since Newhall County Water District does not have any appropriative rights to water supply from the Santa Clara River alluvium, your agency may not base a finding of water sufficiency on this ground water source. 15 16

As we continue to hardscape our river, its tributaries and the surrounding landscape with concrete and pavement, we are also losing re-charge to the Santa Clara River alluvium and thus reducing the amount of sustainable yield. The Water Agencies try to make an the absurd and counter-intuitive argument that urbanization increases ground water re-charge because more water will flow to the river and sinks in with landscaping. This argument is not born out by either the County Hydrological estimates for flood control (attached exhibit 12) that show compacted soil will create more run-off, not less, nor by the 1988 Slade study of the alluvial aquifer (excerpt attached exhibit 13). 17

Reliance on the contaminted Saugus Aquifer

We wish to re-iterate our previously stated concern in regards to the proposed amounts of increased pumping from wells westerly of the ammonium perchlorate pollution plume. Since the pollution plume is moving in a westerly direction, it is imprudent to assume additional pumping until there is verification that containment wells are on line and that they are indeed functioning as barriers to stop the spread of the pollution plume. This movement was predicted by an expert hired by CLWA to testify its Federal groundwater pollution case against Whitiker Bermite filed in 2000 (Exhibit 14). That case has still not been resolved. There is no settlement agreement (see exhibit [illegible]), there are no facilities in place to clean this pollution our of the Saugus Aquifer, and there is no funding for the estimated $80 million cost of providing these facilities. 18

The water agencies argue that they can count this polluted water source as available because they will be able to clean it up in a few years by the time it is needed. However, they have been saying that since 1997, when the pollution was first discovered. Now, nearly ten years later, clean up facilities are still not funded or in place. The community could face health risks should additional building be approved based on this source before clean-up facilities are funded, in operation, and functioning as expected. 19

We note that the Army Corps/Ch2Mhill Report indicates that the pollution plume is continuing to spread in a westerly direction. Last year an additional alluvial well (Q2) was contaminated and a wellhead treatment system was installed. That brought the number of closed wells to 6 (two alluvial wells, Q2 and the Stadium Well, plus 4 Saugus Wells, V157, S1, S2, NCWD 11). (Maps attached, exhibit 15) 20

We incorporate by reference all documents and all Technical Reports produced for the Santa Clarita Water Agencies, Ch2MHIll and the Army Corps of Engineers regarding the continued spread of the ammonium perchlorate pollution plume in a westerly direction. 21

The water agencies claim that up to an additional 20,000 AF may be withdrawn from the Saugus Aquifer. However, there are no studies that support such a huge additional withdrawal. (Exhibit 16). Nor, as previously stated, should we be relying on this additional source before the facilities to clean up the pollution in this aquifer are operational. 22

Other concerns

As you are aware, we continue to be concerned about the following impacts of this project: 23

- the loss of the ridgeline, 24
- continued impacts to the wildlife corridor, 25
- concreting a blue line stream,
- a lack of surveys and defined mitigation for sensitive plant species, 26
- the loss of 1400 mature oaks in a significant state hardwood forest, 27

In conclusion, we request that the above items be addressed and included in this Information Document.

Sincerely,

Lynne Plambeck
President

Exhibit
1

Filed 10/7/05

CERTIFIED FOR PUBLICATION

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA

THIRD APPELLATE DISTRICT

(Fresno & Sacramento)

In re BAY-DELTA PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT COORDINATED PROCEEDINGS.	JCCP No. 4152
DON LAUB et al., Plaintiffs and Appellants, v. JOSEPH GRAHAM (GRAY) DAVIS et al., Defendants and Respondents.	C044267 (Fresno County Super. Ct. No. 00CG11667)
REGIONAL COUNCIL OF RURAL COUNTIES et al., Plaintiffs and Appellants, v. STATE OF CALIFORNIA et al., Defendants and Respondents; DEPARTMENT OF WATER RESOURCES et al., Real Parties in Interest and Respondents; SAN JOAQUIN RIVER GROUP AUTHORITY et al., Interveners and Respondents.	C044577 (Sacramento County Super. Ct. No. 00CS01331)

adopted the Record of Decision (ROD) for the Program in accordance with the National Environmental Policy Act (42 U.S.C. § 4321 et seq.) and the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).

Appellants, who include the California Farm Bureau Federation (Farm Bureau), the Central Delta Water Agency (CDWA) and the Regional Council of Rural Counties (RCRC), filed petitions for writ of mandate challenging the PEIS/R under CEQA and asserting various non-CEQA claims based on actions taken or anticipated under the Program. The trial court found the PEIS/R satisfactory under CEQA and dismissed the non-CEQA claims as either premature or not properly stated.

Appellants challenge the trial court's rulings on a number of grounds. Among other things, they contend the PEIS/R does not contain a sufficient discussion of adverse environmental impacts, mitigation measures or alternatives. They also argue CALFED provided inadequate responses to public comments and the PEIS/R should have been re-circulated when new information about the Program was revealed late in the proceedings. Finally, appellants contend they have stated viable non-CEQA claims arising from conduct associated with implementation of the Program.

Following a summary of the facts and proceedings relevant to this matter, we first address appellants' CEQA issues. We reject appellants' challenges to the adequacy of the PEIS/R's analysis of Program impacts on the environment and, in particular, agriculture. With one exception, we also reject

appellants' challenges to the adequacy of the PEIS/R's treatment of mitigation measures and alternatives. We also disagree with appellants' arguments regarding CALFED's responses to public comments and conclude there was no need for CALFED to re-circulate the PEIS/R due to CALFED's responses to public comments regarding the Environmental Water Account (EWA).

As to three matters, we agree with appellants the PEIS/R is legally insufficient. First, we conclude the PEIS/R improperly fails to discuss an alternative to the Program that requires reduced exports of water from the Delta. Second, we conclude the PEIS/R fails to include an adequate discussion of the environmental impacts of diverting water from various potential sources to meet the Program's goals. Third, we conclude certain significant information relating to the EWA should have been included in the PEIS/R.

Finally, we reject certain non-CEQA claims raised by appellants as either not properly stated or not adequately preserved for appeal.

We reverse the judgment in part.

FACTS AND PROCEEDINGS

I

Introduction

Although the central focus of the CALFED Program is the environmental health of the Bay-Delta estuary, the problems that exist in that area cannot be divorced from the more generalized

488.) The petitioners argued the alternatives analysis was flawed because the alternatives considered were not feasible. Those alternatives provided lower density, whereas the primary objective of the project was to provide high-density housing. (*Id.* at pp. 488-489.)

The Court of Appeal found the mismatch between the alternatives included in the EIR and the project's primary objective was not a problem, explaining: "Admittedly, the primary objective of the project is to provide high-density housing consistent with existing planning goals; however, other objectives include developing a vacant area that is highly visible and historically disturbed in a manner that is sensitive to surrounding developments, the natural habitat and open space associated with the river, thereby providing a valuable addition to the downtown area. While these alternatives do not meet the primary development objective of providing high-density housing, they do satisfy all the secondary project objectives. This is sufficient because alternatives need not satisfy all project objectives, they must merely meet 'most' of them. (CEQA Guidelines, § 15126.6, subd. (a).)" (*Mira Mar Mobile Community v. City of Oceanside, supra*, 119 Cal.App.4th at p. 489.)

In *Mira Mar Mobile Community v. City of Oceanside, supra*, 119 Cal.App.4th 477, the court concluded the EIR contained feasible alternatives even though the alternatives did not meet the *primary* objective of the project.

As discussed earlier, the present matter involves the future allocation of the State's water. New water sources must

be obtained and/or demand reduced. When there is insufficient water to meet all projected beneficial uses, choices must be made. To provide more water for in-stream uses, for the creation of wetlands or for export to Southern California, it may be necessary to take water from somewhere else. One solution may be to create new water storage facilities. However, as explained earlier in connection with the failure of the PEIS/R to discuss impacts from the potential sources of Program water, this is a solution not necessarily welcomed by everyone.

In order to meet the water supply reliability objective of the Program, all of the alternatives proposed in the PEIS/R call for increased exports of water to areas south of the Delta, or at least no reduction in the amount of water exported. Because the PEIS/R does not specify the source of water for the Program, it is uncertain where the water will come from to meet this commitment. In order to supply water south of the Delta, it may be necessary to take water from other beneficial users, such as farmers, or to build new storage facilities. However, a reasonable alternative to this approach would be to reduce the amount of water exported south of the Delta, thereby reducing the amount of water that must be redirected from other users or impounded in new or existing reservoirs. Although such an alternative would not completely satisfy the CALFED goal of reducing the mismatch between Bay-Delta water supplies and beneficial uses, it could satisfy the other Program goals.

The feasibility of such a reduced exports alternative is clear, notwithstanding the projected population growth that undergirds the commitment not to reduce exports. As stated previously, it is projected that the state's population will grow from 30 to 49 million by the year 2020, and that half of this growth will be in Southern California. Such population growth requires water. However, if there is no water to support the growth, will it occur as projected? Population growth is not an immutable fact of life. Stable populations have been established in such states as New York, Pennsylvania, Connecticut, and Rhode Island. (Carle, *supra*, at p. 196.) Inflow of new residents to California continues to exceed outflow because conditions in the State are conducive to population growth. One aspect of these conditions is the availability of water. However, as the State reaches the limit of available water and must seek other sources such as desalination, water will become more expensive to obtain and California's appeal will lessen.

Years ago some argued that people should follow the water, not vice versa. While it is not the function of this Court to advocate one position or the other, this argument nevertheless points out a glaring defect in the PEIS/R. CALFED conducted its environmental analysis by assuming certain population growth in the State over the next 15 years and then finding ways to provide water to that population. But CALFED appears not to have considered, as an alternative, smaller water exports from the Bay-Delta region which might, in turn, lead to smaller

population growth due to the unavailability of water to support such growth. Taking an assumed population as a given and then finding ways to provide water to that population overlooked an alternative that would provide less water for population growth leaving more for other beneficial uses. CALFED apparently assumed that the California population would grow as projected regardless of the availability of water and did not consider whether, if less water was supplied, population growth would be affected accordingly, leading to less demand.

An EIR is required to provide a range of alternatives necessary to permit a reasoned choice. (Guidelines, § 15126.6, subd. (f).) "A major function of the EIR is to ensure thorough assessment of all reasonable alternatives to proposed projects by those responsible for the decision." (*Kings County Farm Bureau v. City of Hanford*, *supra*, 221 Cal.App.3d at p. 733; see also *County of Inyo v. City of Los Angeles*, *supra*, 71 Cal.App.3d at p. 203.) In this instance, a reasonable choice would be between (1) diverting more water south of the Delta by redirecting water from other users or creating new water storage and (2) diverting less water south of the Delta, thereby lessening or eliminating the need for redirection or new storage.

The California Supreme Court has stated that "an EIR for any project subject to CEQA review must consider a reasonable range of alternatives to the project, or to the location of the project, which: (1) offer substantial environmental advantages over the project proposal (Pub. Resources Code, § 21002); and

(2) may be 'feasibly accomplished in a successful manner' considering the economic, environmental, social and technological factors involved. (Pub. Resources Code, § 21061.1 . . . .)" (*Citizens of Goleta Valley v. Board of Supervisors, supra*, 52 Cal.3d at p. 566, italics omitted.) An alternative with reduced exports of water may well be environmentally superior to one that requires redirection of water from existing streams or construction or expansion of water storage facilities. Water exported south of the Delta must come from sources flowing into the Delta. Where one of the objectives of the ecosystem restoration component of the Program is to increase stream flows for the benefit of fish and wildlife, an alternative that does not require diversion of stream flows into the Delta would obviously benefit the environment. And, for the reasons stated earlier, an alternative that does not require construction or expansion of reservoirs will avoid the negative environmental impacts of dam construction.

An alternative with reduced exports would also appear to be feasible, at least in the long term as population growth adjusts to the new realities of water availability. Although such alternative would not completely satisfy the water allocation objective of the Program, it could satisfy other objectives.

Those deciding the future of this state to the extent it depends upon the allocation of its most precious resource should be presented with all available choices. The PEIS/R should have

included an alternative that assumed reduced water exports from the Bay-Delta region.

E. The PEIS/R's Analysis of Mitigation Measures

1. Introduction

The Farm Bureau challenges the adequacy of the PEIS/R's mitigation measures as they relate to impacts on agricultural resources.

A public agency that carries out or approves a project having significant environmental impacts must mitigate or avoid those impacts whenever feasible. (Pub. Resources Code, § 21002.1, subd. (b); see also Guidelines, § 15021, subd. (a)(2).) Upon identification of significant environmental effects of a project, approval must be preceded by an EIR that includes one or more of the following findings: "(1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment. [¶] . . . [¶] (3) Specific economic, legal, social, technological, or other considerations including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the [EIR]." (Pub. Resources Code, § 21081.) These findings must be accompanied by supporting facts. (*Rio Vista, supra*, 5 Cal.App.4th at p. 374.)

The substantial evidence test applies to the adequacy of an EIR's discussion of mitigation measures. (See *Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d 1011, 1027

Exhibit
2

PCL
PLANNING AND CONSERVATION LEAGUE

Mary Lou Cotton
Water Resources Manager
Castaic Lake Water Agency
27234 Bouquet Canyon Road
Santa Clarita, CA 91350
(661) 297-1600

August 16, 2004

Dear Ms. Cotton:

This letter provides comments on the Draft EIR entitled *Supplemental Water Project Transfer of 41,000 Acre-Feet of State Water Project Table A Amount*, on behalf of the Planning and Conservation League (PCL) and the Citizens Planning Association of Santa Barbara County (CPA). If finalized, that transfer would be the largest permanent agriculture-to-urban transfer under article 53 of the Monterey Amendments, with major implications for water resources and land use planning in Southern California. The environmental impacts of these amendments, including the instant transfer, remain to be addressed in DWR's pending "Monterey Plus" EIR review. The scoping comments submitted for that review (attached as Exhibit 1), including those of PCL, should be studied in connection with the present EIR review.

PCL and CPA were among the plaintiffs whose successful CEQA challenge set aside the Central Coast Water Authority's original 1995 Monterey Program EIR. That ruling led to decertification of the predecessor EIR for Castaic's transfer, which unlawfully relied upon that defective analysis.

The instant Draft EIR, prepared by the same firm (SAIC) as the decertified Monterey EIR, provides a case of history repeating itself. It is legally insufficient in process and substance, failing Castaic's duty under CEQA to properly inform decision-makers and the public of the project's environmental consequences. The Draft EIR cannot be reconciled with the Monterey Amendments court decision (*Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892) and the settlement agreement later reached in that case. (The full Settlement Agreement appears on DWR's website at http://www.montereyamendments.water.ca.gov/.)

926 J Street, Suite 612, Sacramento, CA 95814 916-444-8726 Fax 916-448-1789

PROCESS ISSUES:

Failure to Address Comments

PCL and CPA submitted a comment letter on August 22, 2004. This letter, attached as exhibit 1, addressed both the instant transfer and a related proposal to transfer 16,000 acre-feet of Table A amounts from another of the Kern County Water Agency's member districts. PCL urged Castaic that it should "refrain from moving forward with these separate project reviews, which are premature and likely to operate at cross-purposes with DWR's statewide review" of the project referenced in the Monterey Amendments case settlement. PCL and CPA advised Castaic that if it prematurely attempted to proceed with separate EIRs on these permanent transfers, it would "lack the institutional authority and statewide accountability" to serve as CEQA lead agency. The Draft EIR simply ignores PCL's comments, and sidesteps similar ones made by other organizations.

PCL filed similar comment letters on several local projects contesting Castaic's improper and premature reliance on the 41,000 acre-feet transfer as an integral part of its reliable water supply. These comments (addressing, respectively, the West Creek Project, the River Village Project, and the Riverpark project) are attached as exhibits 2-4. They raise important questions affecting the adequacy of this EIS, as well as the prospect of possible cumulative impacts not addressed in Castaic's draft.

Inconsistency with DWR's "Monterey Plus" Review

Castaic's so-called "stand-alone" Draft EIR is fraught with potential for inconsistency with DWR's upcoming environmental review and decision on the "Monterey Plus" project. That review will address the identical transfer from a statewide perspective, with an integrated analysis of that project in its entirety. Castaic lacks the expertise and authority to proceed based upon its isolated assessment of project impacts, alternatives, and mitigation, each of which may well be undermined by DWR's subsequent analysis and decision.

Two recent Second District Court of Appeals cases reinforce the point that Castaic Lake Water Agency (CLWA) should not pursue its own independent EIR on the 41,000 acre foot transfer in advance of the

completion of DWR's tier-one "Monterey Plus" EIR.

In *Friends of the Santa Clara River v. Castaic Lake Water Agency* (2002) 95 Cal.App.4th 1373, the Second District court of appeal ordered the decertification of the previous EIR Castaic prepared to support the instant transfer. The Friends group and other environmental organizations opposed the project decision on that Kern/Castaic transfer, citing environmental consequences in the Santa Clara River area and association with numerous sprawl development projects. In its CEQA assessment, the court recognized that the proposed 41,000 acre-feet transfer "is part of an overall larger scheme, analyzed on a programmatic basis in the Monterey Agreement EIR." (*Id.* at 1384.)

Another recent Second District appellate decision, *Santa Clarita Organization for Planning and the Environment (SCOPE) v, County of Los Angeles* (2003) 106 Cal.App.4th 715, critically addressed Castaic's characterization of the 41,000 acre-feet transfer. In that case, the County of Los Angeles violated CEQA in its review of the West Creek development project that erroneously assumed that 100 per cent of Castaic's purported 41,000 acre-feet would be available in wet years and 50 per cent in drought years. Drawing on *Planning and Conservation League's* assessment of the historic disparity between Table A amounts and deliverable water, the court concluded that the EIR failed to undertake a "serious and detailed analysis" of State Water Project supplies, and observed that "[t]he dream of water entitlements for the incomplete State Water Project is no substitute for the reality of actual water the SWP can deliver." (*Id.* at pp. 723, 717.)

Inconsistency with the "Lead Agency" Principle

The Courts have also emphasized that DWR must act as lead agency in performing Tier 1 environmental studies. If Castaic continues with its separate environmental reviews without awaiting DWR's assessment in the "Monterey Plus" EIR, it would violate CEQA's lead agency requirement based upon the well-established standards set forth in *Planning and Conservation League v. Department of Water Resources*. The court in that case could hardly have been clearer that *DWR* is the "state agency charged with the statewide responsibility to build, maintain, and operate" the State Water Project. (*Id.* at p. 906.; see also Wat. Code, §12930, *et seq.*) Finding that DWR was the only entity with the requisite statewide perspective and expertise to serve as lead agency, the court found it "incongruous to assert that any of the regional contractors" could "assume

DWR's principal responsibility for managing the SWP." (*Id.*)

The court-approved settlement agreement in *Planning and Conservation League* recognizes DWR's duty as "the State agency responsible for administration and operation of the SWP," as well as its continuing obligation to comply with applicable requirements of CEQA and the Water Code. (Settlement Agreement, Section X.B.) The transfer guidelines disclosed to contractors under the settlement agreement also recognize the continuing need to comply with all existing legal requirements, including CEQA, and to honor the lead agency principles identified in the Third District's decision in the Monterey Amendments case (see http://ceres.ca.gov/ceqa/cases/2000/PCLvDWR-2000.html).

These principles apply clearly to the proposed permanent transfers of the Table A amounts referenced in the state project contracts, which require DWR's approval and presuppose the application of Monterey. They also concededly require changes in the amount of supplies available to several water agencies, the location and timing of project deliveries, and changed utilization of the project's conveyance and storage facilities. The transfers, which may require the fallowing of farmland in agricultural areas outside the jurisdiction of CLWA and are associated with proposed annexations linked to some of the more controversial development projects in California, demand the statewide authority and experience that only DWR can provide.

Improper Hypothetical Assessment of Non-Monterey Transfer

Lastly, Castaic's hypothetical "non-Monterey" analysis of the transfers in the Draft EIR cannot substitute for DWR's new assessment of the Monterey changes. In *Friends*, Castaic unsuccessfully attempted to portray its transfer EIR as capable of standing alone, outside the Monterey Amendments program. Although transfers were available under Article 41 of the pre-Monterey State Water Project contracts subject to express DWR approval, DWR has neither reviewed nor conferred approval on the present transfer under Article 41. Moreover, it is highly speculative whether agriculture-to-urban transfers such as the 41,000 acre foot transfer would even have taken place without the Monterey Amendments, since those Table A amounts would have been subject to "agriculture first" cutbacks under pre-Monterey article 18(a). Read in context, such maneuvers would amount to little more than the "straw man" argument considered and rejected in the *Friends* appeal. (95 Cal.App. 4th at p. 1387.)

SUBSTANTIVE ISSUES

Mischaracterization of Settlement Agreement

The instant Draft EIR, includes glaring errors. A piecemeal and startlingly inaccurate description of the Monterey case Settlement Agreement (ES 2-4) fails even to inform the reader that DWR's statewide review of the "Monterey Plus" project could affect the future of this transfer or of the Monterey Amendments themselves.

The "Settlement Agreement underscores the non-finality of the 41,000 acre-feet transfer and the need for DWR's statewide review. For example:

- Section III.D refers to a list of transfers listed in attachment E to the agreement, which the settling parties, without specifically endorsing or opposing them, recognize as "final" and agree not to challenge. This transfer is *not* included in that list.

- Further evidence of the non-finality of the Castaic transfer is that section III.E singles out this transfer for a special acknowledgment recognizing that it is the subject of pending litigation in this Court.[1]

- Section III.C.4 recognizes DWR's commitment to provide in its forthcoming statewide programmatic EIR an "[a]nalysis of the potential environmental effects" relating to "the Kern-Castaic Transfer," identifying it as one of the actions "that relate to the potential environmental impacts of approving the Monterey Amendments."

DWR has recently confirmed that this transfer remains subject to the Settlement Agreement and its future "Monterey Plus" EIR. As DWR Director Lester Snow wrote on June 17, 2004 to *Friends* case lead counsel

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[1] The Draft EIR erroneously attempts to recast this provision as a "specific exclusion" of this transfer from "any prohibitions against transfers of Table A amounts by the Settlement Agreement." That is simply wrong. Section III.E recognizes that this transfer is "subject to pending litigation in the Los Angeles Superior Court following remand from the Second District Court of Appeal." It reflects a recognition that "jurisdiction with respect to that litigation should remain in the [Los Angeles] court," and the settling parties' concurrence that "nothing in this settlement agreement is intended to predispose the remedies or other actions that may occur in that pending litigation."

Alyse Lazar, "DWR's treatment of the transfer of Table A amounts from Kern County Water Agency to Castaic Lake Water Agency will be governed by the Settlement Agreement. As provided in Paragraph lllC4 of the Settlement Agreement, the EIR will include an "analysis of the potential environmental impacts relating to (a) the Attachment E transfers, and (b) the Kern-Castaic Transfer, in each case as actions that relate to the potential environmental impacts approving the Monterey Amendments." Section 1(0) of the Settlement Agreement defines the "Kern-Castaic Transfer" as "the transfer of 41,000 AF of water from Kern County Water Agency to the Castaic Lake Water Agency, approved by DWR on March 31, 1999." DWR has not completed any draft or final analysis regarding these transfers." Given both the required state leadership on an ongoing Tier 1 environmental study and the pending litigation, the future of the Castaic transfer and, indeed, the broader Monterey Amendments, cannot be assumed.

The Draft EIR's assertion that the Settlement Agreement "did not change the substance of the Monterey Amendments" is also misleading. Although those amendments are part of the "Monterey Plus" project, the agreement also eliminates misleading references to "entitlements" from the state contracts and adds a new provision to the contracts imposing water reporting requirements. The agreement also imposes a host of other substantive changes in State Water Project operation that should be described in the Final EIR.

Faulty Assessment of the No Project and Project Alternatives

Castaic's refusal to await DWR's "Monterey Plus" EIR would fatally compromise its ability to identify alternatives to the proposed transfer that might maximize its benefits and minimize its environmental impacts statewide prior to rendering the transfer a *fait accompli*. DWR's EIR will programmatically address Castaic's transfer in the context of statewide contract amendments. A major issue requiring assessment in that document will be the possible *alternative* dispositions of the 41,000 acre feet of Table A amounts to serve other uses. To list several possible examples, the alternative uses subject to statewide analysis might include ecological restoration, urban infill development in Los Angeles or San Diego, and relief from cutbacks of Colorado River deliveries in excess of the California's 4.4 million acre-feet in annual entitlement. (See *Arizona v. California* (1964) 376 U.S. 340 (Colorado River); fn. 7, *supra* p. 16).) In short, legally adequate assessment of these issues under CEQA will require

DWR's "statewide perspective" rather than the provincial experience of a local water agency, and demands recognition that this transfer is an overall part of the Monterey program. (*Friends I*, 95 Cal.App.4th at p. 1384.)

Faulty Assessment of Water Reliability

The Draft EIR's water supply assessment (especially in sections 3.15 and Appendix D) make highly problematic assumptions about state water reliability, as well as the availability of "surplus" water under Article 21 of the state project contracts. DWR's record of deliveries to contractors under the SWP figured centrally in the Third District's conclusion that the 1995 EIR must be set aside. (See *PCL v. DWR*, 83 Cal. App. 4th at 908 (noting the "huge gap between what is promised and what can be delivered" and that "actual, reliable water supply" is "in the vicinity of 2 to 2.5 MAF of water annually" rather than the 4.23 MAF of Table A "entitlements"); 83 Cal. App. 4th at 913 (average actual deliveries under the SWP from 1980-1993 "were around 2.0 MAF"). A frank assessment of DWR's record of deliveries is essential to a wide variety of issues addressed in the EIR, including the no project alternative as well as the assessment of hydrologic impacts, land use and planning impacts, growth-inducing impacts, and cumulative impacts. Anticipating the importance of this issue, the Monterey Settlement Agreement required periodic SWP reporting on the reliability of SWP deliveries.

The Draft EIR uses dubious modeling assumptions to claim an average of annual deliveries exceeding the historical record by approximately a million acre-feet. (See DEIR, 3.15-7.) In part, Castaic's EIR relies upon dated studies employing an outmoded model (DWRSIM). To move beyond DWRSIM's obvious deficiencies, the Draft EIR also makes unwarranted extrapolations from DWR's 2003 reliability report.

That report has faced significant controversy regarding its overall conclusions and the computer modeling that underpins its reliability projections. For instance, the reliability report constructs delivery probability charts for the SWP for two years, 2001 and 2021. As noted by several commenters, the median delivery identified in the report (3.297 MAF) is on the order of 50% greater than the actual record of historic deliveries to the SWP as reported by DWR. A detailed analysis by Dennis O'Connor for the California Research Bureau, referenced in the comment

letter of Senator Machado,[2] indicates that the draft reliability report provides no credible explanation for this disparity. O'Connor's analysis concludes that among other problems, the results are inconsistent with previous estimates and models, recent deliveries were lower than the modeled 2001 conditions, and 2021 does not reflect any growth in upstream consumptive use. His assessment also observes that CALSIM II is not calibrated or otherwise verified, and that the draft reliability report does not use the CALSIM II model as designed. Because the draft reliability report appears to overstate the supply reliability of the SWP, O'Connor's analysis warns that DWR's assessments of reliability should not replace the "paper water" problem with a new, simulation-based "cyber water" problem. Other comment letters, notably those of Robert C. Wilkinson, Peter Gleick, and Arve Sjovold, reach similar conclusions. (Please see http://swpdelivery.water.ca.gov/ and comments submitted regarding the instant EIR by Arve Sjovold.)

Controversy over the reliability report, on which this EIR relies, led to review of CALSIM II modeling by an External Review Panel including some of the world's leading experts on water resource systems. Their report, "Strategic Review of CALSIM II and its Use for Water Planning, Management, and Operations in Central California" was released on December 4, 2003. The Panel raised serious concerns regarding the application of the model to predicting reliable deliveries, especially as those deliveries related to particular contractors. Many of the Panel findings agree with concerns we have articulated throughout the Monterey EIR process. Notably, the Panel found that:

- "Examination of the report "CALSIM II Simulation of Historical SWP/CVP Operations,' DWR (2003) indicates that the current formulation of CALSIM II: Overestimates water deliveries to SWP and CVP contractors..." (p. 11)
- "Most successful applications of optimization [CALSIM's type of computer model] ...have calibrated their objective functions...so that the model results correspond to what actually happens or would happen under a particular hydrologic and demand scenario...It does not appear that such a calibration of the objective function weights in CALSIM has yet been completed." (p. 4)

[2] See Appendix E page E-94 at http://swpdelivery.water.ca.gov/SWP%20Delivery%20Reliability.final.2002.pdf.

- "...currently many users are not sure of the accuracy of the results. A sensitivity and uncertainty prediction capability and analysis is needed" (p. 8)
- "In our opinion, CALSIM II has not yet been calibrated or validated for making absolute predictions values." (p. 9)
- Regardless of how possible it is to match the model closely with observed behavior, statistics on the accuracy of the calibration run should be supplied to users to enable them to gauge the likely errors involved with using the model output. (page 9)
- In CALSIM II, "Groundwater resources are assumed infinite, i.e., there is no upper limit to groundwater pumping." (p. 8)
- "Realistic upper bounds to pumping from any of the aquifers represented in the model need to be developed and implemented." (p. 27)
- "In general, the level of representation of groundwater in CALSIM II is not reasonable from the point of view of the reviewers." (p. 27)
- "In many cases, it appears that water use and other hydrologic data inputs to CALSIM II are based on data collection and analyses that took place during the 1960's when DWRSIM and PROSIM were being constructed. It is important to ensure that data used for CALSIM II are up-to-date and consistent with the best current information." (p. 20).
- In general, it appears that the developers of CALSIM II do not have a clear idea of how to define the scope of CALSIM II use and many of its applications are evolving in a reactionary manner. Model developers should identify clearly the desired uses for CALSIM II and then determine acceptable approaches for satisfying those desires. Developers should seek to improve data accuracy and overcome unrealistic assumptions to improve the confidence in model results. (page 25)

Furthermore, as numerous CEQA cases have consistently held, local agencies such as CLWA have an independent responsibility to adequately assess reliability. Castaic therefore, and cannot rest its analysis solely on its old DWRSIM studies and the DWR Reliability Report.

Faulty Assessment of Growth-Inducing Impacts

Without adequate review, the transfer would place available water in one of the places in California most likely to promote urban sprawl and destroy environmental habitat The Draft EIR's growth inducement section (Chapter 4) fails to appreciate the significance of this transfer as a linchpin of sprawl development. Following the *PCL* decision and through the Monterey EIR, the state has a responsibility and, as noted above is the only entity with the requisite resources and purview, to determine the environmental impacts, particularly including induced growth impacts, of transfers such as the 41,000 acre-foot transfer. Local agency analysis of these impacts prior to the Tier I Monterey EIR impermissibly and imprudently ignore the state's role in considering alternatives to that transfer which would, for example, meet existing shortfalls in developed Southern California dependent on diminishing Colorado River supplies, while avoiding "dumb growth" in the undeveloped frontier at the Los Angeles-Kern County border.

Rather than squarely confronting the scope and mitigation of growth inducement, the Draft EIR improperly defers the issue to subsequent decisions of local agencies on individual projects. A "chicken and egg" problem emerges here. As reflected in PCL's comment letters on specific projects, local agencies are relying upon *Castaic* to inform them of the reliable water available to support specific proposed projects ranging in scope from small developments to Newhall Ranch. The Draft EIR is entirely speculative in its assumption that project-related growth can be mitigated to insignificance. This issue cannot be credibly reviewed in isolation from the statewide Monterey EIR.

Your consideration of these comments is greatly appreciated.

Sincerely,

Sage Sweetwood

Sage Sweetwood
President, PCL

Naomi Kovacs, MPA
Executive Director, CPA

Exhibit 1

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March 28, 2003

Ms. Delores Brown
Chief, Mitigation and Restoration Branch
Department of Water Resources
3251 S Street
Sacramento, CA 95816

Re: Scoping comments in response to Notice of Preparation for Environmental Impact Report for the "Monterey Plus" EIR

Dear Ms. Brown:

We appreciate the opportunity to provide scoping comments in response to the Notice of Preparation (NOP) for the above-referenced EIR on behalf of the Planning and Conservation League (PCL) and the Citizens Planning Association of Santa Barbara County (CPA). PCL, CPA, and the Plumas County Flood Control and Water Conservation District challenged the environmental review and validity of the original 1995 Monterey Amendments to the State Water Project contracts, and participated in two years of settlement negotiations that followed the Third District Court of Appeal's decision in that case. The court set aside the 1995 Monterey Agreement EIR ("1995 CCWA EIR") prepared by a local joint powers agency, the Central Coast Water Authority (CCWA) and required DWR to prepare a new EIR. (*Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892 (*PCL v. DWR*).)

All three plaintiffs have executed the resulting settlement agreement, which is awaiting final ratification by the Department of Water Resources and the local water districts and agencies that participated in the negotiations. Although the text of the settlement agreement had not yet been released to the public at the time the NOP issued, it is now available on DWR's website (http://www.montereyamendments.water.ca.gov/). DWR is to be commended for encouraging public participation, by extending the scoping comment period for another month following the public release of this agreement.

The new project described in the settlement agreement includes both the Monterey Amendments and additional contract amendments and other program features described in the agreement. The NOP's reference to the new project as "Monterey Plus" is therefore accurate. We believe that the new project offers important benefits that will bring greater public accountability and environmental responsibility to the State Water Project (SWP) in comparison to the original version of the Monterey Amendments reviewed in the invalidated 1995 CCWA EIR.

Equally important as its substantive provisions, the settlement agreement also anticipates that DWR will now prepare an EIR that provides other decision-makers and the public the responsible environmental review denied to them in the 1995 CCWA EIR. In *PCL v. DWR*, the court referred to "the...contractors and the members of the public who were not invited to the table" in the negotiations that led to the Monterey Agreement. (83 Cal.App.4th at 905.) Section III of the settlement agreement provides a detailed overview of elements that DWR has committed to include in its new EIR, while recognizing that the proposed project to be assessed will be specifically defined during the scoping process.

DWR as lead agency retains the ultimate responsibility to ensure that its environmental review and new project decision properly inform decision-makers and the public. We provide specific scoping comments below to encourage DWR to prepare an EIR that is fully consistent with the court's ruling in *PCL v. DWR*, the terms of the settlement agreement, and the requirements of law. If DWR is to overcome the "aura of unreality" identified by the court of appeal in its assessment of the 1995 CCWA EIR (83 CalApp.4th at 913), the department must prepare a new EIR that is solidly grounded in both legal and hydrologic reality.

PCL v. DWR

The EIR must, as a starting point, analyze the substance of the court of appeal's decision in *PCL v. DWR* and ensure that its new project assessment is consistent with the Third District's analysis in that case. The key components of the ruling are as follows:

- **Lead agency requirement**

Holding that CCWA erroneously acted as lead agency, the court ruled that CEQA required DWR, the only entity with the requisite statewide authority and expertise, to assume its proper role as lead agency in preparing a new EIR.

- **"No project" alternative**

The court also held that the CCWA EIR was fatally defective under CEQA for failing to analyze implementation of pre-Monterey state water contract terms, and particularly the permanent shortage provisions of article 18(b), as part of the EIR's no-project alternative. In the event of a permanent shortage (i.e., inability to reliably deliver the full 4.23 million annual acre-feet (MAF) of previously-labeled "entitlements" listed in Table A of the project contracts), pre-Monterey article 18(b) required the proportional reduction of each contractor's amount listed in Table A to match the available supply.

- **"Paper water" problem**

The relationship between so-called "entitlements" and land-use planning was central to the court's holding that the EIR failed to address the "no project" alternative. The court connected this error to the risk of statewide land-use decisions made on the basis of "paper" water entitlements not grounded in real, deliverable water. The court openly criticized the false expectation that the State Water Project will deliver on its full "entitlement" level of 4.23 MAF when the project's historic capability, evidenced in DWR's own data, has only been roughly half this level. The ruling therefore noted the "huge gap between what is promised and what can be delivered." (83 Cal.App.4th at 908.) With respect to the "humbler, leaner reality" of project capability, the Court also noted the implicit assumption in the Monterey Amendments' rebate provisions (article 51) that certain facilities originally envisioned for the SWP will not be built. (*Id.* at 914.)

- **Validation procedure**

In addition to ruling for the plaintiffs on these CEQA claims, the court of appeal found that the plaintiffs had properly initiated a proceeding to question the substantive validity of the Monterey Amendments, including DWR's transfer of a 20,000-acre conservation and storage facility, the Kern Fan Element, to Kern County Water Agency. The court rejected a procedural challenge based on the theory that nonparty state water contractors were indispensable to the validation challenge.

In sum, as a consequence of the appellate ruling in *PCL v. DWR*, DWR must prepare its own EIR as lead agency. That EIR must fully address the "no project" alternative, and therefore must confront the "paper water" concerns the court of appeal identified in its assessment of that issue. As an integral part of the Monterey Amendments, the Kern Fan Element transfer must also be fully addressed in the new EIR.

Settlement Agreement

The EIR must also accurately describe the project based upon the settlement agreement in sufficient detail to inform decision-makers and the public of its potential impacts. Both the "Monterey" and "plus" components must be fully described. Among the provisions of the agreement are these (all references, except as noted, are to the Settlement Agreement):

- Specified provisions of the SWP contracts shall be amended to delete the term "entitlement," to be replaced with the "Table A amounts" as referenced in Table A of the contracts. (Attach. A.)

- New Article 58 of the SWP contracts will require DWR to issue biennial reports starting in 2003 to city, county and regional planning agencies, providing information on SWP delivery capabilities under a range of hydrologic conditions, as well as historic delivery figures. DWR will also produce guidelines by January 2004 to municipal and industrial contractors to provide accurate information for land use planning, with plaintiffs' input. (Attach. A, B.)

- DWR will issue guidelines on permanent transfers of Table A amounts. The negotiations will take place in public, CEQA compliance will be required, and the place and purpose of use must be specified. (Attach. C.)

- Future project-wide contract amendments and amendments to transfer Table A amounts will be in public with opportunities for public participation (Attach. D.)

- The agreement specifies in detail DWR's commitment to assess certain specified elements in the new EIR, which will analyze the Monterey Amendments, "attachment A" amendments, and other settlement provisions. (Section III.)

- Funding will be provided to Plumas in an amount totaling $8 million, principally to improve and restore the Feather River watershed, including the establishment of a locally run watershed forum. The goals of the program are water retention and quality, vegetative management, and groundwater storage. (Section IV.)

- The Kern Water Bank will become subject to new land use restrictions that protect 490 acres of additional land from development, beyond the restrictions currently in place in the applicable Habitat Conservation Plan. Transfer, development and operation of the bank will be addressed in the EIR. (Sections V, III.F.)

- Funding to plaintiffs ($5.5 million total) will support a variety of purposes, including watershed restoration projects, technical studies, and follow-up actions arising from the settlement. (Section VII.)

Non-reliance on CCWA's 1995 EIR

The appellate ruling required DWR to prepare a new EIR, finding that CCWA's 1995 EIR "failed to meet the most important purpose of CEQA, to fully inform the decision makers and the public of the environmental impacts of the choices before them." (*PCL v. DWR,* 83 Cal.App.4th at 920.) The court found it unnecessary to adjudicate the other CEQA deficiencies identified by the plaintiffs after analyzing the defects in the lead agency selection and no project assessment, observing that "DWR, with its expertise on the statewide impacts of water transfers, may choose to address those issues in a completely different and more comprehensive manner." (*Id.*) The court also noted that the deficiencies in the 1995 EIR might be related to the "provincial experience" of CCWA. (*Id.*)

The settlement agreement likewise requires DWR to prepare a stand-alone EIR (section III), and disclaims further reliance on the 1995 EIR to support any new project approved after March 26, 2001 (section VII.A). To ensure consistency with the appellate ruling and the settlement agreement, the new EIR must fully reflect DWR's independent judgment and assessment as lead agency, and must not incorporate or otherwise rely on CCWA's assessments in the invalidated 1995 EIR.

Project Definition

Leading CEQA decisions have long since recognized that "an accurate, stable and finite project definition is the *sine qua non* of the of an informative and legally sufficient EIR." (*County of Inyo v. City of Los Angeles (III)* (1977) 71 Cal.App.3d 185, 199.) The CEQA process cannot "freeze the ultimate proposal in the precise mold of the initial project; indeed, new and unforeseen insights might emerge during the investigation, evoking revision of the original proposal." (*Id.*)

Precision and consistency in a lead agency's characterization of the project under review also reinforces related principles of CEQA: that the project must embrace the "whole of the action" (14 Cal. Code Regs., § 15378(a)); and that assessments in an EIR may not be used to justify a decision already made. In sum, CEQA "compels an interactive process of assessment of environmental impacts and responsive modification which must be genuine." (*County of Inyo v. City of Los Angeles (VI)* (1984) 160 Cal.App.3d 1178, 1185.)

As appropriately noted in the NOP, both the Monterey Amendments and the additional program components specified in the settlement agreement are integral parts of the new project to be reviewed in the EIR. That understanding is also consistent with the settlement agreement (section III.C). The EIR must describe each component of the project in sufficient detail to adequately inform decision-makers and the public about the nature of the project under review.

Environmental Baseline

Without the development of an adequate baseline condition, "analysis of impacts, mitigation measures and project alternatives becomes impossible." (*County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 953.) The baseline for these assessments must be based on an analysis of "real conditions on the ground," rather than mere opinion or narrative. (*Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App. 4th 99, 121.)

The NOP correctly observes that although the environmental baseline is "normally" existing conditions at the time the notice is published (14 Cal. Code Regs. § 15125), the baseline for this EIR must be augmented to address DWR's operation under the Monterey Amendment, and partial implementation of those amendments, since completion of the 1995 EIR. This augmentation (producing two baselines) is necessary to ensure that the EIR fully addresses the "whole of the action," including the Monterey Amendments.

This observation requires clarification in two respects. First, the SWP contracts of two contractors that have not signed the Monterey Amendments (Plumas and Empire Westside) are still governed by the pre-Monterey terms. Second, notwithstanding project approvals in 1995, none of the Monterey Amendments went into effect until August 1996. At that time, following the superior court's announcement of its intended decision but before any review by the court of appeal, DWR and the state water contractors who had signed the Monterey Amendments agreed to waive a provision in the original Monterey Amendments which otherwise required all litigation to be resolved before the Monterey Amendments took effect.

Instead of arbitrarily selecting a single point in time (such as 1995 or 2003) to define the environmental baseline, the EIR will need to fully study *both* pre-Monterey and present conditions.

In developing the baseline, it will be useful to consider the different senses of "conditions" that together form the basis for studying project impacts. For example:

- The *contractual* baseline condition must be the pre-Monterey SWP contracts. Any effort to define the baseline as incorporating the Monterey Amendments, or even partial implementation of some of its elements, would make it impossible for the EIR to properly assess the "whole of the action."

- The *hydrologic* baseline condition should not be confined to a single calendar year. Rather, the impacts of water management changes are best addressed under a range of hydrologic circumstances. Constraints on SWP system performance must also be addressed. Anticipating that need, the settlement agreement provides that the new EIR's "environmental setting" section shall analyze "information on water deliveries of the SWP over the relevant historical period (at least 1991-2002), as well as data regarding the deliveries in the last extended drought (at least 1987-1992)." (Section III.C.1.)

- The *regulatory* baseline condition should examine the range of legal and environmental constraints, other than the contracts and hydrologic conditions, that could impact water deliveries to SWP contractors and the environmental impacts of these deliveries. These constraints might include such matters as Delta water quality standards, endangered species requirements, the SWP's coordinated operations agreement with the Central Valley Project (CVP), competing water rights, and elements of the CALFED program. Such constraints should be studied both as they existed before any elements of Monterey were implemented and as they have evolved since that time.

No Project Alternative

CEQA requires that the no project alternative address "existing conditions" as well as "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." (14 Cal. Code Regs. §15126(e)(2).) That requirement compels DWR in its new EIR to fully study the consequences of enforcing the terms of pre-Monterey water supply contracts prior to eliminating them.

To overcome the prejudicial error noted in the appellate ruling, DWR must "fulfill its mandate" in the new EIR "to present a complete analysis of the environmental consequences" of enforcing the pre-Monterey permanent shortage provision, article 18(b). (*PCL v. DWR*, 83 Cal.App.4th at 915.) The EIR must directly evaluate reduced Table A allocations resulting from application of that article. As a useful starting point, DWR should carefully review and perform the analysis requested in public comments referenced in the Third District's opinion. (*Id.* at 908, 915.) In addition to confirming the SWP's historic inability to deliver anywhere close to full Table A amounts, these comments "corroborate the common sense notion that land use decisions are appropriately predicated in some large part on assumptions about the available water supply." (*Id.* at 915.)

Section III.C.2 of the settlement agreement provides that the new EIR shall include "[a]s part of the CEQA-mandated 'no-project' alternative analysis, an analysis of the effect of pre-Monterey

Amendment SWP contracts, including implementation of Article 18 therein. This analysis shall address, at a minimum, (a) the impacts that might result from application of the provisions of Article 18(b) of the SWP Contracts, as such provision existed prior to the Monterey Amendments, and (b) the related water delivery effects that might follow from any other provisions of the SWP Contracts." Two of the "other" contract provisions inevitably related to this assessment are articles 18(a) and 21, which prior to Monterey required, respectively, that agricultural contractors endure the first cutbacks in water allocations in times of temporary shortage and receive the first allocations in times of surplus.

The environmental effects of proportional reductions in Table A amounts, as calculated in the no project assessment, must be directly compared to those of the proposed project. As the court of appeal made clear in *PCL v. DWR*, neither claims of "infeasibility" nor purported legal disagreements can serve as an excuse for avoiding comparison of the environmental consequences of the no project alternative and the project. (*PCL v. DWR*, 83 Cal.App.4th at 918.)

Project Alternatives

The NOP accurately summarizes the lead agency's requirement under CEQA to examine a range of reasonable alternatives that would feasibly obtain most of the project objectives, but avoid or substantially lessen any significant adverse effects of the project. (14 Cal. Code Regs. §15126.6.) In its screening and review of alternatives, the EIR must provide more than "cursory" analysis. (*PCL v. DWR*, 83 Cal. App. 4th at 919.) It should not construe project objectives so tautologically that only the proposed project could conceivably be capable of achieving them. Nor should the EIR allow the mere "threat of litigation" under a proposed alternative to prevent its environmental review. (*Id.* at 914.)

Assessment of SWP Reliability

DWR's record of deliveries to contractors under the SWP figured centrally in the Third District's conclusion that the 1995 EIR must be set aside. (See *PCL v. DWR*, 83 Cal. App. 4th at 908 (noting the "huge gap between what is promised and what can be delivered" and that "actual, reliable water supply" is "in the vicinity of 2 to 2.5 MAF of water annually" rather than the 4.23 MAF of Table A "entitlements"); 83 Cal. App. 4th at 913 (average actual deliveries under the SWP from 1980-1993 "were around 2.0 MAF").

Similarly frank assessment of DWR's record of deliveries will be essential to a wide variety of issues to be addressed in the new EIR, including the no project alternative as well as the assessment of hydrologic impacts, land use and planning impacts, growth-inducing impacts, and cumulative impacts. As mentioned above, the settlement agreement anticipates this need by calling for assessment of historic deliveries at least from 1987-1992 and 1991-2002. DWR should also coordinate its information about SWP capability with related discussions of the same subject in other contexts, such as hearings in the California Legislature and the pending efforts to revise DWR's Bulletin 160.

Conversely, although computer models can be useful when applied for their intended objectives, no single computer modeling approach, such as the CALSIM II model referenced in DWR's draft State Water Project Delivery Reliability Report (See http://swpdelivery.water.ca.gov/ "draft reliability report")), should substitute for careful assessment of the historical record of project deliveries. Any model must be assessed and calibrated in terms of actual SWP deliveries. Although the draft reliability report is important in its recognition that the SWP cannot reliably deliver the full 4.23 MAF of table A amounts, we do not recommend that DWR's EIR rely on the model-driven conclusions in this version of the report, which have been the subject of significant criticism and calls for redrafting. The report must be read in light of substantial criticisms made in public comments. (See http://swpdelivery.water.ca.gov/commentletters.htm.)

Relying on the CALSIM II model, the draft reliability report constructs delivery probability charts for the SWP for two years, 2001 and 2021. As noted by several commenters, the median delivery identified in the report (3.297 MAF) is on the order of 50% greater than the actual record of historic deliveries to the SWP as reported by DWR. A detailed analysis by Dennis O'Connor for the California Research Bureau, referenced in the comment letter of Senator Machado, indicates that the draft reliability report provides no credible explanation for this disparity. O'Connor's analysis concludes that among other problems, the results are inconsistent with previous estimates and models, recent deliveries were lower than the modeled 2001 conditions, and 2021 does not reflect any growth in upstream consumptive use. His assessment also observes that CALSIM II is not calibrated or otherwise verified, and that the draft reliability report does not use the CALSIM II model as designed. Because the draft reliability report appears to overstate the supply reliability of the SWP, O'Connor's analysis warns that DWR's assessments of reliability should not replace the "paper water" problem with a new, simulation-based "cyber water" problem. Other comment letters, notably those of Robert C. Wilkinson, Peter Gleick, and Arve Sjovold, reach similar conclusions.

Several other points deserve emphasis as they relate to the EIR's references to SWP reliability:

- Any references to SWP delivery reliability in the EIR should be based upon the portion of full Table A amounts that the project can reliably deliver, not the percentage of contractor "requests" that can be met in any given year. The SWP contractual provisions governing allocations in the event of shortages are based upon Table A amounts, not requests. In *PCL v. DWR*, the court of appeal considered and rejected CCWA's attempt to shift the reliability discussion away from Table A-percentages to the request-percentages. (83 Cal. App. 4th at 913.)

- Any assessment of the reliability of SWP Delta exports in the EIR must be integrated with an assessment of CVP exports. Both projects extract water from the Delta in a coordinated management program that includes pumping, storage, and conveyance. Without integrated study of these projects, it would be impossible to discern whether reliability attributed to the SWP was based on water from the CVP.

- The need for integrated assessment of SWP and CVP exports is corroborated in the Bureau of Reclamation's February 21, 2003 scoping comments, which recognize that many changes have taken place since the 1986 signing of the coordinated operations agreement (COA). Reclamation

observes that the operation of the Kern Water Bank and of Metropolitan Water District's Eastside Storage Reservoir "are two prominent influences on SWP operations that were facilitated by the Monterey Amendment" and not considered in the development of the COA. Reclamation also expresses concern about "current and future CVP access to SWP Delta pumping capacity," noting that Monterey Amendment implementation may have influenced these. Reclamation appropriately requests that the EIR "examine in detail how the proposed action would affect CVP access to SWP Delta export capacity both from a historical and future condition perspective. In addition, should the proposed action affect CVP use of SWP Delta export capacity, the EIR should address the environmental and socio-economic effects of these changes."

- Any assessment of the reliability of SWP Delta exports must also consider other potential regulatory and environmental constraints on deliveries. In addition to the COA, these might include Delta water quality standards, endangered species requirements, competing water rights, and elements of the CALFED program.

Changes in SWP Operations and Deliveries

The settlement agreement states that DWR's new EIR shall include "analysis of the potential environmental impacts of changes in SWP operations and deliveries resulting from implementation of the proposed project. If the proposed project results in modifications to the water sources relied upon for the SWP, those sources will be identified and the resulting environmental effects will be assessed." (Section III.C.3.) The EIR must provide this analysis to ensure compliance with the agreement and the requirements of CEQA.

Kern Fan Element Transfer

The EIR must fully address the environmental consequences of transferring the Kern Fan Element from DWR to Kern County Water Agency under article 52 of the Monterey Amendments, as well as its subsequent transfer from KCWA to the Kern Water Bank Authority. As provided in the settlement agreement, "the new EIR shall include an independent study by DWR, as the lead agency, and the exercise of its judgment regarding the impacts related to the transfer, development and operation of the Kern Water Bank" in light of existing environmental permits. (Section III.F.) That study "shall identify SWP and any non-SWP sources of deliveries to the Kern Water Bank." (*Id.*) The EIR must provide this analysis to ensure compliance with the agreement and the requirements of CEQA.

State ownership of the Kern Fan Element must be addressed as the "no project" condition. For the EIR to provide an assessment that can support transfer of the bank to local control, it must provide a sufficient explanation as to whether it would have been feasible to maintain the water bank as a state resource, and under what conditions it could remain a state resource.

The EIR should also analyze an alternative that would allow the Kern Water Bank to remain in local control, subject to operational and financial criteria designed to maximize environmental benefits. One such alternative would require the bank to store environmental water in time of surplus and

make it available at no cost to the state in time of drought, as part of the consideration for allowing the asset to operate the rest of the time for local purposes. In sum, a variety of operating and financial arrangements must be explored to maximize the bank's contributions to the State's environment.

Transfers of Table A Amounts Under the Monterey Amendments

The settling parties recognize the finality of certain transfers of table A amounts from agricultural to urban contractors, listed in attachment E of the agreement. (Section III.D) That list does not include as "final" a single transfer of 41,000 acre-feet of table A amount from Kern County Water Agency to Castaic Lake Water Agency, since that transfer remains the subject of active litigation. (Section III.E; see *Friends of the Santa Clara River v. Castaic Lake Water Agency* (2000) 95 Cal. App. 4th 1373 (ordering the EIR for that transfer set aside due to unlawful "tiering" from the invalidated 1995 Monterey EIR)). Nonetheless, since each of these transfers directly relies on the Monterey Amendments, the settlement agreement provides that DWR's new EIR shall study the potential environmental effects of both the attachment E transfers and the Kern- Castaic transfer. (Section III.C.4.)

Growth-Inducing Impacts

In light of the court of appeal's recognition in *PCL v. DWR* of the close connection between water planning and land-use decision-making, it is crucial that the new EIR fully address any potential growth-inducing impacts of the Monterey Amendments, including those arising from changes in project management and operation, failure to reduce Table A amounts to existing and reasonably foreseeable SWP capability, financial restructuring of the project contracts, water transfers facilitated by Monterey, and water sales from the locally administered Kern Water Bank. The cumulative impacts of these changes also require careful analysis. The growth-inducing effects of "completed" attachment E transfers and the Kern-Castaic transfer must be studied, since they were made pursuant to the Monterey Amendments. (Section III.C.4.)

Conclusion

We hope that these scoping comments assist DWR in preparing an exemplary EIR that will succeed in informing decision-makers and the public of the environmental consequences of the proposed action, continuing the spirit of cooperation and inclusion that the settlement agreement has made possible. Do not hesitate to contact us if you have further questions.

Respectfully,

Roger B. Moore

Antonio Rossmann

Exhibit 2

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February 3, 2004

Via facsimile and email
Los Angeles County Department of Regional Planning
Attention: Daryl Koutnik
320 W. Temple St.
L.A., CA 90012

Re: West Creek Project, #98-008

Dear Mr. Koutnik:

This letter provides comments on the above-referenced project on behalf of the Planning and Conservation League (PCL) and the Citizens Planning Association of Santa Barbara County (CPA). PCL and CPA were two of the plaintiffs whose CEQA challenge resulted in the court-ordered decertification of the original 1995 Monterey Agreement EIR (*Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892 ("*PCL* decision"). PCL and CPA are also signatories to a court-approved settlement agreement subsequently reached with the Department of Water Resources (DWR), state water contractors, and other interested parties. Under this agreement, DWR is preparing a comprehensive statewide environmental review of a revised project designated as "Monterey Plus." (A full copy of that agreement, referred to here as the *PCL* settlement, is posted on the website of the Department of Water Resources at http://www.montereyamendments.water.ca.gov/.)

Approval of the West Creek project as presently proposed would fail to honor the *PCL* decision and subsequent settlement agreement. Far from correcting the errors in water reliability assessment that resulted in judicial decertification of the original EIR for the West Creek project, the new environmental document on which the County Department of Regional Planning is now asked to act, styled as a "Draft Additional Analysis" to the Final EIR (EIR Addition), would perpetuate and compound these errors. The relevance of the *PCL* decision and subsequent settlement to the present project is direct and inescapable. Based upon the *PCL* decision, the Second District Court of Appeal in *Santa Clarita Organization for Planning the Environment v.*

County of Los Angeles (2003) 106 Cal.App.4th 715 (*SCOPE*) ordered decertification of the West Creek EIR because its water services assessment prejudicially failed to address the distinction between paper and actual water. The West Creek EIR had wrongfully but heavily relied upon Castaic Lake Water Agency's (Castaic's) paper entitlements from the State Water Project rather than deliverable water supplies. (*Id.* at 722.)

Regrettably, history repeats itself in the EIR Addition. The new analysis continues to rely on the non-final and highly contested transfer of 41,000 acre-feet of State Water Project Table A Amounts (previously known as "entitlements") from Kern County Water Agency and one of its member districts to Castaic, prior to the statewide assessment of that same transfer already promised under the *PCL* settlement agreement. Indeed, the SWP allocation attributed to Castaic and used in subsequent calculations expressly presupposes this transfer as a source of deliverable water for the project. (See, e.g., EIR Addition, pp. 2.0-3, 4.0-18, 94-95 and Appendix F, pp. 10-12.)

While the EIR Addition concedes that the 41,000 acre-feet transfer may still be invalidated (page 4.0-65), the addition relies on glaring misstatements to perpetuate its imprudent reliance on that transfer. The notion that the Monterey Agreement somehow provides "blanket pre-approval" for this and other Monterey-dependent transfers (*id.* at 4.0-64) deserves rejection in the strongest possible terms. It cannot be reconciled with the *PCL* decision, which ordered an entirely new statewide EIR to be prepared and recognized that "DWR, with its expertise on the statewide impacts of water transfers, may choose to address those issues in a completely different and more comprehensive manner." (*PCL*, 83 Cal.App.4th at p. 920.) Nor can it be reconciled with the *PCL* settlement, which authorizes only the interim application of Monterey in tandem with new settlement components, while leaving to DWR the responsibility to make a new project decision following comprehensive statewide review. (*PCL* settlement, §§II, VII.)

The EIR Addition's assertion that Castaic is "not a party" to the *PCL* litigation, and therefore presumably not bound by the settlement terms (EIR Addition, p. 4-65), is equally false and misleading. Not only is Castaic a party to a joint defense agreement with respondent Central Coast Water Authority, but it, along with Kern and other state water contractors, was a signatory to the *PCL* settlement agreement. That agreement conspicuously excludes the Kern/ Castaic transfer from the list that the signatories, including Kern and Castaic, recognize as "final." (*PCL* settlement, §III.D and Attachment E.) The contested Kern-Castaic transfer, and other newly proposed and non-final transfers, cannot proceed without new environmental analysis satisfying CEQA. (PCL settlement, §VII.A.)

Recognizing that this transfer remains subject to pending litigation and potential invalidation in the Los Angeles Superior Court, a circumstance which remains the case today, the *PCL* settlement also requires the new "Monterey Plus" EIR to analyze the 41,000 acre-feet transfer, as well as other transfers facilitated by Monterey Amendments provisions, such as other agriculture-to-urban transfers referenced in Article 53 of those amendments. (*PCL* settlement, § II.C.4.) The EIR supporting the transfer has already been set aside due to its faulty reliance on the decertified Monterey Agreement EIR, and no legally adequate EIR has been prepared. Reliance on this contested transfer, without the benefit of DWR's statewide "Monterey Plus" EIR, would mirror the "provincial experience" criticized in the *Planning and Conservation League* decision. (83 Cal. App.

3d at p. 918.) That reliance would also create a substantial risk of final decisions based on local analysis that is likely to prove inconsistent with the project decision reached after DWR's "Monterey Plus" EIR. The EIR Addition's speculation that the transfer is unlikely to be "unwound" (page 4.0-65) cannot be reconciled with the *PCL* decision and settlement agreement. The EIR Addition is equally speculative in its unsupported assertion that this Monterey-dependent transfer could proceed under present circumstances in the absence of the Monterey Amendments.

Other aspects of the EIR Addition are equally problematic. To provide just several examples, the document relies on a proposed 16,000 acre-foot permanent transfer of Table A amounts from Kern to Castaic (page 4.0-17) that PCL and CPA have already challenged as inconsistent with the *PCL* decision and settlement. It also separately relies upon a separate 24,000 acre-foot storage agreement that is the subject of a separate judicial challenge. Finally, it relies upon a 2003 reliability report issued by DWR (page 2.0-3) that is the subject of a vigorous and ongoing statewide debate. (See http://swpdelivery.water.ca.gov/commentletters.htm.)

In sum, approval of the project under present circumstances would ignore the central teaching of the *PCL* and *SCOPE* decisions that "the dream of water entitlements from the incomplete State Water Project is no substitute for the reality of actual water the SWP can deliver." (*SCOPE*, 106 Cal.App.4th at p. 717-18.) PCL and CPA urge the County to reject the EIR Addition and final project approval.

Respectfully,

_____

Roger B. Moore

Counsel for Planning and Conservation League and Citizens Planning Association of Santa Barbara County, Inc.

Exhibit 3

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March 1, 2004

County of Los Angeles Regional Planning Department
Impact Analysis Section
Attn: Ms. Hsio-ching Chen
320 W. Temple St., Rm 1348
Los Angeles, CA 90012

RE: River Village Project, Project No. 00-196, TR 53108

Dear Ms. Chen:

This letter provides comments on the above-referenced project on behalf of the Planning and Conservation League (PCL) and the Citizens Planning Association of Santa Barbara County (CPA). PCL and CPA were two of the plaintiffs whose CEQA challenge resulted in the court-ordered decertification of the original 1995 Monterey Agreement EIR (*Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892 ("*PCL* decision"). PCL and CPA are also signatories to a court-approved settlement agreement subsequently reached with the Department of Water Resources (DWR), state water contractors, and other interested parties. Under this agreement, DWR is preparing a comprehensive statewide environmental review of a revised project designated as "Monterey Plus." (A full copy of that agreement, referred to here as the *PCL* settlement, is posted on the website of the Department of Water Resources at http://www.montereyamendments.water.ca.gov/.)

We are concerned that the Water Capacity Analysis supporting the above-referenced project relies on sources of water whose reliability is questionable. The analysis relies upon non-final and highly contested transfer of 41,000 acre-feet of State Water Project Table A Amounts (previously known as "entitlements") from Kern County Water Agency and one of its member districts to Castaic Lake Water Agency, prior to the statewide assessment of that same transfer already promised under the *PCL* settlement agreement. The 96.000 acre-feet figure used for water supply calculations appears to depend upon the availability of that transfer.

Since the problems with the assumptions of water reliability in this project review closely

parallel those in another project on which we recently commented (West Creek project, #98-008), we are attaching our comments recently submitted to the Department of Regional Planning on that project, and ask that the same concerns be fully and fairly addressed in the present project review. Moreover, since the environmental concerns associated with this project overlap with the issues now pending in the statewide "Monterey Plus" environmental review, we are also attaching our scoping comments prepared on that project.

Respectfully,

_____

Roger B. Moore

Counsel for Planning and Conservation League and Citizens Planning Association of Santa Barbara County, Inc.

Exhibit 4

Monterey Amendments or the transfer based upon article 53 of those amendments. Even worse, the Draft EIR presupposes the finality of that Kern-Castaic transfer in defiance of the contrary understanding in the *PCL* settlement agreement, which excludes it from the list of "final" transfers and requires DWR to conduct a statewide assessment of precisely the same transfer in its pending "Monterey Plus" EIR. The SWP allocation attributed to Castaic in the Draft EIR's analysis of water service expressly presupposes that this transfer can be construed as permanent, and relied upon as a source of deliverable water for the project. (See, e.g., DEIR at pp. 4.8-18, 61, 64 and table 4.8-64.) The 41,000 acre-feet from the contested Kern-Castaic transfer constitutes more than 40 percent of Castaic's permanent Table A amount assumed in the Draft EIR's water reliability calculations. (*Id.* at p. 64.)

The relevance of the *PCL* decision and subsequent settlement to assessment of the present project is therefore direct and inescapable. In *PCL*, the Third District Court of Appeal found that the Central Coast Water Authority's 1995 EIR "failed to meet the most important purpose of CEQA, to fully inform the decision makers and the public of the environmental impacts of the choices before them." (83 Cal.App.4th at 920.) CCWA improperly served as lead agency in place of DWR and prejudicially failed to analyze the enforcement of the pre-Monterey permanent shortage provision, article 18(b), prior to its elimination from the State Water Project contracts. The appellate court found it unnecessary to adjudicate the other CEQA deficiencies identified by the Monterey plaintiffs, observing that "DWR, with its expertise on the statewide impacts of water transfers, may choose to address those issues in a completely different and more comprehensive manner." (*Id.*)

In *Friends of the Santa Clara River v. Castaic Lake Water Agency* (2002) 95 Cal.App.4th 1373, the Second District Court of Appeal ordered the decertification of Castaic's EIR supporting the proposed Kern-Castaic transfer. The appellate court found that Castaic's EIR violated CEQA by "tiering" from the invalidated Monterey EIR. The court also relied upon the "lead agency" analysis in the *PCL* decision, emphasizing "the importance of the statewide perspective in analyzing the implications of water entitlement transfers for the state and SWP as a whole." (*Id.* at 1384.).

Unfortunately, the Draft EIR simply repeats Castaic's self-serving efforts to portray the 41,000 acre-feet Kern-Castaic transfer as final, rather than subjecting them to the critical scrutiny they deserve. While the Draft EIR concedes that the 41,000 acre-feet transfer, as well as the Monterey Amendments themselves, may still be invalidated (page 4.8-62), it relies on glaring misstatements to perpetuate its imprudent reliance on that transfer.

First, the notion that the *PCL* settlement agreement somehow recognizes the transfer as a *fait accompli* (cf. DEIR, p. 4.8-56) is false and misleading. That *PCL* settlement agreement conspicuously excludes the 41,000-acre Kern/ Castaic transfer from the list that the signatories, including Kern and Castaic, recognize as "final." (*PCL* settlement, §III.D and Attachment E.) The contested Kern-Castaic transfer, and other newly proposed and non-final transfers, cannot proceed without new environmental analysis satisfying CEQA. (PCL settlement, §VII.A.) Recognizing that this transfer remains subject to pending litigation and potential invalidation in the Los Angeles Superior Court, a circumstance which remains the case today, the *PCL* settlement also requires the new "Monterey Plus" EIR to analyze the 41,000 acre-feet transfer, as well as other transfers facilitated by Monterey Amendments provisions, such as other agriculture-to-urban transfers

referenced in Article 53 of those amendments. (*PCL* settlement, § II.C.4.) Reliance on this contested transfer, without the benefit of DWR's statewide "Monterey Plus" EIR, would mirror the "provincial experience" criticized in the *PCL* decision. (83 Cal. App. 4th at p. 918.) That reliance would also create a substantial risk of final decisions based on local analysis that is likely to prove inconsistent with the project decision reached after DWR's "Monterey Plus" EIR.

Second, CLWA's suggestion, repeated in the EIR, that the Monterey Agreement somehow provides "blanket pre-approval" for this and other Monterey-dependent transfers (*id.* at 4.8-62) also deserves rejection in the strongest possible terms. It cannot be reconciled with the *PCL* decision, which required DWR's forthcoming project decision to be based upon its entirely new statewide EIR. (*PCL*, 83 Cal.App.4th at p. 920.) Nor can it be reconciled with the *PCL* settlement, which authorizes only the interim application of Monterey in tandem with new settlement components, while leaving to DWR the responsibility to make a new project decision following comprehensive statewide review. (*PCL* settlement, §§II, VII.) The Draft EIR's speculation that the transfer is unlikely to be "unwound" (page 4.8-63) cannot be reconciled with the *PCL* decision and settlement agreement.

Third, the Draft EIR is equally specious in its assertion that this Monterey-dependent transfer could proceed under present circumstances in the absence of the Monterey Amendments. Kern County Water Agency's speculation that it would have supported the transfer under pre-Monterey Article 41 is inconsequential to that scenario, in which DWR would have had to consent under different circumstances and requirements for public accountability. Moreover, although transfers with DWR approval were available under Article 41 of the pre-Monterey State Water Project contracts, it is highly speculative whether agriculture-to-urban transfers such as those in the NOPs would even have taken place without the Monterey Amendments, since those Table A amounts would have been subject to "agriculture first" cutbacks under pre-Monterey article 18(a). Read in context, such maneuvers would amount to little more than the "straw man" argument considered and rejected in the *Friends* appeal. (95 Cal.App. 4th at p. 1387.)

Finally, the Draft EIR should not rely upon Castaic's promise to prepare its own separate EIR supporting the Kern-Castaic transfer. As noted in the attached comments sent to Castaic last year, those attempts are also in direct violation of the *PCL* decision and its lead agency principle.

Other aspects of the Draft EIR are equally problematic. To provide just several examples, the document relies on a proposed 16,000 acre-foot permanent transfer of Table A amounts from Kern to Castaic (page 4.8-17) that PCL and CPA have already challenged in scoping comments as inconsistent with the *PCL* decision and settlement. It also relies upon a separate 24,000 acre-foot storage agreement that is the subject of a separate judicial challenge. Finally, it relies upon a 2003 reliability report issued by DWR that is the subject of a vigorous and ongoing statewide debate. (See http://swpdelivery.water.ca.gov/commentletters.htm.) Applications of the CALSIM II model, another subject pending in DWR's statewide EIR, have been the subject of intense recent criticism, notably that of the CALFED peer review panel.

In sum, approval of the project under present circumstances would ignore the central teaching of the *PCL* decision that "the dream of water entitlements from the incomplete State Water

Project is no substitute for the reality of actual water the SWP can deliver." (*Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2003) 106 Cal.App.4th 715 717-18.) PCL and CPA urge the City to avoid any reliance on the faulty assumptions in the Draft EIR discussed in this letter.

Respectfully,

[original signed]

Roger B. Moore

Counsel for Planning and Conservation League and Citizens Planning Association of Santa Barbara County, Inc.

CHAPTER 5

COMPARISON OF ALTERNATIVES AND IDENTIFICATION OF THE EVIRONMENTALLY PREFERREDED ALTERNATIVE

INTRODUCTION AND OVERVIEW

This chapter presents alternatives and compares the impacts to the Proposed Project. It also identifies the environmentally preferred alternative. The Proposed Project and the Alternatives which were evaluated co-equally are fully described in Sections 2.2 and 2.4 of this EIS/EIR. The Proposed Project and Alternatives were fully analyzed in Chapter 3.0 This chapter will summarize the similarities and differences among the alternatives.

5.1 NEPA Requirements to Evaluate Alternatives

Under the National Environmental Policy Act, Council on Environmental Quality Regulations, Section 1502.14, alternatives including the proposed action and no action alternative must be analyzed co-equally (provided in Chapter 3 of this EIS/EIR). Based on information in Chapter 3, a comparative evaluation is presented in this chapter. As required, Section 2.3 identifies alternatives that were not co-equally analyzed (considered and eliminated from further consideration) and the reasons why they were eliminated. The agency's (USACE in this case) preferred alternative should be identified (provided in this chapter).

5.2 CEQA Requirements to Evaluate Alternatives

The California Environmental Quality Act (CEQA) Guidelines, Section 15126.6, require that an Environmental Impact Report (EIR) present a range of reasonable alternatives to the proposed project, or to the location of the project that could feasibly attain most of the basic project objectives, but would avoid or substantially lessen any significant effects of the project. Section 15126.6 also requires an evaluation of the comparative merits of the alternatives. An EIR is required to include an analysis of a reasonable range of potentially feasible alternatives; it is not required to consider alternatives that are infeasible.

The discussion of alternatives must focus on those alternatives capable of avoiding or substantially lessening the significant environmental effects of the proposed project, even if the alternative could impede, to some degree, the attainment of all the project objectives or would be more costly (CEQA Guidelines, Section 15126.6[b]). The proposed project was determined to result in potentially significant impacts related to air quality (diesel emissions) [**To be confirmed.**], geology (exposure to the risk of seismic hazards), and biological resources (increased risk of hydrocarbon spills into harbor waters from terminal facilities or vessel loading/unloading, which could alter intertidal and surface water habitats and ecological function).

The range of alternatives discussed in an EIR is governed by the "rule of reason" that requires identification of only those alternatives necessary to permit a reasoned choice

5.4 ALTERNATIVES COMPARED

For each of the 15 environmental resources, Chapter 3.0 identifies potential significant impacts associated with each of the six alternatives evaluated co-equally. Four of the environmental resources evaluated (air quality, geology, land use, and aesthetics) had unavoidable significant impacts for all of the alternatives except the No Project Alternative. Four of the environmental resources evaluated (groundwater, soils, and sediments; water quality, hydrology, and oceanography; biota and habitats; and light and glare) had avoidable significant impacts for all of the alternatives except the No Project Alternative. The remaining seven resources (ground transportation, marine vessel transportation, recreation, noise, risk of upset, cultural resources, and public services and utilities) have no potential significant impact for all the alternatives. Table 5-1 shows which alternatives have significant impacts for each of the six alternatives analyzed. The discussion below describes the significant impacts for each resource for each alternative that have significant impacts. The discussion also identifies if there are differences in significant impacts among the alternatives.

5.4.1 Resources with Unavoidable Significant Impacts

5.4.1.1 Air Quality

Construction

The project impact analysis determined that implementation of a mitigation measure (see Section 3.1.4) would not reduce ROC or NOx emissions during peak day or calendar quarter construction activities to below their respective SCAQMD significance thresholds. As a result, project construction emissions would produce a cumulatively considerable net increase to O3 levels (a nonattainment pollutant), which would result in a significant unavoidable adverse impact. However, use of newer construction equipment through the implementation of a mitigation measure by itself (see Section 3.1.4) could reduce ROC emissions from construction activities to below the daily and/or calendar quarter SCAQMD significance thresholds. Implementation of additional emission controls identified in a mitigation measure (see Section 3.1.4) also could reduce ROC and NOx emissions to less then significant levels.

Operations

Implementation of amitigation measures (see Section 3.1.4) would reduce project ROC, CO, NOx, SO2, and PM10 emissions to below their daily SCAQMD significance thresholds at some point after project year 2010, but before year 2030. Therefore, the project would result in a cumulatively considerable net increase of these criteria pollutants until this occurs, which would result in significant unavoidable adverse impacts. Implementation of the additional mitigation measures recommended under the discussion of **Impact AQ-9** (see Section 3.1.4) would further reduce operational air emissions.

The project HA determined that implementation of mitigation measures (see Section 3.1.4) would be unable to reduce project health impacts to below significant levels at both residential and employment receptors in proximity to the Berths 136-147 Terminal. These would result in significant unavoidable adverse impacts. Implementation of the additional mitigation measures recommended under the discussion of **Impact AQ-9** (see Section 3.1.4) would further reduce project health impacts.

5.4.1.2 Geology

Design and construction in accordance with applicable laws and regulations pertaining to seismically-induced ground movement would minimize structural damage in the event of an earthquake. However, exposure of people and property during construction to seismic hazards from a major or great earthquake cannot be precluded even with incorporation of modern construction engineering and safety standards. Therefore, potential impacts due to seismically-induced ground failure would remain significant with mitigation. The Proposed Project with the 15-acre landfill has the greatest unavoidable significant impacts. The Proposed Project without the 15-acre fill has the second greatest level of significant impact followed by the reduced wharf alternative. The OMNI and No Federal Action alternatives have approximately the same and fewer significant impacts than the Reduced Wharf Alternative. The No Project Alternative has no new significant impacts.

Design and construction in accordance with applicable laws and regulations would minimize structural damage in the event of a tsunami or seiche. However, exposure of people and property during construction to seismic hazards from a major or great earthquake cannot be precluded even with incorporation of modern construction engineering and safety standards. Therefore, impacts due to tsunamis and seiches would remain significant with mitigation. The Proposed Project with the 15-acre landfill has the greatest unavoidable significant impacts. The Proposed Project without the 15-acre fill has the second greatest level of significant impact followed by the reduced wharf alternative. The OMNI and No Federal Action alternatives have approximately the same and fewer significant impacts than the Reduced Wharf Alternative. The No Project Alternative has no new significant impacts.

5.4.1.3 Land Use

The Proposed Project would widen Harry Bridges Boulevard in place from 50 to 84 feet and would bring the roadway closer to "C" Street residents to the north. This would bring Port-related traffic closer to residential land uses and be a significant impact because it conflicts with the Wilmington-Harbor City Community Plan policies governing land use and the Port of Los Angeles Plan policy to minimize vehicular and pedestrian conflict. This unavoidable significant impact applies to all alternatives but the No Project Alternative.

5.4.1.4 Aesthetics

5.4.2 Resources with Significant Impacts That Can Be Mitigated to Not Significant Impacts

5.4.2.1 Groundwater, Soils, and Sediments

There is the potential for other previously unknown contaminated soil and/or shallow groundwater to be identified during utility pipeline removal, grading, and other excavations during construction. Such discoveries could result in adverse impacts to humans, aquatic, bird, or plant life. This potential for encountering previously undocumented contaminated soil and/or groundwater during backland construction is considered a significant impact. The level of potential significant impact is generally the same for all alternatives except the No Action Alternative because no construction would occur for that alternative. The mitigation measure to reduce this significant impact to not significant is: the contractor shall prepare a contingency plan addressing the response requirements in the event that previously unidentified contaminated soil and/or groundwater are encountered during grading and excavations. In the event that unknown contaminated soils were encountered during excavation, additional soil remediation would be completed in conjunction with project construction.

5.4.2.2 Water Quality, Hydrology, and Oceanography

For the Proposed Project with the 15-acre fill, fill placement with bottom dump barges could result in short-term, significant impacts within and adjacent to the fill area. The mitigation measure to reduce this significant impact to not significant is: plans and specifications for fill placement in the Northwest Slip shall included measures to prevent turbidity from leaving the fill site and entering the West Basin with monitoring to verify that turbidity levels just outside the containment dike during and immediately following discharges of fill remain below WQS. If monitoring shows exceedance of WQS, discharge shall stop until measures are implemented to reduce turbidity from entering the West Basin. Because the other five alternatives do not include the 15-acre fill, they do not have this potential significant impact.

Construction of 15 acres (5.7 ha) of fill in the Northwest Slip would result in a permanent loss of (5.3 ha) of marine water in the Inner Harbor. This would constitute a substantial reduction in marine water in West Basin because surface water, water column, and bottom habitats would be lost. The mitigation to reduce this significant impact to not significant is: The Port has developed a mitigation bank, through an agreement with regulatory agencies, for impacts in the ~~H~~harbor. This bank has been formed through implementation of several off-site restoration and enhancement projects. The credits from this bank are available for offsetting project impacts using the habitat definitions developed in that agreement. Only the Proposed Project with the 15-acre fill would have this potential significant impact. The other alternatives do not.

Operation of container facilities on the 15-acres (5.7 ha) of new landfill and portions of the 55–acres (~~24.3~~ ha) of redeveloped backlands not previously used for terminal purposes would add incrementally to water quality degradation through routine vessel discharges, storm runoff from the new facilities, and accidental leaks or spills of fuels or lubricants. The amount of truck traffic at the facilities would increase to handle the increased throughput beyond what the rail facilities can handle. This would increase the amount of particulate and chemical pollutants from normal wear of tires and other moving parts, as well as from leaks of lubricants and hydraulic fluids that can fall on backland surfaces and be washed--off in stormwater. Impacts of Runoff from the facilities to ~~H~~harbor waters hasve the potential to adversely affect water quality at times during the life of the Project. Currently, each of the tenants would be responsible for

obtaining their own stormwater discharge permit. Existing regulatory controls for runoff and storm drain discharges (e.g., the Los Angeles County Standard Urban Storm Water Mitigation Plan and NPDES Permit No. CAS0040001) are designed to reduce impacts to water quality, but these must be fully implemented to be effective. The presence of regulatory standards or requirements cannot be assumed to result in less than significant impacts under CEQA based on recent court decisions. Thus, the proposed pProject has the potential for significant impacts that can be mitigated to a less than significant level. The mitigation to reduce this significant impact to not significant is: existing regulatory controls for runoff and storm drain discharges are designed to reduce impacts to water quality and will be fully implemented. Tenants will be required to obtain and meet all conditions of applicable stormwater discharge permits as well as meet all Port polllution control requirements. The impacts associated with the Proposed Action with the 15-acre fill are greatest and less for the other alternatives—especially for the No Action Alternative that would have no additional impacts.

5.4.2.3 Biota and Habitats

Creation of 15 acres (6 ha) of landfill in the Northwest Slip would result in a permanent loss of 12.0 acres (4.9 ha) of Inner Harbor deep soft bottom and 4.4 acres (1.8 ha) of rocky dike that is habitat for benthic invertebrates and fish. Water column habitat for fish and plankton as well as water surface habitat for birds would also be lost to the fill (see Table 3.5-2). The 625 feet (191 m) of rocky dike constructed to contain the fill would provide 1.7 acres (0.7 ha) of new hard substrate that would partially offset the 4.4-acre (1.8-ha) loss for a net loss of 2.7 acres (1.1 ha). At a biomass of 21 g/m^2 in soft bottom, an infaunal loss of about 1.0 metric ton would result from the fill in Phase II. The rocky dike lost due to the fill would result in a loss of approximately 10 metric tons of intertidal invertebrates and 36 metric tons of subtidal invertebrates, although 4-metric tons of the intertidal, and 14-metric tons of the subtidal, loss would be short term. Construction of a 15-acre (6-ha) fill would cause a permanent loss of aquatic habitat in the Los Angeles Inner Harbor, and this impact is therefore considered significant. The mitigation that would reduce this significant impact to not significant is: In accordance with mitigation agreements, the Port may also accrue credits by creating or enhancing habitat values. The Port has approximately 6 Inner Harbor credits in its mitigation banks and 116 credits in the Bolsa Chica and Outer Harbor banks. The latter banks would supply 232 Inner Harbor credits (140 + 92 in last column of Table 3.5-3). The Berths 136-147 project would require approximately 15 acres (76 ha) of mitigation in Inner Harbor credits or 7.5 acres (3 ha) in Outer Harbor credits. Only the Proposed Project with the 15-acre fill would have this potential significant impact. The other alternatives do not.

The loss of water column habitat due to placement of fill (approximately 15 acres; 6 ha), however, would result in a substantial loss of habitat for the FMP species that use West Basin. Mitigation of the fill impacts would be by use of existing mitigation credits or development of more credits in accordance with agency agreements. These mitigation measures would offset any project impacts to sustainable fisheries. Only the Proposed Project with the 15-acre fill would have this potential significant impact. The other alternatives do not.

5.4.2.4 Light and Glare

Operation of three five–proposed new 100-gauge cranes at Berths 142-147, if left illuminated in the upright (stowed) position, could direct potentially disabling or blinding glare at southbound motorists on the Harbor Freeway, which would be a significant

impact. The mitigation measure that would reduce this significant impact to less than significant is: insofar as is feasible in terms of safe crane operations, crane booms shall not remain illuminated while in the upright (stowed) position during the nighttime hours or while being raised to or lowered from the stowed position, in order to prevent disabling or blinding glare directed toward motorists on nearby roadways. This potential significant impact does not apply to the OMNI Terminal Alternative and the No Project Alternative.

Exhibit
3

Table 4.0-9
Projected State Water Project Supplies
(acre-feet per year)

	Wet-Year	Average Year (50% Occurrence)	Dry-Year (10% Occurrence)
Existing Conditions	66,300	56,800	37,900
Interim Delta Fix	82,900	73,700	40,200
Full Delta Fix	95,200	95,200	63,900
South of Delta Storage & Full Delta Fix	95,200	95,200	75,800

Based on DWRSIM modeling (assuming full requests for all contractors).

DWRSIM and CALSIM II - Modeling Results. As stated above, the amount of water available to CLWA was calculated through the use of computer models, commonly known as the DWRSIM model and the CALSIM II model. The DWRSIM model, developed by DWR, was used to forecast CLWA water supply under various meteorological and land use changes as well as regulatory constraints. The reliability analysis derived from the DWRSIM model generally provides a conservative projection of SWP operations. For example, SWP delivery projections are usually based on *advance* requests reported by SWP contractors. These requests generally overstate the *actual* need for SWP deliveries. Therefore, there is additional SWP water available for actual distribution despite the DWRSIM modeling results shown above. In addition, as a mathematical model, DWRSIM is limited to the amount of water actually requested and does not include water available in excess of requests. Therefore, as noted below, the modeling results should be supplemented with information based on historic availability of additional SWP water supplies.

DWR has prepared a new computer model, known as CALSIM II. CALSIM II simulates the operation of the SWP on a monthly basis over a 73-year historical record of rainfall and runoff (1922–1994). When compared with DWRSIM, CALSIM II forecasts that more water will be available in average years (i.e., 59.7 percent under DWRSIM versus 75 percent under CALSIM) and less water will be available in single critical dry years (i.e., 39.8 percent under DWRSIM versus 20 percent under CALSIM). The analysis presented in this document utilizes a worst-case combination of the DWRSIM and CALSIM II models. (See DWR's The State Water Project Delivery Reliability Report, Final, dated May 2003, provided in this analysis in Appendix L for a complete description of the CALSIM II model.)

Historically, the SWP has delivered water in excess of SWP contractors' requests. From 1962 to 1999, the SWP delivered water in excess of the SWP contractors' requests in all but four years.

Exhibit
4

FILED
ENDORSED

03 JUN -6 PM 3:27

SACRAMENTO COURTS
DEPT. #53

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF SACRAMENTO

PLANNING AND CONSERVATION LEAGUE a California not for profit corporation, PLUMAS COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, a California public agency; CITIZENS PLANNING ASSOCIATION OF SANTA BARBARA COUNTY, INC., a California not for profit corporation,

Plaintiffs and Petitioners,

v.

DEPARTMENT OF WATER RESOURCES, a California State Agency, et al.,

Defendants and Respondents.

Case No. 95CS03216

ORDER PURSUANT TO PUBLIC RESOURCES CODE SECTION 21168.9

On remand from the Third District Court of Appeal on May 20, 2003, in Department 53 of the Sacramento Superior Court, the Honorable Loren E. McMaster, presiding, this proceeding came on for a status report and joint motion. Petitioners and Plaintiffs, Planning and Conservation League, Plumas County Flood Control and Water Conservation District, and Citizens Planning Association of Santa Barbara County ("Petitioners"), appeared through Antonio Rossmann and Roger B. Moore. Respondent and Defendant, Central Coast Water Authority (CCWA), appeared through Susan F. Petrovich of the Law Firm of Hatch & Parent. Respondent and Defendant, Department of Water Resources (DWR), appeared through Deputy Attorney General Marian E. Moe.

Robert S. Draper of O'Melveny and Myers, LLP and Clifford W. Schulz appeared, respectively, on behalf of the Metropolitan Water District of Southern California and Dudley Ridge Water District, entities that submitted answers to the First Amended Complaint subsequent to the Court of Appeal's final determination in this action and prior to any further order of this Court on remand.

In light of the direction from the Third District Court of Appeal on remand in Planning and Conservation League v. Department of Water Resources (2000) 83 Cal.App.4th 892, this Court hereby makes the following findings:

1. The parties to this lawsuit and other public agencies have engaged in extensive settlement negotiations, mediated by retired Judge Daniel Weinstein of JAMS Dispute Resolution, with the intent to avoid further litigation and associated expenses, to provide for an effective way to cooperate in the preparation of a new environmental impact report (EIR), and to make other specified improvements in the administration and operation of the State Water Project.

2. The mediation has resulted in an executed Settlement Agreement for approval by this Court, attached to this Order as Exhibit A.

3. DWR as lead agency has commenced the preparation of the new EIR.

4. As part of the Settlement Agreement, DWR and the State Water Project (SWP) contractors who are signatories to the Settlement Agreement have agreed that, pending DWR's filing of a return in satisfaction of the Writ of Mandate and this Court's dismissal of the Writ of Mandate, they will not approve any new project or activity (as defined in section VII.A of the Settlement Agreement) in reliance on the 1995 Environmental Impact Report for the Implementation of the Monterey Agreement.

5. This Order is made pursuant to the provisions of Public Resources Code section 21168.9 and pursuant to this Court's equitable powers. This Court finds that the actions described in this Order, including actions taken in compliance with the Writ of Mandate, comprise the actions necessary to assure DWR's compliance with Division 13 of the Public Resources Code. This Court further finds that this Order includes only those

mandates necessary to achieve compliance with Division 13.

THEREFORE, IT IS HEREBY ORDERED as follows:

1. This Court's Final Judgment denying the petition for writ of mandate, entered August 15, 1996, is reversed in accordance with the directive of the Third District Court of Appeal's decision in Planning and Conservation League v. Department of Water Resources (2000) 83 Cal.App.4th 892.

2. This Court's order granting the summary adjudication on the fifth cause of action, entered June 10, 1996, is vacated.

3. The Settlement Agreement attached as Exhibit A is hereby approved.

4. A Peremptory Writ of Mandate directed to Respondents Central Coast Water Authority and DWR shall issue under seal of this Court in the form attached hereto as Exhibit B.

5. In accordance with the Settlement Agreement and this Order, pending DWR's filing of the return in compliance with the Peremptory Writ of Mandate and this Court's Order discharging the Writ of Mandate, DWR and CCWA shall not approve any new project or activity (as defined section VII.A of the Settlement Agreement) in reliance on the 1995 EIR for the Implementation of the Monterey Agreement.

6. In the interim, until DWR files its return in compliance with the Peremptory Writ of Mandate and this Court orders discharge of the Writ of Mandate, the administration and operation of the State Water Project and Kern Water Bank Lands shall be conducted pursuant to the Monterey Amendments to the State Water Contracts, as supplemented by the Attachment A Amendments to the State Water Contracts (as defined in the Settlement Agreement) and the other terms and conditions of the Settlement Agreement.

7. Plaintiffs and petitioners shall recover such costs and attorney's fees as provided in prior court orders and in an amount as determined in the arbitration procedures agreed to in the Settlement Agreement, or as otherwise agreed to by the parties.

8. Except as provided, the Peremptory Writ of Mandate shall not limit or constrain the lawful jurisdiction and discretion of DWR. This Court retains jurisdiction until DWR files a return that complies with the terms of the Writ of Mandate, and this Court issues an order discharging the Writ of Mandate.

IT IS SO ORDERED.

Dated: JUN - 6 2003, 2003

LOREN E. McMASTER

Judge of the Superior Court

Exhibit

5

Tentative Ruling

9/24/02

Pursuant to the direction of the Court of Appeal, [this Court does] issue the following judgment:

1. The judgment of this Court denying the petition for writ of mandate, signed and filed on August 16, 2000, is vacated.

2. A writ of mandate is to issue ordering respondent Castaic Lake Water Agency to set aside its certification, made on March 29, 1999, of a Final Environmental Impact Report published in February 1999.

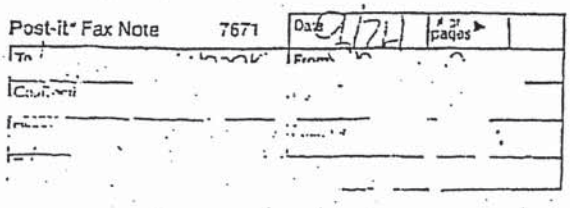
3. The Court retains jurisdiction until respondent Castaic Lake Water Agency certifies an Environmental Impact Report that complies with the California Environmental Quality Act and is consistent with the views expressed by the Court of Appeal Opinion filed January 10, 2002, case B145283.

4. The Court reserves jurisdiction to determine, upon proper and timely motion by petitioner, whether to award reasonable attorney fees to petitioner pursuant to CCP § 1021.5.

5. Petitioner is the prevailing party in this proceeding.

Petitioners request that the Court also prohibit respondent from using any of the 41,000 acre feet of additional water allotted to it from the State Water Project. Petitioners contend that the said water will be used to approve new development that will not be able to be reversed if a Final Environmental Impact Report is not certified. Respondent contends that such a prohibition would prevent it from meeting the existing water needs in the area it services. Both contentions appear to be speculative at this time. Respondent will not be prohibited from using the water to which it is entitled, but petitioner may renew its application for such prohibition based upon evidence of the actual use of such additional water for purposes it considers improper.

Counsel for petitioner is to submit a proposed judgment and proposed writ to this Department within 10 days together with proof of service showing that copies of said documents have been served on opposing counsel by hand delivery or FAX. The Court will hold the documents for 10 days before signing and filing the judgment and causing the clerk to issue the writ.



DECLARATION OF DAN MASNADA

I, Dan Masnada, declare as follows:

1. I am the General Manager of the Castaic Lake Water Agency ("CLWA"), one of the Respondents and Defendants in this case. I have personal knowledge of the facts set forth herein, and if called upon as a witness would testify as set forth below. This Declaration is offered in support of Defendant's Memorandum of Points and Authorities in Support of a Request for a Remedy pursuant to CEQA § 21168.9.

2. I became General Manager of the Agency in early April, 2002. Prior to that time, from 1992 until April of this year, I was Executive Director of the Central Coast Water Authority ("CCWA"). In connection with that position, I was responsible for the construction and consequent operation and management of a 42-mile regional pipeline and 43-million gallon per day treatment facilities serving State Water Project ("SWP") water to 25 retail Purveyors and Contractors in San Luis Obispo and Santa Barbara Counties. In addition, I also managed an 88-mile portion of the Coastal Branch pipeline and ancillary facilities under a contract with the California Department of Water Resources ("DWR"). I also represented CCWA on the State Water Contractors ("SWC") Board of Directors, and served as SWC Vice President prior to leaving CCWA. Prior to my service with CCWA I was the Managing Director and Vice President for the Valencia Water Company, a regulated private water company with retail water authority within CLWA's Service Area.

3. The purpose of my Declaration is to provide testimony describing CLWA, its mission, its resources and its operations, with particular emphasis on CLWA's 1999 acquisition of 41,000 acre-feet-per-year ("AFY") of State Water Project ("SWP") water entitlement pursuant to an agreement (the "Transfer of Entitlement") between CLWA and Kern County Water Agency ("KCWA"), through its member district, Wheeler Ridge-Maricopa Water Storage District ("WRMWSD").

4. Significant, immediate and irreparable harm to CLWA and its ratepayers would occur, as described below, if this Court were to set aside the Transfer of Entitlement.

BACKGROUND REGARDING CLWA

CLWA is a Special District, formed, existing and exercising its powers pursuant to

the Castaic Lake Water Agency Law [Water Code Appendix - § 103-1, *et seq.*]. CLWA was created by the California Legislature in 1962 as a vehicle to provide the Santa Clarita Valley (the "Valley") with a supplemental water supply from the SWP, and to provide the necessary treatment and conveyance facilities to deliver this water to retail water purveyors in the Valley. CLWA's mission is to provide reliable, quality water at a reasonable cost to Valley water users.

6. CLWA's Service Area covers approximately 195 square miles, including the entire City of Santa Clarita and the surrounding unincorporated communities. CLWA obtains SWP water at Castaic Lake. The water is treated, filtered and disinfected at CLWA's two treatment plants. From the treatment plants, treated water is delivered by gravity through a distribution network of pipelines and turnouts to CLWA's immediate customers, the retail water purveyors serving the water users and ratepayers in the Valley.

7. The Valley's principal retail water purveyors are: Los Angeles County Waterworks District No. 36, Newhall County Water District, Santa Clarita Water Company Division of the Castaic Lake Water Agency, and Valencia Water Company (the "Retail Purveyors"). Over the years, CLWA has worked closely with the Retail Purveyors to enhance and protect the quantity and quality of available water resources for Valley residents. Representatives of CLWA and the Retail Purveyors meet regularly to coordinate the beneficial use of water in the Valley.

8. The Santa Clarita Valley groundwater basin is unadjudicated. Therefore, none of the retail purveyors have distinct "water rights," as would be the case in an adjudicated basin, that restrict their water supply. In practice, groundwater, subject to facility constraints, has been available to each of the Retail Purveyors on an as-needed basis.

9. To assure that it is adequately meeting the Valley's water needs, the Agency prepares a data document that updates its Capital Improvement Program, Water Demand Projections and Capital Facilities Fee schedule. In addition, the Agency maintains a database of every parcel in its Service Area. That database contains information on current or projected water demand for each parcel. The Agency is one of the few agencies that maintains a parcel-by-parcel accounting of current and projected water demands. CLWA has updated its Capital Improvement Program and projected water demands on an annual basis since 1988. Based on these projections, the Agency

has identified the need to acquire additional water.

10. The supply of SWP water is distributed among water service areas established by CLWA on a basis that allows water to be delivered to these service areas as it is needed. The current allocation scheme, defined by the California Water Code-Appendix, Chapter 103, Section 29.5, is based upon capital-related taxes, charges, and water rates – as well as the collection of connection fees paid by new development. According to that system, SWP water is to be preferentially allocated among the CLWA-defined water service areas in proportion to the capital monies collected from those water service areas for CLWA's capital program.

11. CLWA and the DWR have entered into a water supply contract. The contract is the method used to fund construction and operation of the SWP facilities for the delivery of water to CLWA and other SWP contractors. Each water supply contract with DWR sets forth a maximum annual entitlement of SWP water, which is stated in Table A to the contract ("Table A SWP Entitlement"). At this time, CLWA's base Table A SWP Entitlement is 95,200 AFY, which includes the 41,000 AFY obtained from KCWA and KCWA's member district, WRMWSD.

12. Despite CLWA's contractual entitlement to SWP supplies, deliveries of SWP water are not assured. Based on current practices, CLWA provides DWR with an estimate of the quantity of water needed for the upcoming year, and places an order with the DWR for the estimated amount. Generally, beginning on December 1st of each year and proceeding through the winter, DWR allocates to SWP contractors a percentage of the Table A Entitlements. In a year when DWR is not able to deliver the full amounts requested by the SWP contractors, deliveries are reduced so that they equal the total available supply for that year.

<u>IMPORTANCE OF THE 41,000 AFY TO SANTA CLARITA VALLEY WATER SUPPLIES</u>

13. Attached as Exhibit A to this Declaration is a Spreadsheet containing two Tables prepared at my direction. The first Table, entitled "Supply and Demand from 1990 to 2002 – With 41,000 AFY," shows actual deliveries of imported water and groundwater to Santa Clarita Valley water users from 1990 to 2002, with the 41,000 AFY starting in calendar year 2000. The second Table, entitled "Supply and Demand from 1990 to 2002 – Without 41,000 AFY," shows that if the [illegible] the 41,000 AFY, the Santa Clarita Valley would have

experienced water shortages in 2001 and 2002 [*i.e.*, a shortage of 14,218 AF in 2001 and an estimated shortage of 4,060 AF in 2002].

14. Since 1998, SWP water deliveries in the Santa Clarita Valley have increased significantly. This increased supply of SWP water, planned by CLWA consistent with its long-term planning assumptions, is needed to serve both existing and projected demand. The loss of the 41,000 AFY from CLWA's supplies will unfairly burden existing Santa Clarita Valley water users with: (i) enhanced possibility of water use restrictions and water rationing; (ii) higher cost replacement water [assuming such replacement water is available]; (iii) increased potential for the use of lower quality groundwater [as compared to SWP water] as the retail purveyors adjust their operations to increase groundwater pumping to make up the shortfall; and (iv) increased possibility of groundwater overdrafting if the retail purveyors adjust their operations to increase groundwater pumping to make up the shortfall.

15. As shown in Exhibit A, if the Transfer of Entitlement were set aside, DWR's 2002 allocation of SWP water to CLWA would have to exceed 77% this year to meet existing demand. That level of delivery did not occur this year and, in fact, cannot be expected year in and year out. It is unlikely in the near term given current hydrologic conditions and existing SWP facilities in operation.

16. In addition to causing immediate shortfalls, loss of the 41,000 AFY would preclude CLWA from banking excess 2002 SWP water entitlement for use by existing users in upcoming dry years. The absence of such banked supplies during dry years would increase the likelihood of prematurely implementing severe mandatory rationing measures typically invoked during drought periods. The loss of banked supplies could also result in unduly stressing the Santa Clarita Valley aquifers due to increased groundwater pumping.

17. The permanent loss of the 41,000 AFY of additional SWP entitlement will have an immediate and devastating impact on CLWA's ability to deliver requested water supplies to the Retail Purveyors. If a critical dry year condition were to occur next year and DWR were to deliver only 20% of the SWP contractors' entitlement, i.e., CLWA did not have access to the 41,000 AF delivery shortfall of 31,000 acre-feet [the equivalent of

almost 75% of total SWP 2002 demand for water] during 2003.

DEFINITION OF "EXISTING WATER DEMAND"

18. The loss of the 41,000 AFY from CLWA's water supplies would adversely impact water users and ratepayers currently receiving water deliveries in the Santa Clarita Valley. To provide an accurate measure of the magnitude of the loss, however, the definition of "existing water users" must include water users currently receiving water deliveries and those water users that will begin receiving water deliveries while the new EIR for the Transfer of Entitlement Agreement is completed [and litigated]. In this regard, Los Angeles County's Development Monitoring System ("DMS") is illustrative.

19. The County's DMS data includes all pending, approved and recorded projects for which land divisions [*e.g.*, subdivision maps] have been filed within County unincorporated lands and within the City of Santa Clarita. The County's DMS is used to quantitatively determine the extent of a project's impact on public services, such as water, in conjunction with these approved and recorded projects.

20. Because approved and recorded projects are not currently operational [*i.e.*, not yet receiving water deliveries], but will be operational in the future, the County's DMS accounts for those projects by reporting a water demand that considers how existing and near-term projected development will impact the Valley's water supplies. By relying on the County's DMS, CLWA and the retail water purveyors must have available supplies to meet existing and already approved development in the Valley.

21. The 41,000 AF of SWP entitlement is needed to meet demand of current users. Approved development merely exacerbates the water shortage. The DMS water demand for the Santa Clarita Valley exceeds "current delivery" demand by approximately 12,000 AFY based on "approved" and "recorded" projects.

22. CLWA has already retained consultants to begin preparing a new EIR to assess the potential environmental impacts of the Transfer of Entitlement and plan to complete that process within the next six months. Assuming Petitioner brings a lawsuit challenging the new EIR and [illegible] EIR is beyond legal

challenge. Given that a number of the projects identified in the County's DMS as "approved" and "recorded" will become operational [*i.e.*, will begin to require actual water deliveries] during that period, the additional 12,000 AFY additional demand associated with those projects must be added to computation of the "existing" demand for water supplies in the Santa Clarita Valley. In this context, the risks of setting aside the Transfer of Entitlement are significant.

RESPONSES TO BRANDT-HAWLEY DECLARATION

23. I have read the Declaration of Susan Brandt-Hawley in Support of Judgment and peremptory Writ on Demand (the "Brandt-Hawley Declaration"), submitted by Petitioner, Friends of the Santa Clara River. The Brandt-Hawley Declaration states that "CLWA expects an even larger allocation made by DWR in the coming fiscal year to as much as 90%." *See* Brandt-Hawley Declaration, at 2:17-20. There is no factual basis for this statement. There have been no indications that CLWA's SWP allocation made by DWR in the coming year will be anywhere near 90%. To the contrary, based on discussions with DWR Operations Control Office Personnel it is likely that the initial 2003 SWP allocation on December 1, 2002 will be approximately 20%, as it was last year. If dry conditions occur next year, the final SWP allocation for 2003 could remain as low as 20%.

24. The Brandt-Hawley Declaration also states that the CLWA Production Report "shows that water use is measured yearly from June to June." *Id.* at 2:19-20. This is incorrect. While annual water use can be measured from July to June, available SWP water supply is characterized on a calendar year basis because DWR allocates it on a calendar year basis. Brandt-Hawley's accounting of water deliveries if flawed. She has utilized an approach that understates CLWA's current level of demand and projected deliveries to the retail purveyors during 2002. As discussed above, and shown in Exhibit A, CLWA's Final 2001 SWP allocation was 39%. Without the 41,000 AF in 2001, CLWA would have experienced a shortfall of 14, 218 AF.

OTHER EQUITABLE CONSIDERATIONS

25. The Transfer of Entitlement is an agreement between two state water contractors [*i.e.*, CLWA and KCWA] for a reallocation of SWP water entitlement. Pursuant to the Transfer of

entitlement. As a result, CLWA's annual SWP water entitlement was increased by 41,000 AFY [to its current entitlement of 95,200 AFY] and KCWA's annual entitlement was reduced by the same amount.

26. CLWA executed the Transfer of Entitlement in March 1999, and the Agreement was effective upon execution. DWR approved the Transfer of Entitlement pursuant to Amendment 18 to the Water Supply Contract between CLWA and DWR, thereby permanently transferring the 41,000 AFY of SWP water entitlement to CLWA. The Agency paid approximately $48 million for the additional SWP entitlement. Those monies have been received by WRMWSD, and were financed by CLWA's sale of tax exempt obligation bonds. In short, the Transfer of Entitlement has been executed, performed and implemented. If that agreement were set aside, CLWA's contractual rights and obligations would be significantly impaired. **This contractual impairment could extend to and adversely impact entities that are not even named parties to this litigation, including DWR, KCWA and WRMWSD.**

27. Upon execution of the Transfer of Entitlement Agreement, CLWA also commenced paying DWR a fixed annual cost of approximately $6.8 million for the 41,000 AFY acquired from WRMWSD. If the Transfer of Entitlement were set aside, CLWA would have to continue paying DWR $6.8 million **annually,** without receiving the benefit of the 41,000 AFY, or risk a breach of its State Water Contract and/or the Transfer of Entitlement. Current users are paying for a portion of these fixed costs and should benefit by having the water available to them.

28. The Transfer of Entitlement has been in effect for more than three years. During that time, CLWA has not noted any significant adverse environmental impacts not previously identified in the Agency's Final EIR. Nor has CLWA ever been advised of any increase in the severity of any environmental impacts previously identified in the Agency's Final EIR. Finally, opponents of the Transfer of Entitlement have not provided any documentation or other materials evidencing new or increased impacts resulting from the reallocation of the 41,000 AFY to CLWA. In summary, had it not been for the *PCL*/tiering issue, CLWA's Final EIR would have withstood all of Petitioner's CEQA challenges.

are limited. The Appellate Court in this case confirmed that, except for the *PCL*/tiering issue, the challenges to the Final EIR were "without merit." CLWA has already retained an environmental consultant to begin preparation of the new EIR and that work is well underway.

30. Finally, CLWA is engaged in securing adequate water supplies for the residents and taxpayers of the Santa Clarita Valley. In my view, I do not see any good reason for setting aside the completed Transfer of Entitlement, particularly where, as here, CLWA already discounted its reliance on the additional 41,000 AFY of entitlement by 50%, consistent with the *PCL* decision, and preparation of the new EIR for the Transfer of Entitlement is in progress.

I declare under penalty of perjury that the foregoing is true and correct under the laws of the State of California, and is executed this 12th day of September, 2002 at Santa Clarita, California.

Dan Masnada

SUPPLY AND DEMAND FROM 1990 to 2002 (ESTIMATED)* - With 41,000 AFY (From 2000 to Present)

Year	CLWA Entitlement (AF)	DWR Allocation Percentage (%)	CLWA Entitlement Allocation (AF)	Imported Water Delivered (AF)	Delivery as a % of CLWA Allocation (%)	Groundwater Produced by Purveyors (AF)	Total Water Delivered by Purveyors (AF)	Agriculture and Other Uses (AF)	Total Groundwater Produced (AF)	Total Water Demand (AF)
1990	54,200	100%	54,200	21,613	40%	21,453	43,066	11,284	32,737	54,350
1991	54,200	30%	16,260	7,968	49%	31,825	39,793	10,279	42,104	50,072
1992	54,200	45%	24,390	13,911	57%	27,355	41,266	12,147	39,502	53,413
1993	54,200	100%	54,200	13,393	25%	29,959	43,352	11,220	41,178	54,572
1994	54,200	50%	27,100	14,389	53%	31,599	45,988	13,870	45,469	59,858
1995	54,200	100%	54,200	16,996	31%	28,677	45,673	14,353	43,030	60,026
1996	54,200	100%	54,200	18,093	33%	32,054	50,147	15,350	47,404	65,497
1997	54,200	100%	54,200	22,148	41%	32,025	54,173	16,386	48,411	70,559
1998	54,200	100%	54,200	20,254	37%	28,604	48,858	13,611	42,215	62,469
1999	54,200	100%	54,200	27,282	50%	29,988	57,250	17,174	47,142	74,424
2000	*95,200*	100%	95,200	32,579	34%	28,409	60,988	15,323	43,732	76,311
2001	*95,200*	39%	37,128	35,356	95%	25,322	60,678	16,091	41,413	76,769
2002(est)	*95,200*	70%	66,640	*42,000*	63%	25,000	67,000	16,000	41,000	83,000

SUPPLY AND DEMAND FROM 1990 to 2002 (ESTIMATED)* - WITHOUT 41,000 AFY

Year	CLWA Entitlement (AF)	DWR Allocation Percentage (%)	CLWA Entitlement Allocation (AF)	Imported Water Delivered (AF)	Delivery as a % of CLWA Allocation (%)	Purveyor Demand Met?	
1990	54,200	100%	54,200	21,613	40%	Yes	
1991	54,200	30%	16,260	7,968	49%	Yes	
1992	54,200	45%	24,390	13,911	57%	Yes	
1993	54,200	100%	54,200	13,393	25%	Yes	
1994	54,200	50%	27,100	14,389	53%	Yes	
1995	54,200	100%	54,200	16,996	31%	Yes	
1996	54,200	100%	54,200	18,093	33%	Yes	
1997	54,200	100%	54,200	22,148	41%	Yes	
1998	54,200	100%	54,200	20,254	37%	Yes	
1999	54,200	100%	54,200	27,282	50%	Yes	
2000	54,200	100%	54,200	32,579	60%	*No*	Requires CLWA/Purveyors to deliver 14,218 AF from an alternate source
2001	54,200	39%	21,138	21,138	100%	*No*	Requires CLWA/Purveyors to deliver 4,060 AF from an alternate source
2002(est)	54,200	70%	37,940	37,940	100%		

Note: * 1990-2001 data is from the Santa Clarita Valley Water Report (dated April 2002). 2002 data is based on actual deliveries through August and projections from September through December (DWR 2002 allocation percentage of 70% is final).

EXHIBIT "A"

Exhibit

6

COPY

State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

AGREEMENT AMONG DEPARTMENT OF WATER RESOURCES, STATE OF CALIFORNIA, KERN COUNTY WATER AGENCY AND SEMITROPIC WATER STORAGE DISTRICT FOR INTRODUCTION OF LOCAL WATER INTO THE CALIFORNIA AQUEDUCT

THIS AGREEMENT is made this 2 day of March, 1995, pursuant to the provisions of the California Water Resources Development Bond Act, and other applicable laws of the State of California, among the DEPARTMENT OF WATER RESOURCES, herein referred to as the "DEPARTMENT," the "Kern County Water Agency" herein referred to as the "AGENCY", a political subdivision of the State of California created by an Act of the California State Legislature (statute 1961 ch 1003 or as amended), and the "SEMITROPIC WATER STORAGE DISTRICT," acting on behalf of itself, Semitropic Improvement District (SID), Pond-Poso Improvement District (PPID), and Buttonwillow Improvement District (BID), herein collectively referred to as the "DISTRICT." The DISTRICT is a public agency, duly organized, existing and acting pursuant to the laws of the State of California.

RECITAL

A. In 1993, the District constructed a 300 cubic-foot-per-second turnout and turn-in/pumpback facility, also known as "Semitropic No. 2 Turnout," at Mile Post 209.80 of the California Aqueduct, constructed pursuant to provisions of an AGREEMENT FOR CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE SEMITROPIC NO. 2 TURNOUT, dated October 8, 1992, between the DEPARTMENT and the

DISTRICT. This Agreement also provides for necessary right of entry for the DISTRICT to enter DEPARTMENT property.

B. The DISTRICT intends to use the facility to deliver water to the DISTRICT from the California Aqueduct and to pump Local Water into the Aqueduct under provisions of this Agreement and separate ground water banking and/or wheeling agreements currently existing or which may be agreed to in the future. These separate agreements will address appropriate legal, institutional and other pertinent aspects of making Local Water available. They will also set forth conditions under which the turn-in facility will be operated to convey Local Water to the Aqueduct, and where appropriate, how such water is to be later returned to the DISTRICT.

C. Recognizing that the DEPARTMENT has a Contract for Water Service with the AGENCY, and that the turn-in facility is located within the AGENCY'S service area, the AGENCY shall either approve and/or be party to all future agreements referenced in Recital B.

AGREEMENT

The DEPARTMENT agrees to accept Local Water from the DISTRICT into the California Aqueduct subject to the following terms and conditions:

1. DEFINITIONS

When used in this Agreement, the following definitions shall apply:

A. "LOCAL WATER" shall mean all extracted ground water from various wells throughout the DISTRICT and possibly imported surface water commingled before it reaches the turn-in facilities at the Aqueduct. Except for incidental Project

Water remaining in the DISTRICT'S distribution system at the time when the turn-in facility is activated, no Project Water shall be used for commingling purposes.

B. "PROJECT WATER" shall mean water made available for delivery to State Water Contractors by project conservation facilities and the transportation facilities included in the State Water Resources Development System as defined in Section 12931 of the Water Code.

C. "STATE WATER CONTRACTORS" shall mean any entity contracting with the State of California for a dependable supply of water made available by the State Water Resources Development System.

D. "STATE WATER PROJECT" shall mean all facilities included in the State Water Resources Development System.

2. PURPOSE

The purpose of this Agreement is to set forth provisions for the DISTRICT to introduce Local Water into the California Aqueduct using Semitropic No. 2 Turnout. All Local Water introduced into the California Aqueduct under this Agreement shall be limited to water made available under separate existing or future ground water banking and/or wheeling agreements referenced in Recital B of this Agreement.

3. AQUEDUCT INFLOW

All Local Water delivered into the California Aqueduct pursuant to this Agreement shall be scheduled and approved by the AGENCY and the DEPARTMENT. The DISTRICT shall submit a proposed schedule of Local Water showing flow rates, volumes, dates, and times to the

AGENCY for its review and approval. Upon AGENCY approval, the AGENCY shall submit the proposed schedule to the DEPARTMENT which will review the DISTRICT'S proposed schedule and send the DISTRICT a letter either approving, disapproving, or modifying the schedule. The DEPARTMENT or the AGENCY may, at any time, modify the DISTRICT'S schedule. The DEPARTMENT shall measure the amount of the DISTRICT'S Local Water placed into the California Aqueduct. The instantaneous flow rate from the DISTRICT facility discharging Local Water into the California Aqueduct under this Agreement shall not exceed the approved capacity of the turn-in facility, estimated to be approximately three hundred (300) cfs, and the quantity of Local Water introduced into the California Aqueduct shall not interfere with the operations of the State Water Project as determined by the DEPARTMENT.

4. PERMITS

The DISTRICT, at its sole expense, shall be responsible for obtaining all permits, licenses, and agreements and for performing all environmental surveys necessary for the extraction, acquisition, transportation, introduction and use of Local Water introduced into the California Aqueduct. The DISTRICT shall provide a copy of all documentation, generated in its compliance under this paragraph, to the DEPARTMENT at the State Water Project Analysis Office. The DEPARTMENT, at its option, may obtain a permit, license, or agreement or perform an environmental survey on behalf of the DISTRICT. The DISTRICT agrees to pay the DEPARTMENT any reasonable costs incurred by the DEPARTMENT in

obtaining such a permit, license, or agreement or in performing an environmental survey.

5. WATER QUALITY CRITERIA FOR LOCAL WATER

(a) Unless otherwise agreed to in writing by the DEPARTMENT, all Local Water supplies made available for inflow into the California Aqueduct shall be in conformance with the DEPARTMENT'S then current water quality criteria applicable to all other similar inflow situations at the time of the introduction of water into the California Aqueduct within the AGENCY'S service area of the California Aqueduct. The DISTRICT, at its sole expense, shall pay all costs for water quality sampling and analysis, and equipment maintenance associated with monitoring of the input of Local Water placed into the California Aqueduct. The DEPARTMENT, at its option, may perform water quality sampling and analysis, water measurement, and equipment maintenance on behalf of the DISTRICT. The DISTRICT agrees to pay to the DEPARTMENT any reasonable costs incurred by the DEPARTMENT as a result of such activities. The DEPARTMENT will provide the DISTRICT with advance notice of such testing.

(b) Before Local Water is placed into the California Aqueduct, the DISTRICT shall provide to the DEPARTMENT for its review and approval the results of all water quality tests conducted within the previous five (5) years for each well providing water to the California Aqueduct under this Agreement. Additional water quality monitoring shall be conducted by the

DISTRICT for Local Water introduced into the California Aqueduct.

6. CHARGES

(a) The DISTRICT shall pay all costs of installation, operation, and maintenance of the facilities required to deliver Local Water into the California Aqueduct under this Agreement.

(b) The DISTRICT agrees to pay to the DEPARTMENT a one-time Contract Development Charge of Two Thousand Dollars ($2,000).

(c) The DISTRICT agrees to pay all reasonable costs resulting from DISTRICT'S actions pursuant to this Agreement or that result in demonstrable increased costs to the DEPARTMENT and any State Water Contractors.

7. PAYMENTS

Upon execution of this Agreement, the DEPARTMENT will bill the DISTRICT the Contract Development Charge. Payment of all charges pursuant to this agreement are due thirty (30) days after date of invoice. Late payments shall be charged interest at one (1) percent per month.

8. LIABILITY

(a) The DISTRICT shall be responsible for any and all liability, losses, claims, demands, and damages, including but not limited to property damage, personal injury or death, which may arise out of work permitted under this Agreement or which may arise out of failure on the DISTRICT'S part to perform its obligations under this Agreement. In the event any claim of liability is made under this Agreement against the AGENCY, the State of California, or any of their departments,

officers, or employees, the DISTRICT agrees to defend, indemnify, and hold each of them harmless from such claims.

(b) Neither the State of California, the AGENCY nor any of their departments, officers, agents, or employees shall be liable for the control, carriage, handling, use, disposal, or distribution of Local Water before it is introduced into, and after it is delivered from the California Aqueduct. The DISTRICT shall be responsible for any and all liabilities, losses, claims, demands, and damages, including but not limited to property damage, personal injury or death, which may arise from the delivery of such water. In the event any claim of such liability is made against the State of California, the AGENCY or any of their departments, officers, or employees, the DISTRICT agrees to defend, indemnify, and hold each of them harmless from such claims.

9. TERM

This Agreement shall become effective on the date of execution hereof, and shall terminate on January 1, 2005 unless extended by mutual consent of all parties. However, the DEPARTMENT may suspend this Agreement upon written notice to the AGENCY and the DISTRICT if, in the judgement of the DEPARTMENT, its continuance could result in disruption or damage, including but not limited to reductions in water quality, to the State Water Project. If the DEPARTMENT should suspend this Agreement, the DISTRICT shall not be relieved of its obligation to return any water owed back to the DEPARTMENT or to pay any charges incurred up to the time of termination described in Paragraph 6 and the DEPARTMENT shall

still be obligated to return any Local Water that had been placed in the California Aqueduct that had not yet been returned.

10. NO MODIFICATION OF WATER SUPPLY CONTRACTS

This Agreement shall not be interpreted to modify the terms or conditions of either the water supply contract between the DEPARTMENT and the AGENCY dated November 15, 1963, or the three (3) water supply contracts between the AGENCY and the DISTRICT.

11. WORKERS' COMPENSATION

The DISTRICT affirms that it is aware of the provisions of Section 3700 of the California Labor Code which require every employee to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and the DISTRICT affirms that it will comply with such provisions before commencing the performance of the work under this Agreement.

12. CLAIMS DISPUTE

Any claim that a Party may have against another shall be presented in accordance with Part 3 (commencing at 900, Division 3.6 of the Government Code). The PARTIES shall then attempt to negotiate a resolution of such claim and process an amendment to this Agreement to implement the terms of any such resolution. Any unresolved disputes shall be subject to arbitration pursuant to the Code of Civil Procedure Section 1281.6.

13. NONDISCRIMINATION

During the performance of this Agreement, the DISTRICT shall not deny the contract's benefits to any person on the basis of religion, color, ethnic group identification, sex, age, physical

or mental disability, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, mental disability, medical condition, marital status, age (over 40), or sex. The DISTRICT shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination. The DISTRICT shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12900 et seq.), the regulations promulgated thereafter (California Administrative Code, Title 2, Sections 7285.0 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Government Code Sections 11135 - 11139.5), and the regulations or standards adopted by the DEPARTMENT to implement such article. The DISTRICT shall permit access by representatives of the Department of Fair Employment and Housing and the DEPARTMENT upon reasonable notice at any time during the normal business hours, but in no case less than 24-hours notice, to such of its books, records, accounts, other sources of information and its facilities as the Department of Fair Housing or the DEPARTMENT shall require to ascertain compliance with this clause. The DISTRICT shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. The DISTRICT shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under this Agreement.

14. ASSIGNMENT OF AGREEMENT

Without the written consent of the DEPARTMENT and the AGENCY this Agreement is not assignable by the DISTRICT in whole or in part.

15. PARAGRAPH HEADINGS

The paragraph headings of this Agreement are for the convenience of the parties and shall not be considered to limit, expand, or define the contents of the respective paragraphs.

16. TERMS TO BE REASONABLE

Where the terms of this Agreement provide for actions to be based upon the opinion, judgment, approval, review, or determination of any party, such terms are to be construed as providing that such opinion, judgment, approval, review, or determination be reasonable.

17. SIGNATURE CLAUSE

The signatories represent that they have been appropriately authorized to enter into this Agreement on behalf of the party

for whom they sign. A certified copy of the resolution authorizing the AGENCY and the DISTRICT to enter into this Agreement shall be delivered to the DEPARTMENT before Local Water may be introduced into the California Aqueduct.

IN WITNESS WHEREOF, the Parties hereto have entered into this Agreement.

Approved as to Legal Form and Sufficiency

Susan N. Weber
Chief Counsel
Department of Water Resources

4/20/95
DATE

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

Director

3-2-95
DATE

SEMITROPIC WATER STORAGE DISTRICT (Acting on behalf of itself, SID, PPID and BID)

Name Vido G. Fabbri

President, Board of Directors
Title

March 28, 1995
DATE

KERN COUNTY WATER AGENCY

Name

General Manager
Title

March 23, 1995
DATE

1/27/94
w/Ltr to MWD
(Long Term Project)

Table 1 (Page 1 of 3)

NOT TO EXCEED STANDARDS
FOR NONPROJECT FOREIGN WATER INFLOW
INTO THE STATE WATER PROJECT

PRIMARY DRINKING WATER STANDARDS FOR INORGANIC CHEMICALS

CHEMICAL	STANDARD (mg/L)
Aluminum	1.0
Arsenic	0.05
Barium	1.0
Cadmium	0.010
Chromium	0.05
Lead	0.05
Mercury	0.002
Nitrate	45.0
Selenium	0.01
Silver	0.05
Fluoride	1.4-2.4*

* Depends on ambient air temperature.

PRIMARY DRINKING WATER STANDARDS FOR RADIOACTIVITY

	STANDARD (pCi/L)
Radium-226 + Radium-228	5
Gross Alpha	15
Tritium	20,000
Strontium-90	8
Gross Beta	50
Uranium	20

3

Table 1 (Page 2 of 3)

PRIMARY DRINKING WATER STANDARDS FOR ORGANIC CHEMICALS

CHEMICAL	STANDARD (mg/L)
Atrazine	0.003
Bentazon	0.018
Benzene	0.001
Carbofuran	0.018
Carbon Tetrachloride	0.0005
Chlordane	0.0001
2,4-D	0.1
Dibromochloropropane	0.0002
1,4-Dichlorobenzene	0.005
1,1-Dichloroethane	0.005
1,2-Dichloroethane	0.0005
1,1-Dichloroethylene	0.006
cis-1,2-Dichloroethylene	0.006
trans-1,2-Dichloroethylene	0.01
1,2-Dichloropropane	0.005
1,3-Dichloropropene	0.0005
Di(2-ethylhexyl)phthalate	0.004
Endrin	0.0002
Ethylbenzene	0.680
Ethylene Dibromide	0.00002
Glyphosate	0.7
Heptachlor	0.00001
Heptachlor Epoxide	0.00001
Lindane	0.004
Methyoxychlor	0.1
Molinate	0.02
Monochlorobenzene	0.030
Simazine	0.01
1-1,2,2-Tetrachloroethane	0.001
Tetrachloroethylene	0.005
Thiobencarb	0.07
Toxaphene	0.005
2,4,5-TP(Silvex)	0.01
1,1,1-Trichloroethane	0.200
1,1,2-Trichloroethane	0.032
Trichloroethylene	0.005
Vinyl Chloride	0.0005
Xylene	1.750

4

Table 1 (Page 3 of 3)

SECONDARY DRINKING WATER STANDARDS FOR INORGANIC CHEMICALS

CHEMICAL	STANDARD	
Specific Conductance	2,200	uS/cm
Total Dissolved Solids	1,500	mg/L
Copper	1.0	mg/L
Chloride	600	mg/L
Iron	0.3	mg/L
Manganese	0.05	mg/L
Sulfate	600	mg/L
Zinc	5.0	mg/L

5

State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

AMENDMENT NO. 1 TO THE AGREEMENT AMONG DEPARTMENT OF WATER RESOURCES, STATE OF CALIFORNIA, KERN COUNTY WATER AGENCY AND SEMITROPIC WATER STORAGE DISTRICT FOR INTRODUCTION OF LOCAL WATER INTO THE CALIFORNIA AQUEDUCT

That certain agreement dated May 2, 1995, by and between the parties hereto is hereby amended as follows:

Paragraph 9 is amended to read as follows:

9. TERM

This Agreement shall become effective on the date of execution hereof, and shall terminate on November 4, 2035 unless extended by mutual consent of all parties. However, the DEPARTMENT may suspend this Agreement upon written notice to the AGENCY and the DISTRICT if, in the judgement of the DEPARTMENT, its continuance could result in disruption or damage, including but not limited to reductions in water quality, to the State Water Project. If

the DEPARTMENT should suspend this Agreement, the DISTRICT shall not be relieved of its obligation to return any water owed back to the DEPARTMENT or to pay any charges incurred up to the time of termination described in Paragraph 6 and the DEPARTMENT shall still be obligated to return any Local Water that had been placed in the California Aqueduct that had not yet been returned.

Except as herein amended all terms and conditions of said agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties hereto have executed this amendment this 21 day of August, 1995.

Approved as to Legal Form and Sufficiency

Original Signed By
David B Anderson

for Chief Counsel
Department of Water Resources

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

(sgd) David N. Kennedy

Director

SEMITROPIC WATER STORAGE DISTRICT
(Acting on behalf of itself, SID, PPID and BID)

Name

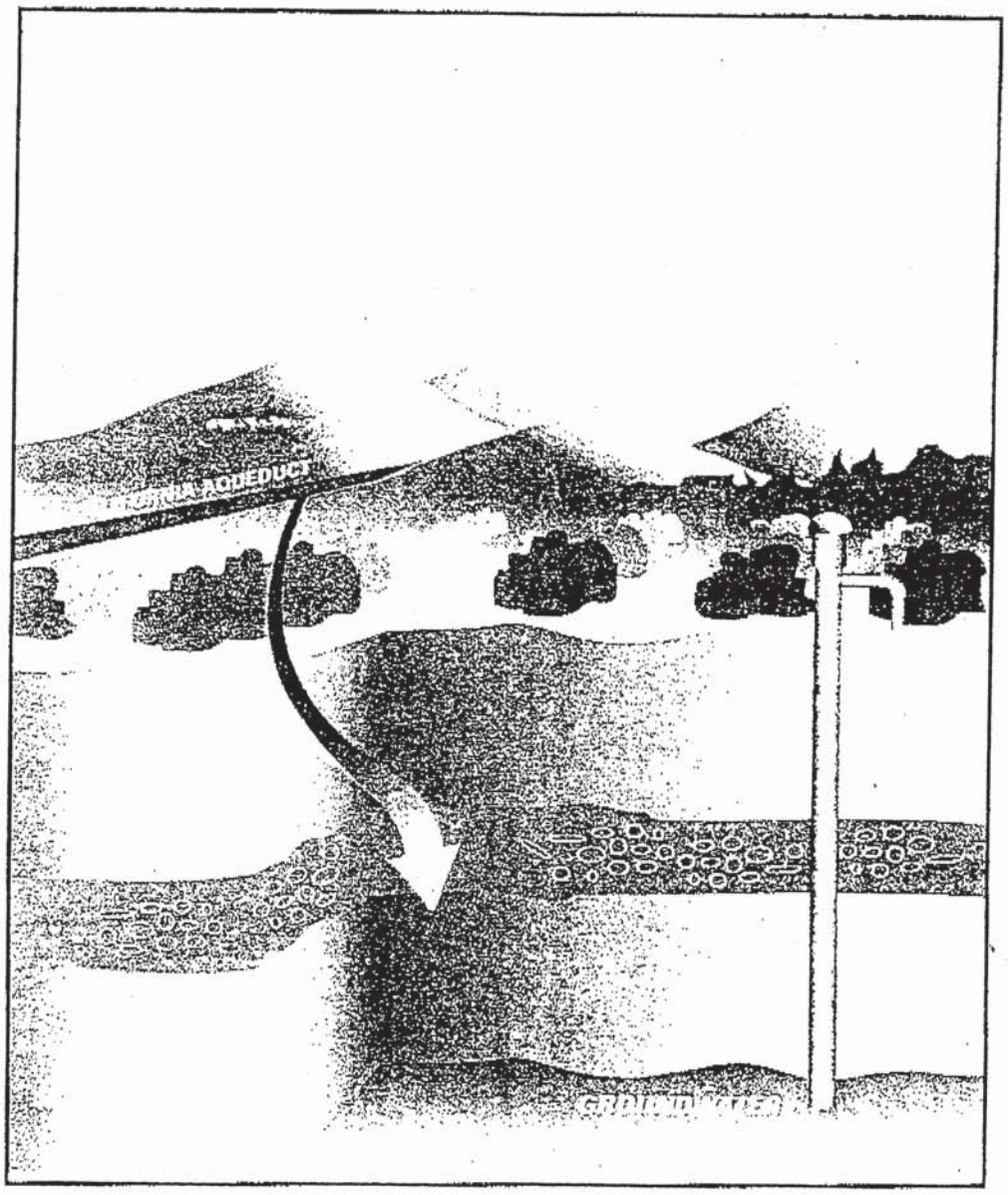
Engineer-Manager
Title

KERN COUNTY WATER AGENCY

Name

General Manager
Title General Manager

2



SEMITROPIC GROUNDWATER BANKING PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT
Environmental Planning Technical Reports

Semitropic Water Storage District

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

March 1994

1

SEMITROPIC GROUNDWATER BANKING PROJECT
DRAFT ENVIRONMENTAL IMPACT REPORT

Submitted pursuant to the requirements of the
California Environmental Quality Act

by the

SEMITROPIC IMPROVEMENT DISTRICT
of
SEMITROPIC WATER STORAGE DISTRICT

and

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

State Clearinghouse #
93072024

The following may be contacted for additional information regarding this document:

Wilmar L. Boschman
Engineer Manager
Semitropic Water Storage District
P.O. Box Z
Wasco, California 93280
(805) 758-5113

Dirk Reed
Principal Engineer
Metropolitan Water District of
Southern California
P.O. Box 54153
Los Angeles, California 90054
(213) 217-6163

Comments on this document are due by May 13, 1994 and should be sent to Wilmar L. Boschman at the above address.

Two regional plans applicable to and consistent with the proposed project area are:

- The 1991 *San Joaquin Valley Unified Air Pollution Control District Air Quality Attainment Plan.*
- The Kern Council of Governments *1990 Regional Transportation Plan.*

The Kern County General Plan does not contain an air quality element.

5.4 WATER QUALITY AND HYDROLOGY

5.4.1 Designated Beneficial Uses and Water Quality Objectives

Beneficial uses of surface and groundwaters and the water quality objectives that protect those beneficial uses are established by the SWRCB and Regional Water Quality Control Boards. The Semitropic study area is located in the Tulare Basin Region (5D) under the jurisdiction of the Central Valley Regional Water Quality Control Board (Region 5).

The Water Quality Control Plan Report for Region 5D shows the study area to occupy the Poso hydrographic unit.

5.4.1.1 Surface Water

Beneficial uses of study area surface waters shown in the 1975 Tulare Lake Water Quality Control Plan (Basin Plan) are the following:

Poso Creek:

- Agriculture
- Cold freshwater habitat
- Contact and non-contact recreation
- Wildlife habitat
- Warm freshwater habitat
- Groundwater recharge
- Freshwater replenishment for inland lakes and streams

Within the Semitropic study area, Poso Creek is dry except after storms, so these are potential uses the majority of the time. The Project would have no effect on the attainment of any uses of Poso Creek.

Goose Lake:

- Agriculture
- Warm freshwater habitat
- Industrial service supply
- Contact and non-contact recreation
- Industrial process supply
- Wildlife habitat
- Rare and endangered species habitat
- Groundwater recharge

With respect to surface water objectives, only narrative objectives are presented in the Basin Plan. No specific objectives are presented for any water body.

5.4.1.2 Groundwaters

Designated beneficial uses for groundwaters apply basin-wide; no specific objectives have been set for individual basins:

- Municipal
- Agricultural
- Industrial service supply
- Recreation
- Industrial process supply
- Wildlife habitat

Recreation and wildlife habitat were included in the 1975 Basin Plan for groundwater because water supplies are pumped to wildlife areas and some gun clubs.

Similarly, only narrative water quality objectives were presented in the Basin Plan for all groundwaters. Salinity objectives are presented here because salinity is a focus for this project.

> "Salinity: All groundwater shall be maintained close to natural concentrations of dissolved matter as is reasonable considering careful use and management of the water resources. The

maximum average annual increase in salinity measured as electrical conductivity must not exceed 6 umho/cm."

There are no proven means available at present to maintain groundwater salinity at current levels throughout the Basin. Accordingly, the water quality objectives for groundwater salinity will be directed to controlling the rate of increase and maintaining the beneficial uses of the groundwater. To the extent practicable and economically feasible, water quality and quantity management measures must be taken that will keep salinity increases to a minimum.

The Basin Plan estimated the 30-year incremental increase in groundwater salinity for the period 1970 to 2000 in the Poso Hydrographic Subunit. Estimated existing average salinity in 1975 was 450 mg/l of total dissolved solids (TDS). Additional salt was expected to be from the sources shown in Table 5-10.

TABLE 5-10
YEAR 2000 ESTIMATED AVERAGE SALINITY LEVELS AND SOURCES

Agriculture	
Applied salts	65mg/l
Leachate	79
Subsurface Flow	39
Municipal	< 1
Industrial	4
Subtotal	187mg/l
Projected agricultural wastewater removal	≤1
Incremental change by the year 2000	187mg/l
Estimated total average salinity, year 2000	637 mg/l

5.4.2 Existing Water Quality

The following sections present information on the present quality of groundwater in the Semitropic area and water in the California Aqueduct.

5.4.2.1 Water Quality in the California Aqueduct

Mean monthly and annual water quality data for the California Aqueduct at checks 21 and 29 are presented for the years 1982 through 1993 (Table 5-11). Checks 21 and 29 are located near Kettleman City and the Buena Vista Pumping Plant, respectively, and thus "bracket" the Semitropic study area on the north and south. The analysis focuses on TDS, as salinity is the parameter of principal concern.

TDS concentrations shown in the California Aqueduct are lower in wetter years (1982, 1983, and 1993), and higher in dryer years (1987 through 1992). During the 12-year period reviewed, there were 6 years of drought. At Check 21, for example, the mean TDS for the wetter years was 213; for drought years, 366. Because of the greater number of dry years, the average annual TDS concentration exceeds 250 mg/l, the figure for SWP water used as the basis for project analyses. The data does demonstrate, however, that the use of 250 mg/l TDS for State Water Project water is reasonable for use in an analysis with a long planning horizon (28 years in this case).

5.4.2.2 Water Quality Within Semitropic

Semitropic Groundwater Monitoring Program

Limited data available on the quality of groundwater within Semitropic from the Semitropic monitoring program for 1988-1989 show that the quality of water varies widely within the District from excellent to poor (DWR/KCWA/SWSD, 1990). For example, TDS ranged from 540 to 2420 mg/L, and nitrate-nitrogen from 0.0 to 11.6 mg/L among the seven wells tested (Table 5-12). The location of the poorer quality water is known (Figures 5-7 and 5-8), and is an important input to the groundwater modeling and project operation analyses. At present, water from poorer quality wells is blended with better quality water for irrigation uses.

TABLE 5-11
TOTAL DISSOLVED SOLIDS CONCENTRATIONS
CALIFORNIA AQUEDUCT AT CHECKS 21 AND 29

DATE	KETTLEMAN CITY (Check 21) KA017226[b]	BUENA VISTA PUMPING PLANT (Check 29) KA024454[b]
1982	193 (133-286)[a]	189 (121-350)[a]
1983	200 (90-471)	95 (50-120)
1984	184 (147-246)	196 (120-257)[c]
1985	251 (119-403)	252 (179-386)
1986	235 (126-340)	243 (177-382)
1987	323 (249-500)	324 (216-449)
1988	374 (253-432)	360 (258-463)
1989	329 (200-453)	321 (182-399)
1990	344 (260-458)	348 (244-448)
1991	431 (348-529)	417 (357-502)
1992	441 (284-524)	424 (338-513)
1993[c]	318 (137-567)	370 (142-687)
12 Yr. Avg.	318 (90-567)	295 (50-687)

[a]Mean and Range of Values; in mg/l.
[b]DWR Station code.
[c]January through October.

SOURCE: DWR, August 1993, Draft Analysis of Water Quality Impacts from Groundwater Pumping on the State Water Project, 1990-1992.

Metropolitan Groundwater Sampling 1992

On October 15, 1992, Metropolitan collected samples from ten wells in the Semitropic Water Storage District that might be used for pumpback with project implementation, and analyzed the samples for general minerals, physical parameters, trace metals, and organic compounds. These wells were different from the seven wells reported by Semitropic as discussed above. For most constituents, three composite samples were prepared from the individual well samples. The three composites represent clusters of wells in the upper, middle and lower areas of the Semitropic District. The composite samples were analyzed for conformance with California Title 22 regulations and U.S. EPA Phase V regulation. Arsenic, selenium and some select organic analyses were performed on individual well water samples.

The results of the analysis show the constituents detected in Table 5-12. Conductivity exceeded 900 umho in three of the ten wells, and TDS was higher than 500 mg/L in composites 2 and 3. However, these maximum contaminant levels (MCLs) are

TABLE 5-12
GROUNDWATER QUALITY
(October, 1992)

Constituent	MCL Units	Upper Area Composite and (Range) (3 Wells)	Middle Area Composite and (Range) (5 Wells)	Lower Area Composite and (Range) (2 Wells)	Semitropic[b] Aug. 88-Aug. 89 (7 Wells) Mean (Range)	Mar. 89 Intake Canal
Bacteriological Quality						
Total Coliforms	HIPN/100 ml	4, 8, 30	ND (9); 2 (2)	41 ND		
Feral Coliforms	HC + MUG	0	0	0		
P-HPC	CFU/ml	18, 20, 330	75-380	43-430		
CHEMICAL/PHYSICAL Quality						
Phenol Alkalinity		9 (0-18)	4 (0-18)	5 (6-7)		
Total Alkalinity		51 (52-59)	48 (43-74)	26 (28-29)		
PH	6.5-8.5 Units	9.3 (8.17-9.77)	8.96 (8.11-9.55)	9.13 (9.27-9.28)	8, 0 (7.2-8.3)	8.0
Specific Conductance[a]	900 µmho/cm	356 (179-700)	946 (519-1735)	978 (800-1107)	1597 (210-2740)	860
TDS	500 mg/l	202	514	550	978 (540-2420)	550
Zinc[a]	5 mg/l	0.008	ND	ND		
Turbidity[a]	0.05 NTU	0.32 (0.36-0.4)	0.72 (0.21-3.1)	0.38 (0.3-0.48)		
Aluminum	1 mg/l	0.01	0.09	ND		
Arsenic	0.005 mg/l	0.013 (0.0004-0.021)	0.014 (0.009-0.026)	0.009 (0.008-0.009)		
Chromium	0.005 mg/l	0.01	ND	ND	3.8 (0-11.6)	1.8
Nitrogen (NO-N)	10 mg/l	ND	0.6	0.9		
Seyenium[b]	0.01 mg/l	1.5	0.001 (0.0-0.002)	ND		
Fluoride	1.4-2.4 mg/l	0.2	0.3	0.3		
Bromide		0.09	0.09	0.09		
RADIOACTIVITY						
Radon	300[a] pli/l	(296[a]-19) to (330 I 20)	(294[a]-20) to 771 I 20)	29[a]-21 to 250 I 20		
Gross alpha Activity	15 pli/l	2.2[a] - 1.1	4.6[a] - 1.9	0.7[a] - 1.1		
Strontium 90	8 pli/l	0.26[a] - 0.18	ND	ND		
Uranium	20 pli/l	2.40[a] - 0.44	3.03[a] - 0.56	1.00[a] - 0.18		

[a]Secondary drinking water standard.
[b]Proposed standard.
[a]Source: Metropolitan Water District of Southern California, 1992, unpublished data.
[b]Source: Semitropic Water Storage District Monitoring Program.

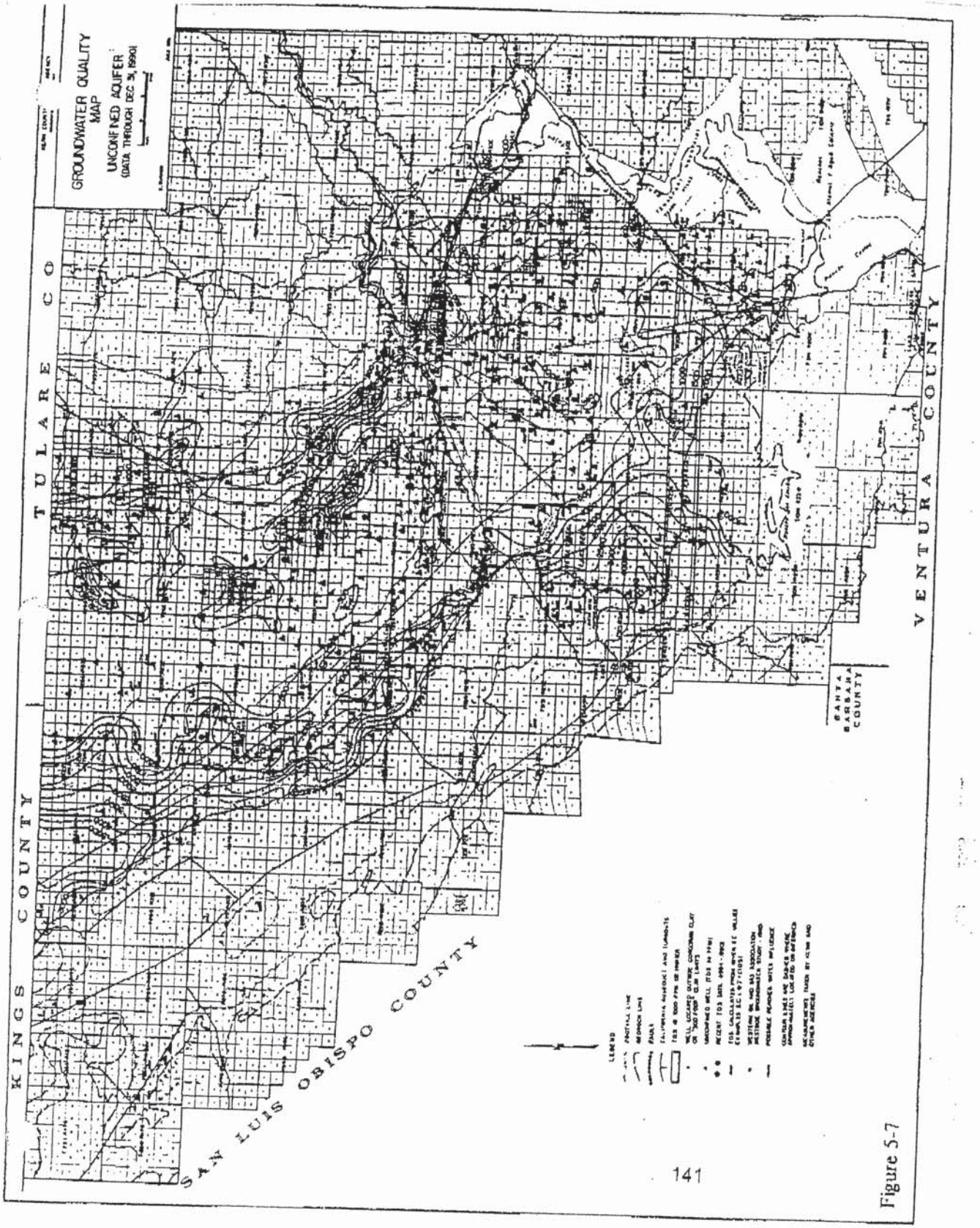

GROUNDWATER QUALITY MAP
UNCONFINED AQUIFER
(DATA THROUGH DEC 31, 1990)
KINGS COUNTY
TULARE CO
SAN LUIS OBISPO COUNTY
VENTURA COUNTY
SANTA BARBARA COUNTY
LEGEND
141

Figure 5-7

Figure 5-8

5-27

142

secondary drinking water standards related to aesthetics rather than health hazards.

Arsenic was detected in all the wells tested but none of the concentrations exceeded the present MCL. Six wells exceeded the proposed MCL for radon, but the half-life for radon is only 3.8 days, and dilution, travel time and turbulence in the SWP would ensure that it would be below the MCL at point of delivery. No regulated organics were found, and no other pesticides, volatile organic compounds, or semi-volatile organic compounds were detected in the wells.

5.4.3 Water Quality Environment

Groundwater quality within Semitropic varies with proximity to the axial trough of the San Joaquin Valley. The subsurface waters fall into three general categories:

- Sodium bicarbonate groundwaters of the east side of the valley, generally with low to moderate salinity.
- Sulfate or chloride groundwater of the west side of the valley, typically of higher salinity than waters of the east side.
- Groundwaters of the axial trough where waters are mixed, and the range in chemical character and salinity is substantially greater than in the east side waters.

Variations in water quality also occur with depth. There is a body of brackish and connate waters under Semitropic in a zone of varying thickness lying just above the basement rock. Connate waters are ancient ocean waters found in underground basins within sediments of marine origin. As shown on the geologic cross sections (Figure 5-9), this brackish water tends to occur at shallower depths in the western portion of Semitropic.

Localized pumping depressions that developed beneath Semitropic and Buttonwillow ridges prior to the 1970s caused groundwater to move easterly, thus inducing the movement of poorer quality west-side water into the depressions (DWR/KCWA/SWSD, 1990). This movement of poor quality water intercepted wells drilled to depths of 500 feet or more beneath the ridges. The relatively shallow occurrences of these saline waters in the vicinity of the two ridges appears to be related to the upwarped structure of sediments evidenced by these ridges.

Groundwater in the structurally high areas coincident with the Semitropic and Buttonwillow ridges is normally similar in chemical character to groundwater at greater depths elsewhere along the west side of the San Joaquin Valley. This groundwater is typically a sodium chloride or sodium chloride-sulfate type with high concentrations of dissolved solids and chlorides. As is discussed further, high salinity waters are still present, particularly in the Buttonwillow Ridge area.

Available chemical analyses of groundwater (DWR, et al., 1990) indicate high concentrations of calcium bicarbonate and attendant high Ph values occurring in many wells, with the most common and severe condition prevailing on and in the vicinity of Semitropic Ridge. This condition in the groundwater has resulted in accumulations of to growers. Before and during the 1970s, such effects were reported generally throughout calcium carbonate (encrustations) on pump parts and well casings, making necessary remedial treatment and bowl replacements an element of substantial cost Semitropic. Lands included in the CWSA were in large part those which were relying on groundwater of high salinity. The shift to SWP water greatly reduced use of wells, resulting in reduced need for these remedial measures.

Essentially no groundwater flows out from Semitropic; therefore, salts accumulate in the soil and groundwater as a result of evapotranspiration. This accumulation of salts is presently occurring and should continue to occur throughout Semitropic.

Chemical analyses of Semitropic groundwater show sodium percentages consistently greater than 60 percent and averaging approximately 80 percent throughout the area (DWR et al., 1990). To obtain penetration of irrigation waters into the root zones of

LEGEND
SEMITROPIC WATER STORAGE DISTRICT
KERN COUNTY, CALIFORNIA
APPROXIMATE AREA UNDERLAIN BY GROUND WATER
OF
MARGINAL QUALITY FOR IRRIGATION
BOOKMAN-EDMONSTON ENGINEERING, INC.
JUNE 1959
SCALE OF MILES
KERN COUNTY
TULARE COUNTY
KINGS COUNTY
POND - POSO
IMPROVEMENT DISTRICT
BUTTONWILLOW

crops, this high sodium percentage in the water requires the addition of soil amendments, usually in the form of gypsum. Without the addition of such amendments to the land, crop yields could be substantially reduced.

The California Department of Water Resources (DWR) uses the criteria for classification of irrigation water quality shown in Table 5-13.

Recognizing this general classification system, this study included a review of available records of water quality sampling and analyses and delineation on Figure 5-9 of the areas of Semitropic where groundwater could be expected to contain chlorides exceeding 350 ppm (DWR et al., 1990). In general, total dissolved solids and boron concentrations in the Semitropic area are within Class 2 limits. Sodium percentages are generally in the Class 3 range, and most groundwater requires use of treatments for irrigation use.

Available data on the general chemical, organic, and radiological constituents in groundwater were reviewed in relation to drinking water standards. Most of this information (and use) is for municipalsupply wells in the cities of Wasco and Shafter, located east of Semitropic (Table 5-12). None of the available data indicates levels in excess of limits in these standards. It is likely that most of the wells sampled tap the deep confined aquifer.

As is generally true in most areas of heavy groundwater use, identification of any significant changes in groundwater quality is difficult. However, evidence suggests that since the beginning of importation and delivery of State Water Project (SWP) water in Semitropic, the area of marginal groundwater quality has advanced eastward. Because little water quality monitoring was initiated before existing project operations, there is a question whether this possible effect was already in progress and is not necessarily attributable to the existing project operations.

5.4.4 Hydrology

Semitropic overlies a body of valley alluvium of relatively great depth where groundwater is stored. Groundwater is extracted from this resource through water wells for use primarily in irrigated agriculture, with some use for domestic, municipal, and industrial purposes.

The information in this section was derived from prior studies, primarily a feasibility investigation of Semitropic projects performed by Bookman-Edmonston Engineering, Inc. (1990), which relied on prior work of the U.S. Geological Survey, the U.S. Coast and Geodetic Survey, and the California Department of Water Resources.

5.4.4.1 Physiography

The Semitropic area lies within the trough of the San Joaquin Valley. The principal physiographic features of the area include Buttonwillow Ridge, Semitropic Ridge, Kern River Flood Canal, Jerry Slough, Goose Lake and portions of the Kern River and Poso Creek fans.

Buttonwillow Ridge, an elongated topographic high that trends northwest, separates the Kern River Flood Canal from Jerry Slough and occupies the southwestern portion of Semitropic. This ridge is a low-lying feature about 2 miles wide and 15 miles long with a maximum relief of about 65 feet.

Semitropic Ridge lies parallel to and northeast of Buttonwillow Ridge and has a similar configuration. It is bounded by Jerry Slough on the southwest and low portions of alluvial fans on the northeast.

The Kern River Flood Canal, along the west of Semitropic, historically has conveyed overflow from Buena Vista Lake and the Kern River north to Tulare Lake during periods of excessive runoff. Flood waters from the Kern River have also spilled

Exhibit

7

STATE OF CALIFORNIA – THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

ARNOLD SCHWARZENEGGER, Governor

July 30, 2004

Post-it® Fax Note 7671	Date 7/30/04	# of pages ▶ 2
To CLWA - Mary Lou Cotton	From H. Walker	
Co./Dept.	Co.	
Phone # 818 227-1311	Phone #	
Fax #	Fax #	

Ms. Mary Lou Cotton
Water Resources Manager
Castaic Lake Water Agency
27234 Bouquet Canyon Road
Santa Clarita, California 91350

Dear Ms. Cotton:

The Department of Water Resources' (DWR) staff have reviewed the Draft Environmental Impact Report (DEIR) for the *Castaic Lake Water Agency Supplemental Water Project Transfer of 41,000 Acre-Feet of Table A Amount* (SCH No. 1998041127), and found that the document adequately and thoroughly discusses the proposed project and its impacts. The DEIR discusses the effects of the project on the environment and State Water Project (SWP) and uses baseline conditions consistent with those being considered for inclusion in the DEIR. DWR is currently preparing for the *Monterey Amendment to the State Water Project Contracts (including Kern Water Bank Transfer and Other Contract Amendments and Associated Actions as Part of a Proposed Settlement Agreement in Planning and Conservation League v. Department of Water Resources* (SCH No. 2003011118), referred to hereafter as "Monterey Plus." 2

The DEIR provides a good discussion of the relationship between the 41,000 acre-feet Table A transfer and the current Monterey Plus process. DWR will analyze the effects of all Table A transfers that were part of the Monterey Amendment to the SWP contracts in the Monterey Plus EIR. The proposed CLWA 41,000 acre-feet Table A transfer will be included in this analysis. 3

One of the tools being used by DWR to assess potential impacts associated with these Table A transfers is the CALSIM II model. DWR acknowledges that CLWA used an earlier model, DWRSIM, to analyze the effect of the 41,000 acre-feet transfer; however, DWR will use the next generation model, CALSIM II, to assess potential impacts associated with all Table A transfers in its DEIR for Monterey Plus. The use of CALSIM II may cause slight changes in results, which may lead DWR to different conclusions than the conclusions made by Castaic Lake Water Agency in the current DEIR. 4

As final comments, DWR notes that this DEIR adequately discusses the reliability of the SWP, pre- and post-Monterey Amendment conditions, future conditions, and SWP operations. 5

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Coordination between DWR and CLWA is essential to produce accurate environmental documentation that leads to informed decision-making and full public disclosure as the California Environmental Quality Act mandates. DWR appreciates inclusion and consultation in the early stages of preparation of this DEIR. Please ensure that DWR's Division of Environmental Services and SWP Analysis Office receive copies of the Final EIR. 6

Sincerely,

Barbara McDonnell

Barbara McDonnell, Chief
Division of Environmental Services

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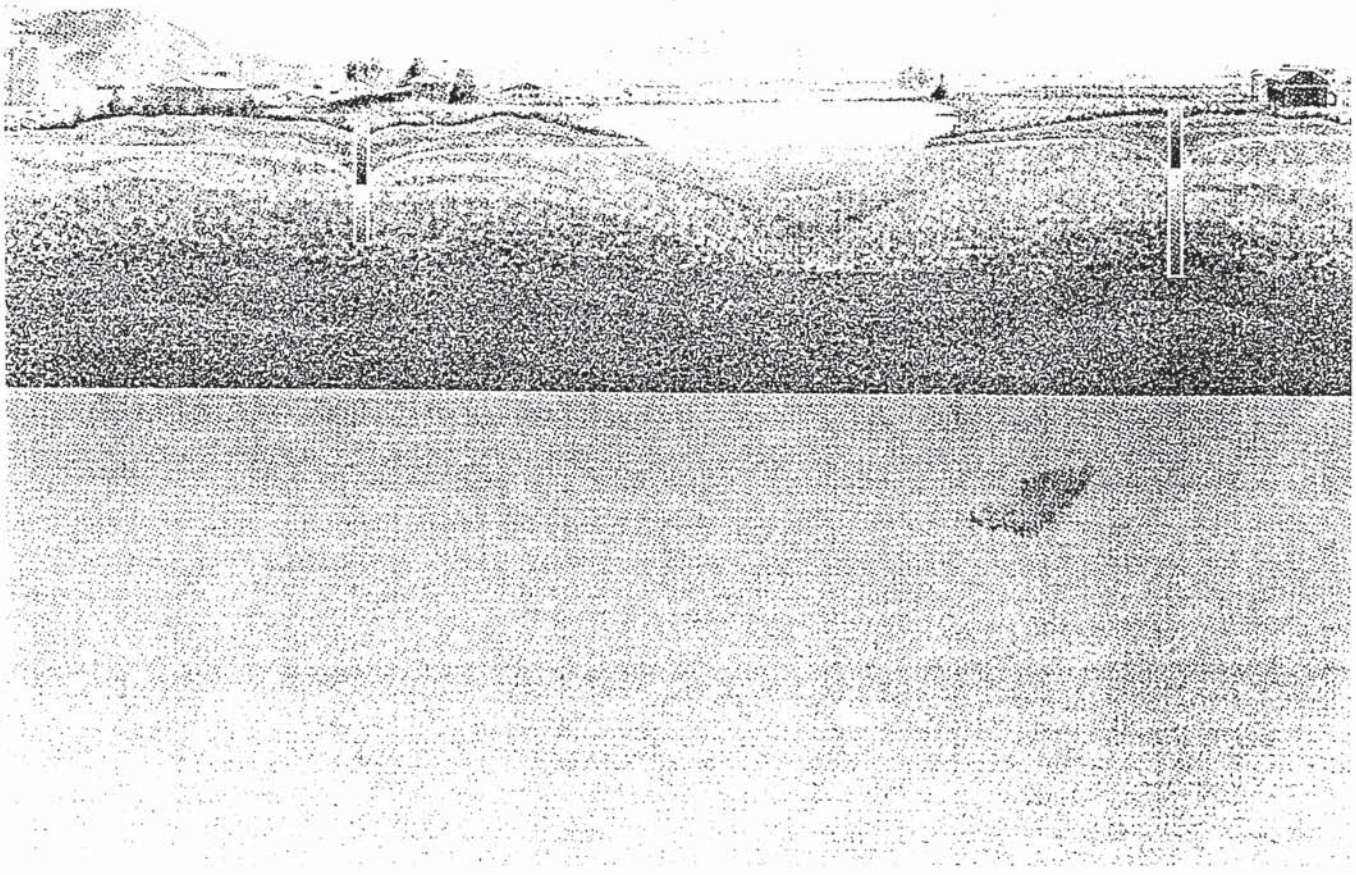
Exhibit

8

USGS

science for a changing world

Sustainability of Ground-Water Resources



EFFECTS OF GROUND-WATER DEVELOPMENT ON GROUND-WATER FLOW TO AND FROM SURFACE-WATER BODIES

As development of land and water resources intensifies, it is increasingly apparent that development of either ground water or surface water affects the other (Winter and others, 1998). Some particular aspects of the interaction of ground water and surface water that affect the sustainable development of ground-water systems are discussed below for various types of surface-water features.

Streams

Streams either gain water from inflow of ground water (gaining stream; Figure 12*A*) or lose water by outflow to ground water (losing stream; Figure 12*B*). Many streams do both, gaining in some reaches and losing in other reaches. Furthermore, the flow directions between ground water and surface water can change seasonally as the altitude of the ground-water table changes with respect to the stream-surface altitude or can change over shorter timeframes when rises in stream surfaces during storms cause recharge to the streambank. Under natural conditions, ground water makes some contribution to streamflow in most physiographic and climatic settings. Thus, even in settings where streams are primarily losing water to ground water, certain reaches may receive ground-water inflow during some seasons.

Losing streams can be connected to the ground-water system by a continuous saturated zone (Figure 12*B*) or can be disconnected from the ground-water system by an unsaturated zone (Figure 12*C*). An important feature of streams that are disconnected from ground water is that pumping of ground water near the stream does not affect the flow of the stream near the pumped well

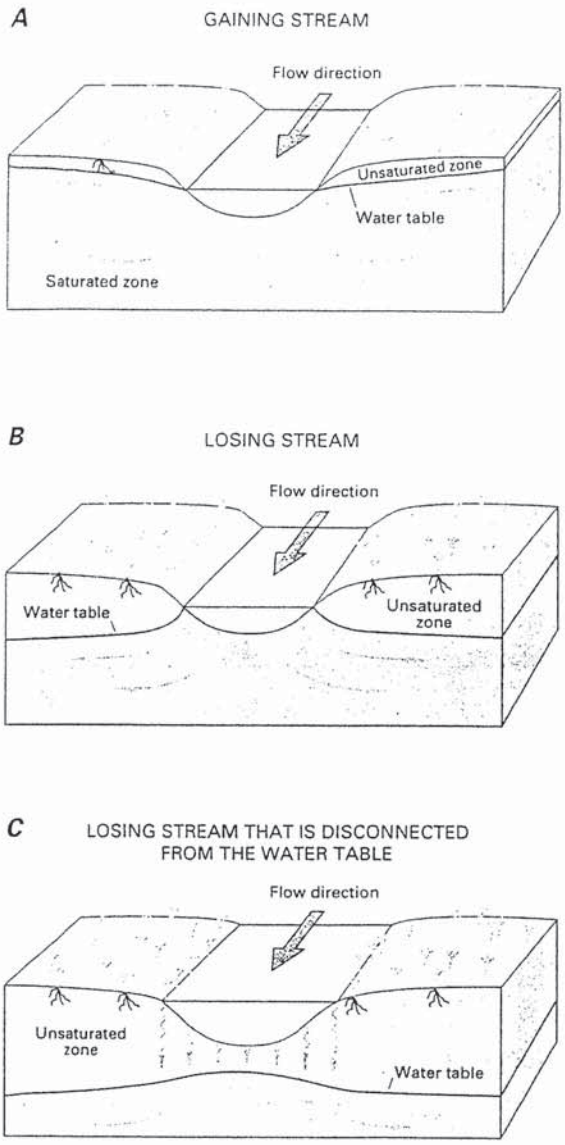


Figure 12. Interaction of streams and ground water. (Modified from Winter and others, 1998.)

Gaining streams (A) receive water from the ground-water system, whereas losing streams (B) lose water to the ground-water system. For ground water to discharge to a stream channel, the altitude of the water table in the vicinity of the stream must be higher than the altitude of the stream-water surface. Conversely, for surface water to seep to ground water, the altitude of the water table in the vicinity of the stream must be lower than the altitude of the stream surface. Some losing streams (C) are separated from the saturated ground-water system by an unsatur-

A pumping well can change the quantity and direction of flow between an aquifer and stream in response to different rates of pumping. Figure 13 illustrates a simple case in which equilibrium is attained for a hypothetical stream-aquifer system and a single pumping well. The adjustments to pumping of an actual hydrologic system may take place over many years, depending upon the physical characteristics of the aquifer, degree of hydraulic connection between the stream and aquifer, and locations and pumping history of wells. Reductions of streamflow as a result of ground-water pumping are likely to be of greatest concern during periods of low flow, particularly when the reliability of surface-water supplies is threatened during droughts.

At the start of pumping, 100 percent of the water supplied to a well comes from ground-water storage. Over time, the dominant source of water to a well, particularly wells that are completed in an unconfined aquifer, commonly changes from ground-water storage to surface water. The surface-water source for purposes of discussion here is a stream, but it may be another surface-water body such as a lake or wetland. The source of water to a well from a stream can be either decreased discharge to the stream or increased recharge from the stream to the ground-water system. The streamflow reduction in either case is referred to as streamflow capture.

In the long term, the cumulative streamflow capture for many ground-water systems can approach the quantity of water pumped from the ground-water system. This is illustrated in Figure 14, which shows the time-varying percentage of ground-water pumpage derived from ground-water storage and the percentage derived from streamflow capture for the hypothetical stream-aquifer system shown in Figure 13. The time for the change from the dominance of withdrawal from ground-water storage to the dominance of streamflow capture can range from weeks to years to decades or longer.

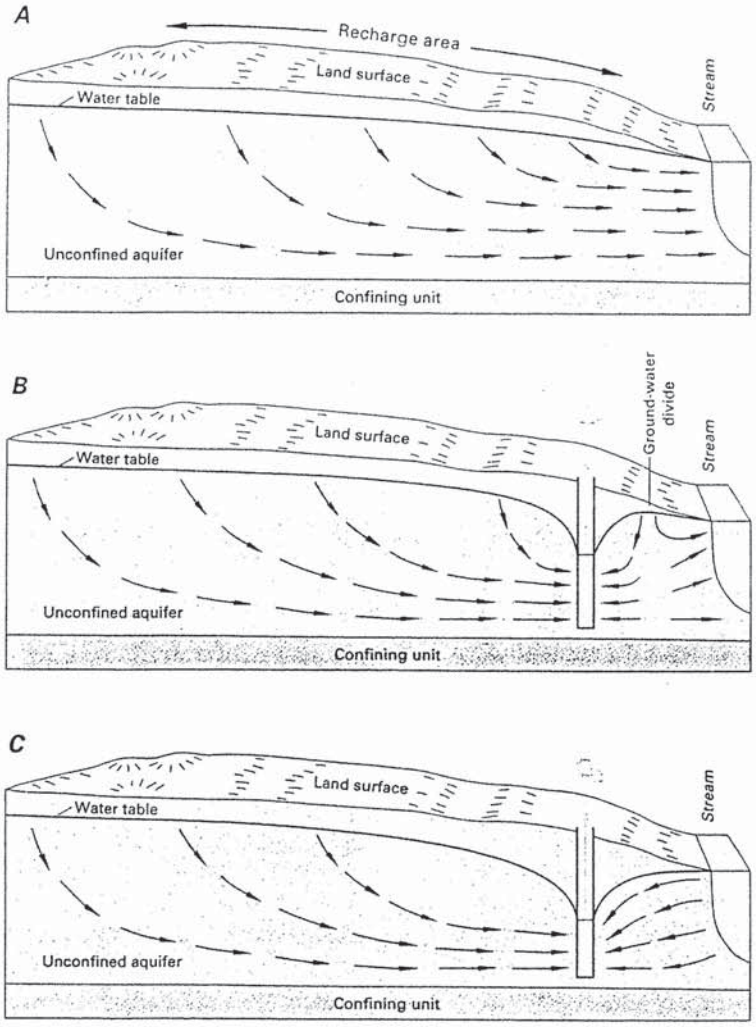


Figure 13. Effects of pumping from a hypothetical ground-water system that discharges to a stream. (Modified from Heath, 1983.)

Under natural conditions (A), recharge at the water table is equal to ground-water discharge to the stream. Assume a well is installed and is pumped continuously at a rate, Q_1, as in (B). After a new state of dynamic equilibrium is achieved, inflow to the ground-water system from recharge will equal outflow to the stream plus the withdrawal from the well. In this new equilibrium, some of the ground water that would have discharged to the stream is intercepted by the well, and a ground-water divide, which is a line separating directions of flow, is established locally between the well and the stream. If the well is pumped at a higher rate, Q_2, a different equilibrium is reached, as shown in (C). Under this condition, the ground-water divide between the well and the stream is no longer present, and withdrawals from the well induce movement of water from the stream into the aquifer. Thus, pumping reverses the hydrologic condition of the stream in this reach from ground-water discharge to ground-water recharge. Note that in the hydrologic system depicted in (A) and (B), the quality of the stream water generally will have little effect on the quality of ground water. In the case of the well pumping at the higher rate in (C), however, the quality of the stream water can affect the quality of ground water between the well and the stream, as well as the quality of the water withdrawn from the well. Although a stream is used in this example, the general concepts apply to all surface-

Most ground-water development is much more complex than implied in Figure 13; for example, it may comprise many wells pumping from an aquifer at varying pumping rates and at different locations within the ground-water-flow system. Computer models commonly are needed to evaluate the time scale and time-varying response of surface-water bodies to such complex patterns of ground-water development. From a sustainability perspective, the key point is that pumping decisions today will affect surface-water availability; however, these effects may not be fully realized for many years.

The eventual reduction in surface-water supply as a result of ground-water development complicates the administration of water rights. Traditionally, water laws did not recognize the physical connection of ground water and surface water. Today, in parts of the Western United States, ground-water development and use are restricted because of their effects on surface-water rights. Accounting for the effects of ground-water development on surface-water rights can be difficult. For example, in the case of water withdrawn to irrigate a field, some of the water will be lost from the local hydrologic system due to evaporation and use by crops, while some may percolate to the ground-water system and ultimately be returned to the stream. Related questions that arise include: how much surface water will be captured, which surface-water bodies will be affected, and over what period will the effects occur? Some of these issues are illustrated further in Box C.

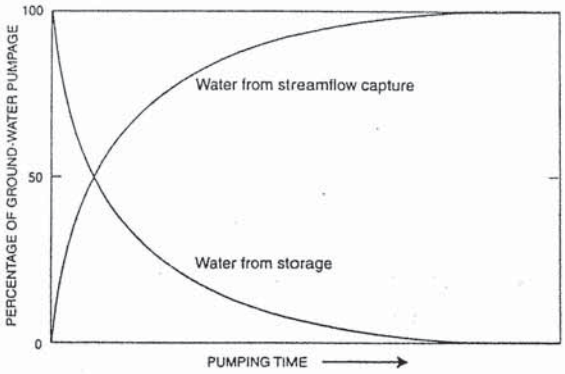


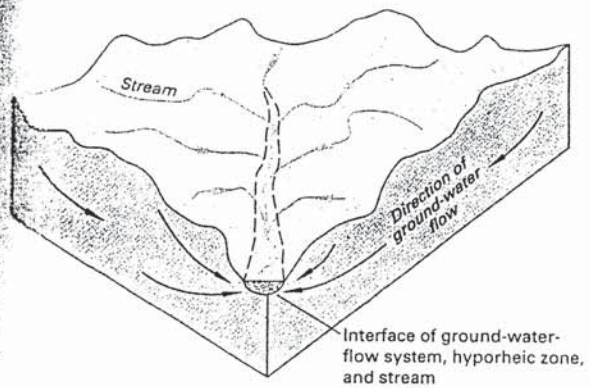
Figure 14. *The principal source of water to a well can change with time from ground-water storage to capture of streamflow.*

The percentage of ground-water pumpage derived from ground-water storage and capture of streamflow (decrease in ground-water discharge to the stream or increase in ground-water recharge from the stream) is shown as a function of time for the hypothetical stream-aquifer system shown in Figure 13. A constant pumping rate of the well is assumed. For this simple system, water derived from storage plus streamflow capture must equal 100 percent. The time scale of the curves shown depends on the hydraulic characteristics of the aquifer and the distance of the well from the stream.

Ground-water pumping can affect not only water supply for human consumption but also the maintenance of instream-flow requirements for fish habitat and other environmental needs. Long-term reductions in streamflow can affect vegetation along streams (riparian zones) that serve critical roles in maintaining wildlife habitat and in enhancing the quality of surface water. Pumping-induced changes in the flow direction to and from streams may affect temperature, oxygen levels, and nutrient concentrations in the stream, which may in turn affect aquatic life in the stream.

Perennial streams, springs, and wetlands in the Southwestern United States are highly valued as a source of water for humans and for the plant and animal species they support. Development of ground-water resources since the late 1800's has resulted in the elimination or alteration of many perennial stream reaches, wetlands, and associated riparian ecosystems. As an example, a 1942 photograph of a reach of the Santa Cruz River south of Tucson, Ariz., at Martinez Hill shows stands of mesquite and cottonwood trees along the river (left photograph). A replicate photograph of the same site in 1989 shows that the riparian trees have largely disappeared (right photograph). Data from two nearby wells indicate that the water table has declined more than 100 feet due to pumping, and this pumping appears to be the principal reason for the decrease in vegetation. (Photographs provided by Robert H. Webb, U.S. Geological Survey.)

In gaining and in losing streams, water and dissolved chemicals can move repeatedly over short distances between the stream and the shallow subsurface below the streambed. The resulting subsurface environments, which contain variable proportions of water from ground water and surface water, are referred to as hyporheic zones (see Figure 15). Hyporheic zones can be active sites for aquatic life. For example, the spawning success of fish may be greater where flow from the stream brings oxygen into contact with eggs that were deposited within the coarse bottom sediment or where stream temperatures are modulated by ground-water inflow. The effects of ground-water pumping on hyporheic zones and the resulting effects on aquatic life are not well known.



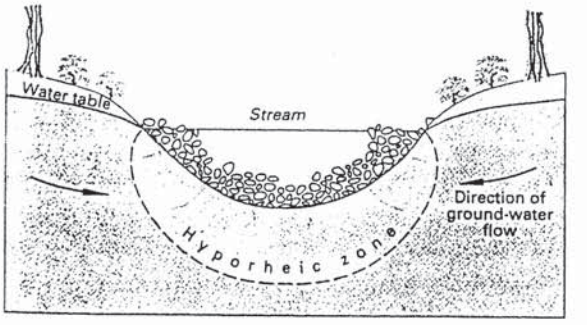


Figure 15. The dynamic interface between ground water and streams. (Modified from Winter and others, 1998.)

Streambeds are unique environments where ground water that drains much of the subsurface of landscapes interacts with surface water that drains much of the surface of landscapes. Mixing of surface water and ground water takes place in the hyporheic zone where microbial activity and chemical transformations commonly are enhanced.

Exhibit

9

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VOLUME I — REPORT TEXT

HYDROGEOLOGIC INVESTIGATION
PERENNIAL YIELD
and
ARTIFICIAL RECHARGE POTENTIAL
of the
ALLUVIAL SEDIMENTS
in the
SANTA CLARITA RIVER VALLEY
of
LOS ANGELES COUNTY, CALIFORNIA

FOR
UPPER SANTA CLARA WATER COMMITTEE
MEMBERS: LOS ANGELES COUNTY WATERWORKS
DISTRICT NO. 36 — VAL VERDE
NEWHALL COUNTY WATER DISTRICT
SANTA CLARITA WATER COMPANY
VALENCIA WATER COMPANY

AFFILIATE: CASTAIC LAKE WATER AGENCY

DECEMBER 1986

RICHARD C. SLADE
CONSULTING GROUNDWATER GEOLOGIST

5169

RICHARD C. SLADE
CONSULTING GROUNDWATER GEOLOGIST

4950 BELLAIRE AVENUE
NORTH HOLLYWOOD, CA 91607
(818) 506-0418

December 16, 1986

Mr. Kenneth R. Putnam, Chairman
Upper Santa Clara Water Committee
Post Office Box 779
Newhall, California 91322

Subject: Executive Summary
Hydrogeologic Investigation
Perennial Yield and Artificial
Recharge Potential of the Alluvial
Sediments, Santa Clarita Valley

S8605

Dear Mr. Putnam:

I am pleased to present this Volume I report of our hydrogeologic investigation of the alluvial sediments within the Santa Clara River Valley area of Los Angeles County, California. This project was undertaken to evaluate the magnitude of the perennial yield of groundwater that is available to wells from the alluvial sediments and to assess the hydrogeologic feasibility of artificially recharging these sediments.

Work on this project included collecting and reviewing pertinent data from numerous sources, conducting a limited field reconnaissance of the region, providing detailed hydrogeologic analyses of these records, and writing and preparing this report of investigation. Documenting this report are figures and tables, and a list of references reviewed. A separately bound Volume II provides all plates.

Principal conclusions and recommendations include:

1. The study area lies within the Eastern Groundwater Basin of Los Angeles County; alluvium along the stream channels and the Saugus Formation comprise the water-bearing sediments in this basin.

Because the alluvium is thin (less than 200 feet in maximum thickness) and because it is comprised of coarse-grained, permeable sediments, it is readily subjected to seasonal and long-term climatic (rainfall) changes and water quality impairment. Such climate changes or water quality problems (such as underground leaky tanks) will occur more rapidly and to

a larger degree in the shallow wells of the alluvium compared to wells in the underlying Saugus Formation.

The Saugus Formation ranges in thickness between at least 1500 feet and at least 5000 feet from the northerly to the southerly sides of the San Gabriel fault, respectively. Little is known of the hydrogeology and water-yielding characteristics of the Saugus Formation.

2. Groundwater flows from east to west across the alluvium in the river valley; April 1945 represents the all-time water level high, while November 1965 represents the all-time water level low in much of the alluvium. In general, 1985 water levels are 10 to 30 feet lower than the 1945 levels. Water levels west of Castaic Junction have remained high throughout the period of record.

3. Groundwater in storage in the alluvium has ranged from a high in April 1945 of 201,000 ac-ft, to a low of 107,000 ac-ft in November 1965; at present (Fall 1985) groundwater in storage is approximately 176,400 ac-ft. Because the theoretical maximum storage capacity in the alluvium is 239,900 ac-ft, there is a theoretically available storage capacity of 63,500 ac-ft between the 1985 storage and the theoretically maximum possible storage.

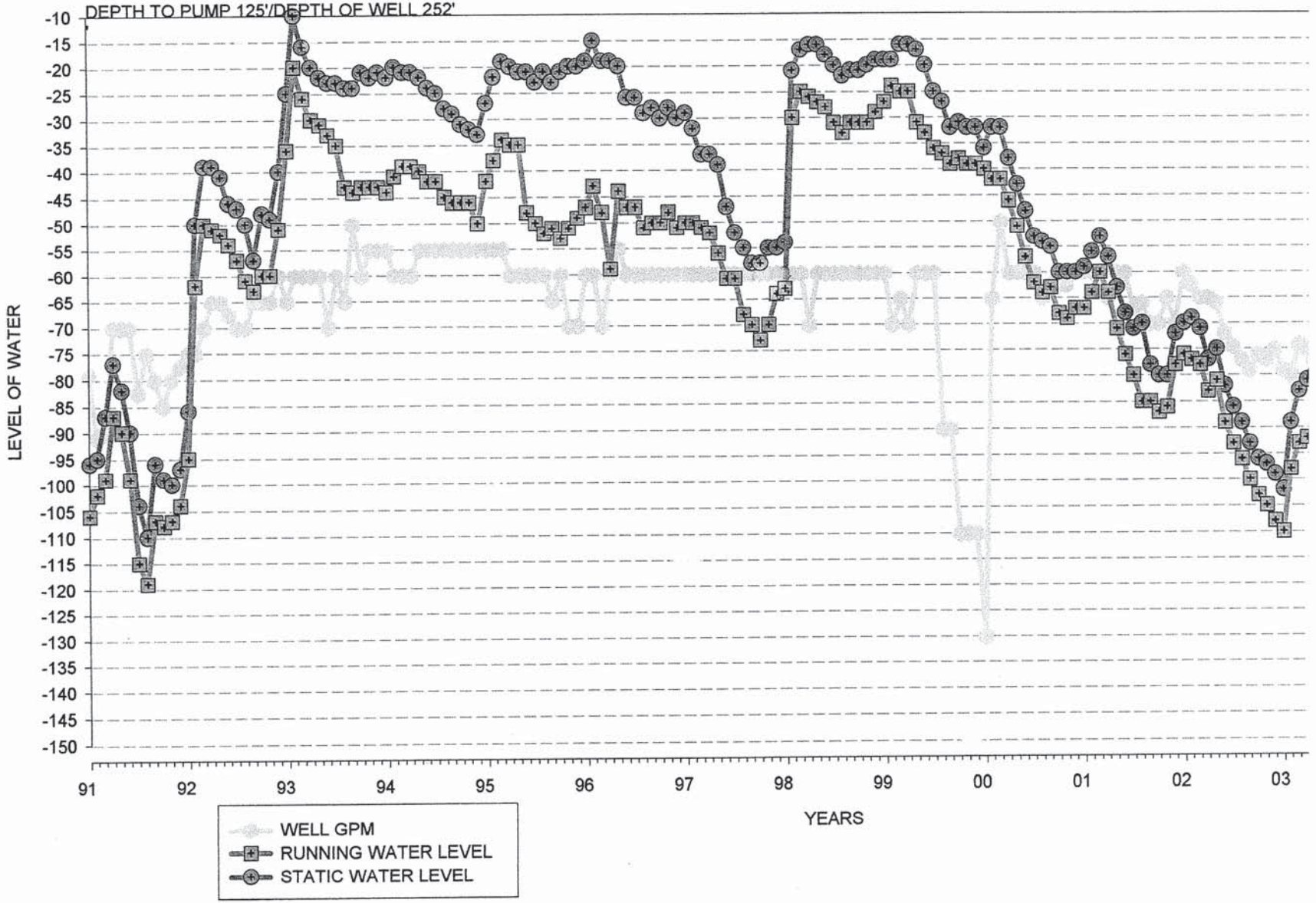
4. Though historic groundwater extraction data are somewhat contradictory, groundwater production for 1985 was: 24,103 ac-ft from the alluvium, using 59 active wells; and 4892 ac-ft from the underlying Saugus Formation, using 8 active wells. The numbers, locations, and annual production from wells actively used by private homeowners, industries and/or commercial establishments are not known; it is probable that total annual production from these sources does not presently exceed a few hundred ac-ft/yr.

5. For our base period of study of 1957-58 through 1984-85, we calculate a practical perennial yield for the alluvium of 31,600 to 32,600 ac-ft per year.

6. Alluvial groundwater quality ranges from a natural calcium-bicarbonate character on the east near Lang to a degraded sodium-sulfate character west of Castaic Junction. Generally, TDS increases in the

LOST CANYON #2A

WATER LEVEL GRAPH



Rec. 12-15-05

Exhibit
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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Valencia Water Company (U342-W) seeking approval of its updated Water Management Program as ordered in Commission Resolution W-4154 dated August 5, 1999	)	Application No. A-99-12-025

DIRECT TESTIMONY OF

STEVEN B. BACHMAN

IN SUPPORT OF THE PROTEST BY VENTURA COUNTY TO APPLICATION OF VALENCIA WATER COMPANY FOR APPROVAL OF ITS UPDATED WATER MANAGEMENT PROGRAM

DUE: April 10, 2000

TESTIMONY OF STEVEN B. BACHMAN

Q.: PLEASE STATE YOUR NAME.

A.: I am Steven B. Bachman.

Q.: DR. BACHMAN, WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A.: I have a doctor of philosophy degree from the University of California, Davis in geological sciences. Prior to that, I earned a masters degree in geological sciences from the University of California, Los Angeles and a bachelor of science degree in aeronautical engineering from the University of Washington. I have worked professionally as a geologist for 26 years and am a registered geologist in California. After my Ph.D., I was an assistant professor at Cornell University for four years. I then formed a consulting group in San Diego for Nekton, Inc. and two years later started my own consulting company, Crouch, Bachman, and Associates, Inc. in Santa Barbara. In 1990 I joined Integrated Water Technologies, Inc. ("IWT") as vice president, where I subsequently became president.

I began working for myself four years ago, while continuing to consult for IWT. As part of my consulting, in 1993 I became Groundwater Manager for United Water Conservation District ("United Water") in Ventura County, a position I continue to hold. United Water oversees groundwater management for most of the groundwater basins of Ventura County. Last year. I was retained as groundwater consultant to Calleguas Municipal Water District ("Calleguas"), the major wholesaler of State Water Project water ("State water") to Ventura County. For Calleguas, I oversee groundwater management issues, including effects of their joint Aquifer Storage and Recovery program with the Metropolitan Water District of Southern California. As part of this work for United Water and Calleguas, I maintain and operate the U.S. Geological Survey numeric groundwater model used by Ventura County agencies to determine potential effects of future surface xvater and groundwater management strategies. In 2000, I became a director for Montecito Water District.

My experience in groundwater projects in California, Nevada, and Arizona includes artificial recharge planning and implementation, groundwater management, groundwater quality studies, aquifer studies, groundwater modeling, groundwater recharge studies, wetlands treatment, and expert witness on groundwater. I have authored/co-authored over 50 geologic articles, including the recent book California Groundwater Management, funded by the U.S.

Environmental Protection Agency ("U.S. EPA") and published by the Groundwater Resources Association, and I lecture statewide on groundwater management. I have been president of the Society of Sedimentary Geologists (SEPM) - Pacific Section, associate editor of the journal Geology of the Geological Society of America, and chair of the Subcommittee on Groundwater Management of the Association of California Water Agencies ("ACWA"). I am presently chair of ACWA's Groundwatcr Committee, for which I have been testifying and providing technical guidance to the California State Water Resources Control Board on differentiating surface water from groundwater.

My recent projects include planning new artificial recharge projects for the Oxnard Plain, working on solving the overdraft of the Las Posas basin, characterizing nitrate contamination in the Oxnard Plain Forebay, cooperating in a long-range weather prediction study by United States Geological Survey, National Oceanographic Atmospheric Administration and Scripps, providing technical guidance to Orange County Water District on implementing a new groundwater model, and providing expert testimony on groundwater issues.

Q.: HAVE YOU EVALUATED WHETHER THERE IS AN ADEQUATE WATER SUPPLY FOR USE BY VALENCIA WATER COMPANY IN THE FUTURE?

A.: Yes. I have taken demand projections used by Castaic Lake Water Agency ("CLWA"), the State Water Project Contractor for Valencia Water Company's ("Valencia") service area, and compared those projections to available supplies of local groundwater and imported State water.

Q.: HOW HAVE YOU DETERMINED FUTURE DEMAND?

A.: I used the mid-range demand curve that is in the CLWA Draft Integrated Water Resources Plan Water Demand and Supply Evaluation, dated February 1998 ("IWRP"), that shows steadily increasing demand for urban uses and decreasing demand for agricultural water. (Attached to this testimony, as Exhibit 1, is a true and correct copy of Figure 2-1 from the IWRP[1].)

Q.: WHAT VALUES ARE YOU USING FOR FUTURE SUPPLY'?

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[1] Only excerpts of the relevant pages from various reports are attached. Full reports are available upon request.

A.: The supply consists of State water from CLWA and local groundwater from both the Alluvial (shallower) Aquifer and the Saugus Aquifer. This includes:

1. for State water, a supply of CLWA's full entitlement of 95,200 acre-feet per year ("AFY") during wet and normal periods and a 50 percent entitlement of 47,600 AFY during dry years. (Exhibit 2, Valencia's Water Management Program, dated December 16, 1999 ("VWMP"), Figures III-1 and III-2.);
2. for the Alluvial Aquifer, 32,600 AFY of perennial yield (Exhibit 3, Hydrogeologic Investigation Perennial Yield and Artificial Recharge Potential of the Alluvial Sediments in the Santa Clarita River Valley of Los Angeles County, California, December 1986, published by hydrologist Richard Slade ("1986 Slade Report"), p. 91), with a maximum yield of 25,000 AFY in dry years (Exhibit 4, IWRP, pp. 3-7 and 3-8) and 40,000 AFY in wet or normal years. (Exhibit 2, VWMP, Figure III-2.) This dry year yield varies from Valencia's dry year yield of 32,500 AFY (Exhibit 2, VWMP, Figure III-2), because pumping of 40,000 AFY in wet years and 32,500 AFY in dry years exceeds the perennial yield, which must average 32,600 AFY. In addition, CLWA's IWRP reported Slade as saying that "the entire Alluvial Aquifer has the capability of yielding about 25,000 acre-ft/yr for multiple dry years." (Exhibit 4, IWRP, p. 3-8.);
3. 1,700 AFY of reclaimed water (Exhibit 2, VWMP, Figure III-2);
4. no State Drought Water Bank supply, as supported by Wallace G. Spinarski's testimony filed herein; and
5. the Saugus Aquifer supplies the remaining demand, as it is the only additional source.

Q.: ARE THE PROPOSED AQUIFER PUMPING LEVELS IN VWMP'S FIGURE III-2 REALISTIC?

A.: As stated in the previous answer, the pumping levels proposed in the Alluvial Aquifer of 40,000 AFY in wet years and 32,500 AFY in dry years exceed both the perennial yield and the capacity of the aquifer to supply water during dry years. Therefore, I believe that these pumping levels are too high. In my analysis, I used the rates of 40,000 AFY in wet years and 25,000 AFY in dry years, as did the IWRP. (Exhibit 5, IWRP, Table 3-7.)

The VWMP assumes production from the Saugus Aquifer of 20,000 AFY in wet years and 41,000 AFY in dry years, which includes 30,000 AFY of dry year firming supplies from the Saugus. (Exhibit 2, Figure III-2; and Exhibit 6, VWMP, p. 15.) These projections far exceed the wet year recharge of 21,000 AFY and

average dry year recharge of 12,000 AFY. (Exhibit 7, IWRP, pp. 3-2, 3-3 and Hydrogeologic Assessment of the Saugus Formation in the Santa Clarita Valley of Los Angeles County, California, February 1988 ("1988 Slade Report"), pp. 95-97, collectively.) Valencia's average Saugus pumping of 30,500 AFY compares to average recharge of 16,500 AFY. As I discuss later, pumping even at the recharge rate of 16,500 AFY may exceed the perennial yield of the aquifer.

Q.: HAVE YOU COMPARED THE SUPPLY AND DEMAND NUMBERS?

A.: Yes. Supply and demand must be compared over a series of wet and dry cycles to realistically examine the water supply. I used the climatic conditions from the 51-year period from 1944 to 1994 to test potential conditions for the water supply from 2000 to 2050. In other words, the actual climatic conditions from the year 1944 were applied to the year 2000, 1945 conditions to the year 2001, and so on. This is similar to the technique used by the U.S. Geological Survey when constructing their regional groundwater model for the Calleguas-Santa Clara area. For this analysis, northern California river runoff for each year was used as the indicator of State water availability, and local precipitation for each year was used as an indicator of wet or dry conditions for groundwater usage. (Exhibit 8, Santa Clarita Valley Water Report 1999 ("1999 Water Report"), Figure II-15.) Please see Appendix to this testimony for details of analysis.

For the analysis, it is assumed that: purveyors use 95,200 AFY of State water in wet or normal years and 47,600 AFY in dry years; recycled water supplies of 1,700 AFY are used every year; and the Alluvial Aquifer is pumped at its maximum rate of 40,000 AFY in wet years and 25,000 AFY in dry years. If there is a shortfall in supply, then it is assumed that the shortfall is pumped from the Saugus Aquifer.

Q.: WHAT IS THE RESULT OF YOUR COMPARISON OF SUPPLY AND DEMAND?

A.: The total demand for water in 2000 in the basin is approximately 70,500 AFY (Exhibit 1, IWRP, Figure 2-1.) This demand will grow to approximately 105,500 AFY by 2010 and 146,500 AFY by 2020. Supply matches demand until about 2011, when supply goes from a general surplus to a general deficit. After 2011, the general excess demand is met by increased pumping of the Saugus Aquifer. (Exhibit 9, Chart - Water Supply Sources Necessary to Meet Demand.) This increased pumping overdrafts the Saugus Aquifer by pumping at rates higher than the aquifer can be recharged. (Exhibit 10, Chart - Groundwater Pumping of Saugus Aquifer, 1980 to 2050.) I have used the years 2011 (onset of perpetual Saugus

overdraft) and 2020 (planning horizon of the VWMP) as illustrations in the following table. The complete analysis for all years is indicated in Exhibit 10.

Supply/Demand (AF)	2011		2020	
Demand	110,000		146,500	
State Water Project		47,600		47,600
Reclaimed Water		1,700		1,700
Pumping of Alluvial Aquifer		25,000		25,000
Required Pumping of Saugus Aquifer		35,700		72,200
Accumulated Overdraft of Saugus		23,700		249,664

With dry years in both northern and southern California in the year 2011, a reduced supply of 47,600 AFY of State water and 25,000 AFY of water from the Alluvial Aquifer would be available. In this case, 35,700 AFY would be pumped from the Saugus Aquifer, well above either the wet year or dry year recharge of 21,000 AFY and 12,000 AFY, respectively. By the year 2020, 72,200 AFY must be pumped from the Saugus Aquifer. These high production rates from the Saugus create an accumulated overdraft of 249,664 acre-feet by 2020.

I have summarized the results of this analysis in three diagrams. The required Saugus Aquifer pumping is shown in Exhibit 10. As indicated, the stress on the Saugus Aquifer increases as demand continues to increase. To meet this demand, the Saugus will have to be pumped at levels up to 85,000 AFY during wet years. (Exhibits 9 and 10.) Although the application to the Public Utilities Commission ("PUC") states that the Saugus Aquifer will be pumped up to 40,000 AFY during dry years, in fact, the Saugus will have to be pumped at rates up to 100,000 AFY in dry years. (Exhibit 10.) By the 2040s, the Saugus Aquifer will be pumped at an average rate of above 80,000 AFY. When this is compared to annual recharge rates in the Saugus of 12,000 (dry) to 21,000 (wet) AFY, it is clear that there will be substantial overdrafting of the Saugus Aquifer. If the aquifer is pumped at a higher rate than it can be recharged, water levels will drop. At some point, this dropping water level will cause problems.

Q.: WHAT TYPES OF PROBLEMS COULD OCCUR AS WATER LEVELS DROP?

A.: The first problem generally encountered is that other pumpers in the basin must pump groundwater from deeper depths, increasing pumping costs. Then, additional work must be performed to lower pumps in the wells. As water levels drop, wells may actually have to be redrilled to deeper depths. However, several additional problems may occur at the same time. (Exhibit 11, Steven Bachman, et al., California Groundwater Management (1997), pp. 6-7.) Poorer quality water from deeper parts of the aquifer may be pulled into the wells. The overdrafting wells will act as sinks in the basin, creating groundwater gradients that may allow toxic chemicals from nearby contamination sites to flow towards and enter the wells. Finally, dewatering of the aquifer may cause compaction in the aquifer and result in surface subsidence. Such subsidence occurs in some California basins, with a good example being only a few miles away near Lancaster. There is potential liability to water producers and their customers if overpumping causes surface rupture of streets, pipelines, and buildings.

Q.: WHAT IS THE POTENTIAL FOR SUBSTANTIAL OVERDRAFTING OF THE SAUGUS AQUIFER, GIVEN THE SUPPLY AND DEMAND IN THE SANTA CLARITA VALLEY?

A.: A systematic overdraft of the Saugus Aquifer begins in 2011. (Exhibits 9 and 10.) By the year 2050, the accumulated overdraft will exceed the purported 1.4 million AFY of groundwater stored in the Saugus Aquifer. (Exhibit 10-A, Chart - Overdraft of Saugus Aquifer.) The 1.4 million AFY is an estimate of all groundwater stored to a depth of approximately 2500 feet within the Saugus Aquifer. (Exhibit 12, 1988 Slade Report, p. 79.) In general, only a portion of an aquifer can be drained without causing deleterious impacts to the groundwater quality, aquifer, and the overlying lands. Clearly, there is the potential for serious overdraft of the Saugus Aquifer, with all its associated problems.

Q.: AT WHAT RATE IS IT SAFE TO PUMP THE SAUGUS AQUIFER?

A.: We do not presently know the safe yield of the Saugus Aquifer. I have been attempting to persuade the purveyors in the Santa Clarita area to construct a groundwater flow model to test various pumping scenarios -- a way to analyze the effects of changing pumping. Short of that approach, the effect on the aquifer of past pumping can be used to determine if *present* pumping rates are overpumping

the aquifer. For instance, if water quality degrades in the basin, the basin may already be pumped beyond a safe limit.

Q.: IS THERE ANY EVIDENCE THAT WATER QUALITY IN THE BASIN HAS DEGRADED FROM PAST PUMPING OF THE BASIN?

A.: The water quality of the Saugus Aquifer, as measured by total dissolved solids (TDS), has generally deteriorated with increased pumping. This trend suggests that the vastly increased pumping of the Saugus Aquifer proposed by Valencia and the other water purveyors in the Santa Clarita area will continue to degrade groundwater quality. The trend also suggests that water quality under heavy pumping may reach levels where the water cannot be used directly for drinking water purposes.

Q.: HOW DID YOU DETERMINE THAT WATER QUALITY IN THE SAUGUS AQUIFER HAS CHANGED?

A.: I looked at Saugus Aquifer water quality data obtained from the California Department of Health Services data on drinking water wells. In addition, I used field conductivity measurements from 1998 and 1999 provided by Valencia to bring the records current. I then plotted TDS and annual well production on time graphs for each well for which information was available to examine water quality trends. I then analyzed these trends.

Q.: HOW HAS THE WATER QUALITY CHANGED IN THE SAUGUS AQUIFER WITH INCREASED PUMPING?

A.: I first looked at trends from individual wells. TDS levels were generally in the range of 400 to 500 milligrams per liter (mg/l) in the early 1960s when much of the Saugus Aquifer pumping started. (Exhibit 13, Chart - Newhall County Water District (NCWD) Well No. 9; Exhibit 14, Chart - NCWD Well No. 10; Exhibit 15, Chart - Valencia (VWC) Well No. 157; and Exhibit 16, Chart - VWC Well No. 158.) As pumping increased in the 1960s to mid 1970s, several wells showed significant water quality deterioration during that time period, with well NCWD No. 9 changing from levels around 500 mg/l to nearly 1,200 mg/l (Exhibit 13) and well VWC No. 158 changing from just over 500 to 1,200 mg/l. (Exhibit 16.) As pumping decreased in the late 1970s and early 1980s, water quality improved in some wells. (Exhibits 13 and 16.) In other wells, there was a steady increase in TDS during this period. (Exhibits 14, 15; and Exhibit 17, Chart - VWC Well No. 160.)

It is also possible to look at TDS averages from all the wells and compare these averages to total Saugus Aquifer pumping during the period. First, I calculated a two-year average TDS for each well. If there were no samples taken during any two-year period, I interpolated between the preceding and following two-year averages. I then averaged the two-year value from each of the wells to arrive at an overall average for the period. Average TDS levels were then plotted with corresponding Saugus pumping rates. (Exhibit 18, Chart - Water Quality (TDS) vs Pumping, Saugus Aquifer.) Exhibit 18 shows the same trend as seen in many individual wells. Average TDS levels were between 450 and 500 mg/l in the 1961 to 1962 period. As overall pumping of the Saugus Aquifer increased in the 1960s to mid 1970s into the 6,000 to 8,000 AFY range, average TDS consequently increased into the 700 to 800 mg/l range. As Saugus pumping decreased back into the 4,000 AFY range in the late 1970s and early 1 980s, average TDS decreased back into the 500 mg/l range.

Q.: HAS THIS DETERIORATION IN SAUGUS AQUIFER WATER QUALITY OCCURRED AGAIN MORE RECENTLY?

A.: Yes. The trend of deteriorating water quality with increasing pumping reappeared in the late 1980s and 1990s as Saugus Aquifer pumping climbed to the 12,000 to

14,000 AFY range. (E.g., Exhibits 13, 14, 15 and 17.) At the same time, average TDS values rose to the 700 to 800 mg/i range during this increased pumping. (Exhibit 18.) TDS levels have improved slightly in two wells as pumping stopped in those wells in the last several years (Exhibits 13 and 14), but have increased rapidly in other wells. (Exhibits 15, 17; Exhibit 19, Chart - VWC Well No. 159; and Exhibit 20, Chart - VWC Well No. 201.) The average TDS shown on Exhibit 18 indicates the rapid deterioration in water quality in the 1990s.

Q.: CAN THESE PAST TRENDS BE USED TO PREDICT THE EFFECT OF INCREASED PUMPING OF THE SAUGUS AQUIFER IN THE FUTURE?

A.: Yes. Both the VWMP and my demand/supply analysis include pumping the Saugus Aquifer at rates several times higher than historic pumping. I have combined the projected Saugus pumping rates from Exhibit 10 with the TDS and pumping rates from Exhibit 18 into a new chart. (Exhibit 21, Chart - Water Quality (TDS) vs Projected Pumping, Saugus Aquifer, 1961 to 2050.) The left side of Exhibit 21 shows how TDS has changed with past pumping, whereas the right side of the chart shows increased pumping in the future. Although it is not possible to predict with accuracy how TDS levels would change with this increased pumping, extreme caution should be used with any scenario of increased Saugus pumping. Water quality deterioration in the 1 990s certainly indicates that the changes in water quality can occur rapidly, even in a significantly less stressful pumping scenario.

I believe that it would be imprudent to increase Saugus Aquifer pumping at rates so much higher than historic levels. With danger signs obvious, the prudent approach is a step-wise increase in pumping, at levels much less than proposed by Valencia Water Company and required by demand/supply analysis. Such a slow step-up in pumping is recommended in the CLWA Integrated Water Resources Plan, at a rate of about 1,000 AFY with an accompanying artificial recharge program (Exhibit 1 to Slivinski's declaration, page 5-3). Such a plan would not mitigate water quality or other problems, but could identify them before they reach unacceptable levels. If problems were identified, then pumping would be curtailed to lower levels.

However, the levels of Saugus Aquifer pumping required to meet the supply and demand that I have identified herein do not allow the luxury of a slow step- wise

approach to increased pumping. Instead, Saugus pumping would have to be increased from an average level of around 9,000 AFY in the 1 990s to 38,000 AFY in the 2010s to 82,000 AFY in the 2040s, a nearly ten-fold increase in pumping.

Q.: COULD PROBLEMS WITH THE SAUGUS AQUIFER AFFECT DOWNSTREAM USERS?

A.: Yes, they may. This analysis has shown the significant portion of future supplies that must come from the Saugus Aquifer. If the Saugus fails to yield these high pumping rates either because the yield of the aquifer is lower or there are water quality problems that curtail usage, Valencia and other purveyors would have to rely more heavily on the State Water Project or Alluvial Aquifer pumping. Since the VWMP assumes maximum State water deliveries already (Exhibit 2, Figure III-2), the Alluvial Aquifer would be a likely source. However, since the Alluvial Aquifer is being used at its perennial yield already, any additional pumping would "mine" the aquifer, lowering water levels in the aquifer. Any lowering of groundwater levels would affect the Santa Clara River, which flows directly over the Alluvial Aquifer and is the primary recharge source for the aquifer. Lowering of groundwater levels induces additional recharge from the river, decreasing the flow in the river to downstream users. Because the Santa Clara River is the primary recharge source for the aquifers in Ventura County, this could significantly reduce recharge in the Ventura County aquifers.

Q.: ARE THERE ANY OTHER PROBLEMS EVIDENT IN THE SAUGUS AQUIFER THAT COULD AFFECT USE OF THE AQUIFER FOR DRINKING WATER?

A.: There is a significant area of perchlorate contamination to the east of the wells that pump from the Saugus Aquifer. The perchlorate has seeped into the Saugus Aquifer and has flowed westward towards the wells, shutting down 25 percent of the total Saugus Aquifer wells.

Q.: WHAT IS THE STATUS OF THIS TOXIC RELEASE?

A.: The perchiorate contamination is coming from the Porta Bella property (former Whittaker-Bermite site) (testimony of Sayareh Amir ("Amir") and Richard

McJunkin ("McJunkin") filed herein), a former military ordinance manufacturing facility. The perchlorate is used in the manufacturing of solid rocket fuel. The perchlorate has contaminated a significant area of the soils that rest directly on the Saugus Aquifer. The perchlorate has penetrated the Saugus and has moved approximately 2 miles toward the Saugus production wells. (Exhibit 23, Map - Perchlorate Sources and Contaminated Wells.) The production wells encroached upon by the migrating contaminant have shown concentrations of perchlorate of between 9 micrograms per liter (µg/l) to 45 µg/l. The current provisional action level for drinking water for perchlorate is 18 µg/l. (Testimony Amir and McJunkin.)

The extent of the perchlorate contamination in the Saugus Aquifer is not yet known, largely because there is a lack of wells to monitor west of well VWC No. 157. (Exhibit 23; and testimony of Amir and McJunkin.) Perchlorate that is still in the soils at the contamination site will be "a long-term source of contamination" that will continue to reach the aquifers as rains and runoff push the contaminants in the soil into the groundwater system. (Testimony of Amir and McJunkin.)

Q.: HOW DOES THE PERCHLORATE PROBLEM AFFECT SAUGUS AQUIFER PRODUCTION?

A.: As of March 2000, the full extent and severity of the contamination of the groundwater by perchlorate has not been determined. Current studies may show that other wells of the Saugus Aquifer are vulnerable to the migrating perchlorate. A combination of natural groundwater quality and aquifer properties constrains the areas in which new Saugus wells might be sited away from the known areas of contamination. The better quality Saugus groundwater is generally restricted to an area that trends parallel to, and just east of Interstate 5. (Exhibit 24, Map - Areas of Good Quality Water in Saugus Aquifer.) It is this area, adjacent to the South Fork of the Santa Clara River and its confluence with the main branch of the Santa Clara River, that is being contaminated by perchlorate.

The contamination of the Saugus Aquifer with perchiorate raises a major problem for water purveyors in the Santa Clarita Valley. During the early and mid-i 990s, the Saugus Aquifer provided the purveyors between 7,400 to 11,500 AFY of groundwater. (Exhibit 25, 1999 Water Report, Table III-5.) In 1999, production

from the Saugus dropped to approximately 2,700 AFY, and wells were taken out of production. The areas that contain the good quality water in the Saugus (Exhibit 24) have been partially compromised by the contamination, and larger areas may also be eliminated from production as the perchiorate continues to migrate into the aquifer. The application to the PUC shows that the purveyors plan to pump the Saugus at 20,000 AFY during wet years, with pumping up to 40,000 AFY. (Exhibit 2, VWMP, Figure III-2; and Exhibit 6, VWMP, p. 15.) Because of the known contamination to the groundwater, both of these goals are problematic. The time required to characterize the extent of contamination, remediate the perchlorate in the soils that continue to pollute the aquifer, and then to remediate the aquifers themselves will likely be many years, especially since the technology to remediate the groundwater is only in a developmental stage. (Testimony of Amir and McJunkin.)

Q.: WHAT IS THE PROBABILITY FOR PERCHLORATE CONTAMINATION?

A.: The concentration of perchlorate in the production wells probably represents the leading edge of a much larger plume of higher concentrations of perchlorate. The total area of the Saugus Aquifer contaminated by the perchlorate has yet to be fully defined. We do know that the contaminant has migrated a minimum of 2 miles through the subsurface and over land to contaminate the vital pumping areas. (Exhibit 23.) Since the groundwater gradients in the contaminated area in the Saugus are towards the west, the contaminant is likely to continue to migrate further west and northwest. Time of travel from the soil contamination sites to the deep Saugus wells implies that the contaminant has been moving between 1 to 3 feet per day within the Saugus Aquifer. This implies that the perchlorate could impact Valencia's well No. 201 as early as next year. Further down gradient is Valencia's well No. 160.

APPENDIX TO TESTIMONY OF STEVE B. BACHMAN

This Appendix further explains Exhibit 2.

Exhibit 2: The years 1944 to 1994 were used in the demand/supply projections because the period represents an approximately zero cumulative departure with respect to the Santa Clarita Valley. (Exhibit 26, 1999 Water Report, Figure II-17.) This also avoids the dramatic 1929 to 1934 drought in northern California. Figure II-15 (Exhibit 8) provides data for local wet and dry conditions. The hydrology classification of wet, normal, or dry in northern California comes from Figure 3-4, Sacramento Four River Unimpaired Runoff (1906 to 1996), from Volume 1 of the California Water Plan Update Bulletin 160- 98, attached as Exhibit 27. This provides data for the years 1944 to 1994, which become the years 2000 to 2050 in the projection.

Agricultural pumping was reduced from 12,000 AFY to 5,000 AFY as per CLWA's IWRP, pages 2-5 and 2-6, attached as Exhibit 28. The fraction of Alluvial to total agricultural pumping was held constant through the analysis at 0.8, which was the average for the period 1980 to 1999.

The column "Purveyors GW Demand-Total" is calculated as total demand *less* agricultural GW demand *less* reclaimed water *less* State water available. (See Exhibit 9, p. 2.) If this number is less than zero, it is recorded as zero. The purveyors Alluvial pumping is calculated as all of the total purveyors GW demand up to the dry or wet limit of 25,000 AFY or 40,000 AFY *less* the agricultural Alluvial pumping (agricultural *plus* purveyors Alluvial cannot exceed 25,000 or 40,000, respectively). The purveyors Saugus GW demand equals the total purveyors GW demand *less* the purveyors Alluvial pumping.

The Saugus overdraft for each year is calculated by comparing Saugus pumping to Saugus recharge of 21,000 AFY (wet year) or 12,000 AFY (dry year). If Saugus pumping exceeds the recharge appropriate for that year, the excess pumping is added to the overdraft. If Saugus pumping is less than the recharge amount, the difference is subtracted from the overdraft. The "Saugus Overdraft" column is a running total of the annual overdrafts. The overdraft is never less than zero, because the aquifer is considered to be full at zero.

Exhibit 1

Castaic Lake Water Agency

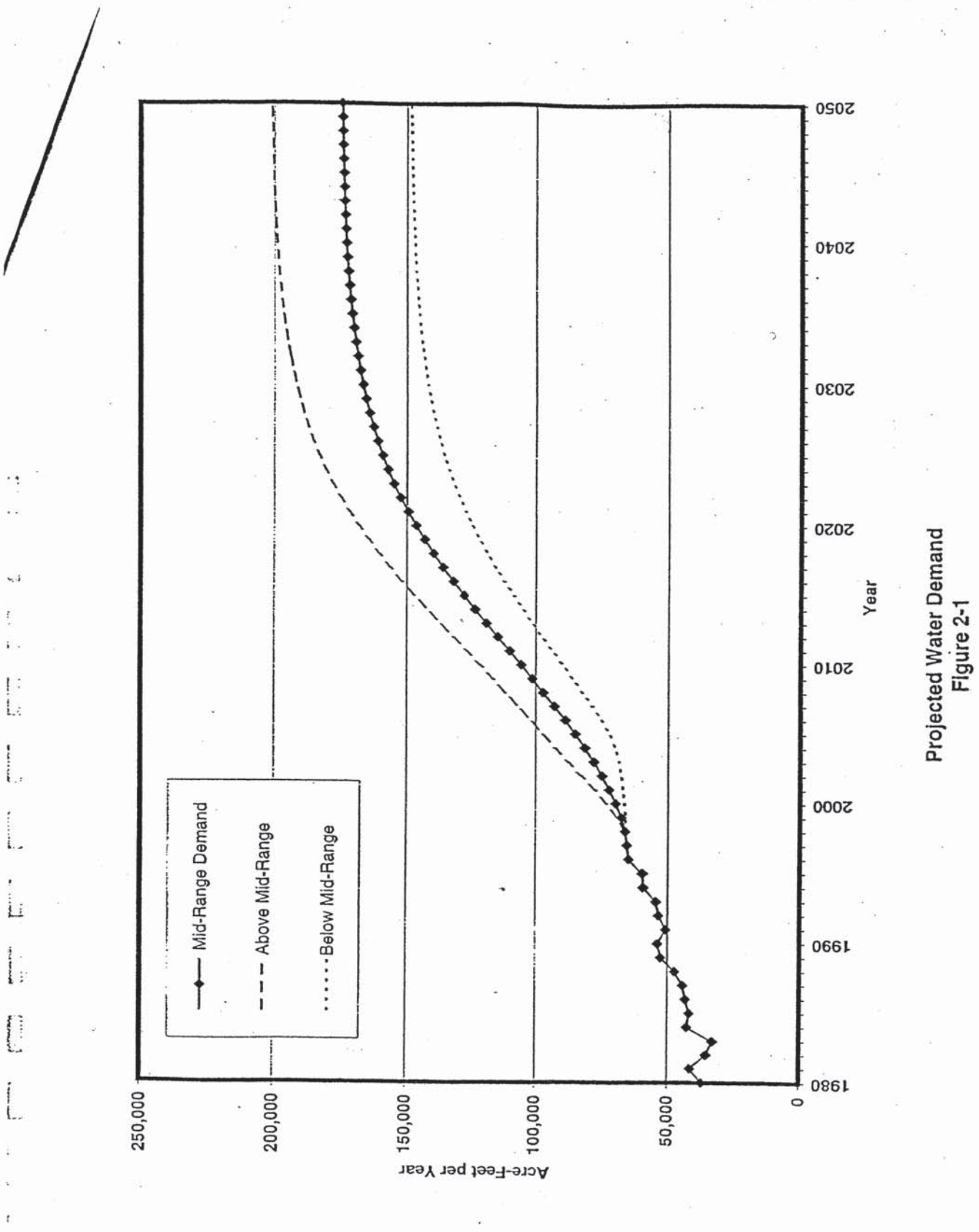
Draft

Integrated Water Resources Plan Water Demand and Supply Evaluation

February 1998

MONTGOMERY WATSON

BOOKMAN-EDMONSTON ENGINEERING, INC.



Projected Water Demand
Figure 2-1

Exhibit 2

VALENCIA WATER COMPANY

WATER MANAGEMENT PROGRAM

DECEMBER 16, 1999

Valencia Water Company

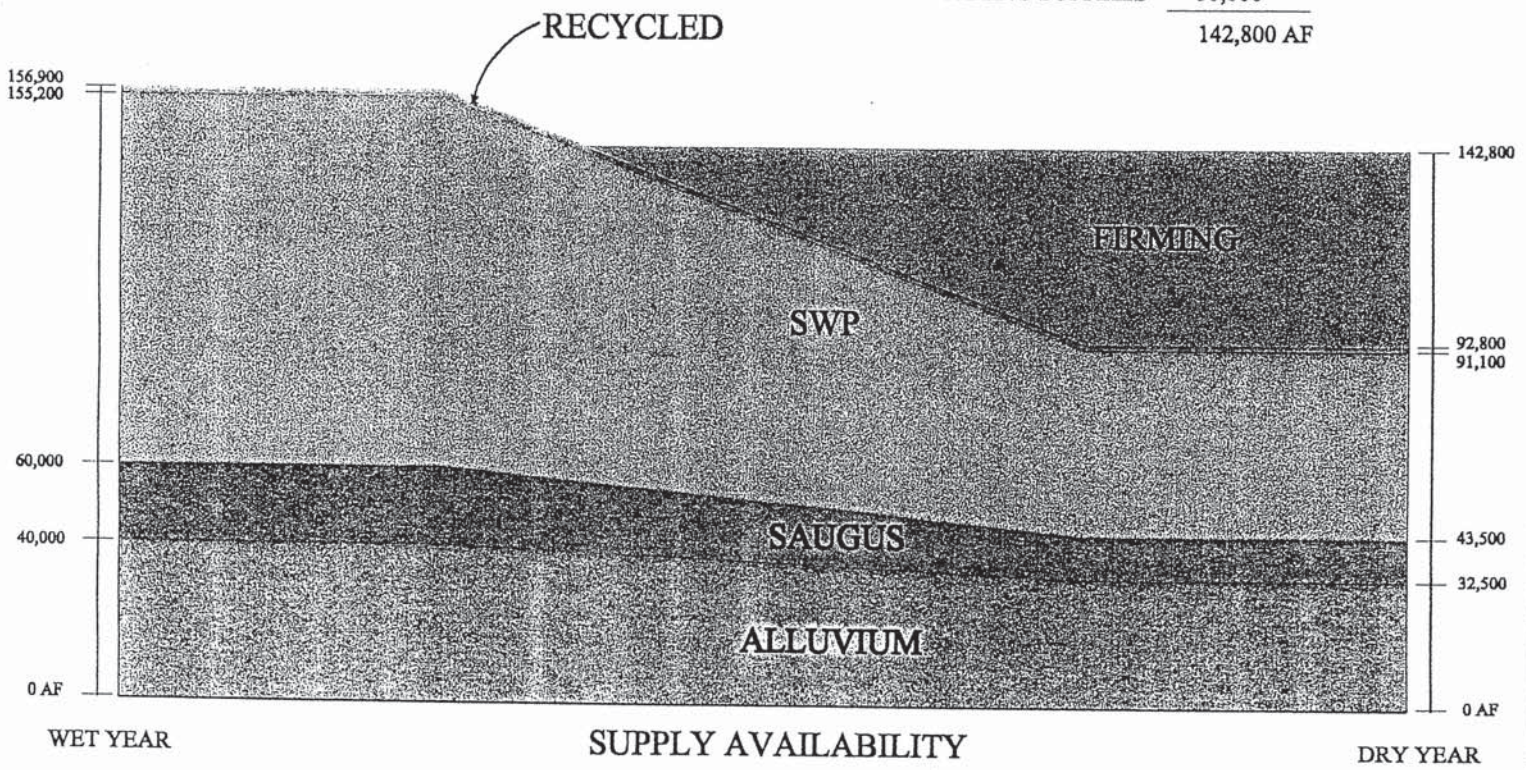
EXHIBIT 2 . Page 1 of 3

SANTA CLARITA VALLEY WATER SUPPLIES

FIGURE III-1

FULL SUPPLY	
ALLUVIUM	40,000
SAUGUS	20,000
SWP	95,200
RECYCLED	1,700
	156,900 AF

DRY YEAR	
ALLUVIUM	32,500
SAUGUS	11,000
SWP	47,600
RECYCLED	1,700
	92,800 AF
FIRMING SUPPLIES	50,000
	142,800 AF

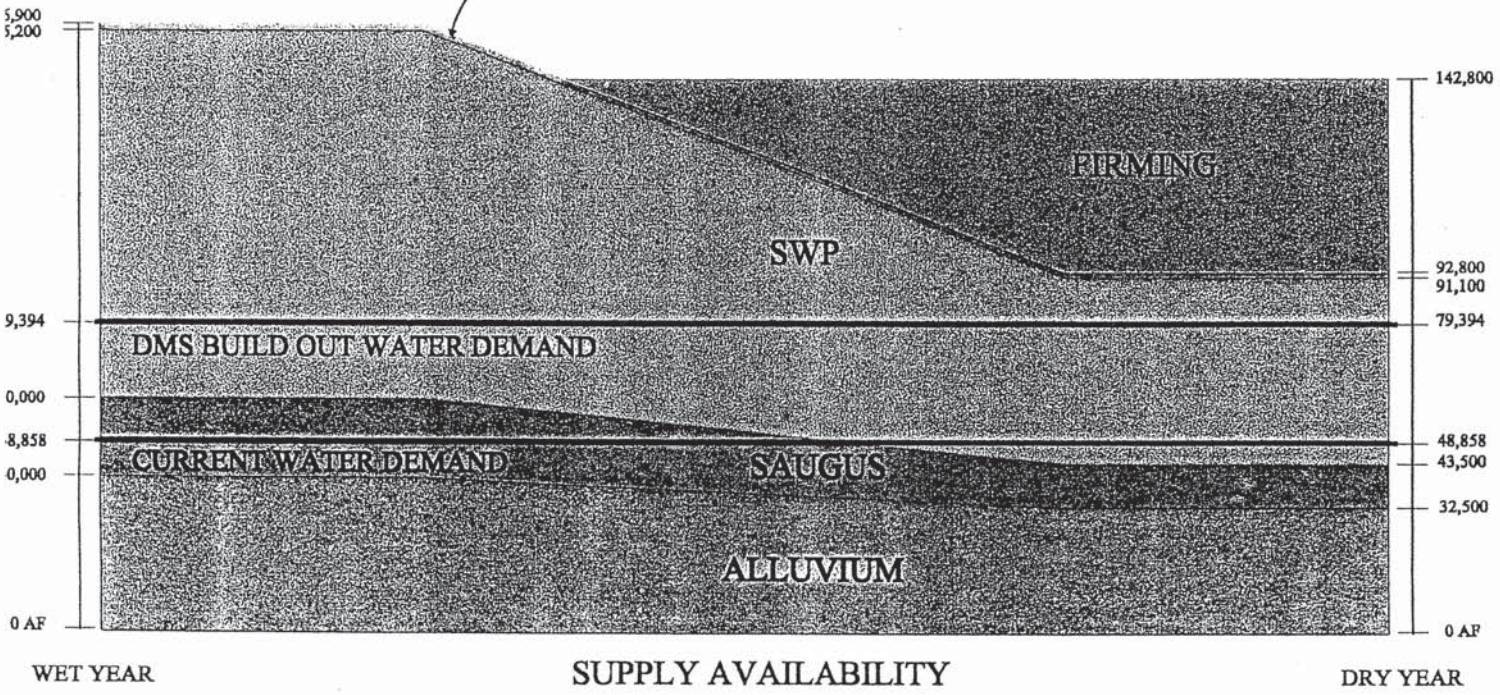


SANTA CLARITA VALLEY WATER SUPPLIES

FIGURE III-2

FULL SUPPLY	
ALLUVIUM	40,000
SAUGUS	20,000
SWP	95,200
RECYCLED	1,700
	156,900 AF

DRY YEAR	
ALLUVIUM	32,500
SAUGUS	11,000
SWP	47,600
RECYCLED	1,700
	92,800 AF
FIRMING SUPPLIES	50,000
	142,800 AF



*Current water demand of 48,858 acre-feet as reported in Table III-5 of the 1998 Water Report.

Exhibit 3

VOLUME I — REPORT TEXT

HYDROGEOLOGIC INVESTIGATION
PERENNIAL YIELD
and
ARTIFICIAL RECHARGE POTENTIAL
of the
ALLUVIAL SEDIMENTS
in the
SANTA CLARITA RIVER VALLEY
of
LOS ANGELES COUNTY, CALIFORNIA

FOR
UPPER SANTA CLARA WATER COMMITTEE
MEMBERS: LOS ANGELES COUNTY WATERWORKS
DISTRICT NO. 36 — VAL VERDE
NEWHALL COUNTY WATER DISTRICT
SANTA CLARITA WATER COMPANY
VALENCIA WATER COMPANY

AFFILIATE: CASTAIC LAKE WATER AGENCY

DECEMBER 1986

RICHARD C. SLADE
CONSULTING GROUNDWATER GEOLOGIST

EXHIBIT 3, Page 1 of 4

Change in Groundwater Storage. Change in groundwater storage is that amount of groundwater in the rock or sediments that increases or decreases over a specified length of time. During the drought years 1945 to 1977, water levels in the Santa Clarita Valley fell, and during the years of excessive precipitation, 1977-78 to 1982-83, water levels rose until the underground storage area was essentially filled and additional water flowed out of the basin. The difference in the elevation of the water table in the alluvium, or the amount of groundwater in storage at the beginning and at the end of the selected base period of study, reflects the surplus or the deficiency that occurred in the alluvium over the base period.

Computation of the change in groundwater stored in the alluvial aquifer at the beginning and at the end of the base period required a determination of several factors including the volume of sediments available, the saturated thickness of these sediments, and the specific yield of the alluvial materials which store, transmit, accept, and release groundwater to pumping wells. This has been provided previously in the report section discussing groundwater storage.

Computation of Perennial Yield. In summary, the steps required to compute the perennial yield of the Santa Clarita alluvial aquifer system are as follows:

1. Select the base and mean hydrologic periods.
2. Determine the average annual quantity of groundwater extracted by wells from the alluvial sediments.
3. Find the difference between the quantity of groundwater in storage at the beginning and at the end of the selected base period.
4. Find the average annual change in storage from the value found in Step 3.
5. The perennial yield is then the algebraic sum of the

calculated values of average annual pumpage and average annual change in storage.

To determine the average annual groundwater production from the alluvial sediments in the Valley, files at the major water purveyors concerning present and historic production were obtained. These data vary widely in their apparent level of accuracy. For example, some of the data do not date back to 1957-58, other data are based on electrical consumption at the pump and not on actual metered gallonage, while other data are only estimates based on the number of persons using the water. Regardless, during the 28-year base period 1957-58 to 1984-85, we estimate the average annual groundwater production from the alluvial sediments in the Santa Clarita Valley to have been approximately in the range of 31,000 to 32,000 acre-feet per year.

In addition, at the beginning of the base period, the quantity of groundwater stored in the alluvial sediments was calculated to be approximately 159,688 acre-feet. By 1985, the quantity of groundwater in storage in the alluvium had been increased to 176,409 acre-feet (see Table 8). The increase in the quantity of water in storage in the alluvium is thus 16,721 acre-feet. This increase is the total quantity of groundwater added to storage during the 28-year Base Period as a result of excess precipitation. Hence, the average annual net change in groundwater in storage was determined by dividing the total quantity of water added to storage by the length of the Base Period, or +597 acre-feet per year.

The perennial yield is the quantity of groundwater what can be pumped annually without any change in groundwater levels or net change in groundwater in storage over the Base Period. This may be computed by determining the average annual pumping during the Base Period (31,000 to 32,000 acre-feet), and adding or subtracting from this value, that amount

EXHIBIT 3 . Page 3 of 4

of groundwater which represented the average annual change in storage.

Because there was more water in storage at the end of the Base Period (1985) than at the beginning of the Base Period (1958), the annual net change in storage (+597 ac-ft) must be added to the average annual pumping (31,000 to 32,000 ac-ft). Thus, the practical or perennial yield of the alluvial sediments in the Santa Clarita Valley area is in the range of 31,600 to 32,600 ac-ft/yr.

Review of the literature indicates other values of perennial yield by different investigators. These other values include: a DWR (June 1964 and February 1979) value of 23,100 ac-ft/yr for the Eastern Basin, although they do not state whether this number is solely for the alluvium or for both the alluvium and the Saugus Formation; Hackel and Associates (1964), who reported a combined annual yield of 33,250 ac-ft/yr for both the alluvium and the Saugus Formation; and Bookman-Edmonston Engineering, Inc. (1976 and 1983) who report a value of 35,100 to 35,200 ac-ft/yr, as modified from USGS data, for the yield of the alluvium. Variations in these numbers relate to differences in total outcrop area of the alluvium being considered and to differences in the base period of study selected by each investigator.

SOILS CONDITIONS AND ARTIFICIAL RECHARGE

GENERAL RECHARGE METHODS

By definition, artificial recharge is the practice of deliberately augmenting the natural processes of infiltration of precipitation and streamflow through soils materials, thereby replenishing a groundwater reservoir via man-made

EXHIBIT 3, Page 4 of 4

Exhibit 4

Castaic Lake Water Agency

Draft

Integrated Water Resources Plan
Water Demand and Supply Evaluation

February 1998

MONTGOMERY WATSON

BOOKMAN-EDMONSTON
ENGINEERING, INC.

Pumping from the Saugus Aquifer has varied from about 3,900 acre-ft/yr up to 14,800 acre-ft/yr. In 1996, Saugus pumping was about 8,200 acre-ft/yr. Installed pumping capacity can produce 15,000 to 16,000 acre-ft/yr from the Saugus Aquifer.

In 1991, groundwater was pumped into the CLWA distribution system because of SWP supply deficiencies and the cost of water was less than purchasing State Drought Bank water. By moving groundwater from areas of adequate supply into areas with limited groundwater, the local water community illustrated a major element of a conjunctive use program.

Estimated Dry Period Groundwater Production Capability

Slade (1984) reported that the perennial yield of the Alluvial Aquifer is about 32,000 acre-ft/yr. This yield is the historical annual production adjusted for a minor change in storage. Because of he limited storage capacity in the Alluvium, this groundwater source may be limited in dry periods. Wells in the Alluvium near the eastern reaches of the Santa Clara River are known to have groundwater levels which decline during consecutive dry years by as much as 100 feet, reducing pumping capacity. A series of winter storms recharge the aquifer and result in water level recovery.

The data reviewed for the Pardee area (located near Bouquet Canyon Road and the Santa Clara River) shows that in 1990 and 1991, groundwater levels did not decline as much as those in the easterly areas. In 1991, the Valencia Water Company increased its pumping to offset limited SWP water supplies. Valencia Water Company reported delivery of about 5,000 acre-ft/yr into the CLWA distribution system. Total pumping from the Alluvium by Valencia Water Company in 1991 was about 9,900 acre-ft/yr, as reported to the State Water Resources Control Board.

Based on historical data, the Alluvial Aquifer east of Castaic Junction can support production of at least 20,400 acre-ft/yr as shown in **Table 3-2.**

Table 3-2
1991 Alluvial Groundwater Production
East of Castaic Junction

Water Purveyor	Annual Production (acre-ft/yr)
Newhall CWD	1,900
Santa Clarita WC	5,900
Valencia WC [1]	10,400
Wayside Honor Rancho	2,200
Total	20,400

1. Includes 500 acre-ft pumped in 1991 by Newhall Land & Farming Co. east of Castaic Junction.

The area west of Castaic Junction has never been stressed by intense pumping but it is believed to be capable of producing at least 12,000 acre-ft/yr based on current production. The supply in this area is not greatly affected by drought because it is replenished from wastewater effluent, irrigation return flow and the westward movement of groundwater causing the basin water levels remain high. This water would require blending with other supplies to reduce the salinity of delivered water if used for potable purposes.

Discussions with Slade (1997) indicate that the entire Alluvial Aquifer has the capability of yielding about 25,000 acre-ft/yr for multiple dry years. A full aquifer with about 140,000 acre-ft of water in storage, pumped at this rate, would provide water for five to six years, assuming no inflow to the basin. Production at this level and duration would most likely reduce water levels in the upper portions of the basin in the vicinity of Soledad Canyon.

Saugus Formation production capability is less defined. Slade (1997) estimates that the Saugus Formation is capable of producing up to 40,000 acre-ft/yr over a period of five to six dry years. This production level is currently unproven because there are not sufficient wells to operate at this extraction rate. Since current production capabilities only allow about 15,000 to 16,000 acre-ft/yr of production, a significant number of new wells would be required to pump 40,000 acre-ft/yr. It is recommended that any program to construct additional Saugus Formation wells be implemented in stages and be fully evaluated before proceeding to subsequent stages.

IMPORTED WATER SUPPLIES

CLWA obtains imported water supplies from the State Water Project (SWP) which is managed by the Department of Water Resources (DWR). CLWA is one of 29 agencies holding a long-term contract with the State of California for SWP water. SWP water originates from rainfall and snowmelt in northern and central California. Runoff is stored in Lake Oroville, which is the project's largest storage facility. The water is then released down the Feather River to the Sacramento River and the Sacramento-San Joaquin Delta. Water is diverted from the Delta into the Clifton Court Forebay, and then pumped into the 444-mile-long California Aqueduct. SWP water is temporarily stored in San Luis Reservoir, which is jointly operated by the DWR and the U.S. Bureau of Reclamation. Prior to delivery to CLWA, SWP supplies are stored in Castaic Lake which is located at the end of the West Branch of the California Aqueduct. **Figure 3-6** shows the location of the primary water storage and delivery facilities of the SWP.

The following discussion of the SWP supply includes CLWA's contract entitlement, current supply planning activities including the CALFED Program, supply reliability, and water quality.

Water Supply Contract Entitlement

Each contracting agency is entitled to a maximum annual amount of SWP water as specified in Table A of the agency's SWP contract. Initially, 31 agencies contracted for SWP water with total combined entitlements of 4,230,000 acre-ft/yr. Contract amendments in the 1980s have reduced the number of contractors to 29 agencies with combined entitlements of 4,217,786 acre-ft/yr. The term of the contract is through the year 2035 and is renewable after that year.

Exhibit 5

Table 3-7
Current Water Supply Operating Plan
(acre-ft/yr)

Source	Wet Year	Average Year	Dry Year
Alluvial Aquifer Groundwater	40,000	32,000	25,000
Saugus Formation Groundwater	5,000	10,000	16,000 [1]
State Water Project Entitlement Deliveries	54,000	41,000	18,000
Water Bank and Transfers [2]	0	0	20,000
Water Conservation [3]	17,000	17,000	17,000
Total Supply	116,000	100,000	96,000

Notes:

1. Saugus Formation groundwater production is currently limited to about 16,000 acre-ft/yr by installed well capacity. The aquifer should be capable of producing up to 40,000 acre-ft/yr with additional wells.
2. Water Bank purchases and other dry year transfers are assumed to be about 20,000 acre-ft/yr. Actual amounts would depend on the amount of water made available to the Water Bank and other programs.
3. Water conservation is estimated to be ten percent of future mid-range demand.

Table 3-8
Future Water Supply Needs

Demand Condition	Future Demand [2]	Maximum Water Supply Needs [1] - (acre-ft/yr)		
		Wet Year	Average Year	Dry Year
Minimum	149,000	33,000	49,000	53,000
Mid-Range	175,000	59,000	75,000	79,000
Maximum	201,000	85,000	101,000	105,000

Note:

1. Water supply needs are the difference between future demands and available supplies from Table 3-7. The water supply needs incorporate the CLWA goal of 10 percent conservation as shown in Table 3-7.

Exhibit 6

VALENCIA WATER COMPANY

WATER MANAGEMENT PROGRAM

DECEMBER 16, 1999

Valencia Water Company

EXHIBIT 6, Page 1 of 4

deliver up to 1,700 acre-feet of water for non-potable use. Valencia encourages the use of recycled water as an important program to maximize current supplies in meeting overall water needs for the Valley.

5) Firming Water: Firming water supplies are defined as alternate short term supplies (1 to 3 years) made available to the local purveyors to be used when imported water is reduced during drought conditions. For purposes of Valencia's WMP, three firming supply options are included in this report. They are: 1) acquiring additional SWP entitlement, 2) the Drought Water Bank, operated by the State of California, and 3) local supply augmentation.

In 1999, CLWA acquired 41,000 acre-feet of SWP Table A Entitlement (via a permanent transfer) from Kern County Water Agency and its member unit the Wheeler Ridge-Maricopa Water Storage District. This transfer was completed under the terms of the Monterey Agreement, in which agricultural SWP Contractors agreed, on a willing seller willing buyer basis, to make available 130,000 acre-feet of entitlement for permanent transfer to urban SWP Contractors. By this permanent transfer, CLWA SWP Table A Entitlement is 95,200 acre-feet per year. In CLWA's *IWRP*, additional imported water was identified as one component of an overall plan to increase the reliability and availability of water within its service area. For the foreseeable future, this transfer increases their total supply while providing a significant "drought buffer" even in times of shortage.

The State Drought Water Bank is implemented as needed by an executive order of the Governor or a finding by DWR's Director that water deliveries will be curtailed. The purpose of the Bank is to help California's urban, agricultural and environmental interests meet their water supply needs during water short years. This procedure was used successfully in 1991, 1992 and 1994 when DWR purchased water from willing sellers and sold the water to willing buyers under a set of allocation guidelines. Although CLWA's allocation of imported water was

reduced in 1991, it did not participate in the Drought Water Bank program because other alternate supplies were available to meet Valley water demands. For purposes of planning, CLWA's *IWRP* identified short-term deliveries of 20,000 acre-feet or more of water purchased from the state's Drought Water Bank in dry years if needed, to augment the Valley's water supplies.

It is important to note that there are several other state programs in place that CLWA can utilize to "firm up" SWP supplies when they are reduced. A partial listing of programs includes the Supplemental Water Purchase Program, the Interruptible Water Service Program and the SWP Turn-back Pool. These programs are discussed in detail in Section 3, page 3-16 of CLWA's *IWRP*. In summary, these programs provide substantial opportunity for CLWA to increase its water supply and effectively implement water management activities to enhance supply reliability.

Local supply augmentation includes demand management programs (voluntary and mandatory rationing programs) and conjunctive use of stored local groundwater. For planning purposes, the WMP assumes that Valencia customers could voluntarily conserve 10 percent from their normal usage. This is reasonable since Valencia customers, during the last drought in 1991, voluntarily conserved over 20 percent.

As discussed in item 2 above, the Saugus Formation could produce up to 40,000 acre-feet of water per year. This assumes approximately 30,000 acre-feet of water could be withdrawn on a short term basis from the Saugus Formation in addition to the dry year recharge rate of 11,000 acre-feet. In order to achieve this level of production, existing agricultural wells could be converted for domestic use and/or new wells could be constructed.

At the present time, the Valley's primary supplies of groundwater, imported water and recycled water are adequate to meet existing and projected demands for the

foreseeable future. As water demands increase, Valencia, CLWA and the other purveyors will analyze and determine the most beneficial mix of supply options available on a short term basis to meet customer demands. In summary, Valencia's WMP has identified approximately 50,000 acre-feet of firming water supplies (excluding 10 percent voluntary conservation) that is available to Valencia and the other purveyors to be used if and when SWP supplies are reduced.

6) Future Water Sources: Water supply and facilities for the Valley have increased incrementally over the years in order to keep pace with customer demands. It is not reasonable for service providers to build all that is necessary and acquire water rights to accommodate projected water demands twenty to thirty years in the future. CLWA and the local purveyors plan for new supplies and facilities a minimum of 3 to 5 years ahead of need. In its *IWRP*, CLWA addressed opportunities to increase the sources of both local and imported water supplies over time. These programs include:

Acquisition of Additional SWP Entitlements. CLWA has recently purchased under the Monterey Agreement an additional entitlement of 41,000 acre-feet. In the near term, this additional supply of water will provide added reliability to CLWA's base water supplies. At the present time, additional SWP entitlement is available and CLWA is evaluating the benefits of acquiring additional entitlement along with other programs such as water banking and other storage opportunities needed for planned growth within the Valley.

Devils Den Ranch Groundwater. CLWA is studying the potential to develop groundwater supplies from property it owns on the west side of the San Joaquin Valley near the Kings-Kern County line. Known as the Devil's Den Ranch, water from this groundwater basin could be pumped into the California Aqueduct and delivered to CLWA.

Water Conservation. CLWA will continue to develop and implement its comprehensive water conservation program in cooperation with the four retail agencies. The major emphasis will be on landscape water conservation activities. Based on empirical data on the impact of conservation measures in other cases, which range from 10 to 20 percent, a minimum 10 percent reduction in water demand through conservation is expected.

Exhibit 7

Castaic Lake Water Agency

Draft

Integrated Water Resources Plan
Water Demand and Supply Evaluation

February 1998

MONTGOMERY WATSON

BOOKMAN-EDMONSTON
ENGINEERING, INC.

EXHIBIT 7, Page 1 of 7

CLWA service area, particularly portions of Soledad and Bouquet Canyons, are not underlain by the Saugus Formation and alluvial deposits are relatively thin.

Alluvial Aquifer

Large quantities of water are pumped from relatively shallow wells in the highly permeable Alluvial Aquifer. Although it is the smaller of the two aquifer systems as measured by storage capacity, most water wells within CLWA are drilled into the Alluvial Aquifer. The maximum historic quantity of water stored in the Alluvium has been estimated to be approximately 201,000 acre-ft following periods of substantial rainfall in 1945 (Slade, 1986). Over one-half of this storage is located along the Santa Clara River below Soledad Canyon. The remaining Alluvial storage is equally divided between Soledad Canyon and the other main tributaries (Castaic Valley, San Francisquito Canyon, and Bouquet Canyon).

Recharge to the Alluvial Aquifer is primarily from the percolation of streamflow in the Santa Clara River and its tributaries. The amounts of flow and streamflow recharge are highly variable. When large quantities of surface water are available during wet years, the Alluvial Aquifer system is readily recharged, with documented water level recoveries of 70 feet or more. A significant water level drop of up to 100 feet is experienced following a series of dry years. These water level declines are particularly significant in Soledad Canyon.

The groundwater levels in the vicinity of Castaic Junction have remained near the ground surface, even during periods of deficient rainfall. This is due to the east-to-west movement of groundwater, a possible restriction to groundwater movement, and a continual supply of water from the Valencia Water Reclamation Plant. The groundwater levels west of Castaic Junction remain near ground surface, even during dry years. Pumping has not stressed this part of the Alluvial Aquifer. Slade (1986) calculated a perennial yield from the Alluvial Aquifer based on a period from 1957-58 through 1984-85 to be from 31,600 acre-ft/yr to 32,600 acre-ft/yr.

Saugus Formation

The Saugus Formation contains much greater quantities of groundwater than does the Alluvial Aquifer. Slade (1988) reported that approximately 1.41 million acre-ft of potentially usable groundwater is contained from depths of 500 feet to 2,500 feet in the Saugus Formation. To date, few water wells have been drilled into the Saugus Formation and information on the characteristics of this aquifer is limited. Available data indicate that the highest yield potential of the Saugus Formation (based on aquifer depth, aquifer transmissibility, and water quality) are generally located along, and southerly of, the Santa Clara River, between its confluence with Bouquet Canyon Creek and Castaic Creek. The Saugus Formation appears shallower and exhibits a lower transmissivity north of the San Gabriel Fault, although water well data available in this area are limited.

Slade (1988) indicates that the principal source of recharge to the Saugus Formation is from precipitation on exposed outcrops and direct infiltration from the overlying saturated alluvium of the Santa Clara River channel. Preliminary estimates of the combined potential recharge from these two sources range from 20,000 to 22,000 acre-ft/yr in wet periods, and from 11,000 to

13,000 acre-ft/yr in dry periods. Slade (1988) further states that south of the San Gabriel Fault, wells with depths of 1,500 to 2,500 feet are anticipated to produce 1,500 to 2,000 gallons per minute (gpm). It was recommended that new wells be spaced at least 1,000 feet apart to minimize mutual interference. Wells north of this fault will be shallower and have lower yields.

Since a principal source of recharge to the Saugus is from the Alluvial Aquifer system, heavy pumping of the Saugus will eventually affect the Alluvium. The low vertical permeability between the two aquifer systems greatly restricts this interflow. Consequently, groundwater in the Saugus Aquifer is less readily replenished. Potential methods to improve recharge of the Saugus Aquifer are discussed in Section 4.

Groundwater Quality

Groundwater quality is, in part, dependent on the quality of surface water which recharges the groundwater basin. In the main stem of the Santa Clara River and its larger tributaries, surface flows generally rank fair in terms of water quality standards. Total dissolved solids (TDS) typically ranges from 400 to 700 milligrams per liter (mg/l).

Water in the Alluvial Aquifer generally increases in salinity as it moves westerly from recharge areas to the areas of rising groundwater downstream from Castaic Junction near Blue Cut. The TDS concentrations in these Alluvial Aquifers increase from approximately 400 mg/l in the upstream areas to approximately 1,000 mg/l or greater in the vicinity of Castaic Junction. Downstream from that point, groundwater quality is similar to the quality of rising groundwater discharged to the Santa Clara River, which contains TDS in the range of 1,000 mg/l to 3,000 mg/l. Near Castaic Creek, the groundwater quality is impacted by poor quality surface water flowing from Charlie Canyon.

Deep wells in the Saugus Aquifer typically have TDS concentrations ranging from about 400 mg/l in the upstream areas to approximately 1,000 mg/l in the vicinity of Interstate Highway 5. Extremely high salinities of 1,000 mg/l to over 3,000 mg/l TDS, are found in the southerly portion of the basin (generally southwest of Newhall near the Saugus Formation edge). Although insufficient data are available, similar high salinities may occur in other peripheral areas of the basin where there is inadequate flow to flush out accumulated salts.

Several new water quality problems have been observed in Southern California recently that could affect groundwater supply availability: MTBE and perchlorate. Methyl-tertiary-butyl-ether (MTBE) is a compound that is added to gasoline to improve air quality. Groundwater contamination is most commonly associated with leaking underground fuel tanks and petroleum product pipelines. Because MTBE is highly soluble in water, does not adsorb well to soil particles and is not readily biodegradable, it can percolate through the ground into underground aquifers at rates similar to that of water. The extent of contamination in the Santa Clarita Valley is not currently known; however, 36 leaking tank sites are under various stages of investigation or remediation according to recent Regional Board data. MTBE is likely to be a more significant issue in the future.

VOLUME I — REPORT TEXT

HYDROGEOLOGIC ASSESSMENT

OF THE

SAUGUS FORMATION
in the
SANTA CLARA VALLEY
of
LOS ANGELES COUNTY, CALIFORNIA

FOR

CASTAIC LAKE WATER AGENCY

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 36 — VAL VERDE

NEWHALL COUNTY WATER DISTRICT

SANTA CLARITA WATER COMPANY

VALENCIA WATER COMPANY

FEBRUARY 1988

RICHARD C. SLADE

CONSULTING GROUNDWATER GEOLOGIST

EXHIBIT 7, Page 4 of 7

001

to be considered as usable, these potential aquifers were selected from electric logs and only between the depths of 500 ft (to preclude capturing groundwater from the alluvium) and: the base of fresh water in the Saugus Formation; or a maximum depth of 2500 ft (the deepest existing Saugus well is 2000 ft deep), whichever is shallower.

Current groundwater production (1986) represented only 0.40 percent of the total volume of usable storage in the Saugus Formtion.

6.0 POTENTIAL RECHARGE

Principal recharge sources to the Saugus for our calculations were deep percolation of direct precipitation solely on the outcrop area of the Saugus Formation and terrace deposits; and direct infiltration from saturated alluvium within only the Santa Clara River channel and only where this alluvium directly overlies Saugus strata. Such calculations provided an estimate of the minimum amount of recharge to the Saugus.

As a preliminary estimate, we believe the combined potential sources from these two sources ranges between approximately 20,000 and 22,000 ac-ft/yr in wet periods and 11,000 to 13,000 ac-ft/yr in dry periods.

Such potential recharge causes a re-pressurization of the confined Saugus aquifers. Historic extractions have caused no discernible or definitive trends in the piezometric levels of graphed wells since records began. Piezometric levels have been rising in wells since the late-1960's, possibly as a result of recharge from years of excess rainfall in this period.

EXHIBIT 7, Page 5 of 7

This preliminary assessment of the minimum amount of potential recharge to the Saugus Formation incorporates only portions of the two main forms of deep percolation and recharge into these strata. As such, this preliminary assessment should not be construed as a rigorous determination of the perennial yield of the Saugus, with such determination not being a part of the scope of work.

Furthermore, because so much of the Saugus Formation (both laterally and vertically) contains no active water wells and/or has never contained any water wells, the vast majority of the aquifer system has never been stressed; indeed, for much of the region, there are no definitive hydrogeologic data at all. A meaningful evaluation of the perennial yield of this formation must await, as yet unavailable, long-term water level and water quality data and a data base that includes actual data from wells northerly of the Holser and San Gabriel faults.

It is also noteworthy that the natural losses of groundwater via subsurface leakage from the alluvium into underlying strata, including the Saugus Formation, occur continuously and wherever there are relatively permeable strata underlying saturated alluvium; even in dry years, the lower portions of the alluvium still contain groundwater. The leakage losses are natural and cannot be terminated because it would require an infinite number of wells to totally dewater all of the alluvium on a permanent basis.

In our method of assessing the perennial yield of the overlying alluvium (Slade, December 1986), we considered only the change in water levels vs. groundwater extraction from the alluvium for a specific

EXHIBIT 7, Page 6 of 7

time period. These water levels are known to change in response to many conditions, including rainfall, basin inflow, and basin outflow (losses). Thence, inherent to the perennial yield assessment of alluvium are the natural losses from the alluvium to the Saugus Formation.

7.0 NEW WELLS

7.1 Priority Locations. Plate 10 - Recommended Drilling Areas - has been prepared on a regional basis to show general locations, on a first-order priority, for new wells. Available data have been analyzed to provide these regional priority locations to be considered for future wells by the purveyors.

However, prior to drilling, it is recommended that a site-specific evaluation be provided of electric logs proximal to any prospective future well site in order to confirm the distribution and continuity of coarse-grained channel deposits. This is also important because zones of deposition of coarse grained Saugus strata are known to have varied widely in geologic time, both vertically and horizontally. Such site-specific subsurface data can be briefly reviewed and summarized in a letter to provide final details for test hole/final well specifications.

If more than one well is desired in a given area, construction should be conducted in phases, with the first well drilled, completed, developed, and thoroughly tested prior to selecting the final sites and design criteria for additional wells in that given area. New wells should be spaced at least 1000 ft apart, based on mutual drawdown interference criteria.

7.2 Anticipated Yields. New Saugus Formation water wells in the region southerly of the San Gabriel fault

EXHIBIT 7, Page 7 of 7

Exhibit 8

SANTA CLARITA VALLEY WATER REPORT
1999

Castaic Lake Water Agency

Los Angeles County Waterworks District #36

Newhall County Water District

Santa Clarita Water Company

Valencia Water Company

Prepared by: The Upper Santa Clara Valley Water Committee
February 2000

8 - 1 of 7

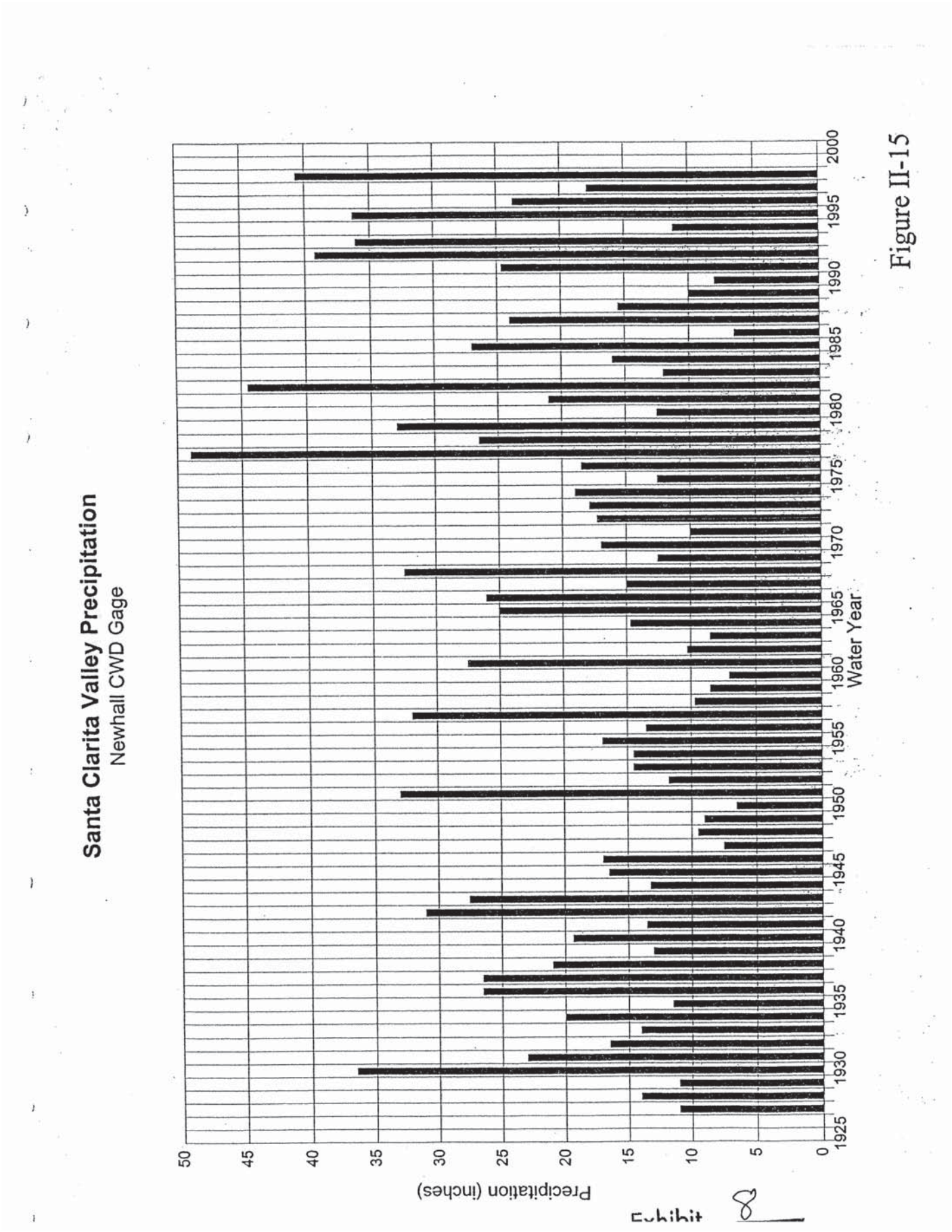

Santa Clarita Valley Precipitation
Newhall CWD Gage
Precipitation (inches)
0
5
10
15
20
25
30
35
40
45
50
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
Water Year
Exhibit 8

Figure II-15

Exhibit 9

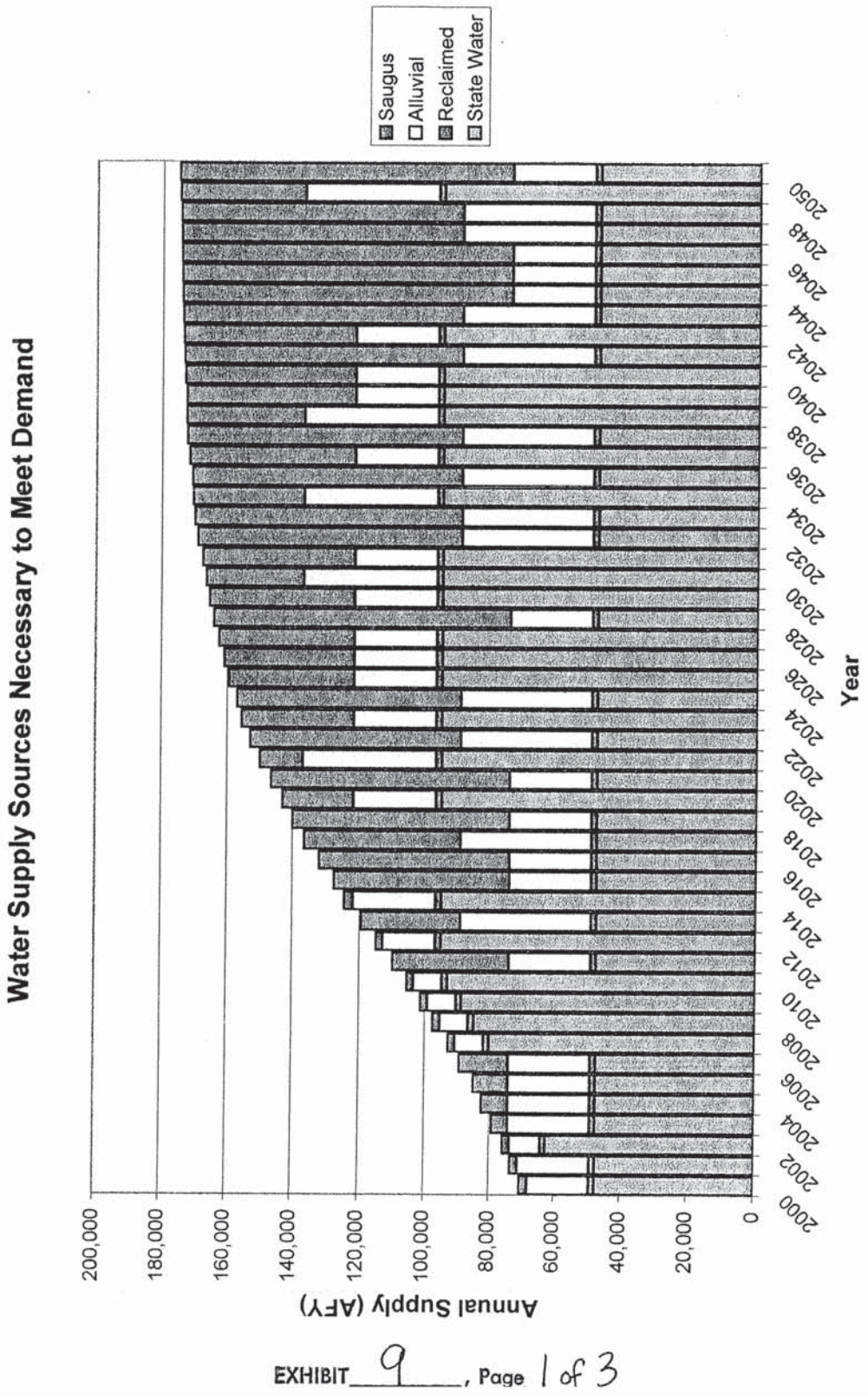


EXHIBIT 9, Page 1 of 3

Santa Clarita Area Demand vs Supply

Year	Hydrology N Calif	Hydrology Local	Total Demand	Agricultural GW Demand Total GW	Agricultural GW Demand Alluv Aq	Agricultural GW Demand Saugus Aq	Recl Water	State Water Proj Available	Purveyors GW Demand Total	Purveyors GW Demand Alluv	Purveyors GW Demand Saugus	Total Alluv Aq	Total Saugus Aq	Saugus Overdraft
2000	Dry	Dry	70,500	12,000	9,600	2,400	1,700	47,600	9,200	9,200	-	18,800	2,400	-
2001	Dry	Dry	73,500	11,860	9,488	2,372	1,700	47,600	12,340	12,340	-	21,828	2,372	-
2002	Normal	Dry	76,000	11,720	9,376	2,344	1,700	95,200	-	-	-	9,376	2,344	-
2003	Dry	Dry	79,500	11,580	9,264	2,316	1,700	47,600	18,620	15,736	2,884	25,000	5,200	-
2004	Dry	Dry	82,500	11,440	9,152	2,288	1,700	47,600	21,760	15,848	5,912	25,000	8,200	-
2005	Dry	Dry	85,000	11,300	9,040	2,260	1,700	47,600	24,400	15,960	8,440	25,000	10,700	-
2006	Dry	Dry	89,500	11,160	8,928	2,232	1,700	47,600	29,040	16,072	12,968	25,000	15,200	3,200
2007	Wet	Wet	93,000	11,020	8,816	2,204	1,700	95,200	-	-	-	8,816	2,204	-
2008	Wet	Dry	97,500	10,880	8,704	2,176	1,700	95,200	-	-	-	8,704	2,176	-
2009	Wet	Dry	101,250	10,740	8,592	2,148	1,700	95,200	-	-	-	8,592	2,148	-
2010	Normal	Dry	105,500	10,600	8,480	2,120	1,700	95,200	-	-	-	8,480	2,120	-
2011	Dry	Dry	110,000	10,460	8,368	2,092	1,700	47,600	50,240	16,632	33,608	25,000	35,700	23,700
2012	Wet	Dry	115,000	10,320	8,256	2,064	1,700	95,200	7,780	7,780	-	16,036	2,064	13,764
2013	Dry	Wet	119,500	10,180	8,144	2,036	1,700	47,600	60,020	31,856	28,164	40,000	30,200	22,964
2014	Wet	Dry	124,500	10,040	8,032	2,008	1,700	95,200	17,560	16,968	592	25,000	2,600	13,564
2015	Dry	Dry	127,500	9,900	7,920	1,980	1,700	47,600	68,300	17,080	51,220	25,000	53,200	54,764
2016	Dry	Dry	132,000	9,760	7,808	1,952	1,700	47,600	72,940	17,192	55,748	25,000	57,700	100,464
2017	Dry	Wet	136,500	9,620	7,696	1,924	1,700	47,600	77,580	32,304	45,276	40,000	47,200	126,664
2018	Dry	Dry	140,000	9,480	7,584	1,896	1,700	47,600	81,220	17,416	63,804	25,000	65,700	180,364
2019	Wet	Dry	143,000	9,340	7,472	1,868	1,700	95,200	36,760	17,528	19,232	25,000	21,100	189,464
2020	Dry	Dry	146,500	9,200	7,360	1,840	1,700	47,600	88,000	17,640	70,360	25,000	72,200	249,664
2021	Wet	Wet	150,000	9,060	7,248	1,812	1,700	95,200	44,040	32,752	11,288	40,000	13,100	241,764
2022	Dry	Wet	153,000	8,920	7,136	1,784	1,700	47,600	94,780	32,864	61,916	40,000	63,700	284,464
2023	Wet	Dry	155,500	8,780	7,024	1,756	1,700	95,200	49,820	17,976	31,844	25,000	33,600	306,064
2024	Dry	Wet	157,000	8,640	6,912	1,728	1,700	47,600	99,060	33,088	65,972	40,000	67,700	352,764
2025	Wet	Dry	159,500	8,500	6,800	1,700	1,700	95,200	54,100	18,200	35,900	25,000	37,600	378,364
2026	Wet	Dry	161,000	8,360	6,688	1,672	1,700	95,200	55,740	18,312	37,428	25,000	39,100	405,464
2027	Wet	Dry	162,500	8,220	6,576	1,644	1,700	95,200	57,380	18,424	38,956	25,000	40,600	434,064
2028	Dry	Dry	164,250	8,080	6,464	1,616	1,700	47,600	106,870	18,536	88,334	25,000	89,950	512,014
2029	Wet	Dry	165,500	7,940	6,352	1,588	1,700	95,200	60,660	18,648	42,012	25,000	43,600	543,614
2030	Wet	Normal	166,500	7,800	6,240	1,560	1,700	95,200	61,800	33,760	28,040	40,000	29,600	552,214
2031	Wet	Dry	167,600	7,660	6,128	1,532	1,700	95,200	63,040	18,872	44,168	25,000	45,700	585,914
2032	Dry	Normal	169,000	7,520	6,016	1,504	1,700	47,600	112,180	33,984	78,196	40,000	79,700	644,614
2033	Dry	Wet	170,000	7,380	5,904	1,476	1,700	47,600	113,320	34,096	79,224	40,000	80,700	704,314
2034	Wet	Wet	170,500	7,240	5,792	1,448	1,700	95,200	66,360	34,208	32,152	40,000	33,600	716,914
2035	Dry	Wet	170,750	7,100	5,680	1,420	1,700	47,600	114,350	34,320	80,030	40,000	81,450	777,364

9 2 of 3

2036	Wet	Dry	171,500	6,960	5,568	1,392	1,700	95,200	67,640	19,432	48,208	25,000	49,600	814,964
2037	Dry	Wet	172,250	6,820	5,456	1,364	1,700	47,600	116,130	34,544	81,586	40,000	82,950	876,914
2038	Wet	Wet	172,500	6,680	5,344	1,336	1,700	95,200	68,820	34,656	34,264	40,000	35,600	891,514
2039	Wet	Dry	172,500	6,540	5,232	1,308	1,700	95,200	69,060	19,768	49,292	25,000	50,600	930,114
2040	Wet	Dry	173,000	6,400	5,120	1,280	1,700	95,200	69,700	19,880	49,820	25,000	51,100	969,214
2041	Dry	Wet	173,250	6,260	5,008	1,252	1,700	47,600	117,680	34,992	82,698	40,000	83,950	1,032,164
2042	Wet	Dry	173,500	6,120	4,896	1,224	1,700	95,200	70,480	20,104	50,376	25,000	51,600	1,071,764
2043	Dry	Wet	173,750	5,980	4,784	1,196	1,700	47,600	118,470	35,216	83,254	40,000	84,450	1,135,214
2044	Dry	Dry	174,000	5,840	4,672	1,168	1,700	47,600	118,860	20,328	98,532	25,000	99,700	1,222,914
2045	Dry	Dry	174,125	5,700	4,560	1,140	1,700	47,600	119,125	20,440	98,685	25,000	99,825	1,310,739
2046	Dry	Dry	174,250	5,560	4,448	1,112	1,700	47,600	119,390	20,552	98,838	25,000	99,950	1,398,689
2047	Dry	Wet	174,375	5,420	4,336	1,084	1,700	47,600	119,655	35,664	83,991	40,000	85,075	1,462,764
2048	Dry	Wet	174,500	5,280	4,224	1,056	1,700	47,600	119,920	35,776	84,144	40,000	85,200	1,528,964
2049	Wet	Wet	174,750	5,140	4,112	1,028	1,700	95,200	72,710	35,888	36,822	40,000	37,850	1,543,814
2050	Dry	Dry	175,000	5,000	4,000	1,000	1,700	47,600	120,700	21,000	99,700	25,000	100,700	1,632,514

EXHIBIT 9 PAGE 3 of 3

Exhibit 10

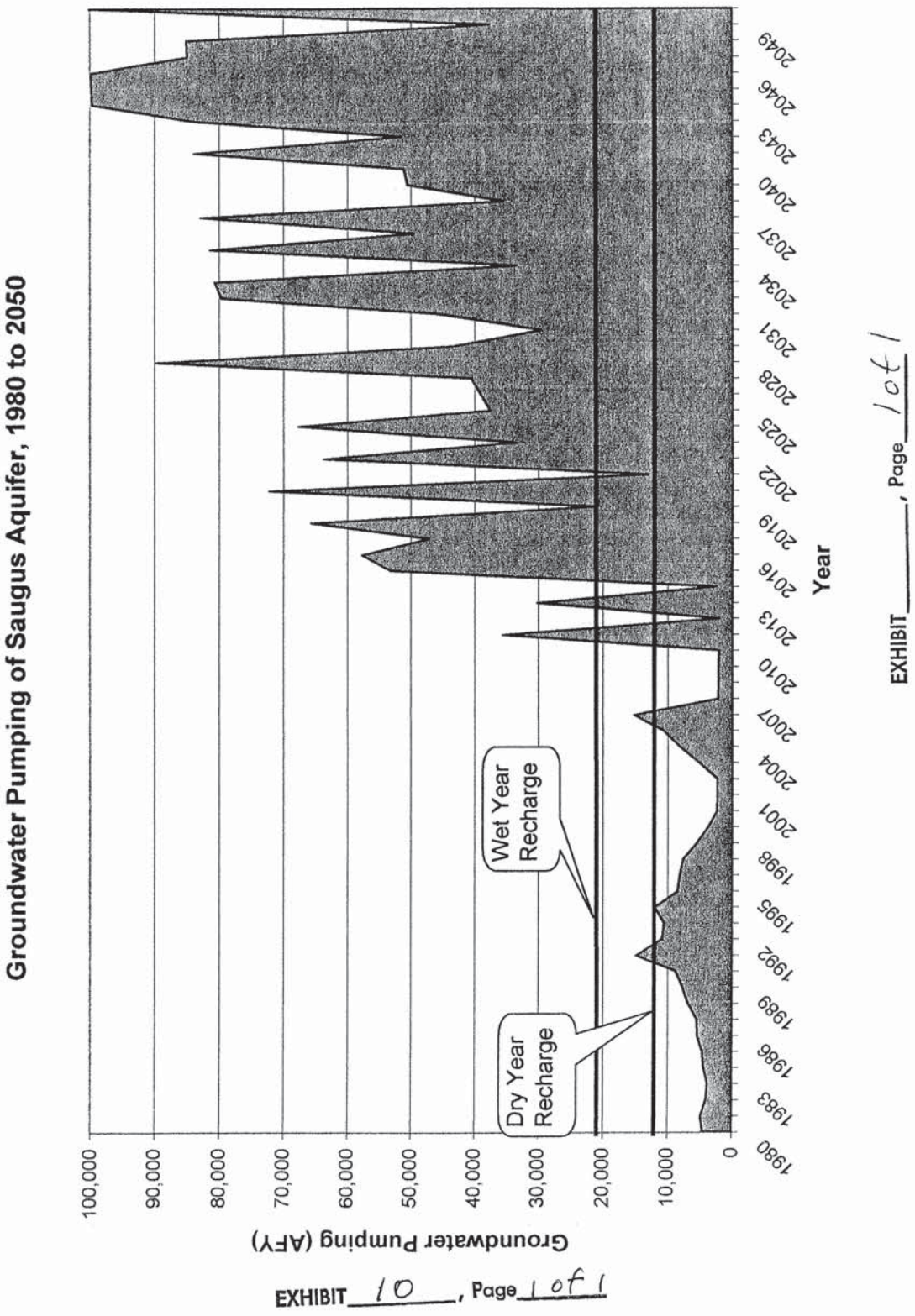

Groundwater Pumping of Saugus Aquifer, 1980 to 2050
Groundwater Pumping (AFY)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Wet Year Recharge
Dry Year Recharge
1980
1983
1986
1989
1992
1995
1998
2001
2004
2007
2010
2013
2016
2019
2022
2025
2028
2031
2034
2037
2040
2043
2046
2049
Year
EXHIBIT 10, Page 1 of 1
EXHIBIT _____, Page 1 of 1

Exhibit 10-A

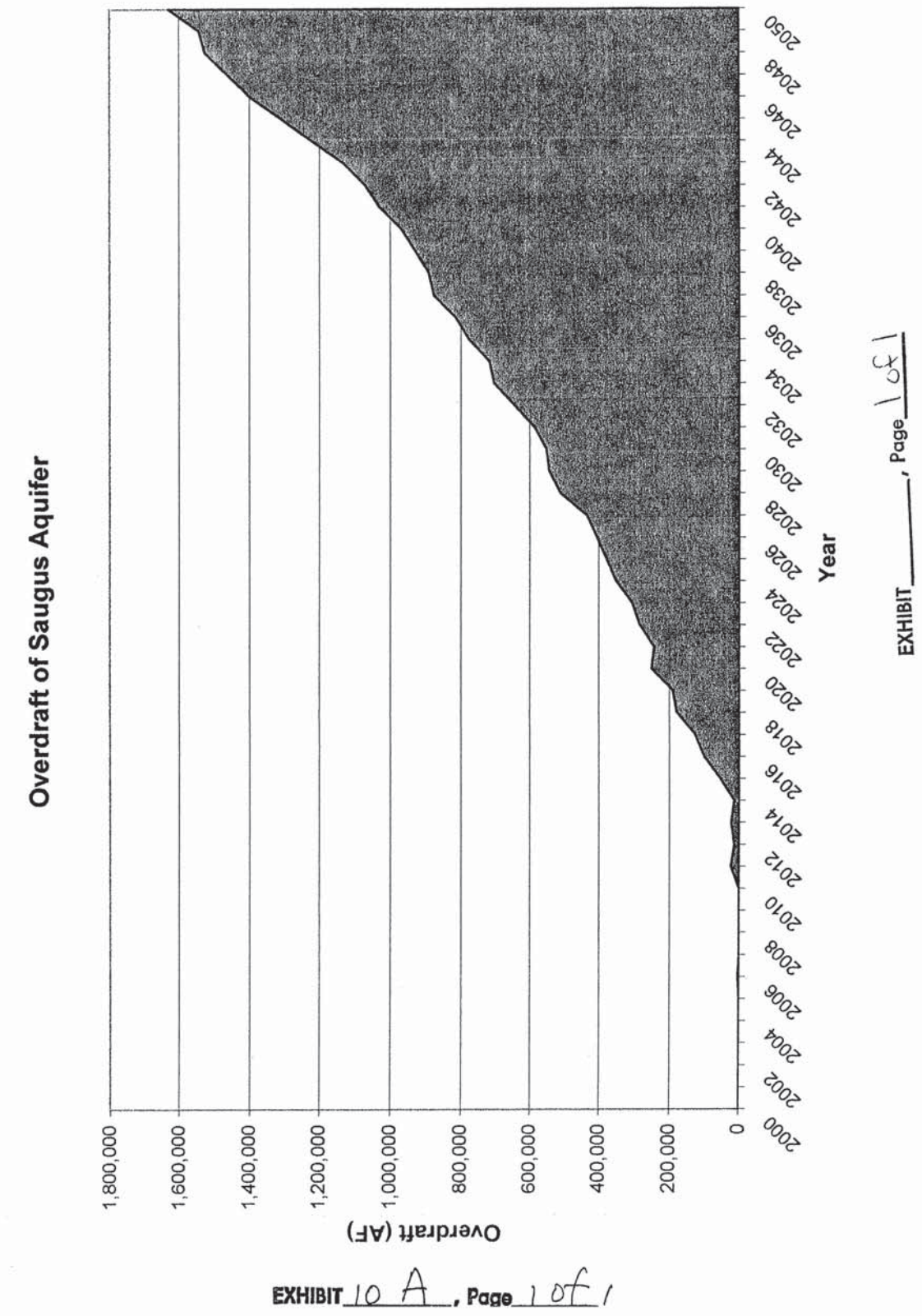

Overdraft of Saugus Aquifer
Overdraft (AF)
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
2026
2028
2030
2032
2034
2036
2038
2040
2042
2044
2046
2048
2050
Year
EXHIBIT 10 A , Page 1 of 1
EXHIBIT _____, Page 1 of 1

Exhibit 11

Groundwater Resources Association of California

CALIFORNIA GROUNDWATER MANAGEMENT

Steve Bachman, Carl Hauge, Kevin Neese, Anthony Saracino

EXHIBIT 11, Page 1 of 3

If wells are too close to each other, their cones of depression can interfere with each other, causing reduced yields and possible legal consequences. The extent of the cone of depression of each well should be considered in any groundwater management plan.

Aquifer Tests

Aquifer tests are conducted to determine hydraulic characteristics of the aquifer materials. The characteristics are transmissivity and storativity (see "Technical Definitions," page 9). These values are then used to estimate the amount of groundwater that can be produced by a well. Aquifer tests are often called "pump tests," but a pump test actually is conducted by an electric company to determine pump efficiency.

During the most common type of aquifer test, the depths to groundwater in the pumping well and an observation well or wells are measured at frequent intervals. The difference in the water levels in the pumping well and the observation wells gives a good indication of the shape of the cone of depression. The data are then used to determine the storativity and transmissivity of the aquifer. Results of the calculations can then be used to estimate well yields and the effects of pumping the well on nearby wells.

Perennial Yield or Safe Yield

The terms "safe yield" and "perennial yield" have been used interchangeably in the past. Perennial yield is the average quantity of water that can be extracted from an aquifer or groundwater basin over a period of time without causing undesirable results. Undesirable results include permanently lowered groundwater levels, subsidence or degradation of water quality in the aquifer. If water management in the basin changes, the perennial yield of the basin may change.

The term "safe yield" is a technical definition of basin yield that has been adopted by the courts to define the legal rights to extract groundwater in a basin. In most of the adjudicated basins in California, safe yield is a fixed amount that is determined by the court and is characterized as being equivalent to net groundwater recharge. In one basin, "operational" safe yield includes whatever temporary surplus can be stored in the basin. In the San Gabriel, Chino and Mojave basins, it is not limited; pumpers simply pay to replace the extra amount of groundwater extracted.

Subsidence

Groundwater extraction from an aquifer can result in compaction of the fine sediments within the aquifer system (Figure 5). Compaction of these clays and silts leads to subsidence of the land surface that can change the gradients in rivers, streams, and canals

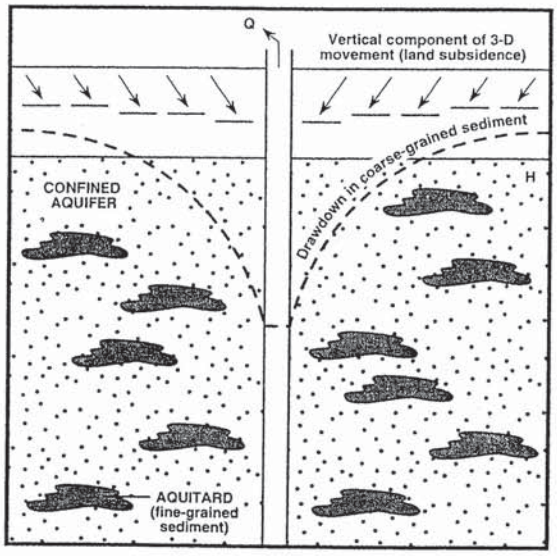


Figure 5: Land subsidence.

and cause structural damage to highways, bridges, and buildings. Compaction of these fine sediments reduces the total amount of groundwater stored in the aquifer system. That part of the aquifer system that yields water readily to wells, however, is not compacted. The coarser sediments, consisting of sands and gravels, are not compacted. These sediments continue to be usable as an aquifer that can be recharged and from which groundwater can be extracted by wells. Figure 6 shows areas of subsidence in the United States.

Groundwater management plans should include provisions to monitor for land subsidence. The simplest monitoring might include annual surveying of a network of benchmarks, either by spirit leveling or by use of global positioning system techniques. If subsidence is noted, the agency may decide to mitigate by some means, compensate for damages, reduce groundwater extractions, or cease entirely.

EXHIBIT 11, Page 2 of 3

Figure 6: Areas of land subsidence from groundwater withdrawal in the United States.

Overdraft

Overdraft is the condition of a groundwater basin or aquifer in which the amount of water extracted exceeds the amount of water that recharges the basin over a period of years during which average precipitation and water management in the basin remain approximately the same.

Droughts or periods of abnormally low rainfall do not cause overdraft. Droughts lower the amount of water in storage in the groundwater reservoir, just as they lower the amount of water in storage behind dams. When the drought is over and all other conditions being equal, the water in storage behind the dam, as well as in the groundwater reservoir, returns to normal (Figure 7).

Overdraft is a term that should be used cautiously. In some areas of California, projections of water supply versus water demand show that if average conditions prevail, long-term water shortages will occur. Such long-term shortages may or may not be met by overdrafting groundwater basins.

EXHIBIT 11, Page 3 of 3

Exhibit 12

VOLUME I — REPORT TEXT

HYDROGEOLOGIC ASSESSMENT

OF THE

SAUGUS FORMATION
in the
SANTA CLARA VALLEY
of
LOS ANGELES COUNTY, CALIFORNIA

FOR

CASTAIC LAKE WATER AGENCY

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 36 — VAL VERDE

NEWHALL COUNTY WATER DISTRICT

SANTA CLARITA WATER COMPANY

VALENCIA WATER COMPANY

FEBRUARY 1988

RICHARD C. SLADE

CONSULTING GROUNDWATER GEOLOGIST

EXHIBIT 12, Page 1 of 3

comparison, our assignment of specific yield values for the alluvium which overlies the Saugus Formation ranged between 9 and 16 percent (Slade, December 1986).

USABLE GROUNDWATER IN STORAGE

This final step calculated the total estimated volume of usable groundwater in storage in the Saugus Formation by multiplying the total surface area of each storage unit, by the average sand thickness of each sand thickness interval within each of the subunits, by the specific yield value assigned to that sand thickness interval.

Table 6 - Summary of Usable Groundwater in Storage - presents the results of our computations. It identifies the usable quantity (volume) of groundwater in storage in the Saugus Formation between the depth limits of 500 feet and either: 2500 feet; or the base of fresh water within the Saugus Formation, whichever is shallower. As seen on Table 6, the total estimated amount of groundwater in storage in the sands and gravels which constitute the potential aquifers within the Saugus Formation is approximately 1.41 million acre-feet. Storage Unit No. 1 (northerly of the San Gabriel fault) has approximately 130,500 acre-feet of usable groundwater in storage (about 9 percent of the total); Unit No. 2 (between the two faults) and Unit No. 3 (southerly of the Holser fault) each has approximately 641,000 acre-feet of usable groundwater in storage (about 45 percent of the total for each).

In comparison to the calculated 1.41 million acre-feet of usable groundwater in storage in the sand and gravel aquifers of the Saugus, Robson (1972) for the U. S. Geological Survey reported a total storage capacity for the entire Saugus Formation of approximately 6 million acre-feet.

EXHIBIT 12, Page 2 of 3

RCS

TABLE 6 - SUMMARY OF USABLE GROUNDWATER IN STORAGE

STORAGE UNIT NO.	LOCATION OF STORAGE UNIT	STORAGE SUBUNIT DESIGNATIONS	TOTAL SURFACE AREA (acres)	RANGE OF SAND THICKNESS (ft)	RANGE OF SPECIFIC YIELDS (%)	USABLE GROUNDWATER IN STORAGE (ac-ft)
1	Northerly of San Gabriel fault	1A - 1Db	7,607	0 to 440	7	130,540
2	Between the two faults	2A - 2O	13,980	0 to 1400	5-8	641,330
3	Southerly of Holser fault	3A - 3H	16,501	0 to 1240	5-8	641,240
		TOTALS	39,088			1,413,110

EXHIBIT 12, Page 3 of 3

Exhibit 13

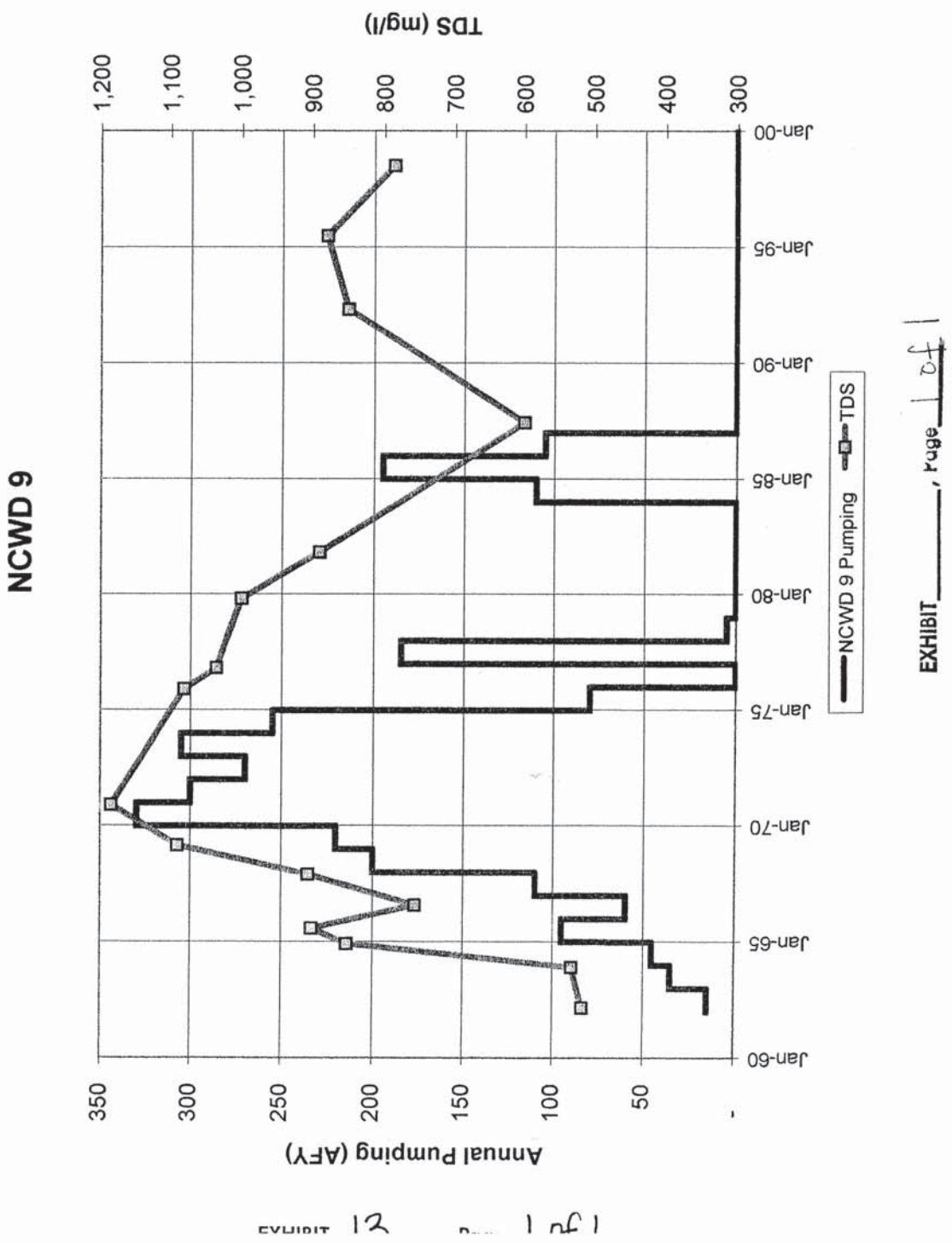

NCWD 9
Annual Pumping (AFY)
TDS (mg/l)
NCWD 9 Pumping
TDS
Jan-60
Jan-65
Jan-70
Jan-75
Jan-80
Jan-85
Jan-90
Jan-95
Jan-00
350
300
250
200
150
100
50
-
1,200
1,100
1,000
900
800
700
600
500
400
300
EXHIBIT ____, Page 1 of 1

Exhibit 14

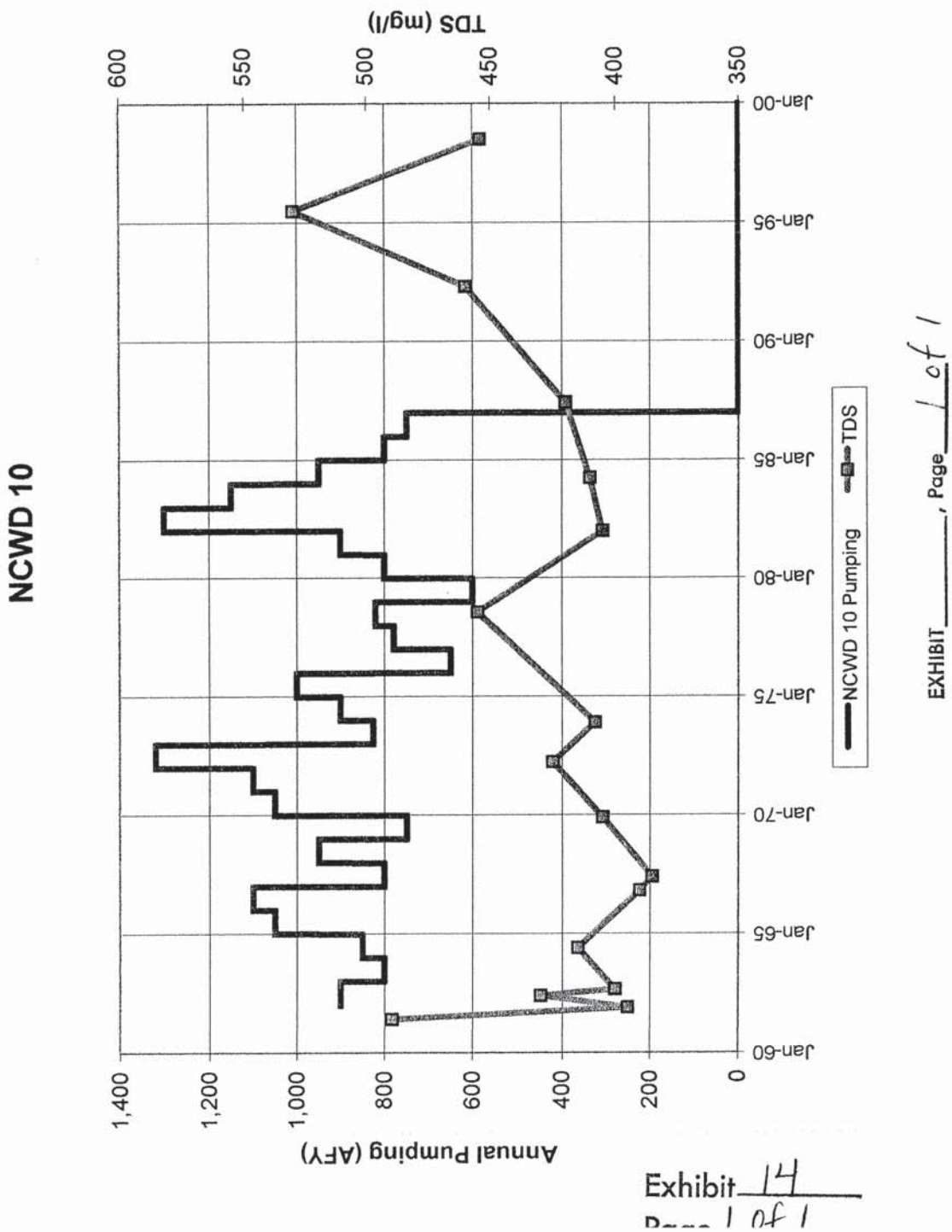

NCWD 10
Annual Pumping (AFY)
TDS (mg/l)
1,400
1,200
1,000
800
600
400
200
0
600
550
500
450
400
350
Jan-60
Jan-65
Jan-70
Jan-75
Jan-80
Jan-85
Jan-90
Jan-95
Jan-00
NCWD 10 Pumping
TDS
EXHIBIT _____, Page 1 of 1
Exhibit 14
Page 1 of 1

Exhibit 15

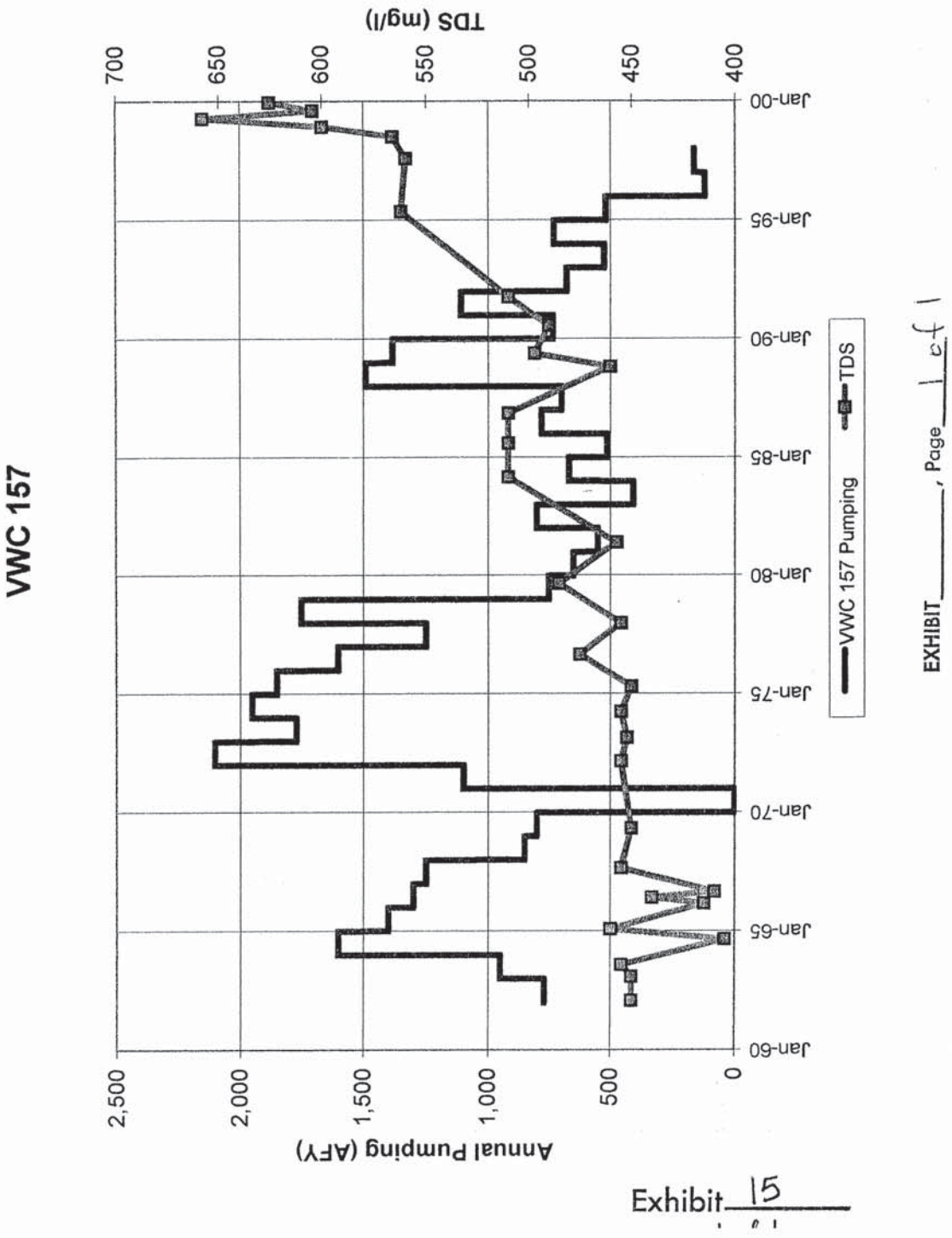

VWC 157
Annual Pumping (AFY)
TDS (mg/l)
2,500
2,000
1,500
1,000
500
0
700
650
600
550
500
450
400
Jan-60
Jan-65
Jan-70
Jan-75
Jan-80
Jan-85
Jan-90
Jan-95
Jan-00
VWC 157 Pumping
TDS
EXHIBIT ____, Page 1 of 1
Exhibit 15

Exhibit 16

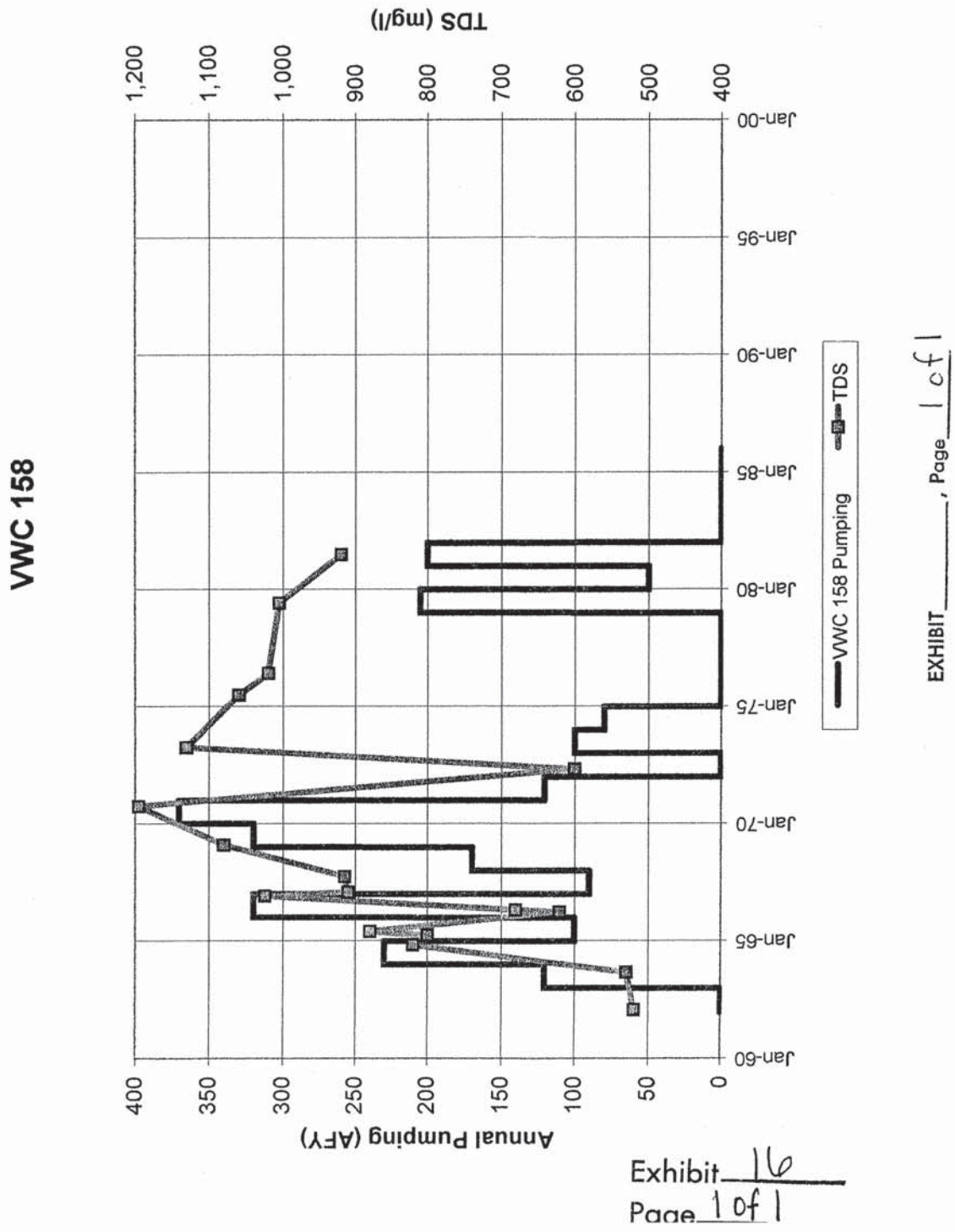

VWC 158
Annual Pumping (AFY)
TDS (mg/l)
VWC 158 Pumping
TDS
Jan-60
Jan-65
Jan-70
Jan-75
Jan-80
Jan-85
Jan-90
Jan-95
Jan-00
0
50
100
150
200
250
300
350
400
400
500
600
700
800
900
1,000
1,100
1,200
EXHIBIT_____, Page 1 of 1
Exhibit 16
Page 1 of 1

Exhibit 17

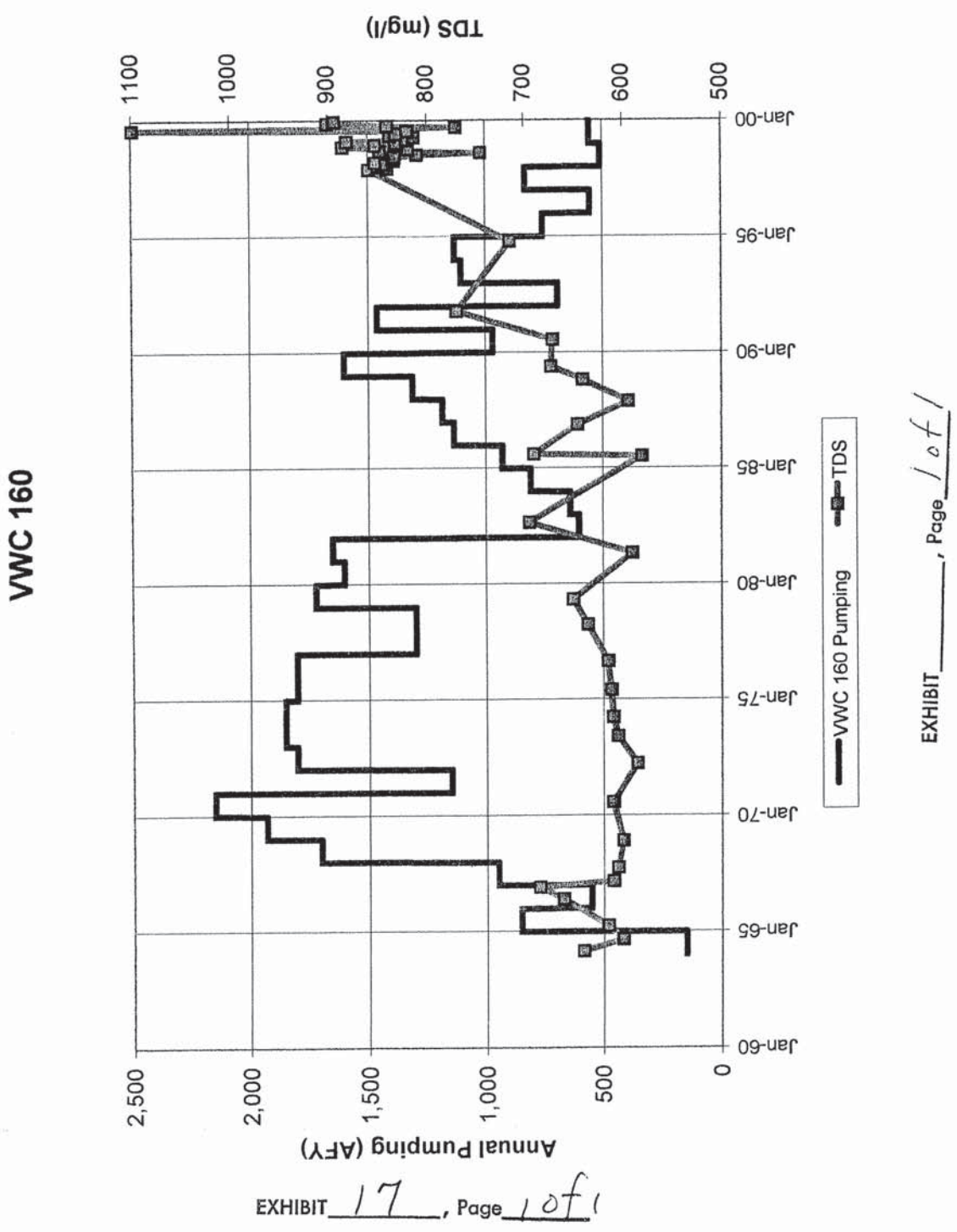

VWC 160
TDS (mg/l)
1100
1000
900
800
700
600
500
Jan-00
Jan-95
Jan-90
Jan-85
Jan-80
Jan-75
Jan-70
Jan-65
Jan-60
2,500
2,000
1,500
1,000
500
0
Annual Pumping (AFY)
VWC 160 Pumping
TDS
EXHIBIT 17, Page 1 of 1
EXHIBIT _____, Page 1 of 1

Exhibit 18

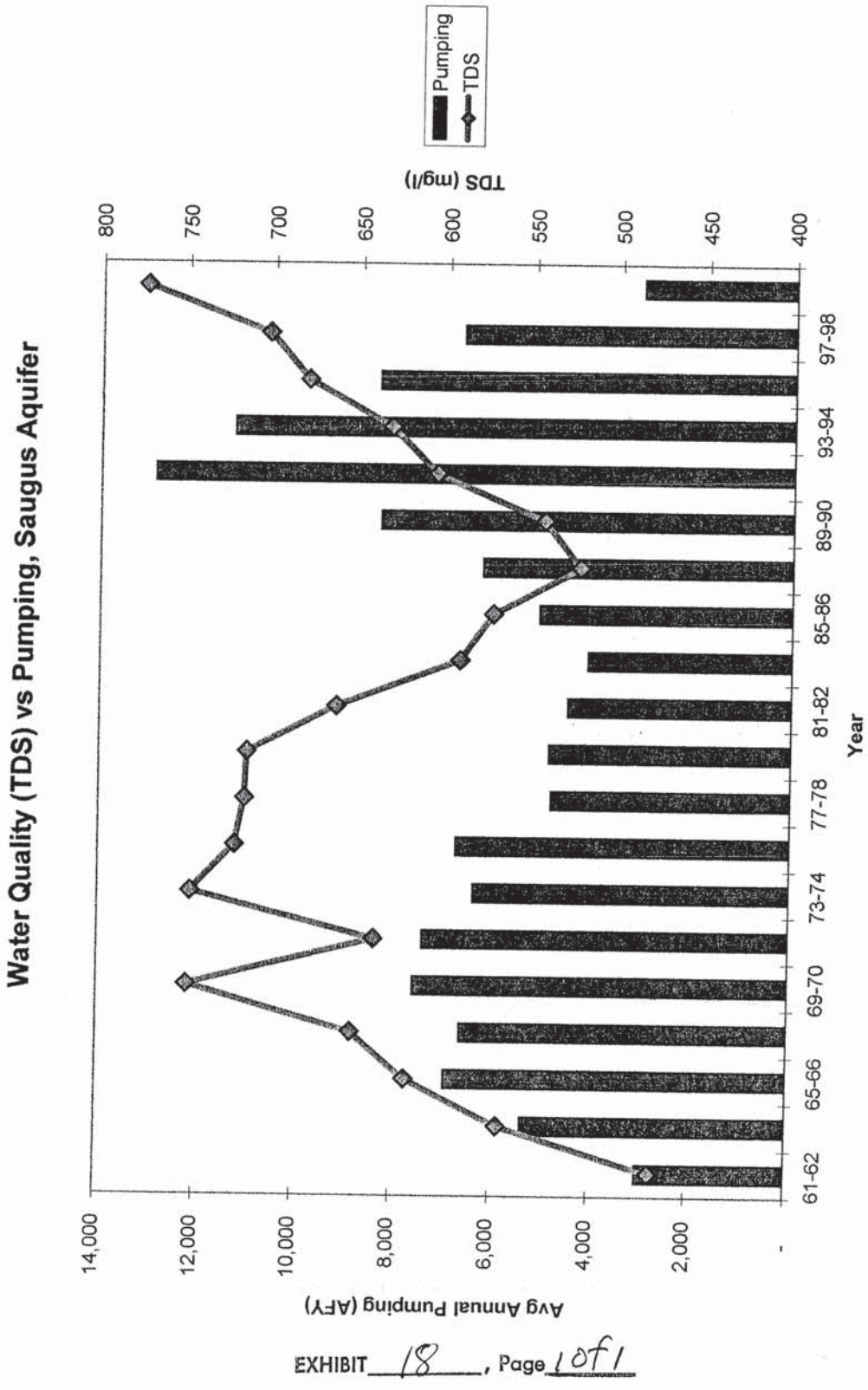


EXHIBIT 18, Page 1 of 1

EXHIBIT _____, Page 1 of 1

Exhibit 19

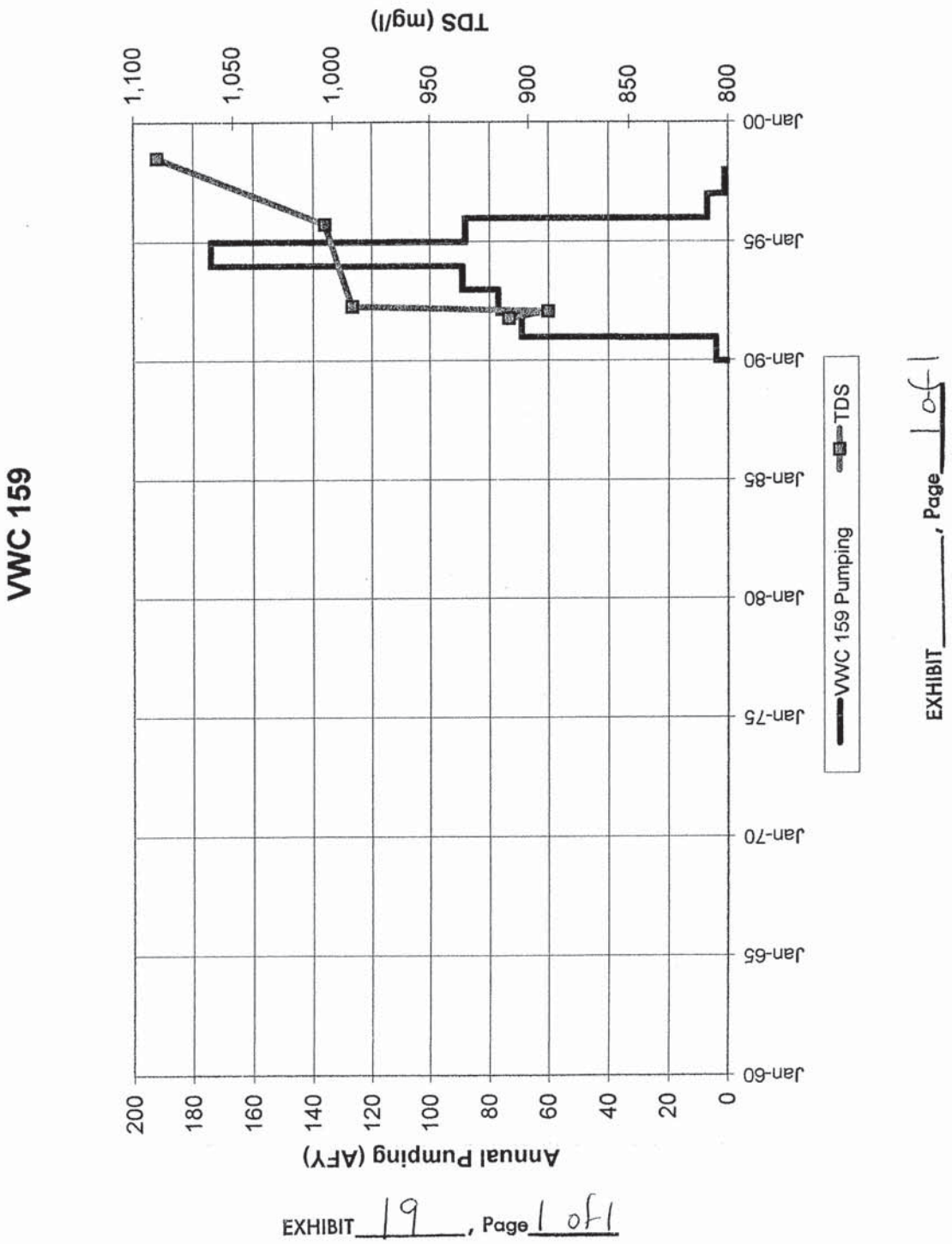

VWC 159
Annual Pumping (AFY)
TDS (mg/l)
0
20
40
60
80
100
120
140
160
180
200
800
850
900
950
1,000
1,050
1,100
Jan-60
Jan-65
Jan-70
Jan-75
Jan-80
Jan-85
Jan-90
Jan-95
Jan-00
VWC 159 Pumping
TDS
EXHIBIT 19, Page 1 of 1

Exhibit 20

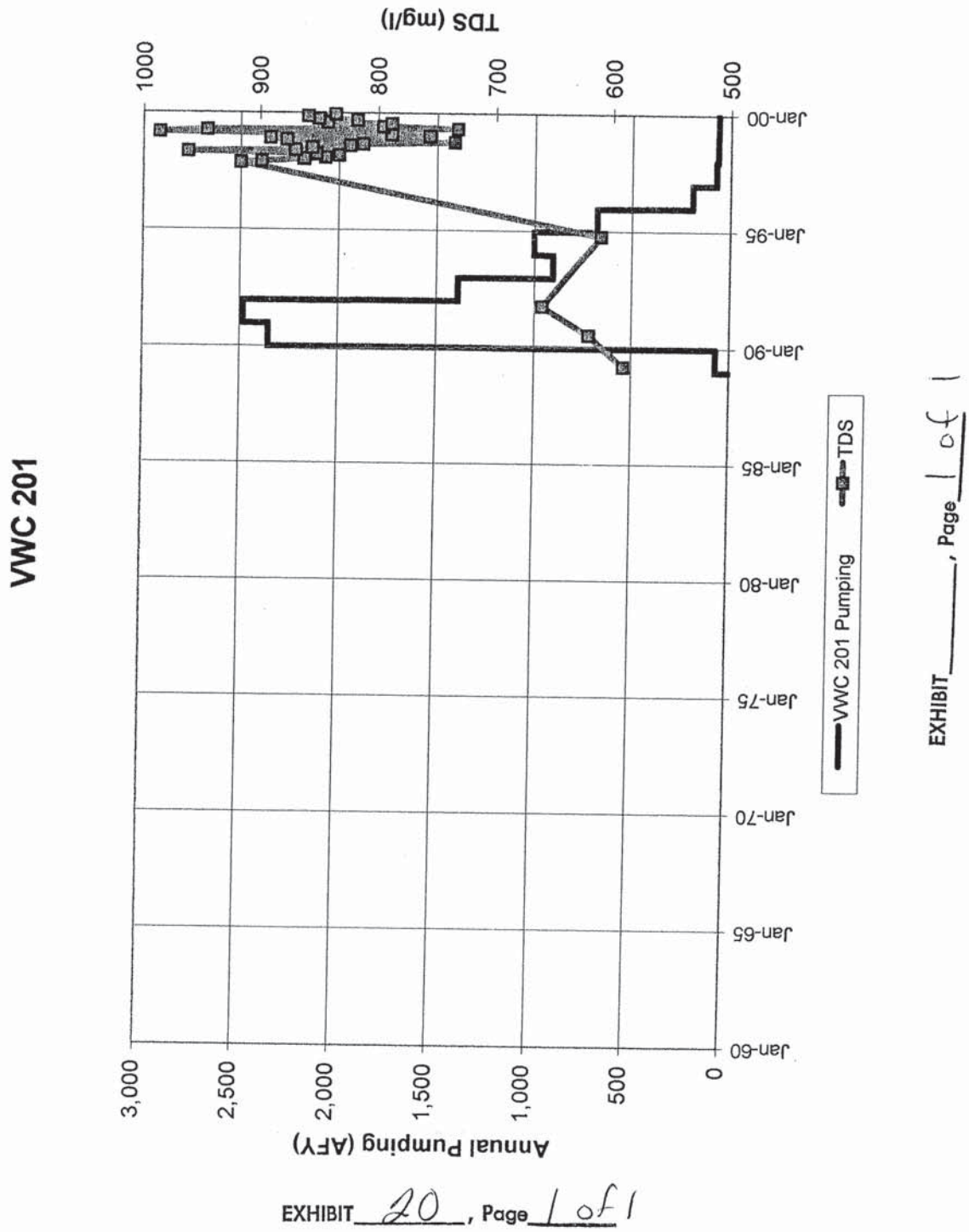

VWC 201
TDS (mg/l)
1000
900
800
700
600
500
Jan-00
Jan-95
Jan-90
Jan-85
Jan-80
Jan-75
Jan-70
Jan-65
Jan-60
3,000
2,500
2,000
1,500
1,000
500
0
Annual Pumping (AFY)
VWC 201 Pumping
TDS
EXHIBIT 20, Page 1 of 1
EXHIBIT _____, Page 1 of 1

Exhibit 21

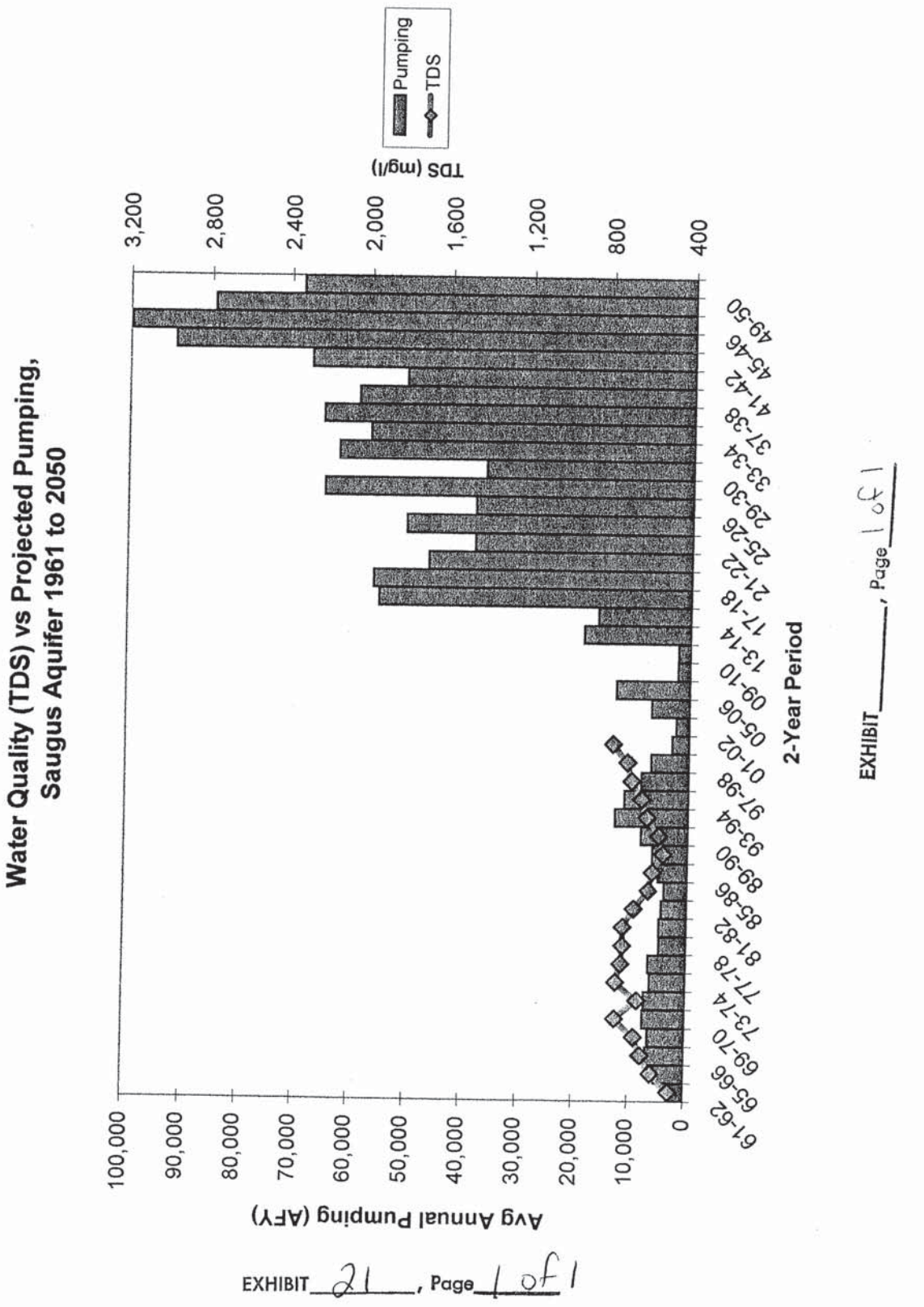

Water Quality (TDS) vs Projected Pumping,
Saugus Aquifer 1961 to 2050
Avg Annual Pumping (AFY)
TDS (mg/l)
Pumping
TDS
2-Year Period
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
3,200
2,800
2,400
2,000
1,600
1,200
800
400
61-62
65-66
69-70
73-74
77-78
81-82
85-86
89-90
93-94
97-98
01-02
05-06
09-10
13-14
17-18
21-22
25-26
29-30
33-34
37-38
41-42
45-46
49-50
EXHIBIT 21 , Page 1 of 1
EXHIBIT _____, Page 1 of 1

Exhibit 22

Castaic Lake Water Agency

Draft

Integrated Water Resources Plan
Water Demand and Supply Evaluation

February 1998

MONTGOMERY WATSON

BOOKMAN-EDMONSTON
ENGINEERING, INC.

EXHIBIT 22 Page 1 of 3

Alluvial Aquifer

The Alluvial Aquifer system historically has provided the principal source of water supply in the CLWA service area, and will continue to be an important supply in the future. The Alluvial Aquifer, however, is limited in extent and depth and has a rather modest storage volume of about 200,000 acre-ft. Inspection of groundwater production and groundwater elevations in the Alluvial Aquifer indicates that with two or three years of reduced precipitation, groundwater production from the Alluvial Aquifer could be counted on to produce approximately 25,000 acre-ft/yr, of which 5,000-10,000 acre-ft/yr is higher salinity water located westerly of Castaic Junction. In normal and wet periods, production from the Alluvial Aquifer is estimated to be 32,000 acre-ft/yr and as much as 40,000 acre-ft/yr, respectively.

The three methods of increasing supply from this aquifer during these periods include: (1) modest over-pumping of the Alluvial Aquifer during wet years to create storage space so that the capture of runoff is increased; (2) increased recharge with Castaic Reservoir storm inflows; (3) groundwater recharge with imported SWP supplies. The existing recharge capability also needs to be maintained and the river bottoms in recharge areas should remain unpaved.

Increasing groundwater production to lower the water levels during wet periods increases the ability to capture storm water. However, it also increases the risk of having inadequate supplies in dry periods. Therefore, an evaluation should be performed to determine if the procedure is reasonable and to determine the quantities of water salvaged.

Increased urbanization in the CLWA area could have two effects on the Alluvial Aquifer. Increased urbanization of the hill and canyon area will result in an increase in runoff from these less permeable areas to the very permeable Santa Clara River. This could increase infiltration into the groundwater and prove beneficial. Additionally, urbanization can bring with it increased risk of contamination, and serious consideration should be given to a program to protect the quality of the groundwater resources.

Saugus Aquifer

The second source of groundwater production in the Santa Clarita Valley is from the Saugus Aquifer. The Saugus Aquifer is currently capable of producing about 16,000 acre-ft/yr in dry years based on current installed well capacity. During wet years, about 5,000 acre-ft/yr of water is produced to meet water demands in local areas that do not have access to other water supplies.

The Saugus Aquifer has not been fully developed, but available data indicates a strong possibility that it can provide a reliable local dry year supply, if managed properly. High yielding wells exist in the aquifer producing high flow rates of good quality water. Unsuccessful wells have also been constructed in the Saugus Aquifer and those unsuccessful wells help to define the areas of probable high production. Estimates of recharge to the Saugus prepared by Slade (1988) indicate that recharge may range between 11,000 - 13,000 acre-ft in dry years, increasing to 20,000 - 22,000 acre-ft/yr in wet periods. Therefore, a long-term sustained yield between those quantities appears possible. Slade (1997) has indicated that the Saugus should be capable of producing as much as 40,000 acre-ft/yr during an dry period of five to six years. However, since

there are currently not sufficient wells to produce this amount of water, staged construction of additional wells in conjunction with careful monitoring is recommended. The Saugus Aquifer has recently experienced some localized water quality problems (perchlorate) due to industrial discharges. These water quality problems could impact the future use of the Saugus Aquifer.

The best operation of the Saugus Aquifer would involve minimal use when other supplies (such as imported water) are plentiful, and increased pumping during dry periods. The water levels in the Saugus Aquifer will recover during wet periods when recharge is higher and pumping is reduced. Additional use of Saugus Aquifer storage could be developed by aquifer recharge through injection wells (or injection/extraction wells) during periods of surplus water supply.

For supply planning purposes in this study, it is assumed that dry year production from the Saugus Aquifer can be increased from its current 16,000 acre-ft/yr to 40,000 acre-ft/yr over the next twenty years. This would be accomplished through staged construction of new wells and related facilities. It is conservatively assumed that the maximum annual production from the Saugus would be increased at a rate of about 1,000 acre-ft/yr (the equivalent of about one 1,500 gpm well per year). This rate could be increased if the hydrogeologic response to increased pumping indicates a higher potential. Wet year production would likely increase from 5,000 to 10,000 acre-ft/yr over the same period. A recharge program would be essential for reaching this level of production from the Saugus Formation.

Recycled Water

Recycled water is available from two existing water reclamation plants and, in the future, a third plant could be constructed in conjunction with a proposed development. CLWA prepared a draft *Reclaimed Water System Master Plan* dated September 1993. This report recommended development of 9,100 acre-ft of recycled water from the Valencia plant. The major use is for irrigation of golf courses, parks, and schools. In addition, future development projects could include increase potential use by 6,500 acre-ft/yr. This additional use would be served by the proposed third reclamation plant.

Currently identified use indicates that a total of about 15,000 acre-ft of recycled water can be developed for use within the Agency. Based on anticipated downstream environmental considerations, this amount may represent approximately the maximum potential use of recycled water within CLWA. Additional recycled water is expected to be produced in the future but plans have not yet be prepared. It is assumed that recycled water use could increase to about 24,000 acre-ft/yr. To develop this level use is an ambitious program requiring a total commitment on the part of the Agency and local water purveyors. CLWA plans to begin construction of the initial phase of the recycling project in 1998.

State Project Water, Existing Contracts

As discussed in Section 3, CLWA has existing contract entitlement to 54,200 acre-ft/yr of SWP water. Current reliability estimates prepared by DWR indicate average deliveries of 41,000 acre-ft/yr based on use of 1922-1993 hydrology and current SWP facilities. In dry periods which occur about once in every 20 years, the yield of the SWP supplies is 18,000 acre-ft/yr. In

Exhibit 23

Perchlorate Sources and Contaminated Wells

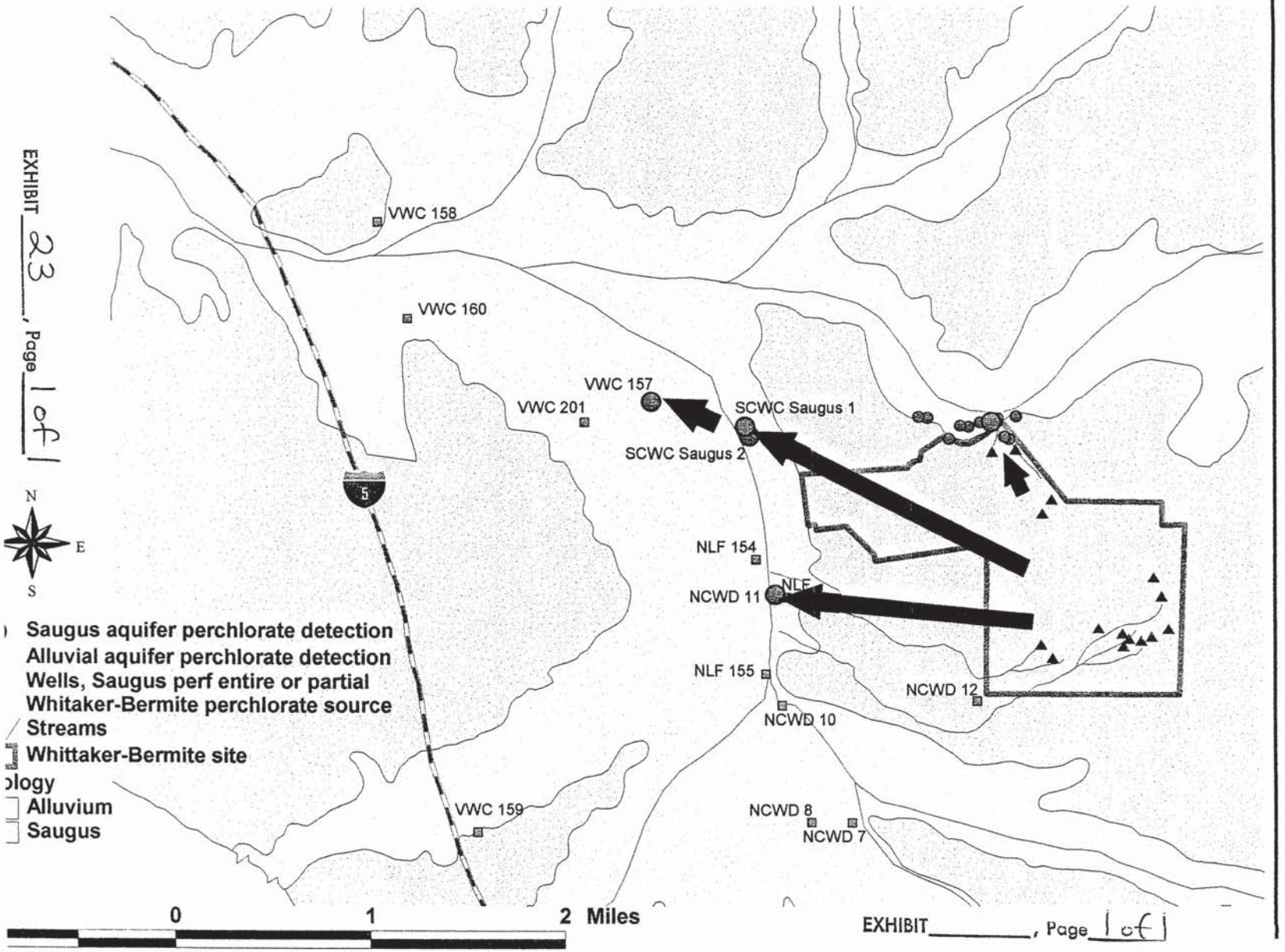


Exhibit 24

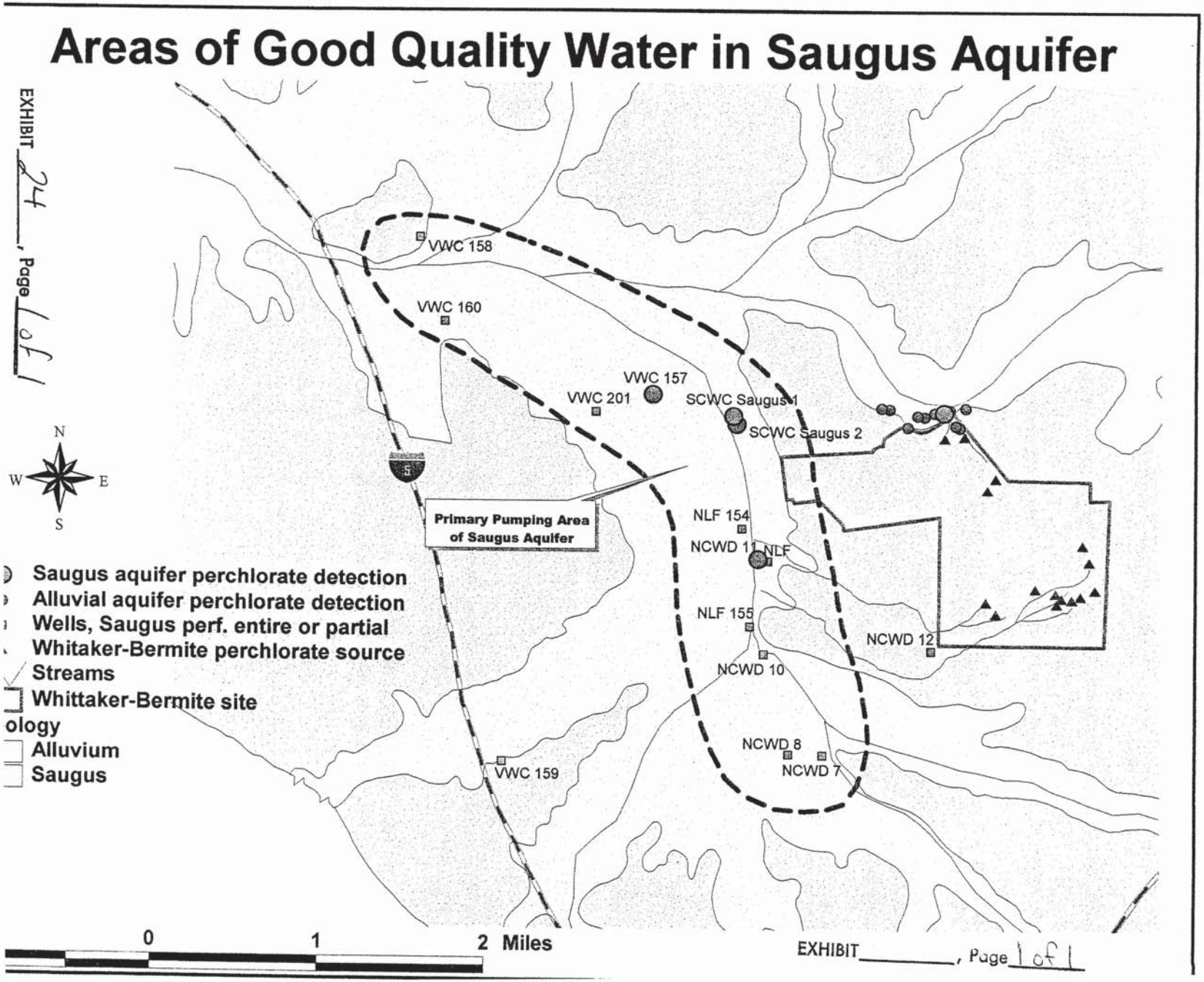

Areas of Good Quality Water in Saugus Aquifer
EXHIBIT 24, Page 1 of 1
VWC 158
VWC 160
VWC 157
VWC 201
SCWC Saugus 1
SCWC Saugus 2
N
W
E
S
Primary Pumping Area of Saugus Aquifer
NLF 154
NCWD 11
NLF
NLF 155
NCWD 12
NCWD 10
NCWD 8
NCWD 7
VWC 159
Saugus aquifer perchlorate detection
Alluvial aquifer perchlorate detection
Wells, Saugus perf. entire or partial
Whitaker-Bermite perchlorate source
Streams
Whittaker-Bermite site
ology
Alluvium
Saugus
0
1
2 Miles
EXHIBIT , Page 1 of 1

Exhibit 25

SANTA CLARITA VALLEY WATER REPORT
1999

Castaic Lake Water Agency

Los Angeles County Waterworks District #36

Newhall County Water District

Santa Clarita Water Company

Valencia Water Company

Prepared by: The Upper Santa Clara Valley Water Committee
February 2000

Total Water Production
Water Purveyors (a)
Acre-Feet Per Year

	Sources of Supply						
Year	Alluvial Aquifer	% of Total	Saugus Formation	Saugus % of Total	State Project Water	State Project % of Total	Total
1980	16,625	74%	4,569	20%	1,125	5%	22,319
1981	14,056	57%	4,950	20%	5,816	23%	24,822
1982	8,684	40%	3,569	16%	9,659	44%	21,912
1983	8,803	41%	3,398	16%	9,185	43%	21,386
1984	12,581	46%	3,809	14%	10,996	40%	27,386
1985	12,519	44%	4,140	15%	11,823	42%	28,482
1986	12,418	40%	4,975	16%	13,759	44%	31,152
1987	12,630	37%	4,962	15%	16,285	48%	33,877
1988	12,197	32%	6,404	17%	19,033	51%	37,634
1989	13,978	33%	7,217	17%	21,618	50%	42,813
1990	13,151	31%	8,302	19%	21,613	50%	43,066
1991	17,408	44%	14,417	36%	7,968	20%	39,793
1992	16,897	41%	10,458	25%	13,911	34%	41,266
1993	19,808	46%	10,151	23%	13,393	31%	43,352
1994	20,068	44%	11,531	25%	14,389	31%	45,988
1995	20,590	45%	8,087	18%	16,996	37%	45,673
1996	24,681	49%	7,373	15%	18,093	36%	50,147
1997	25,273	47%	6,752	12%	22,148	41%	54,173
1998	23,898	49%	4,706	10%	20,254	41%	48,858
1999	27,240	48%	2,728	5%	27,282	48%	57,250

(a) Includes LACWD 36, NCWD, SCWD, VWC

EXHIBIT 25, Page 2 of 2

Table III - 5

Exhibit 26

SANTA CLARITA VALLEY WATER REPORT
1999

Castaic Lake Water Agency

Los Angeles County Waterworks District #36

Newhall County Water District

Santa Clarita Water Company

Valencia Water Company

Prepared by: The Upper Santa Clara Valley Water Committee
February 2000

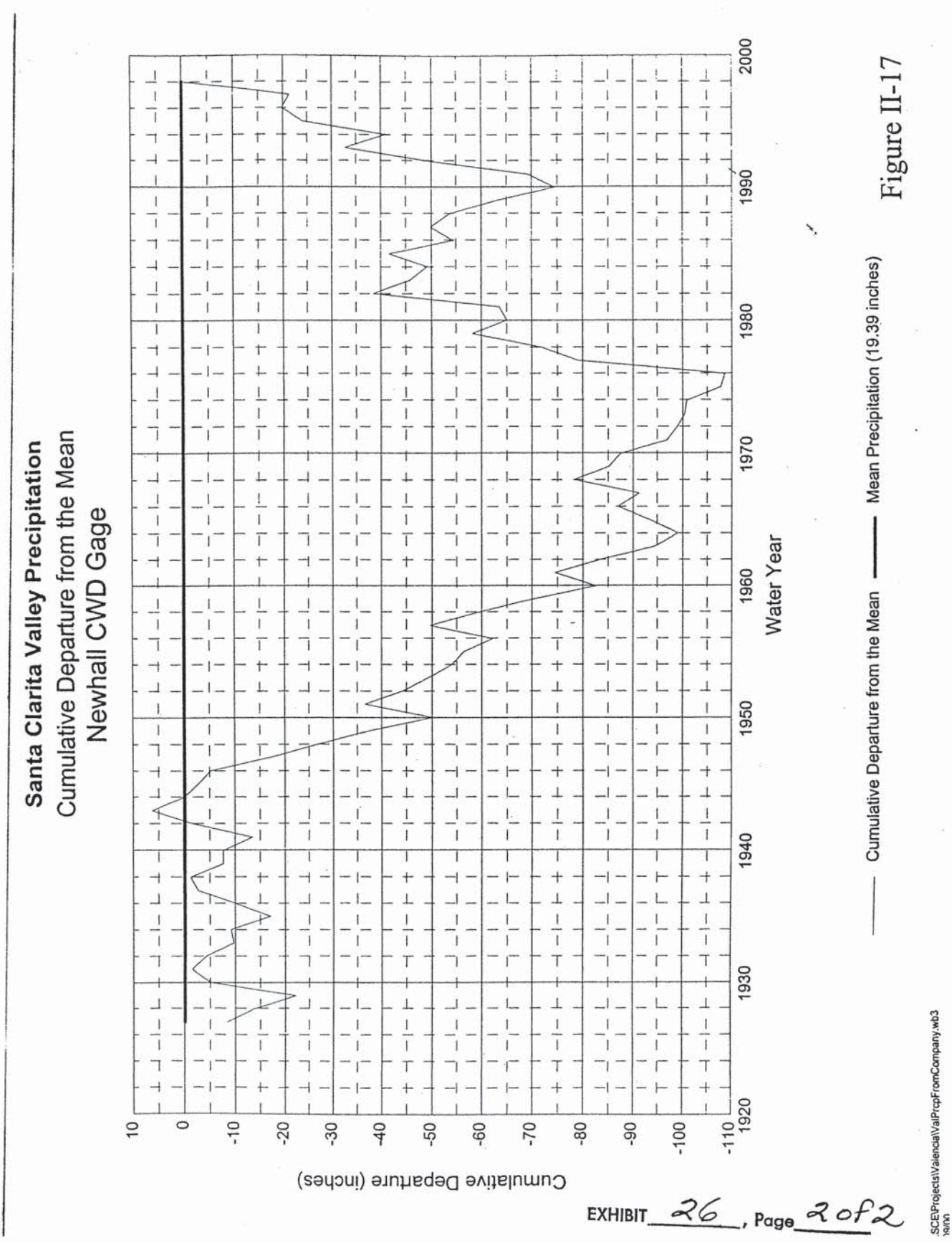
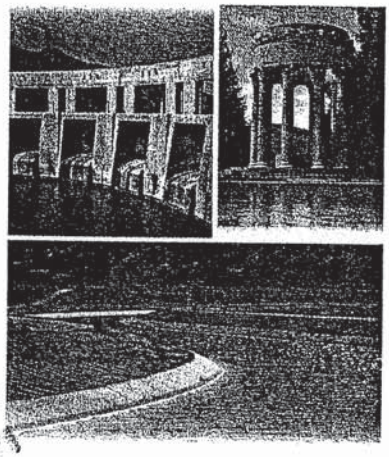

Santa Clarita Valley Precipitation
Cumulative Departure from the Mean
Newhall CWD Gage
Cumulative Departure (inches)
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
1920
1930
1940
1950
1960
1970
1980
1990
2000
Water Year
Cumulative Departure from the Mean
Mean Precipitation (19.39 inches)
EXHIBIT 26, Page 2 of 2
SCEProjects\Valencia\ValPrcpFromCompany.wb3

Figure II-17

Exhibit 27



California Water Plan Update Bulletin 160-98

Volume 1

November 1998

Pete Wilson
Governor

Douglas P. Wheeler
Secretary for Resources
The Resources Agency

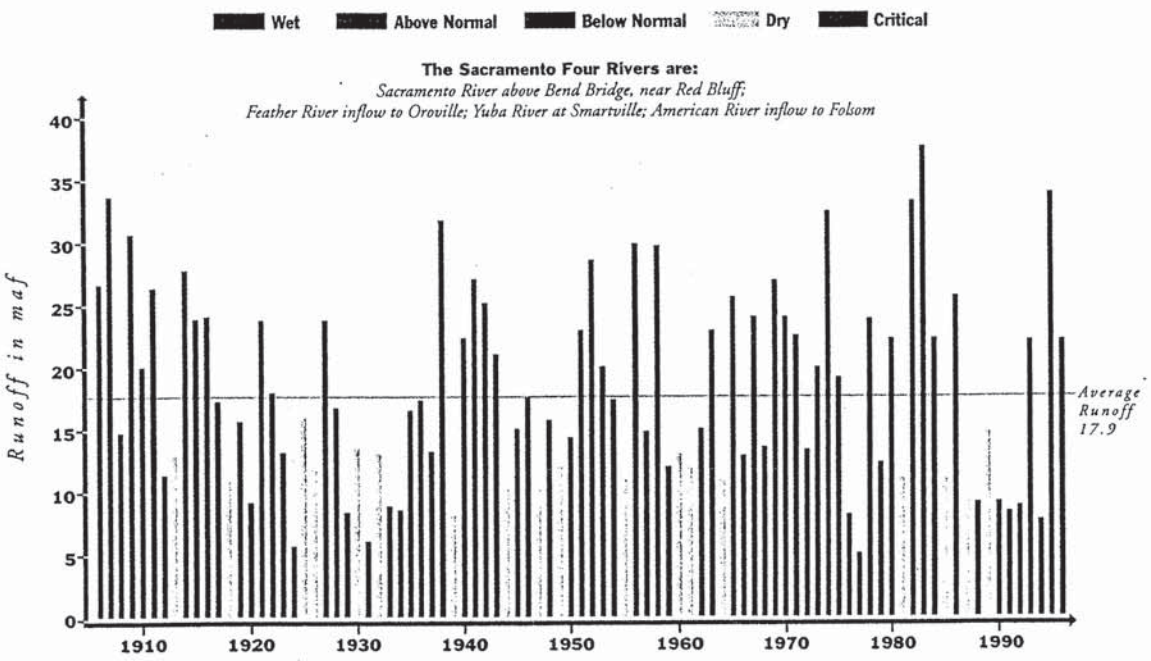
David N. Kennedy
Director
Department of Water Resources

EXHIBIT 27, Page 1 of 2

FIGURE 3-4

Sacramento Four Rivers Unimpared Runoff

The WR 95-6 year types are:



Climatic Variability

California's water development has generally been dictated by extremes of droughts and floods. The six-year drought of 1929-34 established the criteria commonly used to plan storage capacity or water yield of large Northern California reservoirs.

The influence of climatic variability on California's water supplies is much less predictable than the influences of geographic and seasonal variability, as evidenced by the recent historical record of precipitation and runoff. For example, the State's average annual runoff of 71 maf includes the all-time low of 15 maf in 1977 and the all-time high (exceeding 135 maf) in 1983. Floods and droughts occur often, sometimes in the same year. The January 1997 flood was followed by a record-setting dry period from February through June and the flooding of 1986 was followed by six years of drought (1987-92).

Figures 3-4 and 3-5 show the estimated annual unimpaired runoff from the Sacramento and San Joaquin River basins to illustrate climatic variability. Because these basins provide much of the State's water supply, their hydrologies are often used as indices of water year classification systems (see sidebar, page 3-8).

Droughts of Recent Record. Numerous multi-year droughts have occurred in California this century: 1912-13, 1918-20, 1922-24, 1929-34, 1947-50, 1959-61, 1976-77, and 1987-92. In order to provide water supply reliability, major reservoirs are designed to maintain and deliver carryover storage through several years of drought. The 1929-34 drought established the criteria commonly used to design the storage capacity and water yield of large Northern California reservoirs. Many reservoirs built since this drought were sized to maintain a reliable level of deliveries should a repeat of the 1929-34 hydrology occur. Even a single critical runoff year such as 1977 can be devastating to water users with limited storage reserves, who are more dependent

EXHIBIT 27, Page 2 of 2

Exhibit 28

$2 Billion Ecosystem Program: Gains and Losses, Too

Ten years ago, the Sacramento-San Joaquin Delta ecosystem was on the verge of collapse. Several fish were placed on the endangered species list, and others were being considered for listing.

Today, the Delta watershed is the focal point of the nation's largest ecosystem restoration program. More than 1.4 million acre-feet of water — equivalent to the annual needs of 7 million people — has been shifted from farms and cities to the environment. Also, $2 billion has been committed to restore and rehabilitate fishery habitat.

This unprecedented commitment is already paying off. Populations of native fish species at risk from water project operations have stabilized or increased.

- The return rate of fall-run Chinook salmon on the Sacramento River is among the highest in 30 years. Winter-run have experienced a nine-fold increase since 1991. Spring-run salmon, which numbered 500 to 1000 in the mid-90's, increased to twenty-four-thousand in 1998.

- The $2 billion committed to ecosystem restoration will develop hundreds of habitat improvement programs. More than 250 such projects are in various stages of implementation and hundreds more are in the planning stages.

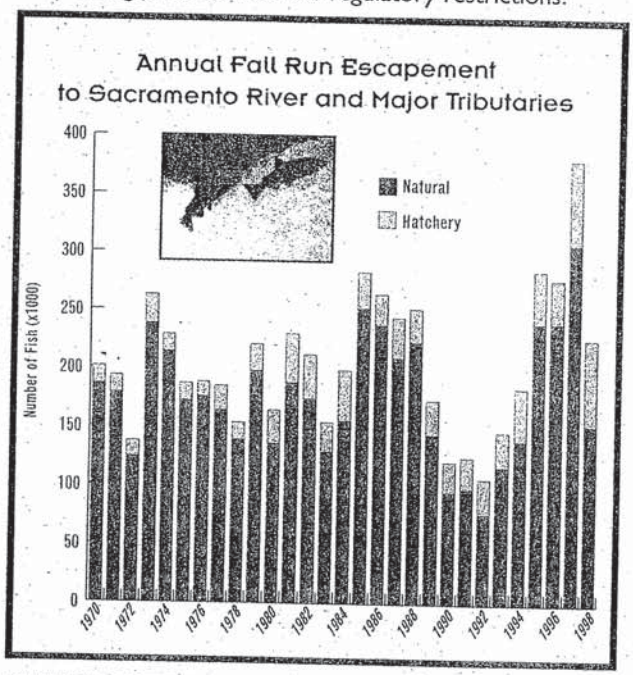
Now it's the people who rely on the Delta for their water who face crisis.

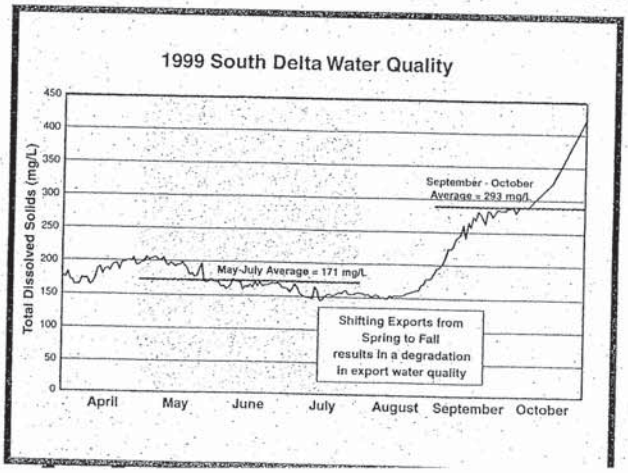
- California water policy has become a zero-sum game due to federal regulatory actions. Water gains for the fish are water losses for the economy. Cities and farms already have lost about one-third of their drought-year supplies. New federal regulations may double those losses.

- The economy is now increasingly vulnerable to water shortages. If the drought of 1987-92 were to recur, under current conditions farmers south of the Delta dependent on federal water supplies could face three straight years without any water deliveries.

- Industries from San Diego to the Silicon Valley could face sizable water shortages. Urban areas dependent on state and federal water supplies could face cuts of 55% from the state and 65% shortfalls from the federal government.

- California's irrigated agriculture will suffer. For example, Kern County, the nation's fourth-largest agricultural economy, could lose 1.5 million acre-feet of its state water supply over the course of a six-year drought due to the new regulatory restrictions.





The Time for Action is Now

The 1987-92 drought was the most severe and sustained water shortage in more than 50 years. It highlighted the state's vulnerability to recurring dry periods. The more recent Delta smelt crisis underscored the water system's vulnerability even in wet periods.

Despite growing evidence of the severity of California's water supply and water quality crisis, recent responses to the problem have not been encouraging.

The CALFED Bay-Delta Program's draft plan does not balance the needs of people and the ecosystem. It fails to pursue realistic solutions aggressively. Federal regulators continue their single-minded pursuit of environmental programs at the expense of Californians' water user needs.

Californians need to persuade state and federal leaders to address these critical water issues. We must:

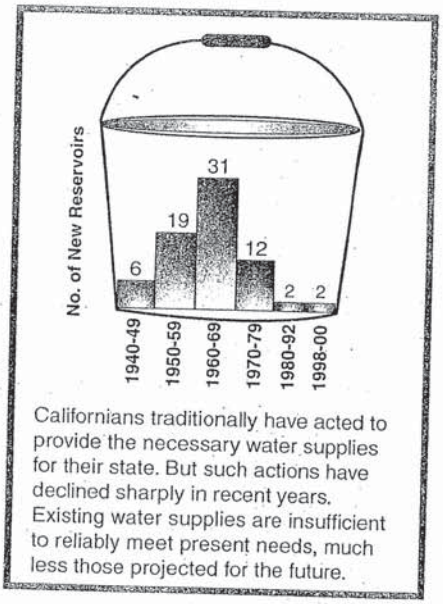
- Approve Proposition 13, the $1.97 billion water bond on the March 2000 ballot. This measure would restore 1 million acre-feet of water to cities and farms during a dry year.

- Restore balance to the CALFED Bay-Delta plan, so that both economic and environmental water needs are met fairly.

- Aggressively support programs to identify and construct additional water storage facilities, both in aquifers and new off-stream reservoirs. New supplies not only meet the needs of people and fish, but provide needed flexibility to our water system.

- Construct facilities necessary to make our water supplies reliable once again. Reservoirs north of the Delta were full during the Delta smelt crisis but the water could not be delivered to areas of need.

- Move from a water supply system driven by regulations to one that is flexible and provides multiple benefits for the environment and the economy.



Californians traditionally have acted to provide the necessary water supplies for their state. But such actions have declined sharply in recent years. Existing water supplies are insufficient to reliably meet present needs, much less those projected for the future.

Prepared by the Association of California Water Agencies

CERTIFICATE OF SERVICE

STATE OF CALIFORNIA, COUNTY OF VENTURA

I hereby certify that I have this day served a copy of the **DIRECT TESTIMONY OF STEVEN B. BACHMAN IN SUPPORT OF THE PROTEST BY VENTURA COUNTY TO APPLICATION OF VALENCIA WATER COMPANY FOR APPROVAL OF ITS UPDATED WATER MANAGEMENT PROGRAM** on all known parties to Application No. A-99-12-025 by mailing a properly addressed copy by first-class mail, with postage prepaid, to each party named below in the service list.

Executed on April 7, 2000, at Ventura, California.

SHEILA L. DELEO

SERVICE LIST

Bertram D. Patrick
California Public Utilities Commission
Division of Administrative Law Judges
505 Van Ness Avenue, Room 5110
San Francisco, California 94102-3214
(Two copies)

Daniel R. Paige
California Public Utilities Commission
Water Advisory Branch
320 West Fourth Street, Suite 500
Los Angeles, California 90013

Barbara Ortega
California Public Utilities Commission
Executive Division
320 West Fourth Street, Suite 500
Los Angeles, California 90013

Sandra Graham
California Public Utilities Commission
Public Advisor Office
320 West Fourth Street, Suite 500
Los Angeles, California 90013

Fred L. Curry
California Public Utilities Commission
Water Advisory Branch
505 Van Ness Avenue, Room 3106
San Francisco, California 94102-3214

Robert J. DiPrimio, President
Valencia Water Company
24631 Avenue Rockefeller
Valencia, CA 91355

Exhibit
11

FOX CANYON GROUNDWATER MANAGEMENT AGENCY

December 24, 2001

Los Angeles County Board of Supervisors
C/O Ms. Joanne Sturges, Executive Officer
Room 383
500 W. Temple Street
Los Angeles, CA 90012

Subject: **Final Additional Analysis and Staff Report (Water Resources) for the Newhall Ranch Specific Plan FEIR DATED October 2001**

Dear Members, Board of Supervisors:

The subject report addresses the utilization of agricultural water, state project water and reclaimed water to support a demand of 17,680 acre feet for the subject project. Additional sources of ASR banking, water from Kern Water Bank and flood flows have also been identified as potential supplies. The Fox Canyon Groundwater Management Agency (FCGMA) has reviewed the Staff Report and the Final Additional Analysis for the Newhall Ranch Specific Plan and provides the following comments:

Irrigation Water. The applicant proposes to transfer the irrigation water previously used by Newhall Ranch to be used as a supply for the Newhall Ranch Development. We concur that the agricultural irrigation water used on parcels that will be taken out of service and become part of the Newhall Ranch Project represent an existing use and can therefore be shown as a source of water for the project. This only applies to the parcels that are within the boundary of this project. We agree that this is a valid supply and we agree that the existing use can be reasonably determined by applying the California Irrigation Management Information System (CIMIS) formula. However, we believe that additional accuracy is required. The FCGMA uses CIMIS as one means of managing the groundwater within its boundary. Due to this employment of CIMIS, the FCGMA has an indepth awareness of the detailed requirements necessary to determine the quantity of irrigation water used by various crop types. The following comments apply to the use of CIMIS: 1

1. The rainfall was not accounted for in the calculation of water use. Evapotranspiration (Et) values represent the water needed by a crop type. When there is rainfall the amount of rainfall that deep percolates supplies part of the total water required for that period. This part of the needed supply would not have been drawn from groundwater. The applicant made no provision to include rainfall. This inflates the water use. 2
2. The calculated irrigation water use included an additional arbitrary factor of 60% or 70% for soil type and irrigation method that is not part of the CIMIS formula. This factor inflates the water use. 3
3. Et is applicable to irrigated acreage. The calculated value did not explain how the acreage was determined. Experience from the FCGMA has shown that the acreage is typically overstated by 10 to 20% by simply using the parcel size and not deducting areas not irrigated. 4

800 South Victoria Avenue, Ventura, CA 93009-1600
(805) 654-2327 or 645-1372 FAX (805) 654-3350
Web sites: www.foxcanyongma.org or www.ventura.org/vcpwa/fcgma

4. There was no description of the irrigated agricultural properties. It is assumed that the irrigation water to be transferred to supply the demand for the project is currently being used on properties that are within the project boundary. Due to difficulties of monitoring and control, we do not concur with the use of irrigation water from any area not within the project boundary. 5

If the property currently receiving the irrigation water is within the project boundary, Table 1 shows a more accurate calculation of the irrigation water used. To construct Table 1., a crop factor of 1.0 was used since there is no detailed explanation of the crops actually grown. This favors the applicant. An effective rainfall of 25% of the approximately 16 inch annual average rainfall was applied.

Table 1.

	Year	Crop	Acres	Et	Rain	Crop Factor	AF	Sub Totals
	2000	Alfalfa	55	62.21	4	1	266.7958	
		Sudan/pasture	150	62.21	4	1	727.625	
		Veg. Row crop	722	62.21	4	1	3502.302	4496.723
	1999	Alfalfa	55	63.08	4	1	270.7833	
		Sudan/pasture	150	63.08	4	1	738.5	
		Veg. Row crop	709	63.08	4	1	3490.643	4499.927
	1998	Alfalfa	115	56.39	4	1	502.0708	
		Sudan/pasture	100	56.39	4	1	436.5833	
		Veg. Row crop	663	56.39	4	1	2894.548	3833.202
	1997	Alfalfa	160	61.34	4	1	764.5333	
		Sudan/pasture	103	61.34	4	1	492.1683	
		Veg. Row crop	663	61.34	4	1	3168.035	4424.737
	1996	Alfalfa	105	61.28	4	1	501.2	
		Sudan/pasture	170	61.28	4	1	811.4667	
		Veg. Row crop	537	61.28	4	1	2563.28	3875.947
		Average						4226.107

6

The irrigated acreage was not changed nor was there an additional factor employed to account for soil type and irrigation method. It is believed that, even though the average annual use is considerably less, Table 1. shows a reasonable accommodation of the proposed methodology while still relating to CIMIS concept.

The agricultural water available for transfer to the new project is on the order of 4200 to 4300 acre feet per year. If the water is used, then recycled, approximately 50% to 80% of the water can be recovered depending upon the treatment selected. Using the maximum of 80% would result in a supply of 3440 acre feet available for irrigation. This would then make up a total supply of 4300+3440 = 7740 acre feet. Adding the 3691 acre feet of reclaimed water from CLWA would bring the total excluding imported water to 7740+3691 = 11431 acre feet. The balance of water needed can then be supplied by imported water 7

-1059-

(New Imported Water 17680-11431 = 6249. Imported water would be any water obtained from a source not in hydrologic continuity with the Santa Clara River. e.g. water stored in the Kern Water Bank) 7

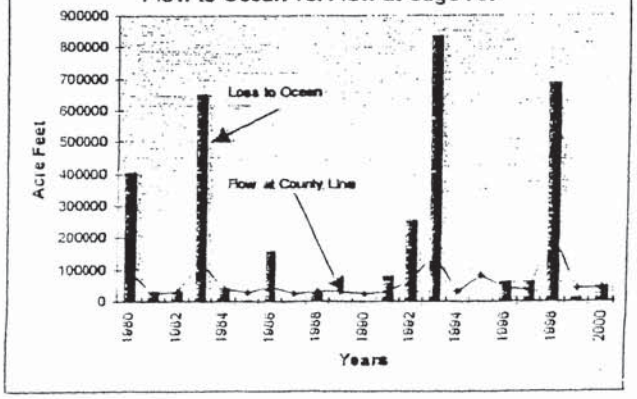
Regarding the ASR project. The ability of the Saugas Aquifer to function under storage and recovery operations has been shown by testing and is no longer a point of contention. However, the lack of calibration to transient conditions is still questioned. 8

The applicant addressed the impacts to Ventura County by comparing the existing and future flows at the County line during wet periods and dry years. Constructing a model calibrated to steady state conditions facilitated a conclusion that the net water flowing into Ventura County would be increased. There are two problems with this procedure; 1) the steady state model selected, and 2) the analysis using a net flow criterion.

1) The problem with the model produced by the additional analysis is that a steady state solution was used to determine the effects of the injection/extraction. Since the pumping and recharge to the aquifer varies over time, the model used to portray the system must have the ability to incorporate the changing environment to which it is exposed. The effects to an aquifer result in different pressures in the aquifer. These pressures are called heads. Steady state solutions are useful to determine the relative difference in heads due to drawdown from pumping, but they do not produce the absolute value of the head. The absolute value of the head is the true pressure in the aquifer and the pressure that produces the gradient that is used to determine the potential for flow (in this case flow into Ventura County). Steady state conditions do not incorporate regional flow caused by regional head gradients and are not appropriate to represent systems that change over time. To determine the effects of time dependent influences, a transient model is required. The difference between a transient model and a steady state model is that a steady state model generates one set of heads and a transient model produces a set of heads for each time period. 9

The proponent's response to this problem contended that one steady state pressure head was compared to a new steady state pressure head thereby eliminating the necessity for transient calibration. This is inaccurate for two reasons; 1) the steady state model does not apply to a system constantly under going changes, and 2) because the question of concern is the absolute value of the pressure head, not the relative difference between two heads.

Figure 1.
Flow to Ocean vs. Flow at Gage 707



10

The analysis of the results of the model is also inaccurate because increasing the water crossing the County line at USGS Gauging Station Number 707 during a wet year does not contribute to recharge and

consequently has no value. This happens because river water is already being lost to the ocean. **Figure 1.** shows the water lost to the ocean in wet years as compared to river flow. It is easy to see that any time there is increased flow at the County Line there is an even greater loss to to the ocean during that same period. This leads to discounting the potential benefit of additional water during wet years. 10

An adequate model of the river system is complicated and difficult. However, a solution that would be adequate consists of injecting 9000 acre feet before the first 4100 acre feet is extracted. Thereafter an injection of 4500 acre feet may be followed by an extraction of 4100 acre feet without damage to downstream flows. This solution adds an additional 4500 acre feet to the Saugas Aquifer that is never removed. 11

In summary, there are three problems:
1) The calculation of the agricultural water used.
2) The type of model selected for analysis.
3) The wet year/dry year analysis.

All three of these issues can be resolved by:
1) Limiting the groundwater use to the 4300 acre feet that is available from the current agricultural irrigation water.
2) Increasing the imported water to 6249 acre feet. (State water or water stored in a location not hydrologically connected to the Santa Clara River)
3) Injecting 9000 acre feet during the first year of the ASR program and subsequently withdrawing 4100 acre feet as proposed. After the first year, 4500 acre feet could be added and 4100 acre feet extracted. 12

It is requested that this letter be made a part of the Administrative Record.

Very truly yours,

Lowell Preston, Ph.D.

cc: Lee Stark, Los Angeles County Planning Department, 320 Temple St., Los Angeles Ca 90012

Exhibit
12

Los Angeles County Department of Public Works

HYDROLOGY MANUAL

Hydraulic/Water Conservation Division
December 1991

T. A. Tidemanson, Director

900 South Fremont Avenue
Alhambra, California 91803

00023780

CONTENTS

00023781

4. RUNOFF CALCULATION METHODS

00023782

00023783

1. INTRODUCTION

A. ACKNOWLEDGEMENT AND COMPUTER PROGRAM CREDITS

A project team consisting of William DePoto, Isaac Gindi, and Mariette Schleikorn compiled and edited this manual from material composed principally by R. Eric Bredehorst. An overview committee comprised of R. Eric Bredehorst, Alan Bentley, Chander Garg, Sree Kumar, Iraj Nasseri, and David Potter reviewed the contents. Reza Izadi and Garvin Pederson supervised the entire project. Also providing assistance were Laurel Putnam, Michael Miranda, Sanjay Thakkar, Mooler Ang, Patricia Wood, Robert Barker, Allen Ma, Chukwuemeka Agu, and Faramarz Nabipour.

Material taken from the December, 1971 Hydrology Manual of the Los Angeles County Flood Control District was prepared by James H. Brown, J. D. Davis, C. J. Daleo, and S. B. Chapman.

Mr. G. L. Walton wrote the IBM mainframe version of the Modified Rational Method program in August 1969. The program was later modified by Mr. Walton, H. L. Doss, and G. L. Barber. Mr. Barber also wrote the mainframe version of the Probable Maximum Precipitation Program, later modified by Mr. Bredehorst and converted by him to an IBM-PC version.

The Log Pearson Frequency Analysis program was published in Bulletin No. 17 of the U. S. Water Resources Council by L. Beard and D. Ford, and Mr. Jim Girardot modified the program for Department use. Mr. G. Barber further modified it, and Mr. Bredehorst converted it to an IBM-PC version.

Mr. Bredehorst in addition wrote the mainframe versions of the Thunderstorm Probable Maximum Precipitation program, Reservoir Routing program, and the Gumbel Frequency Analysis program, each of which he later modified and converted to IBM-PC versions. He also authored and modified exclusively for the IBM-PC the Rational Method Hydrology program and the Hydrograph Yield Adjustment program.

B. PURPOSE AND SCOPE

This manual, one volume of a three volume set, establishes the L. A. County Department of Public Works' hydrologic design procedures. It can also be used as a reference and training guide. The other two volumes are the Department's

S mentation Manual and Appendix, the latter of which contains the necessary c s, gra: is, tables, and example problems.

The standards set forth in this manual govern all hydrology calculations done under the Department of Public Works' jurisdiction, whether by Department engineers or private consultants. Hydrologic procedures in manuals prepared for use by other divisions within the Department of Public Works must be compatible with the hydrologic procedures described herein.

The primary purpose of this manual is to take the engineer through the steps involved in converting rainfall to runoff in accordance with Public Works standards. The last part of this section, Section 1, describes in general the physical factors, such as topography, geology, vegetation, climate, and meteorology that affect how rainfall becomes runoff. Section 2 describes the policies the Department has established regarding rainfall severity and the flood level to which certain facilities must be designed. Section 3 defines the hydrologic conditions that will create those flood levels. Section 4 presents two basic and three simplified mathematical models that convert rainfall to runoff and describes the conditions under which each can be used. Section 5 presents two more methods, not specifically involving rainfall/runoff conversion, but involving related procedures. Finally, Section 6 presents a list of places where the Department's models can be purchased in personal computer program form.

The procedures and standards contained in this manual were developed over the past 50 years by the Hydraulic Division of the Los Angeles County Flood Control District as the need arose to engineer flood water and erosion control structures. These hydrologic techniques are applicable in the design of local storm drains, retention and detention basins, pump stations, and major channel projects. These techniques are also used to evaluate storm drain deficiencies and flood hazards.

C. MAJOR 1991 REVISIONS TO THE MANUAL

Sinc ydrology Manual was first published in 1971, new procedures and meth of calculating design flow rates were introduced. The merging of the Los Angeles County Flood Control District, Los Angeles County Road Department, and Los Angeles County Engineer into the Los Angeles County Department of Public Works further made it necessary to have a uniform hydrology system for use by all elements of the Department.

The hydrology system adopted for Department use is a slightly altered version of the former Flood Control District's Modified Rational Method Hydrology system. This manual includes the following modifications:

1. In the T_c calculation procedures:
   - Wave velocity is used only for routing between subareas.
   - The kinematic wave equation is used for overland flow.
   - Each component area (a division of a subarea) can have a different percent imperviousness as well as a different soil type.

2. A newly developed Rational Method Hydrology system can compute peak runoff for drainage areas of 100 acres or less and compute times of concentration for the Modified Rational Method.

3. Newly developed standards and procedures:
   - Level of Flood Protection
   - Reservoir and Basin Routing
   - Hydrograph Yield Adjustment
   - Small Developed Drainage Area Hydrology
   - Street cross-section, discharge-velocity-slope graphs
   - Percent imperviousness values for various development types coinciding with the Benefit Assessment plan
   - Rainfall zone I for Antelope Valley
   - Additional types of hydrograph modifications

D. REGISTRATION FORM

In order to be registered with the Los Angeles County Department of Public Works for notification of Hydrology and Sedimentation Manual updates, please send a filled in copy of the registration form at the beginning of the Manual, or your name and address, to the Department at the following address:

Los Angeles County Department of Public Works
Hydraulic/Water Conservation Division
P.O. Box 1460
Alhambra, CA 91802-1460

$$C = \frac{(I - F)}{I}$$

where: C = The runoff coefficient, the proportion of rainfall that runs off the surface for a given type of soil
I = Rainfall intensity, in in/hr
F = Infiltration rate, in in/hr

C-2.2. Developed Areas

Each of the 170 basic runoff coefficient curves represents an undeveloped soil. Use the following equation to account for the effects on the runoff coefficient by development on an area:

$$C_d = (0.9 \times IMP) + (1 - IMP)\, C_u$$

where: C_d = Developed area runoff coefficient
IMP = Proportion impervious
C_u = Undeveloped area runoff coefficient

The 0.9 multiplier for the impervious area part of the equation represents the general assumption that no development, not even pavement, is completely impervious, but is assumed to be only 90 percent impervious.

There are three ways to determine the imperviousness of a subarea. The most accurate way is to measure the imperviousness of a representative portion of the subarea.

The next most accurate way is to use the average values defined statistically for the various development types. These statistical values are given in Appendix E.

The least accurate way is to use generalized values for each of the main categories of development. These values represent one half or more of the parcels in the development category and are listed in the Standard Values Tables in Appendix F.

APPENDIX E Proportion Impervious Data

00024244

PROPORTION IMPERVIOUS

Residential

Single-Family	0.418
Two-Unit	0.418
Three-Unit	0.682
Four-Unit	0.819
Five-Unit	0.855

Commercial

Stores, Office Buildings, Manufacturing Outlets	0.909
Shopping Centers (Regional), Restaurants, Service Shops, Auto Equipment, Parking Lots	0.946
Shopping Centers (Neighborhood), Motels, Hotels, Kennels, Professional Buildings, Banks, Service Stations	0.958
Supermarkets	0.976
Department Stores	0.985

Industrial

Mineral Processing	0.473
Open Storage	0.655
Motion Picture, Radio, Television	0.819
Manufacturing, Warehousing, Storage, Parking	0.909
Food Processing Plants, Lumber Yards	0.958

Institutional Property

Colleges, Universities	0.473
Homes for the Aged	0.682
Hospitals, Cemeteries, Mausoleums, Mortuaries	0.744
Churches, Schools	0.819

Los Angeles County
Department of Public Works

PROPORTION
IMPERVIOUS

PROPIMP.TAB
Hydrology/Sedimentation Appendix E-1 December 1990

00024245

APPENDIX F Standard Values Tables

00024246

STANDARD VALUES TABLES

Overland Manning's N Values

Type of Development	N
Industrial-Commercial	0.014
Residential	0.040
Rural	0.060

Standard Lot Values

Type of Development	Lot Length	Lot Slope Range
Industrial-Commercial	200	0.005-0.02
Residential	100	0.01 -0.05
Rural	200	0.05 -1.00

STANDARD RANGE OF PROPORTION IMPERVIOUS

Type of Development	Proportion Impervious
Single-Family	0.21-0.45
Multi-Family	0.40-0.80
Commercial	0.48-0.92
Industrial	0.60-0.92
Institutional	0.70-0.90

Average Values for Metropolitan Los Angeles County are:
Single-Family=0.42 Multi-Family=0.68 Commercial=0.92
Industrial=0.91 Institutional=0.68
For more detail, see the separate Proportion Impervious Table.

Los Angeles County Department of Public Works
STANDARD VALUES TABLES

STANDARD.TAB
Hydrology/Sedimentation Appendix F-1 December 1990

00024247

Exhibit
13

FILE COPY

VOLUME I — REPORT TEXT

HYDROGEOLOGIC INVESTIGATION
PERENNIAL YIELD
and
ARTIFICIAL RECHARGE POTENTIAL
of the
ALLUVIAL SEDIMENTS
in the
SANTA CLARITA RIVER VALLEY
of
LOS ANGELES COUNTY, CALIFORNIA

FOR
UPPER SANTA CLARA WATER COMMITTEE
MEMBERS: LOS ANGELES COUNTY WATERWORKS
DISTRICT NO. 36 — VAL VERDE
NEWHALL COUNTY WATER DISTRICT
SANTA CLARITA WATER COMPANY
VALENCIA WATER COMPANY

AFFILIATE: CASTAIC LAKE WATER AGENCY

DECEMBER 1986

RICHARD C. SLADE
CONSULTING GROUNDWATER GEOLOGIST

their annual extractions are not metered. Because the cumulative total production by these private pumpers is not considered to be large, it has not been included in our perennial yield assessment.

Prior to 1954, alluvial groundwater production accounted for almost 100 percent of the total water production in the study area. However, in 1954, this percentage decreased to approximately 95 percent because in that year Newhall County Water District constructed the first of six wells which tap the Saugus Formation for domestic use. By 1985, production from the Saugus Formation approached 16 percent of total groundwater extractions (refer also to Table 2).

In recent years, there have been several shifts in the supply/demand usage of water in the region. Groundwater extractions from the Saugus Formation have gradually increased to about 15 percent of the total local production, while total extractions (alluvium plus Saugus Formation) have declined slightly. Water usage has shifted toward a greater proportion for urban uses, with a reduction for agricultural uses, as the region has become urbanized. In the future, it is projected that local alluvium production will remain relatively constant with more water going to urban uses as the agriculture is phased out, and there will be greater use of groundwater from the Saugus Formation.

Urbanization has had a rather startling impact on the availability of areas for recharge, however. All recharge to the aquifer system does not occur in the low-flow channels of the river and its tributaries, but infiltrates over much of the alluviated areas which are not within the flood channels of the Santa Clara River system. Paving of these areas has, and will continue to reduce the net effective area for natural recharge to the underlying groundwater system.

Exhibit
14

WHITTAKER CORPORATION,

Counter-Claimant,

vs.

CASTAIC LAKE WATER AGENCY; NEWHALL COUNTY WATER DISTRICT; SANTA CLARITA WATER COMPANY; and VALENCIA WATER COMPANY

Counter-Defendants.

I, E. John List, Ph.D., P.E., declare as follows:

1. I received a Masters in Engineering from the University of Auckland, New Zealand. I received a Ph.D. in Applied Mechanics and Mathematics from of the California Institute of Technology.

2. After completing my doctorate, I spent three years on the faculty of the University of Auckland. In 1969, I moved to Caltech, serving as Professor of Environmental Engineering Science from 1978 to 1997 and as Executive Officer for Environmental Engineering Science from 1980 to 1985. Presently, I am Professor Emeritus of Environmental Engineering Science at Caltech. I am also President of Flow Science Incorporated and Principal Consultant of Environmental Defense Sciences.

3. I have consulted with more than 400 industrial organizations, consulting engineers, and government agencies. I have co-authored three books, including the award winning Handbook of Groundwater Development, and published over forty articles on fluid dynamics and environmental sciences. I have provided written, verbal or deposition testimony as an expert witness in over 10 cases. I am currently serving as a jointly designated independent peer review expert in the case entitled U.S. Environmental Protection Agency v. General Electric. A true and correct copy of my resume is attached as Exhibit "A" hereto.

4. I have reviewed many scientific reports and other documents related to the Whittaker Bermite Facility and the perchlorate problem in the groundwater found in the Saugus Formation in the Santa Clarita Valley. The documents that I reviewed include public documents on the former Whittaker Bermite Facility from the Department of Toxic Substances Control's Glendale Office and technical reports prepared by consultants hired by Santa Clarita LLC and/or the Whittaker Corporation. This

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Attorneys for Plaintiffs and Counter-Defendants Castaic Lake Water Agency; Newhall County Water District; Santa Clarita Water Company; and Valencia Water Company

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

CASTAIC LAKE WATER AGENCY; NEWHALL COUNTY WATER DISTRICT; SANTA CLARITA WATER COMPANY; and VALENCIA WATER COMPANY,

Plaintiffs,

vs.

WHITTAKER CORPORATION; SANTA CLARITA LLC; REMEDIATION FINANCIAL, INC.; and DOES 1-10, Inclusive,

Defendants.

SANTA CLARITA, L.L.C.,

Counter-Claimant,

vs.

CASTAIC LAKE WATER AGENCY; NEWHALL COUNTY WATER DISTRICT; SANTA CLARITA WATER COMPANY; and VALENCIA WATER COMPANY

Counter-Defendants.

Case No.: 00-12613AHM(RZx)

PLAINTIFFS' AND COUNTER-DEFENDANTS' CASE MANAGEMENT PROPOSAL; DECLARATION OF PROFESSOR E. JOHN LIST IN SUPPORT OF PLAINTIFFS' AND COUNTER-DEFENDANTS' CASE MANAGEMENT PROPOSAL; and DECLARATION OF ANDREW J. YAMAMOTO IN SUPPORT OF PLAINTIFFS' AND COUNTER-DEFENDANTS' CASE MANAGEMENT PROPOSAL ATTACHED

222638.2 DOC

[9] "A study on disposal of brine in an estuary," *J. Water Polln. Cont. Fed.*, 45(11): 2335-2344, 1973 (with A.B. Pincince).

[10] "Turbulent entrainment in buoyant jets and plumes," *J. Hyd. Div.*, ASCE, 99(HY9):1461-1474, September 1973 (with J. Imberger).

[11] "Turbulence measurements in a two-dimensional buoyant jet using laser-Doppler velocimetry," *Proc. LDA Symposium*, Tech. Univ. of Denmark, Copenhagen, August 1975 (with N.E. Kotsovinos).

[12] "Hydraulic modeling of thermal outfall diffusers - Interpretation of results," *Proc. XVI IAHR Congress*, Sao Paulo, Brazil, July 1975 (with R.C.Y. Koh).

[13] "Variations in coastal temperatures on the Southern and Central California coast," *J. Geophys. Res.*, 81(12):1971-1979, April 1976 (with R.C.Y. Koh).

[14] "Spreading of buoyant discharges," *Proc. 9th Intern. Conf. Heat and Mass Transfer*, Int. Centre for Heat and Mass Transfer, Dubrovnik, Yugoslavia, 171-182, September 4, 1976 (with J.-C Chen).

[15] "Plane turbulent buoyant jets - Part 1: Integral properties," *J. Fluid Mech.*, 81(1): 25-44, June 9, 1977 (with N.E. Kotsovinos).

[16] "Turbulent jets and plumes," *Ann. Rev. of Fluid Mech.*, 14:189-212, 1982.

[17] "Formation of frontal waves in density-induced fluid spreading," *Symposium on Flows in Stratified Fluids*, ASME Winter Annual Meeting, Boston, MA,1983.

[18] "Monte Carlo simulation of particle coagulation in continuous size distributions, I: Brownian motion and fluid shearing," *J. Fluid Mech.*, 143: 367-385, 1984 (with H.J. Pearson and I.A. Valioulis).

[19] "Monte Carlo simulation of particle coagulation in continuous size distributions, II: Interparticle forces and the quasi-equilibrium hypothesis," *J. Fluid Mech.*, 143: 387-411, 1984 (with I.A. Valioulis and H.J. Pearson).

[20] "Numerical simulation of a sedimentation basin, I: Model development," *Env. Sci. Tech.*, 18: 242-247, 1984 (with I.A. Valioulis).

[21] "Numerical simulation of a sedimentation basin, II: Design application," *Env. Sci.Tech.*, 18:248-253, 1984 (with I.A. Valioulis).

INSTITUTE AFFAIRS

Professor List has served on sixteen different administrative and faculty committees, including a term as Vice-Chair of the Faculty (1979-81), and chair of the following Faculty Committees: Athletics and Physical Education (1975-79), Curriculum (1981-84), Membership and Bylaws (1979-81), and Nominating (1978-79). He served on the JPL Classified Research Oversight Committee for a period of six years.

EDITOR

Journal of Hydraulic Engineering, American Society of Civil Engineers, 1984-1989

MEMBERSHIP

Fellow of American Society of Civil Engineers
Chair, Hydrologic Transport and Dispersion Committee, 1983-84
Chair, Awards Committee, Hydraulics Division, 1994
Co-Chair, Third International Symposium on Stratified Flows, 1987
Consulting Engineers Association of California
Chair, Engineering Excellence Committee, 1989

AWARDS AND RECOGNITION

Fulbright Scholar, 1962
National Science Foundation Award for Special Creativity, 1982
Who's Who in America
Who's Who in Engineering
Who's Who in the West

REGISTRATION

Professional Civil Engineer No. 36791, State of California
Professional Engineer No. 20646, State of South Carolina

VISITING COMMITTEES

University of California, Irvine, School of Engineering, 1983, 1989
Stanford University, Palo Alto, Department of Civil Engineering, 1984
University of British Columbia, School of Engineering, 1990

BOARDS

Flow Science Incorporated, Pasadena, California (Chair) 1982-Present
City of Pasadena, Blue Ribbon Commission 1976-1978
Environmental Defense Sciences, Pasadena, California 1997-Present

18

11. Based on my review of the reports prepared by consultants hired by Santa Clarita LLC or Whittaker Corporation, it appears clear that perchlorate from the former Whittaker Bermite Facility is the source of the perchlorate found at the Plaintiffs' groundwater wells. Although I am aware that one might hypothesize that there are alternate sources of the perchlorate reaching the Impacted Wells, I am aware of no plausible source of the perchlorate in the Impacted Wells besides the Whittaker Bermite Facility.

12. Perchlorate naturally will continue its down-gradient migration and may spread to other groundwater wells until response actions are implemented to abate the spread of perchlorate.

13. It is my professional judgment that the pumping of groundwater from the Impacted Wells, and treatment of the water to remove perchlorate, should be implemented promptly to help retard the spread of the perchlorate plume(s) emanating from the Whittaker Bermite Facility. Delaying such a groundwater treatment program will likely allow the plume(s) to spread.

I declare under penalty of perjury that the foregoing is true and correct.

Executed within the United States on June 1, 2001

E. John List, Ph.D., P.E.

[22] "Collision efficiencies of diffusing spherical particles accounting for hydrodynamic, van der Waal's and electrostatic forces," *Adv. Colloid and Interf. Sci.*, 20:1-20, 1984 (with I.A. Valioulis).

[23] "A numerical evaluation of the stochastic completeness of the kinetic coagulation equation," *J. Atmos. Sci.*, 41(16):2516-2529, 1984 (with I.A. Valioulis).

[24] "Statistical and spectral properties of tracer concentration in round buoyant jets," *Int. J. Heat and Mass Trans.*, 30(10):2059-2071, 1987 (with P.N. Papanicolaou).

[25] "Turbulence structure near a sharp density interface," *J. Fluid Mech.*, 189: 189-209, 1988 (with I.A. Hannoun and H.J.S. Fernando).

[26] "Turbulent mixing at a shear-free density interface," *J. Fluid Mech.*,189:211-234, 1988 (with I.A. Hannoun).

[27] "Investigations of round vertical turbulent buoyant jets," *J. Fluid Mech.*, 195: 341-391, 1988 (with P.N. Papanicolaou).

[28] "The Third International Symposium on Density-Stratified Flows," *J. Hydr. Eng., Proc. ASCE*, 114(2):125-133, 1988 (with G. Jirka).

[29] "Large-scale structure in the far field of buoyant jets," *J. Fluid Mech.*, 209: 151-190, 1989 (with D. Papantoniou).

[30] "Diffusion and dispersion in coastal waters," *J. Hydr.Eng.*, 116(10):1158-1179, 1990 (with G. Gartrell and C.D. Winant).

[31] "Kinetic analysis of virus adsorption and inactivation in batch experiments", *Water Resources Research*, 29(7):2067-2085, 1993 (with S. Grant and M. Lidstrom).

[32] "An experimental investigation of vertical mixing in two-layer density- stratified shear flows," *Oceans and Atmospheres*, 19:147-174, 1993 (with G. Sullivan).

[33] "Transition from jet plume dilution to ambient turbulent mixing," *Recent Res. Advances in the Fluid Mechanics of Turbulent Jets and Plumes*, 1-11, 1994 Kluwer Publishers (with Regina Dugan).

[34] "On mixing and transport at a sheared density interface ", *J. Fluid Mech.* 273:213-239, 1994 (with G. Sullivan).

[35] "Sudden pressure drop and pipeline failure - Case studies," Hydraulics of Pipelines, ASCE, pp.339-355, 1994

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Attorneys for Plaintiffs Castaic Lake Water Agency; Newhall County Water District; Santa Clarita Water Company; and Valencia Water Company

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

CASTAIC LAKE WATER AGENCY; NEWHALL COUNTY WATER DISTRICT; SANTA CLARITA WATER COMPANY; and VALENCIA WATER COMPANY,

Plaintiffs,

vs.

WHITTAKER CORPORATION; SANTA CLARITA LLC; REMEDIATION FINANCIAL, INC.; and DOES 1-10, Inclusive,

Defendants.

Case No.:

COMPLAINT FOR:

1. **RECOVERY UNDER CERCLA [42 U.S.C. § 9607(a)];**
2. **DECLARATORY RELIEF UNDER CERCLA [42 U.S.C. § 9613(g)];**
3. **CONTRIBUTION UNDER CERCLA [42 U.S.C. § 9613(f)];**
4. **NEGLIGENCE;**
5. **NEGLIGENCE PER SE;**
6. **NUISANCE;**
7. **PUBLIC NUISANCE;**
8. **TRESPASS;**
9. **RECOVERY UNDER THE CALIFORNIA HAZARDOUS SUBSTANCE ACCOUNT ACT [CALIFORNIA HEALTH & SAFETY CODE § 25300 ET SEQ.];**
10. **ULTRA HAZARDOUS ACTIVITY;**
11. **DECLARATORY RELIEF [28 U.S.C. §§ 2201 & 2202].**

(DEMAND FOR JURY TRIAL)

5149

Plaintiffs Castaic Lake Water Agency, Newhall County Water District, Santa Clarita Water Company and Valencia Water Company (collectively "Plaintiffs") allege as follows:

JURISDICTION

1. The Court has jurisdiction over Plaintiffs' First, Second and Third Claims for Relief pursuant to 28 U.S.C. § 1331 and section 113(b) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9613(b).

2. The Court has jurisdiction over Plaintiffs' Fourth, Fifth, Sixth, Seventh, Eighth, Ninth and Tenth Claims for Relief pursuant to 28 U.S.C. § 1367(a).

3. The Court has jurisdiction over Plaintiffs' Eleventh Claim for Relief pursuant to 28 U.S.C. § 1331 and, with respect to claims made under California statutory and common law, pursuant to 28 U.S.C. § 1367(a).

VENUE

4. This action involves properties located at or near 22116 West Soledad Canyon Road (collectively, the "Site") in the City of Santa Clarita, California.

5. Venue is proper in this District pursuant to 28 U.S.C. § 1391(b) and 42 U.S.C. §§ 9607 & 9613(b) because the Site is located within this District and because the acts that gave rise to Plaintiffs' claims occurred in this District.

PLAINTIFFS

6. Plaintiff Castaic Lake Water Agency ("Castaic") is a public agency organized and operating under the laws of California that does business within the Central District of California.

7. Plaintiff Newhall County Water District ("Newhall") is public agency organized and operating under the laws of California that does business within the Central District of California.

8. Plaintiff Santa Clarita Water Company ("SCWC") is a California not-

for-profit corporation doing business within the Central District of California.

9. Plaintiff Valencia Water Company ("Valencia") is a California corporation with its principal offices in Valencia, California that does business within the Central District of California.

DEFENDANTS

10. Plaintiffs are informed and believe, and on that basis allege, that defendant Whittaker Corporation is a corporation organized under the laws of the State of Delaware and doing business within the Central District of California.

11. Plaintiffs are informed and believe, and on that basis allege, that defendant Santa Clarita L.L.C. is a limited liability company organized under the laws of Delaware and doing business within the Central District of California.

12. Plaintiffs are informed and believe, and on that basis allege, that defendant Remediation Financial, Inc. is a corporation organized under the laws of the State of Arizona and doing business within the Central District of California.

13. Does 1-10 are as yet unidentified entities and individuals who are liable for any release or threatened release of hazardous substances and other injurious conditions at or near the Site. The true names or capacities of the defendants sued under the fictitious names Does 1-10 are currently unknown to Plaintiffs. Plaintiffs will amend this Complaint to add the true names and capacities of these parties when they become known to Plaintiffs.

GENERAL ALLEGATIONS

14. The Site (a.k.a. the "Bermite facility") covers approximately 1,000 acres. Plaintiffs are informed and believe, and on that basis allege, that ammunition, explosives, flares, detonators and similar products (collectively, "Explosive Products") were produced at the Site since at least 1943.

15. Plaintiffs are informed and believe, and on that basis allege, that Whittaker Corporation is the successor to the assets and liabilities, including all rights

under insurance policies, of its predecessor entities. The Whittaker Corporation's predecessor entities include, but are not limited to, the following companies: Whittaker Bermite Corporation, Whittaker Porta Bella, Inc., Bermite Powder Company, and Los Angeles Powder Company (collectively referred to with the Whittaker Corporation as "Whittaker").

16. Plaintiffs are informed and believe, and on that basis allege, that Whittaker owned the Site since at least 1943 and manufactured Explosive Products at the Site until at least 1987.

17. Plaintiffs are informed and believe, and on that basis allege, that Santa Clarita L.L.C. purchased the Site from Whittaker in January 1999. Plaintiffs further are informed and believe, and on that basis allege, that Santa Clarita L.L.C. is a current operator and current owner of the Site.

18. Plaintiffs are informed and believe, and on that basis allege, that Remediation Financial, Inc. is the managing member of Santa Clarita, L.L.C and is a current operator and/or owner of the Site.

19. Together, Whittaker and Does 1-5 (collectively, the "Manufacturing Defendants") have produced the Explosive Products at the Site for over fifty years.

20. Plaintiffs are informed and believe, and on that basis allege, that the manufacture of the Explosive Products and use and misuse and storage of the chemical components of the Explosive Products, such as perchlorate, caused numerous releases of perchlorate and other hazardous substances into the air, soil and groundwater. Plaintiffs further are informed and believe, and on that basis allege, that these releases (some of which are sudden and accidental) have and are significantly contaminating the air, soil and groundwater at, underneath and near the Site. Plaintiffs also are informed and believe, and on that basis allege, that Defendants' construction, movement of soil, and other activities on the Site have caused and are causing additional releases (some of which are sudden and accidental) of hazardous

substances that have and are contaminating the soil, air and groundwater.

21. Plaintiffs are informed and believe, and on that basis allege, that contamination by hazardous substances including perchlorate is continuing with releases to the air, soil and groundwater.

22. Newhall, SCWC, Valencia and Castaic via SCWC are all purveyors of water to residential customers living in the Santa Clarita Valley ("Valley"). Plaintiffs all pump groundwater from the Valley. Castaic is the sole owner of SCWC. Plaintiffs all have a right to use and actually use groundwater in the Valley. All Plaintiffs have a vital interest in protecting the local groundwater from contamination by the Site.

23. Perchlorate contamination has been found in wells operated by Newhall, SCWC and Valencia. Plaintiffs, and each of them, are injured by the contamination (including, without limitation, the perchlorate contamination) caused by Defendants on a continuing basis. In addition, Plaintiffs, and each of them, have incurred and will continue to incur costs in responding to the contamination (including, without limitation, the perchlorate contamination) caused by Defendants' activities at the Site. Until the contamination problems caused by the Site are stopped, Plaintiffs will continue to incur substantial costs for the indefinite future.

24. Plaintiffs are informed and believe, and on that basis allege, that perchlorate contamination is rare and it has been consistently and virtually exclusively associated with the production of Explosive Products such as those manufactured at the Bermite facility and the chemical components for such products

25. Defendants have caused and/or permitted (and are continuing to cause and/or permit) the contamination found on, above, under, and near the Site, and in the wells of Plaintiffs.

FIRST CLAIM FOR RELIEF: Response Costs under CERCLA

(Against all Defendants)

26. Paragraphs 1 - 25 are incorporated herein by reference.

5153

27. Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), provides, inter alia:

> Notwithstanding any other provision of rule of law, and subject only to the defenses set forth in subsection (b) of this section –
>
> (1) the owner and operator of a vessel or a facility,
>
> (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
>
> (3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, or hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity containing such hazardous substances, and
>
> (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance, shall be liable for --
>
> (A) all costs of removal or remedial action incurred by the United States Government or a State or an Indian tribe not inconsistent with the national contingency plan;
>
> (B) any other necessary costs of response

incurred by any other person consistent with the national contingency plan;

(C) damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release; and

(D) the costs of any health assessment or health effects study carried out under section 9604(i) of this title.

The amounts recoverable in an action under this section shall include interest on the amounts recoverable under subparagraphs (A) through (D).

28. Each Defendant is a "person" within the meaning of CERCLA § 101(21), 42 U.S.C. § 9601(21).

29. The Site is a "facility" within the meaning of CERCLA § 101(9), 42 U.S.C. § 9601(9).

30. Plaintiffs are informed and believe, and on that basis allege, that there have been releases (some of which were sudden and accidental) and threatened releases of hazardous substances, including perchlorate, at and from the Site within the meaning of section 101(22) of CERCLA, 42 U.S.C. § 9601(22). Plaintiffs further are informed and believe, and on that basis allege, that the releases are continuing.

31. Plaintiffs have incurred and will incur necessary costs of response pursuant to CERCLA §107(a), 42 U.S.C. § 9607(a), consistent with the National Contingency Plan ("NCP") as a result of releases and threatened releases (within the meaning of CERCLA § 101(22), 42 U.S.C. § 9601(22)) of hazardous substances at and from the Site.

5155

32. Defendants are responsible persons defined in CERCLA § 107(a)(1), (2), (3), and/or (4), 42 U.S.C. § 9607(a)(1 – 4). Defendants are therefore jointly and severally liable for all response costs incurred or to be incurred by Plaintiffs.

33. Prior to filing this Complaint, Plaintiffs provided a copy of this Complaint to the Attorney General of the United States and the Administrator of the United States Environmental Protection Agency pursuant to CERCLA § 113(l), 42 U.S.C. § 9613(l).

SECOND CLAIM FOR RELIEF: Declaratory Relief Under CERCLA § 113(g)(2), 42 U.S.C. § 913(g)(2))

(Against all Defendants)

34. Paragraphs 1 - 33 are incorporated herein by reference.

35. CERCLA § 113(g)(2), 42 U.S.C. § 9613(g)(2), provides in pertinent part:

> In any action described in this subsection the court shall enter a declaratory judgment on liability for response costs or damages that will be binding on any subsequent action or actions to recover further response costs or damages.

36. An actual controversy now exists between Plaintiffs and Defendants, and each of them, in that Plaintiffs contend that Defendants, and each of them, are parties liable under CERCLA § 107(a), 42 U.S.C. § 9607(a) for all response costs incurred and to be incurred by Plaintiffs in connection with the release or threatened release of hazardous substances at and from the Site. Plaintiffs are informed and believe, and on that basis allege, that Defendants, and each of them, contend in all respects to the contrary.

37. A declaration of the rights and obligations of the parties pursuant to CERCLA § 113(g)(2), 42 U.S.C. § 9613(g)(2), binding in any subsequent action or

5156

actions to recover further response costs incurred by Plaintiffs, is appropriate and in the interest of justice.

THIRD CLAIM FOR RELIEF: Contribution Under, Inter Alia, CERCLA § 113(f)(1), 42 U.S.C. § 9613(f)(1).)

(Against all Defendants)

38. Paragraphs 1-37 are incorporated herein by reference.

39. Plaintiffs are innocent victims of the contamination for which Defendants are responsible. Plaintiffs are not liable under CERCLA or any other statute or legal theory for the response costs incurred as the result of the release or threatened release of hazardous substances (including perchlorate) at and from the Site. If, however, it is determined that Plaintiffs, or any of them, are liable for these response costs then Defendants are liable to Plaintiffs in contribution for these costs under, inter alia, CERCLA § 113(f)(1), 42 U.S.C. § 9613(f)(1), in that Defendants, and each of them, are liable for response costs under CERCLA § 107(a), 42 U.S.C. § 9607(a).

FOURTH CLAIM FOR RELIEF: Negligence

(Against all Defendants)

40. Paragraphs 1 - 39 are incorporated herein by reference.

41. At all times referred to or mentioned herein, it was reasonably foreseeable that the groundwater which Plaintiffs were entitled to pump and to use would be polluted and contaminated, and would be significantly adversely impacted by releases at and from the Site, of a "hazardous substance" within the meaning of that term as defined in CERCLA §101(14), 42 U.S.C. §9601(14).

42. At all times referred to or mentioned herein, Defendants, and each of them, owed and continue to owe Plaintiffs, and each of them, a duty to exercise due care in their occupation, utilization, operation and maintenance of the Site so as to avoid and prevent the release of hazardous substances onto and into the soil, groundwater, and air at or near the Site, and so that the hazardous substances present on the Site

could not, did not and do not contaminate the soil or air, at or near the Site or the groundwater underlying the Site and other nearby areas.

43. Plaintiffs are informed and believe, and on that basis allege, that the Defendants, and each of them, failed to exercise due or ordinary care and were negligent in (1) their handling of hazardous substances on the Site; (2) their efforts to locate and remove hazardous substances from the Site; (3) their repair, maintenance and construction of buildings and other improvements at the Site; (4) their movement of soils and other materials at the Site; and (5) their management and supervision of the activities and operations on the Site. Plaintiffs are informed and believe, and on that basis allege, that negligent acts and omissions by Defendants that injure Plaintiffs are continuing to occur.

44. The failure of Defendants, and each of them, to exercise due and ordinary care with respect to the activities and matters set forth in Paragraph 43 above, resulted in substantial damage to Plaintiffs, and each of them, by polluting and contaminating the soil at and near the Site, as well as the groundwater underlying the Site and other nearby lands. These injuries are continuing.

45. As a proximate result of said negligent conduct, negligent action, and negligent omissions of Defendants, and each of them, Plaintiffs, and each of them, have incurred and will continue to incur substantial damages proximately caused by the pollution and contamination of the groundwater underlying the Site and other nearby lands. Plaintiffs are informed and believe, and on that basis allege, that the pollution caused by Defendants, and each of them, has also contaminated the air and soil on and near the Site. Plaintiffs will seek leave of this Court to amend this Complaint to allege more precisely the damages incurred and sustained by Plaintiffs; and each of them, at such time as Plaintiffs' total damages can so be determined.

46. In engaging in the acts alleged above, the Defendants, and each of them, were and are acting with full knowledge of the consequences and damages being

5158

caused to Plaintiffs, and the Defendants' conduct was and is willful, oppressive and malicious and in conscious disregard of the rights of Plaintiffs and others. Plaintiffs are entitled to punitive damages against the Defendants, and each of them, in an amount sufficient to punish the Defendants, and each of them, and make of them an example.

FIFTH CLAIM FOR RELIEF: Negligence Per Se

(Against Manufacturing Defendants)

47. Paragraphs 1 - 46 are incorporated herein by reference.

48. Plaintiffs are informed and believe, and on that basis allege, that Manufacturing Defendants, and each of them, knew or in the exercise of reasonable care should have known that their handling of various hazardous substances, including the Explosive Materials, at the Site was subject to and regulated by federal and state statutes and/or local laws including, but not limited to, the following:

(a) CERCLA, 42 U.S.C. § 9601 et seq.;

(b) RCRA, 42 U.S.C. § 6901 et seq.;

(c) Federal Water Pollution Control Act, 33 U.S.C. § 1251 et seq.;

(d) California Health and Safety Code § 25100 et seq.;

(e) California Health and Safety Code § 25280 et seq.; and

(f) California Water Code § 13300 et seq.

49. Plaintiffs are informed and believe, and on that basis allege, that the Manufacturing Defendants' use and release of hazardous substances, including perchlorate, at and from the Site violates one or more of the statutes of the type identified in paragraph 48 above. Each violation in and of itself, constitutes negligence per se. Contamination of the soil and groundwater on or near the Site occurred as a proximate result of the conduct comprising each statutory violation. These statutes were designed to prevent such damage, and each statute was designed to protect parties such as the Plaintiffs from such damage. Plaintiffs are informed and believe, and on that basis allege, that violations of such laws by Defendants are continuing to

occur.

50. As a proximate result of the violations of the Manufacturing Defendants, and each of them, Plaintiffs have been damaged, and will continue to be damaged, in amount that cannot yet be ascertained. Plaintiffs will seek leave of this Court to amend this Complaint when their total damages can be more precisely ascertained.

51. In engaging in the acts alleged above, the Manufacturing Defendants, and each of them, were and are acting with full knowledge of the consequences and damages being caused to Plaintiffs, and such Defendants' conduct was and is willful, oppressive and malicious and in conscious disregard of the rights of Plaintiffs and others. Plaintiffs are entitled to punitive damages against such Defendants, and each of them, in an amount sufficient to punish such Defendants, and each of them, and make of them an example.

SIXTH CLAIM FOR RELIEF: Private Nuisance

(Against all Defendants)

52. Paragraphs 1 - 51 are incorporated herein by reference.

53. California Civil Code § 3479 defines a nuisance as follows:

> Anything which is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property . . . is a nuisance.

The nuisance created by Defendants is of a continuing nature.

54. During their ownership of or activities at the Site, Defendants created and allowed to continue conditions which constitute a private nuisance by permitting the release of hazardous substances, including perchlorate, at and from the Site.

5160

55. By intentionally and/or negligently causing a nuisance by contaminating the soil, air and groundwater at or near the Site, Defendants' actions have injured Plaintiffs, and each of them.

56. The above-described nuisance relating to the Site has interfered with Plaintiffs' use and enjoyment of their property, and has created a risk to human health and the environment.

57. Defendants, and each of them, have refused or otherwise failed to abate this nuisance.

58. Plaintiffs have incurred and will continue to incur substantial damages because of the nuisance. Plaintiffs will seek leave of this Court to amend this Complaint when their total damages can be more precisely ascertained.

59. The nuisance created by Defendants can be reasonably abated with existing technology. Defendants, and each of them, can and should use this technology to abate the nuisance.

60. The acts of the Defendants, and each of them, were and are willful, oppressive, fraudulent, malicious, and in conscious disregard of the rights of Plaintiffs. Plaintiffs are therefore entitled to an award of punitive damages against Defendants, and each of them, in amount sufficient to punish the Defendants, and each of them, and make of them an example.

61. Defendants, and each of them, by continually releasing and/or permitting to be released hazardous substances into the air, groundwater and soil in the area surrounding the Site, have and are irreparably injuring Plaintiffs. Plaintiffs have no adequate remedy at law for these injuries. Therefore, Plaintiffs are entitled to an injunction requiring Defendants to promptly abate the release and threat of releases of hazardous substances including perchlorate. Specifically, Plaintiffs seek an injunction that will require the Defendants to immediately remediate the contaminated soil and

5161

groundwater below and near the Site and abate any continuing contamination of the environment by the Site.

SEVENTH CLAIM FOR RELIEF: Public Nuisance

(Against all Defendants)

62. Paragraphs 1 - 61 are incorporated herein by reference.

63. The nuisance described above threatens to affect the community in and around the Site. Plaintiffs are informed and believe, and thereon allege, that the contamination caused by Defendants can migrate to groundwater subject to use and actually being used by third parties. Plaintiffs are informed and believe, and on that basis allege, that the contamination caused by Defendants is and will be released to the air so as to affect members of the general public. Abatement of the contamination caused by Defendants will prevent the contamination from affecting the property and groundwater being used by third parties and/or the general public. Absent such abatement, the nuisance caused by Defendants' actions will continue to impair the public's right to the beneficial use, whether actual or potential, of the groundwater, land and air.

64. Plaintiffs have incurred and continue to incur special injuries as a direct and proximate result of this public nuisance, injuries which the general public has not suffered. For example, Plaintiffs have suffered damages and costs as a direct and proximate result of the contamination in their water wells. In light of Defendants' continued refusal to take the necessary action required to abate the nuisance, Plaintiffs have been forced to commence this action.

65. The acts of the Defendants, and each of them, were and are willful, oppressive, fraudulent, malicious, and in conscious disregard of the rights of Plaintiffs. Plaintiffs are therefore entitled to an award of punitive damages against Defendants, and each of them, in amount sufficient to punish the Defendants, and each of them, and make of them an example.

5162

71. As a proximate result of the trespass of Defendants, and each of them, Plaintiffs have been injured and will continue to be injured. Plaintiffs have suffered and will continue to suffer damages and costs because of the contamination caused by Defendants. Plaintiffs will seek leave of this Court to amend this Complaint when their damages can be more precisely ascertained.

72. In maintaining this trespass, Defendants, and each of them, were and are acting with full knowledge of the consequences and damages being caused to Plaintiffs, and Defendants' conduct was and is willful, oppressive and malicious and in conscious disregard of the rights of Plaintiffs and others. Plaintiffs are entitled to punitive damages against Defendants, and each of them, in amount sufficient to punish Defendants, and each of them, and make of them an example.

73. Defendants, and each of them, by continually releasing hazardous substances into the air and groundwater and onto the soil in the area surrounding the Site, have and are irreparably injuring Plaintiffs. Plaintiffs have no adequate remedy at law for these injuries. Therefore, Plaintiffs are entitled to an injunction requiring Defendants to promptly stop trespassing against Plaintiffs and to stop the release and threat of releases of hazardous substances including perchlorate. Specifically, Plaintiffs seek an injunction that will require the Defendants to immediately remediate the contaminated soil and groundwater below and near the Site and stop any continuing contamination of the environment by the Site.

NINTH CLAIM FOR RELIEF: Response Costs Under HSAA

(Against all Defendants)

74. Paragraphs 1 - 73 are incorporated herein by reference.

75. The California Hazardous Substance Account Act ("HSAA"), Cal. Health & Safety Code § 25300 et seq. provides for an action by parties who have incurred removal or remediation costs under the HSAA. Pursuant to the HSAA, such parties may seek contribution or indemnity for those costs from any person who is a

liable person within the meaning of Health & Safety Code § 25323.5. Defendants are persons who are liable under such sections within the meaning of section 25323.5 of the California Health & Safety Code.

76. Plaintiffs have incurred and will continue to incur necessary response costs with respect to the contamination caused by Defendants.

77. Plaintiffs are informed and believe, and on that basis allege, that the response actions undertaken by Plaintiffs have been or will be pursuant to federal and state authorization and approval under CERCLA, and are or will be consistent with the NCP.

78. Plaintiffs have satisfied any and all conditions precedent under California law or otherwise to the undertaking of response actions and incurring of response costs related to the Site and the recovery of such costs from the Defendants.

79. Pursuant to California Health & Safety Code § 25363(e), the Defendants, and each of them, are liable to Plaintiffs for all of the response costs incurred or to be incurred as a result of the releases at and from the Site, together with interest thereon, at the maximum rate allowed by law.

TENTH CLAIM FOR RELIEF: Ultra Hazardous Activity

(Against Manufacturing Defendants)

80. Paragraphs 1 - 79 are incorporated herein by reference.

81. The Manufacturing Defendants' use of the Explosive Materials was and is an ultra hazardous and abnormally dangerous activity. By reason of the Manufacturing Defendants' actions in engaging in an ultra hazardous activity, such Defendants are strictly liable to Plaintiffs for any resulting damages.

82. As a direct and proximate result of the Manufacturing Defendants' use of the Explosive Materials at the Site as alleged herein, Plaintiffs have incurred and will continue to incur damages and costs to respond to and/or remediate the

contamination. Plaintiffs will seek leave of this Court to amend this Complaint when their total damages can be more precisely ascertained.

83. In engaging in these ultra hazardous activities, the Manufacturing Defendants, and each of them, were and are acting with full knowledge of the consequences and damages being caused to Plaintiffs, and such Defendants' conduct was willful, oppressive and malicious and in conscientious disregard of the rights of Plaintiffs and others. Plaintiffs are entitled to punitive damages against such Defendants, and each of them, in an amount sufficient to punish such Defendants, and each of them, and make of them an example.

84. The Manufacturing Defendants, and each of them, by releasing hazardous substances into the air and groundwater in the area surrounding the Site, have and are irreparably injuring Plaintiffs. Plaintiffs have no adequate remedy at law for these injuries. Therefore, Plaintiffs are entitled to an injunction requiring the Manufacturing Defendants to promptly stop contamination of the land, air and groundwater near the Site and to stop the release of hazardous substances including perchlorate. Specifically, Plaintiffs seek an injunction that will require the Manufacturing Defendants to immediately remediate the contaminated soil in groundwater below and near the Site and stop any continuing contamination of the environment by the Site.

ELEVENTH CLAIM FOR RELIEF: Declaratory Relief

(Against all Defendants)

85. Paragraphs 1 - 84 are incorporated herein by reference.

86. An actual legal controversy now exists between Plaintiffs on the one hand, and Defendants, on the other hand. Plaintiffs seek a judicial declaration of their rights with respect to the Defendants pursuant to 28 U.S.C. § 2201. Plaintiffs contend that Defendants are liable to Plaintiffs under CERCLA, HSAA, and the state and common law claims alleged in this Complaint. Plaintiffs further contend that Defendants are obligated to reimburse Plaintiffs for their past, current and future

response costs and other damages. Plaintiff are informed and believe, and on that basis allege, that Defendants contend in all respects to the contrary.

87. A declaratory judgment is appropriate for numerous reasons including the fact that a declaratory judgment will obviate the need for time-consuming multiple lawsuits as Plaintiffs incur costs in cleaning up the contamination caused by Defendants, thereby providing a complete resolution of the differences between the parties.

WHEREFORE, Plaintiffs pray for judgment against Defendants as follows:

FIRST CLAIM FOR RELIEF

1. For payment of all necessary costs of response, removal and remedial action costs, costs of abatement and liability incurred by Plaintiffs as a result of any release or threatened release of hazardous substances at the Site.

SECOND CLAIM FOR RELIEF

1. For a declaratory judgment that Defendants are jointly and severally liable for all (or some portion) of any costs, damages and liability Plaintiffs may incur as a result of any release or threatened release of hazardous substances at the Site.

2. For a declaratory judgment that Defendants are jointly and severally liable for all costs, damages and liabilities incurred by Plaintiffs associated with perchlorate contamination within the Santa Clarita Valley.

THIRD CLAIM FOR RELIEF

1. For payment of an equitable share (all or some portion) of all necessary costs of response, removal and remedial action costs, costs of abatement and liability incurred by Plaintiffs as a result of any release or threatened release of hazardous substances at the Site.

FOURTH CLAIM FOR RELIEF

1. For such actual damages as may be proven at trial;

5166

4. For an injunction ordering Defendants to remediate and stop all contamination and threats of contamination caused by the Site.

NINTH CLAIM FOR RELIEF

1. Payment of all necessary costs of response, removal and remedial action costs, costs of abatement and liability occurred by Plaintiffs as a result of any release or threatened release of hazardous substances at the Site.

TENTH CLAIM FOR RELIEF

1. For such actual damages as may be proven at trial;

2. For such incidental and consequential damages as may be proven at trial;

3. For such punitive damages as may be proven at trial; and

4. For an injunction ordering Manufacturing Defendants to remediate and abate all contamination and threats of contamination caused by the Site.

ELEVENTH CLAIM FOR RELIEF

1. A declaratory judgment that Defendants are liable for all costs, damages and liability Plaintiffs may incur as a result of any release or threatened release of hazardous substances from the Site;

2. A declaratory judgment that Defendants are strictly liable under the law governing continuing public nuisances for Plaintiffs' costs of abatement of the nuisances caused by releases and threats of releases or hazardous substances from the Site;

3. A declaratory judgment that Defendants are strictly liable under the law governing continuing private nuisances for Plaintiffs' costs of abatement of the nuisances caused by releases and threats of releases or hazardous substances from the Site;

5167

DEMAND FOR JURY TRIAL

Plaintiffs hereby demand a jury trial as provided by Rule 38(a) of the Federal Rules of Civil Procedure.

By: _____
Frederic A. Fudacz

Attorneys for Plaintiffs Castaic Lake Water Agency; Newhall County Water District; Santa Clarita Water Company; and Valencia Water Company

5168

Exhibit
14A

FREE Landscape Education Program Promotes Conservation

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lant Selection: rees & Shrubs March 18	**Pest Diagnosis: Plant Diseases & Insects** September 16
rrigation Basics April 8	**Fall Plant Selection: Annuals & Perennials** October 21
ater Management/ Audit May 13	**Soils & Fertilizers** November 18
Turf Selection/ Maintenance June 17	

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Re: Remediation of Groundwater Contaminated with Perchlorate

May 2006

For a number of reasons, the time is ripe this year to successfully achieve a settlement with the current and former owners of the Whittaker-Bermite site and avoid expensive and prolonged litigation that ensures Valley residents do not pay for perchlorate contamination clean-up costs.

Aerial photo of Whittaker site

For over the past two years, the owners of the property have been working with CLWA, the local retailers and regulatory agencies to investigate and plan remediation activities. They also recently entered into an agreement with their insurance carriers, which will provide significant funding to remediate both groundwater and soil contamination. An Arizona bankruptcy court will soon be selecting the successful bidder to purchase the property. The purchaser is required to complete soil remediation before it can commence development and will implement onsite groundwater remediation activities. In the meantime, CLWA and the local water retailers have made significant progress in negotiating a settlement of the litigation filed by CLWA in 2000, although its successful conclusion is not certain until a mutually acceptable agreement has been completed and is executed by all parties.

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WATER AGENCY

SIGNAL MAY 3, 06

Whittaker-Bermite Sale Hearing Continued Again

By Kristopher Daams
SIGNAL STAFF WRITER

■ Unknown fourth bidder expresses interest in property.

A sale hearing for the 996-acre perchlorate-contaminated Whittaker-Bermite property in the center of town was continued again Tuesday, but the next hearing is set to be somewhat final.

Judge Charles G. Case II of Arizona Bankruptcy District Court continued the hearing to May 30 at 1:30 p.m. and also set May 24 as the deadline for firms to submit bids.

Phoenix-based Remediation Financial Inc. owns the property that was once home to munitions manufacturing conducted for decades by Whittaker Corp. until 1987. RFI declared bankruptcy in 2004 and had plans to develop thousands of homes on the land.

"It seems to me we are at the point where the matter needs be brought to a conclusion," Case said.

Bids submitted by firms vying to own the contaminated property were not yet qualified for acceptance.

Bids by Cherokee Investment Partners of North Carolina and Irvine-based SunCal Cos. were about a million dollars apart -- Cherokee's being higher — but Cherokee's bid did not conform to a settlement agreement and SunCal had their motion for reconsideration denied Tuesday by Case.

At the last sale hearing in early March, Case indicated SunCal's bid did not conform to the settlement agreement — an insurance coverage agreement agreed to by various parties involved with the site.

"The judge said if you're not going to abide by the settlement agreement, you're not a conforming bid, and the motion on the part of SunCal was to relieve themselves from the requirement that they conform to the settlement agreement," said Carl Newton, city attorney.

Frank Faye, regional vice president of SunCal, said that Case modified the site's sale procedure "so that the new buyer is required to indemnify Whittaker Corp. for any and all risks associated with the contaminated property."

SunCal asked the judge to reconsider his decision because "the judge negatively impacted the marketability of the property," Faye said.

An unknown fourth bidder also entered the fray and officials with that entity listened in on the hearing proceedings via telephone.

Its bid was also non-conforming.

RFI legal counsel Alisa C. Lacey said that due to the proximity of the dollar amount of the two firms' bids, Cherokee's isn't necessarily "a higher and better bid."

The request for the continuance was requested by Porta Bella Lenders, one of the creditors in the case. Newton said the firm wanted more time to "better understand the Cherokee bid."

Robert Miller, a bankruptcy attorney representing the city of Santa Clarita as the case relates to the site, urged a level of finality with the next hearing.

"The city is highly concerned that May 30 will be basically where we are now," Miller said.

A representative for Porta Bella said the firm filed objections to all bids Friday.

An offer by the third bidder, SG Gardens LLC, was worth about $50 million, a representative for the entity said.

"Whittaker's never seen their remediation plan," a key aspect of any purchase of the property, said the company's attorney. The site is contaminated with a component of rocket fuel linked to problems with thyroid function.

SG Gardens used to comprise New York-based developer Selvin Green and Apollo Real Estate Advisors, but Apollo has since dropped out, Newton said.

The period until the next sale hearing was, among other reasons, to allow for SGG Gardens to provide its remediation plan, give some time to SunCal officials to ponder their next move in light of their motion's denial by Case — which Faye said it would do — and to give Cherokee an opportunity to get their bid into a conforming status with the settlement agreement.

"It's a very complex transaction," Newton said. "A great many lawyers don't even fully understand it."

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Article Launched: 5/03/2006 12:00 AM

DAILY NEWS MAY 3,06

Cherokee recommended to buy Bermite property

BY EUGENE TONG, Staff Writer
LA Daily News

SANTA CLARITA - The bankrupt owner of the Whittaker-Bermite property in the heart of the city recommends that North Carolina-based Cherokee Investments purchase and develop the contaminated grounds.

Phoenix-based RFI Realty offered the recommendation during a U.S. Bankruptcy Court hearing in Arizona on Tuesday, when the winning bid for the 996-acre property south of Soledad Canyon Road would be selected, said Santa Clarita City Attorney Carl Newton, who was monitoring the proceedings.

"They were recommended by the debtor as a qualified bidder," he said.

Asked how the city would react if Cherokee emerged as the winner, Newton said officials would look at it "favorably."

But a decision was postponed until May 30 after lead creditor Porta Bella Lenders LLC asked the court for more time to review the bids.

"The judge said when he was granting the continuance, he expected that to be the sale hearing date," Newton said. "He has the power to enforce that."

Three other developers are in the bidding war, including Irvine-based SunCal Cos. and newcomer SG Enterprises. Also known as Selvin Green, the New York-based investment group announced that it was increasing its $64 million bid by $10 million, Newton said.

Both SunCal's and Cherokee's bids are complex deals involving cash and RFI's insurers. Before any development takes place, the winning party must undertake cleanup at the Whittaker-Bermite site, where more than five decades of rockets and explosives manufacturing and testing left heavy metals and other contaminants in the soil.

This includes perchlorate, a chemical that in large doses has been linked to thyroid problems and has migrated to local groundwater.

The city in 1995 approved a development plan - Porta Bella - which called for Whittaker and, later, RFI to build a business park and nearly 3,000 homes.

RFI bought the property in 1999 for $15 million, but spent more than $25 million to clean up the site before putting it back on the market in 2002.

The company had said it was stymied by a City Council that refused to amend the old Porta Bella plan to suit its needs. RFI in 2004 filed for Chapter 11 bankruptcy protection.

eugene.tong@dailynews.com

(661)257-5253

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Article Launched: 5/03/2006 12:00 AM DAILY NEWS MAY 3, 06

Bermite site neighbor to sell land Defense contractor's parcel potentially contaminated

BY JUDY O'ROURKE, Staff Writer
LA Daily News

SANTA CLARITA - A defense contractor plans to sell the lion's share of its property near the polluted Whittaker-Bermite site in the next year, a company official said this week.

National Technical Systems, Inc., would sell 120 acres of the 150 acres it owns in Santa Clarita to finance acquisitions for the publicly traded Calabasas-based company, chairman Jack Lin said in a Webcast on Monday. Lin did not name a price, acknowledging that certain "conditions" exist on the raw, ungraded land.

On Tuesday, Chief Financial Officer Lloyd Blonder backpedaled from Lin's statement, saying the company is weighing the future of the site and the decision to sell rests with the board.

"Eventually when all the engineering studies are done, (we will make a) determination of what the strategy will be. There is nothing on the agenda right now," he said. "It is going to take months or years to figure out a valuation and what can be done with it."

NTS property abutted the contaminated Bermite property until last year, when Golden Valley Road was built between the two.

Officials for the company - which has tested products and components for aerospace, telecommunications and military uses on the site - have sidelined the Environmental Protection Agency's attempts since 2004 to drill wells to discover whether perchlorate and other contaminants may have seeped from the site into the groundwater below.

Preliminary tests done by a state regulatory agency in 2003 found perchlorate in the soil but water agencies have said the chemicals have not contaminated public water sources. Perchlorate is a byproduct of rocket fuel that has been linked to thyroid disorders.

Blonder said the portion of the site offered for sale lies in a buffer zone where no testing was done.

Putting a price tag on the property might not be easy.

"That particular property is a complicated property," said developer Randy Wrage. The geology slopes to the north, there is potential contamination, no entitlements exist, and it must fit in with the surrounding uses: Golden Valley High School sits above, a business park lies below, houses are to the east and Golden Valley Road is to the west, he added.

Rezoning the area, currently zoned for industry and light commercial uses, could take two to three years, he added.

"They only want to sell a portion of it," Wrage said. "How all that fits together requires a lot of stakeholder input, which requires a lot of time and effort."

judy.orourke@dailynews.com

(661) 257-5255

Exhibit
15

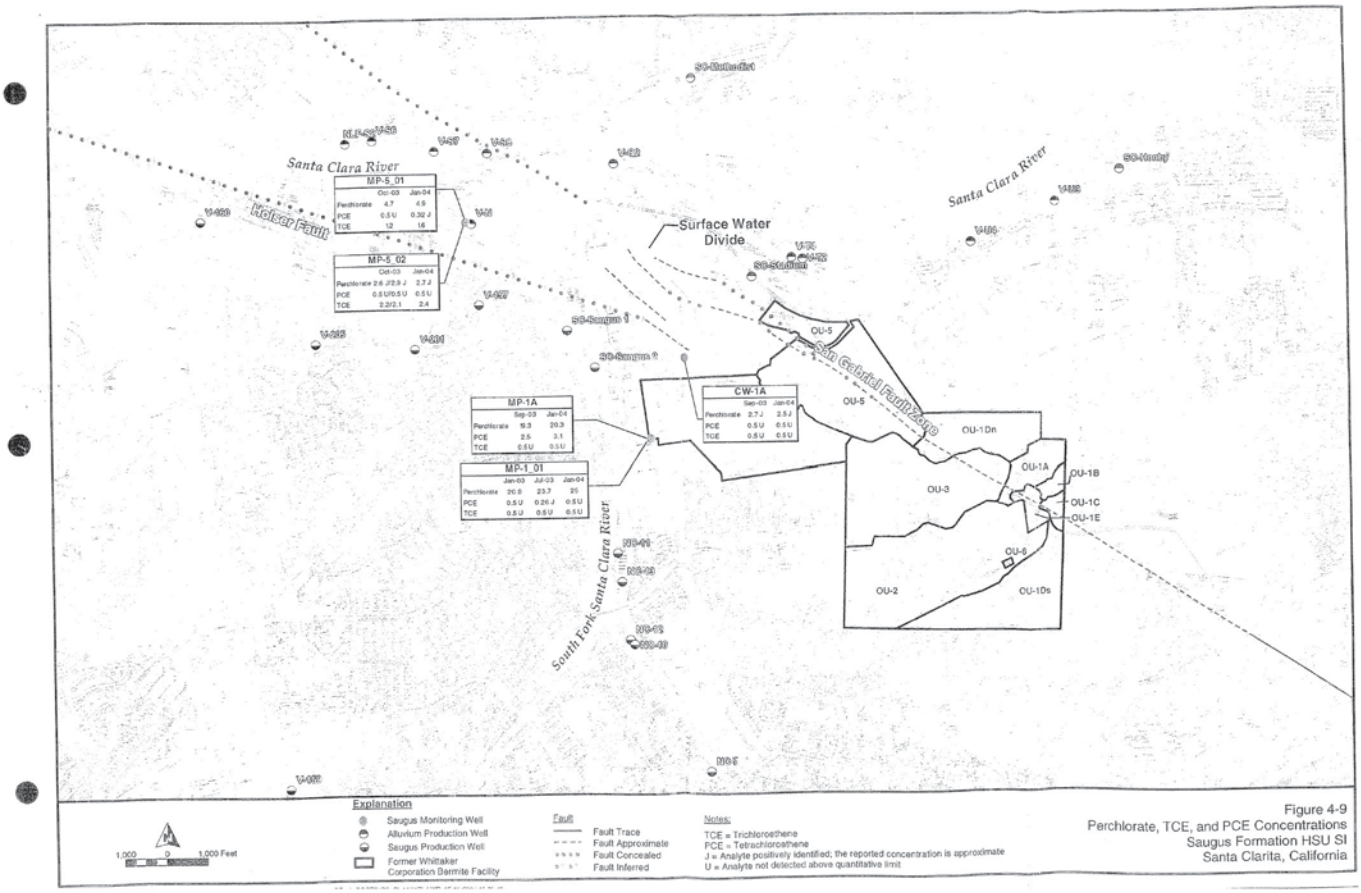
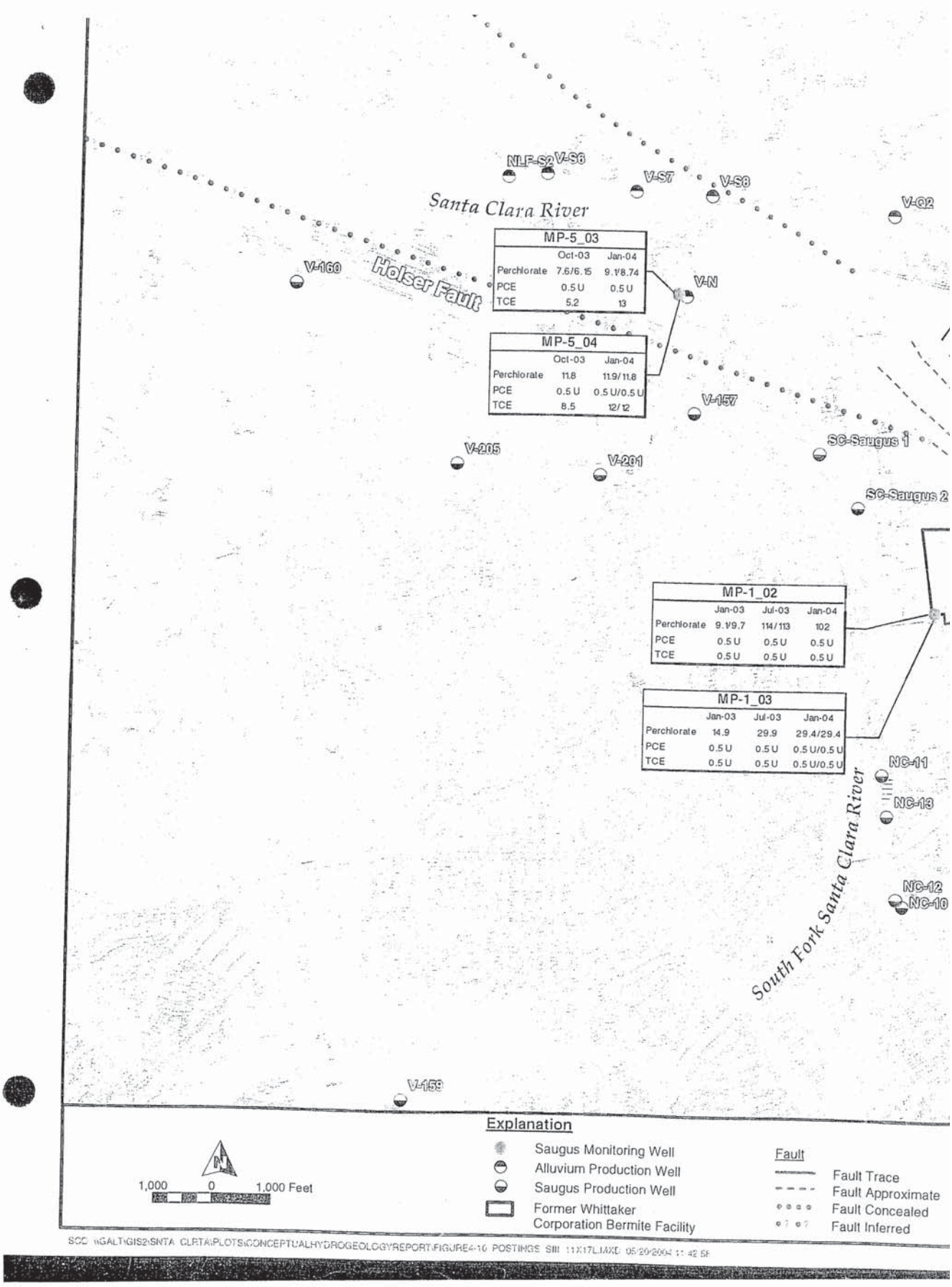


Figure 4-9
Perchlorate, TCE, and PCE Concentrations
Saugus Formation HSU SI
Santa Clarita, California


Santa Clara River
Holser Fault
South Fork Santa Clara River
NLF-S2
V-S6
V-S7
V-S8
V-02
V-160
V-N
V-157
V-205
V-201
SC-Saugus 1
SC-Saugus 2
V-159
NC-11
NC-13
NC-12
NC-10
MP-5_03
Oct-03 Jan-04
Perchlorate 7.6/6.15 9.1/8.74
PCE 0.5 U 0.5 U
TCE 5.2 13
MP-5_04
Oct-03 Jan-04
Perchlorate 11.8 11.9/11.8
PCE 0.5 U 0.5 U/0.5 U
TCE 8.5 12/12
MP-1_02
Jan-03 Jul-03 Jan-04
Perchlorate 9.1/9.7 114/113 102
PCE 0.5 U 0.5 U 0.5 U
TCE 0.5 U 0.5 U 0.5 U
MP-1_03
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Perchlorate 14.9 29.9 29.4/29.4
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TCE 0.5 U 0.5 U 0.5 U/0.5 U
Explanation
Saugus Monitoring Well
Alluvium Production Well
Saugus Production Well
Former Whittaker Corporation Bermite Facility
Fault
Fault Trace
Fault Approximate
Fault Concealed
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Exhibit
16

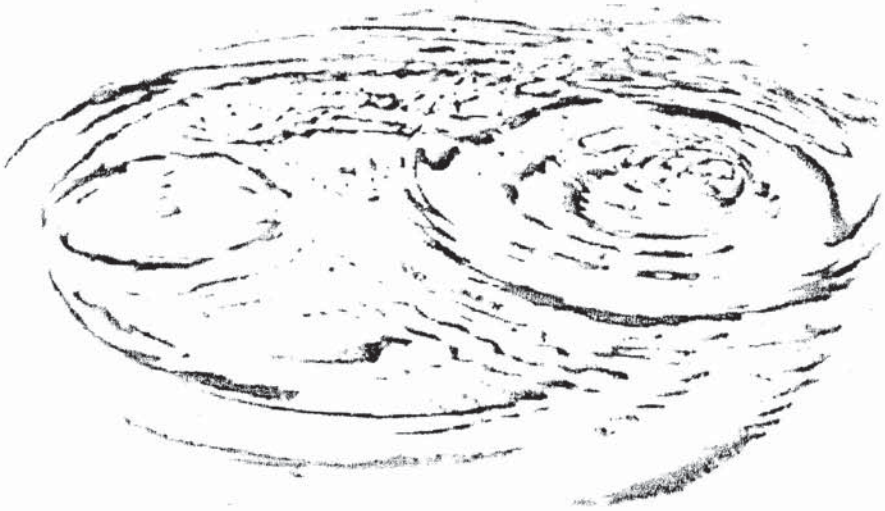
FINAL DRAFT

Newhall County Water District

NCWD

Water Supply Assessment

November 29, 2004



Prepared by:

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5.2.3 Saugus Formation – Storage

The 1988 Hydrogeologic Investigation report approximates groundwater storage in the Saugus Formation as 1.41 million AF. The report calculates this storage based on groundwater below a depth of 500 ft below ground surface (bgs). This depth represented, at the time, the shallowest perforation allowable to avoid potential water level drawdown interference in nearby Alluvial aquifer wells. Based on recent information, Slade's 2001 report adjusted the upper limit from 500 ft bgs to 300 ft bgs and revised the groundwater storage calculation in the Saugus Formation to approximately 1.65 million AF.

5.2.4 Saugus Formation – Groundwater Production

Between 1991 and 2000, groundwater production in the Saugus Formation has averaged approximately 8,600 AFY, with a maximum production of 15,000 AFY in 1991. The 2001 Slade report estimates the Saugus Formation can be operated on a long-term average basis in the range of 7,500 to 15,000 AFY.

As mentioned previously, the 'operational yield' concept allows a range of annual pumping that considers the variability of hydrological conditions so that pumping and recharge are balanced over a long period. The "2001 Update Report Hydrogeologic Conditions" report states that the Saugus Formation can yield at least 15,000 AFY without causing permanent adverse conditions. The report also states that during dry periods of one to three years, the Saugus Formation can be operated from 15,000 to 25,000 AFY, and ultimately to 35,000 AFY if dry conditions continue. These temporary pumping increases would then return to or below the historic range of 7,500 to 15,000 AFY once normal rainfall patterns resume. Based on Saugus Formation well hydrographs (See Figure 23), short-term increases above historic pumping do not appear to have long-term impacts on the Saugus Formation groundwater levels. Groundwater level declines appear to be only temporary and are expected to be restored upon return to historic pumping operations.

Due to perchlorate contamination, several Saugus Formation wells have been shut down (See Section 6.0). Since 1998, when these perchlorate contaminated wells were shut down, pumping from the Saugus Formation has averaged approximately 4,560 AFY. For the purposes of this assessment, it is assumed that during a normal year, production from the Saugus Formation is at least 4,560 AFY. Production from the aquifer has ranged as high as 14,917 AFY (historical high in 1991). However, perchlorate contamination can reduce overall production yields. If groundwater treatment facilities were installed to remove perchlorate contamination (See Section 6.1), the production during normal and dry years can return to from between 7,500 AFY (lower range of the 'operation yield') to 14,917 AFY (historical high in 1991). Based on hydrographs, it appears that pumping from the Saugus Formation could range up to 25,000 AFY, in dry years, without long-term impacts to groundwater levels. However, additional well capacity may need to be installed to achieve this pumping rate. It should

be noted that the water quality impacts of increasing Saugus Formation pumping to substantially above 15,000 AFY have not been extensively studied. Additional studies to analyze potential water quality impacts due to periodically increased pumping in the Saugus Formation are recommended.