Upper Los Angeles River Area Watermaster

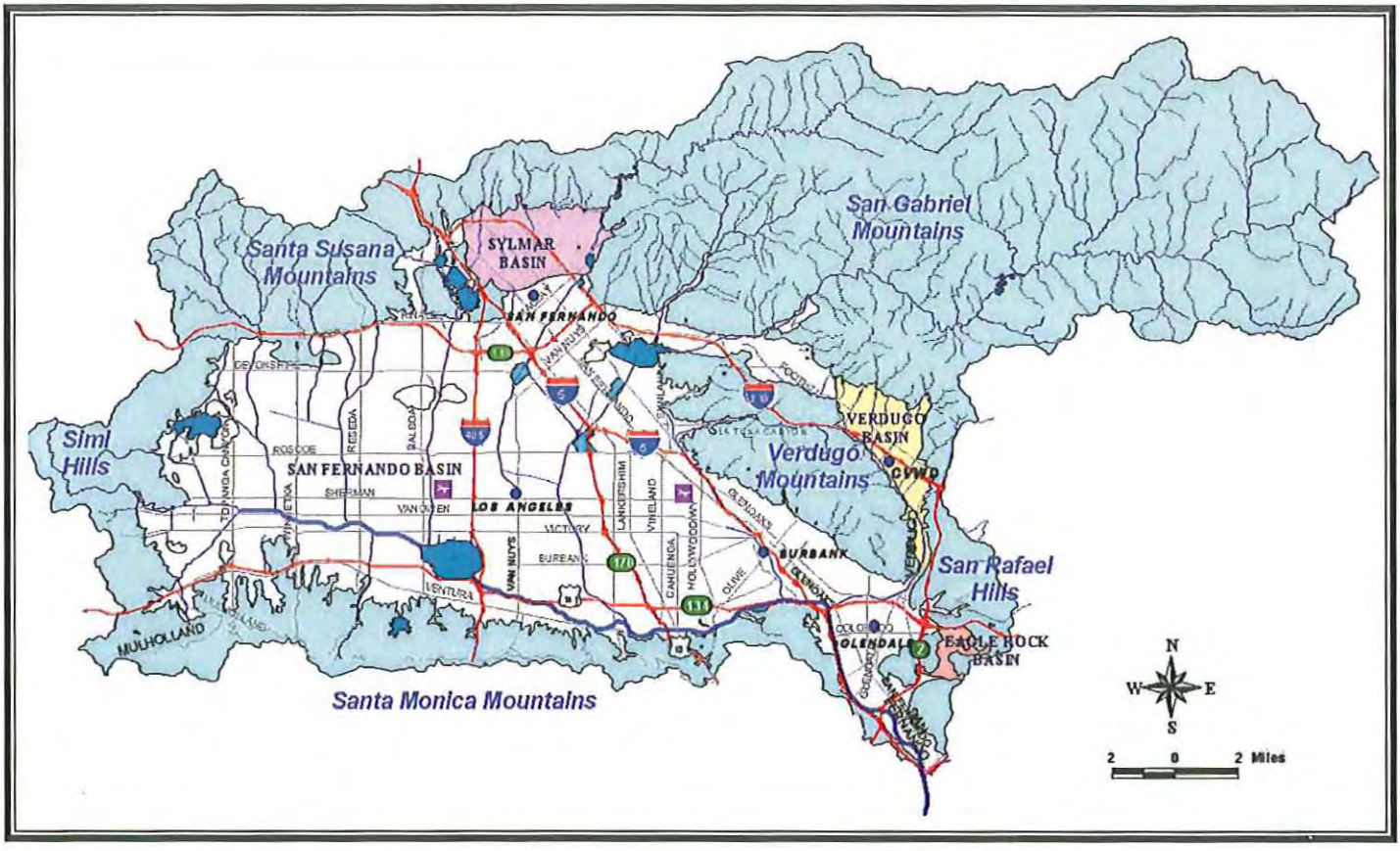
City of Los Angeles vs. City of San Fernando, et al.

Case No. 650079 – County of Los Angeles

WATERMASTER SERVICE
IN THE
UPPER LOS ANGELES RIVER AREA
LOS ANGELES COUNTY, CALIFORNIA

2006-07 WATER YEAR

OCTOBER 1, 2006 – SEPTEMBER 30, 2007



MAY 2008

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MAY 2008

FOREWORD

I am pleased to submit this annual Watermaster Report for the 2006-07 Water Year in accordance with the provisions of the San Fernando Judgment dated January 26, 1979.

This report describes the water rights in each basin, and indicates the water in storage to the credit of each party as of October 1, 2007. In addition, this report includes background information on the history of the San Fernando case; information regarding each basin in ULARA with respect to water supply; groundwater extractions; groundwater levels; change in storage; imported water use; recharge operations; water quality; and other pertinent information during the 2006-07 Water Year.

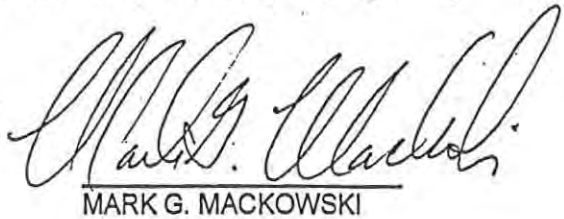
Our most significant long-term challenges continue to be the long-term decline in groundwater storage and the accumulation of stored water credits in the San Fernando Basin; and ongoing contamination of groundwater in the San Fernando Basin.

Following more than two years of discussions with the Watermaster, the Cities of Glendale, Burbank, and Los Angeles entered into a 10-year agreement to reverse the long-term decline in stored groundwater and the concurrent accumulation of a large quantity of unsupported stored water credits in the San Fernando Basin. The agreement contains several important provisions: restrictions on pumping stored water credits; a commitment by Los Angeles to develop projects with the County of Los Angeles to increase recharge of stormwater runoff; and deduction of future losses from the basin due to rising groundwater and underflow. Most importantly, the agreement provides for a re-evaluation of the basin's safe yield, which was last done in 1964-65. I hope the agreement and upcoming safe yield study will stop the long-term decline in stored groundwater, and eventually enable the basin to supply the demands that were placed upon it by the 1979 San Fernando Judgment. See Section 2.9 for more details.

Groundwater contamination with volatile organic compounds (VOCs) and hexavalent chromium continues to be a serious problem in the eastern San Fernando Basin. As of this writing, a production well has been shut down due to excessive chromium levels in the North Hollywood Operable Unit that treats the groundwater for VOCs. The Cities of Los Angeles, Burbank, and Glendale are seeking relief with the assistance of enforcement agencies including the United States Environmental Protection Agency and the Los Angeles Regional Water Quality Control Board.

To provide groundwater management for the ULARA basins, the Watermaster and the Administrative Committee met on a quarterly basis during 2006-07. As provided in Section 5.4 of the ULARA Policies and Procedures, the ULARA Groundwater Pumping and Spreading Plan was completed and filed with the Court in July 2007.

Finally, on February 1, 2008, Ms. Patricia Kiechler, Assistant ULARA Watermaster, retired after many years of loyal service to the Administrative Committee, the Court, and the Watermaster Office. Her experience and expertise will be missed, but we wish her many happy and rewarding years of retirement. Thank you, Pat!



MARK G. MACKOWSKI
ULARA Watermaster

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1. INTRODUCTION

1.1 Background

The Upper Los Angeles River Area (ULARA) encompasses the entire watershed of the Los Angeles River and its tributaries above a point in the river designated as Los Angeles County Department of Public Works (LACDPW) Gaging Station F-57C-R, near the junction of the Los Angeles River and the Arroyo Seco (Plates 1 and 5). ULARA encompasses 328,500 acres, composed of 122,800 acres of valley fill, referred to as the groundwater basins, and 205,700 acres of tributary hills and mountains. ULARA is bounded on the north and northwest by the Santa Susana Mountains; on the north and northeast by the San Gabriel Mountains; on the east by the San Rafael Hills, which separate it from the San Gabriel Basin; on the south by the Santa Monica Mountains, which separate it from the Los Angeles Coastal Plain; and on the west by the Simi Hills.

ULARA has four distinct groundwater basins. The water supplies of these basins are separate and are replenished by deep percolation from rainfall, surface runoff and from a portion of the water that is delivered for use within these basins. The four groundwater basins in ULARA are the San Fernando, Sylmar, Verdugo, and Eagle Rock Basins.

THE SAN FERNANDO BASIN (SFB), the largest of the four basins, consists of 112,000 acres and comprises 91.2 percent of the total valley fill. It is bounded on the east and northeast by the San Rafael Hills, Verdugo Mountains, and San Gabriel Mountains; on the north by the San Gabriel Mountains and the eroded south limb of the Little Tujunga Syncline which separates it from the Sylmar Basin; on the northwest and west by the Santa Susana Mountains and Simi Hills; and on the south by the Santa Monica Mountains.

THE SYLMAR BASIN, in the northerly part of ULARA, consists of 5,600 acres and comprises 4.6 percent of the total valley fill. It is bounded on the north and east by the San Gabriel Mountains; on the west by a topographic divide in the valley fill between the Mission Hills and the San Gabriel Mountains; on the southwest by the Mission Hills; on the east by the bedrock of Saugus Formation along the east bank of the Pacoima Wash; and on the south by the eroded south limb of the Little Tujunga Syncline, which separates it from the SFB.

THE VERDUGO BASIN, north and east of the Verdugo Mountains, consists of 4,400 acres and comprises 3.6 percent of the total valley fill. It is bounded on the north by the San

Gabriel Mountains; on the east by a groundwater divide separating it from the Monk Hill Subarea of the Raymond Basin; on the southeast by the San Rafael Hills; and on the south and southwest by the Verdugo Mountains.

THE EAGLE ROCK BASIN, the smallest of the four basins, is in the extreme southeast corner of ULARA. It consists of 800 acres and comprises 0.6 percent of the total valley fill.

1.2 History of Adjudication

The water rights in ULARA were established by the JUDGMENT AFTER TRIAL BY COURT in Superior Court Case No. 650079, entitled The City of Los Angeles, a Municipal Corporation, Plaintiff, vs. City of San Fernando, et al., Defendants, signed March 14, 1968, by the Honorable Edmund M. Moor, Judge of the Superior Court. Numerous pretrial conferences were held subsequent to the filing of the action by the City of Los Angeles in 1955 and before the trial commenced on March 1, 1966.

On March 19, 1958, an Interim Order of Reference was entered by the Court directing the State Water Rights Board, now known as the State Water Resources Control Board (SWRCB), to study the availability of all public and private records, documents, reports, and data relating to a proposed order of reference in the case. The Court subsequently entered an "Order of Reference to State Water Rights Board to Investigate and Report upon the Physical Facts (Section 2001, Water Code)" on June 11, 1958.

A final Report of Referee was approved on July 27, 1962 and filed with the Court. The Report of Referee made a complete study of the geology, insofar as it affects the occurrence and movement of groundwater, and the surface and groundwater hydrology of the area. In addition, investigations were made of the history of channels of the Los Angeles River and its tributaries; the areas, limits, and directions of flow of all groundwater within the area; the historic extractions of groundwater in the basin and their quality; and all sources of water, whether they be diverted, extracted, imported, etc. The Report of Referee served as the principal basis for geological and hydrological facts for the original Trial Court Judgment in 1968, the Decision of the Supreme Court in 1975 (14 Cal 3d 199, 123 Cal Rept 1), and the Trial Court Final Judgment on remand on January 26, 1979.

The Trial Court issued its opinion on March 15, 1968. The City of Los Angeles filed an appeal from the Judgment of the Trial Court with the Court of Appeal, which held a hearing on November 9, 1972, and issued its opinion on November 22, 1972. The opinion prepared by Judge Compton and concurred in by Judges Roth and Fleming, reversed, with direction, the original judgment handed down by Judge Moor. In essence, the City of Los Angeles was given rights to all water in ULARA, including the use of the underground basins with some limited entitlements to others. The defendants, however, were given the right to capture "import return water", which is water purchased from the Metropolitan Water District of Southern California (MWD) that percolates into the basin.

A petition for rehearing was filed on December 7, 1972, but was denied by the Court of Appeal. On January 2, 1973, the defendants filed a petition for hearing with the State Supreme Court. The Court on March 2, 1973 advised the parties it would hear the case. The hearing began on January 14, 1975.

On May 12, 1975, the California Supreme Court filed its opinion on the 20-year San Fernando Valley water litigation. This opinion, which became final on August 1, 1975, upheld the Pueblo Water Rights of the City of Los Angeles to all groundwater in the SFB derived from precipitation within ULARA. The City of Los Angeles' Pueblo Water Rights were not allowed to extend to the groundwaters of the Sylmar and Verdugo Basins. However, all surface and groundwater underflows from these basins are a part of the Pueblo Waters.

The City of Los Angeles was also given rights to all SFB groundwater derived from water imported by it from outside ULARA and either spread or delivered within the SFB. The Cities of Glendale and Burbank were also given rights to all SFB groundwater derived from water that each imports from outside ULARA and delivered within ULARA. San Fernando was not a member of MWD until the end of 1971, and had never prior thereto imported any water from outside ULARA. San Fernando has no return flow rights based on a March 22, 1984 stipulation between Los Angeles and San Fernando.

The Supreme Court reversed the principal judgment of the Trial Court and remanded the case back to the Superior Court for further proceedings consistent with the Supreme Court's opinion. On remand the case was assigned to the Honorable Harry L. Hupp, Judge of the Superior Court of Los Angeles County.

The Final Judgment (Judgment), signed by the Honorable Harry L. Hupp, was entered on January 26, 1979. (Copies of the Judgment are available from the ULARA Watermaster Office.) The water rights set forth in the Judgment are generally consistent with the opinion of the Supreme Court as described above, with the exception of the provision regarding the calculation of Import Return Credit. Contrary to the Supreme Court opinion, in 1978 the Cities of Los Angeles, Burbank, and Glendale agreed to use all delivered water, instead of only imported water, in the calculation of Import Return Credit. This agreement among the Cities has had a significant adverse impact on storage in the San Fernando Basin (see Section 2.9).

In addition, the Judgment includes provisions and stipulations regarding water rights, storage of water, stored water credit, and arrangements for physical solution water for certain parties as recommended by the Supreme Court.

A separate stipulation was filed in Superior Court on January 26, 1979 appointing Melvin L. Blevins as Watermaster under the Judgment in this case. On September 1, 2003 Mark G. Mackowski was appointed Watermaster by the Superior Court, succeeding Mr. Blevins after 24 years of service.

On August 26, 1983, the Watermaster reported to the Court pursuant to Section 10.2 of the Judgment that the Sylmar Basin was in a condition of overdraft. In response to the Watermaster's letter and a Minute Order of the Court, the Cities of Los Angeles and San Fernando responded by letter to the Court, agreeing with the Watermaster's report on overdraft. On March 22, 1984, Judge Harry L. Hupp signed a stipulation ordering, effective October 1, 1984, that the Cities of Los Angeles and San Fernando would be limited in their pumping to bring the total pumping within the safe yield of the basin, including any rights exercised by private parties.

Pursuant to Judgment Section 8.2.10, in 1996 the Watermaster increased, on a temporary basis, the safe yield of the Sylmar Basin from 6,210 acre-feet per year (AF/Y) to 6,510 AF/Y. On October 1, 2005 this temporary increase expired, and the Watermaster again re-evaluated the safe yield of the Sylmar Basin. Based on that re-evaluation, a recommendation was made in 2006 to increase the safe yield to 6,810 AF/Y (3,405 AF/Y for each City) subject to certain conditions and requirements, including the installation of monitoring wells to determine outflow from the basin and another safe

yield re-evaluation within five years. The Court approved the new stipulation after hearing on December 13, 2006.

In September 2007, the Cities of Los Angeles, Burbank, and Glendale entered into a Stipulated Agreement to address the long-term decline in stored groundwater in the San Fernando Basin (see Section 2.9 of this report, and Appendix G). The 10-year interim agreement restricts the pumping of Stored Water Credits, accounts for basin losses, and commits Los Angeles to enhance the recharge of native water. It also provides for a re-evaluation of the Safe Yield of the SFB.

The following table lists the judges who have succeeded Judge Hupp as Judge of Record for the San Fernando Judgment.

TABLE 1-1: JUDGES OF RECORD

Judge	Date Appointed
Susan Bryant-Deason	January 1, 1999
Ricardo A. Torres	January 1, 1993
Gary Klausner	December 9, 1991
Jerold A. Krieger	April 16, 1991
Sally Disco	May 25, 1990
Miriam Vogel	January 16, 1990
Vernon G. Foster	April 30, 1985

1.3 Extraction Rights

The extraction rights under the Judgment and Sylmar Basin Stipulation are as follows:

San Fernando Basin

Native Water

Los Angeles has an exclusive right to extract and utilize all the native safe yield water that has been determined to be an average of 43,660 AF/Y. This represents Los Angeles' Pueblo Water Right under the Judgment.

Import Return Water

Los Angeles, Glendale, and Burbank each have a right to extract the following amounts of groundwater from the San Fernando Basin.

Los Angeles: 20.8 percent of all delivered water, including reclaimed water, to valley fill lands of the SFB.

Burbank: 20.0 percent of all delivered water, including reclaimed water, to the SFB and its tributary hill and mountain areas.

Glendale: 20.0 percent of all delivered water, including reclaimed water, to the SFB and its tributary hill and mountain areas.

Physical Solution Water

Several parties are granted limited entitlement to extract groundwater chargeable to the rights of others upon payment of specified charges. Table 1-2 lists the parties and their maximum physical solution quantities.

TABLE 1-2: PHYSICAL SOLUTION PARTIES

Chargeable Party	Pumping Party	Allowable Pumping (acre-feet)
City of Los Angeles	City of Glendale	5,500
	City of Burbank	4,200
	Middle Ranch	50
	Hathaway	60
	Van de Kamp[1]	120
	Toluca Lake	100
	Sportsmen's Lodge	25
	Water Licenses	83
City of Glendale	Forest Lawn	400
	Angelica Healthcare[2]	75
City of Burbank	Valhalla	300
	Lockheed-Martin	25

1. Van de Kamp has never pumped its physical solution right.
2. Angelica Healthcare no longer pumps its physical solution rights.

Stored Water

Los Angeles, Glendale, and Burbank each have a right to store groundwater and the right to extract equivalent amounts.

Sylmar Basin

Native Water

The March 22, 1984 Stipulation assigned Los Angeles and San Fernando equal rights to the safe yield of the Sylmar Basin. On the recommendation of the Watermaster, on July 16, 1996, the Administrative Committee approved a temporary increase in the safe yield of the basin from 6,210 AF/Y to 6,510 AF/Y. The 10-year period ended on October 1, 2005, triggering a re-evaluation of the safe yield. The Watermaster conducted the safe yield re-evaluation consistent with Judgment Section 8.2.10. The Stipulation approved by the Court on December 13, 2006 allows for a temporary increase in the safe yield of the basin to 6,810 AF/Y beginning October 1, 2006.

The only potentially active private party with overlying rights within the Sylmar Basin is Santiago Estates, a successor to Meurer Engineering, M.H.C. Inc. Santiago Estates' pumping is deducted from the safe yield and the two cities divide the remainder. Santiago Estates has not pumped since the 1998-99 Water Year.

Stored Water

Los Angeles and San Fernando each have a right to store groundwater by in-lieu practices and the right to extract equivalent amounts.

Verdugo Basin

Native Water

Glendale and the Crescenta Valley Water District (CVWD) have appropriative and prescriptive rights to extract 3,856 and 3,294 AF/Y, respectively.

Import Return Water

Los Angeles may have a right to recapture delivered imported water in the basin upon application to the Watermaster and on subsequent order after hearing by the Court pursuant to Section 5.2.3.2 of the Judgment.

Stored Water

There are no storage rights in the Verdugo Basin.

Eagle Rock Basin

Native Water

The Eagle Rock Basin has a small native safe yield.

Imported Return Water

Los Angeles delivers imported water to lands overlying the basin, and return flow from this delivered water constitutes the majority of the safe yield of the basin. Los Angeles has the right to extract or allow to be extracted the safe yield of the basin.

Physical Solution Water

DS Waters (successor to Sparkletts and Deep Rock) has a physical solution right to extract groundwater pursuant to a stipulation with the City of Los Angeles, and as provided in Section 9.2.1 of the Judgment.

Stored Water

There are no storage rights in the Eagle Rock Basin.

1.4 Watermaster Service and Administrative Committee

In preparing the annual Watermaster Report, the Watermaster collected and reported all information affecting and relating to the water supply, water use and disposal, groundwater levels, water quality, and ownership and location of new production wells within ULARA. Groundwater pumpers report their extractions monthly to the Watermaster. This makes it possible to update the Watermaster Water Production Accounts on a monthly basis and determine the allowable pumping for the remainder of the year.

Section 8.3 of the Judgment established an Administrative Committee for the purpose of advising the Watermaster in the administration of his duties. The duly appointed members of the Committee, as of May 1, 2008, are:

BURBANK, CITY OF
Bill Mace (Vice-President)

GLENDALE, CITY OF
Peter Kavounas (President)
Raja Takidin (Alternate)

SAN FERNANDO, CITY OF
Ron Ruiz
Daniel Wall (Alternate)

LOS ANGELES, CITY OF
Thomas Erb
Mark Aldrian (Alternate)

CRESCENTA VALLEY WATER DISTRICT
Dennis Erdman
David Gould (Alternate)

The Watermaster may convene the Administrative Committee at any time in order to seek its advice. Each year the Committee is responsible for reviewing and approving with the Watermaster the proposed annual report. The Committee met in December, March, April, June, and September of the 2006-07 Water Year. The Committee approved the 2006-07 Watermaster Report on April 23, 2008.

1.5 Significant Events through April 2008

Burbank Operable Unit (BOU)

The BOU, operated by Burbank under a contract with ECO Resources, Inc., and funded by Lockheed-Martin, removes volatile organic compounds (VOCs) from groundwater. The City of Burbank, in cooperation with USEPA and Lockheed-Martin, continued with design and operational changes to make the facility mechanically reliable at the design capacity of 9,000 gallons per minute (gpm). During the 2006-07 Water Year 9,780 AF of groundwater were treated at the BOU. Burbank also reduces the levels of hexavalent chromium in its treated groundwater by blending with imported supplies from MWD before delivery to the City of Burbank.

In 2004-05 the USEPA gave approval to modify the vapor-phase granular activated carbon (GAC) vessels. Modifications to the vapor-phase GAC vessels are expected to be completed in 2008.

Montgomery Watson Harza (MWH) was hired by Burbank to perform a Well Field Performance Attainment Study that evaluated the well field and related facilities in an effort to increase production to 9,000 gpm. Recommendations included drilling additional wells and deflating packers in existing wells. The USEPA is reviewing the study.

Glendale Operable Unit (GOU)

The GOU removes VOCs and has the capability of treating up to 5,000 gpm from the Glendale North and South OU Well Fields. Treated water is blended with imported MWD supplies to reduce nitrate and hexavalent chromium levels. The GOU treated 7,652 AF during the 2006-07 Water Year.

Treated water is blended with imported MWD supplies to reduce nitrate and hexavalent chromium levels.

In an effort to control hexavalent chromium levels, the GOU operates under an interim pumping plan approved by the USEPA that varies from the original Consent Decree. The interim plan allows reduced pumping from high-chromium wells, and increased pumping from low-chromium wells.

Several GOU wells are experiencing increasing hexavalent chromium levels. Because the discharge of water into the Los Angeles River is limited to 8 parts per billion (ppb) of hexavalent chromium, routine activities such as well maintenance and GAC backwashing present a serious obstacle to the ongoing operation of the GOU.

Glendale has continued to pursue an aggressive research program to identify large-scale treatment technologies for the removal of hexavalent chromium. A study by McGuire Malcolm Pirnie was presented to an expert panel in October 2006 that identified two promising technologies: weak-base anion exchange, and reduction-coagulation-filtration. A weak-base anion wellhead treatment system is proposed to be installed in 2008 on Well GS-3 to remove chromium. The facility has been named the Goodwin Treatment Plant.

North Hollywood Operable Unit (NHOU)

The Los Angeles Department of Water and Power's (LADWP) NHOU, funded in part by a United States Environmental Protection Agency (USEPA) Consent Decree, is

designed to remove VOCs at a rate of 2,000 gpm using a system of seven extraction wells and an air-stripping tower. The 15-year Consent Decree expired on December 31, 2004. The USEPA has stated that there are sufficient funds to continue operation and maintenance of the NHOU into 2009. However, the NHOU did not contain the VOC plume as expected, and some VOCs have been detected at nearby LADWP well fields. In addition, hexavalent chromium levels have increased significantly, forcing the closure of one of the NHOU wells. The USEPA, LADWP, and the Watermaster are currently evaluating remedial alternatives. A total of 1,307 AF were treated during the 2006-07 Water Year.

Pollock Wells Treatment Plant

LADWP's Pollock Wells Treatment Plant uses three wells and four liquid-phase GAC vessels to remove VOCs at a design rate of 3,000 gpm. The primary purpose of the facility is to prevent the loss of groundwater through the Los Angeles River Narrows due to rising groundwater outflow. An evaluation of the Pollock area was performed in 1990 that showed an average of approximately 2,000 AF/Y of excess rising groundwater occurring in the Los Angeles River Narrows as a result of delivered water, precipitation, and percolation along the unlined portion of the river within the Narrows area. This is part of Los Angeles' water right, and it is lost from the SFB in the absence of pumping at the Pollock Wells.

During Water Year 2006-07 a total of 2,231 AF of groundwater was pumped and treated.

Verdugo Park Water Treatment Plant

The City of Glendale Verdugo Park Water Treatment Plant treats groundwater from the Verdugo Basin for turbidity and bacteria, and is operating significantly below the expected rate of 700 gpm. Methods to increase the treatment rate are being investigated. The City is not able to reach the treatment capacity for the VPWTP due to the lack of production capacity from the two Verdugo wells that were constructed in 1990. The reduced treatment rate may be causing an increase in rising groundwater leaving the Verdugo Basin (see Table 2-3). A total of 461 AF were treated in the 2006-07 Water Year.

Glenwood Nitrate Removal Plant

CVWD's Glenwood Nitrate Removal Plant uses ion exchange to remove nitrate from groundwater. The facility treated 644 AF during the 2006-07 Water Year.

Verdugo Basin Evaluation

In June 2003 CVWD obtained an AB 303 grant to determine the cause(s) of the decline in Verdugo Basin groundwater levels, develop alternatives to reverse the decline, enhance conjunctive use of the basin, and reduce CVWD's reliance on imported supplies. The Watermaster and the City of Glendale served on the Technical Advisory Committee. A final report was completed in May 2005 that identified several possible sites at which artificial storm water recharge can be performed. In October 2005, CVWD began the Verdugo Basin Geophysical Evaluation Project to guide CVWD in the selection of sites for future supply wells and recharge facilities. This study was completed in June 2006. Both studies have improved our understanding of the hydrogeology of the Verdugo Basin.

CVWD Over-Pumping in the Verdugo Basin

During the 2006-07 Water Year CVWD again over-pumped its annual right of 3,294 AF by 12 AF. The over-pumping encroaches upon Glendale's right. CVWD and Glendale subsequently agreed on compensation to Glendale for the 2006-07 over-pumping. The CVWD Board has not approved the agreement with Glendale on compensation for future over-pumping, thus leaving this issue potentially open for litigation. The Watermaster cautions all parties not to exceed their annual rights without prior approval from the Watermaster.

Proposed Increase in Glendale's Pumping Capacity in the Verdugo Basin

Glendale has never pumped its full water right of 3,856 AF/Y in the Verdugo Basin. For several years, Glendale has stated its intent to increase its production capacity. In 2007, Glendale drilled and pump-tested two pilot holes. Both holes will not be developed into production wells due to low pumping capacity. The Watermaster urges Glendale to increase its pumping capacity as soon as possible to prevent excess rising groundwater from leaving the Verdugo Basin and going to waste. The Watermaster appreciates Glendale's effort in drilling pilot holes and rehabilitating existing wells to increase the Verdugo Basin pumping.

Mission Well Field Rehabilitation

LADWP has accrued 9,014 AF of Stored Water Credit in the Sylmar Basin as of October 1, 2007. In March 2006 the Watermaster expressed concern over the accumulation of a large amount of Stored Water Credits, and recommended that LADWP begin pumping these credits.

Judgment Section 5.2.2.3 disallows carry-over of un-pumped Stored Water Credits in the Sylmar Basin for more than five years. Of the 9,014 AF of Stored Water Credits, 3,447 AF have been acquired within the last five years, and 5,567 AF are more than five years old.

LADWP has proposed to construct a new tank, wells, and appurtenant facilities at the Mission Well Field, which should allow pumping its full right in the future.

Reclamation Projects in the San Fernando Valley

LADWP plans to connect large recycled water customers over the next three years including the Hansen Dam Golf Course, Valley Generating Station, and the Sepulveda Basin in the southern portion of the Valley. LADWP also plans to begin a stakeholder process to study the options to maximize the use of recycled water in the city.

Hansen Area Water Reclamation Project Phase I consists of approximately one-half mile of 30-inch pipeline and a 7-million gallon storage tank. The primary purpose of this project is to deliver recycled water to the Valley Generating Station for cooling tower and other industrial uses. The project is scheduled to be in service in late spring 2008.

The Hansen Dam Golf Course Water Recycling Project will consist of a booster pumping station adjacent to the proposed 7-million gallon recycled water storage tank at the Valley Generating Station, and a pipeline extending to the Hansen Dam Golf Course.

The Sepulveda Basin Water Recycling Project is designed to provide recycled water for irrigation throughout the Sepulveda Basin Recreation Area including Woodley Golf Course, Lake Balboa Recreation Area, Wildlife Area, Balboa and Encino Golf Courses, Balboa Sports Center, and Hjelte Park. The City of Los Angeles received a permit from the RWQCB in January 2007 allowing non-potable uses including irrigation in the Sepulveda Basin, and started serving Woodley Golf Course in 2007.

Headworks

The Headworks Spreading Grounds is the site of multi-objective projects to improve water quality, provide the community with an opportunity for passive recreation, and restore a portion of the wetlands along the Los Angeles River. LADWP has completed its preliminary studies and the Environmental Impact Report for the Silver Lake Reservoir Complex Storage Replacement Project (SLRC SRP). The SLRC SRP will allow LADWP to comply with the Long Term 2 Enhanced Surface Water Treatment Rule and the Stage 2 Disinfectants and Disinfection Byproducts Rule that were recently promulgated by the USEPA. The SLRC SRP will remove Silver Lake and Ivanhoe Reservoirs from service as potable water reservoirs and transfer regulatory storage to a buried 110 million gallon reservoir to be constructed at the Headworks Spreading Grounds site. A new hydroelectric power plant will be constructed as part of this project that will provide approximately four megawatts of green power.

A second project under consideration at the Headworks Spreading Grounds site is a joint effort between the United States Army Corps of Engineers and LADWP to develop wetlands on a portion of the site. This project is currently undergoing a feasibility analysis.

San Fernando Basin Recharge Task Force

LADWP and LACDPW are cooperating on several projects to enhance recharge of native water in the SFB (see below). These projects include: enlargement and modernization of the Hansen Spreading Grounds; Powerline Easement Study; Big Tujunga Dam Seismic Retrofit Project; Valley Generating Station; Strathern Pit Multiuse; and the Tujunga Watershed Groundwater Recharge Master Plan. In addition, the City of Los Angeles is proceeding with the Sheldon-Arleta Landfill Methane Control Project, which is designed to restore the lost spreading capacity at the adjacent Tujunga Spreading Grounds.

Hansen Spreading Grounds

Enlarging and modernizing Hansen Spreading Grounds (HSG) will increase spreading capacity. The HSG design was completed in 2007 with construction scheduled to begin in 2008. During construction, recharge at HSG will be restricted.

Big Tujunga Dam Seismic Rehabilitation

The Big Tujunga Dam captures and regulates storm flows from the upper watershed of Tujunga Wash to minimize flood damage and to conserve and infiltrate stormwater runoff into the SFB. The regulated flows also benefit endangered species downstream, such as the Santa Ana Sucker.

Several years ago the dam was analyzed for structural stability during a large earthquake. Based on that analysis, it was determined that the dam required retrofitting to bring it up to modern seismic safety standards. Construction began in November 2007 and will take approximately three years to complete.

Valley Generating Station

LADWP and LACDPW propose to capture and infiltrate stormwater runoff originating on the 150-acre site. The conceptual design was completed in December 2007.

Power Line Easement Study

LADWP proposes to capture and infiltrate stormwater on some of its power line easements in the San Fernando Valley. The study and conceptual design is under development.

Strathern Pit Multiuse

The Strathern Pit is an existing gravel pit owned by Vulcan Materials. LACDPW and LADWP would like to acquire the pit for conversion to a stormwater storage and recharge facility, and include some recreational opportunities. The design is scheduled to be completed in 2009.

Tujunga Watershed Groundwater Recharge Master Plan

LACDPW and the City of Los Angeles are assessing additional opportunities to increase recharge in the SFB. The study should be completed in mid-2008.

Sheldon-Arleta Landfill Methane Control Project

The use of Tujunga Spreading Grounds (TSG) has been significantly reduced in above-normal runoff years because of environmental issues associated with methane gas migration from the adjacent Sheldon-Arleta Landfill. When runoff is spread at TSG it

compresses the air in the underlying soil and forces methane out of the landfill and into the surrounding neighborhood.

In May 1998 the Watermaster initiated the Tujunga Spreading Grounds Task Force to restore historic recharge capacity; enhance methane gas control and monitoring; and improve storm water management. The Task Force consisted of representatives of LACDPW, LADWP, City of Los Angeles Bureau of Sanitation, and the Watermaster.

An improved landfill gas collection system has been designed and bids were accepted by the City of Los Angeles Bureau of Sanitation. The contract was awarded on December 22, 2006. Construction is underway and should be completed in 2008. The goal is to restore recharge capacity of TSG from the current limit of 100 cfs to its historic level of 250 cfs.

Standard Urban Stormwater Mitigation Plan (SUSMP)

The Regional Water Quality Control Board adopted SUSMP on March 8, 2000. It requires some new developments and redevelopments to contain or treat the first ¾ inch of rainfall runoff from every storm, and encourages on-site infiltration. The Watermaster encourages runoff infiltration whenever feasible, but is concerned over water quality issues related to contaminated surface runoff. For the past several years we have been monitoring water quality data from several demonstration sites (see Water Augmentation Study, below) and have determined that infiltration in residential and light commercial areas can be safely accomplished under certain conditions. The Watermaster works closely with the City of Los Angeles Watershed Protection Division to allow infiltration if those criteria are met.

Water Augmentation Study (WAS)

The Los Angeles and San Gabriel Rivers Watershed Council has developed a WAS to determine the feasibility of infiltrating urban runoff to reduce local flooding, recharge groundwater, and reduce surface water pollution. The Watermaster serves on the Technical Advisory Committee and provides guidance with respect to water quality and water rights within ULARA. The WAS has recently completed studies at six demonstration sites throughout the greater Los Angeles area where it infiltrated urban stormwater and monitored the effects on underlying groundwater. These demonstration sites have given us a better understanding of the effects on groundwater quality, and an

increased level of confidence in the use of urban runoff to augment recharge of our local aquifers.

Sun Valley Watershed Committee

The Watermaster Office is a stakeholder on the Sun Valley Watershed Committee. The objective of the group is to identify alternative ways to solve the local flooding problems in the Sun Valley area. These alternatives could replace or augment the traditional approach of an improved storm drain system. Some of the alternatives include on-site infiltration of storm runoff and the acquisition of gravel pits for conversion into spreading basins. Some storm runoff contains contaminants that are potentially adverse to water quality in the basin. The Watermaster is concerned about potential impacts to groundwater quality as well as conflicts with established water rights, but is working closely with the committee to resolve these issues. An infiltration gallery at Sun Valley Park was completed in 2006, and additional infiltration projects are being constructed or are in the design phase.

Integrated Resources Plan (IRP)

The IRP is Los Angeles' plan to integrate its wastewater, storm water, potable water, and reclaimed water programs for the next 20 years. The IRP uses a broader "watershed" approach to promote more efficient use of all water within the City. The Watermaster served on the Management Advisory Committee and guided the process with respect to water rights and water quality within ULARA.

Dewaterers

The groundwater table in parts of the SFB is near the ground surface. Dewatering is occasionally required to maintain subsurface structures. If dewatering is needed, the dewaterer is required to meter the discharge and enter into an agreement with the affected party for payment for the pumped water. The Watermaster Office currently receives reports from several dewaterers in the SFB (see Table 2-5).

Water Licenses

Portions of ULARA located in unincorporated Los Angeles County are without water service. Working in cooperation with the County Department of Public Health and the County Planning Department, the Watermaster and LADWP have developed a process to identify and monitor water usage through a water license agreement (see Table 2-5).

The agreements allow the use of groundwater on overlying property until a water service becomes available. The agreements also establish maximum annual groundwater usage, and require the monthly reporting of groundwater production to the Watermaster Office and annual payment to the City of Los Angeles.

Glendale Request for Stored Water Credit Adjustment

In August 2007, Glendale submitted a letter requesting a groundwater pumping adjustment of 3,052 AF in the SFB due to an over-reporting of groundwater extraction at the Grayson Power Plant. On November 13, 2007, the Watermaster and Glendale met to discuss the issue and concluded that further investigation was necessary. On April 8, 2008, Glendale submitted a letter of conclusion of findings to the Watermaster in regards to the groundwater pumping adjustment. Due to the lack of time to research the issue, the Watermaster will address the conclusion of the request of the groundwater pumping adjustment in the annual Watermaster Report for the 2007-08 Water Year.

1.6 Summary of Water Supply, Operations, and Hydrologic Conditions

Highlights of operations for the 2005-06 and 2006-07 Water Years are summarized in Table 1-3. Details of the 2006-07 Water Year operations and hydrologic conditions are provided in Section 2. Locations of the groundwater basins, water service areas of the parties and individual producers, and other pertinent hydrologic facilities are shown on Plates 2 through 8.

Average Rainfall

Rainfall during 2006-07 was the lowest in recorded history. Precipitation on the valley floor area during the 2006-07 Water Year was 4.39 inches, 27 percent of the calculated 100-year mean (16.48 inches). Precipitation in the mountain areas was 5.97 inches, 27 percent of the calculated 100-year mean (21.76 inches). The weighted average of 5.36 inches is 27 percent of the 100-year mean (19.64 inches).

Spreading Operations

A total of 7,974 AF of water were spread. This represents a significant decrease from the average annual spreading of native water for the 1968-2007 period of 26,294 AF. The decrease was due to record low rainfall.

Extractions

Total extractions amounted to 111,308 AF. This is an increase of 40,968 AF from 2005-06, and more than the 1968-2007 average of 98,025 AF. Of the total for the 2006-07 Water Year, 2,634 AF were for non-consumptive use. Appendix A contains a summary of groundwater extractions for the 2006-07 Water Year.

Imports

Gross imports (including pass-through water) totaled 580,387 AF, an increase of 32,997 AF from 2005-06. Net imports used within ULARA amounted to 333,288 AF, a 20,843 AF increase from 2005-06.

Exports

A total of 319,821 AF were exported from ULARA. Of the 319,821 AF exported, 72,722 AF were from groundwater extractions, and 247,099 AF were from imported supplies (pass-through).

Treated Wastewater

A total of 88,899 AF of wastewater were treated in ULARA. The majority of the treated water was discharged to the Los Angeles River, a portion was delivered to the Hyperion Treatment Plant, and approximately 10 percent was used as recycled water.

Recycled Water

Total recycled water used in ULARA was 8,930 AF, a 1,353 AF increase from last year. The recycled water is used for landscape irrigation, in-plant use, power plant use (i.e. cooling), and other industrial uses.

Groundwater Storage

Groundwater storage decreased in the SFB during 2006-07 by 33,693 AF. Stored water decreased primarily due to increased pumping by the City of Los Angeles and historic low rainfall and low recharge. The estimated change in groundwater storage for the Sylmar, Verdugo, and Eagle Rock Basins was -600, -2,083, and -205 AF, respectively.

Wells

During the 2006-07 Water Year no new municipal wells were drilled or destroyed.

TABLE 1-3: SUMMARY OF OPERATIONS IN ULARA

Item	Water Year 2005-06	Water Year 2006-07
Active Pumpers (parties and nonparties)	32	34
Inactive Pumpers (parties)[1]	7	7
Valley Rainfall, in inches		
Valley Floor	16.46	4.39
Mountain Area	19.56	5.97
Weighted Average	17.42	5.36
Spreading Operations, in acre-feet	44,615	7,974
Extractions, in acre-feet	70,340	111,308
Gross Imports, in acre-feet		
Los Angeles Aqueduct Water	366,512	199,029
MWD Water	180,878	381,358
Total	**547,390**	**580,387**
Exports, in acre-feet		
Los Angeles Aqueduct Water	175,530	84,782
MWD Water	59,415	162,317
Groundwater	35,979	72,722
Total	**270,924**	**319,821**
Net Groundwater Used in ULARA	34,361	38,586
Net Imports Used in ULARA, in acre-feet	312,445	333,288
Recycled Water Use, in acre-feet	7,577	8,930
Total Water Use in ULARA, in acre-feet [2]	354,383	380,804
Treated Wastewater, in acre-feet [3]	81,159	88,899

1. The seven inactive pumpers are Van de Kamp, Disney, Angelica, Santiago Estates, Greeff, Sears, and Waste Management.
2. Extractions used in ULARA plus Net Imports and Recycled Water.
3. Most treated wastewater flows to LAR, a portion to Hyperion (see T2-7), and for recycled water.

1.7 Allowable Pumping for the 2007-08 Water Year

Table 1-4 shows a summary of extraction rights for the 2007-08 Water Year and Stored Water Credit as of October 1, 2007, for the Cities of Los Angeles, Burbank, Glendale, San Fernando, and the CVWD. The calculation of these values is shown in more detail in Section 2.

TABLE 1-4: ALLOWABLE PUMPING 2007-08 WATER YEAR

(acre-feet)

	Native Safe Yield Credit [1]	Import Return Credit [2]	Total Native + Import	Stored Water Credit [3] (as of Oct. 1, 2007)	Allowable Pumping 2007-08 Water Year
San Fernando Basin					
City of Los Angeles	43,660	46,164	89,824	375,190	465,014
City of Burbank	---	5,058	5,058	16,796	21,854
City of Glendale	---	5,902	5,902	59,316	65,218
Total	43,660	57,124	100,784	451,302	552,086
Sylmar Basin					
City of Los Angeles	3,405	---	3,405	9,014	12,419
City of San Fernando	3,405	---	3,405	1,248	4,653
Total	6,810	---	6,810	10,262	17,072
Verdugo Basin					
CVWD	3,294	---	3,294	---	3,294
City of Glendale	3,856	---	3,856	---	3,856
Total	7,150	---	7,150	---	7,150

1) Native Safe Yield extraction right per Judgment, page 11.
2) Import Return extraction right per Judgment, page 17.
3) There is no Stored Water Credit assigned in Verdugo Basin.

2. WATER SUPPLY, OPERATIONS, AND HYDROLOGIC CONDITIONS

2. WATER SUPPLY, OPERATIONS, AND HYDROLOGIC CONDITIONS

2.1 Precipitation

Precipitation varies considerably throughout ULARA depending on topography and elevation. Mean seasonal precipitation ranges from about 14 inches at the western end of the San Fernando Valley to 33 inches in the San Gabriel Mountains. Approximately 80 percent of the annual rainfall occurs from December through March.

The 2006-07 Water Year was the driest on record. The valley floor received 4.39 inches of rain (27 percent of the 100-year mean), while the mountain area received 5.97 inches (27 percent of the 100-year mean). Figure 2.1 shows monthly valley floor and mountain area rainfall in ULARA. The weighted average of both valley and mountain areas was 5.36 inches (27 percent of the 100-year mean). Table 2-1 shows a record of rainfall at the valley and mountain precipitation stations, and Plate 5 shows their locations.

FIGURE 2.1: MONTHLY RAINFALL

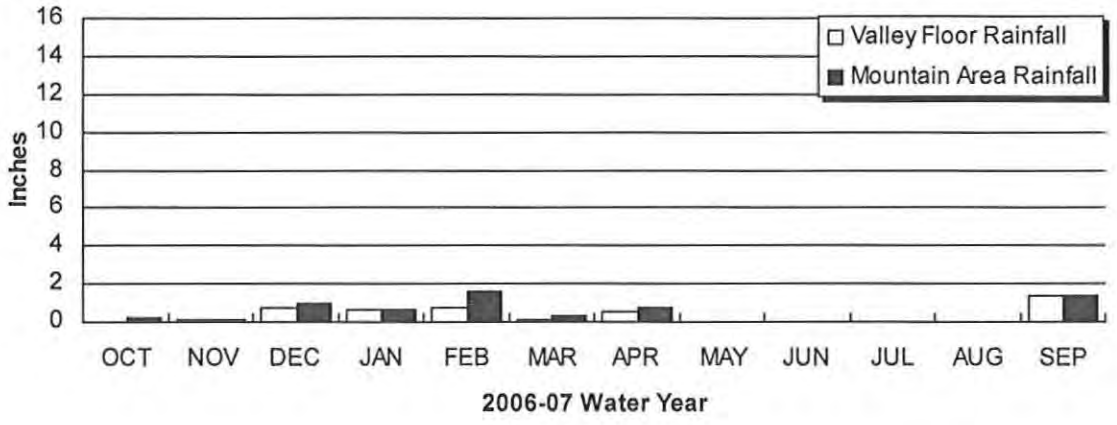


TABLE 2-1: 2006-07 PRECIPITATION

(inches)

LACDPW Rain Gage Stations No.	Name	2006-07 Precipitation	100-Year Mean (1881-1981)	Percent of 100-Year Mean
	Valley Stations			
13C	North Hollywood-Lakeside	4.32	16.63	26%
1107D	Green Verdugo Pumping Plant	5.15	14.98	34%
465C	Sepulveda Dam	3.01	15.30	20%
21B	Woodland Hills	5.21	14.60	36%
735H	Chatsworth Reservoir	4.30	15.19	28%
1222	Northridge-LADWP	3.52	15.16	23%
251C	La Crescenta	7.41	23.31	32%
293B	Los Angeles Reservoir	3.52	17.32	20%
	Weighted Average[1]	**4.39**	**16.48**	**27%**
	Mountain Stations			
11D	Upper Franklin Canyon Reservoir	4.14	18.50	22%
17	Sepulveda Canyon at Mulholland	5.15	16.84	31%
33A	Pacoima Dam	6.88	19.64	35%
47D	Clear Creek - City School	10.31	33.01	31%
53D	Monte Cristo Ranger Station	6.68	29.04	23%
54C	Loomis Ranch-Alder Creek	4.43	18.62	24%
210C	Brand Parks	3.91	19.97	20%
797	DeSoto Reservoir	4.09	17.52	23%
1074	Little Gleason	6.66	21.79	31%
	Weighted Average[1]	**5.97**	**21.76**	**27%**
	Weighted Average Valley/Mountain Areas[1]	**5.36**	**19.64**	**27%**

1. Weighted Average calculations performed according to Report of Referee-7/62. Mountain Station Weighted Average estimated due to incomplete data.

2.2 Runoff and Outflow from ULARA

The watershed of ULARA contains 328,500 acres, of which 205,700 acres are hills and mountains. The drainage system is made up of the Los Angeles River and its tributaries. Surface and sub-surface flow originates as runoff from the hills and mountains, runoff from the impervious areas of the valley, industrial and sanitary waste discharges, domestic irrigation runoff, and rising groundwater.

A number of stream-gaging stations are maintained throughout ULARA, either by the LACDPW or the United States Geological Survey (USGS). The Watermaster has selected six key gaging stations which record runoff from the main hydrologic areas in ULARA (Plate 5 shows the location of the stations). The six gaging stations are as follows:

1. Station F-57C-R registers all surface outflow from ULARA.

2. Station F-252-R registers flow from Verdugo Canyon which includes flows from Dunsmore and Pickens Canyons.

3. Station E-285-R registers flow from the westerly slopes of the Verdugo Mountains and some flow from east of Lankershim Boulevard. It also records any releases of reclaimed wastewater discharged by the City of Burbank.

4. Station F-300-R registers all flow east of Lankershim Boulevard plus the portion of outflow from Hansen Dam which is not spread. These records also include flow through the Sepulveda Dam.

5. Station F-168-R registers all releases from Big Tujunga Dam, which collects runoff from the watershed to the northeast. Runoff below this point flows to Hansen Dam.

6. Station F-118B-R registers all releases from Pacoima Dam. Runoff below this point flows to the Los Angeles River through lined channels, or can be diverted to the Lopez and Pacoima Spreading Grounds.

Table 2-2 summarizes the 2005-06 and 2006-07 monthly runoff for these stations. The mean daily discharge rates for these six stations during 2006-07 are summarized in Appendix B.

TABLE 2-2: MONTHLY RUNOFF AT SELECTED GAGING STATIONS

(acre-feet)

Station	Water Year	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
F-57C-R	2005-06	10,550	7,130	8,550	22,080	24,370	22,450	21,950	12,450	6,950	7,500	6,430	6,350	**156,760**
L.A. River	2006-07	6,950	6,770	8,550	9,250	12,610	7,460	8,340	6,940	5,600	6,200	6,120	10,710	**95,500**
Arroyo Seco														
F-252-R	2005-06	1,280	871	1,520	1,950	1,420	1,770	1,480	879	760	857	747	597	**14,131**
Verdugo Wash	2006-07	931	889	720	721	854	548	612	474	487	538	456	713	**7,943**
E-285-R	2005-06	1,290	1,050	1,260	1,850	2,060	2,050	1,810	1,380	968	847	682	595	**15,842**
Burbank	2006-07	844	630	1,110	1,320	1,700	1,210	1,270	1,200	1,110	1,000	930	1,330	**13,654**
Storm Drain														
F-300-R	2005-06	8,690	6,170	5,870	16,020	15,690	19,690	19,460	6,220	4,070	4,230	3,940	3,660	**113,710**
L.A. River	2006-07	3,620	3,800	6,370	7,240	8,010	4,650	4,940	3,200	3,510	4,310	4,400	13,470	**67,520**
Tujunga Ave.														
F-168-R	2005-06	292	652	475	1,570	1,050	3,150	4,520	1,260	511	168	118	55	**13,821**
Big Tujunga	2006-07	251	291	441	443	219	716	54	214	49	37	28	21	**2,764**
Dam														
F-118B-R	2005-06	41	222	146	624	5	1,370	3,200	2,090	343	65	125	0	**8,231**
Pacoima Dam	2006-07	0	0	129	0	6	0	3	0	0	0	0	0	**138**

2.3 Components of Surface Flow

The surface flow of the Los Angeles River at Gaging Station F-57C-R consists of:

1. Storm flows;
2. Treated wastewater from the Tillman, Burbank, and Los Angeles-Glendale Water Reclamation Plants;
3. Industrial discharges and domestic irrigation runoff; and,
4. Rising groundwater.

Storm flows are often the largest component of surface flow at Gage F-57C-R, and occur mostly in the winter months (Table 2-3 and Appendix B).

A significant factor affecting surface flow in the Los Angeles River has been the release of treated wastewater. Releases from the Los Angeles-Glendale Plant began in 1976-77 and from the Tillman Plant in 1985-86.

Industrial discharges and irrigation runoff upstream of Gage F-57C-R are relatively small but significant contributors to surface flow. Field inspection during 1998-99 confirmed year-round unmetered flows of domestic irrigation runoff from residences, golf courses and industrial sites.

Rising groundwater is a constant source of loss from the Verdugo and San Fernando Groundwater Basins. Rising groundwater occurs above the Verdugo Wash Narrows, and in the unlined reach of the Los Angeles River upgradient from Gage F-57C-R. Outflow at Gage F-57C-R includes rising groundwater leaving the Verdugo Basin past Gage F-252-R (Table 2-3). In 2006-07 rising water at Gage F-252-R was estimated at 1,272 AF. For 2006-07 the total rising groundwater flow at Gage F-57C-R was estimated at 1,720 AF.

Releases of treated wastewater also has an influence on rising groundwater. These large year-round releases tend to keep the alluvium beneath the Los Angeles River saturated, even in dry years. Nevertheless, there is some opportunity for continuing percolation in the unlined reach, both upstream and downstream of the lined section near the confluence of the Verdugo Wash and the Los Angeles River. Water percolating in the unlined reach is believed to circulate through shallow zones and re-appears as rising groundwater downstream from Los Feliz Boulevard. Also, there is up to 3,000 AF of recharge from delivered water within the Los Angeles Narrows-Pollock Well Field area that contributes to the rising groundwater conditions.

In the Report of Referee (Volume II, Appendix O), procedures were developed for the calculation of rising groundwater for the period 1928-1958. Some of the important factors of that study are no longer significant - releases of Owens River water, operation of the Chatsworth Reservoir, and operation of the Headworks Spreading Grounds. As shown on Figure O-2 of the Report of Referee, excess rising groundwater was considered to have fallen to zero by the late 1950s. The January 1993 report by Brown and Caldwell, "Potential Infiltration of Chlorides from the Los Angeles River Narrows into the Groundwater Aquifer" studied groundwater levels along the course of the Los Angeles River. The Watermaster provided the insight and data for this evaluation. As of the end of the drought period in 1977, groundwater levels in the Los Angeles River Narrows were very low, with very little potential for excess rising groundwater. Heavy runoff occurred during the 1978-83 period, which, combined with reduced pumping in the Crystal Springs, Grandview, and Pollock Well Fields, caused large recoveries of groundwater levels in the Los Angeles River Narrows and concurrent increases in rising groundwater.

Finally, the methodology used to calculate rising groundwater (Table 2-3) needs to be improved. Over the years, many of the gaging stations in the Los Angeles River and its tributaries have been lost or abandoned. Actual data from these gaging stations have been

replaced by estimates, with the flow model used to check the results. Although the current methodology provides an approximation, it is much less precise than using actual flow data.

In March 2007 the ULARA Administrative Committee requested the Watermaster to improve the calculation of rising groundwater leaving the San Fernando Basin. Subsequently, in September 2007, the Cities of Glendale, Burbank, and Los Angeles entered into an agreement to address the long-term decline in storage in the SFB and the accumulation of a large quantity of Stored Water Credits for which there is an insufficient quantity of actual water in storage. This agreement included a provision to conduct a re-evaluation of the basin safe yield. The safe yield re-evaluation will include an assessment of rising groundwater and, if necessary, recommendations to improve the precision of the rising groundwater loss calculation.

TABLE 2-3: ESTIMATED SEPARATION OF SURFACE FLOW AT STATIONS F-57C-R & F-252-R

(acre-feet)

Water Year	F-57C-R Rising Groundwater[1]	F-57C-R Waste Discharge	F-57C-R Storm Runoff	F-57C-R Total Outflow	F-252-R Rising Groundwater[2,3]	F-252-R Storm Runoff[3]	F-252-R Total Outflow
2006-07	1,720	72,544	21,236	95,500	1,272	6,668	7,940
2005-06	5,441	74,256	77,063	156,760	1,414	12,717	14,131
2004-05	6,309	70,828	423,293	500,430	5,198	31,874	37,072
2003-04	3,330	90,377	42,153	135,860	2,468	2,851	5,319
2002-03	3,869	75,159	106,862	185,890	3,167	5,183	8,350
2001-02	2,126	74,737	43,937	120,800	1,819	5,721	7,540
2000-01	3,000	91,795	94,065	188,860	1,500	6,370	7,870
1999-00	1,980	78,009	62,202	142,190	824	4,243	8,470
1998-99	2,000	72,790	39,110	113,900	1,000	2,534	7,250
1997-98	4,000	97,681	245,079	346,730	4,000	12,140	16,140
1996-97	3,000	75,827	76,485	155,312	3,000	13,860	16,860
1995-96	3,841	86,127	61,188	151,156	2,577	10,946	13,523
1994-95	4,900	66,209	367,458	438,567	4,809	28,881	33,696
1993-94	2,952	60,594	73,149	136,695	1,387	6,156	7,543
1992-93	4,900	77,000	478,123	560,023	3,335	20,185	23,520
1991-92	3,000	120,789	197,040	320,829	1,412	13,209	14,621
1990-91	3,203	75,647	117,779	196,629	1,157	6,865	8,022
1989-90	3,000	76,789	55,811	167,639	1,182	2,938	4,120
1988-89	3,000	80,020	56,535	136,843	1,995	4,453	6,448
1987-88	3,000	81,920	74,074	156,204	3,548	10,493	14,041
1986-87	3,000	64,125	19,060	83,295	2,100	1,690	3,790
1985-86	3,880	48,370	102,840	155,090	2,470	6,270	8,740
1984-85	3,260	21,600	46,300	71,160	2,710	3,970	6,680
1983-84	3,000	17,780	49,090	69,870	4,000	n/a	n/a
1982-83	3,460	17,610	384,620	405,690	5,330	21,384	26,714
1981-82	1,280	18,180	80,000	99,460	3,710	5,367	9,077
1980-81	4,710	19,580	51,940	76,230	5,780	2,917	8,697
1979-80	5,500	16,500	n/a	n/a	5,150	7,752	12,902
1978-79	2,840	16,450	119,810	139,100	2,470	n/a	n/a
1977-78	1,331	7,449	357,883	366,663	1,168	23,571	24,739
1976-77	839	7,128	58,046	66,013	1,683	2,635	4,318
1975-76	261	6,741	32,723	39,725	2,170	2,380	4,550
1974-75	427	7,318	56,396	64,141	1,333	4,255	5,588
1973-74	2,694	6,366	79,587	88,878	1,772	5,613	7,385
1972-73	4,596	8,776	100,587	113,959	1,706	7,702	9,408
1971-72	---	---	---	---	2,050	2,513	4,563
Average	3,133	53,802	121,472	178,460	2,648	8,752	11,418

1. Includes the influence of treated waste water.
2. Includes the influence of declining capacity at Verdugo Park Treatment Plant.
3. Includes influence of dry weather runoff and perennial stream flow.
   The Tillman Waste Water Treatment Plant began operating in September 1985.

2.4 Groundwater Recharge

Precipitation has a direct influence on groundwater recharge and, with some delay, groundwater storage. Urban development in ULARA has resulted in a significant portion of the rainfall being collected and routed into lined channels that discharge into the Los Angeles River. To partially offset the increased runoff due to urbanization, Pacoima, Big Tujunga and Hansen Dams, originally built for flood control, are now utilized to regulate storm flows and allow recapture of a portion of the flow in downstream spreading basins operated by the LACDPW and the City of Los Angeles.

The LACDPW operates the Branford, Hansen, Lopez, and Pacoima Spreading Grounds. The LACDPW, in cooperation with the City of Los Angeles, operates the Tujunga Spreading Grounds (TSG). The spreading grounds are primarily used for spreading native water (stormwater runoff). Table 2-4 summarizes the spreading operations for the 2006-07 Water Year, Table 2-4A summarizes recharge since the 1968-69 Water Year, and Plate 8 shows the locations of the spreading grounds.

TABLE 2-4: 2006-07 SPREADING OPERATIONS IN THE SAN FERNANDO BASIN

(acre-feet)

Agency	Spreading Facility	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
LACDPW														
	Branford	27	37	87	52	116	23	50	12	13	16	15	84	532
	Hansen	257	0	474	747	759	1,070	650	712	533	485	75	0	5,762
	Lopez	0	0	44	0	0	0	0	0	0	0	0	0	44
	Pacoima	0	0	8	39	194	0	67	0	0	0	0	128	436
	Tujunga	123	289	178	135	102	214	16	64	15	11	18	35	1,200
	Total	**407**	**326**	**791**	**973**	**1,171**	**1,307**	**783**	**788**	**561**	**512**	**108**	**247**	**7,974**
City of Los Angeles														
	Tujunga	0	0	0	0	0	0	0	0	0	0	0	0	0
	Headworks	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Basin Total		**407**	**326**	**791**	**973**	**1,171**	**1,307**	**783**	**788**	**561**	**512**	**108**	**247**	**7,974**

TABLE 2-4A: ANNUAL SPREADING OPERATIONS IN THE SAN FERNANDO BASIN

1968-69 through 2006-07

(acre-feet)

Water Year	Los Angeles County Department of Public Works (Native)						City of Los Angeles (Imported)			GRAND TOTAL	Rainfall Weighted Average Valley/Mtns.
	Branford	Hansen	Lopez	Pacoima	Tujunga	TOTAL	Headworks	Tujunga	TOTAL		
2006-07	532	5,762	44	436	1,200	7,974	0	0	0	7,974	5.36
2005-06	576	20,840	958	7,346	14,895	44,615	0	0	0	44,615	17.42
2004-05	1,448	33,301	940	17,394	21,115	74,198	0	0	0	74,198	45.66
2003-04	444	6,424	144	1731	1322	10,065	0	0	0	10,065	12.21
2002-03	932	9,427	518	3,539	1,914	16,330	0	0	0	16,330	21.22
2001-02	460	1,342	0	761	101	2,664	0	0	0	2,664	6.64
2000-01	562	11,694	172	3,826	1,685	17,939	0	0	0	17,939	22.29
1999-00	468	7,487	578	2,909	2,664	14,106	0	0	0	14,106	16.77
1998-99	547	8,949	536	696	3,934	14,662	0	0	0	14,662	10.83
1997-98	641	28,129	378	20,714	11,180	61,042	0	77	77	61,119	38.51
1996-97	415	9,808	724	5,768	6,406	23,121	0	51	51	23,172	17.65
1995-96	345	8,232	363	4,532	7,767	21,239	0	0	0	21,239	14.48
1994-95	585	35,137	1,086	14,064	18,236	69,108	0	0	0	69,108	33.08
1993-94	462	12,052	182	3,156	4,129	19,981	0	0	0	19,981	11.86
1992-93	389	26,186	1,312	17,001	19,656	64,544	114	0	114	64,658	41.26
1991-92	653	15,461	1,094	12,914	9,272	39,394	230	0	230	39,624	32.39
1990-91	509	11,489	241	3,940	2,487	18,666	52	0	52	18,718	7.69
1989-90	327	2,029	90	1,708	0	4,154	0	0	0	4,154	9.55
1988-89	255	3,844	308	1,306	0	5,713	0	0	0	5,713	9.72
1987-88	352	17,252	1,037	4,520	0	23,161	0	0	0	23,161	21.36
1986-87	0	7,311	141	467	0	7,919	0	33	33	7,952	7.70
1985-86	290	18,188	1,735	6,704	0	26,917	0	1,433	1,433	28,350	23.27
1984-85	244	13,274	104	3,375	0	16,997	0	5,496	5,496	22,493	13.31
1983-84	213	10,410	0	3,545	0	14,168	0	24,115	24,115	38,283	11.18
1982-83	883	35,192	1,051	22,972	10,580	70,678	10	32,237	32,247	102,925	46.07
1981-82	345	14,317	243	5,495	0	20,400	3,853	0	3,853	24,253	20.16
1980-81	245	14,470	335	3,169	0	18,219	4,652	9,020	13,672	31,891	12.89
1979-80	397	31,087	1,097	15,583	0	48,164	5,448	19,931	25,379	73,543	33.66
1978-79	295	24,697	1,018	12,036	0	38,046	2,463	31,945	34,408	72,454	24.07
1977-78	2,142	28,123	445	20,472	12,821	64,003	3,200	18,247	21,447	85,450	44.84
1976-77	377	2,656	63	1,943	0	5,039	3,142	16	3,158	8,197	16.02
1975-76	470	3,128	562	1,308	0	5,468	3,837	5,500	9,337	14,805	14.20
1974-75	681	5,423	915	2,476	0	9,495	4,070	9,221	13,291	22,786	---
1973-74	672	6,287	946	2,378	0	10,283	6,205	0	6,205	16,488	---
1972-73	1,271	9,272	0	6,343	2,274	19,160	5,182	0	5,182	24,342	---
1971-72	161	1,932	0	1,113	0	3,206	7,389	0	7,389	10,595	---
1970-71	507	11,657	727	4,049	0	16,940	6,804	399	7,203	24,143	---
1969-70	674	11,927	0	1,577	2,380	16,558	11,021	0	11,021	27,579	---
1968-69	461	32,464	893	14,262	13,052	61,132	6,698	3,676	10,374	71,506	---
AVG.	544	14,273	538	6,603	4,335	26,294	1,907	4,138	6,045	32,339	

2.5 Groundwater Extractions

The original Trial Court adjudication of groundwater rights in ULARA, effective October 1, 1968, restricted all groundwater extractions to the safe yield of approximately 104,040 AF/Y. This amounted to a reduction of approximately 50,000 AF from the previous six-year average. The State Supreme Court's opinion, as implemented on remand in the Judgment dated January 26, 1979, further restricted groundwater pumping within each basin, and by each party within each basin.

Figure 2.2 illustrates the imported water used in ULARA and annual groundwater extractions, beginning with the 1954-55 Water Year. It can be noted that for the 14 years prior to pumping restrictions (1954-55 to 1967-68), imports exceeded extractions by 50,000 to 90,000 AF/Y, in contrast to the past 38 years (1968-69 to 2006-07) where imports have exceeded extractions by 110,000 to 250,000 AF/Y.

A total of 111,308 AF were pumped from ULARA during the 2006-07 Water Year: 98,430 AF from the SFB; 6,813 AF from the Sylmar Basin; 5,874 AF from the Verdugo Basin; and 189 AF from the Eagle Rock Basin. The respective extraction rights for the 2006-07 Water Year were 89,824 AF (Native Safe Yield of 43,660 AF plus an import return credit of 46,164 AF) for the SFB; 6,810 AF for the Sylmar Basin; and 7,150 AF for the Verdugo Basin. Appendix A contains a summary of groundwater extractions for the 2006-07 Water Year, Plate 8 shows the locations of the well fields, and Plate 11 illustrates the pattern of groundwater extractions.

Of the total amount pumped in ULARA (111,308 AF), 106,531 AF constitutes extractions by Parties to the Judgment; 2,634 AF constitutes nonconsumptive use; and 2,143 AF were used for physical solutions, groundwater cleanup, testing/well development, and dewatering parties (Appendix E). Table 2-5 summarizes 2006-07 private party pumping in the SFB, and Plate 3 shows the locations of the individual producers.

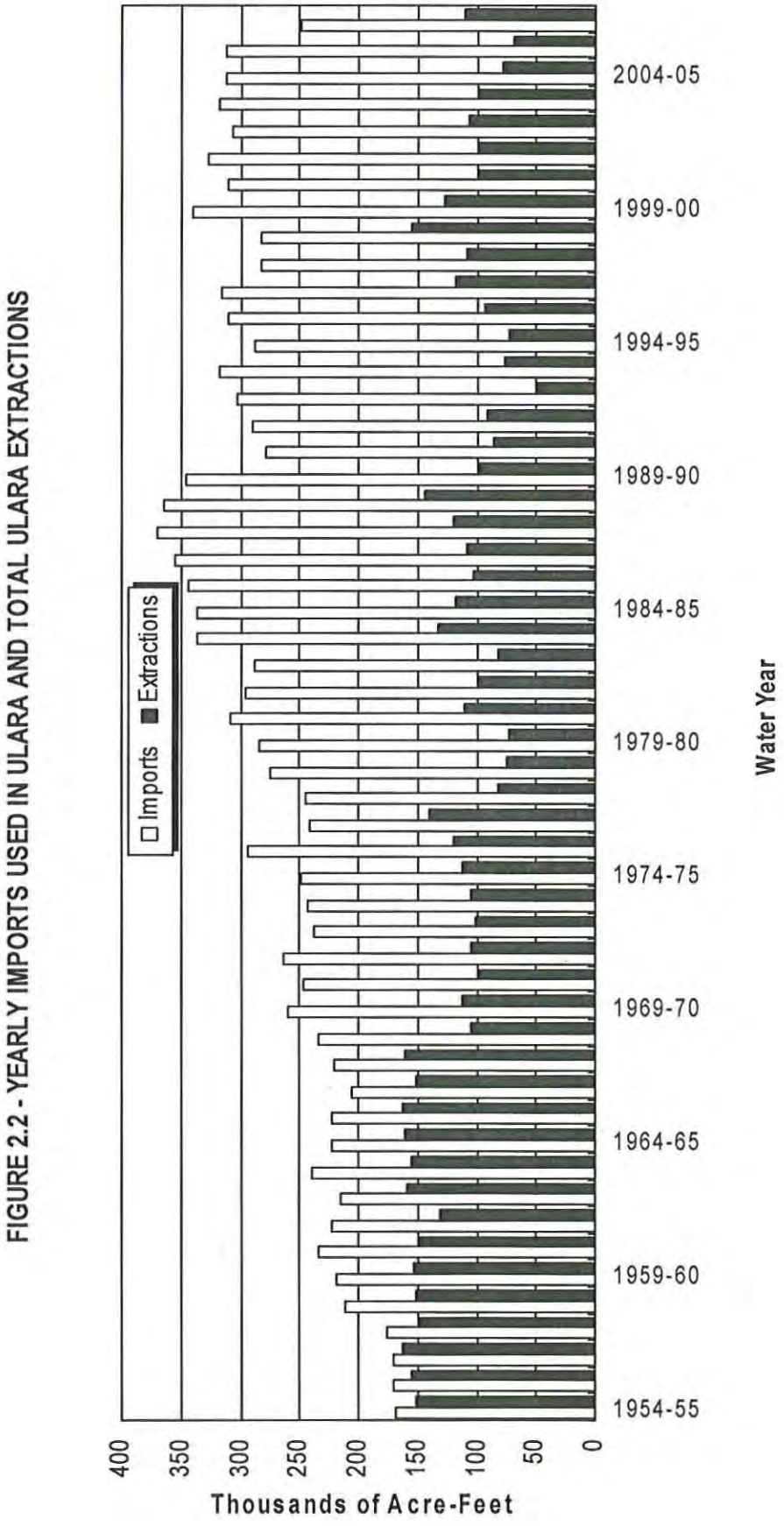


FIGURE 2.2 - YEARLY IMPORTS USED IN ULARA AND TOTAL ULARA EXTRACTIONS
Imports
Extractions
2004-05
1999-00
1994-95
1989-90
1984-85
1979-80
1974-75
1969-70
1964-65
1959-60
1954-55
Water Year
400
350
300
250
200
150
100
50
0
Thousands of Acre-Feet

TABLE 2-5: 2006-07 PRIVATE PARTY PUMPING - SAN FERNANDO BASIN

(acre-feet)

Nonconsumptive Use or Minimal Consumption		Groundwater Dewatering	
Vulcan (CalMat)* (Gravel washing)	2,617.06	Mercedes Benz Encino (Auto Stiegler (Charged to Los Angeles' water rights)	2.27
Sears, Roebuck and Company (Air Conditioning; well disconnected 2000)	0.00	Avalon Encino (Charged to Los Angeles' water rights)	1.12
Sportsmens' Lodge	0.05	Glenborough Realty (First Financial) (Charged to Los Angeles' water rights)	24.42
Toluca Lake Property Owners	16.68		
Walt Disney Productions (3 wells inactive/ Not abandoned)	0.00	Glendale Sewer (Charged to Glendale's water rights)	207.16
		Trillium Corporation (Charged to Los Angeles' water rights)	27.06
		Metropolitan Transportation Agency (Charged to Los Angeles' water rights)	33.44
		Metropolitan Water District (MWD) Jens (Charged to Los Angeles' water rights)	201.10
		North East Interceptor Sewer (Charged to Los Angeles' water rights)	0.00
		Warner Properties Plaza 6 and 3 (Charged to Los Angeles' water rights)	27.13
		BFI Sunshine Canyon Landfill (Charged to Los Angeles' water rights)	24.84
Total	**2,633.79**	**Total**	**548.54**
Groundwater Cleanup		**Physical Solution**	
Boeing Santa Susana Field Lab (Charged to Los Angeles' water rights)	9.04	Forest Lawn Cemetery Assn. (Charged to Glendale's water rights)	393.12
Home Depot U.S.A. Inc. (Charged to Burbank's water rights)	7.96	Hathaway (deMille) (Charged to Los Angeles' water rights)	27.01
Raytheon (Hughes) (Charged to Los Angeles' water rights)	0.00	Middle Ranch (deMille) (Charged to Los Angeles' water rights)	12.34
B.F.Goodrich (Menasco/Coltec) (Charged to Burbank's water rights)	0.20	Toluca Lake Property Owners (Charged to Los Angeles' water rights)	30.00
Micro Matics USA, Inc. (Charged to Los Angeles' water rights)	1.44	Valhalla Memorial Park (Charged to Burbank's water rights)	431.43
Mobil Oil Corporation (Charged to Los Angeles' water rights)	0.00	Vulcan (CalMat) (Charged to Los Angeles' water rights)	624.64
3M-Pharmaceutical (Charged to Los Angeles' water rights)	50.50	Waterworks District No. 21 (Charged to Los Angeles' water rights)	0.00
Tesoro (Charged to Los Angeles' water rights)	2.78	Water Licenses (Charged to Los Angeles' water rights)	0.96
		Wildlife Waystation (Charged to Los Angeles' water rights)	3.75
Total	**71.92**	**Total**	**1,523.25**
Total Extractions	**4,777**		

* Water pumped does not include 130.42 AF of water lost through evaporation.

2.6 Imports and Exports of Water

Residential, commercial, and industrial expansions in ULARA have required the importation of additional water supplies to supplement groundwater.

The imported supplies to ULARA are from the Los Angeles Aqueducts and the MWD. Los Angeles Aqueduct water consists of runoff from the Eastern Sierra Nevada and groundwater from Owens Valley. The MWD supplies consist of State Water Project and Colorado River Aqueduct waters.

Exports from ULARA include imported Los Angeles Aqueduct and MWD water (pass-through), and groundwater from the SFB. Exports of wastewater are by pipeline to Hyperion Treatment Plant.

Table 2-6 summarizes the imports and exports from ULARA during the 2005-06 and 2006-07 Water Years, and Figure 2.3 shows the monthly extractions and imports.

FIGURE 2.3 - TOTAL MONTHLY EXTRACTIONS AND GROSS IMPORTS

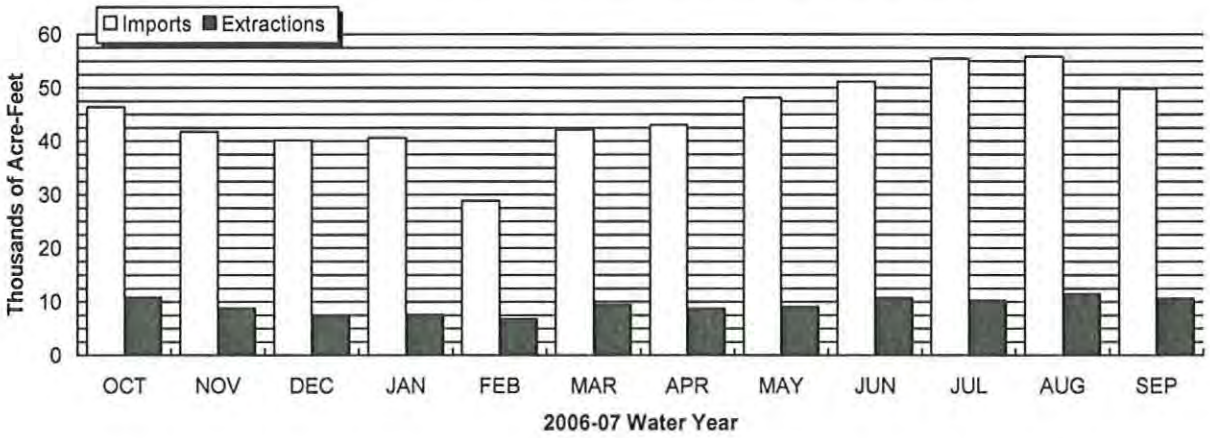


TABLE 2-6: ULARA WATER IMPORTS AND EXPORTS

(acre-feet)

Source and Agency	Water Year 2005-06	2006-07
Gross Imported Water		
Los Angeles Aqueduct		
City of Los Angeles	366,512	199,029
MWD Water		
City of Burbank	11,880	13,444
Crescenta Valley Water District	2,080	2,294
City of Glendale	22,709	22,955
City of Los Angeles [1]	133,959	331,466
La Canada Irrigation District [1]	1,244	1,354
Las Virgenes Municipal Water District [1]	8,204	8,944
City of San Fernando	802	901
MWD Total	**180,879**	**381,358**
Grand Total	**547,391**	**580,387**
Exported Water (Pass-Through)		
Los Angeles Aqueduct		
City of Los Angeles	175,530	84,782
MWD Water		
City of Los Angeles	59,415	162,317
Total	**234,945**	**247,099**
Net Imported Water	**312,446**	**333,288**

1. Deliveries to those portions of these agency service areas that are within ULARA.

2.7 Water Recycling

Water recycling presently provides a source of water for irrigation, industrial, and recreational uses. In the future, water recycling may provide water for groundwater recharge. Four wastewater reclamation plants are in operation in ULARA. The Las Virgenes Municipal Water District operates a water recycling facility outside ULARA but uses part of the treated water in ULARA. Table 2-7 summarizes the 2006-07 reclamation plant operations, and Plate 5 shows their locations.

TABLE 2-7: 2006-07 WASTEWATER RECYCLING OPERATIONS
(acre-feet)

Plant/Agency	Treated Water	Recycled Water Use	Recycled Water Use (%)	Recycled Water Delivered to SFB
City of Burbank	9,091	2,082 [1]	23%	2,082
Los Angeles-Glendale	19,079	4,273 [2]	22%	---
Los Angeles		2,654		11
Glendale		1,619		1,288
Donald C. Tillman	60,729	616 [3]	1%	0
Las Virgenes MWD		1,959		1,959
Total	**88,899**	**8,930**		**5,340**

1. Of the total recycled water (2,082 AF), 1,300 AF was delivered to the Burbank power plant. 782 AF was used by CalTrans, DeBell Golf Course and other landscape irrigation.
2. Of the total recycled water (4,273 AF), 1,620 AF was delivered to Glendale for use in Glendale's Power Plant and for irrigation water for CalTrans, Forest Lawn, Verdugo Scholl, and Brand Park; 807 AF was for in plant use; 818 AF was delivered to Griffith Park by Los Angeles for irrigation; and 1,028 AF was used by CalTrans, Lake Side, Mt. Sinai Memorial Park, Forest Lawn 2, and Universal City MCA for irrigation.
3. Recycled water was for in plant use and then discharged to the Los Angeles River.

2.8 Water Level Elevations

The 2007 contour maps for the Spring (April) and the Fall (September) were produced by using the SFB Groundwater Flow Model. The SFB model was initially developed during the Remedial Investigation (RI) study of groundwater contamination in the San Fernando Valley, and was funded through the EPA's Superfund program.

The model is comprised of up to four layers in the deepest portion of the eastern SFB, and includes 22,016 cells, ranging in size from 1,000 by 1,000 feet to 3,000 by 3,000 feet. The model parameters were calibrated by matching the simulated hydraulic-head fluctuations with the historical water level fluctuations measured at selected key monitoring wells for a 10-year period. The 2007 contours were estimated by incorporating the actual monthly recharge (e.g. spread water, precipitation, etc.) and discharge (groundwater extractions, rising groundwater, etc.) values for the 2006-07 Water Year as model input. The model was then run to simulate the actual operations in the San Fernando Basin during the period October 2006 to September 2007. The simulated head values (estimated groundwater elevations) at the end of the month of April and September of the 2006-07 Water Year were then plotted by utilizing groundwater contouring software.

The simulated Spring and Fall 2007 Groundwater Contour Maps are shown as Plates 9 and 10. These contours are intended to depict the general trend of groundwater flow for April and September 2007. Up-to-date groundwater elevations for specific locations can be obtained by contacting the Watermaster's Office at (213) 367-0896.

Plate 11 exhibits the change in groundwater elevation from the Fall 2006 to Fall 2007. The noticeable decline in groundwater levels ranging from 20 to 30 feet in the portion of the SFB near the Hansen, Pacoima, and TSG is attributed to the low volume of native runoff water spread at the spreading grounds (7,146 AF) compared to the long-term average of approximately 26,776 AF/Y.

The 14 to 20 foot decline in groundwater levels near the Rinaldi-Toluca and North Hollywood Well Fields is primarily attributed to increased groundwater extraction. Pumping at these two major well fields increased by 115 percent from 2005-06 to 2006-07 (21,671 AF vs. 46,491 AF).

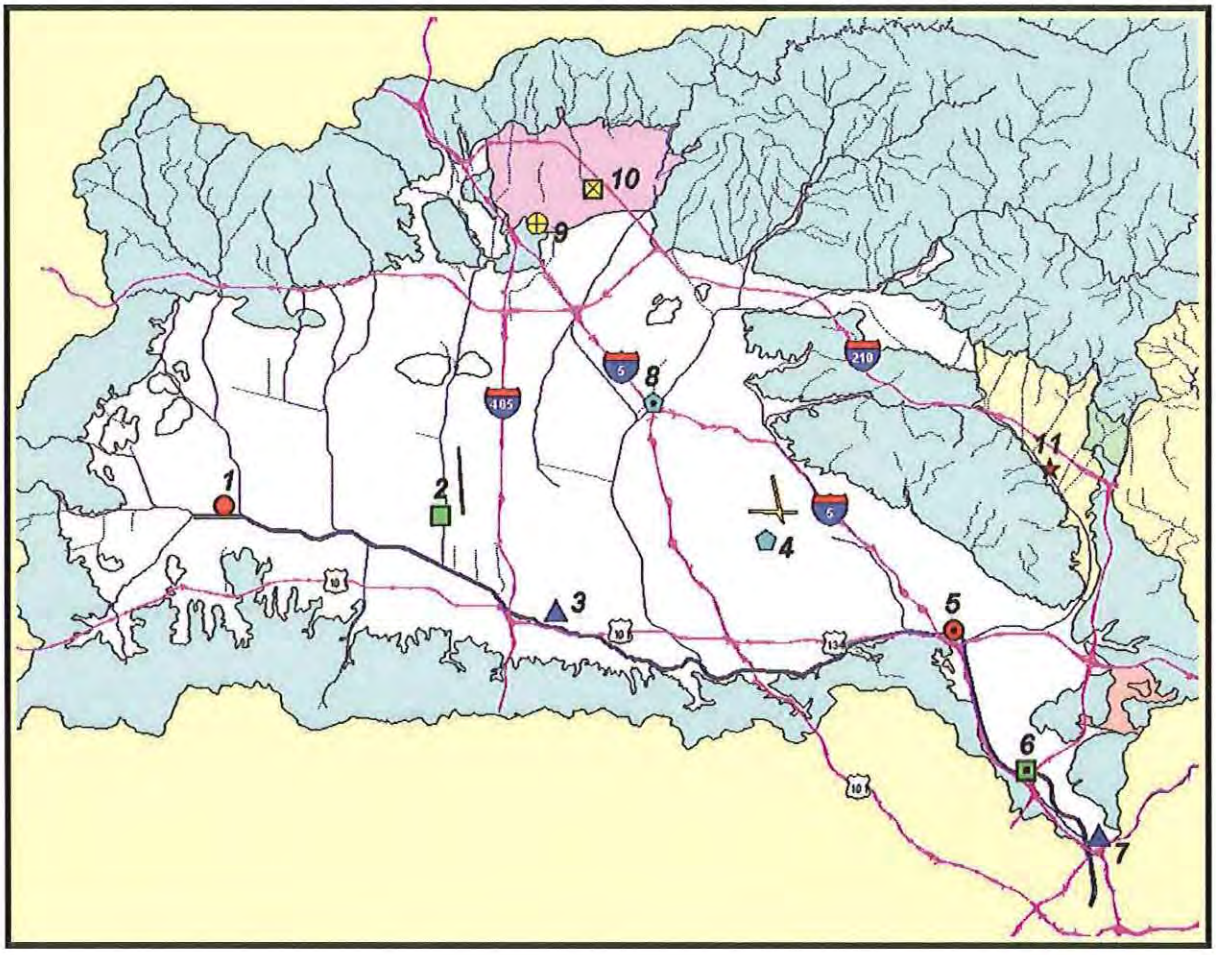
The area near the Tujunga Well Field (TWF) shows a decline in groundwater levels of up to 25 feet due to reduced spreading at TSG and increased pumping at TWF. Spreading at TSG

declined from 14,895 AF in 2005-06 to 372 AF during 2006-07. Pumping at TWF increased from 7,861 AF to 16,686 AF during the same period.

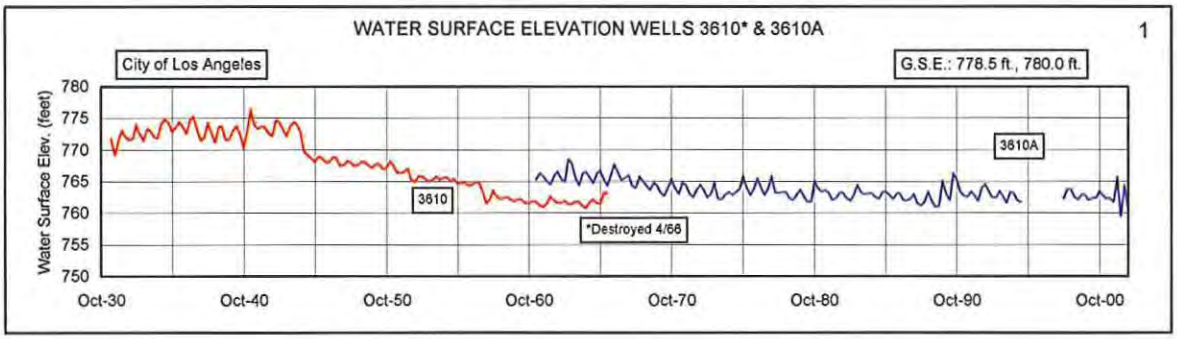
Groundwater levels near the Burbank Operable Unit Well Field shows a minor decline of approximately two feet as a result of below-normal recharge and increased pumping from upgradient well fields (Rinaldi-Toluca, Tujunga, and North Hollywood – West). Pumping from these upgradient well fields increased by approximately 114 percent between 2005-06 and 2006-07 (29,534 AF vs. 63,177 AF).

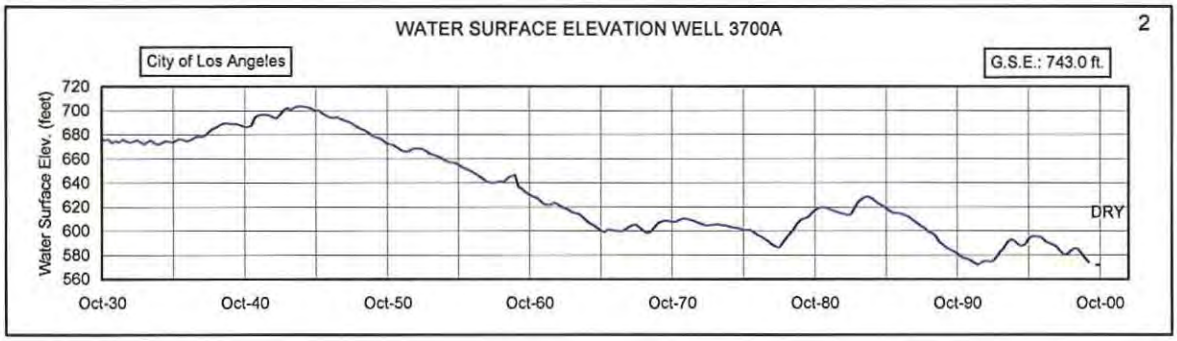
In general, the SFB shows a decline in groundwater levels due to low precipitation, low natural and artificial recharge, and increased pumping.

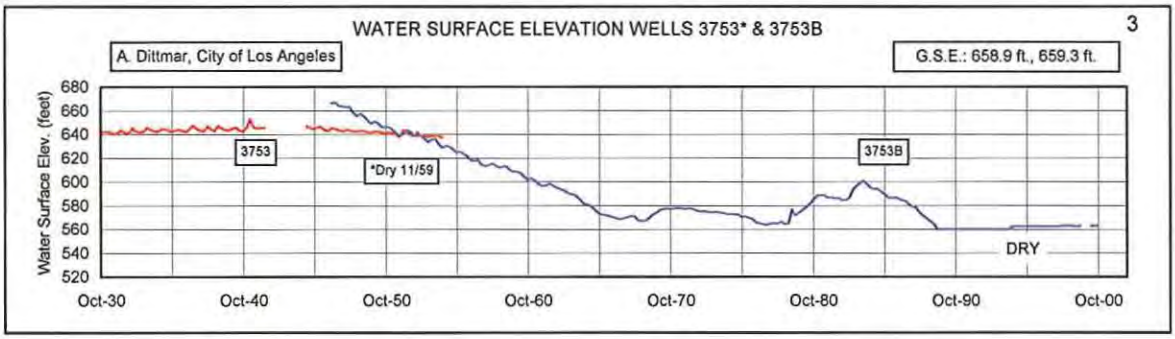
FIGURE 2.4 HYDROGRAPHS AND LOCATIONS OF WELLS THROUGHOUT ULARA

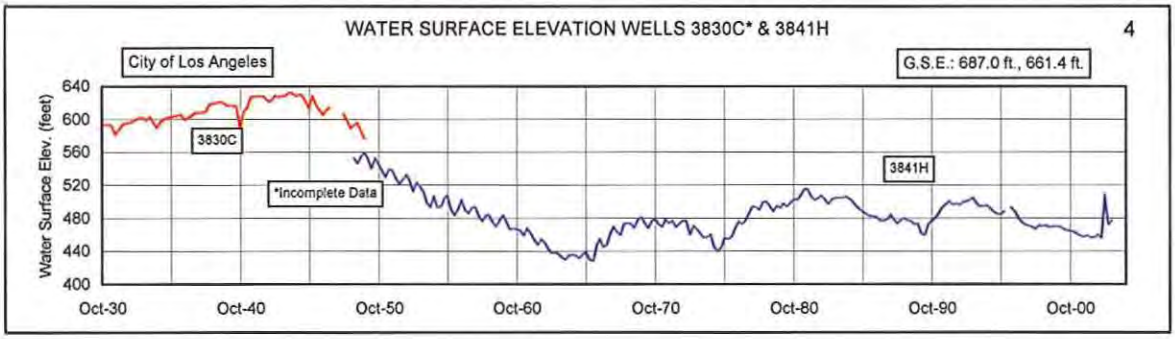


SAN FERNANDO BASIN

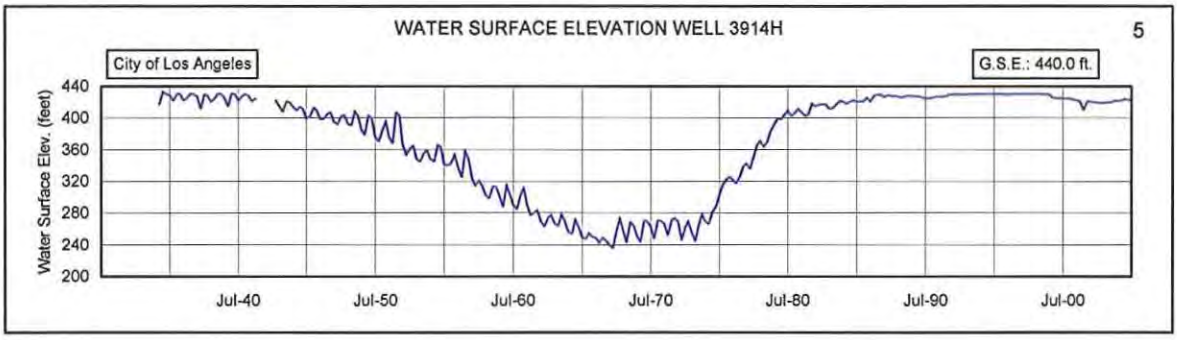


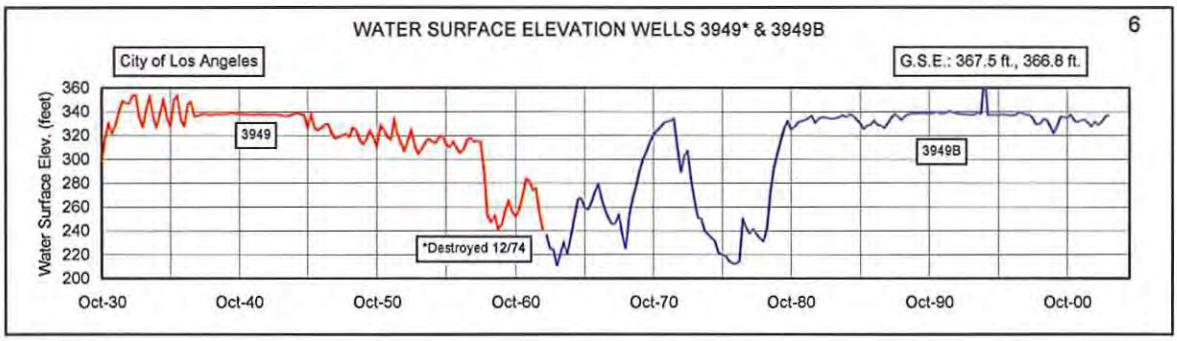


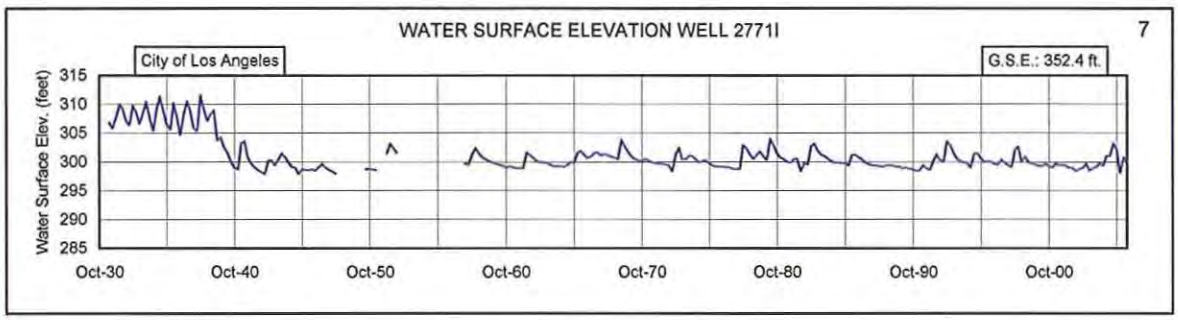


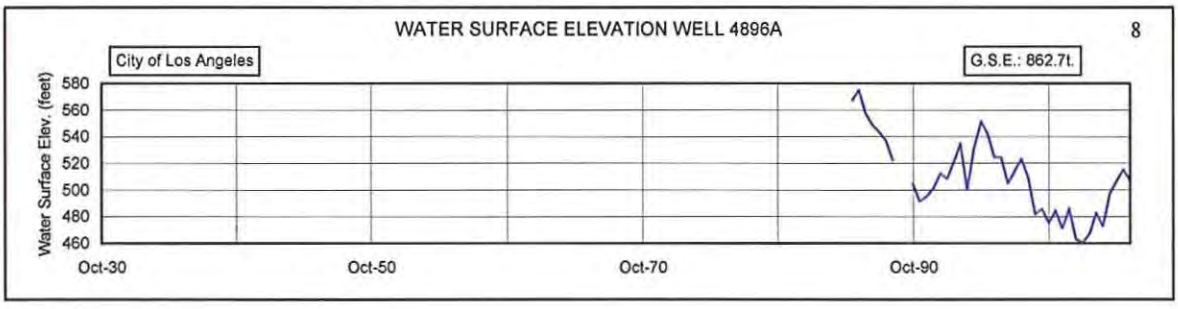


SAN FERNANDO BASIN

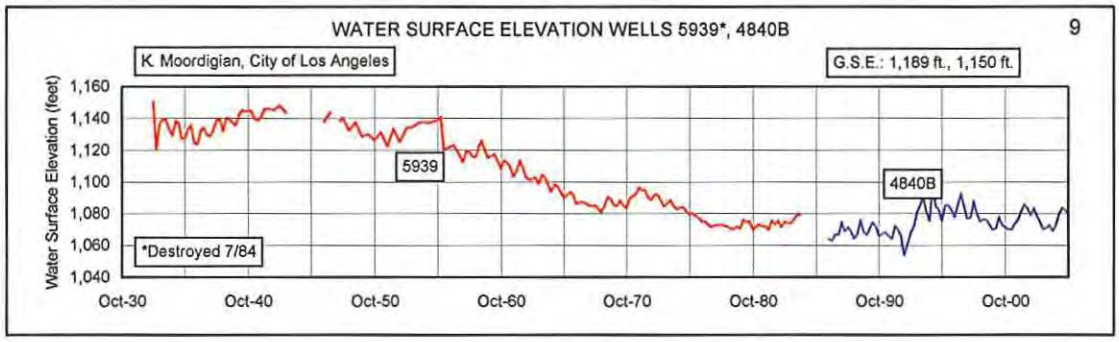


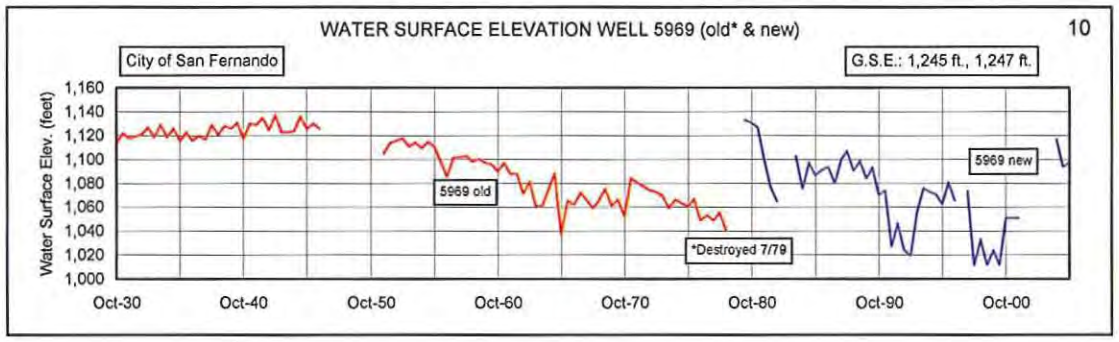






SYLMAR BASIN





VERDUGO BASIN

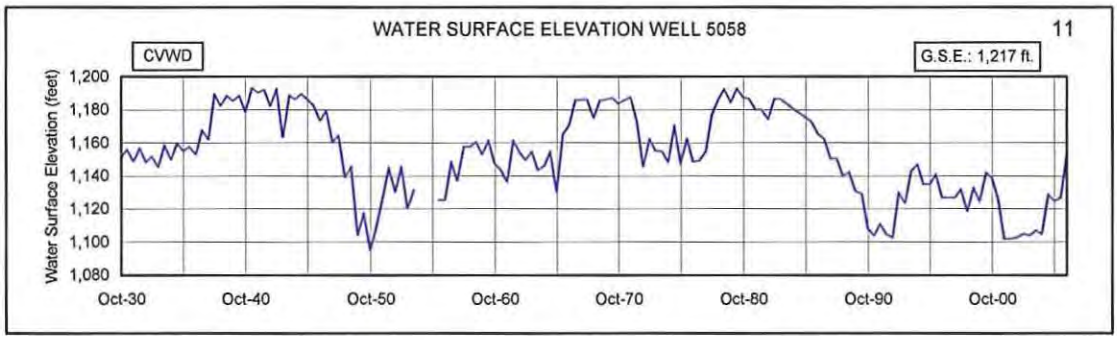


TABLE 2-8: CHANGE IN GROUNDWATER STORAGE SAN FERNANDO BASIN

Water Year	Valley Floor Precipitation (in)	Artificial Recharge (acre-feet)	Change in Storage (acre-feet)	Cumulative Change in Storage (acre-feet)	Pumping (acre-feet)
2006-07	4.39	7,974	(33,693)	133,505	94,430
2005-06	16.46	44,615	16,303	167,198	59,375
2004-05	42.64	74,198	66,476	150,895	67,865
2003-04	9.52	10,065	(22,367)	84,419	89,346
2002-03	19.41	16,330	(15,835)	106,786	95,431
2001-02	5.95	2,664	(27,094)	122,621	87,992
2000-01	19.52	17,939	(6,930)	149,715	86,946
1999-00	14.84	14,106	(31,044)	156,645	116,357
1998-99	9.81	14,662	(82,673)	187,689	141,757
1997-98	37.04	61,119	44,113	270,362	94,682
1996-97	15.17	23,172	(35,737)	226,249	105,899
1995-96	12.03	21,239	(49,223)	261,986	82,862
1994-95	33.36	69,108	79,132	311,209	58,121
1993-94	10.19	19,981	(22,238)	232,077	62,990
1992-93	36.62	64,658	106,317	254,315	36,419
1991-92	30.05	39,624	411	147,998	76,213
1990-91	14.38	18,718	(14,122)	147,587	71,065
1989-90	8.20	4,154	(29,941)	161,709	81,466
1988-89	9.12	5,713	(30,550)	191,650	127,973
1987-88	18.62	23,161	(5,000)	222,200	105,470
1986-87	5.99	7,952	(31,940)	227,200	91,632
1985-86	20.27	28,350	(7,980)	259,140	86,904
1984-85	11.00	22,493	(31,690)	267,120	101,591
1983-84	9.97	38,283	(63,180)	298,810	115,611
1982-83	39.64	102,925	121,090	361,990	68,394
1981-82	17.18	24,253	(530)	240,900	84,682
1980-81	11.04	31,891	(32,560)	241,430	92,791
1979-80	30.25	73,543	99,970	273,990	58,915
1978-79	21.76	72,454	78,080	174,020	59,843
1977-78	35.43	85,450	136,150	95,940	66,314
1976-77	14.19	8,197	(50,490)	(40,210)	125,445
1975-76	9.90	14,805	(30,090)	10,280	103,740
1974-75	14.74	22,786	(22,580)	40,370	95,830
1973-74	15.75	16,488	(21,820)	62,950	88,017
1972-73	20.65	24,342	17,020	84,770	82,004
1971-72	8.10	10,595	(17,090)	67,750	84,140
1970-71	15.57	24,143	15,340	84,840	79,010
1969-70	10.50	27,579	(9,740)	69,500	88,856
1968-69	29.00	71,506	79,240	79,240 [1]	84,186
39 Year Average	**18.16**	**32,339**	**3,423**		**87,194**

1. Accumulation of storage begun as of October 1, 1968.

2.9 Groundwater Storage

San Fernando Basin

Each year, the change in the amount of stored groundwater is evaluated in three ways – between the most recent and the previous water year; for the cumulative change since Safe Yield Operation began in 1968; and, for the cumulative change since 1928, when detailed records began.

In Fall 1968, following the Trial Court decision, Safe Yield Operation was implemented by the Court to halt the overdraft in groundwater levels that began in 1954 (Plate 13 blue line). Methodology established by the State Water Rights Board was used to derive a regulatory storage requirement of 360,000 AF for the SFB that considered normal wet-dry cycles, operational flexibility, and pumping based on the calculated safe yield. The upper boundary of 210,000 AF above the 1954 level was established to prevent excess rising groundwater from leaving the basin, and the lower boundary of 150,000 AF below the 1954 level provided storage space for wet years. Stored groundwater levels should be kept between the upper and lower boundaries of the regulatory storage range (Plate 13, horizontal dashed red lines). Obviously, with a few brief exceptions, we have never operated the basin within that range after 1968.

Plate 13 illustrates two very important concepts. First, the blue line shows the change in actual water stored within the basin. Each year, groundwater level measurements throughout the basin are used to calculate the overall gain or loss of groundwater in the basin and the change is plotted annually on the graph. The blue line on Plate 13 illustrates a 27-year overall decline in storage beginning in approximately 1980, interrupted only temporarily during years of heavy rainfall. This long-term decline in storage is caused by water leaving the basin faster than it is recharged. Causes of this decline include pumping in excess of long-term recharge; reduced natural recharge caused by increased urbanization and runoff leaving the basin; underflow and rising groundwater leaving the basin; and reduced artificial recharge due to restrictions at the spreading grounds.

Second, the Judgment provides Los Angeles, Glendale, and Burbank (the "Parties") a right to store, or "carry over", un-pumped water into future years. These un-pumped water rights are accounted for as Stored Water Credits. The red line on Plate 13 represents the change in storage minus the total Stored Water Credits that the Parties have accumulated. In other words, the red line illustrates what the change in storage would have been if the Parties had pumped their full rights beginning in 1968. If the Parties had exercised their full pumping rights

as enumerated in the Judgment, the basin would be far below the level at which the Court declared Safe Yield Operation in 1968. This demonstrates unequivocally that the basin cannot supply the groundwater to which the Parties are entitled under the Judgment, and that there is a significant shortfall between water rights and hydrologic reality.

Compounding this problem is a provision in the Judgment that allows Stored Water Credits to accumulate indefinitely, with no limit on the amount of Stored Water Credits that the Parties can accumulate. As of October 1, 2007 the Parties had accumulated a total of 451,302 AF of Stored Water Credits. If the Parties had pumped their full water rights beginning in 1968 the basin would be 317,797 AF below the 1968 level at which the Court imposed Safe Yield Operation (Plate 13 red line), thus returning the basin to a condition of overdraft. Clearly, basin recharge is not keeping up with pumping rights enumerated in the Judgment. Because 317,797 AF of these Stored Water Credits are below the level at which Safe Yield Operation was mandated by the Court in 1968, it is the Watermaster's opinion that this water does not actually exist in the basin. These non-existent Stored Water Credits represent 70% of the total credits accumulated by Los Angeles, Glendale, and Burbank.

The Judgment established pumping rights based on two types of water rights: a Pueblo water right for Los Angeles of 43,660 AF/Y of all native water tributary to the SFB; and an Import Return water right for the Parties based on the amount of water delivered annually to their customers.

The 1975 Supreme Court decision in the *San Fernando* case states that only imported water shall be used to calculate Import Return water rights. The Judgment defines "imported water" as "Water used within ULARA, which is derived from sources outside said watershed." This means water from sources such as the Owens Valley, Northern California, or the Colorado River. Nevertheless, historical documents show that in 1978 the Parties agreed to use *all* delivered water, including pumped groundwater, in the calculation of Import Return rights. This agreement ignored the language of the Supreme Court decision as well as fundamental basin hydrology. In the Watermaster's opinion, as a result of this agreement among the Parties, the formulas adopted in the 1979 San Fernando Judgment that are used to calculate Import Return rights have significantly overestimated the amount of delivered water that actually recharges the groundwater basin. Although there are several reasons for the long-term decline in storage and the accumulation of Stored Water Credits, this 1978 agreement among the Parties is a major contributor to the existing imbalance. Had the Parties, and the Judgment language, strictly

adhered to the Supreme Court decision the current basin imbalance would be significantly smaller.

Finally, the basin "leaks" a significant amount of water each year due to rising groundwater (Table 2-3) and underflow. Accounting for these losses would significantly reduce the large imbalance between Stored Water Credits and actual water in storage. The Judgment requires the Watermaster to account for these losses, but until now that has never been done.

The challenge facing the Parties, the Watermaster, and the Court is therefore twofold: a long-term decline in actual stored water, and an accumulation of a large quantity of Stored Water Credits for which there is insufficient real water in storage. Accounting for these non-existent Stored Water Credits is understandably controversial, and reducing future pumping to match the actual basin recharge will be extremely controversial. Nevertheless, it is the duty of the Watermaster and the Parties to manage the San Fernando Basin in a responsible manner that assures its long-term sustainability.

Toward that goal, in July 2005 the Watermaster provided a DRAFT White Paper to the Parties entitled "Is the San Fernando Groundwater Basin Undergoing a Long-Term Decline in Storage?" The White Paper outlined the aforementioned issues regarding the decline, and recommended a new Safe Yield Study consistent with Section 8.2.10 of the Judgment. For nearly two years the Watermaster and the Parties discussed the issues presented in the White Paper. In March 2007 the Watermaster finalized and filed the White Paper with the Court. (A copy of the text of the White Paper is in Appendix F. The White Paper Attachments are in the Watemaster Office and are available upon request.)

Subsequently, in September 2007 the Parties entered into a Stipulated Agreement entitled "Interim Agreement for the Preservation of the San Fernando Basin Water Supply" ("Agreement") that contains several important provisions designed to address the imbalance between the decline in stored groundwater and the large accumulation of Stored Water Credits (a copy of the Agreement is in Appendix G). First, the 10-year Agreement segregates total Stored Water Credits into "Available Credits" and "Reserved Credits". Reserved Credits are all credits that lie below the 1968 level (Plate 13, horizontal dashed brown line). Reserved Credits are not supported by actual water in storage and, with a minor exception, may not be pumped until stored water within the basin recovers enough to allow their safe use. Conversely, Available Credits are all the credits that lie above the 1968 level, and may be pumped by the

Parties without restriction. The Agreement takes effect beginning in the 2007-08 Water Year; therefore, Available and Reserved Credits will be shown in next year's Watermaster Report.

Second, the Agreement memorializes Los Angeles' commitment to work closely with LACDPW to restore and enhance basin recharge using stormwater runoff. This provision is important in the eventual recovery of actual stored water in the basin.

Third, beginning October 1, 2007 losses from the SFB due to rising groundwater and underflow will be debited from the Parties in relation to each Party's Stored Water Credits, in accordance with Section 8.2.9 of the Judgment. This provision of the Agreement is important in bringing the Parties' water rights in balance with basin hydrology. Initially, the loss will be estimated at 1% of the total Stored Water Credits until the rising groundwater calculation is refined during the upcoming safe yield study.

Finally, the Agreement acknowleges that a safe yield re-evaluation is required. The most recent basin safe yield calculation was conducted in 1964-65. It is time to determine whether the SFB, under current cultural and hydrologic conditions, can support the water rights enumerated in the Judgment. We cannot manage the basin in a sustainable manner unless we know what it is capable of providing on a long-term basis.

The estimated change in storage between 2005-06 and 2006-07 is -33,693 AF. On a positive note, there is approximately 521,865 AF of storage space available in the SFB. This space can be used to capture and store additional native water or imported supplies during wet years. Basin storage space is a valuable resource, and the Watermaster Office urges its wise use for the benefit of the public.

Sylmar Basin

The groundwater storage capacity of the Sylmar Basin is approximately 310,000 AF. The estimated change in storage from 2005-06 to 2006-07 is -600 AF.

Verdugo Basin

The groundwater storage capacity of the Verdugo Basin is approximately 160,000 AF. The estimated change in storage from 2005-06 to 2006-07 is -2,083 AF.

The probable causes of the decline observed since 1968 include increased urbanization and runoff leaving the basin, and a significant reduction in groundwater recharge from cesspools

and septic systems following the installation of sewers beginning in the 1980s. An evaluation of stormwater storage and conjunctive use was completed in May 2005, and a geophysical study was completed in June 2006.

Eagle Rock Basin

The estimated change in storage from 2005-06 to 2006-07 is -205 AF.

2.10 Water Supply and Disposal - Basin Summaries

Tables 2-9A, 2-9B, 2-9C, and 2-9D summarize water supply and disposal in the San Fernando, Sylmar, Verdugo, and Eagle Rock basins, respectively. Outflows are based on computations made by the State Water Rights Board in the Report of Referee.

2.11 Extraction Rights and Stored Water Credit - Basin Summaries

San Fernando Basin

Tables 2-10A and 2-11A show the calculation of SFB extraction rights for the 2007-08 Water Year and Stored Water Credit (as of October 1, 2007) for the Cities of Burbank, Glendale, and Los Angeles. All rights are based on the Judgment in *City of Los Angeles vs. City of San Fernando, et al.*, dated January 26, 1979.

Sylmar Basin

Tables 2-10B and 2-11B show the calculation of Sylmar Basin extraction rights for the 2007-08 Water Year and Stored Water Credit (as of October 1, 2007) for the Cities of Los Angeles and San Fernando. All rights are based on the March 22, 1984 stipulation between the City of San Fernando and the City of Los Angeles; and the action by the Administrative Committee on July 16, 1996 to temporarily increase the safe yield from 6,210 AF/Y to 6,510 AF/Y. The temporary increase expired and was re-evaluated. A new stipulation dated December 13, 2006 increased the safe yield to 6,810 AF/Y effective October 1, 2006 subject to certain conditions.

Verdugo Basin

Glendale and CVWD have rights to extract 3,856 and 3,294 AF/Y respectively. Glendale has not pumped its full right since the Judgment was entered, but has expressed its intent to

increase pumping in the foreseeable future. In the past, CVWD has extracted in excess of its right with the permission of Glendale and the approval of the Watermaster. During the 2006-07 Water Year, CVWD pumped 12 AF above its entitlement without Glendale's consent or approval by the Watermaster. In 2004-05 and 2005-06, CVWD also pumped more than its entitlement without Watermaster approval. In December 2006, Glendale and CVWD reached a settlement regarding the over-pumping for 2004-05 and 2005-06. The CVWD Board has not approved the agreement with Glendale on compensation for 2006-07 over-pumping, thus leaving this issue potentially open for litigation. The Watermaster thanks the parties for negotiating a settlement and encourages them to develop a long-term agreement to guide future over-pumping. Pumping in the basin should be managed to optimize production and prevent waste due to rising groundwater, and such an agreement could be used to achieve those goals.

In 2007, Glendale drilled two pilot holes in an effort to increase its extraction capacity in the Verdugo Basin. Both pilot holes were rejected as candidates for production wells due to low pumping capacity. Glendale is considering investigating alternative well locations. Also in 2006, Glendale located an old Well No. 5036 in La Crescenta; also known as the Foothill Well. The well was tested for quality and video logged to evaluate its condition. It was determined to be suitable for water production. Glendale is planning to rehabilitate and equip the well and to connect it to the City's water supply system during the 2008-09 Water Year.

Los Angeles has a right to extract its Import Return water in the Verdugo Basin, but has never exercised its right.

There are no Stored Water Credits in the Verdugo Basin.

Eagle Rock

Los Angeles has the right to extract, or cause to be extracted, the entire safe yield of the basin that consists mostly of return flows of delivered water by Los Angeles. Los Angeles does not pump groundwater from the Eagle Rock Basin. DS Waters, as successor to Sparkletts and Deep Rock, has a physical solution right to extract groundwater to supply its bottled drinking water facility. DS Waters pumped 189 AF in the 2006-07 Water Year.

TABLE 2-9A: SUMMARY OF 2006-07 WATER SUPPLY AND DISPOSAL SAN FERNANDO BASIN

(acre-feet)

Water Source and Use	City of Burbank	City of Glendale	City of Los Angeles	City of San Fernando	All Others	Total
Extractions						
Municipal Use	9,780	7,622	76,251	---	0	93,653
Basin Account	0	0	0	---	0 [1]	0
Physical Solution	---	0	0	---	1,523 [2]	1,523
Cleanup/Dewaterers	---	---	0	---	620	620
Non-consumptive Use	---	---	---	---	2,634	2,634
Total	**9,780**	**7,622**	**76,251**	**0**	**4,777**	**98,430**
Imports						
LA Aqueduct Water	---	---	199,029	---	---	199,029
MWD Water	13,444	22,955	294,575	820	8,944 [3]	340,738
Groundwater from						
Sylmar Basin	---	---	3,919	2,634	---	6,553
Verdugo Basin		461				461
Total	**13,444**	**23,416**	**497,523**	**3,454**	**8,944**	**546,780**
Delivered Reclaimed Water	2,082	1,288	11 [4]	0	1,959 [3]	5,340
Exports						
LA Aqueduct Water						
out of ULARA	---	---	84,782	---	---	84,782
to Verdugo Basin	---		331			331
to Sylmar Basin	---		4,433			4,433
to Eagle Rock Basin	---	---	1,645	---	---	1,645
MWD Water						
out of ULARA	---	---	127,917	---	---	127,917
to Verdugo Basin	---	2,331	489	---	---	2,820
to Sylmar Basin	---	---	6,561	---	---	6,561
to Eagle Rock Basin			0			0
Groundwater	19 [5]	484 [5]	71,416	---	614	72,533
Total	**19**	**2,814**	**297,575**	**0**	**614**	**301,022**
Delivered Water						
Hill & Mountain Areas	---	---	54,268	---	---	54,268
Total - All Areas	25,288	29,511	276,210	3,454	15,066	349,529
Water Outflow						
Storm Runoff (F-57C-R)	---	---	---	---	21,236	21,236
Rising Groundwater (F-57C-R)	---	---	---	---	1,720	1,720
Subsurface	---	---	---	---	396	396
Reclaimed Water to						
the LA River	7,009	4,846	44,318	---	---	56,173
Hyperion		577 [6]	24,210 [6]			24,787

1. Basin Account water is not charged to any party.
2. Includes pumping from Hill and Mountain areas tributary to SFB.
3. Las Virgenes Municipal Water District.
4. LA total recycled water is 2,654 AF of which 11 AF were delivered to valley fill and 2,643 delivered to hill/mountains.
5. Glendale OU and Burbank OU treated groundwater discharged to Los Angeles River or sewer.
6. Water discharged from Tillman and LA-Glendale plants. Annual cities' portion from LAG based on proportion of reclaimed water.

TABLE 2-9B: SUMMARY OF 2006-07 WATER SUPPLY AND DISPOSAL SYLMAR BASIN

(acre-feet)

Water Source and Use	City of Los Angeles	City of San Fernando	All Others	Total
Total Extractions	3,919	2,894	0 [1]	6,813
Imports				
LA Aqueduct Water	4,433	--	--	4,433
MWD Water	6,561	81	--	6,642
Total	**10,994**	**81**	**0**	**11,075**
Exports - Groundwater to San Fernando Basin	3,919	2,634	0	6,553
Total Delivered Water	10,994	342	0	11,336
Water Outflow				
Storm Runoff	5,000 [2]	--	--	5,000
Subsurface	560 [3]	--	--	560
Total	**5,560**	**0**	**0**	**5,560**

1. Pumping for landscape irrigation by Santiago Estates. The well was capped in 1999.
2. Surface outflow is not measured. Estimate based on Mr. F. Laverty – SF Exhibits 57 and 64.
3. Estimated in the Report of Referee.

TABLE 2-9C: SUMMARY OF 2006-07 WATER SUPPLY AND DISPOSAL VERDUGO BASIN

(acre-feet)

Water Source and Use	Crescenta Valley Water District	City of Glendale	La Canada Irrigation District	City of Los Angeles	Other	Total
Total Extractions	3,294	2,568	—	—	12 [1]	5,874
Imports						
LA Aqueduct Water	—	—	—	331		331
MWD Water	2,294	2,331	1,354	489		6,468
Total	2,294	2,331	1,354	820		6,798
Exports to San Fernando Basin	0	461	0	0		461
Delivered Reclaimed Water		327				327
Total Delivered Water	5,588	4,765	1,354	820	12	12,539
Water Outflow						
Storm Runoff (Sta. F-252)					6,668	6,668
Rising Groundwater (Sta. F-252)					1,272	1,272
Subsurface to:						
Monk Hill Basin	—	—	—	—	300	300 [2]
San Fernando Basin	—	—	—	—	80	80 [2]
Total	**0**	**0**	**0**	**0**	**8,320**	**8,320**

1. Private party extractions.
2. Estimated.
3. Includes rising groundwater.

TABLE 2-9D: SUMMARY OF 2006-07 WATER SUPPLY AND DISPOSAL EAGLE ROCK BASIN

(acre-feet)

Water Source and Use	City of Los Angeles	DS Waters	Total
Total Extractions	0	189 [1]	189
Imports			
LA Aqueduct Water from SFB	1,645	--	1,645
MWD Water (25+35) from SFB	0		0
MWD Water (17)	36,891		36,891
Groundwater from SFB	0	--	0
Total	**38,536**	**0**	**38,536**
Exports			
MWD Water (17) out of ULARA	34,400		34,400
Groundwater	0	189	189
Total	**34,400**	**189**	**34,589**
Total Delivered Water	4,136	0	4,136
Water Outflow			
Storm Runoff	--	--	-- [3]
Subsurface	50 [2]	--	50
Total	**50**	**0**	**50**

1. DS Waters (formed by the merger of Suntory/Deep Rock Water Co. and McKesson/Danone Water Products) is allowed to pump as successor to Deep Rock and Sparkletts, under a stipulated agreement with the City of Los Angeles and export equivalent amounts.
2. Estimated in Supplement No. 2 to Report of Referee.
3. Estimated.
4. Not quantified.

TABLE 2-10A: CALCULATION OF 2007-08 EXTRACTION RIGHTS SAN FERNANDO BASIN

(acre-feet)

	City of Burbank	City of Glendale	City of Los Angeles
Total Delivered Water, 2006-07	25,288	29,511	276,210
Water Delivered to Hill and Mountain Areas, 2006-07	---	---	54,268
Water Delivered to Valley Fill, 2006-07	25,288	29,511	221,943
Percent Recharge Credit	20.0%	20.0%	20.8%
Return Water Extraction Right	5,058	5,902	46,164
Native Safe Yield Credit	---	---	43,660
Total Extraction Right for the 2007-08 Water Year[1]	**5,058**	**5,902**	**89,824**

1. Does not include Stored Water Credit and Physical Solution.

TABLE 2-10B: CALCULATION OF 2007-08 EXTRACTION RIGHTS SYLMAR BASIN

(acre-feet)

	City of Los Angeles	City of San Fernando	All Others
Extraction Right for the 2007-08 Water Year[1]	3,405	3,405	--- [2]

1. Does not include Stored Water Credit. The safe yield of the Sylmar Basin was increased to 6,810 AF/YR effective October 1, 2006. Effective October 1, 1984 safe yield less pumping by Santiago Estates is equally shared by Los Angeles and San Fernando.
2. Santiago Estates (Home Owners Group) stopped pumping in 1999.

TABLE 2-11A: CALCULATION OF STORED WATER CREDIT SAN FERNANDO BASIN

(acre-feet)

	City of Burbank	City of Glendale	City of Los Angeles
1. Stored Water Credit (as of Oct. 1, 2006)	13,999	61,833	374,091
1a. Credits and Debits	4,000	0	(4,000)
1b. Credits and Debits	4,200	0	(4,200)
1c. Credits and Debits	0	(97)	97
2. Extraction Right for the 2006-07 Water Year	4,817	5,705	86,654
3. 2006-07 Extractions			
Party Extractions	9,780	7,622	76,251
Physical Solution Extractions	431	393	699
Clean-up/Dewatering	8	207	405
Total	10,220	8,222	77,355
4. Spread Water 2006-07 Water Year	0	0	0
5. Stored Water Credits [1] per City (as of Oct. 1, 2007)	**16,796**	**59,219** [2]	**375,287**

1. Item 5 = 1 +1a + 1b + 1c + 2 – 3 + 4.
2. Glendale submitted a request for a credit of 3,052 AF due to past over-reporting of groundwater production at the power plant. The stored water credit adjustment will be addressed in the annual Watermaster Report for the 2007-08 Water Year.

TABLE 2-11B: CALCULATION OF STORED WATER CREDIT SYLMAR BASIN

(acre-feet)

	City of Los Angeles	City of San Fernando
1. Stored Water Credit (as of Oct. 1, 2006)	9,528	737
2. Extraction Right for the 2006-07 Water Year [1]	3,405	3,405
3. Total 2006-07 Extractions	3,919	2,894
Santiago Estates[2]	0.0	0.0
4. Stored Water Credit[3] (as of Oct. 1, 2007)	**9,014**	**1,248**

1. The safe yield of the Sylmar Basin was increased to 6,810 AF/YR as of 10/1/06.
2. Santiago Estates pumping is equally taken from the rights of San Fernando and Los Angeles. Santiago Estates capped well in 1999.
3. Item 4 = 1 + 2 - 3

3. WATER QUALITY, TREATMENT, AND REMEDIAL INVESTIGATION ACTIVITIES

3. WATER QUALITY, TREATMENT, AND REMEDIAL INVESTIGATION ACTIVITIES

3.1 Water Quality

Imported Water

1. *LOS ANGELES AQUEDUCT* water is sodium bicarbonate in character and is the highest quality water available to ULARA. Its Total Dissolved Solids (TDS) concentration averaged about 210 parts per million (ppm) for 30 years before 1969. The highest on record was 320 ppm on April 1, 1946. TDS concentration on August 21, 2006 was 137 ppm.

2. *COLORADO RIVER* water is predominantly sodium-calcium sulfate in character, changing to sodium sulfate after treatment to reduce total hardness. Samples taken at the Burbank turnout between 1941 and 1975 indicated a high TDS concentration of 875 ppm in August 1955 and a low of 625 ppm in April 1959. The average TDS concentration over the 34-year period was approximately 740 ppm. Tests conducted at Lake Matthews showed an average TDS concentration of 679 ppm for Fiscal Year 2007.

3. *NORTHERN CALIFORNIA* water (State Water Project) is sodium bicarbonate-sulfate in character. It generally contains less TDS and is softer than local and Colorado River water. Since its arrival in Southern California in April 1972, the water has had a high TDS concentration of 410 ppm and a low of 247 ppm. Tests conducted at the Joseph Jensen Filtration Plant showed an average TDS concentration of 255 ppm during Fiscal Year 2007.

4. *COLORADO RIVER/NORTHERN CALIFORNIA* water were first blended at the Weymouth Plant in May 1975. Blending ratios vary, and tests are taken from the effluent. Tests conducted at the Weymouth Plant showed an average TDS concentration of 371 ppm during Fiscal Year 2007.

Surface Water

Surface runoff contains salts dissolved from rocks in the tributary areas and is sodium-calcium, sulfate-bicarbonate in character. The most recent tests taken in September 1995 from flows in the Los Angeles River at the Arroyo Seco showed a TDS concentration of 666 ppm and a total

hardness of 270 ppm. These values also reflect the inclusion of rising groundwater in the Los Angeles River between Los Feliz Blvd. and Gage F-57C-R.

Chlorides in Surface Water

In 1997 the RWQCB adopted Resolution No. 97-02 in order to develop a long-term solution to the chloride compliance problems stemming from elevated levels of chloride, caused by drought and the use of water softeners, in supply waters imported into the Los Angeles region. Water Quality Objectives for chloride for the Los Angeles River between Sepulveda Flood Control Basin and Figueroa Street (including Burbank Western Channel only) has been raised from 100 mg/L to 190 mg/L. Chloride levels are reported in Appendix D.

Nitrogen in Surface Water

As part of a Total Maximum Daily Loads (TMDL) program, the Regional Board ordered the Cities of Burbank and Los Angeles to determine the source of nitrogen in the Los Angeles River Narrows. The studies, which included nitrogen from rising groundwater into the Los Angeles River, were completed in 2007.

Groundwater

Groundwater in ULARA is moderately hard to very hard. The character of groundwater from the major water-bearing formations is of two general types, each reflecting the composition of the surface runoff in the area. In the western part of ULARA, it is calcium sulfate-bicarbonate in character, while in the eastern part, including Sylmar and Verdugo Basins, it is calcium bicarbonate in character.

Groundwater is generally within the recommended limits of the California Title 22 Drinking Water Standards, except for: 1) areas of the eastern SFB where high concentrations of Trichloroethylene (TCE), Tetrachloroethylene (PCE), Hexavalent Chromium, and nitrates are present; 2) areas in the western end of the SFB having excess concentrations of sulfate and TDS; and 3) areas within the Verdugo Basin that have shown high concentrations of MTBE and nitrate. In each area the groundwater delivered is either being treated or blended to meet State Drinking Water Standards.

A history of the TDS content and mineral analyses of imported, surface, and groundwater is contained in Appendix D.

3.2 Groundwater Quality Management Plan

During the 2006-07 Water Year, the Interagency Coordinating Committee continued to implement the recommendations of the "Groundwater Quality Management Plan - San Fernando Valley Basins" issued in July 1983. The objective of this effort is to protect and improve the quality of stored water held in ULARA. Special emphasis is placed on monitoring and removing the organic contaminants TCE and PCE, and hexavalent chromium, found in the groundwater. Table 3-1 summarizes the number of ULARA wells that are contaminated at the indicated levels above the Maximum Contaminant Level (MCL) of the California Drinking Water Standards of 5 parts per billion (ppb) for TCE and 5 ppb for PCE.

TABLE 3-1: 2006-07 NUMBER OF WELLS IN THE ACTIVE ULARA WELL FIELDS EXCEEDING STATE MCL FOR TCE AND PCE

	Number of Wells													
	City of Los Angeles[3]									Sub-	Others[3]			Grand
Total Number of	NH	RT	P	HW	E	W	TJ	V	AE	Total	B	G	C	Total
Wells in Well Field[2]	35	15	3	4	7	8	12	5	7	96	8	13	12	129
Number of Wells Exceeding Contaminant Level[1]														
TCE Levels ppb														
5-20	5	6	2	-	1	1	6	0	2	23	0	2	0	25
20-100	1	2	0	-	0	0	4	0	3	10	3	2	0	15
>100	0	0	0	-	0	0	0	0	1	1	5	5	0	11
Total	6	8	2	-	1	1	10	0	6	34	8	9	0	51
PCE Levels ppb														
5-20	2	0	2	-	0	1	7	0	5	17	0	2	0	19
20-100	0	0	0	-	0	0	0	0	1	1	0	2	0	3
>100	0	0	0	-	0	0	0	0	0	0	8	2	0	10
Total	2	0	2	-	0	1	7	0	6	18	8	6	0	32

1. Wells are categorized based upon maximum TCE and PCE values measured during the 2006-07 Water Year. No data was available for some old inactive wells.
2. Includes active and stand-by wells.
3. Well Fields: NH - North Hollywood; P - Pollock; HW - Headworks; E - Erwin; W - Whitnall; RT Rinaldi Toluca; TJ - Tujunga; V - Verdugo; AE - LADWP Aeration Tower Wells; B - City of Burbank; G - City of Glendale; C - Crescenta Valley Water District

3.3 Underground Tanks, Sumps, and Pipelines

The City of Los Angeles Fire Department (LAFD) continues to implement the State-mandated Underground Storage Tank (UST) Program and is actively conducting a program to bring the large number of underground tanks in the San Fernando Valley into compliance with current law. During the 2006-07 Water Year, a total of 40 sites were remediated under the direction of the LAFD. Currently, the Environmental Unit of the LAFD is monitoring the remediation of 40 sites.

The main focus of the LAFD UST Program in ULARA has been the monitoring and removal of gasoline, diesel, and their related constituents from the soil, to prevent contamination of the underlying groundwater. If a site investigation indicates groundwater contamination, the site is referred to the RWQCB for further action. Since October 1, 2006, 18 sites have been assigned from the Underground Tank Plan Check Unit to the RWQCB.

3.4 Private Sewage Disposal Systems (PSDS)

To reduce the potential for groundwater contamination from septic tanks, on September 17, 1985, the City of Los Angeles enacted Ordinance No. 160388 (Los Angeles Municipal Code Section 64.26), which was entitled "Mandatory Abandonment of Private Sewage Disposal Systems."

Los Angeles Municipal Code (LAMC) Section 64.26 requires all owners of industrial, commercial, and multiple dwelling residential (five or more units) properties to connect to the public sewer when the sewer becomes available and discontinue use of their PSDS within one year of the date of the issuance of a "Notice to Connect" by the City of Los Angeles. In addition, LAMC Section 64.26 requires the Director of the Los Angeles Bureau of Sanitation (LABOS) to issue a "Reminder Notice" and a "Final Notice to Connect" to the owner of the property four (4) months and one (1) month, respectively, prior to the compliance deadlines. LAMC Section 64.26 further requires the Director to take the following actions whenever a property is found to be in violation of the Code requirements:

a) Request that the LADWP to discontinue water service to the subject property,

b) Request the Los Angeles Superintendent of Buildings to order any building(s) on the subject property to be vacated; and,

c) Request the Los Angeles City Attorney to take the necessary legal action(s) against the property owner.

In order to further eliminate existing commercial and industrial PSDS and their discharges of nitrates to the SFB, a sanitary sewer construction program has been in progress for many years. This program is continuing to systematically install sanitary sewers in eighteen Groundwater Improvement Districts (GIDs) throughout the San Fernando Valley. To date, a total of twelve areas have had construction completed, and six areas are in various stages of right-of-way acquisition and processing. Plate 7 shows the locations of these six GIDs.

The sewer construction program ordered by the Los Angeles City Council (City Council) required project design and construction to be funded though Assessment Act provisions. Proposition 218, approved by the electorate on November 5, 1996, now requires that a majority of mail-in ballots of property owners approve any new or increased assessments, in order to proceed with funding the projects through the Assessment Program. The passage of Proposition 218 and continued downsizing of the workforce of the City of Los Angeles has impeded the sewer construction program for the remaining six GIDs.

Toward the end of the 1998-99 Water Year, inquiries by the Watermaster regarding scheduling for the completion of the remaining six GIDs led to the revision and re-estimation of construction plans for these improvements. Those projects were reactivated with the intent of facilitating the construction through the Assessment Program. The previously completed plans were revised as necessary and a revised construction cost estimate was prepared for each project. Those anticipated construction costs and project incidental costs were spread among the owners of benefiting property within the individual districts and the owners were notified of their proportionate share of the assessable costs for the projects.

The majority of the responding property owners within GID No. 3 (Raymer St. Nr. Fulton Ave.); GID No. 17 (Glenoaks Blvd. Nr. Roxford St.); GID No. 19 (Sherman Way Nr. Balboa Blvd.); and GID No. 5 (Chandler Blvd. Nr. Lankershim Blvd.) and GID No. 12 (San Fernando Rd. Nr. Brazil St.) voted against construction of the assessment projects. These projects are now inactive. Sixty-one percent of the responding owners serviced by GID No. 4 (San Fernando Rd. Nr. Keswick St.) voted in favor of the project. Right-of-way acquisition for that project is complete and construction began in October 2007.

Work on the five inactive GID projects has been deferred because of the fiscal impact to the City of Los Angeles for right-of-way acquisition and construction. The City Council will be

notified of the current impasse regarding these projects. Further work on the projects will be contingent upon direction from the City Council and authorization for alternative financing of the projects.

In order to determine the number of properties not connected to a sewer, the LABOS updated the database for water users not being billed for sewer usage. The analysis initially revealed that in the SFB approximately 5,700 of these properties are located within 50 feet of an existing sewer, and 7,700 of these properties are more than 50 feet from an existing sewer. The LABOS has prepared a map that covers the unsewered properties and municipal water supply wells within ULARA. The map will assist the LABOS in prioritizing field inspections, beginning with unsewered properties within 1,000 feet of a production well.

Most sites have been found to be connected to a sewer but are not being billed. Other addresses have two water meters - one for irrigation and a second for residential use. Some are on septic tanks in areas where there are no sewers.

In June 2005, the LABOS' Wastewater Engineering Services Division (WESD) referred a list of approximately 840 properties owning and operating a PSDS that had access to an existing sewer to the LABOS' Industrial Waste Management Division (IWMD) for further investigation and to determine applicability of the provisions of LAMC 64.26 to these properties.

IWMD staff conducted its own investigations before requiring the referred properties to be connected to the sewer. Investigations included contacting the property owner or tenant, site visits and if necessary, "dye tests" to ensure that each of the properties in question did own and operated a PSDS; and, further verify that the property had access to the sewer.

Following IWMD investigations, of the 840 properties referred, 413 were found to fit the criteria such as being an industrial, a commercial or a multiple dwelling residential building (with five or more units) subject to the provisions of LAMC 64.26. However, out of the 413 properties, 234 properties were found to be connected to the sewer already. From June 2005 to December 2007, the IWMD issued 179 "Notice to Connect to the City Sewer and Abandonment of the PSDS" (NTC) letters. Furthermore, out of the 179 properties that were issued a NTC letter, 126 have connected to the sewer, 48 are within the one year period to connect to the City sewer and 5 that have failed to comply, are scheduled for enforcement action.

3.5 Landfills

The Solid Waste Assessment Test (SWAT) reports for major SWAT Rank 1 to 4 landfills in the Los Angeles area have been completed and submitted to the RWQCB for approval. The reports reviewed by the RWQCB are listed in Table 3-2. As stipulated by Article 5 of Title 27, a follow-up sampling program under an Evaluation Monitoring Plan was required for some landfills due to the presence of VOCs in the underlying groundwater. Further updates to the SWAT would be triggered by post-closure land use.

Bradley Landfill closed in April 2007. Waste Management, owner of the landfill, is focusing efforts on the construction of the Recycling and Transfer Center to replace the landfill.

TABLE 3-2: LANDFILLS WITH SWAT INVESTIGATIONS

(reported to Interagency Coordinating Committee)

Name	Rank	Status	Current Owner	Location	SWAT Report Completed	Final SWAT Submitted	Phase II SWAT Req.	Approved by RWQCB	Site Leak -1	Type of Emission -2	Further Monitoring
Bradley West	1	Closed	WMDSC	Sun Valley, SE of Sheldon St.	Jun-87	Nov-90		Apr-92	G	NHA (I/O)	3
Sheldon-Arleta	1	Closed	City of Los Angeles Bureau of Sanitation	Sun Valley District near Hollywood & Golden State Fwys	May-87	May-87		Feb-90	G	MSW	4,7
Scholl Canyon	1	Open	City of Glendale	San Rafael Hills, 1 mile West of Rose Bowl	Jul-87	Apr-88		Aug-90	G	NHA (I/O)	3
Scholl Canyon	2	Closed	City of Glendale	San Rafael Hills, 1 mile West of Rose Bowl	Jul-87	Aug-90		Dec-93	G	NHA	5
Bradley East	2	Closed	WMDSC	SE of Sheldon St	Jun-87	Nov-90		Apr-92	G	NHA (I/O)	4, 8
Bradley West Extension	3	Closed	WMDSC	Near Canyon Blvd & Sheldon St	Jul-88	Jul-89		Apr-92	G	MSW	3, 8
Sunshine Cyn. LA City	2	Closed	Browning - Ferris Industries	SE Santa Susana Mtns W of Golden State Fwy	Jul-88	Jul-89		Apr-94	G	MSW	6
Sunshine Cyn. LA County	2	Open	Browning - Ferris Industries	SE Santa Susana Mtns W of Golden State Fwy	Jul-88	Jul-89		Apr-94		MSW	6
Gregg Pit/Bentz	2	Closed	CalMat Properties	Between Pendleton St & Tujunga Ave	Jul-89	Jul-89		Feb-90	G	NHA	4
Branford	2	Closed	City of Los Angeles Bureau of Sanitation	Sun Valley District, NW of Tujunga Wash	Jul-88	Oct-90	X	Jun-92		MSW	4,7
CalMat (Sun Valley #3)	2	Open	CalMat Properties	Sun Valley District, NE of Glenoaks Blvd	Jul-88	Nov-90		Jun-92	N	Inert site	N,7
Lopez Canyon	2	Closed	City of Los Angeles Bureau of Sanitation	N of Hansen Dam near Lopez and Kagel Cyn	Jun-88	Jun-88	X				8
Toyon Canyon	2	Closed	City of Los Angeles Bureau of Sanitation	Griffith Park	Jun-88	Mar-89		Apr-91	L	NHA (I/O MSW)	3
Tuxford Pit	2	Closed	Aadlin Bros. (LA By-Products Co.)	Sun Valley District, SW of Golden State Fwy & Tujunga Ave	Jun-88	Dec-90		Jun-92		MSW	4, 8, 9
Penrose	2	Closed	Los Angeles (LA By-Products Co.)	N of Strathern St, Tujunga Ave	Jun-88	Jul-89		Sep-89	G	NHB (I/O)	4
Newberry	3	Closed	Los Angeles (LA By-Products Co.)	N of Strathern St, Tujunga Ave	Jun-88	Jul-89		Sep-89	G	NHB (I/O)	4
Hewitt Pit	2	Closed	CalMat Properties	North Hollywood District Hollywood Fwy, Laurel	Jun-88	Jul-89		May-91	G	NHB (I)	N
Pendleton St.	4	Closed	City of Los Angeles Bureau of Sanitation	Sun Valley, Pendelton St & Glenoaks Blvd	Jul-90	May-91		Jun-92	N	Inert Site	5
Stough Park	2	Open	City of Burbank	Bel Air Drive & Cambridge Drive	Jun-88	Dec-88		Apr-90	G	NHA Inert Site	3
Strathern			Never completed. Application 12/88.	Strathern St. & Tujunga Ave							10

1. G – Gas, L – Liquid.
2. MSW – Municipal Solid Waste
   NHA - Non-Hazardous but above state drinking water regulatory levels
   NHB - Non-Hazardous but below state drinking water regulatory levels
   I – Inorganic, O – Organic; N-No, Y-Yes
3. Under Title 27 Corrective Action Program (CAP), after completion of EMP.
4. Closed landfills with groundwater monitoring required under Title 27. Monitoring results are submitted to the Regional Board periodically.
5. Subject to SWAT requirements. Further monitoring may be required under Title 27.
6. All open landfills are required to have groundwater monitoring under Title 27. Monitoring results are submitted to the Regional Board quarterly or semi-annually.
7. Semi-annual groundwater monitoring.
8. Groundwater contamination Evaluation Monitoring Program (EMP) required under Title 27.
9. EPA involved in evaluation.
10. Under permit as Inert Landfill.

3.6 San Fernando Valley Remedial Investigation Activities

A remedial investigation (RI) of groundwater contamination in the San Fernando Valley was initiated in July 1987 by the USEPA to characterize the San Fernando Basin and the Verdugo Basin and their contamination with TCE and PCE. The LADWP was selected by the USEPA to serve as the lead agency in conducting the RI and entered into a cooperative agreement that has provided over $22 million in federal funding to LADWP beginning July 1987. In August 1987, the LADWP selected James M. Montgomery, Consulting Engineers, to serve as its consultant to perform various RI tasks.

The report, "Remedial Investigation of Groundwater Contamination in the San Fernando Valley," was completed in December 1992 and is a comprehensive, five-volume report that presents the findings and characterizations of the SFB and the Verdugo Basin with regard to their geology, hydrogeology, and nature and extent of contamination. The RI report also provides a description and the documentation of the SFB Groundwater Flow Model, summarizes the RI field investigation activities, and evaluates potential risks to human health and the environment.

The SFB Groundwater Flow Model was developed as a part of the San Fernando Valley Remedial Investigation and is a comprehensive, three-dimensional, regional-scale model. A three-dimensional mass transport model has also been developed for the SFB. The model has been utilized for various groundwater projects to analyze the storage and physical characteristics of groundwater in the SFB.

USEPA's consultant, CH2M HILL, continues to periodically sample the 87 groundwater monitoring wells that were installed as part of the RI. CH2M HILL also obtains groundwater quality and groundwater elevation data from the municipalities and various agencies and facilities in the San Fernando Valley to update the SFB database. CH2M HILL utilizes the data to produce contaminant plume maps.

The RI Report and semi-annual sampling reports are available for public use at the Superfund Primary Information Repositories, which are located in the following libraries: City of Glendale, City of Burbank, LADWP, California State University-Northridge, and the University of California - Los Angeles.

The LADWP also maintains a current SFB database for use with the SFB flow model and generation of groundwater contour maps and contaminant plume maps. CH2M HILL forwards current groundwater quality data for incorporation into the LADWP database.

3.7 Water Treatment

USEPA Operable Units

The USEPA is proceeding with enforcement actions against Potentially Responsible Parties (PRPs) for the North Hollywood, Burbank, and Glendale North and South Operable Units (OUs), which are part of the USEPA's overall, long-term groundwater remediation activities in the SFB. The OUs are described below.

1. *NORTH HOLLYWOOD OU* - The North Hollywood OU (NHOU) construction was funded by the USEPA, DHS, and LADWP. The NHOU Operations and Maintenance is funded by the USEPA and LADWP. The NHOU removes VOCs by air-stripping. In 2006-07, 426 million gallons (1,307 AF) of groundwater were treated. This represents 459 AF less than the 2005-06 Water Year.

   Air discharged to the atmosphere was monitored for VOCs on a quarterly basis. All four quarters of VOC monitoring data were in compliance with permit requirements of the South Coast Air Quality Management District.

   Production at NHOU continues to be limited due to declining groundwater levels in the SFB. Although the 15-year NHOU Consent Decree expired on December 31, 2004, the VOC plume has not been fully remediated. In addition, a hexavalent chromium groundwater plume has been identified nearby, which the NHOU is not designed to remove. In Fall 2006 chromium levels began to increase in NHOU Aeration Well No. 2, and it was taken out of service. The former Honeywell site in North Hollywood is suspected of being a major contributor to the chromium plume. Honeywell has submitted a remedial action plan to the Regional Board for review and approval. The USEPA has begun a Focused Feasibility Study to evaluate VOC and chromium levels at the NHOU.

2. *BURBANK OU* - The Burbank OU, funded by Lockheed-Martin under a USEPA Consent Decree and operated by Burbank, uses aeration and liquid-phase GAC to remove VOCs from high nitrate groundwater and then blends it with water from the Metropolitan Water District (MWD) for delivery to the City of Burbank.

   Burbank assumed operation and maintenance of the BOU in 2001. Since that time, the facility has had difficulty in sustaining operation at the designed treatment rate of 9,000 gpm. Burbank, Lockheed-Martin, and the USEPA have been cooperating in an effort to determine the cause(s) of the reduced treatment rate and have made several design changes and repairs. The liquid-phase GAC vessels have been modified, and modifications to the vapor-phase GAC vessels should be completed in 2008. In addition, in 2006-07 the water table remained relatively high in the vicinity of the BOU, allowing higher Burbank OU well production than in previous years. However, the high water table is not expected to continue indefinitely due to the very dry winter in 2006-07 and continued pumping by Los Angeles and Burbank.

   In order to further explore ways to sustain production at 9,000 gpm levels Burbank selected Montgomery Watson Harza to conduct a Well Field Performance Attainment Study which is currently being evaluated by the USEPA. Options to increase production include deflating well packers from existing wells, drilling additional wells, and building a pipeline to blend MWD water with high chromium groundwater from the Lake Street wells.

   Burbank is also concerned about hexavalent chromium in water produced at the BOU and has been blending with imported water to keep the level of hexavalent chromium at, or below, 5 ppb. The BOU was not designed to treat chromium.

   A total of 9,780 AF were treated in the 2006-07 Water Year.

3. *GLENDALE NORTH AND SOUTH OUS.* Construction of the Glendale North and South Operable Units was completed and treated water was ready for delivery on September 26, 2000. The system includes four Glendale North

OU extraction wells with a capacity of 3,300 gpm and four Glendale South OU extraction wells with a capacity of 1,700 gpm. The process uses aeration and liquid-phase GAC to treat groundwater contaminated with VOCs and then blends it with MWD water at the Grandview Pump Station. A total of 7,562 AF were treated in 2006-07.

The Goodwin Treatment Plant is planned for construction in 2008 that will remove chromium from Well GS-3.

Other Treatment Facilities

1. *VERDUGO PARK WATER TREATMENT PLANT (VPWTP)* – Glendale's VPWTP serves as a chlorination and turbidity treatment facility. A total of 461 AF were treated in 2006-07.

2. *GLENWOOD NITRATE WATER TREATMENT PLANT* - CVWD's Glenwood Nitrate Water Treatment Plant, which uses an ion-exchange process for nitrate removal, treated 644 AF in 2006-07.

3. *POLLOCK WELLS TREATMENT PLANT* (PWTP) – The 3,000-gpm PWTP was dedicated on March 17, 1999. The treatment plant uses four GAC vessels to remove VOCs from Pollock Wells No. 4 and No. 6. The operation of these production wells reduces groundwater discharge to the Los Angeles River due to excess rising groundwater. A total of 2,231 AF of groundwater were treated during 2006-07.

4. *BURBANK GAC TREATMENT PLANT* - The City of Burbank GAC system (Lake St. wells) was shut down in March 2001 due to the levels of hexavalent chromium in the groundwater and remained out of service during the 2006-07 Water Year. The City of Burbank has a goal of accepting a maximum of 5 ppb of hexavalent chromium after blending for distribution to its water system. If the plant is returned to service, production may be considered as part of the average pumping goal of 9,000 gpm for the Burbank OU.

3.8 Groundwater Quality Investigations

There are several ongoing groundwater quality investigations in ULARA. Some of the major sites and related activities are summarized below.

Boeing/Rocketdyne Santa Susana Field Lab, Simi Hills

This facility, located in the hills at the western end of the San Fernando Valley, was the site of rocket testing until the 1980s. As a result, soil and groundwater became contaminated numerous constituents of concern such as VOCs, perchlorate, and radionuclides. Several hundred monitoring wells have been installed and are being sampled and tested. Contaminated soil and groundwater are being remediated at selected locations.

CVWD-MTBE Investigation

In February 2004, methyl-tert-butyl-ether (MTBE) was discovered by CVWD in Well No. 5 during its annual VOC water quality sampling. MTBE is a gasoline additives that was used from 1990 to 2003, which has leaked from underground storage tanks and contaminated local groundwater. In 2005, DHS directed CVWD to continue monitoring Well No. 5 on a quarterly basis and MTBE continued to be detected. CVWD retained McGuire Malcolm Pirnie Environmental Consultants (McGuire) to perform a "Preliminary Evaluation of MTBE Contamination Sources at CVWD Well No. 5". In addition, the Watermaster requested the RWQCB to perform an investigation into potential sources of MTBE. RWQCB met with CVWD in 2005 and began the investigation. In March 2006 the McGuire report was completed and forwarded to RWQCB. The report identified several potential source sites. Since November 2006, RWQCB has been aggressively continuing the investigation.

In August 2006, MTBE levels in Well No. 7 increased to 29 ppb which is significantly above the MCL of 13 ppb and the well was shut down. CVWD started out testing all its wells on a weekly basis and the MTBE level in Well No. 7 rose as high as 50 ppb in October 2006. After that, the MTBE levels have dropped to a low of 0.50 ppb in October 2007. In March 2007, the MTBE level in Well 7 had dropped to 2.5 ppb. In order to determine if the reduction in MTBE level was due to the inactivity of Well No. 7, a 72-hour pump test was performed. The results of the pump test showed the MTBE level remained constant at about 2.5 ppb and there was no significant increase in the nearby wells.

In October 2006, CVWD retained McGuire to determine the best method to treat groundwater from this well and other nearby wells in order to begin cleanup of groundwater before the plume spread to the remaining wells. The report was completed in January 2007 and it was determined that a granulated active carbon (GAC) treatment system would be the best treatment method. In addition, as part of the study, water samples were tested with different types of GAC to determine the best type of GAC to be used. It was determined that a "coconut shell" based GAC would provide the best medium for MTBE removal. It was also discovered that water with initially high levels of nitrates would see spikes in nitrate levels in the effluent stream after the GAC system was shut down for a period of time. This has been referred to as "nitrate adsorption", or release of nitrates on the GAC into the water. This report was completed in November 2007.

In November 2006, the Watermaster, at the request of CVWD, formed the Verdugo Basin MTBE Task Force to expedite the investigation and cleanup of the contamination in order to return CVWD's wells to full operational capacity. The Task Force met five times during the 2006-07 Water Year. The Task Force determined that 11 of the 27 potential contamination sites need additional site investigation and remedial action. In 2006-07, three sites installed monitoring wells and clean-up systems; four sites were still working on the site investigation; three sites had prepared work plans but no work has started; and one site was de-listed.

Three of the sites are under the direction of Resource Environmental LLC (RELLC), an oil industry remediation firm representing five major oil companies, which has joined the cleanup effort in CVWD. RELLC is helping to define the MTBE plume(s) by drilling monitoring wells at its clients' sites, drilling additional wells outside its clients' properties, performing a geophysical study of the area around CVWD's Mills Facility, and exploring potential cleanup solutions. RELLC has install soil vapor extraction (SVE) systems at two of their sites and they have been in operation since January 2008.

CVWD has also applied for a grant from the Department of Public Health's Drinking Water Research and Treatment Fund for the cost to install and operate the proposed GAC treatment system at CVWD's Mills Facility. The grant was for $6.4 million, however, it was put on "hold" in April 2007 because the MTBE levels were below the detection level for reporting (DLR) of 3.0 ppb.

DriLube, 711 W. Broadway and 718 W. Wilson, Glendale

DriLube Company, a plating facility located in Glendale, was issued a Cleanup and Abatement Order (CAO) by the RWQCB in 2002. DriLube was named a Responsible Party by the USEPA for discharging contaminants to the Glendale South Operable Unit from its site. The results of subsurface investigations have detected soil and groundwater contaminated with chlorinated solvents, petroleum hydrocarbons, PCBs, and heavy metals including chromium. On November 15, 2002 a fire at the DriLube Company totally destroyed the Plant 1 facility and records. USEPA now manages the DriLube site, and has issued a Unilateral Administrative Order for cleanup.

PRC-DeSoto (formerly Courtaulds Aerospace), 5430 San Fernando Road, Glendale

The RWQCB issued a Cleanup and Abatement Order (CAO) to PRC-DeSoto on August 22, 2002. This facility has been named a Responsible Party by USEPA for releasing chlorinated organic solvents within the Glendale South Operable Unit. The facility's principal industrial activities involved chemical formulation of adhesives and sealants used by the U.S. Department of Defense for various aerospace applications. Trichloroethane (1,1,1-TCA), dichloroethane (DCA), TCE, PCE, chromium, hexavalent chromium, and nickel have been found in soil and groundwater beneath the site. Three down-gradient wells were completed in May 2006. PRC-DeSoto has submitted a Remedial Action Plan (RAP) for the in-situ reduction of hexavalent chromium that is under review by the RWQCB. Furthermore, the facility is applying for a General Waste Discharge Requirement (WDR) permit for the remediation of the hexavalent chromium. The facility recently completed a soil gas investigation and submitted a final report which is under review. Groundwater monitoring continues on a quarterly basis.

Excello Plating, 4057 Goodwin Ave., Los Angeles

The RWQCB issued a CAO to Excello Plating on June 20, 2003. The CAO was revised and reissued on June 2, 2005. The facility's owners have been named a Responsible Party under CERCLA for releasing VOCs, hexavalent chromium, nickel, cadmium, zinc and lead. The purpose of issuing this CAO was to ensure that Excello Plating completes the on-site and off-site assessment to delineate the lateral and vertical extent of heavy metal contaminants (specifically chromium) and, as necessary, undertake remediation of the affected soil and groundwater, on-site and off-site.

On September 23, 2004 the Los Angeles City Attorney charged Excello with a violation of the federal Clean Water Act for failure to comply in a timely manner with the CAO. This criminal citation has corresponding financial penalties including fines of $50,000 per day. In 2006 there

was an out-of-court settlement that includes a plan for more monitoring wells for plume delineation. The facility has completed onsite soil and groundwater assessment and has submitted a RAP for the remediation of heavy metals including hexavalent chromium. The facility has also applied for a WDR permit for the remediation of the hexavalent chromium. The facility has just completed the drilling of three (3) additional groundwater monitoring wells for the delination of the contaminant plumes that may have migrated offsite. Groundwater monitoring continues on a semi-annual basis.

B.F. Goodrich (formerly Menasco/Coltec Industries, Inc.) 100 E. Cedar Ave., Burbank

The RWQCB issued a CAO to Coltec Industries, Inc. on July 5, 2002. This facility has been named a Responsible Party by the USEPA for discharging contaminants to the Glendale North Operable Unit. The facility's former industrial activities involved machining, manufacturing, metal plating, anodizing of parts and equipment used by the U.S. Department of Defense for various aerospace applications. TCE, PCE, DCE, 1,1,1-TCA and hexavalent chromium have been detected on this site. Recently constructed offsite groundwater monitoring wells are being sampled quarterly. The amended General Waste Discharge Requirement was approved and the facility began a pilot study for the remediation of hexavalent chromium in the soil and groundwater. A risk assessment report was submitted and is undergoing review by OEHHA. Groundwater monitoring continues on a semi-annual basis.

ITT/Home Depot, 1200 S. Flower St., Burbank

Home Depot has completed construction of a store and parking lot on part of the former ITT Aerospace Controls site. ITT Aerospace Controls manufactured parts, and conducted metal finishing and plating. Groundwater contamination at the site consists of VOCs, petroleum hydrocarbons, nickel, and hexavalent chromium. In 2004 Home Depot built a slurry wall around the site to prevent lateral migration of contamination. A naturally occurring low-permeability zone located 50 feet below the ground surface is expected to reduce vertical migration of the contaminants. ITT is responsible for cleanup of the area outside the Home Depot's slurry wall barrier. The facility will be required to submit a RAP and apply for a General WDR for the remediation of hexavalent chromium. Groundwater monitoring continues on a semi-annual basis.

Brenntag (formerly Holchem) and Paxton Street LLC (formerly Price Pfister) - Pacoima Area Groundwater Investigation

A VOC contaminant plume was identified in the Pacoima area near the intersection of the Simi Valley Freeway (118 Freeway) and San Fernando Road. This site is approximately 2.5 miles upgradient of LADWP's Tujunga Well Field, which can supply up to 47,000 gallons per minute of groundwater. LADWP installed two monitoring wells downgradient of the contaminant plume. Under DTSC guidance, Brenntag has installed a soil vapor extraction system (SVE).

The Paxton Street site (formerly Price Pfister), located southeast of Brenntag, has been directed to delineate the extent of VOC contamination with on-site and off-site monitoring wells. The RWQCB is the lead agency in enforcing cleanup of this site. Soil vapor extraction began in September 2002 and air sparging began in June 2003. The soil excavation from all source areas in the northern part of the site (approximately 2/3 of the total 25 acres) has been completed. Groundwater monitoring is on-going. A Lowe's Home Center is planned for the site.

Regional Board staff has received the public comments on the report containing the *Results of the Site-wide Soil Gas Survey*, and groundwater Remedial Action Plans for hexavalent chromium and 1,4-dioxane. RWQCB staff has started preparing comment letters on these documents which will be reviewed and are expected to be finalized by the end of April, 2008.

Honeywell (formerly Allied Signal/Bendix) 11600 Sherman Way, North Hollywood

Honeywell was issued a Cleanup and Abatement Order (CAO) on February 21, 2003 and an amended CAO in September 2004. The firm was directed to prepare a workplan for additional on-site and off-site subsurface assessment of soil and groundwater. A workplan was submitted and approved and the field work has been completed. A final report is being developed and will be submitted shortly. The RAP for in-situ chromium remediation has been approved and is scheduled to begin shortly. The facility's General WDR application has been approved. Additional off-site wells were approved by the USEPA and RWQCB and wells have been installed. The facility was required to submit a well-head treatment workplan for treating hexavalent chromium and 1,4-dioxane at the Los Angeles Department of Water and Power's extraction well NHE-2. The well was shut down by the LADWP due to elevated concentrations of total chromium over 400 micrograms per liter (µg/L) being reported above the State of California's Maximum Contaminant Level of 50 µg/L. The source of the chromium concentration is a groundwater plume that has migrated offsite from the Honeywell facility.

General Electric (formerly Pacific Airmotive), 2940 North Hollywood Way, Burbank

Regional Board staff has identified an apparent continuing source of VOCs at the former site of Pacific Airmotive property that is currently owned by General Electric. The soil vapor extraction system has been removing PCE soil vapor from underneath the adjacent property (2960 No. Hollywood Way).

Raytheon (formerly Hughes Missile Systems Company), 8433 Fallbrook Avenue, Canoga Park

Contaminants at the site include 1,1-DCE, TCE, PCE, TCA, BTEX and 1,1-DCA. TDS is in excess of the Basin Plan objectives, so the treated water may not be discharged to the Los Angeles River. As a result of the high TDS, the treatment plant effluent is stored in holding tanks, and used for on-site irrigation.

3M (formerly Riker Lab), 19901 Nordhoff, Northridge

Contaminants at this site include chloroform, 1,2-DCE, 1,2-DCA, and Freon 11. There has been a groundwater treatment system in operation since 1997. There are currently 15 groundwater extraction wells and two air-stripping towers in series capable of treating 60,000 gallons per day. In March 2005, 3M and its consultant, Weston Solutions, Inc. completed installation of a system to re-use the discharged portion of the groundwater for landscape irrigation. All of the treated groundwater is now beneficially used on-site.

Micro Matics, 19791 Bahama St., Northridge

The soil and groundwater beneath a portion of the Micro Matic's property are contaminated with PCE and 1,1,1-TCA. The plume has moved off-site to the west beneath a portion of the former 3M property, and also to the south beneath Bahama Street. The 3M parcel contaminated by Micro Matics was sold to a developer, Nordhoff Industrial, in December 2004.

Treatment currently consists of pumping contaminated groundwater and treating it with liquid-phase GAC. A plan has recently been approved by the RWQCB to inject a hydrogen donating compound into the aquifer to degrade the VOCs in-situ. The first phase of the HRC™ in-situ groundwater remediation pilot test has been implemented and initial results indicate a reduction in the PCE concentration. The second phase of the pilot test that includes injection of HRC-X™ was implemented in July 2005.

Tesoro Petroleum (former Fast Fuel, 11051 Victory Blvd., N. Hollywood)

Tesoro Petroleum is the owner of a gasoline station site in North Hollywood. A leaking underground tank caused a plume of gasoline hydrocarbons and MTBE that has migrated off-site toward several wells in LADWP's Whitnall Well Field. Tesoro, and its consultants Haley & Aldrich and Miller Brooks Environmental, have been performing soil remediation using soil vapor extraction. Working with its consultants, LADWP, RWQCB, and the Watermaster, Tesoro has implemented a groundwater cleanup plan that features ex-situ bioremediation and re-injection of the treated groundwater. Full-scale re-injection began in October 2005 and has shown a dramatic reduction in MTBE in the groundwater. Groundwater rebound testing is planned for 2008. SVE continues at the original tank site.

Taylor Yard (Los Angeles River Narrows Area)

The Union Pacific Railroad owns this large parcel along the Los Angeles River Narrows. It has been divided into two parts – the active yard and the sale parcel. The 25-acre active yard is contaminated with VOCs, SVOCs, fuel hydrocarbons, and metals. Remediation is under the jurisdiction of Cal-EPA DTSC.

The sale parcel has attracted the attention of several agencies and stakeholders including the State Parks Department and the California State Coastal Conservancy as a potential site for habitat restoration and recreation.

Chromium

In January 2003 the ULARA Watermaster published a report on hexavalent chromium contamination in the SFB. The RWQCB published a report of its four-year investigation of hexavalent chromium in December 2002. The presence of this contaminant threatens the use of SFB groundwater as a reliable source of water for Burbank, Glendale, and Los Angeles, and jeopardizes the Operable Units constructed with funding from the USEPA to clean up VOCs on a regional basis. The Operable Units that treat VOCs in the groundwater were not designed to treat chromium.

Total chromium is comprised of hexavalent chromium and trivalent chromium. Hexavalent chromium is a carcinogen when inhaled, but the effects when ingested are a subject of continuing debate. Trivalent chromium is a nutrient when ingested in small amounts.

The California Office of Environmental Health Hazard Assessment (OEHHA) is currently developing a new Public Health Goal (PHG) for hexavalent chromium. Following the issuance of the PHG, a California Maximum Contaminant Level (MCL) can be set. In addition, a National Toxicology Program study is underway to determine a safe Federal MCL for hexavalent chromium. The Federal and State drinking water MCLs for total chromium are currently 100 ppb and 50 ppb, respectively. There are no separate standards for hexavalent chromium. Until the new hexavalent chromium standards are developed, the total chromium standards will continue to be used.

Hexavalent chromium affects the operation of OUs designed to treat for VOCs. The Consent Decrees between the USEPA and the responsible parties require that certain pumping rates be maintained in the OUs to control VOC plume migration and provide contaminant removal. As these wells are pumped, the chromium plumes also migrate toward the wells, albeit at a slower rate than the VOCs. Hexavalent chromium has now appeared in all of the OUs in the SFB. Fortunately, the levels are currently low enough to meet all drinking water standards, under certain operational controls. High hexavalent chromium levels have caused several wells to be pumped at reduced rates (GOU), and at least one well has been shut down (NHOU). Should the levels become too high, the operation of the OUs will be compromised.

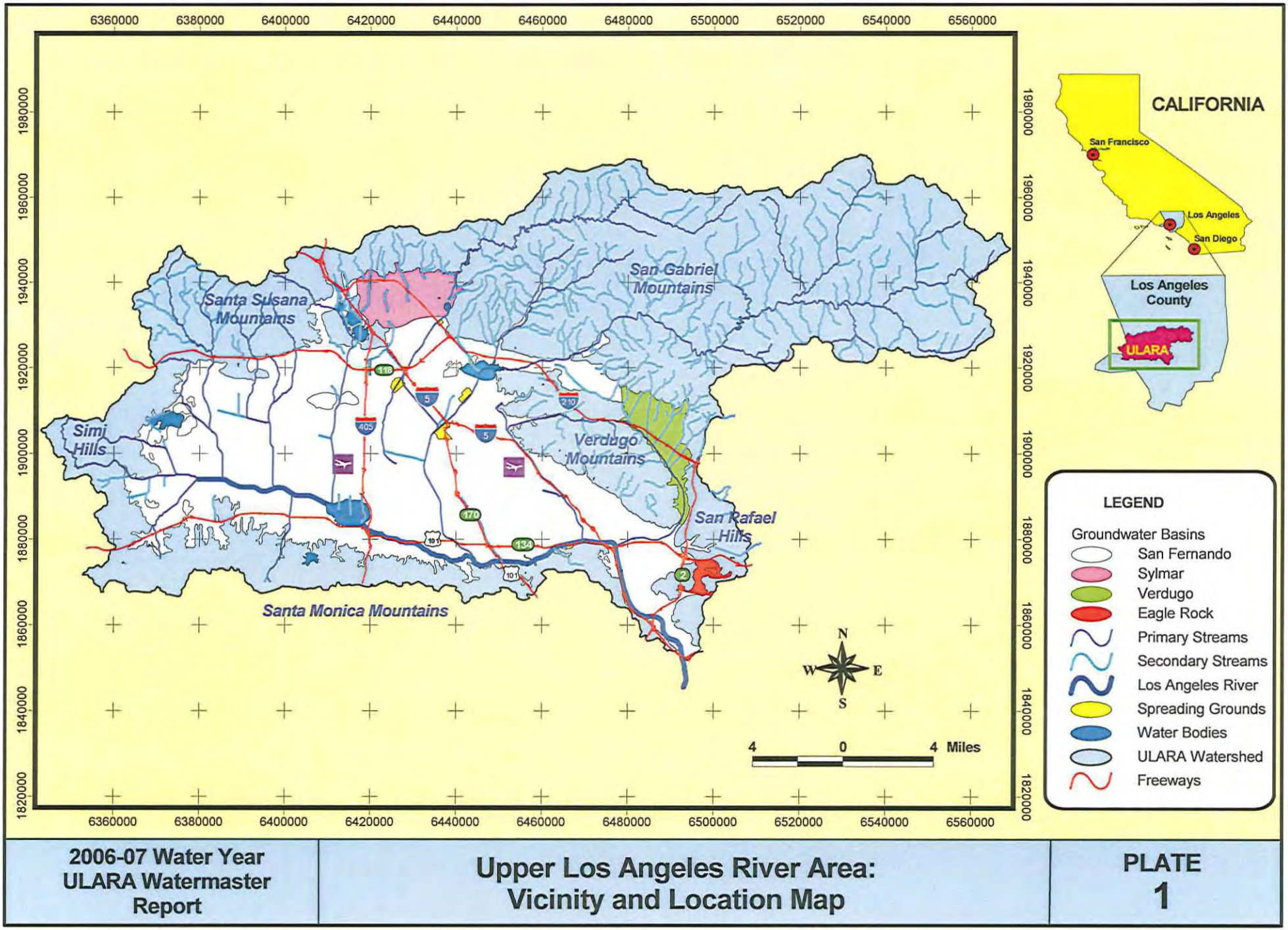
A study is underway by McGuire Malcolm Pirnie Environmental Consultants to identify a cost-effective technology to remove chromium to very low levels. The USEPA, American Water Works Research Foundation, and the cities of Glendale, Los Angeles, and Burbank are funding the project. Weak base anion exchange has been identified as a promising treatment technology. The Goodwin Treatment Plant will remove hexavalent chromium from Well GS-3 at the GOU using ion exchange. The facility should be completed in 2008.

General Waste Discharge Requirements Permit (WDR)

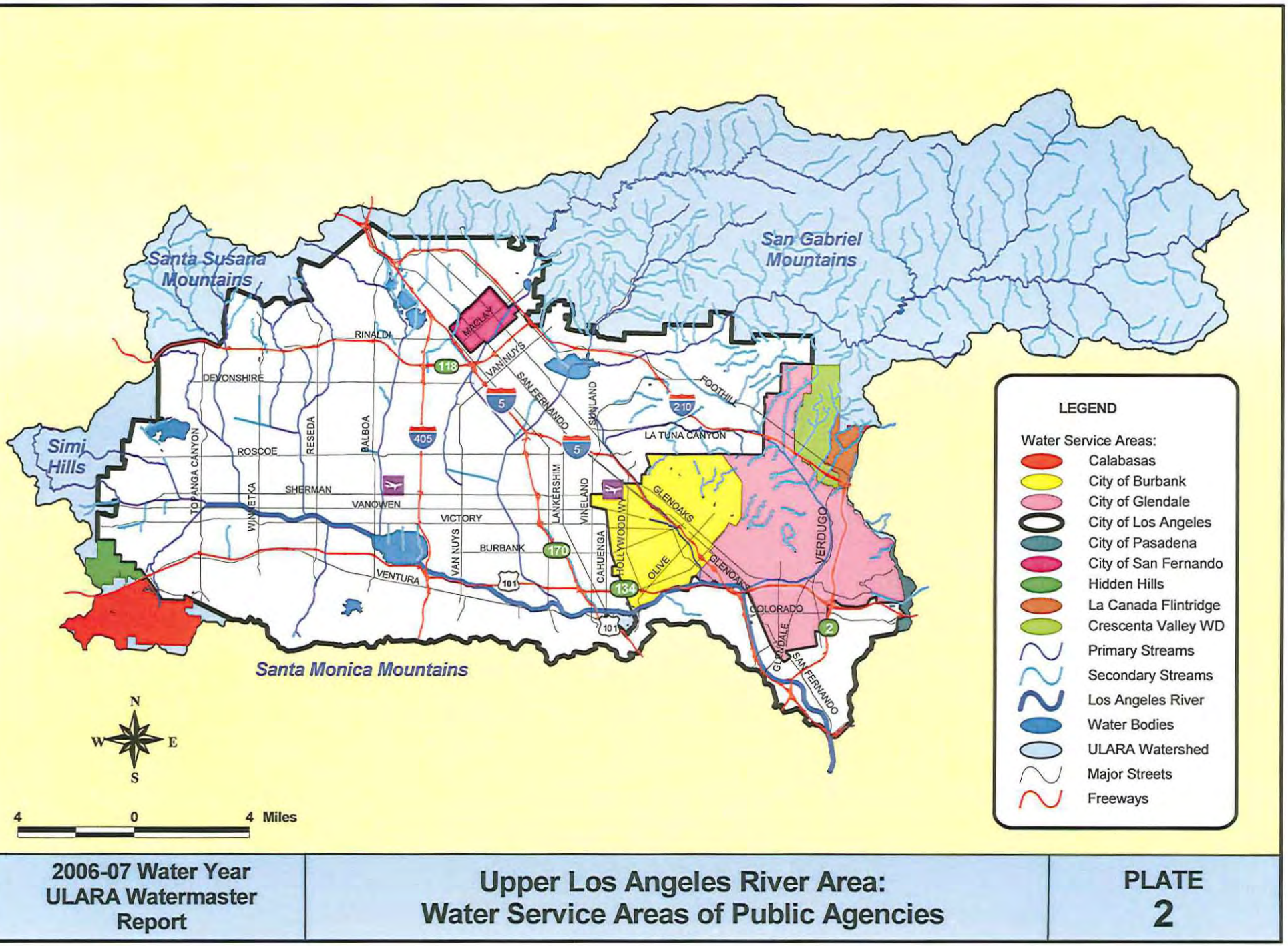
On March 1, 2007 the RWQCB adopted a revision to the General Waste Discharge Requirements Permit. This marks significant progress in the effort to expedite cleanup of chromium and other contaminants in Los Angeles County. In the Notice of Preparation of Mitigated Negative Declaration the Regional Board "proposed to adopt General Waste Discharge Requirements for groundwater remediation at sites impacted by petroleum fuel, volatile organic compounds and/or hexavalent chromium. The adoption of WDRs for in-situ groundwater remediation/cleanup or the extraction of polluted groundwater with above ground treatment and the return of treated groundwater to the same aquifer zone would: a) simplify the application process for discharges, b) allow more efficient use of Regional Board staff time, c)

reduce Regional Board time by enabling the Executive Officer to notify the discharger of the applicability of the general WDRs, d) enhance the protection of surface water quality by eliminating the discharge of wastewater to surface waters, and e) provide a level of protection comparable to individual, site-specific WDRs."

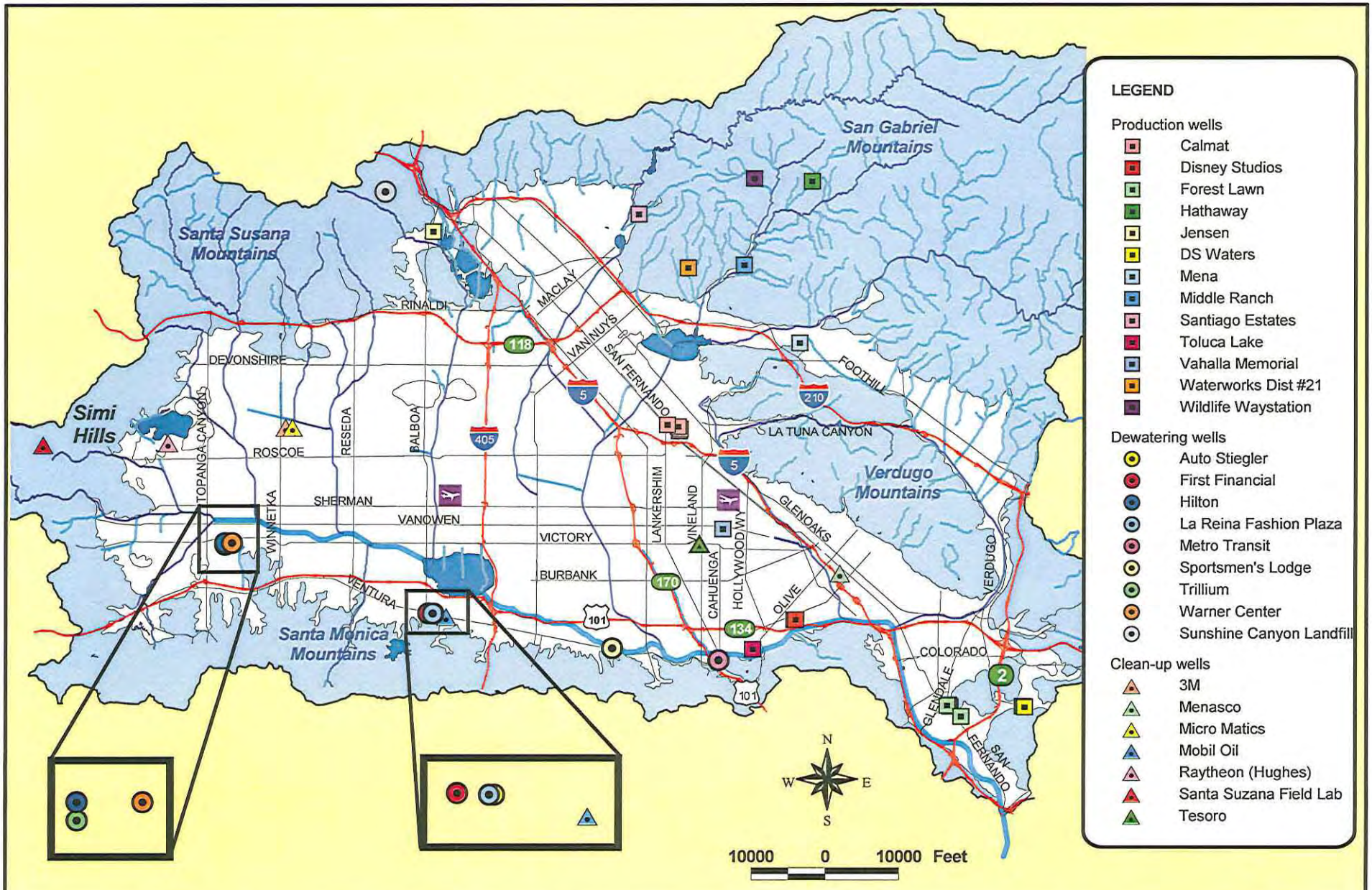
PLATES



2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: Vicinity and Location Map	PLATE 1



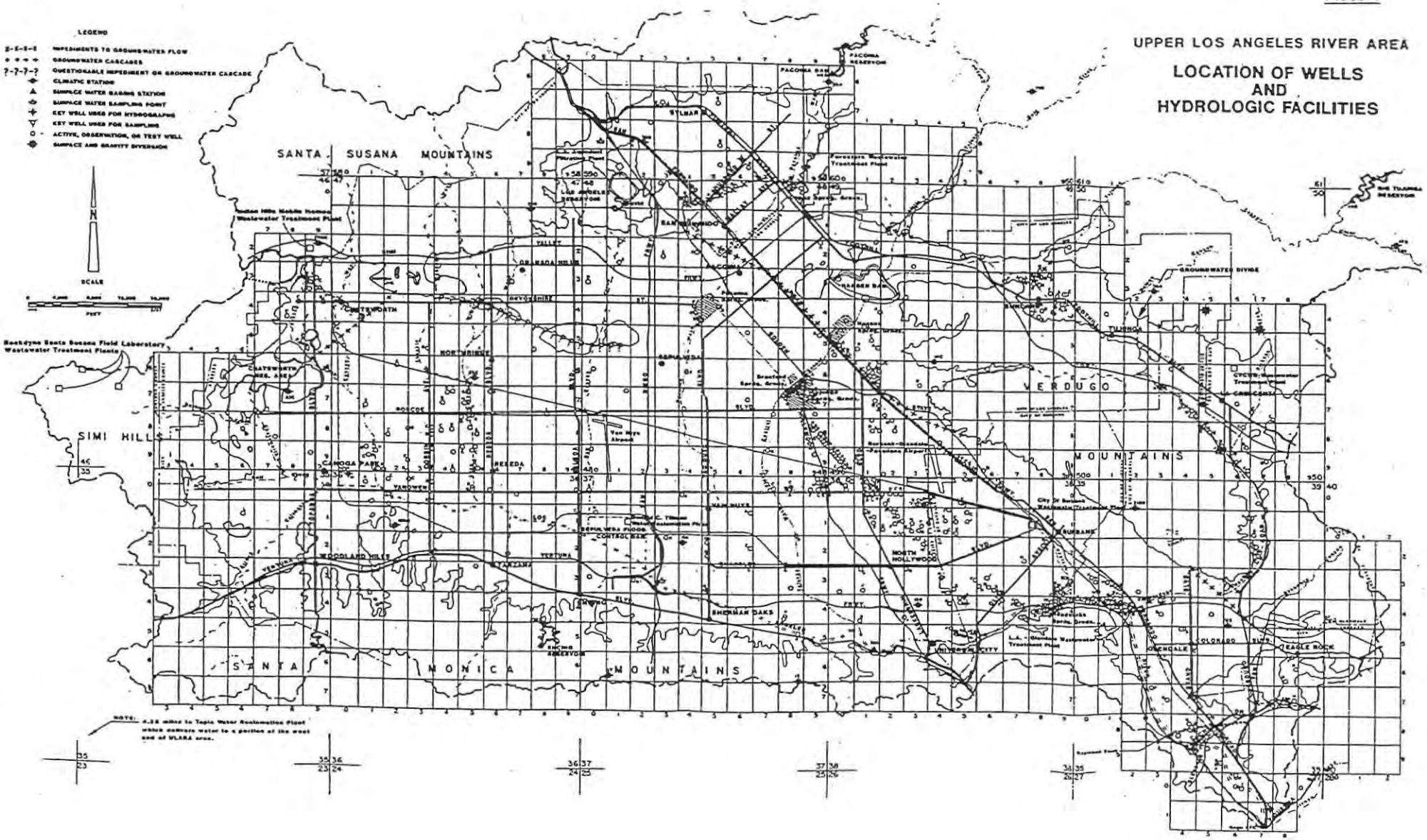
2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: Water Service Areas of Public Agencies	PLATE 2

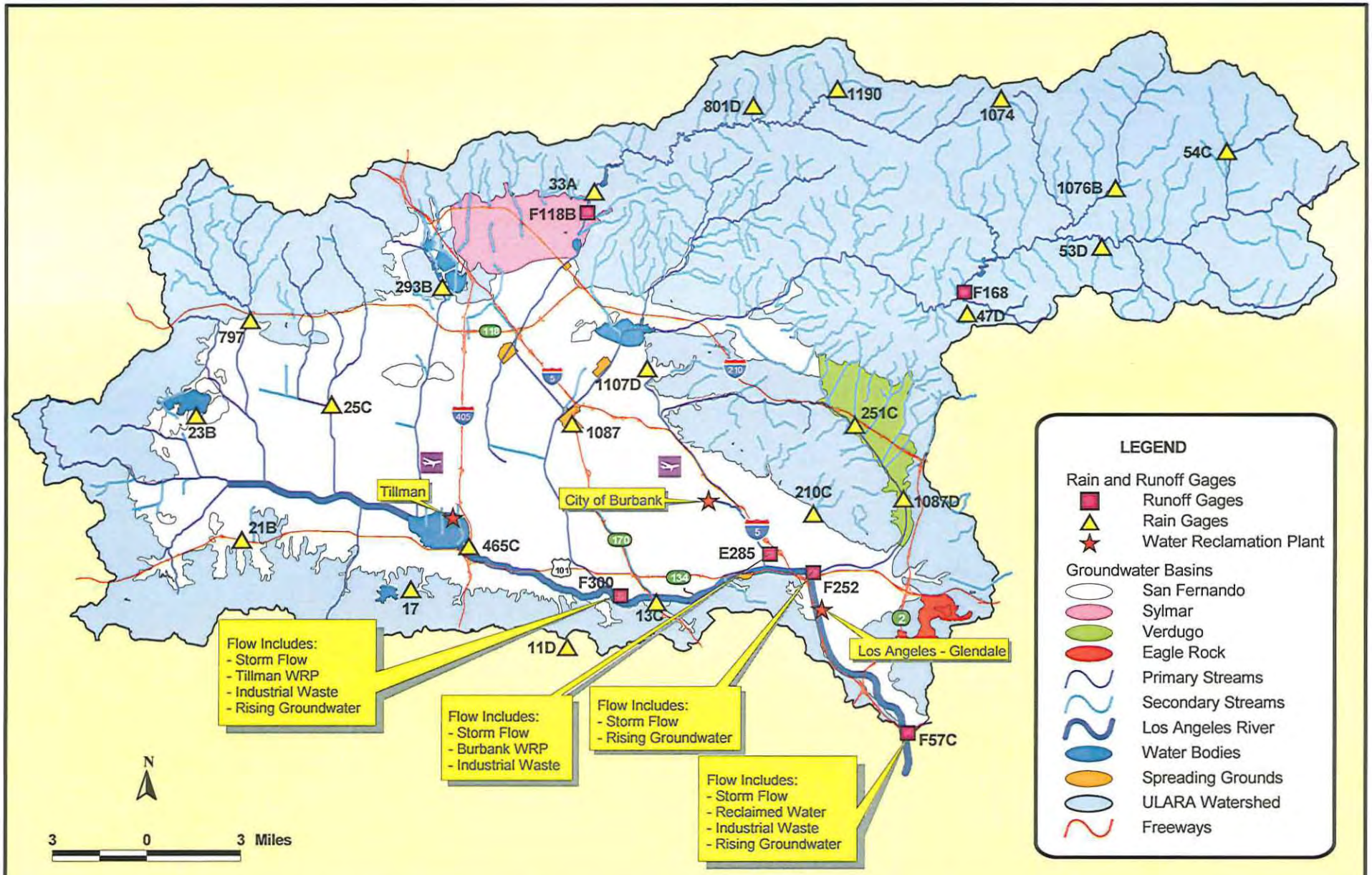


2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: Location of Individual Producers	PLATE 3

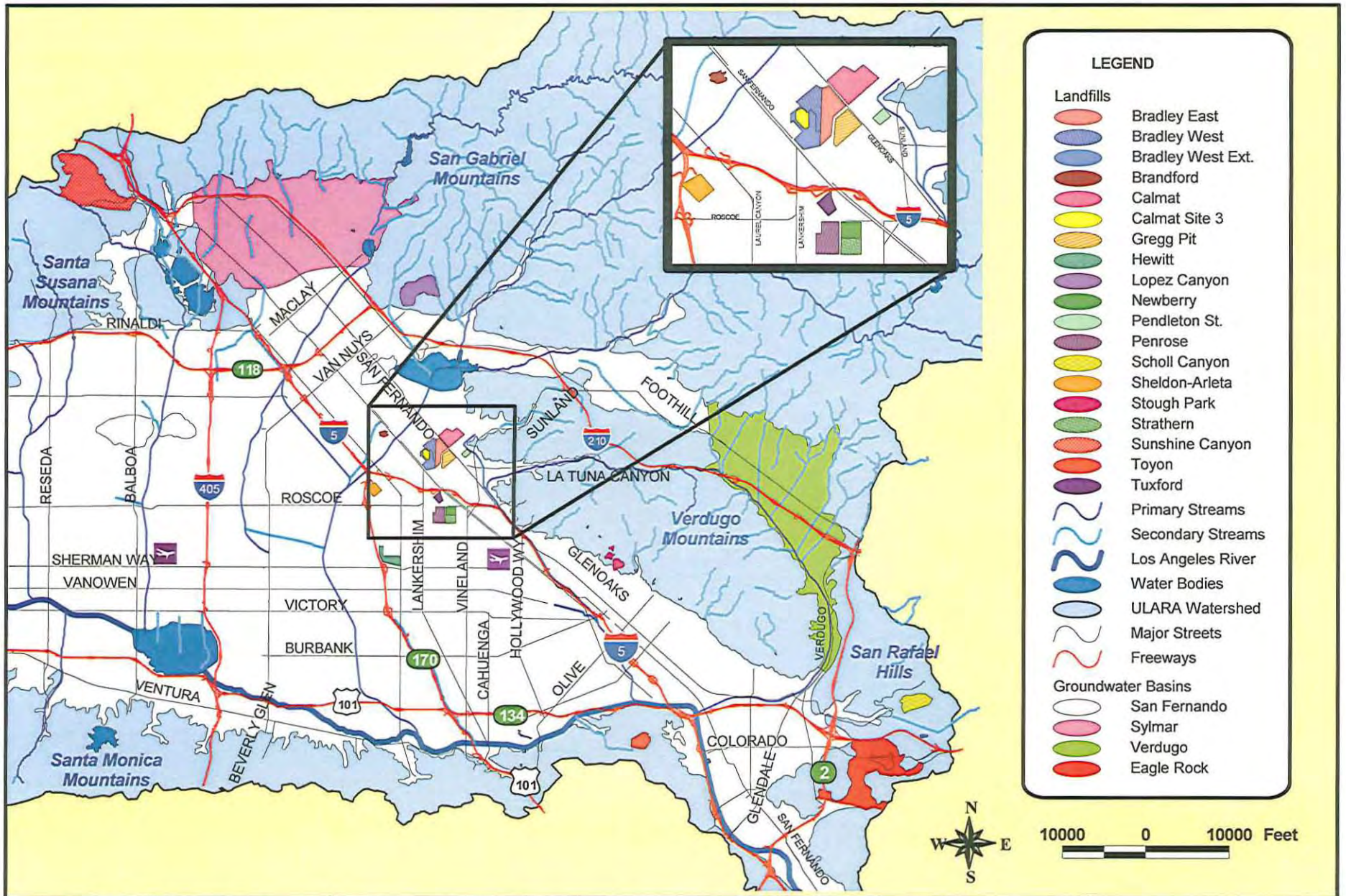
UPPER LOS ANGELES RIVER AREA

LOCATION OF WELLS AND HYDROLOGIC FACILITIES

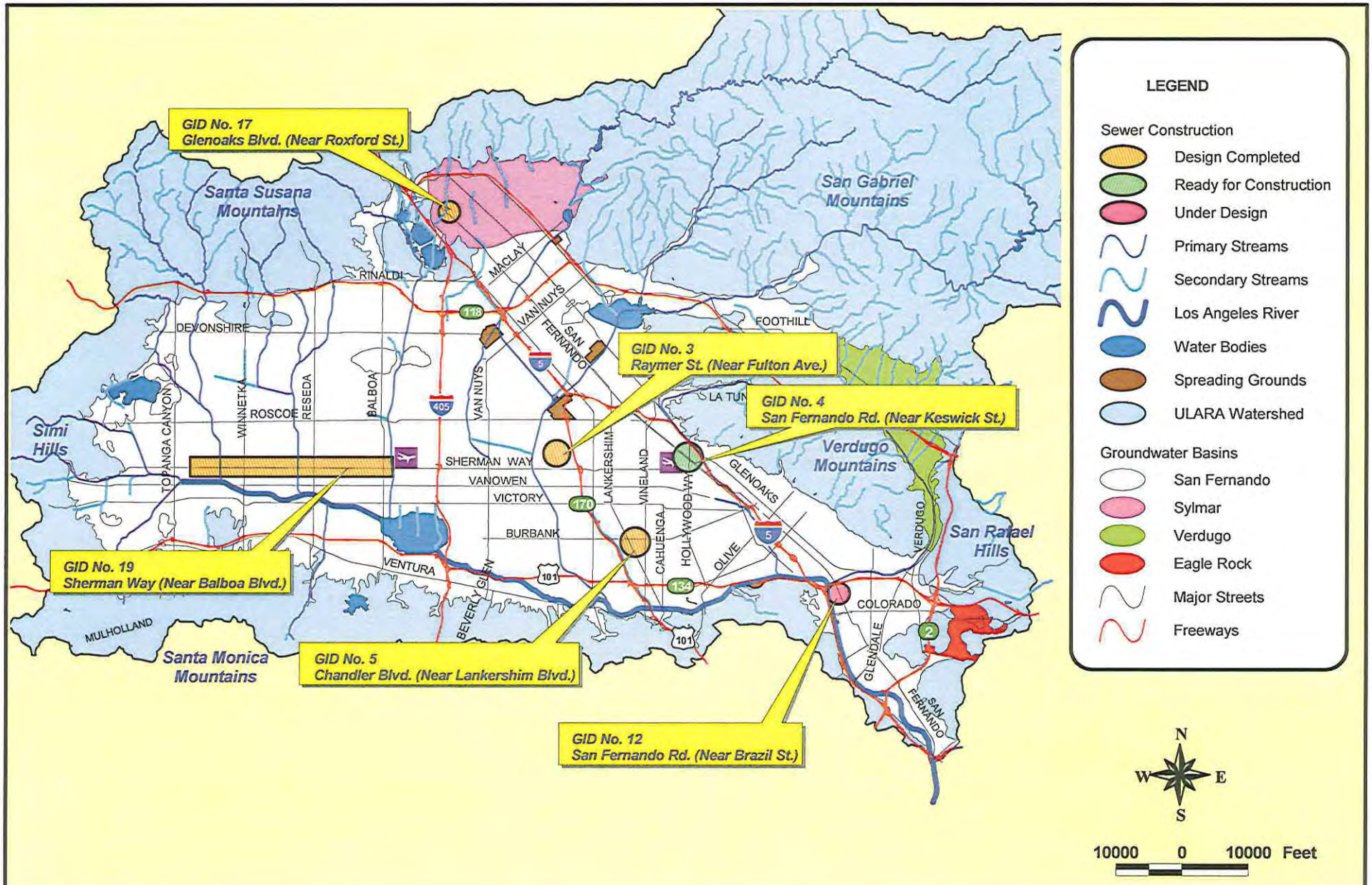




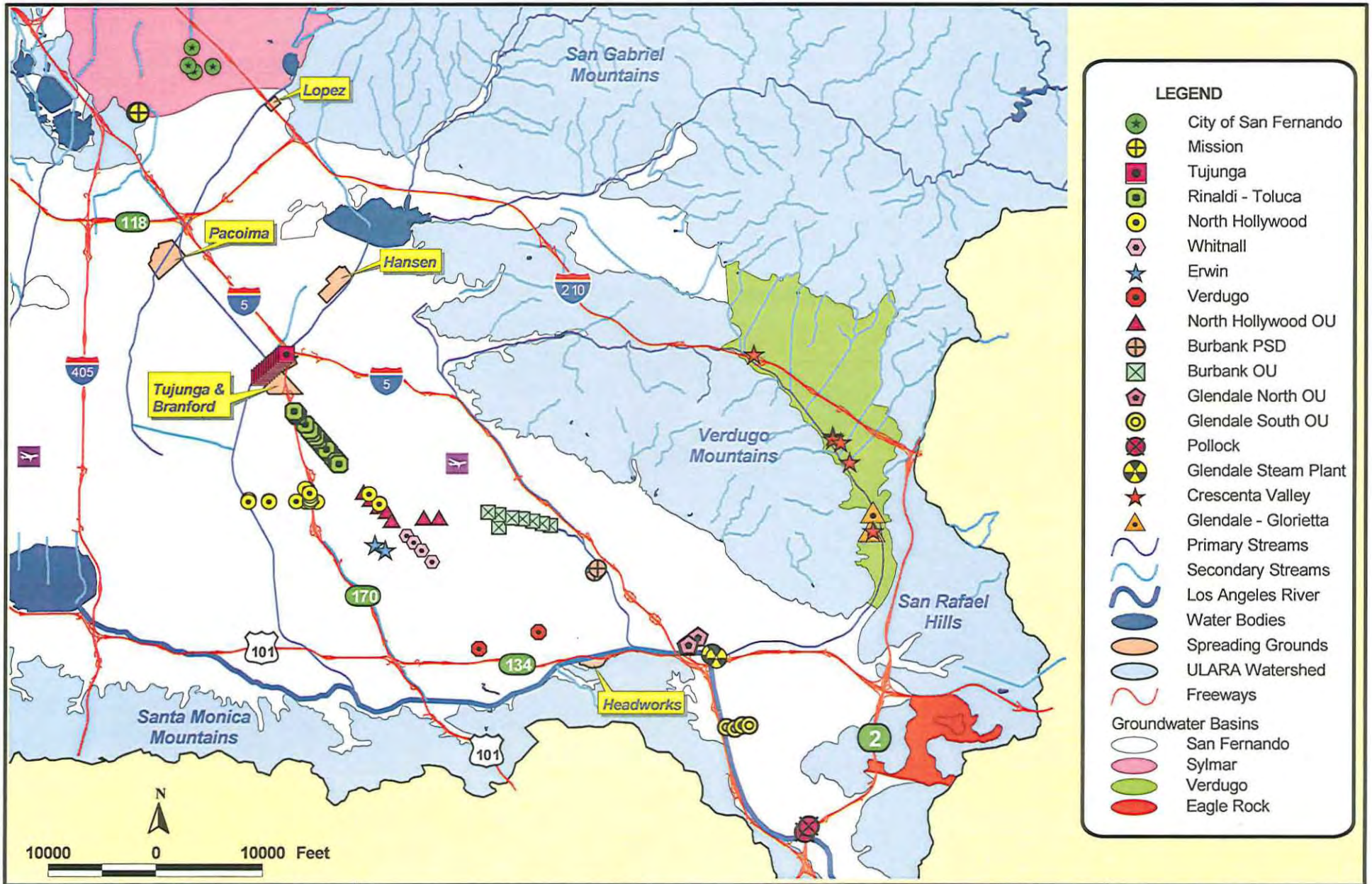
2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: Components of Los Angeles River	PLATE 5



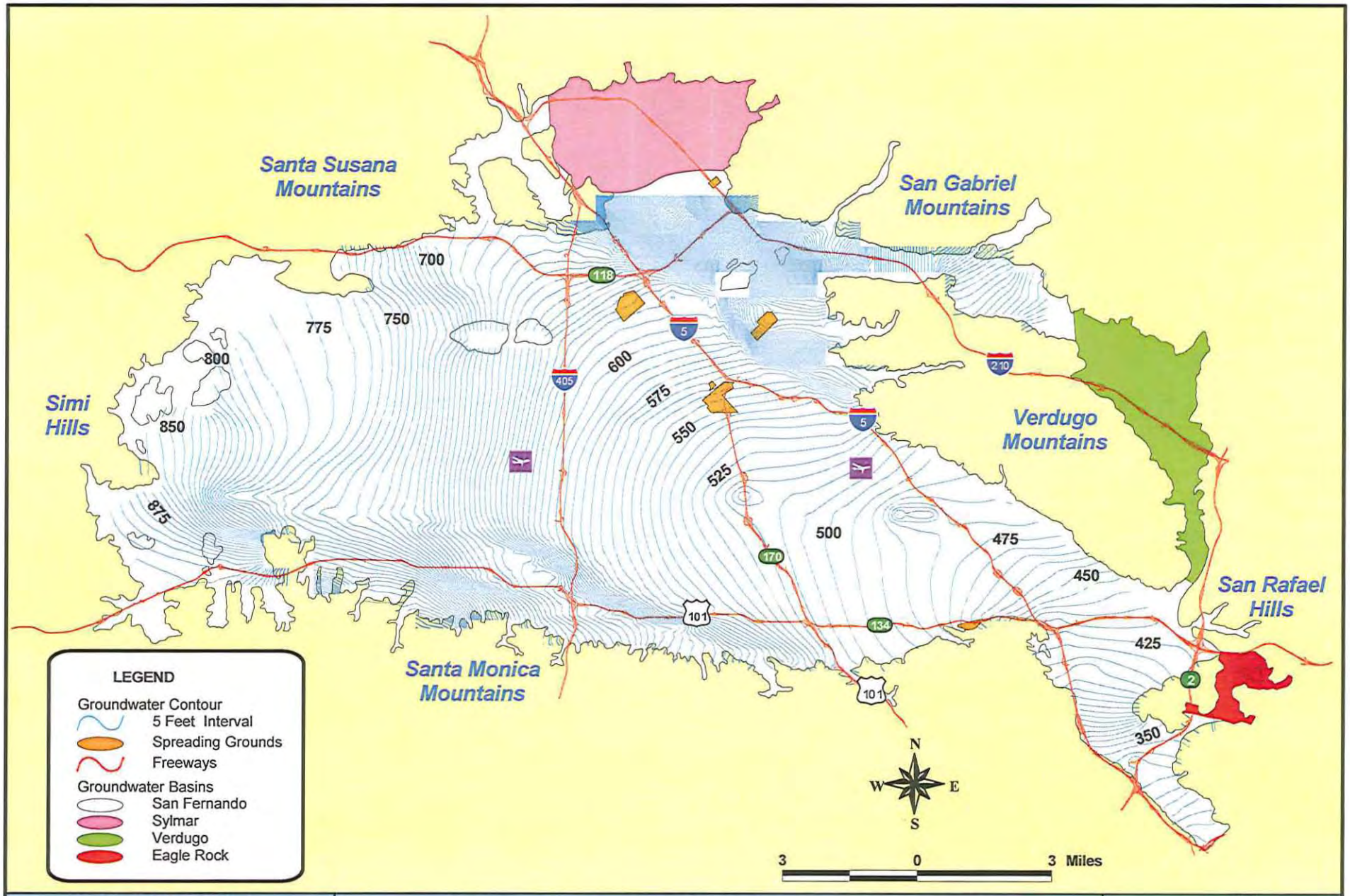
2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: Landfill Locations	PLATE 6



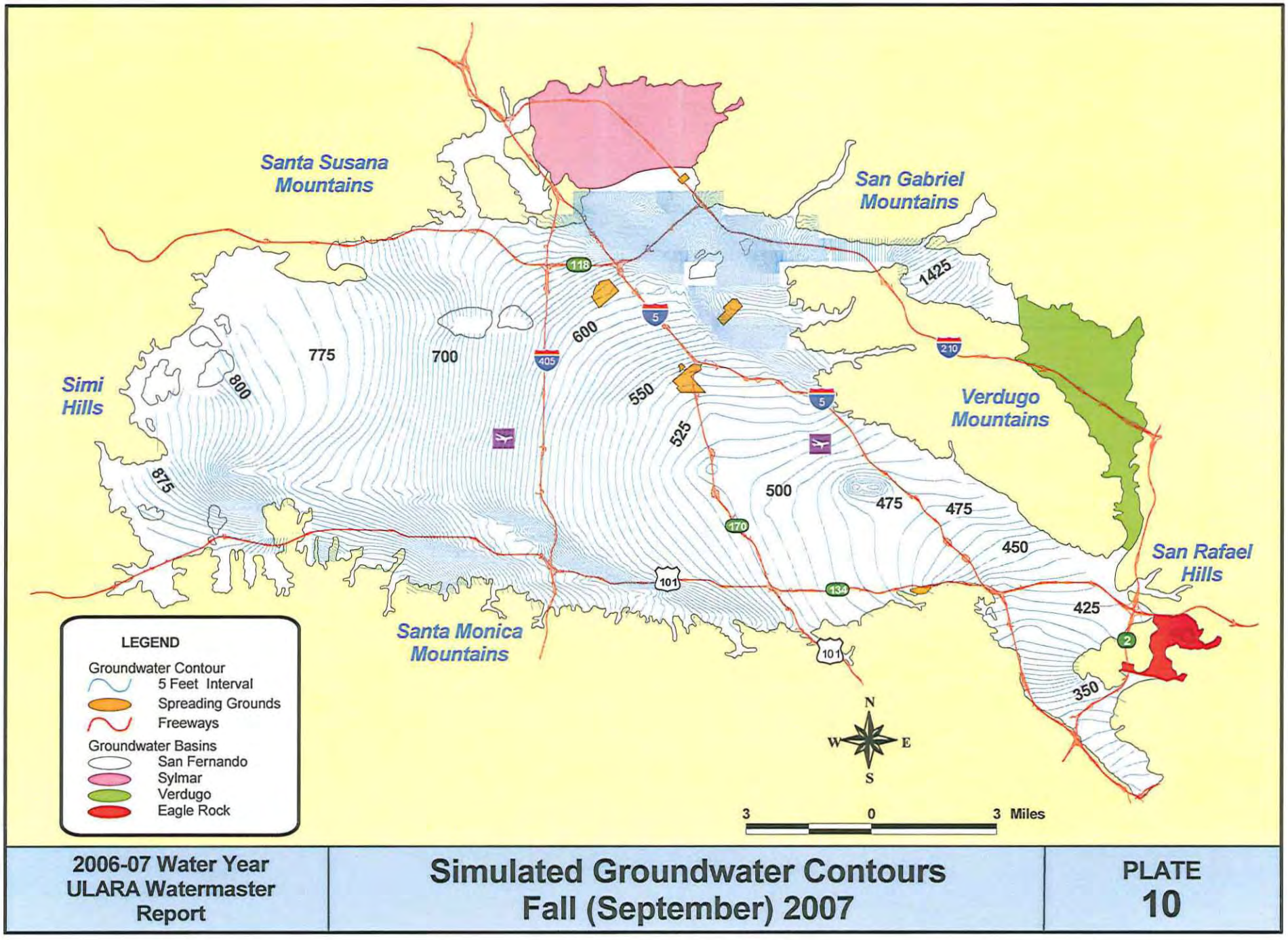
2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: Los Angeles Bureau of Sanitation Sewer Construction Program for Commercial Parcels	PLATE 7



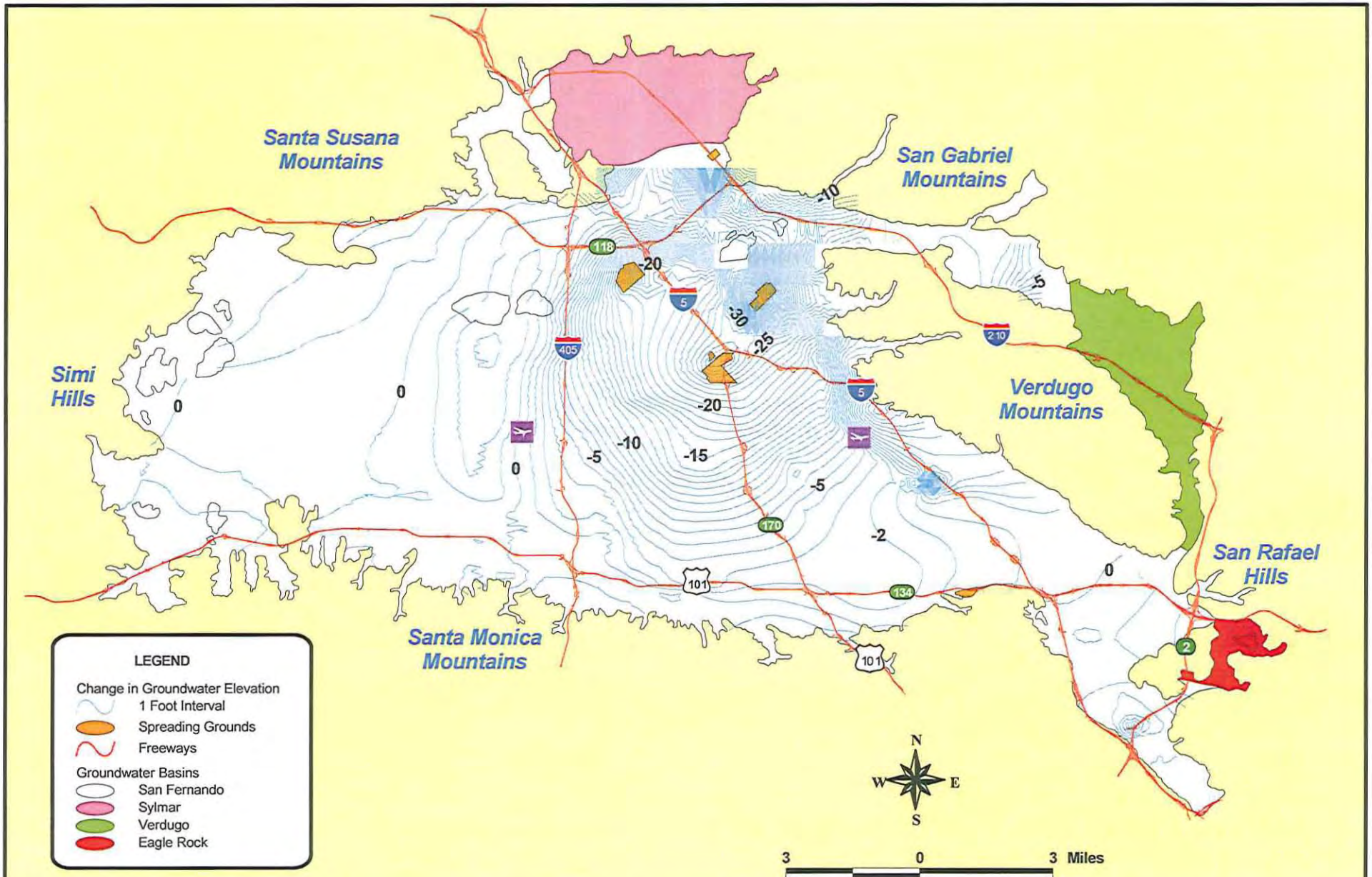
2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: Major Well Fields and Spreading Grounds	PLATE 8



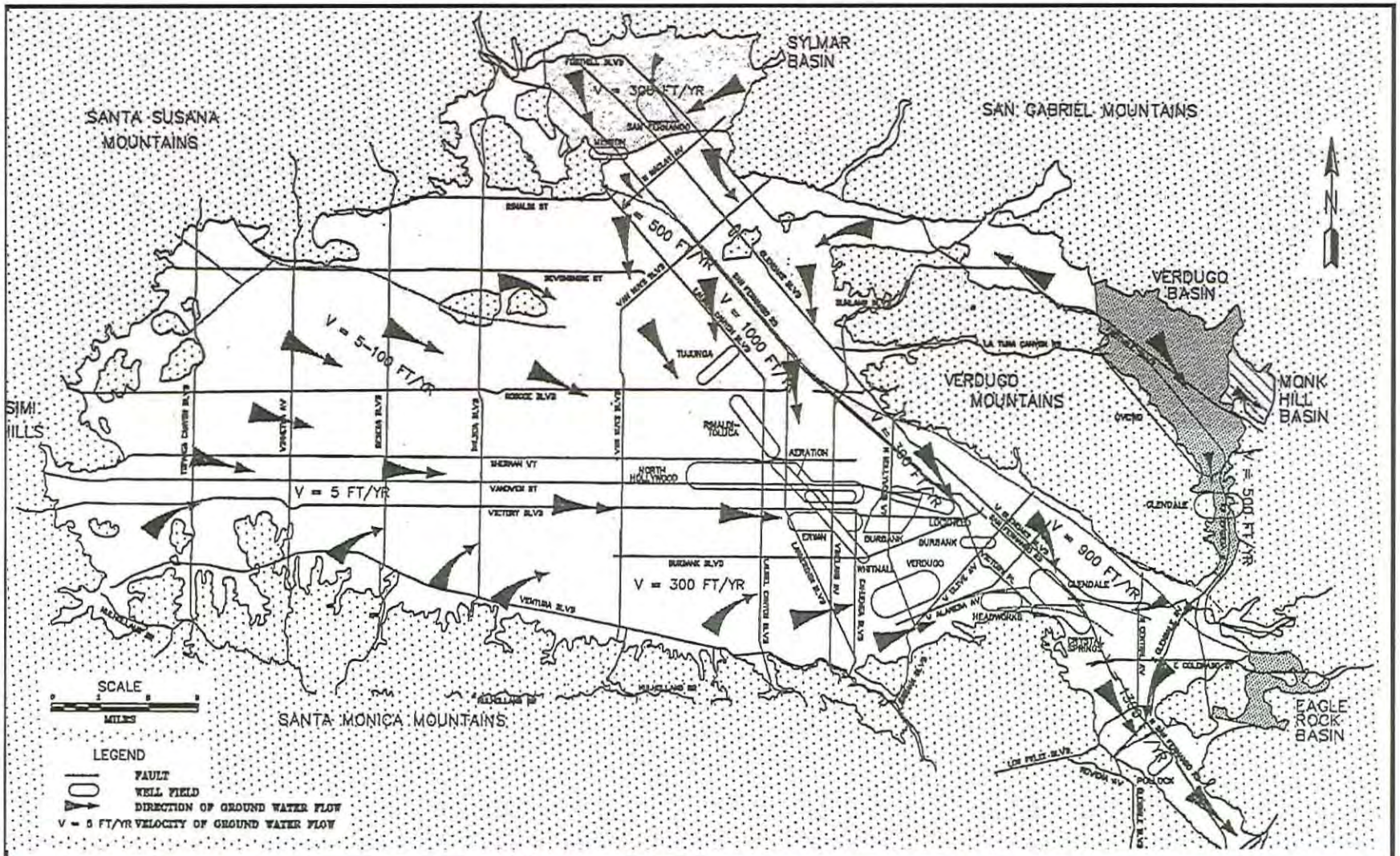
2006-07 Water Year ULARA Watermaster Report	Simulated Groundwater Contours Spring (April) 2007	PLATE 9



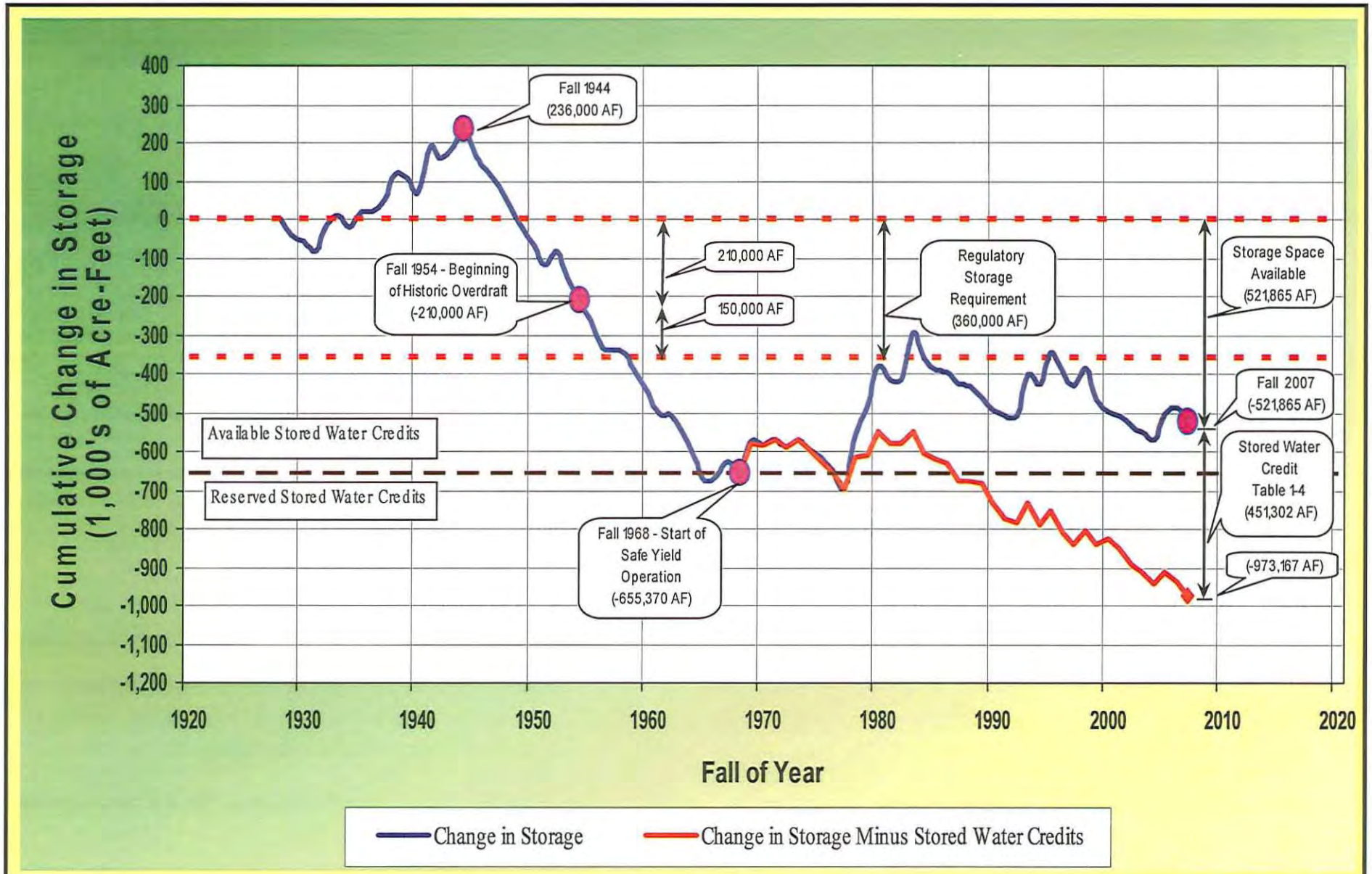
2006-07 Water Year ULARA Watermaster Report	Simulated Groundwater Contours Fall (September) 2007	PLATE 10



2006-07 Water Year ULARA Watermaster Report	Change in Groundwater Elevations Fall 2006 - Fall 2007	PLATE 11



2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: Estimated Directions and Velocities of Groundwater	PLATE 12



2006-07 Water Year ULARA Watermaster Report	San Fernando Basin: Cumulative Change in Groundwater Storage	PLATE 13

PLATE 13A - ULARA WATERMASTER REPORT

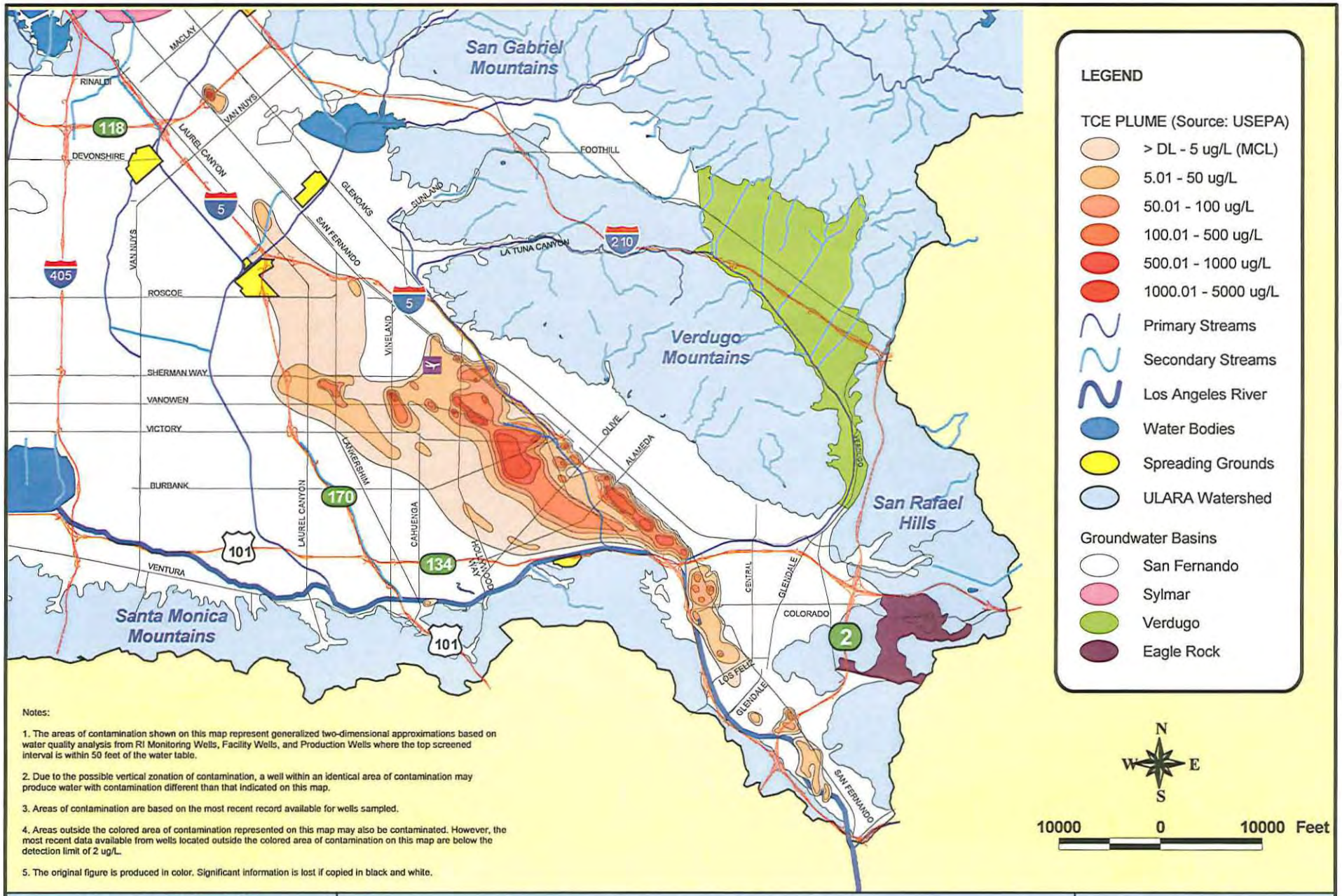
SAN FERNANDO BASIN
CUMULATIVE CHANGE IN GROUNDWATER STORAGE
(acre-feet)

Fall of Year	Change in Storage	Cumulative Chg. in Storage (1928)	Cumulative Chg. in Storage/1,000 AF	Cumulative Chg. in Storage (1944)	Cumulative Chg. in Storage/1,000 AF
1928	0	0	0		
1929	-41,510	-41,510	-42		
1930	-15,690	-57,200	-57		
1931	-26,320	-83,520	-84		
1932	67,030	-16,490	-16		
1933	26,640	10,150	10		
1934	-28,560	-18,410	-18		
1935	38,040	19,630	20		
1936	1,000	20,630	21		
1937	30,660	51,290	51		
1938	66,420	117,710	118		
1939	-12,540	105,170	105		
1940	-32,650	72,520	73		
1941	116,850	189,370	189		
1942	-31,230	158,140	158		
1943	31,030	189,170	189		
1944	47,200	236,370	236	0	0
1945	-74,180	162,190	162	-74,180	-74
1946	-33,300	128,890	129	-107,480	-107
1947	-41,200	87,690	88	-148,680	-149
1948	-52,770	34,920	35	-201,450	-201
1949	-56,360	-21,440	-21	-257,810	-258
1950	-43,390	-64,830	-65	-301,200	-301
1951	-53,290	-118,120	-118	-354,490	-354
1952	33,720	-84,400	-84	-320,770	-321
1953	-68,280	-152,680	-153	-389,050	-389
1954	-56,770	-209,450	-209	-445,820	-446
1955	-51,370	-260,820	-261	-497,190	-497
1956	-71,390	-332,210	-332	-568,580	-569
1957	-6,280	-338,490	-338	-574,860	-575
1958	-9,160	-347,650	-348	-584,020	-584
1959	-52,160	-399,810	-400	-636,180	-636
1960	-53,080	-452,890	-453	-689,260	-689
1961	-50,770	-503,660	-504	-740,030	-740
1962	-3,590	-507,250	-507	-743,620	-744
1963	-40,390	-547,640	-548	-784,010	-784
1964	-70,220	-617,860	-618	-854,230	-854
1965	-57,850	-675,710	-676	-912,080	-912
1966	14,970	-660,740	-661	-897,110	-897
1967	36,720	-624,020	-624	-860,390	-860
1968	-31,350	-655,370	-655	-891,740	-892
1969	79,240	-576,130	-576	-812,500	-813

PLATE 13A - ULARA WATERMASTER REPORT

SAN FERNANDO BASIN
CUMULATIVE CHANGE IN GROUNDWATER STORAGE
(acre-feet)

Fall of Year	Change in Storage	Cumulative Chg. in Storage (1928)	Cumulative Chg. in Storage/1,000 AF	Cumulative Chg. in Storage (1944)	Cumulative Chg. in Storage/1,000 AF
1970	-9,740	-585,870	-586	-822,240	-822
1971	15,340	-570,530	-571	-806,900	-807
1972	-17,090	-587,620	-588	-823,990	-824
1973	17,020	-570,600	-571	-806,970	-807
1974	-21,820	-592,420	-592	-828,790	-829
1975	-22,580	-615,000	-615	-851,370	-851
1976	-30,090	-645,090	-645	-881,460	-881
1977	-50,490	-695,580	-696	-931,950	-932
1978	136,150	-559,430	-559	-795,800	-796
1979	78,080	-481,350	-481	-717,720	-718
1980	99,970	-381,380	-381	-617,750	-618
1981	-32,560	-413,940	-414	-650,310	-650
1982	-530	-414,470	-414	-650,840	-651
1983	121,090	-293,380	-293	-529,750	-530
1984	-63,180	-356,560	-357	-592,930	-593
1985	-31,690	-388,250	-388	-624,620	-625
1986	-7,980	-396,230	-396	-632,600	-633
1987	-31,940	-428,170	-428	-664,540	-665
1988	-5,000	-433,170	-433	-669,540	-670
1989	-30,550	-463,720	-464	-700,090	-700
1990	-29,941	-493,661	-494	-730,031	-730
1991	-14,122	-507,783	-508	-744,153	-744
1992	411	-507,372	-507	-743,742	-744
1993	106,317	-401,055	-401	-637,425	-637
1994	-22,238	-423,293	-423	-659,663	-660
1995	79,132	-344,161	-344	-580,531	-581
1996	-49,223	-393,384	-393	-629,754	-630
1997	-35,737	-429,121	-429	-665,491	-665
1998	44113	-385,008	-385	-621,378	-621
1999	-82673	-467,681	-468	-704,051	-704
2000	-31,044	-498,725	-499	-735,095	-735
2001	-6,930	-505,655	-506	-742,025	-742
2002	-27,094	-532,749	-533	-769,119	-769
2003	-15,835	-548,584	-549	-784,954	-785
2004	-22,367	-570,951	-571	-807,321	-807
2005	66,476	-504,475	-504	-740,845	-741
2006	16,303	-488,172	-488	-724,542	-725
2007	-33,693	-521,865	-522	-758,235	-758



Notes:

1. The areas of contamination shown on this map represent generalized two-dimensional approximations based on water quality analysis from RI Monitoring Wells, Facility Wells, and Production Wells where the top screened interval is within 50 feet of the water table.

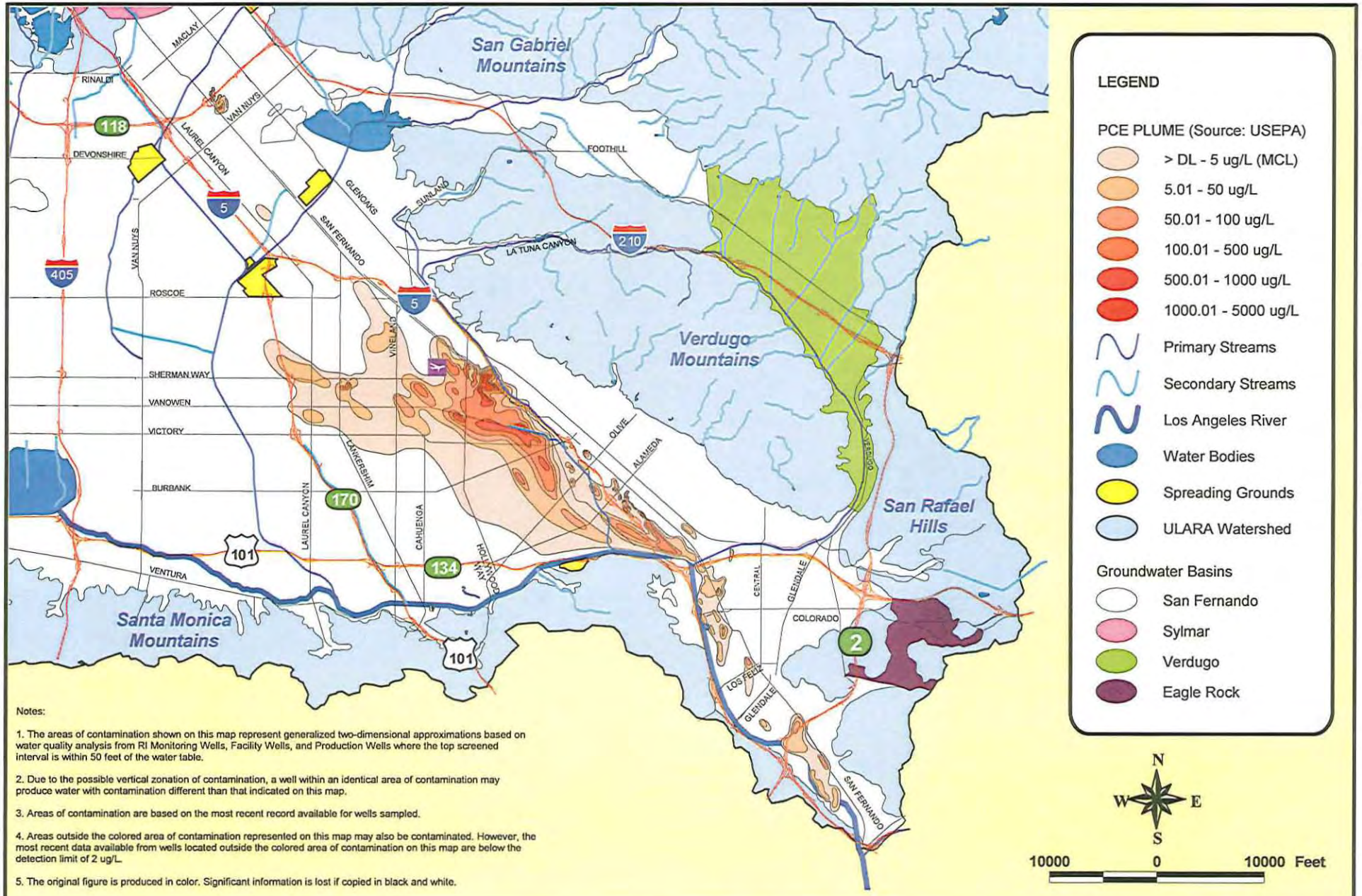
2. Due to the possible vertical zonation of contamination, a well within an identical area of contamination may produce water with contamination different than that indicated on this map.

3. Areas of contamination are based on the most recent record available for wells sampled.

4. Areas outside the colored area of contamination represented on this map may also be contaminated. However, the most recent data available from wells located outside the colored area of contamination on this map are below the detection limit of 2 ug/L.

5. The original figure is produced in color. Significant information is lost if copied in black and white.

2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: TCE Contamination (ug/L) in Shallow Zone in 2005	PLATE 14



Notes:

1. The areas of contamination shown on this map represent generalized two-dimensional approximations based on water quality analysis from RI Monitoring Wells, Facility Wells, and Production Wells where the top screened interval is within 50 feet of the water table.

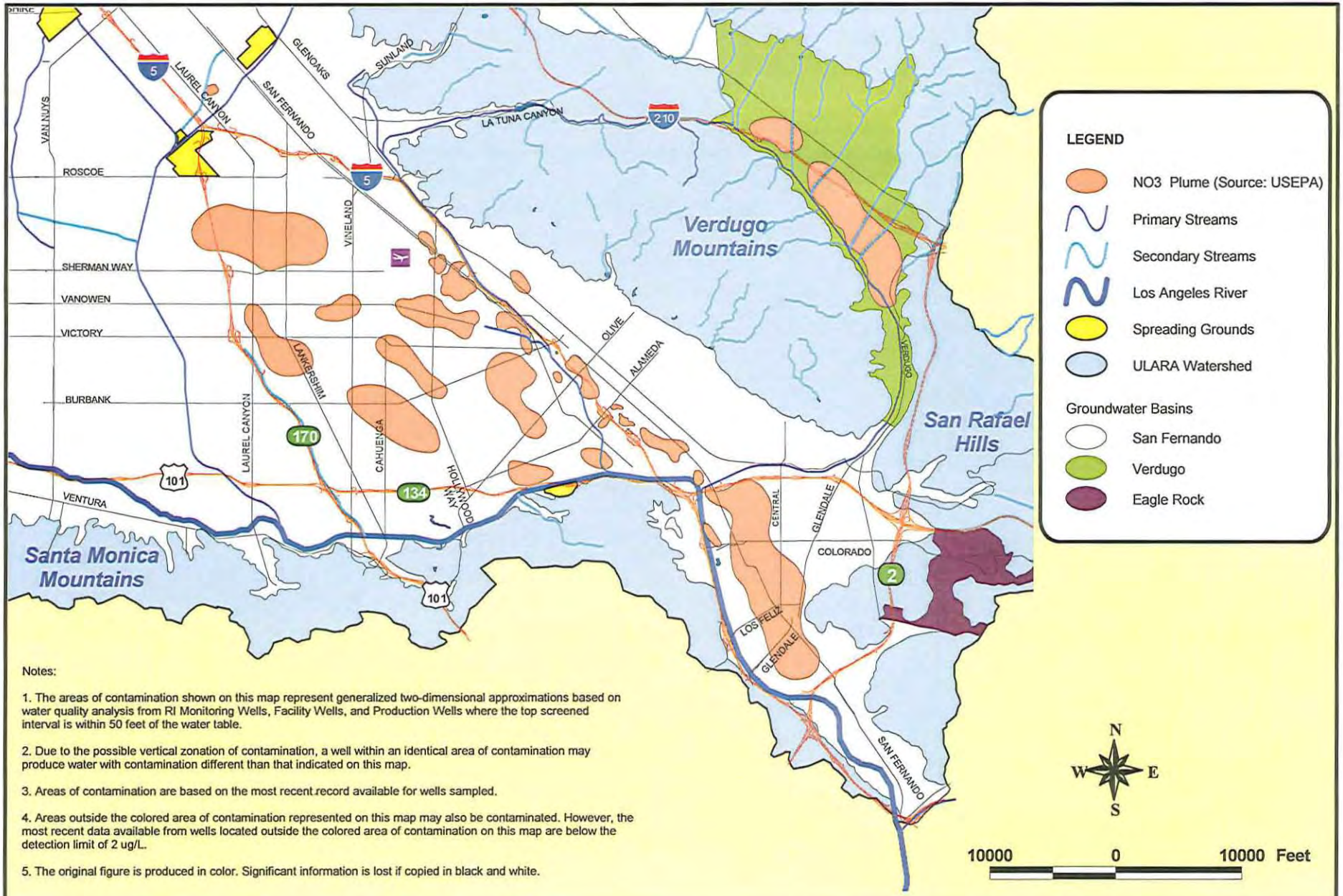
2. Due to the possible vertical zonation of contamination, a well within an identical area of contamination may produce water with contamination different than that indicated on this map.

3. Areas of contamination are based on the most recent record available for wells sampled.

4. Areas outside the colored area of contamination represented on this map may also be contaminated. However, the most recent data available from wells located outside the colored area of contamination on this map are below the detection limit of 2 ug/L.

5. The original figure is produced in color. Significant information is lost if copied in black and white.

2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: PCE Contamination (ug/L) in Shallow Zone in 2006	PLATE 15



Notes:

1. The areas of contamination shown on this map represent generalized two-dimensional approximations based on water quality analysis from RI Monitoring Wells, Facility Wells, and Production Wells where the top screened interval is within 50 feet of the water table.

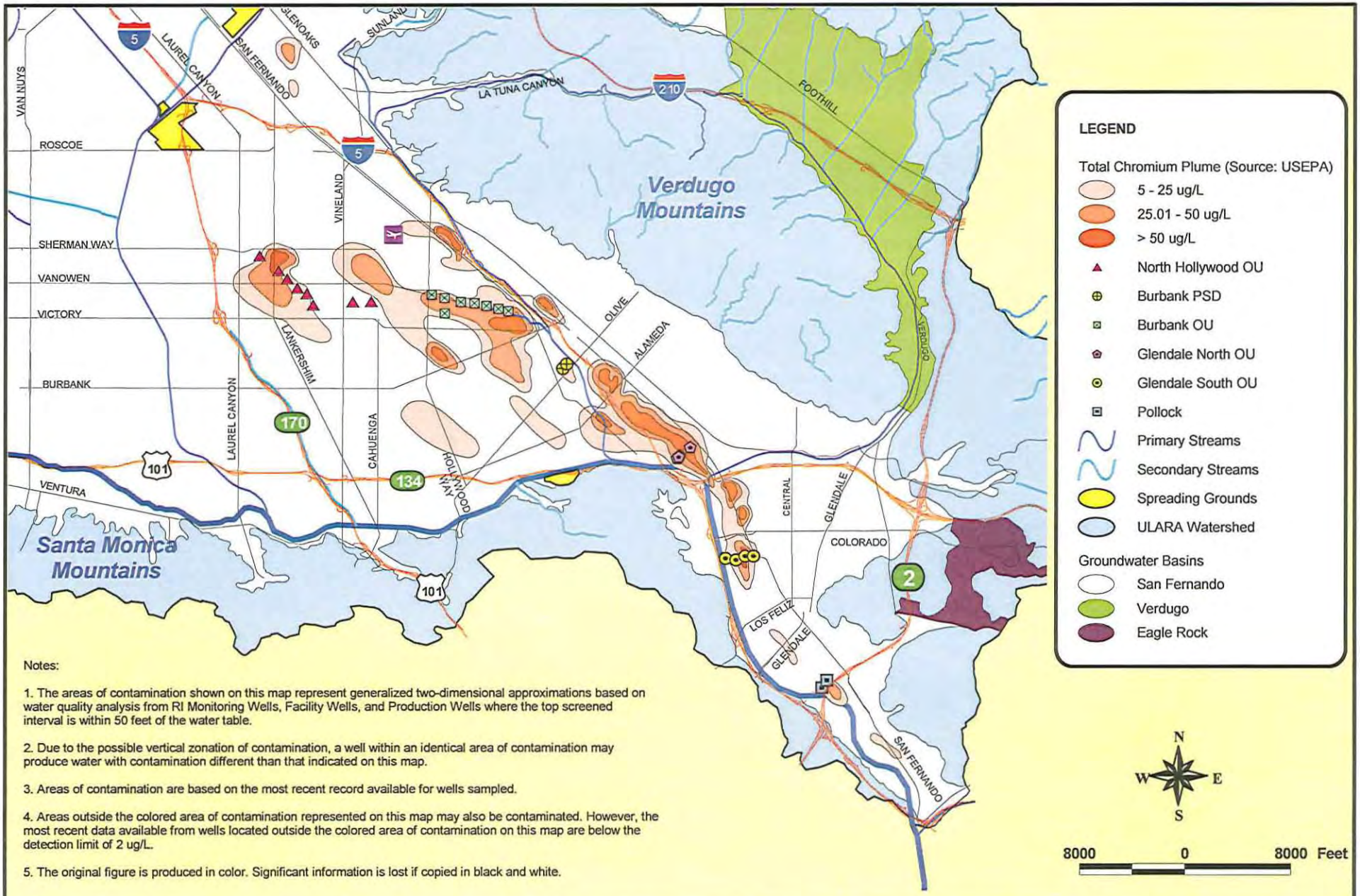
2. Due to the possible vertical zonation of contamination, a well within an identical area of contamination may produce water with contamination different than that indicated on this map.

3. Areas of contamination are based on the most recent record available for wells sampled.

4. Areas outside the colored area of contamination represented on this map may also be contaminated. However, the most recent data available from wells located outside the colored area of contamination on this map are below the detection limit of 2 ug/L.

5. The original figure is produced in color. Significant information is lost if copied in black and white.

2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: NO3 Contamination (mg/L) in Shallow Zone in 2006	PLATE 16



Notes:

1. The areas of contamination shown on this map represent generalized two-dimensional approximations based on water quality analysis from RI Monitoring Wells, Facility Wells, and Production Wells where the top screened interval is within 50 feet of the water table.

2. Due to the possible vertical zonation of contamination, a well within an identical area of contamination may produce water with contamination different than that indicated on this map.

3. Areas of contamination are based on the most recent record available for wells sampled.

4. Areas outside the colored area of contamination represented on this map may also be contaminated. However, the most recent data available from wells located outside the colored area of contamination on this map are below the detection limit of 2 ug/L.

5. The original figure is produced in color. Significant information is lost if copied in black and white.

2006-07 Water Year ULARA Watermaster Report	Upper Los Angeles River Area: Total Dissolved Chromium Contamination (ug/L) in Shallow Zone in 2006	PLATE 17

APPENDIX A
GROUNDWATER EXTRACTIONS

2006-2007 Water Year
(acre-feet)

LACDPW Well No.	Owner Well No.	2006 Oct	Nov	Dec	2007 Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	TOTAL
San Fernando Basin														
A. W. Warner Properties														
Plaza Six		1.69	1.23	1.06	1.21	1.28	1.45	1.21	1.08	1.50	0.99	1.07	0.90	14.67
A. W. Warner Properties														
Plaza Three		1.43	1.05	0.92	1.05	1.11	1.24	1.03	0.92	1.26	0.82	0.89	0.74	12.46
Angelica Healthcare Services		(abandoned 12/97)												
3934A	M050A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avalon Encino														
---	---	0.15	0.04	0.12	0.13	0.11	0.08	0.10	0.08	0.09	0.09	0.07	0.06	1.12
BFI Sunshine Canyon Landfill														
Total extraction from all sourc		9.15	0.58	0.11	3.28	2.13	0.81	2.09	2.18	1.67	0.33	1.32	1.21	24.84
Boeing (Rockwell International No further pumping until 2000)														
---	E-1 to E-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boeing Santa Susana Field Laboratory														
Delta	WS-09A	0.00	0.00	0.00	0.00	0.00	0.00	2.61	2.05	1.01	0.25	0.22	0.00	6.14
	RD-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.94	1.11	0.17	0.04	2.90
	Total:	0.00	0.00	0.00	0.00	0.00	0.00	2.61	2.69	1.95	1.36	0.39	0.04	9.04
Burbank, City of														
3841C	6A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3882P	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3851E	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3851K	13A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3882T	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3841G	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burbank Operable Unit														
3871L	VO-1	5.46	43.90	13.80	19.96	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	83.96
3861G	VO-2	78.10	73.97	24.27	21.24	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.68	198.76
3861K	VO-3	134.50	86.93	38.63	34.23	104.57	108.05	120.25	193.13	186.41	185.40	174.29	169.78	1,536.17
3861L	VO-4	180.43	68.81	91.47	58.64	106.86	109.72	89.97	191.69	164.18	185.91	176.89	170.76	1,595.33
3850X	VO-5	8.65	27.31	41.02	26.42	3.27	65.79	183.36	51.89	17.60	57.44	77.12	41.28	601.15
3850Z	VO-6	222.24	190.52	248.25	111.95	192.00	85.52	134.46	226.97	174.63	262.53	241.61	189.72	2,280.39
3850AB	VO-7	124.76	108.69	109.54	21.05	71.41	133.69	128.87	166.18	150.25	177.36	158.84	119.15	1,469.80
3851C	V0-8	186.83	136.50	37.43	57.29	198.01	217.15	193.60	218.63	210.81	212.74	196.12	149.65	2,014.76
	Total:	940.97	736.63	604.41	350.78	677.46	719.92	850.51	1,048.49	903.88	1,081.38	1,024.87	841.02	9,780.32
CalMat														
4916A	3	31.50	26.04	23.76	23.13	18.22	22.40	22.07	24.46	21.73	21.04	3.61	0.00	237.96
4916	2	70.72	57.68	57.45	67.41	50.66	54.08	51.93	65.70	69.91	66.63	10.27	0.00	622.44
4916(x)	1	127.32	95.98	79.48	0.00	30.32	97.25	89.44	108.87	106.93	98.26	15.16	0.47	849.48
Sheldon Pond		96.01	134.92	128.52	153.15	124.16	133.35	126.36	152.37	154.02	149.11	102.33	77.52	1,531.82
	Total:	325.55	314.62	289.21	243.69	223.36	307.08	289.80	351.40	352.59	335.04	131.37	77.99	3,241.70
First Financial Plaza Site														
N/A	F.F.P.S.	2.43	2.27	2.04	2.66	2.00	2.30	1.94	1.96	1.87	1.52	1.69	1.74	24.42
Forest Lawn Memorial Park														
3947B	3	6.56	2.16	0.00	0.00	2.71	9.77	8.36	15.08	9.71	15.91	21.87	10.92	103.05
3947C	4	5.41	1.77	0.00	0.00	2.29	8.63	7.41	13.55	8.71	14.72	19.67	0.13	82.29
3858K	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3947M	8	23.03	7.60	0.00	7.85	10.27	36.49	31.23	55.68	34.92	0.00	0.00	0.71	207.78
	Total:	35.00	11.53	0.00	7.85	15.27	54.89	47.00	84.31	53.34	30.63	41.54	11.76	393.12

2006-2007 Water Year
(acre-feet)

LACDPW Well No.	Owner Well No.	2006 Oct.	Nov.	Dec.	2007 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	TOTAL
					San Fernando Basin (cont'd)									
Glendale, City of														
3924N	STPT 1	2.90	3.59	1.77	1.65	0.87	1.15	0.12	1.29	16.81	20.36	4.44	4.50	59.45
3924R	STPT 2	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.25
GVENT	GVENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total:	2.90	3.59	1.77	1.65	0.90	1.15	0.12	1.29	17.03	20.36	4.44	4.50	59.70
Glendale North/South														
	GN-1	80.14	84.19	95.06	90.18	85.13	92.14	87.77	88.69	80.49	101.88	106.42	97.88	1,089.97
	GN-2	70.55	55.69	47.68	59.45	35.60	83.39	43.27	45.08	32.73	78.86	89.61	63.47	705.38
	GN-3	67.81	46.82	41.46	52.14	39.73	9.94	31.00	26.08	30.23	19.61	13.24	25.96	404.02
	GN-4	227.24	217.36	224.70	227.67	205.72	230.40	221.83	229.35	207.92	227.90	226.70	218.83	2,665.62
	GS-1	51.37	51.67	55.06	54.83	49.76	55.47	51.31	36.53	50.00	57.68	54.66	48.39	616.73
	GS-2	65.24	70.06	65.06	58.66	70.55	80.14	78.84	78.92	77.37	81.33	83.52	79.46	889.15
	GS-3	57.05	40.01	41.60	40.65	37.24	36.56	38.44	41.52	36.28	23.47	15.22	18.00	426.04
	GS-4	53.41	59.56	48.70	69.74	70.77	66.88	63.38	65.36	75.05	78.95	47.87	65.61	765.28
	Total:	672.81	625.36	619.32	653.32	594.50	654.92	615.84	611.53	590.07	669.68	637.24	617.60	7,562.19
Glendale Sewer Installation														
----	-----	0.00	0.00	69.05	69.05	69.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	207.16
Grigsby, Wood														
----	-----	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.13
Hathaway (successor to deMille)														
----	1	0.32	2.16	1.56	0.74	0.30	1.86	1.15	2.49	3.13	0.00	2.11	1.05	16.87
	2	1.62	1.74	1.00	1.23	0.99	0.86	0.01	0.31	0.36	0.40	0.41	0.00	8.93
	3	1.04	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21
	Total:	2.98	3.90	2.56	2.14	1.29	2.72	1.16	2.80	3.49	0.40	2.52	1.05	27.01
Home Depot U.S.A., Inc.														
----		0.45	0.84	0.49	0.68	0.74	0.76	0.72	1.06	0.33	0.99	0.76	0.14	7.96
Jose Diaz (010022)														
---	---	0.03	0.03	0.03	0.03	0.03	0.06	0.04	0.04	0.04	0.04	0.04	0.06	0.47
Khatcher Atamian (010006)														
----		0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.11
Lopez-Zamarripa (010007T)														
---	---	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.03	0.04	0.04	0.02	0.02	0.23
Menasco/Coltec Site														
---	---	0.02	0.02	0.01	0.00	0.00	0.01	0.06	0.05	0.00	0.00	0.02	0.01	0.20
Mercedes Benz of Encino (Auto Stiegler)														
---	---	0.43	0.48	0.05	0.00	0.06	0.32	0.32	0.08	0.12	0.06	0.20	0.15	2.27
Metropolitan Transportation Authority														
---	1065	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
---	1075	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
---	1130	0.25	0.36	0.46	0.50	0.38	0.40	0.39	0.48	0.34	0.29	0.16	0.22	4.23
---	1140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
---	1150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
---	1070	2.72	2.70	2.23	1.97	1.78	2.72	2.64	2.59	2.45	2.57	2.49	2.35	29.21
---	1133	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
	Total:	2.97	3.06	2.69	2.47	2.16	3.12	3.03	3.07	2.79	2.86	2.65	2.57	33.44

2006-2007 Water Year
(acre-feet)

LACDPW Well No.	Owner Well No.	2006 Oct	Nov.	Dec.	2007 Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	TOTAL
San Fernando Basin (cont'd)														
Metropolitan Water District														
	Jensen	18.90	18.00	13.30	17.30	14.90	18.10	17.60	17.80	16.20	16.50	16.70	15.80	201.10
Middle Ranch (Successor to deMille)														
4931 x	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4940-1	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
new	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4940-3	6	0.06	0.34	0.28	0.23	0.08	0.08	0.00	0.13	0.15	0.43	0.16	0.04	1.98
4940-2	7	0.14	0.36	0.40	0.08	0.20	0.20	0.53	0.83	0.84	0.58	1.08	0.71	5.95
new	8	0.27	0.91	0.91	0.81	0.22	0.21	0.00	0.10	0.10	0.23	0.19	0.01	3.96
	Spring 1&2	0.00	0.02	0.02	0.03	0.03	0.03	0.06	0.06	0.06	0.10	0.02	0.02	0.45
	Total	0.47	1.63	1.61	1.15	0.53	0.52	0.59	1.12	1.15	1.34	1.45	0.78	12.34
Micro Matics														
JEW	1	0.22	0.00	0.13	0.01	0.11	0.14	0.02	0.06	0.06	0.33	0.30	0.00	1.38
JEW	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.06
RMW	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.22	0.00	0.13	0.01	0.11	0.14	0.02	0.06	0.06	0.36	0.33	0.00	1.44
Mobil Oil Corporation														
---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(NEIS) Northeast Interceptor Sewer City of LA BOS														
---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Raytheon (Formerly Hughes Missile Systems)														
----	-----	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Quaranto, John (010004)														
----	----	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Sears Roebuck & Co. (Well disconnected 10/2000)														
3945	3945	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sportsmen's Lodge														
3785A	1	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.05
3M-Pharmaceuticals														
---	---	5.07	4.26	2.64	4.79	4.40	4.19	4.50	3.84	3.73	4.02	5.02	4.04	50.50
Tesoro Petroleum Corporation														
---	MW-15	0.05	0.07	0.00	0.07	0.00	0.00	1.97	0.24	0.01	0.01	0.13	0.23	2.78
Toluca Lake Property Owners Association														
3845F	3845F	3.18	2.81	2.98	0.55	2.57	3.16	4.02	5.60	5.75	5.72	5.69	4.65	46.68
Trillium Corporation														
Well #1	---	2.95	2.71	2.53	2.91	2.30	0.80	2.56	1.30	1.95	1.47	0.37	0.22	22.07
Well #2	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	1.22	1.24	1.20	4.99
	Total:	2.95	2.71	2.53	2.91	2.30	0.80	2.56	1.30	3.28	2.69	1.61	1.42	27.06
Valhalla Memorial Park and Mortuary														
3840K	4	40.07	23.84	8.60	17.87	4.29	27.66	34.98	60.13	62.15	47.23	81.01	23.60	431.43
Waste Management Disposal Services of Calif.														
4916D		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2006-2007 Water Year
(acre-feet)

LACDPW Well No.	Owner Well No.	2006 Oct.	Nov.	Dec.	2007 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	TOTAL
San Fernando Basin (cont'd)														
Walt Disney Pictures and Television		(wells inactive/ not abandoned)												
3874E	EAST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3874F	WEST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3874G	NORTH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Walt Disney Riverside Building														
---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waterworks District No. 21														
---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wildlife Waystation														
Rehab Canyon		0.36	0.34	0.33	0.33	0.36	0.31	0.33	0.25	0.27	0.22	0.23	0.17	3.50
Foreman Hill Spring		0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.25
	Total:	0.38	0.36	0.35	0.35	0.39	0.33	0.35	0.27	0.29	0.24	0.25	0.19	3.75
Los Angeles, City of														
Aeration (A)														
3800E	A-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3810U	A-2	13.09	8.79	12.74	22.34	9.87	3.10	0.02	0.07	0.02	0.02	0.05	0.05	70.16
3810V	A-3	23.71	14.81	21.99	37.26	15.15	28.67	27.57	6.11	0.28	2.82	11.80	1.97	192.14
3810W	A-4	12.21	0.00	0.00	1.58	3.42	1.93	3.49	3.37	2.89	2.96	2.69	2.50	37.04
3820H	A-5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3821J	A-6	29.66	20.68	28.49	23.03	19.70	37.83	30.69	57.09	27.71	30.21	38.87	23.76	367.72
3830P	A-7	28.58	0.00	18.53	50.92	25.90	41.41	39.30	28.33	0.00	31.24	39.74	33.86	337.81
3831K	A-8	25.90	18.41	25.05	35.31	16.05	22.27	19.72	29.48	21.95	26.47	31.50	29.98	302.09
	A Total:	133.15	62.69	106.80	170.44	90.09	135.21	120.79	124.45	52.85	93.72	124.65	92.12	1,306.96
Erwin (E)														
3831H	E-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00
3821I	E-2A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3831G	E-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3821F	E-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3831F	E-5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3821H	E-6	275.32	86.20	2.20	0.00	0.00	0.00	288.91	281.06	136.64	150.60	274.24	183.31	1,678.48
3811F	E-10	92.79	28.56	72.11	107.25	77.07	109.09	103.40	82.09	90.04	69.95	127.27	84.87	1,044.49
	E Total:	368.11	114.76	74.31	107.25	77.07	109.09	392.31	363.15	226.68	220.55	401.51	268.18	2,722.97
Headworks (H)		Inactive Well Field												
3893Q	H-27A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3893R	H-28A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3893S	H-29A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3893T	H-30A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	H Total:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2006-2007 Water Year
(acre-feet)

LACDPW	Owner	2006			2007									
Well No.	Well No.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	TOTAL
					San Fernando Basin (cont'd)									
North Hollywood (NH)														
3800	NH-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3780A	NH-4	0.00	0.30	0.28	88.91	152.80	142.93	109.89	110.56	149.43	141.14	182.76	135.56	1,214.56
3770	NH-7	0.07	0.09	0.02	0.09	0.00	6.27	27.89	27.78	27.20	23.42	29.94	20.78	163.55
3810	NH-11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3810A	NH-13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3810B	NH-14A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3790B	NH-15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3820D	NH-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3820C	NH-17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3820B	NH-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3830D	NH-19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3830C	NH-20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3830B	NH-21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3790C	NH-22	271.33	308.36	280.19	332.35	269.24	265.59	197.73	0.00	43.64	0.00	0.00	202.92	2,171.35
3790D	NH-23	0.37	0.57	0.00	0.02	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	1.14
3800C	NH-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3790F	NH-25	204.32	189.69	187.01	0.00	175.02	161.75	123.74	0.00	88.84	158.15	186.00	148.83	1,623.35
3790E	NH-26	215.50	237.88	289.69	226.33	206.06	205.19	154.32	0.00	34.78	205.72	274.13	195.82	2,245.42
3820F	NH-27	0.00	0.00	0.00	194.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	194.56
3810K	NH-28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3810L	NH-29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3800D	NH-30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	126.72	0.00	0.00	0.00	126.72
3810T	NH-31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	207.53	0.00	0.00	0.00	207.53
3770C	NH-32	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	353.19	165.56	213.87	160.26	893.09
3780C	NH-33	242.03	112.17	287.42	214.62	211.09	198.81	154.09	189.62	0.00	195.22	245.20	179.38	2,229.65
3790G	NH-34	342.84	369.61	297.13	260.40	62.99	346.67	340.75	331.73	162.44	330.74	434.76	296.28	3,576.34
3830N	NH-35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.30
3790H	NH-36	288.59	309.11	362.81	226.12	218.66	196.24	197.64	209.02	0.00	0.00	0.00	151.01	2,159.20
3790J	NH-37	0.00	0.18	0.57	0.18	0.00	0.30	0.53	0.00	0.00	0.16	0.21	0.18	2.31
3810M	NH-38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3810N	NH-39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3810P	NH-40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3810Q	NH-41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3810R	NH-42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3790K	NH-43A	316.44	120.43	1.08	0.51	0.00	174.66	129.25	0.00	0.41	0.30	0.30	0.00	743.38
3790L	NH-44	311.91	342.13	407.14	151.03	288.82	297.36	295.91	235.17	173.58	288.61	384.11	282.07	3,457.84
3790M	NH-45	438.93	482.87	365.56	106.40	0.00	0.00	1.42	406.73	434.21	406.45	539.99	395.34	3,577.90
	NH Total:	2,632.33	2,473.60	2,478.90	1,801.52	1,584.68	1,995.77	1,733.34	1,510.61	1,802.27	1,915.47	2,491.27	2,168.43	24,588.19

2006-2007 Water Year
(acre-feet)

LACDPW	Owner	2006			2007									
Well No.	Well No.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	TOTAL
							San Fernando Basin (cont'd)							
Pollock (P)														
3959E	P-4	166.09	122.31	132.58	195.96	193.94	173.55	101.01	0.00	0.00	0.00	121.21	203.65	1,410.30
3958H	P-6	147.50	178.33	86.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	226.29	181.84	820.65
3958J	P-7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	P Total:	313.59	300.64	219.27	195.96	193.94	173.55	101.01	0.00	0.00	0.00	347.50	385.49	2,230.95
Rinaldi-Toluca (RT)														
4909E	RT-1	0.48	0.39	0.69	0.44	0.71	0.32	0.69	0.71	0.67	0.62	0.51	0.53	6.76
4898A	RT-2	0.51	0.57	0.30	109.55	166.12	404.52	390.22	504.20	184.62	7.87	0.23	0.67	1,769.38
4898B	RT-3	2.75	1.72	0.80	144.95	176.31	53.19	0.00	0.00	0.00	0.00	0.00	0.00	379.72
4898C	RT-4	468.02	562.90	496.28	305.56	174.06	377.07	451.24	490.54	440.24	481.73	433.56	454.55	5,135.75
4898D	RT-5	468.16	530.46	453.15	136.94	163.77	357.25	426.33	254.66	339.07	455.49	409.53	428.26	4,423.07
4898E	RT-6	220.00	605.81	534.02	447.25	529.03	407.48	480.72	522.87	470.13	513.80	462.63	488.31	5,682.05
4898F	RT-7	2.64	0.80	0.92	0.57	0.67	0.73	0.73	1.12	0.57	0.62	0.71	0.49	10.57
4898G	RT-8	292.93	345.29	0.46	184.73	313.57	238.25	279.64	300.55	267.65	285.77	243.64	172.50	2,924.98
4898H	RT-9	449.04	99.36	0.67	0.44	0.69	0.00	0.00	1.31	1.17	1.45	290.40	459.92	1,304.45
4909G	RT-10	0.48	0.64	0.76	0.57	0.87	0.44	0.73	0.67	1.22	14.99	0.73	0.69	22.79
4909K	RT-11	0.57	0.39	0.85	0.46	0.51	0.41	0.46	1.49	0.83	0.78	0.62	0.59	7.96
4909H	RT-12	0.48	0.62	0.78	0.48	0.57	0.46	0.62	118.00	101.49	0.55	0.55	0.53	225.13
4909J	RT-13	0.44	0.51	0.73	0.46	0.53	0.44	0.57	0.62	1.15	0.53	0.53	0.51	7.02
4909L	RT-14	0.83	0.46	0.80	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.48
4909M	RT-15	0.69	0.25	0.05	0.07	0.05	0.02	0.09	0.05	0.07	0.05	0.07	0.05	1.51
	RT Total:	1,908.02	2,150.17	1,491.26	1,332.86	1,527.46	1,840.58	2,032.04	2,196.79	1,808.88	1,764.25	1,843.71	2,007.60	21,903.62
Tujunga (T)														
4887C	T-1	487.53	186.36	0.00	117.54	69.19	66.48	187.49	19.12	0.00	0.00	165.29	512.92	1,811.92
4887D	T-2	463.43	179.73	0.00	187.03	68.57	426.97	292.77	17.54	447.70	516.80	535.74	499.47	3,635.75
4887E	T-3	0.00	1.45	0.00	0.92	0.00	1.84	0.67	209.50	751.77	574.70	50.34	0.99	1,592.18
4887F	T-4	0.00	0.21	0.00	67.84	21.97	297.27	0.87	0.48	1.38	342.91	539.07	175.60	1,447.60
4887G	T-5	0.00	1.06	0.85	0.55	0.00	0.62	0.41	0.46	1.35	0.00	0.73	1.06	7.09
4887H	T-6	501.72	136.52	0.78	0.48	0.00	0.80	0.48	0.41	1.52	0.00	0.51	0.94	644.16
4887J	T-7	0.00	1.19	0.64	0.48	0.00	0.94	0.41	0.44	1.63	0.00	0.57	1.01	7.31
4887K	T-8	0.00	1.86	0.41	146.88	75.34	313.04	0.99	0.44	1.35	0.00	1.19	1.70	543.20
4886B	T-9	0.00	1.74	0.57	109.76	91.29	415.61	132.16	190.27	705.88	181.40	0.60	1.22	1,830.50
4886C	T-10	0.00	1.40	0.64	0.60	0.00	132.16	0.57	275.48	294.28	0.00	0.71	322.59	1,028.43
4886D	T-11	0.00	1.01	0.37	0.51	0.00	1.31	0.67	1.08	1.03	0.00	0.67	0.57	7.22
4886E	T-12	497.22	191.09	0.44	136.29	0.00	366.28	309.55	296.07	711.59	551.70	554.52	515.84	4,130.59
	T Total:	1,949.90	703.62	4.70	768.88	326.36	2,023.32	927.04	1,011.29	2,919.48	2,167.51	1,849.94	2,033.91	16,685.95

2006-2007 Water Year
(acre-feet)

LACDPW Well No.	Owner Well No.	2006 Oct.	Nov.	Dec.	2007 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	TOTAL
San Fernando Basin (cont'd)														
Verdugo (V)														
3863H	V-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3863P	V-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3863J	V-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3863L	V-11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	223.28	226.45	449.73
3853G	V-13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3854F	V-22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3844R	V-24	0.00	0.34	151.74	229.73	175.02	235.74	218.94	178.21	202.82	165.45	299.61	212.86	2,070.46
	V Total:	0.00	0.34	151.74	229.73	175.02	235.74	218.94	178.21	202.82	165.45	522.89	439.31	2,520.19
Whitnall (W)														
3820E	W-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3821B	W-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3821C	W-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3821D	W-4	0.62	0.00	0.28	0.00	0.80	0.00	0.00	0.62	0.44	0.48	0.23	0.57	4.04
3821E	W-5	0.62	0.00	0.23	0.00	0.60	0.00	0.00	0.46	0.34	0.53	0.46	0.71	3.95
3831J	W-6A	226.03	190.91	248.16	287.19	218.60	317.38	298.35	229.75	265.47	219.47	405.46	287.92	3,194.69
3832K	W-7	90.63	75.46	98.53	109.14	79.61	90.86	102.25	80.83	88.18	69.54	122.34	81.91	1,089.28
3832L	W-8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3832M	W-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3842E	W-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	W Total:	317.90	266.37	347.20	396.33	299.61	408.24	400.60	311.66	354.43	290.02	528.49	371.11	4,291.96
Los Angeles, City of Total:		7,623.00	6,072.19	4,874.18	5,002.97	4,274.23	6,921.50	5,926.07	5,696.16	7,367.41	6,616.97	8,109.96	7,766.15	76,250.79
San Fernando Basin Total:		9,693.29	7,831.12	6,500.19	6,388.00	5,895.20	8,727.27	7,810.27	7,899.60	9,392.11	8,841.71	10,073.29	9,378.44	98,430.50

Sylmar Basin														
Los Angeles, City of														
Plant	Mission													
4840J	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4840K	6	145.27	31.52	0.14	175.71	172.31	92.24	195.39	189.76	189.28	183.47	181.45	172.20	1,728.74
4840S	7	163.04	35.67	0.18	209.30	206.45	107.51	287.29	213.13	293.71	221.65	235.40	217.33	2,190.66
		308.31	67.19	0.32	385.01	378.76	199.75	482.68	402.89	482.99	405.12	416.85	389.53	3,919.40
Santiago Estates														
5998	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2006-2007 Water Year
(acre-feet)

LACDPW Well No.	Owner Well No.	2006 Oct.	Nov.	Dec.	2007 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	TOTAL
					Sylmar Basin (cont'd)									
San Fernando, City of														
5969D	2A	150.91	163.09	150.35	150.51	14.32	0.56	2.62	127.17	221.76	239.81	240.13	208.22	1,669.45
5959	3	88.86	73.34	56.56	64.56	8.29	0.26	1.95	50.06	106.16	116.61	118.36	103.97	788.98
5969	4	25.41	19.38	20.38	19.69	2.71	0.05	1.19	12.73	31.24	33.61	34.28	28.19	228.86
5968	7A	60.43	44.93	43.68	45.03	5.53	0.25	1.69	5.24	0.02	0.00	0.00	0.00	206.80
	Total:	325.61	300.74	270.97	279.79	30.85	1.12	7.45	195.20	359.18	390.03	392.77	340.38	2,894.09
	Sylmar Basin Total:	633.92	367.93	271.29	664.80	409.61	200.87	490.13	598.09	842.17	795.15	809.62	729.91	6,813.49

					Verdugo Basin									
Crescenta Valley County Water District														
5058B	1	35.80	42.91	15.62	22.95	14.37	18.18	16.69	23.88	25.10	39.51	41.63	40.96	337.60
5036A	2	0.01	0.03	1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.89
5058H	5	35.28	63.35	60.66	54.39	58.30	44.43	45.89	70.31	53.02	73.38	20.38	35.54	614.93
5058	6	8.19	7.10	5.81	4.75	5.20	2.20	2.13	2.23	3.44	7.13	4.92	4.00	57.10
5047B	7	0.37	0.44	0.24	0.43	0.40	4.72	0.53	0.17	0.09	0.52	0.25	5.73	13.89
5069J	8	32.24	37.17	37.69	37.31	32.00	36.45	28.27	35.97	33.83	33.16	34.41	34.14	412.64
5047D	9	37.80	33.85	27.02	22.50	12.64	16.07	13.66	18.25	26.21	25.75	25.50	22.93	282.18
5058D	10	18.37	0.11	1.46	10.14	6.70	1.69	9.84	19.91	12.62	14.56	51.04	49.31	195.75
5058E	11	23.09	36.13	36.93	36.72	30.21	24.42	29.30	18.53	22.87	31.83	8.14	19.34	317.51
5058J	12	43.25	45.32	49.60	50.92	41.70	47.32	37.97	34.84	26.87	24.35	31.10	30.66	463.90
5069F	14	40.18	41.28	42.28	40.44	36.41	40.31	35.69	40.00	36.75	36.19	34.41	27.43	451.37
	15	10.84	11.36	8.36	11.77	10.14	12.28	10.90	10.66	1.83	0.14	0.03	0.00	88.31
	PICKENS (CVWD)	4.94	4.85	4.91	4.82	4.52	4.95	4.57	4.74	4.82	4.39	4.73	4.94	57.18
	Total:	290.36	323.90	292.43	297.14	252.59	253.02	235.44	279.49	247.45	290.91	256.54	274.98	3,294.25
Knowltons														
	PICKENS	1.89	0.93	0.96	0.96	0.87	0.96	0.93	0.93	0.96	0.96	0.96	0.93	12.24
Glendale, City of														
3961-3971	GL3-4	117.60	112.29	123.34	120.57	112.16	87.05	55.64	57.21	77.28	116.66	114.98	101.82	1,196.60
3970	GL-6	84.61	79.76	79.65	78.82	71.63	69.59	77.92	77.09	75.23	75.33	71.42	68.13	909.18
---	VPCKP	0.00	56.06	20.03	0.00	16.85	46.73	65.40	54.55	62.52	63.54	68.40	7.11	461.19
---	MM-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
---	Foothill Well	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
	Total:	202.21	248.11	223.02	199.39	200.64	203.37	199.96	188.85	215.03	255.53	254.80	177.06	2,567.97
	Verdugo Basin Total:	494.46	572.94	516.41	497.49	454.10	457.35	436.33	469.27	463.44	547.40	512.30	452.97	5,874.46

2006-2007 Water Year
(acre-feet)

LACDPW Well No.	Owner Well No.	2006 Oct.	Nov.	Dec.	2007 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	TOTAL
					Eagle Rock Basin									
DS Waters														
3987A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3987B	2	5.68	3.05	2.36	8.94	8.33	0.94	0.94	0.90	0.74	1.03	1.53	2.35	36.79
3987F	3	1.36	0.58	1.71	5.65	3.61	8.45	8.45	6.87	7.95	8.12	7.01	9.18	68.94
3987G	4	8.43	10.36	6.28	1.71	1.27	9.74	9.74	6.14	7.32	7.19	7.22	8.19	83.59
	Total:	15.47	13.99	10.35	16.30	13.21	19.13	19.13	13.91	16.01	16.34	15.76	19.72	189.32
Eagle Rock Basin Total:		15.47	13.99	10.35	16.30	13.21	19.13	19.13	13.91	16.01	16.34	15.76	19.72	189.32

ULARA Total:	10,837.14	8,785.98	7,298.24	7,566.59	6,772.12	9,404.62	8,755.86	8,980.87	10,713.73	10,200.60	11,410.97	10,581.04	111,307.77

APPENDIX B
KEY GAGING STATIONS OF SURFACE RUNOFF

Los Angeles County Dept of Public Works

USDAY V62 Output 10/15/2007

Summary Report

Site: F252 Verdugo Wash At Estelle Avenue
USGS #:
Beginning Date: 10/01/2006
Ending Date: 09/30/2007

Daily Mean Discharge in Cubic feet/second Water Year Oct 2006 to Sep 2007

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.91	20.1	9.91	10.9	13.1	9.66	8.93	8.76	7.39	8.93	8.93	5.76
2	9.91	20.5	9.91	10.2	11.9	9.91	8.93	7.99	8.52	8.93	10.4	5.68
3	9.91	21.4	9.91	9.91	11.8	9.91	8.93	7.99	7.99	8.93	11.4	6.03
4	9.91	21.4	9.91	10.3	11.1	9.42	8.93	7.99	7.99	8.93	9.99	7.09
5	10.4	21.4	9.91	13.1	10.9	8.93	9.40	7.99	7.99	8.93	8.93	7.08
6	10.7	21.4	9.91	12.4	10.9	9.16	9.50	7.99	7.99	8.93	8.93	7.20
7	10.9	20.3	11.1	12.0	10.8	9.91	9.65	8.67	7.26	8.93	8.93	7.52
8	11.6	19.0	12.0	12.0	9.91	9.84	9.91	8.93	7.10	8.68	8.93	7.23
9	12.1	18.5	12.6	12.0	9.91	8.93	9.91	8.93	7.10	8.33	8.93	7.05
10	13.1	17.0	25.9	12.0	9.91	8.93	9.91	8.50	7.75	7.99	8.93	8.37
11	13.1	15.7	18.8	12.0	18.8	8.18	9.91	7.99	7.99	7.99	8.93	7.13
12	13.3	14.4	15.8	12.0	19.8	7.99	9.75	7.99	8.16	7.99	8.93	6.01
13	14.3	13.4	14.0	12.0	15.2	7.99	8.93	7.73	8.93	7.99	8.93	6.46
14	15.3	13.1	12.9	11.6	12.8	7.99	9.41	7.10	8.93	7.99	8.31	6.72
15	15.5	13.1	12.0	10.9	11.2	7.99	13.0	7.95	8.71	7.99	6.31	6.43
16	16.5	12.4	11.7	10.9	9.92	7.99	12.1	7.99	7.99	7.99	5.56	6.31
17	17.2	12.0	11.9	11.5	9.91	7.99	10.5	7.99	7.99	8.30	5.42	7.33
18	17.7	12.0	10.3	12.0	9.91	7.99	9.35	7.99	7.99	8.27	5.42	6.76
19	17.7	12.0	9.58	11.5	12.6	7.99	8.93	7.28	7.99	8.93	5.42	7.03
20	16.7	12.0	8.93	10.9	13.8	8.08	20.4	7.10	7.99	8.93	5.42	8.68
21	16.5	12.0	8.93	10.9	12.6	9.68	18.1	7.10	7.99	9.70	5.42	7.76
22	16.5	12.0	9.34	10.9	12.2	10.7	11.5	7.10	7.99	8.93	5.42	139
23	17.2	12.0	8.93	10.9	14.0	9.75	10.8	7.10	8.43	9.51	5.42	19.5
24	17.7	12.0	8.93	10.9	12.4	8.93	9.48	7.10	7.99	9.91	5.42	8.54
25	18.3	11.9	8.93	10.9	11.2	8.90	8.93	7.10	8.57	9.78	5.42	7.99
26	18.9	11.0	9.38	10.9	10.1	7.99	8.93	7.10	8.93	8.93	5.42	7.99
27	19.0	11.6	11.8	11.4	97.1	9.18	8.93	7.10	8.93	8.93	5.42	7.99
28	20.1	12.0	13.4	15.1	16.9	9.74	8.93	7.10	8.93	8.93	5.48	7.99
29	19.4	11.7	12.8	13.8	------	8.93	8.52	7.10	8.93	8.93	7.56	7.62
30	20.1	10.8	12.0	13.3	------	8.93	7.99	7.10	8.93	8.93	8.86	7.10
31	20.1	------	11.5	14.2	------	8.93	------	7.10	------	8.93	7.34	------
Total	469.54	448.1	362.91	363.31	430.67	276.44	308.39	238.95	245.37	271.29	230.13	359.35
Mean	15.1	14.9	11.7	11.7	15.4	8.92	10.3	7.71	8.18	8.75	7.42	12.0
Max	20.1	21.4	25.9	15.1	97.1	10.7	20.4	8.93	8.93	9.91	11.4	139
Min	9.91	10.8	8.93	9.91	9.91	7.99	7.99	7.10	7.10	7.99	5.42	5.68
Acre-Ft	931	889	720	721	854	548	612	474	487	538	456	713

Wtr Year 2007	Total	4004.45	Mean	11.0	Max	139	Min	5.42	Inst Max	1000	Acre-Ft	7940
Cal Year 2006	Total	6553.69	Mean	18.0	Max	547	Min	8.06	Inst Max	3900	Acre-Ft	13000

Summary Report

Site: F57C Los Angeles River Above Arroyo Seco
USGS #:
Beginning Date: 10/01/2006
Ending Date: 09/30/2007

Daily Mean Discharge in Cubic feet/second Water Year Oct 2006 to Sep 2007

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	120	94.5	114	134	100	110	100	102	99.7	93.3	101
2	115	116	96.1	116	133	99.5	112	103	100	100	97.7	99.0
3	109	124	92.8	116	131	102	116	109	96.8	101	99.7	95.9
4	110	121	96.5	132	125	104	123	114	93.4	101	97.7	98.9
5	109	117	96.7	151	129	105	129	125	98.1	96.0	99.5	101
6	107	116	98.0	117	129	101	129	129	94.0	102	97.9	103
7	121	119	99.3	119	132	107	135	137	92.9	98.9	97.7	102
8	117	117	97.7	124	142	103	130	150	93.7	100	96.1	106
9	120	117	158	118	141	106	125	145	95.9	95.6	96.7	102
10	120	113	832	110	137	110	121	148	97.0	93.4	96.8	104
11	110	113	94.9	97.0	1050	111	117	140	93.5	93.7	95.7	102
12	105	113	89.7	99.5	133	116	118	139	95.1	90.2	96.2	104
13	131	110	86.8	121	120	119	116	127	94.9	91.3	94.9	98.4
14	131	110	88.1	172	116	130	123	116	95.9	96.0	94.9	105
15	112	108	88.7	133	117	132	151	113	95.1	103	102	104
16	118	109	125	133	116	137	112	100	94.8	103	103	101
17	117	111	139	189	113	143	108	105	93.4	107	104	101
18	106	112	92.8	143	113	148	104	103	97.7	106	105	104
19	101	108	116	140	733	153	104	102	87.6	104	102	105
20	99.1	108	115	129	127	152	936	108	89.1	103	103	98.4
21	109	110	113	131	113	174	133	100	87.9	104	101	154
22	109	109	121	132	666	135	91.6	92.7	88.6	105	102	2500
23	111	117	110	133	186	122	135	96.3	89.9	111	99.8	117
24	111	105	111	137	108	121	87.4	95.6	91.0	113	102	88.1
25	113	109	107	140	106	117	86.4	92.6	89.4	111	105	83.0
26	110	108	109	137	107	123	88.6	99.2	92.6	105	103	84.5
27	107	176	387	237	887	128	87.5	102	93.1	99.2	99.6	85.5
28	117	105	116	473	115	111	90.0	102	96.0	97.6	97.5	86.4
29	113	98.1	113	141	------	115	93.4	102	96.4	102	98.6	83.3
30	115	93.3	112	224	------	116	93.0	105	97.5	96.6	101	82.0
31	122	------	116	205	------	120	------	101	------	94.3	101	------
Total	3503.1	3412.4	4312.6	4663.5	6359	3760.5	4204.9	3501.4	2823.3	3123.5	3084.3	5399.4
Mean	113	114	139	150	227	121	140	113	94.1	101	99.5	180
Max	131	176	832	473	1050	174	936	150	102	113	105	2500
Min	99.1	93.3	86.8	97.0	106	99.5	86.4	92.6	87.6	90.2	93.3	82.0
Acre-Ft	6950	6770	8550	9250	12610	7460	8340	6940	5600	6200	6120	10710

Wtr Year 2007	Total	48147.9	Mean	132	Max	2500	Min	82.0	Inst Max	7960	Acre-Ft	95500
Cal Year 2006	Total	77033.7	Mean	211	Max	5820	Min	86.8	Inst Max	25300	Acre-Ft	152800

Summary Report

Site: F118B Pacoima Creek Flume below Pacoima Dam
USGS #:
Beginning Date: 10/01/2006
Ending Date: 09/30/2007

Daily Mean Discharge in Cubic feet/second Water Year Oct 2006 to Sep 2007

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	20.2	0	0	0	0	0	0	0	0	0
6	0	0	33.6	0	0	0	0	0	0	0	0	0
7	0	0	11.3	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	1.01	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	1.30	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	.79	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	.78	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	.38	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	------	0	0	0	0	0	0	0
30	0	0	0	0	------	0	0	0	0	0	0	0
31	0	------	0	0	------	0	------	0	------	0	0	------
Total	0	0	65.1	0	2.96	0	1.30	0	0	0	0	0
Mean	0	0	2.10	0	.11	0	.043	0	0	0	0	0
Max	0	0	33.6	0	1.01	0	1.30	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Acre-Ft	0	0	129	0	5.9	0	2.6	0	0	0	0	0

Wtr Year 2007	Total	69.36	Mean	.19	Max	33.6	Min	0	Inst Max	149	Acre-Ft	138
Cal Year 2006	Total	4010.48	Mean	11.0	Max	212	Min	0	Inst Max	397	Acre-Ft	7950

Los Angeles County Dept of Public Works

USDAY V62 Output 10/15/2007

Summary Report

Site: F300 Los Angeles River at Tujunga Avenue
USGS #:
Beginning Date: 10/01/2006
Ending Date: 09/30/2007

Daily Mean Discharge in Cubic feet/second Water Year Oct 2006 to Sep 2007

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60.7	61.5	68.4	99.0	98.8	78.9	72.9	58.2	49.8	70.9	67.7	80.0
2	60.9	61.2	65.9	98.2	81.8	75.5	70.0	58.2	50.3	70.9	67.3	80.9
3	60.9	61.2	62.7	98.8	79.1	74.3	68.0	57.4	50.4	71.1	67.3	81.1
4	60.5	62.1	61.1	99.3	77.0	75.3	65.9	56.9	50.8	71.5	67.7	81.6
5	60.1	62.1	61.5	104	76.1	76.5	64.0	56.5	51.3	71.5	67.7	82.0
6	59.1	62.1	61.9	100	75.5	76.5	62.2	56.0	51.8	71.5	67.9	82.6
7	58.6	62.1	61.9	98.0	75.5	75.4	61.0	55.7	52.2	71.5	68.3	82.6
8	58.6	62.7	62.3	98.6	78.4	74.7	60.1	54.7	52.5	71.7	68.3	83.3
9	58.6	62.7	72.2	97.7	80.4	74.1	59.2	54.7	52.5	72.2	69.0	84.0
10	58.4	62.3	401	95.1	80.8	73.6	58.7	54.2	52.6	72.2	69.0	84.0
11	57.5	61.8	90.8	83.2	555	73.5	58.2	53.7	53.1	72.2	69.0	84.0
12	55.3	61.2	73.1	74.6	121	73.5	57.5	53.6	54.3	71.7	69.0	84.4
13	54.3	60.9	64.4	77.7	90.3	73.9	56.9	53.1	56.2	71.0	69.0	84.8
14	56.6	60.9	61.3	92.6	85.0	74.0	56.5	53.0	57.8	70.4	68.5	85.0
15	58.1	60.9	59.6	102	81.1	74.6	55.2	53.0	59.1	70.1	69.2	86.2
16	58.9	60.9	60.9	100	79.5	74.9	55.7	51.8	60.1	69.6	70.5	85.7
17	60.5	61.0	75.9	200	76.3	75.0	55.8	50.6	60.9	69.6	70.9	85.5
18	60.6	61.2	70.8	145	74.2	74.8	55.8	49.9	61.0	69.6	71.7	84.9
19	60.1	60.9	79.1	92.1	534	74.8	55.8	49.4	62.1	69.6	72.2	84.8
20	59.4	60.9	87.0	92.7	123	75.4	589	49.4	62.1	69.6	72.2	84.7
21	59.6	60.9	91.5	91.8	84.9	78.3	134	49.4	62.1	69.6	72.7	808
22	59.8	61.0	93.9	91.7	299	79.3	79.9	48.8	62.1	69.6	73.3	3720
23	59.8	62.0	94.4	91.3	181	78.8	80.2	48.4	62.1	69.1	73.7	111
24	59.8	62.7	94.9	85.3	91.7	78.0	75.7	48.4	62.1	69.0	74.7	71.6
25	59.7	63.3	94.0	81.7	80.2	77.1	70.2	48.4	68.2	69.0	75.6	59.6
26	58.7	62.9	92.9	81.2	77.9	76.6	66.7	48.4	70.9	68.9	76.5	60.3
27	57.3	74.9	528	160	505	76.6	64.2	48.4	70.9	68.3	77.1	62.8
28	57.2	83.8	132	391	97.5	76.2	62.0	48.4	70.9	68.0	77.6	71.1
29	57.5	79.4	95.6	104	------	75.2	60.2	48.5	70.9	67.7	78.0	76.1
30	59.0	73.0	96.1	205	------	74.6	58.7	49.0	70.9	67.7	78.3	78.0
31	60.5	------	97.4	220	------	74.4	------	49.4	------	67.7	79.2	------
Total	1826.6	1914.5	3212.5	3651.6	4040.0	2344.3	2490.2	1615.5	1772.0	2173.0	2219.1	6790.6
Mean	58.9	63.8	104	118	144	75.6	83.0	52.1	59.1	70.1	71.6	226
Max	60.9	83.8	528	391	555	79.3	589	58.2	70.9	72.2	79.2	3720
Min	54.3	60.9	59.6	74.6	74.2	73.5	55.2	48.4	49.8	67.7	67.3	59.6
Acre-Ft	3620	3800	6370	7240	8010	4650	4940	3200	3510	4310	4400	13470

Wtr Year 2007	Total	34049.9	Mean	93.3	Max	3720	Min	48.4	Inst Max	21700	Acre-Ft	67540
Cal Year 2006	Total	53836.2	Mean	147	Max	3540	Min	45.2	Inst Max	15600	Acre-Ft	106800

Summary Report

Site: F168 Big Tujunga Creek Below Big Tujunga Dam
USGS #:
Beginning Date: 10/01/2006
Ending Date: 09/30/2007

Daily Mean Discharge in Cubic feet/second Water Year Oct 2006 to Sep 2007

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.97	7.97	8.61	7.30	3.89	24.7	1.71	.90	.95	.72	.58	.42
2	4.09	8.09	8.58	7.04	3.91	27.4	.78	.89	.93	.68	.58	.47
3	4.23	7.83	8.28	7.24	3.86	27.2	.87	.92	.92	.66	.50	.54
4	4.18	8.12	8.34	7.25	3.69	27.0	.59	.95	.91	.67	.50	.63
5	3.90	8.01	8.34	7.52	3.20	25.2	.69	.89	.95	.65	.50	.66
6	3.96	7.62	8.32	7.55	3.77	1.92	.73	.79	.91	.63	.50	.50
7	3.84	6.69	8.39	7.59	4.04	3.20	.81	1.91	.86	.64	.50	.38
8	3.95	4.02	8.53	7.77	4.08	1.63	.85	42.0	.85	.66	.44	.28
9	4.01	3.95	8.61	8.04	4.10	.85	.89	27.7	.87	.67	.50	.20
10	5.05	3.92	8.48	8.77	4.10	.59	.92	10.6	.84	.72	.50	.28
11	4.37	3.89	8.43	20.1	4.25	.54	.93	1.32	.86	.72	.44	.37
12	4.25	3.87	8.48	20.2	4.07	.55	.93	.99	.87	.67	.44	.32
13	4.09	3.84	8.32	20.1	4.05	.56	.94	.95	.83	.45	.44	.27
14	4.08	3.82	8.51	13.9	4.03	.58	.93	.93	.78	.95	.44	.23
15	4.02	3.79	8.04	4.27	3.93	.58	.92	.92	.78	.97	.44	.34
16	3.97	3.76	8.14	4.42	3.90	.57	.83	.93	.77	.96	.44	.47
17	3.93	3.74	8.06	4.50	3.89	.58	.88	.95	.78	.95	.45	.46
18	4.10	3.71	8.02	4.50	3.89	.58	.83	.92	.82	.89	.50	.46
19	3.94	3.69	8.00	4.51	3.96	.58	.77	.91	.81	.80	.45	.45
20	3.92	3.69	7.93	4.55	3.98	.64	1.47	.96	.79	.79	.44	.38
21	4.07	3.83	6.80	4.57	3.96	.72	.98	1.02	.80	.72	.44	.26
22	3.67	3.93	3.88	4.57	4.01	.64	1.02	.97	.78	.61	.44	.17
23	3.82	3.98	3.99	4.51	3.96	.70	1.00	.91	.82	.62	.39	.10
24	3.88	4.03	3.97	4.48	3.94	.94	.92	.93	.83	.56	.39	.07
25	3.81	4.06	3.88	4.48	3.86	2.88	.89	.95	.78	.41	.39	.05
26	3.86	4.11	4.04	4.18	3.85	23.0	.88	.97	.75	.28	.44	.07
27	3.80	4.19	4.60	4.20	4.25	60.2	.82	1.00	.76	.16	.39	.12
28	3.84	4.08	5.09	4.21	4.08	63.5	.83	.97	.77	.10	.39	.25
29	3.96	4.03	5.89	4.23	------	58.2	.84	.93	.72	.07	.39	.49
30	3.84	6.37	6.48	4.33	------	2.57	.87	.91	.72	.04	.39	.87
31	6.22	------	7.11	3.91	------	2.02	------	.91	------	.01	.39	------
Total	126.62	146.63	222.14	224.79	110.50	360.82	27.32	107.80	24.81	18.43	14.02	10.56
Mean	4.08	4.89	7.17	7.25	3.95	11.6	.91	3.48	.83	.59	.45	.35
Max	6.22	8.12	8.61	20.2	4.25	63.5	1.71	42.0	.95	.97	.58	.87
Min	3.67	3.69	3.88	3.91	3.20	.54	.59	.79	.72	.01	.39	.05
Acre-Ft	251	291	441	446	219	716	54	214	49	37	28	21

Wtr Year 2007	Total	1394.44	Mean	3.82	Max	63.5	Min	.01	Inst Max	1010	Acre-Ft	2770
Cal Year 2006	Total	6734.90	Mean	18.5	Max	312	Min	.12	Inst Max	589	Acre-Ft	13360

Los Angeles County Dept of Public Works

USDAY V62 Output 10/15/2007

Summary Report

Site: E285 Burbank-Western Storm Drain
USGS #:
Beginning Date: 10/01/2006
Ending Date: 09/30/2007

Daily Mean Discharge in Cubic feet/second Water Year Oct 2006 to Sep 2007

Day	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.90	13.5	12.0	16.8	28.7	16.1	23.2	18.3	19.8	16.0	15.8	14.4
2	9.61	11.3	12.3	17.9	28.5	15.5	23.7	19.0	20.5	16.0	15.3	14.9
3	14.3	11.2	11.5	16.6	28.6	15.1	22.8	19.9	19.5	17.1	15.2	13.8
4	14.5	12.1	11.8	20.2	29.4	15.5	23.8	19.5	18.6	17.9	14.8	15.3
5	13.2	10.5	12.0	18.9	28.4	15.7	24.3	21.1	20.1	16.2	14.8	16.4
6	15.3	9.24	14.8	16.5	31.4	15.1	21.0	21.1	19.3	17.3	15.4	16.7
7	14.9	9.18	15.7	16.5	30.4	16.3	18.2	19.5	19.3	16.9	15.4	16.3
8	13.1	9.59	13.4	16.1	30.7	16.9	18.0	18.5	18.6	16.2	15.5	17.3
9	16.4	9.75	58.6	15.9	30.5	16.0	17.6	18.3	21.6	16.8	14.5	17.6
10	15.4	10.3	17.0	16.8	30.1	16.6	17.9	18.9	25.0	16.5	14.9	17.1
11	16.8	10.7	14.2	17.7	103	17.0	17.8	20.1	23.6	17.6	14.6	16.5
12	12.8	9.30	14.3	18.0	23.7	16.3	17.9	20.0	20.5	15.8	14.5	16.8
13	14.8	10.5	13.5	18.2	21.7	16.3	18.6	20.0	21.2	14.3	14.1	17.1
14	18.6	10.7	14.7	18.5	21.0	18.6	18.0	20.0	19.6	15.8	13.9	17.3
15	15.8	9.78	15.2	20.0	20.1	18.8	23.7	18.2	20.1	18.6	14.8	17.1
16	14.8	10.6	16.3	19.1	19.4	19.9	18.9	20.5	20.4	17.4	15.8	16.9
17	14.4	9.05	15.5	27.3	20.4	21.3	18.9	20.6	19.1	15.3	15.1	17.6
18	13.7	10.2	16.5	19.5	20.8	23.6	18.7	20.6	19.1	15.7	13.5	16.8
19	13.5	9.73	17.9	19.0	60.7	25.2	17.3	20.5	18.5	15.2	14.4	17.4
20	13.7	10.3	17.3	19.2	18.3	23.1	73.0	20.5	17.9	15.0	14.6	18.9
21	13.6	9.46	17.0	19.6	18.4	27.4	19.3	20.3	16.8	15.0	13.9	46.5
22	13.4	10.6	19.6	19.8	30.4	23.8	18.8	19.1	16.7	15.0	14.6	174
23	13.5	11.1	16.3	21.5	20.3	22.5	22.2	20.5	16.4	16.3	15.4	15.4
24	13.2	9.82	19.4	20.9	16.2	22.5	18.3	19.6	16.7	16.5	15.4	14.1
25	13.3	12.3	17.8	23.4	15.8	22.5	18.0	19.9	15.9	15.9	15.8	14.2
26	13.4	10.8	17.9	24.0	16.3	23.0	18.6	19.9	15.7	16.1	15.1	15.1
27	12.1	11.7	47.7	50.7	95.9	23.5	17.8	19.1	16.0	16.1	15.6	14.9
28	12.6	11.5	17.8	27.8	16.9	19.0	17.9	18.8	15.1	16.6	17.3	15.1
29	11.9	12.4	17.6	26.8	------	21.2	18.3	18.9	14.9	17.0	17.0	14.8
30	12.9	10.6	17.1	31.4	------	22.8	18.7	19.6	14.8	17.1	15.9	14.8
31	11.3	------	17.5	32.5	------	22.4	------	16.2	------	16.4	16.0	------
Total	425.71	317.80	560.2	667.1	856.0	609.5	641.2	607.0	561.3	505.6	468.9	671.1
Mean	13.7	10.6	18.1	21.5	30.6	19.7	21.4	19.6	18.7	16.3	15.1	22.4
Max	18.6	13.5	58.6	50.7	103	27.4	73.0	21.1	25.0	18.6	17.3	174
Min	8.90	9.05	11.5	15.9	15.8	15.1	17.3	16.2	14.8	14.3	13.5	13.8
Acre-Ft	844	630	1110	1320	1700	1210	1270	1200	1110	1000	930	1330.

Wtr Year 2007	Total	6891.41	Mean	18.9	Max	174	Min	8.90	Inst Max	2240	Acre-Ft	13670
Cal Year 2006	Total	7477.71	Mean	20.5	Max	478	Min	7.22	Inst Max	3380	Acre-Ft	14830

APPENDIX C
COMPONENTS OF LOS ANGELES RIVER FLOW

UPPER LOS ANGELES RIVER AREA: COMPONENTS OF LOS ANGELES RIVER FLOW								
2006-07 WATER YEAR								
TOTAL FLOW AT GAGE F-57C-R			F-57C-R: Storm, Reclaimed, Industrial, Rising Ground Water					
			F300-R: Storm, Tillman, Industrial Waste, and Rising Water					
Total:	95,500		E285-R :Storm, Burbank WRP, Industrial Waste					
			F252-R: Storm, Rising Water					
I. RECLAIMED WATER DISCHARGED TO L.A. RIVER IN ULARA								
Tillman:	36374	: Record						
L.A.-Glendale:	12790	: Record						
Burbank WRP:	7009	: Record						
Total:	**56173**							
II. INDUSTRIAL WATER and STORM FLOWS DISCHARGED TO L.A. RIVER IN ULARA								
Upstream of F300-R								
Industrial Water	137	: From F300-R separation of flow						
F168	2770							
F118	138							
Storm Flows @300	16690	Storm flows less F168 and F118						
	19735							
Between F300-R and E-285								
Burbank OU	19	Burbank Operable Unit						
MTA	33							
Storm Drains and Unaccounted water	2847	:3.93 cfs assumes 2,847						
Headworks:	0	:pilot project record						
Western Drain:	4530	: From E285-R separation of flow						
Storm Flows @285	1683							
	9112							
Between E-285 and F57C-R								
Storm Flows, DryWeather Flow, perennial stream flow, VPWTP @ 252	5174	:From F252-R separation of flow						
endale Operable Unit	484							
Eagle Rock Blow Off	0							
Pollock Treatment	0							
Sycamore Canyon	1100	Estimated from historic flows						
Storm Drains and Unaccounted water	2002	:2.8 cfs assumes 2,002 from F57C -R separation of flows						
	8760							
Total Part II	**37607**							
III. RISING WATER IN L.A. RIVER IN ULARA								
Total:	1720	: See Section 2.3 of the Watermaster's Report						

APPENDIX D
WATER QUALITY DATA

REPRESENTATIVE MINERAL ANALYSES OF WATER

Well Number or Source	Date Sampled	Spec. Cond. mmho/c	Mineral Constituents in milligrams per liter (mg/l)												TDS mg/l	Hardness as $CaCO_3$ mg/l
			pH	Ca	Mg	Na	K	CO_3	HCO_3	SO_4	Cl	NO_3	F	B		
Imported Water																
Colorado River Water at Eagle Rock Reservoir	2007FY	664	8.2	33	16	67	3.1	0	95	117	69	2.3	0.14	0.13	371	152
LA Aqueduct No 1. Influent	8/21/2006	237	8.0	19	3.2	22.6	2.8	0	76	14	18.1	ND	41	0.34	137	71.2
LA Aqueduct Filtration Plant Influent	8/1/2006	262	8.1	19.5	4.1	24.4	2.7	—	76	19.7	21.6	ND	0.38	0.34	150	70
State Water Project at Joseph Jensen Filtration Plant (Influent)	2007FY	421	7.8	25	12	39	2.5	0	94	51	47	2.2	0.16	0.18	239	91
Surface Water																
Tillman Rec. Plant Discharge to LA River	2007FY	-	7.3	-	-	-	-	-	-	103	110	0.37	0.74	0.62	536	175
Los Angeles River at Arroyo Seco	9/95	981	8.0	68.1	24.3	96.5	9.75	ND	171	191	108	7.4	0.3	0.58	666	270
LA/Glendale Rec. Plant Discharge to LA River	2007FY	-	7.3	-	-	-	-	-	-	119	132	1.13	0.34	0.43	595	215
Ground Water																
(San Fernando Basin - Western Portion)																
4757C (Reseda No. 6)	10/13/83	944	7.8	115	31	43	2.1	-	301	200	33	2.6	0.31	0.24	595	416
(San Fernando Basin - Eastern Portion)																
3800 (No. Hollywood No. 33)	5/19/2004	1150	7.8	80.5	27.4	132	3.9	-	109	320	67.2	3.06	0.45	0.56	729	321
3851C V0-8/Burbank No. 10	4/8/2004	-	7.5	-	-	-	-	ND	286	-	36.5	32.7	-	-	442	314
Glendale OU GN-1	4/6/2004	977	7.2	120	31	44	5.1	0.33	318	140	58	8.7	0.32	0.16	620	261
(San Fernando Basin - L.A. Narrows)																
3959E (Pollock No. 6)	5/19/2004	933	7.2	92	30.4	52.9	2.55	0	262	129	76.8	42.4	0.28	0.24	591	347
(Sylmar Basin)																
4840K (Mission No. 6)	6/8/2005	460	7.7	53.1	10.1	28.4	3.83	0	199	53	14	5.3	0.34	0.09	347	170
5969 (San Fernando No. 4A)	2/23/2006	454	7.8	50	9.2	28	4.3	ND	170	52	14	18	0.08	-	278	160
(Verdugo Basin)																
3971 (Glorietta No. 3)	2/14/2006	-	6.8	145	42.7	27.3	4.47	<10.0	207	191	133	43.8	0.18	-	698	485
5069F (CVWD No. 14)	2/6/2007	760	6.9	97	25	37	3.5	ND	210	110	64	43	0.29	ND	480	330

APPENDIX E
DEWATERING AND REMEDIATION PROJECTS

DEWATERING PROJECTS

No.	Company	Contact	Address	ID	Start Date
1	Danalax Engineering Corp.	Krell, Alex	11239 Ventura Blvd.	P	
2		Henkin, Doug	8806 Etiwanda Ave.	P	
3	Delta Tech. Engineering	Abbasi, Z. A.	12800 Ventura Blvd.	P	
4	Commercial Project	Helfman, Haloosim & Assoc.: Varadi, Ivan	5550 Topanga Canyon	D	June 19, 1989
5	Encino Spectrum Project	Helfman, Haloosim & Assoc.: Varadi, Ivan	15503 Ventura Blvd.	D	June 14, 1989
6	Home Savings of America	Eli Silon & Associates	13949 Ventura Blvd.	D	June 14, 1989
7	Warner Center Ent. Complex	Tsuchiyama and Kaino	5955 Owensmouth Ave.	D	June 26, 1989
8	T Violes Construction Company	Viole, Tim, Jr.	15840 Ventura Blvd.	P	
9		Eccleston, C. W.	22020 Clarendon St.	P	
10		Marks, Ronald	5348 Topanga Canyon	P	
11	Helfman, Haloosim & Assoc.	Varadi, Ivan	21820 Burbank Blvd.	P	
12	Park Hill Medical Plaza	Anjomshoaa, Mahmoud	7303 Medical Center Dr.	D	December 27, 1989
13	Danalex Engineering		12050 Ventura Blvd.	P	
14	Ellis Plumbing Co.	Ellis, Chris	4235 Mary Ellen Ave.	P	
15	Tarzana Office Plaza	Varadi Engineering	18701 Burbank Ave.	P	
16	Helfman, Haloosim & Associates	Varadi, Ivan	5350 White Oak Ave.	P	
17	First Financial Plaza Site	Slade, Richard	16830 Ventura Blvd.	D	October 9, 1987
18	Trillium	Arnold, Daryl	6310 Canoga Ave.	D	April 27, 1988
19	LAMCO	O'Neil, John	21300 Victory Blvd	D	April 27, 1988
20	La Reina Fashion Plaza	Blumenfeld, Dolores	14622 Ventura Blvd.	D	April 27, 1988
21	Auto Stiegler	Stiegler, John	16721 Ventura Blvd.	D	October 31, 1987
22	Sherway Properties	Vasquez, Rodney	4477 Woodman Ave.	P	
23	Ellis Plumbing Co.	Ellis, Chris	19951 Roscoe Blvd.	P	
24	Metropolitan Transportation Authority	Laury, Victor	Metro Red Line	D	April 1, 1995
25		Carter, Dennis	4547 Murietta Ave	P	January 16, 1997
26	MWD Sepulveda Feeder Pipeline Const.	David Dean	Jensen Plant	TD	August 1, 1998
27	A H Warner Properties Plaza 3	Bernier, Dave	21650 Oxnard	D	June 4, 1997
28	A H Warner Properties Plaza 6	Bernier, Dave	21700 Oxnard	D	June 4, 1997
29	Brent & Miller	Brent, Stanley	4328 Mammoth Ave	D	January 13, 2000
30	Northeast Interceptor Sewer	Nick Demos	Bureau of Engineering	TD	October 1, 2001
31	MTA Underground Pedestrian Crossing	Tim Lindholm	MTA	TD	November 1, 2001
32	Eagle Rock Interceptor Sewer	Baron Miya	Bureau of Engineering	TD	May 8, 2003
33	Avalon Bay	Rob Salkovitz	16350 Ventura Blvd	TD	January 26, 2006
34	BFI Sunshine Canyon Landfill	Dave Hauser	14747 San Fernando Rd.	D	October 1, 2006
35	Glendale Sewer Project	Andre Haghverdian	800 Air Way	TD	October 17, 2007

Notes:

1) ID - Refers to the type of project;
   D: Permanent dewatering required.
   P: No dewatering required presently, however there is potential for dewatering in the future.
   TD: Temporary Dewatering
2) Start Date - Date project was brought to the attention of the ULARA Watermaster.

REMEDIATION PROJECTS

No.	Company	Contact	Address	ID	Start Date
1	Mobil Oil	Alton Geoscience	16461 Ventura Blvd.	R	May 11, 1989
2	Thrifty Oil	Delta Tech. Eng.	18226 Ventura Blvd.	R	February 2, 1990
3	Boeing (Rockwell International)	Lafflam, S. R.	6633 Canoga Park Ave.	R	June 10, 1990
4	Lockheed	Gene Matsushita	N. Hollywood Way	R	January 5, 1989
5	3M Pharmaceutical	Bob Paschke	19901 Nordhoff St.	R	February 8, 1989
6	Philips Components	Wade Smith	4561 Colorado St.	R	July 14, 1987
7	Raytheon (Hughes)	Tim Garvey	Canoga Park, CA	R	February 1995
8	Holchem	Cuthbert, Andrew	Pacoima, CA	R	February 1, 2000
9	Micro Matic USA Inc.	Reinhard Ruhmke	Northridge CA	R	April, 1999
10	Menasco	George Piantka	Burbank, CA	R	October 31, 2001
11	Home Depot	Karen Arteaga	Burbank, CA	R	March 19, 2001
12	Drilube	Artik Avanessians	Glendale, CA	R	March 29, 2002
13	PRC-Desoto (Courtald)	Christer Sorenson	Glendale, CA	R	August 22, 2002
14	Honeywell (Allied Signal)	Benny Dehghi	No.Hollywood, CA	R	February 21, 2003
15	Excello Plating	Glen Harleman	Los Angeles, CA	R	June 20, 2003
16	Tesoro	Peter Stampf	No. Hollywood,CA	R	May 8, 2004
17	ITT	Teresa Olmstead	Burbank, CA	R	June 9, 2004

Notes:

1) ID - Refers to the type of project;
R: Ground water remediation site.

2) Start Date - Date project was brought to the attention of the ULARA Watermaster.

APPENDIX F
WHITE PAPER – "Is the San Fernando Groundwater Basin Undergoing a Long-Term Decline in Storage?"
(ATTACHMENTS ON FILE IN ULARA WATERMASTER OFFICE)

NOSSAMAN, GUTHNER, KNOX & ELLIOTT, LLP
Frederic A. Fudacz (SBN 050546)
Alfred E. Smith (SBN 186257)
445 South Figueroa Street
Thirty-First Floor
Los Angeles, California 90071
Telephone: (213) 612-7800
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Attorneys for Upper Los Angeles River Area Watermaster

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

THE CITY OF LOS ANGELES, Plaintiff, v. CITY OF SAN FERNANDO, et al., Defendants.	Case No. C650 079 **NOTICE OF LODGING OF WATERMASTER WHITE PAPER RE: QUARTERLY STATUS CONFERENCE** Conference: Date: April 27, 2007 Time: 8:30 a.m. Dept: 52 Before the Hon. Susan Bryant-Deason

NOTICE IS HEREBY GIVEN that the court-appointed Watermaster hereby lodges with the Court the attached White Paper in connection with the quarterly Upper Los Angeles River Area Watermaster status conference scheduled for April 27, 2007, in Department 52 of the above-entitled Court.

DATED: March 23, 2007

NOSSAMAN, GUTHNER, KNOX & ELLIOTT, LLP
Frederic A. Fudacz
Alfred E. Smith

By: _____
Alfred E. Smith

Attorneys for Upper Los Angeles River Area Watermaster

PROOF OF SERVICE

The undersigned declares:

I am employed in the County of Los Angeles, State of California. I am over the age of 18 and am not a party to the within action; my business address is c/o Nossaman, Guthner, Knox & Elliott, LLP, 445 S. Figueroa Street, 31st Floor Los Angeles, California 90071-1602.

On March 23, 2007, I served the foregoing **NOTICE OF LODGING OF WATERMASTER WHITE PAPER RE: QUARTERLY STATUS CONFERENCE** on parties to the within action by placing ( ) the original (x) a true copy thereof enclosed in a sealed envelope, addressed as shown on the attached service list.

(XX) (By U.S. Mail) On the same date, at my said place of business, said correspondence was sealed and placed for collection and mailing following the usual business practice of my said employer. I am readily familiar with my said employer's business practice for collection and processing of correspondence for mailing with the United States Postal Service, and, pursuant to that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid, on the same date at Los Angeles, California.

( ) (By Facsimile) I served a true and correct copy by facsimile pursuant to C.C.P. 1013(e), to the number(s) listed on the attached sheet. Said transmission was reported complete and without error. A transmission report was properly issued by the transmitting facsimile machine, which report states the time and date of sending and the telephone number of the sending facsimile machine. A copy of that transmission report is attached hereto.

(.) (By Overnight Service) I served a true and correct copy by overnight delivery service for delivery on the next business day. Each copy was enclosed in an envelope or package designated by the express service carrier; deposited in a facility regularly maintained by the express service carrier or delivered to a courier or driver authorized to receive documents on its behalf; with delivery fees paid or provided for; addressed as shown on the accompanying service list.

Executed on _March 23, 2007.

(XX) (STATE) I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

( ) (FEDERAL) I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Charlyn Jones

ATTORNEYS OF RECORD

Name	Party
Ms. Julie Conboy Assistant City Attorney Office of the City Attorney Department of Water and Power 111 N. Hope Street, Suite 340 P.O. Box 5111 Los Angeles, CA 90051-5700 Telephone: 213-367-4579	Los Angeles
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Mr. Scott Howard City Attorney 613 East Broadway Glendale, CA 91205 Telephone: 818-548-2080	Glendale
Steven R. Orr, Esq. Richards, Watson & Gershon 355 South Grand Avenue, 40th Floor Los Angeles, CA 90071 Telephone: 213-626-8484	San Fernando
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ADMINISTRATIVE COMMITTEE AND ALTERNATES

Name	Party
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Mr. Mario Acevedo (Alternate) Groundwater Group Manager Department of Water and Power 111 North Hope Street, Room 1450 P. O. Box 51111 Los Angeles, CA 90051-5700 Telephone: 213-367-0932	Los Angeles
Mr. William Mace (Member) Assistant General Manager Water System Burbank Water and Power 164 West Magnolia Boulevard P. O. Box 631 Burbank, CA 91503 Telephone: 818-238-3550	Burbank
Mr. Bassil Nahhas (Alternate) Burbank Water and Power 164 West Magnolia Boulevard P. O. Box 631 Burbank, CA 91503	Burbank
Mr. Peter Kavounas (Member) Water Services Administrator City of Glendale 141 North Glendale Avenue Glendale, CA 91206-4496 Telephone: 818-548-2137	Glendale

Name	Party
Mr. Raja Takidin (Alternate) City of Glendale 141 North Glendale Avenue Glendale, CA 91206-4496 Telephone: 818-648-3906	Glendale
Mr. Tony Salazar (Member) Operations Manager City of San Fernando 117 Macneil Street San Fernando, CA 91340 Telephone: 818-898-7350	San Fernando
Mr. Dennis Erdman (Member) General Manager Crescenta Valley Water District 2700 Foothill Boulevard La Crescenta, CA 91214 Telephone: 818-248-3925	Crescenta Valley Water District
Mr. David Gould (Alternate) District Engineer Crescenta Valley Water District 2700 Foothill Boulevard La Crescenta, CA 91214 Telephone: 818-248-3925	Crescenta Valley Water District

UPPER LOS ANGELES RIVER AREA WATERMASTER

CITY OF LOS ANGELES VS. CITY OF SAN FERNANDO, ET AL
CASE NO. 650079 -- COUNTY OF LOS ANGELES

MARK G. MACKOWSKI -- WATERMASTER

OFFICE LOCATION:
111 North Hope Street, Room 1450
Los Angeles, CA 90012
TELEPHONE: (213) 367-0896
FAX: (213) 367-0939

MAILING ADDRESS:
ULARA WATERMASTER
P.O. Box 51111, Room 1450
Los Angeles, CA 90051-0100

March 22, 2007

The Honorable Susan Bryant-Deason
Judge of the Los Angeles County Superior Court
111 N. Hill Street, Dept. 52
Los Angeles, CA 90012

Dear Judge Bryant-Deason:

Subject: Meeting on April 27, 2007 to discuss the Decline in Storage in the San Fernando Groundwater Basin (basin)

At our last meeting with the Court on December 13, 2006 you generously offered to spend some time with the Watermaster and the Cities of Los Angeles, Burbank, and Glendale (Cities) to discuss the decline in groundwater storage in the basin during our next meeting on April 27.

As Watermaster for the Upper Los Angeles River Area (ULARA), I have been regularly informing the Court and the Cities regarding my growing concern over declining water levels and accumulating groundwater pumping credits in the basin.

In July 2005, I distributed a DRAFT White Paper to the Cities titled "Is the San Fernando Groundwater Basin Undergoing a Long-Term Decline in Storage?" describing the problems, causes, and some possible solutions. Since then, we have been meeting with the Cities in an attempt to resolve these issues.

In preparation for the April 27 meeting, I feel it is appropriate to share the enclosed White Paper with the Court so that you may become more familiar with the background and details regarding the decline in storage.

We look forward to meeting with you at 8:30 a.m. on April 27, 2007 to explore the challenges we face regarding the decline in groundwater storage in the basin.

If you have any questions or comments, please call me at (213) 367-0896.

Sincerely,

MARK G. MACKOWSKI
ULARA Watermaster

MGM:mm

c:
Mr. Bill Mace, City of Burbank
Mr. Peter Kavounas, City of Glendale
Mr. Thomas Erb, City of Los Angeles
Mr. Dennis Erdman, Crescenta Valley Water District
Mr. Ron Ruiz, City of San Fernando

Watermaster Staff
Mr. Mark G. Mackowski, Watermaster
Ms. Patricia T. Kiechler, Assistant Watermaster
Mr. Fred Fudacz, Special Counsel
Mr. Melvin Blevins, Consultant

Is the San Fernando Groundwater Basin Undergoing a Long-Term Decline in Storage?

by

Mark Mackowski, ULARA Watermaster

March 2007

Executive Summary

This report addresses the long-term decline in storage in the San Fernando Groundwater Basin (hereinafter SFB or "basin") caused by over-pumping due to an excessive allocation of water rights; reduced natural and artificial recharge; unaccounted underflow and rising groundwater leaving the basin; and unaccounted or under-accounted pumping by third parties. It also addresses the large accumulation of stored water credits for which there is insufficient actual water in storage, and makes recommendations to reverse these trends.

The Watermaster has discussed this issue in the Annual Watermaster Report for the last four years; has informed and updated the Court during the last two years; and in July 2005 presented a draft of this paper to the Cities of Los Angeles, Burbank, and Glendale (hereinafter "parties"). Subsequently, several workshops were held with the parties to answer their questions and discuss potential solutions.

The parties have responded by proposing to study several projects to increase long-term artificial recharge of the basin. The Watermaster fully supports those studies, but does not believe that the current proposed projects will be either timely enough or adequate to completely address the serious and ongoing decline in storage and avoid the potential for the basin to re-enter overdraft.

Introduction

This paper addresses the question: "Is the San Fernando Groundwater Basin undergoing a long-term decline in storage?"

Plate 13 (Attachment 1) of the 2004-05 Annual Watermaster Report illustrates the change in storage in the SFB between 1928 and Fall 2005.

It is clear that the SFB has experienced a progressive decline of real water in storage (Plate 13 blue line) since 1928. The decline began in 1944, and overdraft was eventually declared beginning in 1954 when water in storage had reached 210,000 acre-feet (AF) below the 1928 level. Litigation over water rights commenced in 1955, and continued until 1979 when the Judgment was entered. Section 4.2.6.1 of the Judgment states that the SFB **"...remained in overdraft continuously until 1968, when an injunction became effective. Thereafter, the basin was placed on safe yield operation."** (Safe yield operation means that extractions from the basin do not exceed recharge on a long-term average.) When safe yield operation was ordered by the Court in 1968 the basin was 655,370 AF below the 1928 level.

From 1968 until 1977, the amount of real water in storage (Plate 13 blue line) declined an additional 40,210 AF, to 695,580 AF below the 1928 level, despite the fact that the basin was supposedly under safe yield operation. Fall 1977 was the historically lowest level of basin storage.

Plate 13 shows a sharp increase in stored water beginning in 1977, suggesting that the basin began to recover. However, a large portion of the increase was due to water imported by Los Angeles to the SFB from outside sources such as the Owens Valley and spread at Tujunga Spreading Grounds, and was not part of the safe yield of the basin. Table 2-22 from Watermaster Relevant Data (Attachment 2) shows spreading from 1968-2005. Under the column "City of Los Angeles – Tujunga", 142,457 AF were spread from 1977-1987. Therefore, because Plate 13 (blue line) does not differentiate between various water sources that recharge the basin, the water level increase beginning in 1977 *does not* represent a significant recovery of the basin.

Furthermore, beginning in the late 1970s, groundwater extractions began to decline as a result of the decision in San Fernando that restricted pumping, especially by Glendale and Burbank, followed in the early 1980s by the discovery of widespread groundwater contamination that affected all the parties' ability to pump their full adjudicated rights (Relevant Data Table 2-1, Attachment 3). As a result, stored water credits began to accumulate rapidly, and continue to accrue whenever a party does not pump its full right. As of October 1, 2005 a combined total of 410,033 AF of stored water credits in the SFB belonged to Los Angeles, Burbank, and Glendale.

Section 8.2.10 of the Judgment requires the effects of stored water to be excluded from consideration when evaluating the safe yield. Judgment Section 8.2.10 states, **"Upon request of the Administrative Committee, or on motion of any party and subsequent Court order, Watermaster shall recalculate safe yield of any basin within ULARA. If there has been a material long-term change in storage over a base period (excluding any effects of stored water) in San Fernando Basin the safe yield shall be adjusted by making a corresponding change in native safe yield of the basin."**

The graph shown in red on Plate 13 is the result of subtracting stored water credits from the change in storage shown in blue, as required by Judgment Section 8.2.10. When stored water credits are subtracted from the change in storage, the basin is 914,508 AF below the 1928 level, and 259,138 AF below the 1968 level when safe yield operation was required to be implemented.

In summary, Plate 13 clearly shows that the SFB is undergoing a long-term decline in storage that is temporarily interrupted during above-normal rainfall or below-normal pumping. However, spread imported water from 1977-1987 and an ongoing large accumulation of stored water credits obscures this decline.

Import Return Credits

Import return water is defined by the Judgment as "Ground water derived from percolation attributable to delivered imported water."

The Judgment allows the parties to recapture a portion of delivered imported water based on the reasonable assumption that some of it percolates into the aquifer and is available for pumping once it reaches the groundwater table. This water accrues to the parties as import return credits using formulas provided in Section 5.2.1.3 of the Judgment.

The California Supreme Court decision (1975, Vol. 14-3d, p. 261-262, Attachment 4) states, **"Defendants contend that if any party is given rights to a return flow from delivered *imported* water, it is 'obvious' and 'axiomatic' that the same rights should be given to the return flow from delivered water derived from all other sources, including native water extracted from local wells. This argument misconceives the reason for the prior right to return flow from imports. Even though all deliveries produce a return flow, only deliveries derived from imported water add to the ground supply...Returns from deliveries of extracted native water do not add to the ground supply but only lessen the diminution occasioned by the extractions."**

Despite the unequivocal language in the Supreme Court decision, the Cities of Los Angeles, Burbank, and Glendale negotiated an agreement to use *all* delivered water in the formulas for calculating import return credits. In the "Memorandum re Proposed Settlement with Cities of Glendale and Burbank, City of Los Angeles v. City of San Fernando, et al., and Damage Cases" dated November 22, 1978, Item 4 on page 5 (Attachment 5) states, **"A fixed formula for determining Glendale and Burbank rights to return flow from delivered imported water, including recirculation rights, as being equivalent to 20% of all delivered water in the immediate watershed of the San Fernando Basin. This has been determined to be a better administrative method than the method based on 20.8% of delivered imported water to valley-fill lands, which method was presented to the Supreme Court and approved by that Court in this case. Los Angeles' return flow rights will be determined by a comparable fixed formula, also somewhat a** [sic] **variance with the Supreme Court language, but consistent with simple future administration."**

Furthermore, the language in the Judgment addressing import return credits is contradictory and appears to have been influenced by the aforementioned agreement. Section 5.2.1.1 states, **"Each of said parties has a right to extract from San Fernando Basin that portion of the safe yield attributable to such import return waters."** Section 5.2.1.3 states, **"The extraction rights of Los Angeles, Glendale, and Burbank...shall only extend to the amount of any accumulated import return water credit of such party by reason of imported water delivered after September 30, 1977."** The foregoing language is consistent with the Supreme Court decision, and implies that only delivered waters that are imported from outside the basin (such as from the Los Angeles/Owens Valley Aqueduct and the Metropolitan Water District) would

qualify for import return credits. However, the formulas in Judgment Section 5.2.1.3 for calculating import return credits apparently contradict the Supreme Court decision, namely, **"Los Angeles: 20.8% of all delivered water...Burbank: 20.0% of all delivered water...Glendale: 20.0% of all delivered water..."**

Since 1979 the Watermaster Office has used the latter, more generous interpretation of the Judgment, giving the parties import return credits for *all* water delivered to their applicable service areas regardless of its source. This has caused the pumping of groundwater that would not have been allowed under the Supreme Court decision, and has also contributed to the accumulation of a large amount of stored water credits that are not supported by actual water in storage.

Thus, the Supreme Court decision and the technical issues related to basin hydrology were misunderstood, or not fully considered, in an effort to simplify the administration of the parties' rights, resulting in excessive groundwater pumping and an accumulation of pumping credits for which there is insufficient actual water in storage.

Changed Conditions in the SFB

Probable causes of the decline in storage also include changes in land and water use in the SFB.

The Report of Referee (1962) was accepted as prima facie evidence in San Fernando. Data for the Report of Referee was obtained in the late 1950s and early 1960s, which was used to calculate the safe yield of the SFB.

At that time, a significant portion of the land in the San Fernando Valley was still being used for agricultural purposes, or had not yet been developed. Rainfall runoff and irrigation water had a much better opportunity to percolate and re-enter the groundwater basin compared to the present, when much of the land has subsequently been developed and covered by rooftops, sidewalks, streets, and other "hardscape".

In addition, at the time the Report of Referee was prepared sewers had not yet been installed in much of the San Fernando Valley, and overflow from cesspool/septic systems was a significant source of recharge to the basin aquifer. During the 1956-57 Water Year, the Report of Referee estimated that 16,750 acre-feet per year (AF/Y) re-entered the groundwater basin from septic systems located in the SFB west of Burbank (Appendix N, Table N-7, p. N-32). Nearly everywhere in the SFB septic systems have been replaced by sewers, with a resulting decrease in recharge from this source. This has had the beneficial effect of eliminating a significant source of nitrate contamination, but has also contributed to the decline in storage. We have observed a similar phenomenon in the Verdugo Basin.

Present-day land and water use have changed in the intervening 40-50 years since the Report of Referee was researched and written, but provisions in the Judgment require the basin to be managed as if those conditions still exist.

Reduced Artificial Recharge

Artificial recharge capacity has declined in the basin during the past 20-25 years. 'Artificial recharge' means collecting rainfall runoff or imported water and percolating it into the groundwater basin at spreading grounds designed for that purpose.

Headworks Spreading Grounds (Headworks) is located on the Los Angeles River near Griffith Park. Headworks was operated until the early 1980s, when volatile organic compound (VOC) contamination was discovered in the underlying groundwater, and treated sewage effluent began to be discharged from Tillman Treatment Plant into the Los Angeles River. Headworks has not been used as a spreading ground since approximately 1982.

In the late 1990s, methane gas was detected at a school adjacent to the Sheldon-Arleta Landfill (SAL) and Tujunga Spreading Grounds (TSG). When stormwater is spread heavily at TSG, it compresses the air within the underlying vadose zone. Some of this air moves laterally and displaces methane gas from the adjacent SAL. The methane migrates out of the SAL, and some of it surfaces in the nearby neighborhood. To control this methane migration, spreading at TSG has been restricted to less than 100 cubic feet per second (cfs), or about 40% of the historic spreading capacity of 250 cfs. When storms produce runoff in excess of 100 cfs in the adjacent Tujunga Wash, this extra water cannot be diverted into TSG and is instead wasted to the ocean.

In addition, during past wet years, the Los Angeles County Department of Public Works (LACDPW) has curtailed spreading at Hansen Spreading Grounds (HSG) to prevent rising groundwater from inundating trash in the nearby Bradley Landfill. Alert levels were established nearby monitoring wells to monitor groundwater levels near the landfill. During the exceptionally wet winter of 2004-05 these alert levels were reached and spreading at HSG was stopped for a while, resulting in additional runoff being wasted to the ocean.

As a result of the elimination of Headworks and reduced spreading at TSG and HSG, a significant amount of stormwater runoff cannot be recharged into the SFB and is wasted to the ocean, especially during above-average rainfall years.

Safe Yield and Native Safe Yield

Safe Yield is defined by the Judgment as "The maximum amount of water which can be extracted annually from a ground water basin under a given set of cultural conditions and extraction patterns, based on the long-term supply, without causing a continuing reduction of water in storage."

Safe yield in the SFB consists of two parts: the aforementioned import return credits, and the native safe yield consisting of "native water", which the Judgment defines as "Surface

and ground waters derived from precipitation within ULARA". The Judgment affirmed Los Angeles' exclusive Pueblo water right to all native groundwater in the SFB.

The safe yield and native safe yield of the basin were determined to be 90,680 AF/Y and 43,660 AF/Y, respectively, in 1964-65 (Judgment Section 4.2.4) but have not been re-evaluated since then.

Each year, the Judgment gives Los Angeles a native safe yield pumping credit of 43,660 AF/Y based on studies performed for the Report of Referee. In dry years, it is doubtful whether 43,660 AF actually recharge the SFB. In wet years the amount can be substantially larger. The long-term average native recharge is unknown. However, as previously mentioned, the hydrologic conditions that existed when the Report of Referee was written may no longer be present in the SFB today.

If the long-term native safe yield is lower than 43,660 AF/Y, it would contribute proportionally to the decline in storage we observe on Plate 13 (blue line) and an increase in stored water credits (Plate 13 red line) for which there is insufficient water in storage.

Basin Losses from Rising Groundwater and Underflow

Groundwater constantly flows out of the basin in two ways: via underflow in the Los Angeles River Narrows area, and through groundwater rising into the Los Angeles River channel that subsequently leaves the SFB as surface flow. (The City of Los Angeles recognized this, and constructed the Pollock Wells Treatment Plant to reduce the amount of excess rising groundwater leaving the basin by pumping and treating groundwater in the Narrows that is contaminated with VOCs.)

The average annual loss due to rising groundwater was approximately 3,442 AF/Y from 1979-2005. The average annual loss due to underflow through the Narrows area was approximately 400 AF/Y. The total average loss from the basin was therefore approximately 3,842 AF/Y from 1979-2005.

Although Judgment Section 8.2.9 requires the Watermaster to "...record and verify additions, extractions and losses..." there is no clear mechanism in the Judgment to debit the parties for groundwater that leaves the basin in ways other than through pumping. With the exception of minor losses debited from Los Angeles due to under-pumping at the Pollock Wells, losses due to rising groundwater and underflow have never been debited from the parties.

In summary, stored water credits accumulate indefinitely until they are pumped by the parties, but a portion of the actual groundwater is constantly leaving the SFB unaccounted through underflow and rising groundwater.

Hill and Mountain Pumping

Unauthorized pumping in the hill and mountain areas tributary to the SFB reduces the amount of underflow from these regions to the basin. The City of Los Angeles claims this native water as part of its Pueblo water right, and the Watermaster has begun a program to identify these pumpers, quantify their water use, and require them to enter a water license agreement with Los Angeles. Under the license agreement, licensees report their pumping to the Watermaster Office and pay Los Angeles for the amount pumped, and the Watermaster debits Los Angeles. There are unauthorized pumpers who do not have license agreements and who do not report their pumping to the Watermaster Office.

Dewatering

There are areas within the SFB that have a high water table. Projects within these areas sometimes pump groundwater to maintain dry excavations during construction. In addition, there are some dewatering operations that keep subterranean parking and other below-ground structures dry on a permanent basis. This water is typically discharged to the storm drain or sewer, and is thereby lost from the basin. The Watermaster has identified several permanent dewatering systems, and the owners of these properties report their pumping monthly to the Watermaster Office. However, our efforts to institute a reliable program to account for temporary construction dewatering within the basin have not been effective.

Conclusions

The Watermaster has historically calculated import return credits based on all delivered water. This is clearly inconsistent with the Supreme Court decision, and in the Watermaster's opinion is the single largest contributor to the imbalance between actual water in storage and the parties' stored water credits. The 1978 agreement among all three parties with respect to import return credits departed from the Supreme Court decision (Attachment 5) and, as applied under today's circumstances, is seemingly inconsistent with Section 5.2.1.1 of the Judgment.

Furthermore, import return credits of 20% may have been appropriate for hydrologic conditions in the late 1950s and early 1960s, but may now be too high considering the urbanization that has occurred in the San Fernando Valley during the last 40-50 years. However, Section 7.1 of the Judgment explicitly precludes the Watermaster, or even the Court, from modifying these formulas.

Although real water in storage has increased by 150,895 AF since safe yield operation was declared in 1968, stored water credits have accumulated to 410,033 AF since 1978. When stored water credits are subtracted from real storage (Plate 13 red line), the SFB is more than 914,000 AF below the 1928 level.

In other words, if the parties had pumped their full adjudicated rights, the basin would be more than 259,000 AF below the 1968 level at which safe yield operation was supposed to begin (Plate 13).

This clearly indicates that groundwater rights in the SFB are significantly "oversubscribed", and the basin is undergoing a long-term decline in storage that is effectively masked by the accumulation of stored water credits. An argument could be made that the basin re-entered a condition of overdraft in the late 1980s when the red line fell below the 1968 level.

The general downward trend of the change in real storage (Plate 13 blue line), beginning in the early 1980s and interrupted only temporarily during wet years, is also disturbing. Although we observed a significant rebound in basin storage in the 2004-05 Water Year due to above-normal rainfall and below-normal pumping by Los Angeles, similar occurrences in the past suggest that this effect will be temporary and short-lived.

The downward trend in real storage coincides with the cessation of spreading at Headworks Spreading Grounds in the early 1980s and has accelerated with a significant reduction of spreading capacity at Tujunga Spreading Grounds due to the migration of methane gas from the nearby Sheldon-Arleta Landfill. The decline in actual storage due to reduced basin recharge has been exacerbated because the parties have received pumping rights since their negotiated settlement in 1978 that the basin cannot support.

Recommendations

The Watermaster recommends that the safe yield of the SFB be re-evaluated. The 1979 San Fernando Judgment was based on a safe yield study conducted in 1964-65, more than 40 years ago. At that time, the SFB safe yield was calculated to be 90,680 AF/Y. However, basin hydrology can change significantly over time, and we do not know the existing safe yield of the SFB. If we are to resolve this problem and manage the basin properly in the future it is imperative that we re-evaluate the safe yield of the SFB, and continue to re-evaluate it periodically.

As a component of the safe yield, the native safe yield of 43,660 AF/Y may be too large, which would contribute to a continuing decline in stored water and exacerbate the imbalance between actual water in storage and stored water credits. A safe yield study, as recommended above, would determine whether the existing native safe yield is appropriate for current hydrologic conditions in the SFB.

The parties and the Watermaster could agree to allocate pumping rights consistent with the language and intent of the Supreme Court decision, namely, giving the parties import return credits only for the amount of *imported* water served to their customers.

Or, following a safe yield re-evaluation, the Watermaster could implement Judgment Section 8.2.10 to correct any imbalance in the basin by adjusting the native safe yield of the SFB. This solution would affect only Los Angeles' water rights, since it has the

exclusive right to the entire native safe yield of the SFB under its Pueblo right. However, it is the Watermaster's opinion that implementing Section 8.2.10 of the Judgment in this manner would fail to address the major hydrologic cause of the current imbalance, and that the parties would continue to be given rights to water that are inconsistent with the Supreme Court decision.

A hydrologic study should be performed in the Narrows area to determine the actual amount of water lost due to underflow and excess rising groundwater, and the Watermaster and the parties should consider ways to account for this lost water. To that end, in March 2007 the ULARA Administrative Committee requested the Watermaster to conduct a study to determine ways to improve the methodology for the calculation of losses from the basin due to rising groundwater and underflow. While it is not practical to stop all rising groundwater and underflow, keeping water levels low in the Narrows through diligent pumping and monitoring would minimize these losses. As a related matter, Los Angeles should operate the Pollock Wells Treatment Plant at least 2,000 AF/Y to reduce the amount of rising groundwater that leaves the basin.

Tujunga Spreading Grounds should be restored to its full capacity without delay. Additional spreading and/or storage facilities, such as Boulevard Pit, should be acquired whenever possible. They may not be needed during dry-to-normal rainfall years, but their additional capacity would be invaluable during years when runoff exceeds our ability to store it using existing infrastructure.

Modernizing and upgrading facilities and operations at the spreading grounds might result in increased basin recharge. The Watermaster, LADWP, and LACDPW have begun to explore these opportunities within the framework of the Basin Recharge Task Force.

The parties and Watermaster should take advantage of opportunities such as the upcoming Los Angeles River Revitalization Master Plan to build projects that enhance basin recharge.

Hill and mountain pumping should be fully accounted. It may not be politically feasible to restrict it, but it is probably a component, albeit a small one, of the decline in stored water in the basin.

Likewise, permanent and temporary construction dewatering should be fully accounted. The Watermaster and the cities of Los Angeles, Burbank, and Glendale should develop a program to more closely track water lost from the basin due to dewatering.

It is the duty of the Watermaster to inform the parties and the Court about issues affecting the groundwater basins in ULARA. We look forward to working closely with the parties to reverse the decline in storage and ensure the long-term reliability of the SFB.

APPENDIX G
INTERIM AGREEMENT FOR THE PRESERVATION OF THE SAN FERNANDO BASIN WATER SUPPLY, 2007

ORIGINAL

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A. Caballero

A. Caballero

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

THE CITY OF LOS ANGELES, Plaintiff, vs. CITY OF SAN FERNANDO, et al., Defendants.	CASE NO. **C 650 079** Assigned for All Purposes to the Honorable Susan Bryant-Deason **STIPULATION AND [~~PROPOSED~~] ORDER RE. INTERIM AGREEMENT FOR THE PRESERVATION OF THE SAN FERNANDO BASIN WATER SUPPLY**

This Stipulation re. Interim Agreement for the Preservation of the San Fernando Basin Water Supply ("Stipulation") is entered into this 19th day of Sept., 2007, by and among the City of Los Angeles, the City of Glendale and the City of Burbank (individually, "Party," and collectively, the "Parties"), all of whom are parties to this action, with reference to the following facts:

WHEREAS, on September 20, 2007, the Parties have entered into the *Interim Agreement for the Preservation of the San Fernando Basin Water Supply* ("Agreement"), a true and correct copy of which is attached hereto as Exhibit A.

WHEREAS, the Agreement is consistent with the 1979 judgment entered by stipulation in this action ("Judgment").

NOW, THEREFORE, the Parties hereby stipulate as follows and respectfully request that the Court enter the proposed Order submitted herewith:.

The Parties stipulate that they have entered into the Agreement, the terms of which are hereby adopted and incorporated by this reference as though fully set forth herein.

The Parties further stipulate that the terms of the Agreement shall be judicially enforceable.

The Parties further stipulate to, and request that, the Court enter an order the terms of which are the same as the Agreement.

IN WITNESS WHEREOF, this Stipulation is entered into as of the first date set forth above.

Dated: Sept. 20, 2007

HATCH & PARENT, A LAW CORPORATION

BY Ann Steinfeld FOR:
SCOTT S. SLATER
STEPHANIE OSLER HASTINGS
ATTORNEYS FOR DEFENDANTS, CITY OF BURBANK AND CITY OF GLENDALE

Dated: Sept 24, 2007

CITY OF BURBANK

By:
Carolyn A. Barnes

Dated: Sept. 24, 2007

CITY OF GLENDALE

By:
Christine A. Godinez

Dated: 24 Sept., 2007

CITY OF LOS ANGELES

ROCKARD J. DELGADILLO, City Attorney
RICHARD M. BROWN, General Counsel, Water and Power
JULIE CONBOY RILEY, Deputy City Attorney

By:
Julie Conboy Riley

INTERIM AGREEMENT
FOR THE PRESERVATION OF THE SAN FERNANDO BASIN WATER SUPPLY

This Interim Agreement for the Preservation of the San Fernando Basin Water Supply (Agreement) is entered into as of _____, 2007 between and among the City of Los Angeles acting by and through the Los Angeles Department of Water and Power (Los Angeles), the City of Glendale, a municipal corporation (Glendale) and the City of Burbank, a municipal corporation (Burbank) (each a Party and collectively, the Parties), with reference to the following facts and intentions, which the Parties agree are true and correct to the best of their knowledge and belief:

RECITALS

A. The Parties are parties to the 1979 judgment entered by stipulation in *City of Los Angeles v. City of San Fernando* (California Superior Court Case No. 650079) (the Judgment). Each Party holds rights in and to the San Fernando Basin (Basin), one of the several groundwater basins subject to the Judgment, as set forth in the Judgment. The Parties are also all of the voting members of the Administrative Committee of the Basin, which is authorized by Section 8.3 of the Judgment.

B. The Basin has been, and continues to be, operated in accordance with the terms and conditions of the Judgment. The Superior Court of the County of Los Angeles (Court) retains continuing jurisdiction over the Judgment and the parties to it.

C. On March 23, the Upper Los Angeles River Area Watermaster (Watermaster), which is authorized by Section 8 of the Judgment to assist the Court in its administration and enforcement of the provisions of the Judgment, filed a White Paper with the Court expressing two concerns that the Parties seek to redress by agreement: (i) a reduction in the stored water in the Basin; and (ii) the accumulation of Stored Water credits, as that term is defined in Section 5.2 of the Judgment, by the Parties in excess of the quantity of water available to be pumped by them.

D. The Parties wish to enter into this Agreement to promote a physical solution to the observed falling groundwater levels by promoting artificial replenishment of the Basin in a manner that ensures the viability of the Basin as a long-term reliable water supply. The Parties also wish to enter into this Agreement to provide interim guidelines on the Parties' exercise of their Stored Water credits so as to avoid harm to the Basin.

E. The Parties wish to coordinate their actions to circumvent unnecessary and potentially protracted litigation over the meaning and implementation of the Judgment.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals, which are incorporated into the operative provisions of this Agreement by this reference, and for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the **PARTIES HERETO AGREE** as follows:

1. **Purpose.** The purpose of this Agreement is to address two issues: (a) reduction in the stored groundwater in the Basin; and (b) the accumulation of Stored Water credits by the Parties in excess of the quantity of water available to be pumped by them. By entering into this Agreement, and by undertaking the actions described herein, the Parties seek to ensure that necessary long-term improvements are made to capture and recharge sufficient quantities of rainfall whenever available to correct declining water levels and to guard against any short-term deficiencies in Basin replenishment as might be associated with drought conditions. In the interim, while these Projects are being implemented, the Parties also agree that some guidelines must be established to avoid harm to the Basin and all Parties.

2. **Term.** The term of this Agreement shall be ten years and shall commence with the 2007-08 Water Year (beginning October 1, 2007). The 2007-08 Water Year shall be Year 1; the 200 8-09 Water Year shall be Year 2, and so on. At the conclusion of the term of this Agreement, on or about September 30, 2017, the Parties, in coordination with the Watermaster, will evaluate the effectiveness of this Agreement including, but not limited to, the status of the Projects, and determine whether this Agreement shall be extended.

3. **Enhancement of Recharge Capacity.** Los Angeles has previously expressed its support for several artificial recharge projects. The Parties acknowledge that if implemented as planned, these projects, individually and collectively, will augment replenishment of the Basin in a manner that arrests the observed decline in groundwater levels. The projects presently being pursued include, but are not limited to: the Sheldon-Arleta Project, the Big Tujunga Dam Seismic Restoration Project, the Hansen Spreading Grounds Project, and the Tujunga Spreading Grounds Project (collectively, the Projects).

3.1 By the conclusion of Year 10, Los Angeles, in collaboration with the Los Angeles County Department of Public Works (a separate public agency which is not a party to this Agreement), intends to support and contribute resources towards the design, construction and implementation of the Projects in a manner that increases the Basin's total artificial recharge capacity over conditions existing as of the date of this Agreement. By taking these actions, Los Angeles anticipates that the long-term average native replenishment of the Basin may be increased by at least 12,000 acre-feet per year. Although the exact quantity of additional recharge that will be derived from these Projects, when completed, is unknown and is dependent ultimately on the quantity and variability of precipitation, it is reasonable to assume the additional recharge of the Basin made possible by these Projects will be substantial. While Los Angeles may also elect to contribute funding towards these Projects, this Agreement does not obligate Los Angeles to fund any of the Projects either in part or in whole.

3.2 Mutual Cooperation. Burbank and Glendale agree to coordinate and cooperate with Los Angeles and the Los Angeles County Department of Public Works as may be necessary to increase the likelihood of timely implementation of the Projects.

3.3 Reporting. Within 60 days of the conclusion of each Water Year during the term of this Agreement, Los Angeles shall file a report with the Administrative Committee, the Watermaster and the Court documenting the status of the Projects, including but not limited to the extent by which the Projects have increased the Basin's total artificial recharge capacity.

4. Pumping Limitation. For the term of this Agreement, the Parties agree not to pump their pro-rata share of the total Stored Water credits held by the Parties collectively that, if pumped, would cause the total quantity of water in storage to fall below -655,370 acre-feet (the 1968 level). The quantity of water that the Parties otherwise could have pumped pursuant to their respective Stored Water credits shall be placed in a reserve, and not lost, until such time as there is sufficient water in storage to permit the pumping of those credits without causing the quantity of water in storage to fall below the 1968 level.

4.1 Calculation of Available Stored Water Credits and Reserved Stored Water Credits. The Parties authorize the Watermaster to calculate, annually, the quantity of Stored Water credits available to be pumped by each Party (Available Stored Water credits) and the quantity of Stored Water credits reserved for later use by each Party (Reserved Stored Water credits), as agreed upon herein.

(a) For purposes of making this calculation, the Watermaster shall: (1) compute each Party's Stored Water credits as of the first day of each Water Year for the term of this Agreement, including the one percent (1%) loss described in Section 5 below; (2) assign a percentage to each Party that reflects the relative proportion of each Party's Stored Water credits to the total quantity of credits available to all Parties; (3) determine the quantity of Stored Water available to be pumped by all Parties and calculate each Party's relative proportion of that total quantity; and (4) calculate the quantity of Stored Water Credits not available to be pumped in that Water Year and reserved for later use. For the 2006-07 Water Year (beginning October 1, 2006), which is not subject to this Agreement, the calculation would be as follows:

Party	Stored Water Credits (AF), Minus 1% Losses	Percentage of Total Quantity of Stored Water Credits for Each Party	Available Stored Water Credits (AF)	Reserved Stored Water Credits (AF)
Los Angeles	370,350	83.146%	139,018	231,334
Glendale	61,215	13.743%	22,978	38,236
Burbank	13,859	3.111%	5,202	8,656
Total	**445,424**	**100%**	**167,198**	**278,226**

4.2 Exception to Satisfy Consent Decree Obligations. Nothing herein shall be construed as causing Burbank or Glendale to pump less groundwater from the Basin than required by the United States Environmental Protection Agency's Consent Decrees for the Burbank Operable Unit [Civil Action 91-4527-MRP (Tx), dated 06-22-1998] and the Glendale North and South Operable Units [CV99-00552 MRP (ANx), dated 05-17-2000], respectively, all of which are incorporated by this reference as if fully set forth herein, and as may be modified or amended from time to time during the term of this Agreement (collectively, Consent Decrees). In the event that the pumping limitations set forth in Section 4 above are triggered by a decline in storage, Burbank and Glendale may pump Reserved Stored Water credits to meet their Consent Decree obligations subject to the following conditions:

(a) In the event Los Angeles is able to produce the full quantity of its Extraction Right to meet the water requirements of its inhabitants for the Water Year in which Glendale's or Burbank's Available Stored Water Credits are not sufficient to meet that Party's Consent Decree obligations, Glendale or Burbank shall be required to purchase Physical Solution water pursuant to Section 9.4 of the Judgment as necessary to meet their respective Consent Decree obligations. For purposes of this Agreement, "Extraction Right" shall mean the total quantity of Los Angeles' Return Water Extraction Right plus Native Safe Yield Credit, as set forth in Table 2-1 1A of the Watermaster's most recent annual report prepared pursuant to section 8.2.11 of the Judgment.

(b) In the event the conditions of paragraph 4.2(a) above are not satisfied, Los Angeles may elect to exchange water or stored water credits with the Party requiring additional water to meet its Consent Decree obligations upon such terms and conditions as the affected Parties may agree upon. In the event an agreement to exchange water or stored water credits sufficient to permit either Glendale or Burbank to satisfy their Consent Decree obligations cannot be reached, Glendale or Burbank may pump Reserved Stored Water credits as necessary to meet their Consent Decree obligations, subject to Paragraph 4.2(c) below.

(c) Any pumping by Glendale and Burbank of Reserved Stored Water credits pursuant to this exception shall not exceed a maximum combined total of 2,000 acre-feet per year over the term of this Agreement. Any pumping in excess of a combined total of 2,000 acre-feet per year over the term of this Agreement shall be pursuant to Section 9.4 of the Judgment.

4.3 Exception for Unforeseen Circumstances. Additionally, to the extent that any Party is required to pump water in excess of that Party's Available Stored Water credits and in reliance upon that Party's Reserved Stored Water credits, to meet presently unspecified federal or state regulatory obligations that may be established in the future or unforeseen material changes in the Parties' operations or Basin conditions, the affected Party(ies) shall coordinate with the Administrative Committee and the Watermaster to determine whether and to what extent additional quantities of groundwater may be extracted in a manner that does not cause harm to the Basin or any other Party.

5. **Account for Groundwater Losses.** The Parties acknowledge that Stored Water losses may occur from the Basin. The Parties further acknowledge that Section 8.2.9 of the Judgment requires the calculation of such losses from Stored Water. The Parties estimate that as much as one percent (1%) of all Stored Water is lost from the Basin annually.

5.1 For the term of this Agreement, or until such time as the Basin loss calculation is re-evaluated, the Parties authorize Watermaster to deduct one percent (1%) annually from each Parties' respective Stored Water credits account.

6. **Basin Safe Yield Study.** The Parties acknowledge that, from time to time, it may be appropriate to study information regarding the hydrology of the Basin, including the Basin's Safe Yield, as that term is defined in the Judgment.

6.1 Within six months of the date of execution of this Agreement, the Parties, in coordination and consultation with the Watermaster, will develop a proposal for conducting a study of the Basin's Safe Yield. The proposal will include each of the following elements: (1) timing for designing, conducting and implementing the study and each of its phases, (2) trigger(s) and parameters for implementing the study, or any part or phase, (3) procedures for managing and allocating costs and for authorizing expenditures during and throughout the study; (4) methods and manner for conducting the study; and (5) anticipated goals or outcomes of the study. Thereafter, the Parties will commence a study of the Basin's Safe Yield that is consistent with the proposal required by this Section, as may be agreed upon by the Parties.

6.2 In the event the Parties are unable to agree to a proposal for studying the Basin's Safe Yield within six months of the date of execution of this Agreement, the Parties, individually or collectively, shall lodge their respective proposals, if any, with the Court. The Court, upon at least 30 days notice thereof and after a hearing, shall make such further or supplemental orders as may be necessary or appropriate and consistent with the Judgment.

7. **Recalculation of Safe Yield.** Regardless of any information collected or reports made pursuant to Section 6 above, the Parties agree to forebear from exercising any and all rights they may have arising under or related to Section 8.2.10 of the Judgment for the term of this Agreement, except as may be necessary to respond to, support or oppose any Watermaster recommendation or action that may be inconsistent with this Agreement, the provisions herein, or any Party's respective rights, remedies and defenses arising under the Judgment or applicable law. After the expiration of this Agreement, the rights of any and all Parties arising under or related to Section 8.2.10 will not be prejudiced by the existence of this Agreement or their agreement to forebear pursuant to its terms.

8. **Annual Accounting by Watermaster.** Watermaster will collect, record and verify, or otherwise arrange for the collection, recordation and verification of, any and all data and information as may be required or generated by this Agreement and as may be otherwise directed by the Administrative Committee or the Court. Upon written request by any Party, all such data and information shall be made available to the Parties. The

Watermaster shall include such data and information in its annual Watermaster Report, prepared pursuant to Section 8.2.11 of the Judgment, a copy of which is filed with the Court.

9. Administrative Committee and Watermaster Authority. Watermaster and the Administrative Committee are not Parties to this Agreement. This Agreement is made among the Parties and nothing herein shall be construed as a limitation on the powers and responsibilities of the Administrative Committee or the Watermaster arising under the Judgment.

10. Reservation of All Rights. Subject to Section 7 above, neither this Agreement, nor any provision herein, shall be construed as a waiver or limitation on any Party's respective rights, remedies and defenses arising under the Judgment or applicable law including, but not limited to, the right to respond to, support or oppose further Watermaster recommendations.

11. Consistency with Judgment and Continuing Jurisdiction. The actions contemplated by this Agreement, if implemented, facilitate a physical solution and are intended as measures that arise under, are consistent with, and in furtherance of, the Judgment. Accordingly, this Agreement shall be subject to the Court's continuing jurisdiction as provided by Section 7 of the Judgment.

12. Further Actions. The Parties contemplate that additional opportunities may arise to further augment the available yield of the Basin during the term of this Agreement. Upon a request by any Party, the Watermaster or the Administrative Committee, the Parties will exercise good faith to fairly evaluate opportunities to exchange water, enhance recharge, evaluate a replenishment program and conserve water. Further, Burbank is actively pursuing an inter-connection with the Metropolitan Water District of Southern California to permit the delivery of replenishment water to Burbank for storage in the Basin. Burbank will file annual status reports with the Watermaster, the Administrative Committee and the Court in a manner similar to Los Angeles' reporting as provided in Section 3.3 above.

13. General Provisions.

13.1 Assignment. This Agreement shall not be assigned by any Party.

13.2 Attorneys' Fees. Should legal action be instituted by any Party to this Agreement, to enforce or interpret any provision of this Agreement, each Party shall bear its own attorneys' fees.

13.3 Authorizations. All individuals executing this Agreement on behalf of the respective Parties certify and warrant that they have the capacity and have been duly authorized to so execute this Agreement on behalf of the entity so indicated.

13.4 Construction. The provisions of this Agreement shall be liberally construed to effectuate its purposes. The language of this Agreement shall be construed

simply according to its plain meaning and shall not be construed for or against any Party, as each Party has participated in the drafting of this Agreement.

13.5 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

13.6 Entire Agreement and Amendment. In conjunction with the matters considered herein, this Agreement contains the entire understanding and agreement of the Parties and there have been no promises, representations, agreements, warranties or undertakings by any of the Parties, either oral or written, of any character or nature binding except as stated herein. This Agreement may be modified, altered or amended only by an instrument in writing, executed by the Parties to this Agreement and by no other means. Each Party waives its right to claim, contest or assert that this Agreement was modified, canceled, superseded or changed by any oral agreement, course of conduct, waiver or estoppel.

13.7 Good Faith. The Parties agree to exercise their reasonable best efforts and utmost good faith to effectuate all the terms and conditions of this Agreement and to execute such further instruments and documents as are necessary or appropriate to effectuate all of the terms and conditions of this Agreement.

13.8 Notices. All notices, approvals, acceptances, demands and other communication required or permitted under this Agreement, to be effective, shall be in writing and delivered in person or by U.S. Mails (prepaid postage, certified, return receipt requested) or by overnight delivery service to the Party to whom the notice is directed at the addresses identified below:

To Los Angeles:

Director of Water Resources
Los Angeles Department of Water and Power
111 N. Hope Street, Room 1460
Los Angeles, CA 90012

With copy to:

Julie Conboy Riley, Deputy City Attorney
Office of the City Attorney
City of Los Angeles
111 N. Hope Street, Room 340
Los Angeles, CA 90012

To Glendale:

Peter Kavounas, Water Services Administrator
Glendale Water and Power
City of Glendale
141 North Glendale Ave., 4th Level
Glendale, CA 9 1206-4496

With copy to:

Christine Godinez, Assistant City Attorney
City of Glendale
613 East Broadway, Suite 220
Glendale, CA 91206-4394

To Burbank:

William Mace, Assistant General Manager
Burbank Water and Power
City of Burbank
164 West Magnolia Boulevard
P.O. Box 631
Burbank, CA 91503-063 1

With copy to:

Carolyn Barnes, Senior Assistant City Attorney
City of Burbank
275 East Olive Avenue
Burbank, CA 91510-6459

To the Watermaster:

Mark Mackowski
Upper Los Angeles River Area Watermaster
111 N. Hope Street, Room 1450
Los Angeles, CA 90012

To the Court:

The Honorable Susan Bryant-Deason
Judge of the Los Angeles County Superior Court
111 N. Hill Street, Dept. 52
Los Angeles, CA 90012

Any written communication given by mail shall be deemed delivered two (2) business days after such mailing date. Any communication given by overnight delivery service

shall be deemed delivered one (1) business day after the dispatch date. Either Party may change its address by giving the other Party written notice of its new address as provided above.

13.9 Recitals. The recitals set forth at the beginning of this Agreement of any matters or facts shall be conclusive proof of the truthfulness thereof and the terms and conditions set forth therein shall be deemed a part of this Agreement.

13.10 Successors and Assigns. This Agreement shall be binding on and shall inure to the benefit of the Parties and their respective successors.

13.11 Court Approval. The Parties hereto shall seek Court approval of this Agreement prior to September 30, 2007.

14. Waiver. No waiver of any provision or consent to any action shall constitute a waiver of any other provision or consent to any other action, whether or not similar. No waiver or consent shall constitute a continuing waiver or consent or commit a Party to provide a waiver or consent in the future except to the extent specifically stated in writing. No waiver shall be binding unless executed in writing by the Party making the waiver, based on a full and complete disclosure of all material facts relevant to the waiver requested.

[continued on next page]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement.

DEPARTMENT OF WATER AND POWER OF
THE CITY OF LOS ANGELES BY
BOARD OF WATER AND POWER COMMISSIONERS
OF THE CITY OF LOS ANGELES

Date: 9/19/07 By: _____
ROBERT K. ROZANSKI
Acting General Manager

And: Barbara E. Moschos
Secretary

AUTHORIZED BY RES. 008 045
SEP 04 2007

APPROVED AS TO FORM AND LEGALITY
ROCKARD J. DELGADILLO, CITY ATTORNEY

AUG 24 2007
BY _____
JULIE CONBOY RILEY
Deputy City Attorney

CITY OF GLENDALE

Date: 9/13/07

James E. Starbird, City Manager

Approved as to Form:

By _____
City Attorney

CITY OF BURBANK

Date: 9/13/07

Ronald E. Davis, General Manager,
Burbank Water and Power

Attest:

By _____
Margarita Campos, City Clerk

Approved as to Form:

By _____
Carolyn Barnes, Senior Assistant City Attorney

SB 440012 v1:011538.0001

ORDER

Having read and reviewed the foregoing stipulation, **IT IS HEREBY ORDERED** that the terms of the *Interim Agreement for the Preservation of the San Fernando Basin Water Supply*, dated September 20, 2007 ("Agreement"), which is entered into by and between the City of Los Angeles, the City of Glendale and the City of Burbank, all of whom are parties to this action, a copy of which is attached hereto and incorporated herein by this reference, shall be the Order of the Court. The Parties are hereby ordered to comply with the terms of the Agreement.

DATED: October 2, 2007 Judge Susan Bryant-Deason
JUDGE OF THE SUPERIOR COURT

PROOF OF SERVICE

I am employed in the County of Los Angeles; I am over the age of eighteen years and am not a party to the within entitled action; my business address is 111 North Hope Street, Suite 340, Los Angeles, California 90012-2694. On September 25, 2007, I served the within documents:

STIPULATION AND [PROPOSED] ORDER RE. INTERIM AGREEMENT FOR THE PRESERVATION OF THE SAN FERNANDO BASIN WATER SUPPLY

[ ] by transmitting via facsimile the document(s) listed above to the fax number(s) set forth below on this date.

[X] by placing the document(s) listed above in a sealed envelope with postage thereon fully prepaid, in the United States mail at Los Angeles, California addressed as set forth below.

[ ] by personally delivering the document(s) listed above to the person(s) at the address(es) set forth below.

PLEASE SEE THE ATTACHED LIST.

I am readily familiar with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business.

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

Executed on September 25, 2007, at Los Angeles, California.

Lillian M. Catena

Lillian M. Catena

THE CITY OF LOS ANGELES v. CITY OF SAN FERNANDO, ET AL.
LASC CASE NO. C 650 079

SERVICE LIST

SCOTT S. SLATER, ESQ. STEPHANIE OSLER HASTINGS, ESQ. **HATCH & PARENT** 21 E. Carillo Street Santa Barbara, California 93101 Telephone: (805) 963-7000 Facsimile: (805) 965-4333	Attorneys for Defendants CITY OF BURBANK and CITY OF GLENDALE
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CITY OF BURBANK DENNIS BARLOW, City Attorney CAROLYN BARNES, Senior Assist. City Attorney 275 East Olive Avenue Burbank, California 91510-6459 Telephone: (818) 238-5700 Facsimile: (818) 238-5724	Attorneys for Defendants CITY OF BURBANK and CITY OF GLENDALE
Julie Conboy Riley Deputy City Attorney Office of the City Attorney Department of Water and Power P. O. Box 5111 - Room 340 (Mailing) 111 N. Hope Street, Room 340 Los Angeles, CA 90051-0100	Attorneys for Plaintiff, THE CITY OF LOS ANGELES, acting by and through the DEPARTMENT OF WATER AND POWER
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La Crescenta, California 91214
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Dennis Erdman (Member)
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Attorneys for
Upper Los Angeles River Area Watermaster

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

THE CITY OF LOS ANGELES, Plaintiff, v. CITY OF SAN FERNANDO, et al., Defendants.	Case No. C650 079 **WATERMASTER STATEMENT RE: INTERIM AGREEMENT FOR THE PRESERVATION OF THE SAN FERNANDO BASIN WATER SUPPLY** Before the Hon. Susan Bryant-Deason

The court-appointed Watermaster hereby submits the following statement regarding the Stipulation and [Proposed] Order re: Interim Agreement for the Preservation of the San Fernando Basin Water Supply, submitted by the Cities of Los Angeles, Glendale and Burbank ("Agreement").

The Watermaster supports this Court's approval of the Agreement. The Watermaster appreciates the efforts on the part of the Cities of Los Angeles, Glendale and Burbank to reach a negotiated solution to the complex issues affecting the declining stored groundwater levels in the San Fernando Basin. The Watermaster believes the Agreement

represents significant progress in addressing the issues set forth in the Watermaster White Paper lodged with this Court on March 23, 2007. The Agreement contains many elements that will help restore the long-term sustainability of the Basin, and the Agreement expressly provides for the preservation of all Watermaster authority under the Judgment.[1]

While the Watermaster supports approval of the Agreement, and while the Watermaster is hopeful that the Agreement will facilitate improved storage levels in the Basin, the Watermaster is obligated to raise several issues that may materialize in the future.

First, the Watermaster believes that a Basin Safe Yield Study is a critical component of understanding the true and correct hydrologic conditions in the Basin. It has been over 40 years since a Basin Safe Yield Study has been performed. Section 6 of the Agreement provides that the Parties will develop a proposal for a Basin Safe Yield Study. This paragraph further provides that if the Parties do not come to an agreement on a single proposal, then the Parties will submit their separate proposals to this Court. The Agreement therefore has the potential to delay the Basin Safe Yield Study. The Watermaster agrees that a six month period is ample time for the Parties to agree upon the proposal for the Basin Safe Yield Study. Indeed, the Parties should endeavor to commence the study prior to the time allocated by the Agreement. In any case, the Safe Yield Study should begin no later than the completion of the six month study period.

Second, the Watermaster believes that actual losses must be calculated, not merely estimated. Section 5.1 of the Agreement provides that for the 10-year term of the Agreement, the Parties authorize Watermaster to deduct one-percent annually from each Party's respective Stored Water Credit, or until such time as the Basin loss calculation is re-evaluated. The Watermaster believes the one-percent estimate is reasonable on an interim basis. However, Section 8.2.9 of the Judgment requires that Watermaster shall calculate and

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[1] Paragraph 9 of the Agreement provides: "Watermaster and the Administrative Committee are not Parties to this Agreement. This Agreement is made among the Parties and nothing herein shall be construed as a limitation on the powers and responsibilities of the Administrative Committee or the Watermaster arising under the Judgment."

account for stored water losses.[2] It is therefore imperative that Watermaster calculate the true and correct Basin losses from rising groundwater and underflow. Upon obtaining the necessary data to accurately perform that calculation, Watermaster believes it is necessary and appropriate to deduct actual losses, not estimated losses, from the Parties' Stored Water Credits. Therefore, the Watermaster will recommend that the calculation for determining Basin losses be re-evaluated as part of the Basin Safe Yield Study, and implemented upon completion of the Study.

Third, Section 4.2.6.1 of the Judgment states that the San Fernando Basin "...remained in overdraft continuously until 1968, when an injunction became effective. Thereafter, the basin was placed on safe yield operation." The Parties anticipate that the actions required of them under the Agreement will forestall the Basin's decline and prevent groundwater levels from slipping below the 1968 benchmark. However, if progress does not materialize as anticipated and groundwater levels fall below the 1968 level, the Watermaster may be obligated to declare overdraft and consider further options consistent with the Judgment to protect the Basin.

The Watermaster is hopeful that the Parties will reach consensus on the implementation of a Basin Safe Yield Study, the calculation of losses, and conjunctive use projects to replenish the Basin. In that regard, the Watermaster hopes that the reservations expressed herein will not need to be addressed by this Court. Nonetheless, in light of the Agreement's dependence on additional action by the Parties over the next 10 years, and in particular the next six months, the Watermaster is obligated to inform this Court of the aforementioned issues.

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[2] Section 8.2.9, in relevant part, provides: "Watermaster shall record and verify additions, extractions and losses and maintain an annual and cumulative account of all (a) stored water and (b) import return water in San Fernando Basin."

The Watermaster expresses its appreciation to the Parties and this Court for their attention in developing solutions to enhance the long-term sustainability of the San Fernando Basin.

DATED: September 25, 2007

NOSSAMAN, GUTHNER, KNOX & ELLIOTT, LLP
Frederic A. Fudacz
Alfred E. Smith

By: _____
Alfred E. Smith
Attorneys for Upper Los Angeles River Area Watermaster

PROOF OF SERVICE

The undersigned declares:

I am employed in the County of Los Angeles, State of California. I am over the age of 18 and am not a party to the within action; my business address is c/o Nossaman, Guthner, Knox & Elliott, LLP, 445 S. Figueroa Street, 31st Floor Los Angeles, California 90071-1602.

On September 25, 2007, I served the foregoing **WATERMASTER STATEMENT RE: INTERIM AGREEMENT FOR THE PRESERVATION OF THE SAN FERNANDO BASIN WATER SUPPLY** on parties to the within action by placing ( ) the original (x) a true copy thereof enclosed in a sealed envelope, addressed as shown on the attached service list.

(X) (By U.S. Mail) On the same date, at my said place of business, said correspondence was sealed and placed for collection and mailing following the usual business practice of my said employer. I am readily familiar with my said employer's business practice for collection and processing of correspondence for mailing with the United States Postal Service, and, pursuant to that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid, on the same date at Los Angeles, California.

( ) (By Facsimile) I served a true and correct copy by facsimile pursuant to C.C.P. 1013(e), to the number(s) listed on the attached sheet. Said transmission was reported complete and without error. A transmission report was properly issued by the transmitting facsimile machine, which report states the time and date of sending and the telephone number of the sending facsimile machine. A copy of that transmission report is attached hereto.

( ) (By Overnight Service) I served a true and correct copy by overnight delivery service for delivery on the next business day. Each copy was enclosed in an envelope or package designated by the express service carrier; deposited in a facility regularly maintained by the express service carrier or delivered to a courier or driver authorized to receive documents on its behalf; with delivery fees paid or provided for; addressed as shown on the accompanying service list.

Executed on September 25, 2007.

(X) (STATE) I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

( ) (FEDERAL) I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Charlyn Jones

ATTORNEYS OF RECORD

Name	Party
Ms. Julie Riley Deputy City Attorney Office of the City Attorney Department of Water and Power 111 N. Hope Street, Suite 340 P.O. Box 5111 Los Angeles, CA 90051-5700 Telephone: 213-367-4579	Los Angeles
Mr. Dennis Barlow City Attorney 275 East Olive Avenue Burbank, CA 91502 Telephone: 818-238-5700	Burbank
Mr. Scott Howard City Attorney 613 East Broadway Glendale, CA 91205 Telephone: 818-548-2080	Glendale
Steven R. Orr, Esq. Richards, Watson & Gershon 355 South Grand Avenue, 40th Floor Los Angeles, CA 90071 Telephone: 213-626-8484	San Fernando
Mr. H. Jess Senecal, Special Counsel Lagerlof, Senecal, Swift and Bradley 301 North Lake Avenue - 10th Floor Pasadena, CA 91101 Telephone: 626-793-9400	Crescenta Valley, Vulcan-CalMat
Greg Chafee, Esq. 5660 New Northside Drive, Suite 500 Atlanta, GA 30328 Telephone: 770-933-1447	DS Waters

ATTORNEYS OF RECORD (CONT'D)

Name	Party
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Mr. Gene Matsushita Lockheed-California Corporation 2950 North Hollywood Way, Suite 125 Burbank, CA 91505 Telephone: 818-847-0197	Lockheed
Michael C. Martinez, Esq. Haight, Brown & Bonesteel LLP 6080 Center Drive, Suite 800 Los Angeles, CA 90045-1574 Telephone: 310-215-7715	Valhalla Memorial Park
Mr. Patrick Holleran General Manager 12833 Ventura Boulevard Studio City, CA 91604 Telephone: 818-984-0202	Sportsmen's Lodge
Mr. Fritz Tegatz Middle Ranch 11700 No. Little Tujunga Canyon Road Lake View Terrance, CA 91342	Middle Ranch Parties

ADMINISTRATIVE COMMITTEE and ALTERNATES

Name	Party
Mr. Thomas M. Erb (Member) Director of Water Resources Department of Water and Power 111 North Hope Street, Room 1463 P. O. Box 51111 Los Angeles, CA 90051-5700 Telephone: 213-367-0873	Los Angeles
Mr. Mark J. Aldrian (Alternate) Groundwater Group Manager Department of Water and Power 111 North Hope Street, Room 1450 Los Angeles, CA 90012 Telephone: 213-367-0932	Los Angeles
Mr. William Mace (Member) Assistant General Manager Water System Burbank Water and Power 164 West Magnolia Boulevard P. O. Box 631 Burbank, CA 91503 Telephone: 818-238-3550	Burbank
Mr. Peter Kavounas (Member) Water Services Administrator City of Glendale 141 North Glendale Avenue Glendale, CA 91206-4496 Telephone: 818-548-2137	Glendale
Mr. Raja Takidin (Alternate) City of Glendale 141 North Glendale Avenue Glendale, CA 91206-4496 Telephone: 818-648-3906	Glendale

ADMINISTRATIVE COMMITTEE and ALTERNATES (CONT'D)

Mr. Ronald Ruiz (Member) Director of Public Works City of San Fernando 117 Macneil Street San Fernando, CA 91340 Telephone: 818-898-1237	San Fernando
Mr. Daniel Wall (Alternate) City of San Fernando 117 Macneil Street San Fernando, CA 91340 Telephone: 818-898-1299	San Fernando
Mr. Dennis Erdman (Member) General Manager Crescenta Valley Water District 2700 Foothill Boulevard La Crescenta, CA 91214 Telephone: 818-248-3925	Crescenta Valley Water District
Mr. David Gould (Alternate) District Engineer Crescenta Valley Water District 2700 Foothill Boulevard La Crescenta, CA 91214 Telephone: 818-248-3925	Crescenta Valley Water District

APPENDIX H
WELLS DRILLED, REACTIVATED, ABANDONED, OR DESTROYED

WELLS DRILLED, REACTIVATED, ABANDONED, OR DESTROYED

2006-07 WATER YEAR

No municipal wells were drilled, reactivated, abandoned, or destroyed.

APPENDIX I
ACTION ITEMS 2007-08 WATER YEAR

ACTION ITEMS

WATERMASTER ACTIVITIES FOR 2007-08 WATER YEAR

- Support the parties in their efforts to deal with increasingly stringent stormwater discharge requirements.

- Continue to keep the parties informed regarding current and emerging water quality issues, such as chromium, perchlorate, 1,4-Dioxane, and 1,2,3 TCP.

- Continue to attend meetings of public interest groups, such as the Los Angeles and San Gabriel Rivers Watershed Council, the Sun Valley Watershed Committee, and others to support and promote the goals of the parties and the overall health of the basins within ULARA.

- Continue to attend meetings of technical groups, such as the Association of Groundwater Agencies (AGWA), Groundwater Resources Association (GRA), and others to exchange ideas and information regarding water quality and basin management.

- Continue to support ways to maximize the spreading of native water and increase the infiltration of urban runoff in the SFB.

- Continue to support the ongoing Verdugo Basin Groundwater Evaluation, and investigate ways to maximize conjunctive use in the Verdugo Basin.

- Continue to support ways to maximize spreading at the spreading grounds.

- Continue to investigate the unauthorized use of groundwater in unincorporated areas of ULARA and develop processes to expedite water license agreements and access to well drilling permits for property owners.

- Continue to work with the U.S. Forest Service, U.S. Fish and Wildlife Service, LACDPW, and LADWP to support the seismic retrofit of Big Tujunga Dam, with the goal of providing maximum water conservation, protection against flood damage, preservation of habitat for endangered species, and protection of Los Angeles' Pueblo water right.

- Continue to support the City of Burbank in its effort to purchase imported supplies from MWD for spreading and recharging in the SFB.

- Participate in the IRWMP process to increase the amount of grant support for water projects in the Greater Los Angeles Region and promote projects that increase basin recharge.

- Continue to work with the Cities and regulatory agencies, such as the USEPA and RWQCB, to enforce chromium cleanup in the SFB.

- Address the City of Glendale's request for a stored water credit adjustment in the SFB in the amount of 3,052 AF due to the over-reporting of groundwater extraction at the Grayson Power Plant.

APPENDIX J
WATER EQUIVALENTS

WATER EQUIVALENTS

Volume

1 gallon*	= 3.7854 liters (L)	= 231** cubic inches (in^3)
.....	= 0.003785 cubic meters (m^3)	= 0.132475 cubic feet (ft^3)
100 cubic feet (HCF)****	= 748 gallons (gal)	= 2.83317 cubic meters (m^3)
.....	= 2,832 liters (L)	= 3.70386 cubic yards (yd^3)
.....	= 6,230.8 pounds of water (lb)	= 2,826.24 kilograms (kg)
1 acre-foot (AF)***	= 43,560** cubic feet (ft^3)	= 1233.5 cubic meters (m^3)
.....	= 325,851 gallons (gal)	= 1,233,476.3754 liters (L)
.....	= the average amount of water used by two families for one year.	

Flow

1 cubic foot per second (cfs) ...	= 448.83 gallons per minute (gpm)	= 0.028317 cubic meters/sec (m^3/s)
...	= 646,317 gallons per day (gal/day)	= 1.70 cubic meters/min
...	= 1.98 AF/day	= 2446.6 cubic meters/day
1,000 gallons per Minute(gpm) ...	= 2.23 cubic feet per second (cfs)	= 0.063 cubic meters/sec (m^3/s)
...	= 4.42 AF/day	= 5452.6 cubic meters/day
...	= 11,613.01 AF/year	= 1.99 million cubic meters/yr
1 million gallons per day (mgd) ...	= 3.07 AF/day	= 3785 cubic meters/day
...	1,120.14 AF/year	= 1.38 million cubic meters/yr

Concentration

...	= 1.0 milligrams per liter (mg/L)	= 1.0 parts per million (ppm)
...	= 1.0 micrograms per liter (μg/L)	= 1.0 parts per billion (ppb)

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* U.S. gallons
** Exact Value
*** An acre foot covers one acre of land one foot deep
**** This is a billing unit of DWP

APPENDIX K
LIST OF ABBREVIATIONS

LIST OF ABBREVIATIONS

AF	Acre-feet
BOU	Burbank Operable Unit
BTEX	Benzene, tolulene,ethylbenzene,and total xylene
CVWD	Crescenta Valley Water District
Cal-EPA	California Environmental Protection Agency
DCA	Dichloroethane
DCE	Dichloroethylene
DHS	California Department of Health Services
DTSC	California Department of Toxic Substances Control
DWP	Department of Water and Power (see also LADWP)
EPA	Environmental Protection Agency (see also USEPA)
EVWRP	East Valley Water Recycling Project
LAFD	Los Angeles Fire Department
GAC	Granular Activated Carbon
gpm	Gallons Per Minute
LACDPW	Los Angeles County Department of Public Works
LADWP	Los Angeles Department of Water and Power
MCL	Maximum Contaminant Level
mg/L	Milligrams per Liter
MTA	Metropolitan Transportation Authority
MWD	Metropolitan Water District
NHOU	North Hollywood Operable Unit
OEHHA	Office of Environmental Health Hazard Assessment
OU	Operable Unit
PCE	Tetrachloroethylene
PHG	Public Health Goal
PPB	Parts Per Billion
PPM	Parts Per Million
PSDS	Private Sewage Disposal Systems
RAW	Removal Action Workplan
RI	Remedial Investigation
RWQCB	Regional Water Quality Control Board
SFB	San Fernando Basin
SUSMP	Standard Urban Stormwater Mitigation Plan
SWCRB	State Water Resouces Control Board
SWAT	Solid Waste Assessment Test
TCA	1,1,1- Trichloroethane
TCE	Trichloroethylene
TDS	Total Dissolved Solids
TSG	Tujunga Spreading Grounds
ug/L	Micrograms per Liter
ULARA	Upper Los Angeles River Area
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
VPWTP	Glendale-Verdugo Park Water Treatment Plant
USGS	United States Geological Survey