REGIONAL GROUNDWATER MONITORING REPORT
CENTRAL AND WEST COAST BASINS
LOS ANGELES COUNTY, CALIFORNIA
WATER YEAR 2008-2009

Water Replenishment District of
Southern California
4040 Paramount Boulevard
Lakewood, California 90712

(562) 921-5521

Robb Whitaker	**General Manager**
Ted Johnson	**Chief Hydrogeologist**

Prepared by:

Tony Kirk	**Hydrogeologist**
Mat Kelliher	**Hydrogeologist**
Benny Chong	**Associate Hydrogeologist**
Peter Piestrzeniewicz	**Assistant Hydrogeologist**
Jason Weeks	**Senior Engineer**
Hoover Ng	**Water Quality Program Manager**
Phuong Ly	**Water Quality Specialist**
Jeanette Harlow	**Hydrogeology Intern**

FEBRUARY 2010

Executive Summary

The Water Replenishment District of Southern California (WRD or the District) was formed in 1959 to manage the groundwater replenishment and groundwater quality activities for 4 million people in 43 cities that overlie the Central and West Coast Basins (CWCB) in southern Los Angeles County. These basins currently supply about 40 percent of the water used by the population in the region. Our mission is to protect and preserve high-quality groundwater in the basins through innovative, cost-effective, and environmentally sensitive management practices for the benefit of residents and businesses of the CWCB.

To that end, WRD has a dedicated Board and staff that engage in year-round activities to closely monitor groundwater conditions. The District performs extensive collection, analysis, and reporting of groundwater data to ensure proper resource management. The publication of this Regional Groundwater Monitoring Report (RGWMR) is one result of these efforts, which presents information on groundwater levels, and groundwater quality for the previous Water Year (WY) which runs from October 1 through September 30 of each year. This current report is for WY 2008-2009. Detailed information is presented in the body of the report with a summary below:

Groundwater Levels

Groundwater levels decreased over nearly all of the Central Basin during WY 2008-2009 due primarily to the lack of natural and supplemental replenishment water. Water levels dropped about 5 feet on average over the whole Central Basin Pressure Area and from 15 to 25 feet in the Montebello Forebay. However, water levels did not change significantly over much of the Los Angeles Forebay and in the Norwalk/La Mirada areas of the Central Basin. Water levels declined over half of the West Coast Basin during the past WY. Much of the coastal area of the West Coast Basin saw little change while the inland areas around Carson and Gardena dropped from 5 feet to up to 12 feet over the WY.

Groundwater Quality

WRD has taken an active role in monitoring and protecting the groundwater and replenishment water quality in the CWCB. We have established the Regional Groundwater Monitoring Program which consists of a network of nearly 250 monitoring wells at over 50 locations throughout the District. WRD collects nearly 500 groundwater samples from these wells on an annual basis and analyzes them for over 100 water quality constituents to produce nearly 50,000 individual data points to help track the water quality in the basins. By analyzing and reviewing the results on a regular basis, any new or growing water quality concerns can be identified and managed effectively.

The results of all the monitoring including data tables, water quality maps, and graphs of trends are presented in Chapter 3 of this report. In summary, the waters that the District use for groundwater replenishment continue to meet our high standards for quality. And overall, the groundwater in the CWCB continues to be of high quality and suitable for potable and non-potable uses. There are localized areas of marginal to poor water quality that may require treatment prior to use. The causes of these lesser quality areas are from natural or human sources. But, WRD will continue to focus on these areas to monitor trends and look for ways to cleanup any contamination that makes the groundwater unsuitable for use.

WRD will continue to use the data generated by the Regional Groundwater Monitoring Program (RGWMP) along with WRD's advanced GIS capabilities to address current and upcoming issues related to water quality and groundwater replenishment in the Central and West Coast Basins. WRD staff will be working on refining the hydrogeologic conceptual model of the CWCB using data from the RGWMP and other data to improve the framework for understanding the dynamics of the groundwater system and use as a planning tool. WRD will continue to be proactively involved in the oversight of the most significant contaminated sites that threaten CWCB groundwater resources and will continue to fund the Safe Drinking Water Program to address impacted groundwater.

WRD will continue efforts under its Groundwater Contamination Prevention Program in

order to minimize or eliminate threats to groundwater supplies. This includes continued organization of the Central and West Coast Basin Groundwater Contamination Forum with key stakeholders including the Environmental Protection Agency, Department of Toxic Substances Control, Los Angeles Regional Water Quality Control Board, California Department of Public Health, United States Geological Survey, and various cities resulting in a list of high-priority contaminated groundwater sites within the District. Currently, the list includes approximately 47 sites across the CWCB.

Upcoming Activities and Challenges Ahead

WRD remains committed to its statutory charge to protect and preserve the groundwater resources in the CWCB. To that end, WRD will be installing additional monitoring wells in the upcoming year to enhance its monitoring well network and will perform other projects and programs to meet this charge. One of the biggest challenges currently facing the District is the rising cost of imported water and the shortage of imported water for replenishment. The District has gone nearly 3 years with severely limited availability of imported water for the spreading grounds resulting in falling water levels. The District seeks to eliminate this reliance on imported water for replenishment and looks to expand its use of local sources including storm water and recycled water. We call this initiative our Water Independence Now (WIN) program – a program designed to ensure a reliable source of replenishment water to keep the groundwater basins useable and of high quality for all the groundwater users in the WRD service area.

Further information may be obtained at the WRD web site at http://www.wrd.org, or by calling WRD at (562) 921-5521. WRD welcomes any comments or suggestions to this Regional Groundwater Monitoring Report.

TABLE OF CONTENTS

Glossary

Section 1
Introduction

Section 2
Groundwater Levels

Section 3
Groundwater Quality

Section 4
Summary of Findings

Section 5
Future Activities

Section 6
References

List of Tables

List of Figures

GLOSSARY OF ACRONYMS

ASR	Aquifer Storage and Recovery
AWTF	Advanced Water Treatment Facility
AWWA	American Water Works Association
BGS	Below Ground Surface
CDPH	California Department of Public Health (formerly California Department of Health Services)
CSDLAC	County Sanitation Districts of Los Angeles County
CWCB	Central and West Coast Basins
DBMS	Database Management System
DTSC	California Department of Toxic Substances Control
DWR	State Department of Water Resources
EPA	U.S. Environmental Protection Agency
ESR	Engineering Survey and Report
GIS	Geographic Information System
GPS	Global Positioning System
LACDHS	Los Angeles County Department of Health Services
LACDPW	Los Angeles County Department of Public Works
LARWQCB	Los Angeles Regional Water Quality Control Board
MCL	Maximum Contaminant Level
mg/L	Milligrams per Liter
µg/L	Micrograms per Liter
MWD	Metropolitan Water District of Southern California
NDMA	N-Nitrosodimethylamine
NL	Notification Level
OEHHA	Office of Environmental Health Hazard Assessment
PCE	Perchloroethylene
PHG	Public Health Goal
RGWMP	Regional Groundwater Monitoring Program
RL	Response Level
SAT	Soil Aquifer Treatment

GLOSSARY OF ACRONYMS (continued)

TCE	Trichloroethylene
TDS	Total Dissolved Solids
TITP	Terminal Island Treatment Plant
TOC	Total Organic Carbon
UCRM	Unregulated Chemicals Requiring Monitoring
USGS	United States Geological Survey
VOC	Volatile Organic Compounds
WBMWD	West Basin Municipal Water District
WIN	Water Independence Now
WRD	Water Replenishment District of Southern California
WRP	Water Reclamation Plant
WY	Water Year (October 1 – September 30)

SECTION 1
INTRODUCTION

The Water Replenishment District of Southern California (WRD or the District) manages groundwater replenishment and water quality activities for the Central and West Coast Basins (CWCB) in southern Los Angeles County (**Figure 1.1**). Our mission is to protect and preserve high-quality groundwater in the basins through innovative, cost-effective, and environmentally sensitive management practices for the benefit of residents and businesses of the CWCB.

As part of accomplishing this mission, WRD maintains a thorough and current understanding of groundwater conditions in the CWCB and strives to predict and prepare for future conditions. This is achieved through groundwater monitoring, modeling, and planning, which provide the necessary information to determine the "health" of the basins. This information in turn provides WRD, the pumpers in the District, other interested stakeholders, and the public with the knowledge necessary for responsible water resources planning and management.

1.1 BACKGROUND OF THE REGIONAL GROUNDWATER MONITORING PROGRAM

Since its formation in 1959, WRD has been actively involved in groundwater replenishment, water quality monitoring, contamination prevention, data management, and data publication. Historical over pumping of the CWCB caused overdraft, seawater intrusion and other groundwater management problems related to supply and quality. Adjudication of the basins in the early 1960s set a limit on allowable groundwater production in order to control the over pumping. Concurrent with adjudication, WRD was formed to address issues of groundwater recharge and groundwater quality. The Regional Groundwater Monitoring Program (RGWMP) is an important District program which tracks water levels and water quality in the CWCB to ensure the usability of this groundwater reservoir.

Prior to 1995, WRD relied heavily upon groundwater monitoring data collected, interpreted, and presented by other entities such as the Los Angeles County Department of Public Works (LACDPW), the California Department of Water Resources (DWR), and the private sector for understanding current basin conditions. However, these data were collected primarily from production wells, which are typically screened across multiple aquifers to maximize water inflow. The result is a mixing of the waters from the different aquifers connected by a single well casing, causing an averaging of water levels and water quality.

In order to obtain more accurate data for specific aquifers from which to infer localized water level and water quality conditions, depth-specific (nested) monitoring wells that tap discrete aquifer zones are necessary. **Figure 1.2** illustrates the capabilities of nested monitoring wells to assess individual aquifers compared to typical production wells.

Data are generally provided for a Water Year (WY), which occurs from October 1 to the following September 30. During WY 1994-1995, WRD and the United States Geological Survey (USGS) began a cooperative study to improve the understanding of the geohydrology and geochemistry of the CWCB. The study was documented in USGS Water Resources Investigations Report 03-4065, *Geohydrology, Geochemistry and Ground-Water Simulation-Optimization of the Central and West Coast Basins, Los Angeles County, California* (Reichard et al. 2003). This study was the nucleus of the Regional Groundwater Monitoring Program. In addition to compiling existing available data, this study recognized that the sampling of production wells did not adequately characterize the layered multiple aquifer systems of the CWCB. The study focused on new data collection through drilling and construction of nested groundwater monitoring wells and conducting depth-specific water quality sampling.

Figure 1.3 shows the locations of wells in the resultant WRD nested monitoring well network. A listing and construction details for the WRD wells are presented in **Table 1.1.** WRD and the USGS are currently expanding the nested monitoring well network. Four new wells are scheduled to be completed during 2009-2010. These new wells are shown

on **Figure 1.3**, with an additional four wells scheduled through 2012. These wells will fill current data gap areas and address significant groundwater management issues.

An *Annual Report on the Results of Water Quality Monitoring* (*Annual Report*) was published by WRD from Water Years 1972-1973 through 1994-1995, and was based on a basinwide monitoring program outlined in the *Report on Program of Water Quality Monitoring* (Bookman-Edmonston Engineering, Inc., January 1973). The latter report recommended a substantial expansion of the then-existing program, particularly the development of a detailed and intensive program of monitoring the quality of groundwater in the Montebello Forebay. The Regional Groundwater Monitoring Program was designed to serve as an expanded, more representative basinwide monitoring program for the CWCB. This Regional Groundwater Monitoring Report is published in lieu of the previous *Annual Reports*.

1.2 CONCEPTUAL HYDROGEOLOGIC MODEL

As described above, the Regional Groundwater Monitoring Program changes the focus of groundwater monitoring efforts in the CWCB from production zones with averaged groundwater level and groundwater quality information, to a layered multiple aquifer system with individual zones of groundwater quality and groundwater levels. WRD views each aquifer as a significant component of the groundwater system and recognizes the importance of the interrelationships between water-bearing zones. The most accepted hydrogeologic description of the basin and the names of water-bearing zones were provided in California Department of Water Resources, *Bulletin No. 104: Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A – Ground Water Geology* (DWR, 1961). WRD generally follows the naming conventions of this report (Bulletin 104), redefining certain aspects when new data become available.

The locations of idealized geologic cross-sections AA' and BB' through the CWCB are shown on **Figure 1.3**. Cross-sections AA' and BB' are presented on **Figures 1.4** and **1.5**, respectively. These cross-sections are derived from cross-sections presented in

Bulletin 104 as well as recent data from the Regional Groundwater Monitoring Program, and illustrate a simplified aquifer system in the CWCB. The main potable production aquifers are shown, including the deeper Lynwood, Silverado, and Sunnyside aquifers of the lower Pleistocene San Pedro Formation. Other main shallower aquifers, which locally produce potable water, include the Gage and Gardena aquifers of the upper Pleistocene Lakewood Formation. Also shown on the geologic sections are the aquitards separating aquifers. Throughout this report the aquifers shown on the geologic sections are referred to as discrete groundwater zones. Many references are made to the Silverado aquifer which is typically the main producing aquifer in the CWCB. Substantial production can come from the Lynwood and Sunnyside aquifers as well.

1.3 GIS DEVELOPMENT AND IMPLEMENTATION

WRD uses a sophisticated Geographic Information System (GIS) as a tool for CWCB groundwater management. Much of the GIS was compiled during the WRD/USGS cooperative study. The GIS links spatially-related information (e.g., well locations, geologic features, cultural features, contaminated sites) to data on well production, water quality, water levels, and replenishment amounts. WRD uses the industry standard ArcGIS® software for data analysis and preparation of spatially-related information (maps and graphics tied to data). WRD utilizes Global Positioning System (GPS) technology to survey the locations of basinwide production wells, nested monitoring wells and other geographic features for use in the GIS database.

WRD is constantly updating the GIS with new data and newly-acquired archives of data acquired by staff or provided by pumpers and other agencies. The GIS is a primary tool for WRD and other water-related agencies to more accurately track current and past use of groundwater, track groundwater quality, and project future water demands, thus allowing improved management of the basins.

In early 2003, WRD completed the development of its Internet-based GIS, which was made available to the public for access to CWCB groundwater information. WRD's Internet-based GIS can be accessed through our GIS web site at *http://gis.wrd.org*. The

web site provides the public with access to much of the water level and water quality data contained in this report. The well information can be accessed through interactive map or a text searches and the results can be displayed in both tabular and graphical formats.

1.4 SCOPE OF REPORT

This report updates information on groundwater conditions in the CWCB for WY 2008-2009, and discusses the status of the Regional Groundwater Monitoring Program. Section 1 provides an overview of WRD and its Regional Groundwater Monitoring Program. Section 2 discusses groundwater levels for WY 2008-2009. Section 3 presents water quality data for the WRD nested monitoring wells, basinwide production wells, and replenishment water. Section 4 summarizes the findings of this report. Section 5 describes future regional groundwater monitoring activities. Section 6 lists the references used in this report. Figures and tables are presented at the end of the report. This report can be viewed online and can be downloaded in PDF format from the WRD web site at www.wrd.org.

SECTION 2
GROUNDWATER LEVELS

Groundwater levels are an indication of the amount of water in the basins. They reveal areas of recharge and discharge from the basins. They suggest which way the groundwater is moving so that recharge water or contaminants can be tracked. They are used to determine when additional replenishment water is required and are used to calculate storage changes. Groundwater levels can also be used to demonstrate possible source areas for seawater intrusion or show the effectiveness of seawater barrier wells.

WRD tracks groundwater levels throughout the year by measuring the depth to water in monitoring wells and production wells located throughout the CWCB. **Table 2.1** presents groundwater level measurements collected from the District's nested monitoring wells during the 2008-2009 WY. In order to capture the daily and seasonal variations in water levels, WRD has installed automatic data-logging equipment in numerous wells to collect water levels daily. WRD also obtains water level data from cooperating entities such as the pumpers, DWR, and LACDPW, who collect water levels from their wells. These data are entered into WRD's DBMS/GIS water level database for storage and analysis.

From the water level database, a groundwater elevation contour map, change in groundwater levels map, and groundwater elevation hydrographs are prepared to illustrate the current and historical groundwater conditions in the basins. These are presented and explained in the following sections.

2.1 GROUNDWATER ELEVATION CONTOURS

Figure 2.1 is a contour map showing the groundwater elevations measured across the CWCB in the deeper, main producing aquifers. The levels were measured at the end of the WY during Fall 2009. The Fall Contour Map shows that in the Central Basin, the highest water levels are in the Montebello Forebay; water levels decrease to the south and

west towards the Long Beach area, the Newport-Inglewood Uplift, and the Los Angeles Forebay, respectively. In the West Coast Basin, water levels are highest along the West Coast Basin Barrier Injection Project, and decrease to the east where they are at their lowest elevation in Gardena between the Charnock Fault and Newport-Inglewood Uplift, both of which are geologic structural features restricting groundwater flow.

2.2 CHANGE IN GROUNDWATER LEVELS

The results of groundwater level changes observed throughout the WY are illustrated in **Figure 2.2**, which is a groundwater level change map. In the Central Basin, water levels were up to 25 feet lower at the end of the year than at the start. The greatest decreases were in the Montebello Forebay around the Rio Hondo and San Gabriel Spreading Grounds. Most of the Central Basin Pressure Area dropped from 1 to 10 feet, except in the northwestern portion and the Norwalk area, where levels remained about the same as the previous year. In the West Coast Basin, water levels remained relatively stable on the western portion, decreased slightly in the Dominguez Gap area, and dropped 5 to 15 feet through the Carson and Gardena areas. The greatest decrease in the West Coast Basin was seen in the Gardena area between the Newport-Inglewood Uplift and Charnock Fault.

2.3 GROUNDWATER LEVEL HYDROGRAPHS

WRD also uses hydrographs to track the changes in water levels in wells over time. Hydrographs reveal the seasonal fluctuations of water levels caused by variations in natural and artificial recharge, and the effects of pumping and other basin discharge. Historical hydrographs of water level data going back to the 1930s and 1940s in the Montebello Forebay, Los Angeles Forebay, Central Basin Pressure Area, and West Coast Basin are presented in the Engineering Survey and Report (ESR). The ESR hydrographs illustrate the general history of groundwater conditions in the CWCB: 1) Steep water level declines occurred in the 1930s through 1950s as a result of excessive pumping (overdraft); 2) In the mid-1950s to early 1960s, there was a sharp reversal in this downward trend due to initiation of resource management policies, water levels rose through the 1970s and 1980s in response to reduced pumping, artificial replenishment by

WRD, and seawater barrier construction and injection; and 3) Over the past 10 to 15, years water levels have remained relatively stable as replenishment has been in closer balance to withdrawals.

Hydrographs for WRD nested monitoring wells that track water level changes from individual aquifer zones provide WRD with detailed, aquifer-specific water level information. The data for these annual hydrographs are collected from WRD's network of nested monitoring wells. **Figures 2.3 through 2.8** are historical hydrographs of key nested monitoring wells for the Montebello Forebay, Los Angeles Forebay, Central Basin Pressure Area, and West Coast Basin, respectively. These hydrographs illustrate distinct ground water elevation differences between individual aquifers at a nested well location. The differences in elevation are influenced by variable discharge (i.e. pumping wells) and recharge (i.e. injection, percolation, or underflow) and the degree of hydraulic communication between aquifers. These hydrographs are particularly useful in identifying which aquifers are in the main flow system when corresponding zones show the greatest fluctuations in groundwater levels during the WY. Observations from **Figures 2.3 through 2.8** are explained in the following sections.

2.4 GROUNDWATER LEVELS IN THE MONTEBELLO FOREBAY

Figure 2.3 is a hydrograph for WRD's Rio Hondo #1 key nested monitoring well located in the Montebello Forebay at the southeast corner of the Rio Hondo Spreading Grounds. It has six individual wells (zones) that are screened in the following aquifers (from shallowest to deepest): Gardena, Lynwood, Silverado, and Sunnyside (3 different zones), with depths ranging from 140 feet below ground surface (BGS) to 1,130 feet BGS. Because this well is in the Montebello Forebay, where the aquifers are in general hydraulic communication with each other, water level responses in all of the wells are similar and respond to the seasonal highs and lows caused by recharge and pumping. Water elevations are lowest in Zone 4, the Silverado Aquifer, suggesting that this aquifer is the most heavily pumped in the area. Water levels in Zone 4 decreased over the past WY by about six feet, have dropped more than 20 feet over the past 5 years, and up to 30 feet over the past 10 years.

2.5 GROUNDWATER LEVELS IN THE LOS ANGELES FOREBAY

Figure 2.4 is a hydrograph for WRD's Huntington Park #1 nested monitoring well located in the Los Angeles Forebay near the intersection of Slauson Avenue and Alameda Street. It has five individual zones that are screened in the following aquifers (from shallowest to deepest): Gaspur, Exposition, Gage, Jefferson, and Silverado, with depths ranging from 134 feet BGS to 910 feet BGS. Only four of the zones are shown on the hydrograph because the shallowest well (screened from 114 feet to 134 feet in the Gaspur Aquifer) is dry, and therefore no water elevations can be shown on the graph. The large separation in water levels between Zone 4 and the deeper three zones suggest the presence of a low permeability aquitard(s) between them that hydraulically isolate the Exposition Aquifer from the deeper aquifers. Water levels in the deepest 2 zones, the Silverado and Jefferson aquifers, were generally similar and trended downward through the year, decreasing by about 2 feet over the past WY but have remained relatively stable over the past 10 years.

2.6 GROUNDWATER LEVELS IN THE CENTRAL BASIN PRESSURE AREA

Figure 2.5 is a hydrograph for WRD's Willowbrook #1 nested monitoring well**.** Willowbrook #1 is located in the Central Basin Pressure Area, away from the Montebello Forebay, about 7 miles to the southwest. It has 4 individual zones that are screened in the Gage, Lynwood, Silverado, and Sunnyside Aquifers, with depths ranging from 200 feet BGS to 905 feet BGS. Water levels in Zone 1 show the greatest response to seasonal changes. The upper three zones show less response to seasonal influences and water levels in the upper 2 zones track very closely. These trends suggest the some aquifer separation (aquitards) between zone 1 and 2 and between zone 2 and 3. Zones 3 and 4 likely have little hydraulic separation. Water levels in all zones dropped approximately 1 to 2 feet over WY 2008-2009, and have declined almost 20 feet over the past decade.

In another region of the Central Basin Pressure Area, **Figure 2.6** is the historical water level hydrograph for key nested monitoring well Long Beach #6 located in the Central

Basin Pressure Area, on Spring Street near the Long Beach Airport. It has 6 individual zones that are screened in the following (from shallowest to deepest): Gage, Lynwood, Silverado, Sunnyside (2 zones), and Pico Formation with depths ranging from 220 feet BGS to 1,510 feet BGS. Because this area in the Central Basin Pressure Area has multiple confined aquifers separated by substantial aquitards and experiences heavy seasonal pumping cycles, water level fluctuations can be larger than in other areas. For example, water levels in Zones 4 and 5, representing the Silverado and Lynwood Aquifers, vary up to 110 feet through a seasonal cycle, from a high of 10 feet below sea level in April 2007 to a low of about 125 feet below sea level in September 2007. Water levels of the other zones generally show significant seasonal variation, with lows in the late summer and fall and highs in spring. During the 2008-2009 WY, **Figure 2.6** shows that water levels in zones 1 through 5 decreased about 25 feet over the relatively dry WY but overall were relatively stable over the prior 5 years. Zone 6 has dropped only 4 or 5 feet over the past 5 to 6 years.

2.7 GROUNDWATER LEVELS IN THE WEST COAST BASIN

Figure 2.7 is a nested hydrograph for key nested monitoring well PM-4 Mariner. This well is located in the City of Torrance, in the coastal area inland from the West Coast Basin Seawater Barrier. It has 4 individual zones that are screened in the following aquifers (from shallowest to deepest): Lynwood (2 zones), Silverado, and Sunnyside, with depths ranging from 200 feet BGS to 905 feet BGS. All four zones respond similarly to seasonal fluctuations. Water levels in Zone 1, the Sunnyside Aquifer are deepest, separated from Zone 2 (Silverado Aquifer) which is several feet higher. Zones 3 and 4 (Lynwood and Gage Aquifers are both about 2 feet above Zone 2. Water levels decreased about 2 feet in all zones over the 2008-2009 WY but have generally increased from 2 to 4 feet over the past 10 years.

Figure 2.8 is a hydrograph for WRD's Carson #1 nested monitoring well located in the inland region of the West Coast Basin about 1.5 miles northwest of the intersection of the 405 Freeway and Alameda Street. It has 4 individual zones that are screened in the following aquifers (from shallowest to deepest): Gage, Lynwood, Silverado, and

Sunnyside, with depths ranging from 270 feet BGS to 1,110 feet BGS. Water levels in Zone 1 track very similar to Zone 2 throughout the year, and Zone 3 tracks similar to Zone 4. A difference of about 35 feet in groundwater elevation between the upper two zones and lower two zones suggest the presence of a low permeability aquitard(s) between them that hydraulically isolate the shallow aquifers from the deeper ones. Water levels in Zones 1 and 2 finished the year about 6 feet lower than the previous year and a total of 10 feet in the past 3 years, but have generally increased a total of 20 feet in the past 10 years.

SECTION 3
GROUNDWATER AND REPLENISHMENT WATER QUALITY

This section discusses the vertical and horizontal distribution of water quality constituents based on data from WRD's monitoring wells, the quality of water from purveyor's production wells, and the quality of source waters used for CWCB replenishment. Regional groundwater quality maps summarize water quality constituents of interest in WRD nested monitoring wells and purveyors production wells. Water quality trends for total dissolved solids (TDS) are closely tracked as TDS is a good indicator of overall water quality.

Comparison of water quality results to various regulatory standards are made throughout this section. A brief discussion describing the regulatory standards used in the report follows. A Primary Maximum Contaminant Level (MCL) is an enforceable drinking water standard that CDPH establishes after health effects, risk assessments, detection capability, treatability, and economic feasibility are considered. A Secondary MCL is established for constituents that impact aesthetics of the water, such as taste, odor, and color, and do not impact health. Various criteria are used in discussing water quality. A Public Health Goal (PHG) is an advisory level that is developed by the Office of Environmental Health Hazard Assessment (OEHHA) after a thorough review of health effects and risk assessment studies. A Notification Level (NL) and Response Level (RL) are non-enforceable health-based advisory levels established by the CDPH based on preliminary review of health effects studies for which enforceable levels have not been established. NLs and RLs replaced State Action Levels effective January 1, 2005 per California Health and Safety Code Section 116455. It should also be noted that constituents with NLs often are considered unregulated contaminants for which additional monitoring may be required to determine the extent of exposure before MCLs and PHGs are established.

3.1 QUALITY OF GROUNDWATER

The focus of this section is groundwater quality from samples collected from WRD nested monitoring wells and purveyors production wells. Section 1 previously described the value of data from aquifer specific nested monitoring wells and these data provide the most valuable insight into CWCB groundwater quality. Semi-annual groundwater samples from WRD nested wells were submitted to a California Department of Public Health (CDPH) certified laboratory for analytical testing for general water quality constituents and known or suspected natural and man-made contaminants. **Table 3.1** presents water quality analytical results from WRD nested monitoring wells in the Central Basin during WY 2008-2009. **Table 3.2** presents water quality analytical results from WRD nested monitoring wells in the West Coast Basin during WY 2008-2009. Supplementing the data from the nested monitoring well network, data for CWCB production wells were obtained from the CDPH based on results submitted over the past three years by purveyors for their Title 22 compliance.

Nested monitoring well and production well water quality maps are presented for ten of the most significant water quality constituents including total dissolved solids (TDS), iron, manganese, nitrate (as total nitrogen), chloride, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, total organic carbon (TOC), and perchlorate. The maps illustrate aerial and vertical differences in water quality between the different aquifers and compare the aquifer specific water quality data from WRDs nested monitoring wells to the averaged water quality data collected from purveyors production wells.

Trends for TDS are presented for key nested monitoring wells in the CWCB. Four key Central Basin wells are located in the Montebello Forebay, the Los Angeles Forebay, the western Central Basin Pressure Area, and the southern Central Basin Pressure Area. Two key wells represent the West Coast Basin including one for the coastal area and one for the inland area. Each key well trend shows long-term trends (up to 11 years) in the different aquifers. Locations of the key wells are shown on **Figure 1.3**.

3.1.1 Total Dissolved Solids (TDS)

TDS is a measure of the total mineralization of water and is indicative of general water quality. In general, the higher the TDS, the less desirable a given water supply is for beneficial uses. The Secondary Maximum Contaminant Level (MCL) for TDS ranges from 500 milligrams per liter (mg/L), which is the recommended level, to an upper level of 1,000 mg/L, and to 1,500 mg/L, which is the upper level allowed for short-term use. WRD uses the 1,000 mg/L upper level MCL for water quality comparisons and analyses.

WRD nested monitoring well data for WY 2008-2009 indicate relatively low TDS concentrations for groundwater in the deeper producing aquifers of the Central Basin (**Figure 3.1**). In the Central Basin, Silverado Aquifer zones in 19 out of 27 WRD nested monitoring wells had TDS concentrations below 500 mg/L and 26 out of 27 were below 1,000 mg/L. In contrast, West Coast Basin nested monitoring well data show generally higher TDS concentrations. Elevated TDS concentrations are observed along the coastal margins of the West Coast Basin and the Dominguez Gap area.

Figure 3.2 presents CDPH water quality data for TDS in production wells across the CWCB during WYs 2006-2009. In the Central Basin, TDS generally ranged between 250 and 750 mg/L over most of the basin. A few wells along the San Gabriel River, in the Norwalk area, contained TDS in excess of 750 mg/L. Another localized area in the northernmost portion of the Central Basin shows a grouping of production wells between 500 and 750 mg/L. Data from many of the production wells in the southernmost portion of the Central Basin indicated TDS less than 250 mg/L.

Data from West Coast Basin wells indicate that most drinking water wells in production had TDS concentrations below 750 mg/L. Several production wells located close to the coast in the Hawthorne/Torrance areas had TDS concentrations above 750 mg/L. Inland production wells had generally lower TDS. In the Carson area, TDS was below 250 mg/L and in the Gardena area TDS was below 500 mg/L in most wells.

Trends in TDS concentrations at six key WRD nested monitoring wells are shown on

Figures 3.3 thru 3.8. In the Central Basin, all of the aquifers in the 4 key wells were below the MCL for TDS. Trends are generally stable to very slightly increasing over the past 7 to 11 years. In the Montebello and Los Angeles Forebay (**Figures 3.3 and 3.4**) the deeper aquifers show little variability while the shallowest aquifers tend to fluctuate somewhat, possibly in response to variations in recharge water. In the western sub-area of the Central Basin Pressure Area, **Figure 3.5** (Willowbrook #1) shows steady concentrations in all aquifers with little variability over the past 11 years. In the southern sub-area of the Central Basin, **Figure 3.6** (Long Beach #6) slightly decreasing TDS concentrations are shown with little variability in the four shallowest aquifers and more variable, slightly increasing TDS in the deeper two aquifers.

In the West Coast Basin, the TDS trend for the Silverado Aquifer in the coastal sub-area (PM-4 Mariner) is far above the MCL and has been generally increasing over the past 11 years as shown on **Figure 3.7**. This zone has been impacted by the saline plume from historic seawater intrusion. Other aquifers at this monitoring location have relatively stable TDS concentrations below the MCL. TDS concentrations for the inland West Coast Basin key well (Carson #1) are shown on **Figure 3.8** with low TDS and trends generally stable in the deeper aquifers and decreasing substantially over the decade in the shallowest aquifer.

3.1.2 Iron

Iron occurs naturally in groundwater. Additionally, it is leached from minerals or steel pipes. Sufficient concentrations of iron in water can affect the water's suitability for domestic or industrial purposes. The Secondary MCL for iron in drinking water is 0.3 mg/L. High concentrations of iron in water stains plumbing fixtures and clothing, encrusts well screens, clogs pipes, and may impart a salty taste. It is considered an essential nutrient, important for human health, and does not pose significant health effects except in special cases. Some industrial processes cannot tolerate more than 0.1 mg/L.

Nested monitoring well data do not indicate iron to be a widespread problem in groundwater in the CWCB. **Figure 3.9** shows iron data in WRD nested monitoring wells

for WY 2008-2009. In the Central Basin, iron was below the MCL in Silverado zones in 25 out of the 26 nested wells tested. In zones above or below the Silverado, iron was detected above the MCL in only 3 out of the 26 Central Basin nested wells. Iron was detected above the MCL in only one Silverado zone, and in only three wells above or below the Silverado.

At nested monitoring wells in the West Coast Basin, elevated iron occurs locally. Iron is generally detected in one or more zones at all 15 well locations at concentrations below the MCL. One well in the West Coast Basin had an iron concentration in the Silverado exceeding the MCL. Three wells had iron concentrations above the MCL in shallow zones above the Silverado.

Figure 3.10 presents CDPH water quality data for iron in production wells across the CWCB during WYs 2006-2009. Data from CDPH indicate 29 of 236 Central Basin production wells tested have iron concentrations exceeding the secondary MCL. In the West Coast Basin, 9 production wells out of 34 tested have iron concentrations exceeding the secondary MCL. Production wells exhibiting high iron concentrations appear in and around many wells with non-detectable iron. There does not appear to be a distinct pattern to the occurrence of elevated iron but it appears that samples from production wells tend to show higher iron levels than samples from nested monitoring wells.

3.1.3 Manganese

Manganese, like iron, is also naturally occurring and is objectionable in water in the same general way as iron. Stains caused by manganese are black and are more unsightly and harder to remove than those caused by iron. The Secondary MCL for manganese is 50 µg/L. Like iron, it is considered an essential nutrient for human health.

Manganese concentrations (**Figure 3.11**) in the WRD nested monitoring wells exhibit widespread vertical and horizontal variations across the CWCB. In the southern portion of the basin, elevated manganese typically occurs in shallower aquifers above the Silverado producing zones. In the northern portion of the Central Basin, manganese is

present in shallow zones, the Silverado zones, and the deeper zones. Seven nested monitoring wells in the Central Basin had manganese concentrations exceeding the MCL in the Silverado Aquifer.

In the southern portion of the West Coast Basin, elevated manganese concentrations were limited to aquifer zones above the Silverado. In the western and northern portions of the West Coast Basin, manganese concentrations exceeding the MCL are not limited to the Silverado.

Figure 3.12 presents CDPH water quality data for manganese in production wells across the CWCB during WYs 2006-2009. In the Central Basin, data show a large number of wells having elevated manganese concentrations with 49 out of 236 production wells (21%) tested exceeding the MCL. The production wells with elevated manganese tend to be widespread, but there does appear to be an area around and south of the Montebello Forebay Spreading Grounds and a second area at the southern end of the Central Basin where manganese is consistently below the MCL or not detected at all. In the West Coast Basin 19 out of 30 production wells tested had concentrations of manganese exceeding the MCL.

3.1.4 Nitrate

CDPH Primary MCLs limit two forms of nitrogen in drinking water, nitrite and nitrate. Nitrate cannot exceed concentrations of 45 mg/L (measured as Nitrate), corresponding to 10 mg/L as Nitrogen. Nitrite is limited to 1 mg/L as Nitrogen. The combined total of the nitrite and nitrate, measured as total nitrogen cannot exceed 10 mg/L. These constituents are of concern because they present an acute health risk and can cause anoxia in infants. When consumed in excess of these limits, they reduce the uptake of oxygen causing shortness of breath, lethargy, and a bluish color.

Nitrate concentrations in groundwater are a concern because their presence indicates that a degree of contamination has occurred due to the degradation of organic matter. Native groundwater typically does not contain nitrate. It is usually introduced into groundwater

from agricultural practices such as fertilizing crops or lawns and leaching of animal wastes. Low concentrations of nitrogen compounds, including nitrate and nitrite, are in treated recycled water below regulatory and permitted levels and may contribute nitrate to groundwater. Typically, organic nitrogen and ammonia are the initial byproducts of the decomposition of human or animal wastes. Upon oxidation, the organic nitrogen and ammonia are converted first to nitrite and then nitrate ions in the subsurface. A portion of the nitrite and nitrate are converted to nitrogen gas and hence, are returned to the atmosphere. Nitrate itself is not harmful; however, it can be converted back to nitrite, which can be harmful.

Figure 3.13 presents nitrate (as nitrogen) water quality data for nested monitoring wells in the CWCB during WY 2008-2009. Nested monitoring wells in the very near vicinity of the Montebello Forebay Spreading Grounds indicate concentrations of nitrate slightly above detection limits but below the MCL. Silverado and deeper zones of nested wells more distant from the spreading grounds do not generally have detectable concentrations of nitrate. The detectable but relatively low concentrations of nitrate at and near the spreading grounds may be due to the local water and/or recycled water component of recharge at the spreading grounds. Nitrate is also observed in shallow zones at numerous nested monitoring well locations. Shallow occurrences of nitrate, may be attributed to local surface recharge from agricultural activities prior to extensive land development.

In the West Coast Basin nested monitoring wells, nitrate was limited to the shallowest zones of several monitoring wells. One deep zone sample at Gardena #1 had detectable nitrate in the Spring sample but the corresponding Fall sample as well as historical data indicate this sample was likely a data anomaly. As in the Central Basin, shallow zone occurrences of nitrate with deeper zones below detection limits may be attributable to local surface recharge from former agricultural activities prior to extensive land development.

Figure 3.14 presents CDPH water quality data for nitrate in production wells across the CWCB from 2006-2009. Detectable concentrations below the MCL were generally

located in the vicinity and downgradient of the San Gabriel River and Rio Hondo Spreading Grounds of the Montebello Forebay, and in several scattered locations in the northwestern portion of the Central Basin. Production wells in the immediate vicinity of the spreading grounds and the southern portion of the Central Basin, and all of the West Coast Basin, show relatively low nitrate concentrations below 3 mg/L or nitrate was not detected at all. The nitrate MCL was not exceeded in any production well in the CWCB during the 2006-2009 period.

3.1.5 Chloride

Chloride at elevated levels causes water to taste salty and chloride is the characteristic constituent used to identify seawater intrusion. The secondary MCL for chloride is 250 mg/L with an upper level MCL of 500 mg/L, and a short term level of 600 mg/l. **Figure 3.15** presents water quality data for chloride in WRD nested monitoring wells in the CWCB during WY 2008-2009. In the Central Basin the Silverado zones of the nested monitoring wells contain very low to low chloride concentrations. In the West Coast Basin chloride concentrations exceeded the Secondary upper MCL limit in the Silverado zones in about a third of the West Coast Basin nested wells, primarily in areas where seawater intrusion could be the source, or from sources yet to be identified. Numerous wells in the West Coast Basin show chloride impacts above and below the Silverado aquifer.

Figure 3.16 presents CDPH water quality data for chloride in production wells in the CWCB during WYs 2006-2009. Chloride was not detected above the Secondary upper MCL level in any of the Central Basin production wells. In the southern portion of the Central Basin, chloride concentrations in production wells were generally below 50 mg/L. In the northeastern portion of the Central Basin, chloride concentrations ranged from 50 to 100 mg/L. In the West Coast Basin, available CDPH data indicate that one production well on the west side of the basin had a chloride concentration above the upper level MCL. Several other production wells inland from the coast show somewhat elevated chloride concentrations above the recommended MCL. Production wells further inland in the West Coast Basin generally have very low chloride concentrations.

3.1.6 Trichlorlethylene (TCE)

TCE is a solvent used in metal degreasing, textile processing, and dry cleaning. Because of its potential health effects, it has been classified as a probable human carcinogen. The Primary MCL for TCE in drinking water is 5 µg/L. Its presence in groundwater likely originated from improper disposal practices. If present in water, it can be removed easily by common treatment processes, including packed tower aeration or granular activated carbon.

TCE (**Figure 3.17**) was detected in nine WRD nested monitoring well locations in the Central Basin and in three nested well locations in the West Coast Basin. No nested well contained a detectable TCE concentration in the Silverado aquifer. In the West Coast Basin, TCE was detected in shallow zones of two nested monitoring wells.

Figure 3.18 presents CDPH water quality data for TCE in production wells across the CWCB during WYs 2006-2009. A total of 280 wells were tested for TCE. The data show that over the past three years, TCE has been detected in 47 production wells in the Central Basin. Nine detections were above the MCL. Wells impacted by TCE are located in the northern portion of the Central Basin, within or near the Montebello and Los Angeles Forebay areas. In the West Coast Basin, TCE was not detected in any production wells.

3.1.7 Tetrachloroethylene (PCE)

PCE (also known as tetrachloroethylene, perc, perclene, and perchlor) is a solvent used commonly in the dry cleaning industry, as well as in metal degreasing and textile processing. Like TCE, PCE is a probable human carcinogen. The Primary MCL for PCE in drinking water is 5 µg/L. Through improper disposal practices, PCE has contaminated many groundwater basins. PCE can be removed using packed tower aeration or granular activated carbon treatment.

During WY 2008-2009, PCE (**Figure 3.19**) was detected at 10 nested well locations in

the Central Basin. In the Silverado Aquifer, there were two detections, both below the MCL. Generally, PCE detected in nested wells occurred within or near the vicinity of the Montebello and Los Angeles Forebays. In the West Coast Basin, PCE was detected below the MCL in the shallowest zone at one nested monitoring well.

Figure 3.20 presents CDPH water quality data for PCE in production wells across the CWCB during WYs 2006-2009. In the Central Basin, PCE was detected in 55 production wells. Ten of the 55 wells exceeded the MCL for PCE. Production wells with detectable PCE are primarily located within the vicinity of the Los Angeles and Montebello Forebays and extend southwestward and southward into the Central Basin Pressure Area. PCE was not detected in any production wells tested in the West Coast Basin.

3.1.8 Arsenic

Arsenic is an element that occurs naturally in the earth's crust and accordingly, there are natural sources of exposure. Natural sources of arsenic include weathering and erosion of rocks, deposition of arsenic in water bodies, and uptake of the metal by animals and plants. Consumption of food and water are the major sources of arsenic exposure for the majority of U.S. citizens. Over 90% of commercial arsenic is used as a wood preservative in the form of chromate copper arsenate to prevent dry rot, fungi, molds, termites, and other pests. People may also be exposed from industrial applications, such as semiconductor manufacturing, petroleum refining, animal feed additives, and herbicides. Arsenic is classified as a known human carcinogen by the EPA, and also causes other health effects, such as high blood pressure and diabetes. The CDPH established the primary MCL for arsenic at 10 µg/L.

Figure 3.21 presents arsenic water quality data for WRD nested monitoring wells during WY 2008-2009. In the Central Basin, arsenic concentrations ranged from non-detectable to 36 µg/L. Arsenic concentrations greater than the MCL in the Central Basin were found at 7 out of 26 nested wells. Arsenic concentrations exceeding the MCL in the Silverado aquifer zones were found at only one Central Basin nested monitoring well. In

the West Coast Basin, arsenic was detected above the MCL at three nested monitoring wells and one detection was in a Silverado aquifer zone.

Figure 3.22 presents CDPH water quality data for arsenic in production wells across the CWCB during WYs 2006-2009. Ten production wells in the Central Basin contained arsenic concentrations above the MCL. Arsenic did not exceed the MCL in any West Coast Basin production wells.

3.1.9 Total Organic Carbon (TOC)

Total organic carbon (TOC) is the broadest measure of the concentration of organic molecules in water and is of interest because it gives an indication of the potential formation of disinfectant byproducts, some of which are harmful. TOC can be naturally occurring, result from domestic and commercial activities, or can be a product of wastewater treatment processes. While there is no MCL established for TOC, the CDPH is generally interested in TOC of wastewater origin as a compliance criteria for groundwater recharge. Typically, wastewater that has been subjected to effective secondary treatment contains 5 to 8 mg/L of TOC. Advanced treatment can effectively lower the TOC concentration to less than 1 mg/L. Likewise, water percolating through the soil has also been proven to reduce wastewater TOC through a process known as soil-aquifer treatment (SAT) or geopurification. However, TOC in groundwater may also occur naturally and have no relation to wastewater. Studies indicate that the TOC measured in groundwater samples in both nested monitoring wells and production wells in the CWCB naturally occurs in the aquifer systems and was derived from organic material and decaying vegetation either deposited with the aquifer sediments as the basins were filling or originally contained in imported water (AWWA, 2001).

Figure 3.23 presents TOC water quality data for WRD nested monitoring wells during WY 2008-2009. In the Central Basin, TOC was present in multiple zones of all 27 nested monitoring wells. Where TOC is present, concentrations are typically below 1 mg/L and less frequently between 1 and 5 mg/L. The lower concentrations occur in the shallow and middle zones of the nested wells; higher concentrations of TOC are generally found in

the deeper zones. WRD has previously reported an association between deeper naturally occurring TOC and the occurrence of apparent color (colored water) concentrations is groundwater. Deeper wells with TOC greater than 5 mg/L are likely to contain naturally occurring organic carbon, and not wastewater related organic carbon. In the West Coast Basin, TOC greater than 1 mg/L is present in one or more zones at all 16 nested monitoring wells tested, and at concentrations greater than 5 mg/L in one or more zones at 8 of the 16 West Coast Basin nested monitoring wells tested.

Figure 3.24 presents limited CDPH water quality data for TOC in production wells across the CWCB during WYs 2006-2009. During the three-year period, only 64 production wells were tested for TOC as purveyors are not required to monitor TOC under Title 22 regulations. Only 26 of the 64 wells had TOC concentrations above 1 mg/L, and 4 of those were over 5 mg/L.

3.1.10 Perchlorate

Perchlorate is used in a variety of defense and industrial applications, such as rockets, missiles, road flares, fireworks, air bag inflators, lubricating oils, tanning and finishing leather, and the production of paints and enamels. When ingested, it can inhibit the proper uptake of iodide by the thyroid gland, which causes a decrease in hormones for normal growth and development and normal metabolism. In October 2007, the CDPH finalized a new primary MCL at 6 µg/L for perchlorate.

Figure 3.25 presents perchlorate water quality data for WRD nested monitoring wells during WY 2008-2009. In the Central Basin perchlorate was detected at 13 of 27 nested monitoring wells, with detections at 2 wells exceeding the MCL. In the West Coast Basin, perchlorate was detected at two nested monitoring wells with one detection above the MCL.

Figure 3.26 presents CDPH water quality data for perchlorate in production wells across the CWCB during WYs 2006-2009. Five production wells had detectable perchlorate and only 2 out of 271 production wells tested in the CWCB contained perchlorate

concentrations above the revised MCL. Perchlorate was not detected in any West Coast Basin production wells.

3.2 QUALITY OF REPLENISHMENT WATER

This section discusses water quality data for key parameters in WRD replenishment water and local surface water. Although numerous constituents are monitored, the constituents reported here are the ones found to be most prevalent at elevated levels or are of current regulatory interest. The data are classified according to their sources. The key water quality parameters of this discussion are the same as those discussed for the WRD nested monitoring wells: TDS, iron, manganese, nitrate, chloride, TCE, PCE, arsenic, TOC, and perchlorate. Monitoring the concentrations of these constituents is necessary for an understanding of the general chemical nature of the recharge source, and its suitability for replenishing the groundwater basins.

3.2.1 Quality of Imported Water

Both treated and untreated imported water are used for groundwater recharge in the CWCB. Treated imported water is used at the seawater barriers. This water meets all drinking water standards and is suitable for direct injection. Average water quality data for treated imported water are presented in **Table 3.3**. Untreated imported water ("raw water") is used for recharge at the Montebello Forebay spreading grounds. The untreated imported water can be State Project Water, Colorado River Water, or a blend of State project Water and Colorado River Water.

The average TDS concentration of untreated Colorado River water was 688 mg/L in 2008. The average TDS concentration of untreated State Project Water was 289 mg/L.

Nitrate averages were below the detection limit in untreated Colorado River Water and the average nitrate concentration of State Project Water was 0.7 mg/L. Recently and historically, both Colorado River and State Project Water nitrate concentrations have been far below the MCL.

The average iron and manganese concentrations of untreated Colorado River Water have

remained below detection limits. Iron and manganese in State Project Water was also below detection limits. Both Colorado River and State Project Water iron and manganese concentrations have historically been below the MCL.

The average chloride concentrations of Colorado River Water and State Project Water have not changed significantly over the past several years. State Project Water chloride concentrations have historically been below their respective MCLs as has the chloride concentration in Colorado River Water.

TOC was reported at 2.9 and 2.6 mg/L in untreated Colorado River and State Project Water respectively. According to the MWD, TCE and PCE have not been detected in Colorado River Water or State Project Water during the 2008 reporting period. Perchlorate was below the MCL in untreated Colorado River Water and not detected in State Project Water in 2008.

3.2.2 Quality of Recycled Water

Recycled water is used for groundwater recharge in the CWCB through the spreading grounds percolation and barrier injection. In the Montebello Forebay, recycled water from the Whittier Narrows Water Reclamation Plant (WRP), San Jose Creek East WRP, San Jose Creek West WRP, and Pomona WRP is diverted into spreading basins where it percolates into the subsurface. The water quality from these WRPs is carefully controlled and monitored, as required by permits, and typically shows little variation over time. **Table 3.3** presents average water quality data from these WRPs. All constituents listed have remained stable over recent Water Years. Furthermore, TCE, PCE and perchlorate have either not been detected or have been detected well below their respective MCL in recycled water from these four WRPs.

Recycled water from the West Basin Municipal Water District WRP undergoes advanced treatment using microfiltration, reverse osmosis, ultraviolet light, and advanced oxidation with hydrogen peroxide, and is blended with imported water, then injected at the West Coast Barrier. This water is treated to comply with all drinking water standards and is

suitable for direct injection. The blend of recycled water and imported water is injected to prevent the intrusion of seawater and to replenish the groundwater basins. The West Basin Municipal Water District received approval from the Los Angeles Regional Water Quality Control Board (LARWQCB) for 75 percent and conditional approval for up to 100 percent recycled water. **Table 3.3** presents average water quality data for this injected recycled water.

The Alamitos Seawater Barrier receives a blend of imported water and recycled water from the Leo J. Vander Lans Treatment Facility, owned by WRD. Disinfected tertiary effluent from the Long Beach Water Reclamation Plant of the County Sanitation Districts of Los Angeles County (CSDLAC) is further treated with microfiltration, reverse osmosis, and ultraviolet light. The water meets drinking water quality standards and also other stringent requirements required by the regulatory agencies for injection into a seawater barrier. This project began deliveries in October 2005. **Table 3.3** presents average water quality of the recycled water prior to blending.

Tertiary effluent from the City of Los Angeles Terminal Island Treatment Plant (TITP) is treated further at the Advanced Water Treatment Facility (AWTF) with microfiltration, reverse osmosis, and disinfection with chlorine to produce recycled water. The water meets drinking water quality standards and also other stringent requirements by regulatory agencies for injection into a seawater barrier. Deliveries began in February 2006. **Table 3.3** presents average water quality data of the recycled water from the TITP AWTF.

3.2.3 Quality of Stormwater

Stormwater infiltrates to some degree throughout the District. It is also intentionally diverted from the major storm channels and percolated along with imported and recycled water at the Montebello Forebay Spreading Grounds. Periodic stormwater quality analyses have been performed by LACDPW throughout the history of operations at the Montebello Forebay Spreading Grounds. Average stormwater quality data for 2008-2009 are presented on **Table 3.3**. The average TDS, manganese, nitrate, chloride, TCE, and

PCE, and perchlorate in stormwater spread in the Montebello Forebay are relatively low. Stormwater TOC was 8.1 mg/L, which is higher than other sources but is degraded in the subsurface by soil aquifer treatment (SAT). Metals including iron, lead and copper were relatively high in stormwater.

3.3 MINERAL CHARACTERISTICS OF GROUNDWATER IN THE CENTRAL AND WEST COAST BASINS

Major minerals data obtained from laboratory analyses were used to characterize groundwater from discrete vertical zones of each WRD well (**Table 3.4**). Research by the USGS has provided three distinct groupings of groundwater compositions. Group A groundwater is typically calcium bicarbonate or calcium bicarbonate/sulfate dominant. Group B groundwater has a typically calcium-sodium bicarbonate or sodium bicarbonate character. Group C has a sodium chloride character. A few of the WRD wells yield groundwater samples which do not fall into one of the three major groups and are grouped separately.

Groundwater from Group A likely represents recent recharge water containing a significant percentage of imported water. Groundwater from Group B represents older native groundwater replenished by natural local recharge. Groundwater from Group C represents groundwater impacted by seawater intrusion or connate saline brines. **Table 3.4** lists the groundwater group for each WRD nested monitoring well. Comparison of groundwater groups with well locations indicates that, in general, Group A groundwater is found at and immediately downgradient from the Montebello Forebay Spreading Grounds in all but the deepest zones. Group B groundwater is found farther down the flow path of the Central Basin and inland of the salt water wedge and injected water in the West Coast Basin. Group C water is generally found near the coastlines or in deeper zones. Several wells, grouped as "Other" on **Table 3.4**, exhibit a chemical character range different from Group A, B, and C ranges and represents unique waters not characteristic of the dominant flow systems in the basins. The USGS is currently conducting trace element isotope analyses of water from these wells to identify their hydrogeologic source(s).

The major mineral compositions of water from the WRD nested monitoring wells sampled this Water Year have not changed substantially from previous years. It is expected that continued analysis will show gradual changes in major mineral compositions over time, as older native water is extracted from the basins and replaced by younger naturally and artificially replenished water.

SECTION 4
SUMMARY OF FINDINGS

This Regional Groundwater Monitoring Report was prepared by WRD to provide a comprehensive review of groundwater conditions in the CWCB during WY 2008-2009. A summary of findings is presented below.

- Artificial replenishment activities combined with natural replenishment and controlled pumping have ensured a sustainable, reliable supply of groundwater in the CWCB. Artificial replenishment water sources used by WRD include imported water from the MWD, recycled water from the CSDLAC, and recycled water with advanced treatment from WBMWD, the City of Los Angeles, and WRD's Leo J. Vander Lans water treatment facility.
- Groundwater levels (heads) were monitored continuously in the CWCB during the Water Year. The WRD nested monitoring wells show clear, significant differences in groundwater elevations between the various aquifers. The water level differences in the WRD nested monitoring wells reflect both hydrogeologic and pumping conditions in the CWCB. Vertical head differences between 1 and 40 feet occur between zones above and within the producing zones. The greatest head differences between aquifers tend to occur in the Long Beach area of the Central Basin and the inland Gardena and Carson areas of the West Coast Basin, while the smallest differences occur in the Montebello Forebay recharge area, and the Torrance area, which has thick, merged aquifers.
- Basinwide hydrographs and groundwater elevations measured in nested monitoring wells and key production wells indicate significant decreases in water levels over most of the Central Basin, up to 25 feet in Montebello Forebay. On average, water levels decreased in the unconfined Montebello Forebay area about 10 to 25 feet, but did not change substantially in the Los Angeles Forebay during WY 2008-2009. Elsewhere in the confined portions of the deeper aquifers of the basin, water levels generally decreased up to 5 feet during WY 2008-2009.

- Water levels were generally stable for the coastal area of the West Coast Basin during WY 2008-2009. Water levels decreased in the inland areas of West Coast Basin from 1 up to 15 feet.
- Based on data obtained from WRD nested monitoring wells during WY 2008-2009, the water quality associated with key constituents in groundwater differs both vertically between aquifers and horizontally across the CWCB.
- TDS concentrations for WRD wells located in the Central Basin are relatively low, while TDS concentrations for WRD wells located in the West Coast Basin are elevated in portions of the basin, primarily the Torrance and Dominguez Gap areas. The elevated TDS concentrations may be caused by seawater intrusion or connate brines, or possibly oil field brines.
- The Secondary MCL for iron is 0.3 mg/L. Iron is generally present in WRD nested monitoring wells but concentrations were above the MCL in only three wells and only one Silverado Aquifer zone. Iron was detected above the MCL in 29 out of 236 production wells tested. Sources of the localized high iron concentrations have not yet been identified, but are possibly naturally occurring or come from well casings.
- Similar to the iron concentrations, manganese concentrations exceed the MCL (50 µg/L) in a large number of nested monitoring wells and production wells across the CWCB. Similar to iron, sources of the localized high manganese concentrations have not yet been identified, but are possibly naturally occurring.
- Nitrate (as nitrogen) concentrations in WRD nested monitoring wells in the Central CWCB are generally below MCLs. Concentrations approaching or exceeding the MCL (10 mg/L) tend to be limited to the uppermost zone at a particular nested well and are likely due to localized surface recharge. Concentrations above the MCL were not observed in the Silverado aquifer. CDPH data indicates that none of the CWCB production wells tested for nitrate above the MCL during WYs 2006-2009.
- TCE was not detected in the Silverado Aquifer in any of the WRD nested monitoring wells sampled. CDPH data indicate that TCE was detected in 47 production wells in the Central Basin during WYs 2006-2009, 9 out of the 47 detections exceed the MCL for TCE. In the West Coast Basin, TCE was not detected above the MCL in any

production wells.

- The MCL for PCE in drinking water is 5 µg/L. PCE was detected in 10 WRD nested monitoring wells in the Central Basin and one in the West Coast Basin. PCE was detected in the Silverado aquifer in two WRD nested wells, both below the MCL. CDPH data indicate that PCE was detected in 55 production wells in the Central Basin during WYs 2006-2009. A total of 10 out of the 55 detections exceeded the MCL for PCE. PCE was not detected in any of the West Coast Basin production wells.
- The MCL for arsenic in drinking water is 10 µg/L. WRD nested monitoring wells indicate that arsenic concentrations in the south-central and especially near the eastern side of the Central Basin can exceed the State MCL. Eleven production wells, all in this portion of the Central Basin, have arsenic concentrations exceeding the MCL of 10 µg/L. Arsenic was not detected above the MCL in any of the West Coast Basin production wells.
- Total organic carbon, while not regulated, is being monitored and studied in relation to the use of recycled water for artificial recharge and future development of potential groundwater production from deeper portions of the CWCB that have typically been utilized in the past. Lower concentrations were found in shallow and moderate zones, and higher concentrations (greater than 5 mg/L) were found in deeper zones.
- The MCL for perchlorate in drinking water is 6 µg/L. Perchlorate was detected in 13 of 27 nested monitoring wells in the Central Basin, and above the MCL (6 µg/L) at 2 locations. In the West Coast Basin perchlorate was detected in 2 of 17 nested wells with one above the MCL. Perchlorate was detected in 5 Central Basin production wells and above the MCL in 2 of them. Perchlorate was not detected in any production wells in the West Coast Basin.
- The water quality associated with key constituents in untreated imported water used at the Montebello Forebay Spreading Grounds remains good. Average TDS, hardness, iron, and manganese concentrations in imported water used for recharge, comply with their respective MCLs. Meanwhile, TCE and PCE were not detected in either water source. Perchlorate was detected below the MCL in untreated Colorado River water and was not detected in untreated State Project water.

- The water quality associated with key constituents in recycled water used at the Montebello Forebay Spreading Grounds and barrier injection wells also remains in compliance and is monitored regularly to ensure its safe use.
- Stormwater samples are occasionally collected and analyzed for water quality parameters. The most recent available data show that average stormwater TDS concentrations and hardness are lower than most other sources of replenishment water and other constituent concentrations make stormwater a good replenishment source.
- As shown by the data presented herein, groundwater in the CWCB is of generally good quality and is suitable for use by the pumpers in the District, the stakeholders, and the public. Localized areas of marginal to poor water quality are either currently receiving or may require treatment prior to being used as a potable source.

SECTION 5
FUTURE ACTIVITIES

WRD will continue to update and augment its Regional Groundwater Monitoring Program to best serve the needs of the District, the pumpers, and the public. Some of the activities planned or which utilize data generated from this program for the upcoming WY 2009-2010 are listed below.

- WRD will continue to maximize recycled water use at the Montebello Forebay Spreading Grounds without exceeding regulatory limits; recycled water is a high quality, reliable, and relatively low-cost replenishment water source. Due to the anticipated unreliability of imported water deliveries from MWD, WRD is developing the Water Independence Now (WIN) initiative, which includes increasing the safe use of recycled water for groundwater recharge and reducing the reliance on imported water supplies.
- WRD will continue to maximize recycled water use at the West Coast Barrier and will promote maximum permitted recycled water injection at the Dominguez Gap and Alamitos Gap Barriers. Extensive monitoring of these recycled water injection projects will be performed to comply with applicable permit conditions and to track subsurface movement of the recycled water.
- WRD will continue to monitor the quality of replenishment water sources to ensure the CWCB are being recharged with high-quality water.
- WRD continues refining the regional understanding of groundwater occurrence, movement, and quality. Water levels will be recorded using automatic dataloggers to monitor groundwater elevation differences throughout the year. Conductivity sensors are being added at selected locations which can track water quality changes to supplement the automated water level data. Telemetry technology is being tested which can send datalogger files through the cell phone network and post the information directly onto the WRD website.
- WRD is currently expanding its network of nested monitoring wells to get a better

understanding of groundwater levels and groundwater quality. Four new locations, one "gateway" well in the Los Angeles Forebay, one deeper well inland from the Alamitos Barrier Project, one well in Lakewood, and one in the Lawndale area are anticipated to be completed this year. Each year, WRD evaluates the need to fill data gaps in the water level data, water quality data, and hydrogeologic conceptual model with additional geologic data provided from drilling, construction, and monitoring of nested wells.

- WRD will continue to sample groundwater from nested monitoring wells, and analyze the samples for general water quality constituents. In addition, WRD will continue to focus on constituents of interest to WRD, the pumpers, and other stakeholders such as TCE, PCE, arsenic, fuel oxygenates, TOC, apparent color, and perchlorate. New chemicals of concern which have not been comprehensively monitored include pesticides, n-nitrosodimethylamine (NDMA), 1,4-dioxane, pharmaceuticals, and other emerging chemicals of concern. Constituents studied in the past, including chromium 6 may also warrant revisiting in the future.
- WRD staff will be working on refining the hydrogeologic conceptual model of the CWCB using data from the RGWMP and other data to improve the framework for understanding the dynamics of the groundwater system and use as a planning tool.
- WRD will continue efforts under its Groundwater Contamination Prevention Program in order to minimize or eliminate threats to groundwater supplies. The Groundwater Contamination Prevention Program includes several ongoing efforts, including the Central and West Coast Basin Groundwater Contamination Forum with key stakeholders including the Environmental Protection Agency, Department of Toxic Substances Control, Los Angeles Regional Water Quality Control Board, California Department of Public Health, United States Geological Survey, and various cities. Stakeholders meet regularly (meetings are held 3 to 4 times per year at WRD) and share data on contaminated groundwater sites within the District. WRD has acted as the meeting coordinator and data repository/distributor, helping stakeholders to characterize contamination and develop optimal methods for addressing contamination. WRD has developed a list of high-priority contaminated groundwater sites within the District. Currently, the list includes approximately 47 sites across the

CWCB.

- In 2003, WRD developed a scope of work with the LACDHS to clarify the status of 217 potentially abandoned (a.k.a., "unknown status") wells located within District boundaries, as identified through researching WRD's groundwater production database. WRD was able to reduce the number of "unknown status" wells from 217 to 20, and most of the remaining 20 are suspected to have been paved over during development of industrial and residential neighborhoods.
- WRD will continue to be proactively involved in the oversight of the most significant contaminated sites that threaten CWCB groundwater resources.
- WRD will continue to fund the Safe Drinking Water Program to address VOC impacted groundwater, especially by PCE and TCE in the CWCB.
- WRD will continue to use the data generated by the Regional Groundwater Monitoring Program along with WRD's advanced GIS capabilities to address current and upcoming issues related to water quality and groundwater replenishment in the Central and West Coast Basins.

SECTION 6

REFERENCES

American Water Works Association Research Foundation (AWWA), *Soil Aquifer treatment for Sustainable Water Reuse,* 2001.

Bookman-Edmonston Engineering, Inc., *Report on Program of Water Quality Monitoring*, January 1973.

California Department of Water Resources (DWR), *Bulletin No. 104: Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A – Ground Water Geology*, 1961.

County Sanitation Districts of Los Angeles County (CSDLAC), *Montebello Forebay Groundwater Recharge Engineering Report*, November 1997.

County Sanitation Districts of Los Angeles County (CSDLAC), *Montebello Forebay Groundwater Recharge-WQCB order No. 91-100, Monitoring and Reporting Program No. 5728, Annual Monitoring Reports*, 2006.

Driscoll, Fletcher G, Ph.D., *Groundwater and Wells*, Johnson Filtration Systems, Inc. 1989.

Fetter, C.W., *Applied Hydrogeology, Third Edition,* Prentice-Hall, 1994.

Hem, John D., *Study and Interpretation of the Chemical Characteristics of Natural Water, Third Edition*, U.S. Geological Survey Water-Supply Paper 2254, 1992.

Mathany, Timothy M., Land, Michael, and Belitz, Kenneth, *Ground-Water Quality Data in the Coastal Los Angeles Basin Study Unit, 2006: Results from the California GAMA Program*, U.S. Geological Survey Data Series 387, 2006.

Mendenhall, W.D., 1905, *Development of underground waters in the central coastal plain region of southern California*: U.S. Geological Survey Water Supply Paper 137, 140p.

Metropolitan Water District of Southern California (MWD), *Annual Report to Member Agencies*, 2006.

Montgomery Watson, *Report for West Coast Basin Desalinization Feasibility/Siting Study*, February 1997.

Montgomery Watson, *West Coast Basin Plume Mitigation Study*, September 1992.

National Research Council, *Issues in Potable Reuse*, National Academy Press, 1998.

Reichard, Eric G.; Land, Michael; Crawford, Steven M.; Johnson, Tyler; Everett, Rhett; Kulshan, Trayle V.; Ponti, Daniel J.; Halford, Kieth J.;Johnson, Theodore A.; Paybins, Katherine S.; and Nishikawa, Tracey: *Geohydrology, Geochemistry, and Ground-Water Simulation-Optimization of the Central and West Coast Basins, Los Angeles County, California*, United States Geological Survey Water Resources Investigations Report 03-4065; Sacramento, California, 2003.

United States Environmental Protection Agency (EPA), *Whittier Narrows Operable Unit Feasibility Study Addendum*, October 1998.

Water Replenishment District of Southern California (WRD), *Engineering Survey and Report*, 2009.

West Basin Municipal Water District, West Basin Water Reclamation Treatment Facility, Annual Report, 2006.

TABLES

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Bell #1	1	102039	1750	1730	1750	Pico Formation
	2	102040	1215	1195	1215	Sunnyside
	3	102041	985	965	985	Silverado
	4	102042	635	615	635	Silverado
	5	102043	440	420	440	Hollydale
	6	102044	390	370	390	Gage
Bell Gardens #1	1	101954	1795	1775	1795	Sunnyside
	2	101955	1410	1390	1410	Sunnyside
	3	101956	1110	1090	1110	Sunnyside
	4	101957	875	855	875	Silverado
	5	101958	575	555	575	Lynwood
	6	101959	390	370	390	Gage
Carson #1	1	100030	1010	990	1010	Sunnyside
	2	100031	760	740	760	Silverado
	3	100032	480	460	480	Lynwood
	4	100033	270	250	270	Gage
Carson #2	1	101787	1250	1230	1250	Sunnyside
	2	101788	870	850	870	Silverado
	3	101789	620	600	620	Silverado
	4	101790	470	450	470	Lynwood
	5	101791	250	230	250	Gage
Cerritos #1	1	100870	1215	1155	1175	Sunnyside
	2	100871	1020	1000	1020	Sunnyside
	3	100872	630	610	630	Lynwood
	4	100873	290	270	290	Gage
	5	100874	200	180	200	Artesia
	6	100875	135	125	135	Artesia
Cerritos #2	1	101781	1470	1350	1370	Sunnyside
	2	101782	935	915	935	Silverado
	3	101783	760	740	760	Silverado
	4	101784	510	490	510	Jefferson
	5	101785	370	350	370	Gage
	6	101786	170	150	170	Gaspur
Chandler #3B	1	100082	363	341	363	Gage/Lynwood/Silverado
Chandler #3A	2	100083	192	165	192	Gage/Lynwood/Silverado
Commerce #1	1	100881	1390	1330	1390	Pico Formation
	2	100882	960	940	960	Sunnyside
	3	100883	780	760	780	Sunnyside
	4	100884	590	570	590	Silverado
	5	100885	345	325	345	Hollydale
	6	100886	225	205	225	Exposition/Gage

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Compton #1	1	101809	1410	1370	1390	Sunnyside
	2	101810	1170	1150	1170	Sunnyside
	3	101811	820	800	820	Silverado
	4	101812	480	460	480	Hollydale
	5	101813	325	305	325	Gage
Compton #2	1	101948	1495	1475	1495	Sunnyside
	2	101949	850	830	850	Sunnyside
	3	101950	605	585	605	Silverado
	4	101951	400	380	400	Hollydale
	5	101952	315	295	315	Gage
	6	101953	170	150	170	Exposition
Downey #1	1	100010	1190	1170	1190	Sunnyside
	2	100011	960	940	960	Silverado
	3	100012	600	580	600	Silverado
	4	100013	390	370	390	Hollydale/Jefferson
	5	100014	270	250	270	Gage
	6	100015	110	90	110	Gaspur
Gardena #1	1	100020	990	970	990	Sunnyside
	2	100021	465	445	465	Silverado
	3	100022	365	345	365	Lynwood
	4	100023	140	120	140	Gage
Gardena #2	1	101804	1335	1275	1335	Sunnyside
	2	101805	790	770	790	Silverado
	3	101806	630	610	630	Silverado
	4	101807	360	340	360	Lynwood
	5	101808	255	235	255	Gardena
Hawthorne #1	1	100887	990	910	950	Sunnyside
	2	100888	730	710	730	Silverado
	3	100889	540	520	540	Silverado
	4	100890	420	400	420	Silverado
	5	100891	260	240	260	Lynwood
	6	100892	130	110	130	Gage
Huntington Park #1	1	100005	910	890	910	Silverado
	2	100006	710	690	710	Jefferson
	3	100007	440	420	440	Gage
	4	100008	295	275	295	Exposition
	5	100009	134	114	134	Gaspur
Inglewood #1	1	100091	1400	1380	1400	Pico Formation
	2	100092	Abandoned Well			
	3	100093	450	430	450	Silverado
	4	100094	300	280	300	Lynwood
	5	100095	170	150	170	Gage

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Inglewood #2	1	100824	860	800	840	Pico Formation
	2	100825	470	450	470	Sunnyside
	3	100826	350	330	350	Silverado
	4	100827	245	225	245	Lynwood
Lakewood #1	1	100024	1009	989	1009	Sunnyside
	2	100025	660	640	660	Silverado
	3	100026	470	450	470	Lynwood
	4	100027	300	280	300	Gage
	5	100028	160	140	160	Artesia
	6	100029	90	70	90	Bellflower
La Mirada #1	1	100876	1150	1130	1150	Sunnyside
	2	100877	985	965	985	Silverado
	3	100878	710	690	710	Lynwood
	4	100879	490	470	490	Jefferson
	5	100880	245	225	245	Gage
Lomita #1	1	100818	1340	1240	1260	Sunnyside
	2	100819	720	700	720	Sunnyside
	3	100820	570	550	570	Silverado
	4	100821	420	400	420	Silverado
	5	100822	240	220	240	Gage
	6	100823	120	100	120	Gage
Long Beach #1	1	100920	1470	1430	1450	Sunnyside
	2	100921	1250	1230	1250	Sunnyside
	3	100922	990	970	990	Silverado
	4	100923	619	599	619	Lynwood
	5	100924	420	400	420	Jefferson
	6	100925	175	155	175	Gage
Long Beach #2	1	101740	1090	970	990	Sunnyside
	2	101741	740	720	740	Sunnyside
	3	101742	470	450	470	Silverado
	4	101743	300	280	300	Lynwood
	5	101744	180	160	180	Gage
	6	101745	115	95	115	Gaspur
Long Beach #3	1	101751	1390	1350	1390	Sunnyside
	2	101752	1017	997	1017	Silverado
	3	101753	690	670	690	Silverado
	4	101754	550	530	550	Silverado
	5	101755	430	410	430	Lynwood
Long Beach #4	1	101759	1380	1200	1220	Pico Formation
	2	101760	820	800	820	Sunnyside
Long Beach #6	1	101792	1530	1490	1510	Pico Formation
	2	101793	950	930	950	Sunnyside
	3	101794	760	740	760	Sunnyside
	4	101795	500	480	500	Silverado
	5	101796	400	380	400	Lynwood
	6	101797	240	220	240	Gage

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Long Beach #8	1	101819	1495	1435	1455	Pico Formation
	2	101820	1040	1020	1040	Sunnyside
	3	101821	800	780	800	Silverado
	4	101822	655	635	655	Silverado
	5	101823	435	415	435	Lynwood
	6	101824	185	165	185	Gage
Los Angeles #1	1	100926	1370	1350	1370	Pico Formation
	2	100927	1100	1080	1100	Sunnyside
	3	100928	940	920	940	Silverado
	4	100929	660	640	660	Lynwood
	5	100930	370	350	370	Gage
Los Angeles #2	1	102003	1370	1330	1370	Not Interpreted
	2	102004	730	710	730	Not Interpreted
	3	102005	525	505	525	Not Interpreted
	4	102006	430	410	430	Not Interpreted
	5	102007	265	245	265	Not Interpreted
	6	102008	155	135	155	Not Interpreted
Montebello #1	1	101770	980	900	960	Pico Formation
	2	101771	710	690	710	Sunnyside
	3	101772	520	500	520	Silverado
	4	101773	390	370	390	Lynwood
	5	101774	230	210	230	Gage
	6	101775	110	90	110	Exposition
Norwalk #1	1	101814	1420	1400	1420	Sunnyside
	2	101815	1010	990	1010	Silverado
	3	101816	740	720	740	Lynwood
	4	101817	450	430	450	Jefferson
	5	101818	240	220	240	Gage
Norwalk #2	1	101942	1480	1460	1480	Sunnyside
	2	101943	1280	1260	1280	Sunnyside
	3	101944	980	960	980	Silverado
	4	101945	820	800	820	Lynwood
	5	101946	500	480	500	Gardena
	6	101947	256	236	256	Exposition
Pico #1	1	100001	900	860	900	Pico Formation
	2	100002	480	460	480	Silverado
	3	100003	400	380	400	Silverado
	4	100004	190	170	190	Gardena
Pico #2	1	100085	1200	1180	1200	Sunnyside
	2	100086	850	830	850	Sunnyside
	3	100087	580	560	580	Sunnyside
	4	100088	340	320	340	Silverado
	5	100089	255	235	255	Lynwood
	6	100090	120	100	120	Gaspur

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
PM-1 Columbia	1	100042	600	555	595	Sunnyside
	2	100043	505	460	500	Silverado
	3	100044	285	240	280	Lynwood
	4	100045	205	160	200	Gage
PM-3 Madrid	1	100034	685	640	680	Sunnyside
	2	100035	525	480	520	Silverado
	3	100036	285	240	280	Lynwood
	4	100037	190	145	185	Gage
PM-4 Mariner	1	100038	715	670	710	Sunnyside
	2	100039	545	500	540	Silverado
	3	100040	385	340	380	Lynwood
	4	100041	245	200	240	Lynwood
PM-5 Columbia Park	1	102047	1380	1360	1380	Not Interpreted
	2	102048	960	940	960	Not Interpreted
	3	102049	790	770	790	Not Interpreted
	4	102050	600	580	600	Not Interpreted
	5	102051	340	320	340	Not Interpreted
	6	102052	160	140	160	Not Interpreted
PM-6 Madrona Marsh	1	102053	1235	1195	1235	Pico Formation
	2	102054	925	905	925	Sunnyside
	3	102055	790	770	790	Sunnyside
	4	102056	550	530	550	Silverado
	5	102057	410	390	410	Lynwood
	6	102058	260	240	260	Gage
Rio Hondo #1	1	100064	1150	1110	1130	Sunnyside
	2	100065	930	910	930	Sunnyside
	3	100066	730	710	730	Sunnyside
	4	100067	450	430	450	Silverado
	5	100068	300	280	300	Lynwood
	6	100069	160	140	160	Gardena
South Gate #1	1	100893	1460	1440	1460	Pico Formation
	2	100894	1340	1320	1340	Sunnyside
	3	100895	930	910	930	Silverado
	4	100896	585	565	585	Lynwood
	5	100897	250	220	240	Exposition
Westchester #1	1	101776	860	740	760	Pico Formation
	2	101777	580	560	580	Sunnyside
	3	101778	475	455	475	Silverado
	4	101779	330	310	330	Lynwood
	5	101780	235	215	235	Gage

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Whittier #1	1	101735	1298	1180	1200	Sunnyside
	2	101736	940	920	940	Sunnyside
	3	101737	620	600	620	Silverado
	4	101738	470	450	470	Lynwood
	5	101739	220	200	220	Gage
Whittier #2	1	101936	1390	1370	1390	Sunnyside
	2	101937	1110	1090	1110	Sunnyside
	3	101938	675	655	675	Silverado
	4	101939	445	425	445	Silverado
	5	101940	335	315	335	Lynwood
	6	101941	170	150	170	Gardena
Whittier Narrows #1	1	100046	769	749	769	Sunnyside
	2	100047	769	609.5	629	Sunnyside
	3	100048	769	462.5	482.5	Sunnyside
	4	100049	769	392.5	402	Silverado
	5	100050	769	334	343.5	Silverado
	6	100051	769	272.5	282.5	Lynwood
	7	100052	769	233.5	243	Jefferson
	8	100053	769	163	173	Gardena
	9	100054	769	95	104.5	Gaspur
Whittier Narrows #2	1	100055	769	659.3	678.4	Pico Formation
	2	100056	769	579.1	598.2	Pico Formation
	3	100057	769	469.0	488.2	Pico Formation
	4	100058	769	418.6	428.2	Pico Formation
	5	100059	769	328.7	338.3	Pico Formation
	6	100060	769	263.2	273.3	Not Interpreted
	7	100061	769	213.7	223.3	Not Interpreted
	8	100062	769	135.7	145.3	Not Interpreted
	9	100063	769	90.8	100.3	Gardena
Willowbrook #1	1	100016	905	885	905	Sunnyside
	2	100017	520	500	520	Silverado
	3	100018	380	360	380	Lynwood
	4	100019	220	200	220	Gage
Wilmington #1	1	100070	1040	915	935	Sunnyside
	2	100071	800	780	800	Sunnyside
	3	100072	570	550	570	Silverado
	4	100073	245	225	245	Lynwood
	5	100074	140	120	140	Gage
Wilmington #2	1	100075	1030	950	970	Sunnyside
	2	100076	775	755	775	Silverado
	3	100077	560	540	560	Lynwood
	4	100078	410	390	410	Lynwood
	5	100079	140	120	140	Gage

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2008-2009

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Bell #1						Reference Point Elevation: 147.39
Depth of Well	1730-1750	1195-1215	965-985	615-635	420-440	250-270
Aquifer Name	Pico Formation	Sunnyside	Silverado	Silverado	Hollydale	Gage
6/18/2009	-18.49	-30.32	-17.69	-19.15	-9.51	19.47
9/10/2009	-16.59	-32.08	-17.54	-19.94	-14.44	15.92
9/28/2009	-15.47	-31.9	-17.68	-20.00	-14.91	15.78
Bell Gardens #1						Reference Point Elevation: 119.24
Depth of Well	1775-1795	1390-1410	1090-1110	855-875	555-575	370-390
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gage
10/17/2008	4.36	4.30	5.98	13.52	17.16	16.47
12/29/2008	8.15	9.65	12.27	17.84	22.18	21.26
1/21/2009	8.51	8.62	11.31	17.84	20.95	19.91
3/23/2009	11.82	12.74	15.19	21.67	24.65	22.66
6/23/2009	4.21	4.45	7.20	15.21	18.45	17.79
9/24/2009	-0.83	-1.29	0.14	7.77	11.09	11.45
Carson #1						Reference Point Elevation: 24.16
Depth of Well	990-1010	740-760	460-480	250-270		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
12/23/2008	-54.02	-52.37	-16.14	-14.37		
3/26/2009	-53.07	-51.83	-16.04	-14.29		
3/30/2009	-54.13	-52.75	-16.09	-14.29		
6/29/2009	-55.36	-53.94	-16.49	-14.62		
9/18/2009	-53.95	-55.51	-16.39	-14.58		
Carson #2						Reference Point Elevation: 39.81
Depth of Well	1230-1250	850-870	600-620	450-470	230-250	
Aquifer Name	Sunnyside	Silverado	Silverado	Lynwood	Gage	
12/24/2008	-39.81	-34.76	-34.37	-30.42	-27.66	
1/27/2009	-39.59	-35.03	-34.63	-30.64	-27.87	
3/30/2009	-39.37	-35.21	-34.81	-30.88	-28.11	
3/31/2009	-39.61	-35.23	-34.96	-30.86	-28.17	
6/29/2009	-40.73	-36.30	-35.91	-31.88	-29.01	
7/10/2009	-40.94	-36.56	-36.16	-32.05	-29.19	
9/18/2009	-40.67	-34.59	-34.25	-30.74	-28.21	
Cerritos #1						Reference Point Elevation: 40.72
Depth of Well	1155-1175	1000-1020	610-630	270-290	180-200	125-135
Aquifer Name	Sunnyside	Sunnyside	Lynwood	Gage	Artesia	Artesia
10/31/2008	-61.07	-65.64	-55.42	9.23	14.92	14.92
12/24/2008	-47.61	-53.17	-42.74	12.32	17.22	17.28
3/30/2009	-42.18	-49.85	-39.08	12.44	16.46	16.48
4/6/2009	-44.31	-50.02	-40.5	12.28	16.39	16.37
6/26/2009	-54.06	-57.68	-47.86	9.02	13.61	13.58
8/31/2009	-58.23	-59.13	-51.15	7.23	12.17	12.12
9/23/2009	-56.54	-57.32	-53.57	6.74	11.97	11.95
Cerritos #2						Reference Point Elevation: 75.27
Depth of Well	1350-1370	915-935	740-760	490-510	350-370	150-170
Aquifer Name	Sunnyside	Silverado	Silverado	Jefferson	Gage	Gaspur
10/1/2008	-24.79	-37.93	-37.13	-11.33	20.29	29.68
10/17/2008	-24.79	-37.68	-35.17	-11.62	19.49	29.57
10/31/2008	-25.14	-37.22	-34.66	-10.51	20.46	29.46
12/22/2008	-20.64	-26.37	-24.62	-4.13	21.88	30.03
3/30/2009	-14.61	-26.74	-27.82	-5.01	21.94	30.13
4/6/2009	-15.19	-25.59	-30.10	-6.10	24.54	29.96
6/29/2009	-21.98	-34.68	-33.13	-9.32	20.30	
8/31/2009	-24.70	-37.56	-36.95	-11.66	18.81	27.93
9/23/2009	-24.40	-35.80	-35.69	-11.60	18.72	27.62
Chandler #3						Reference Point Elevation: 153.2
Depth of Well	341-363	165-192				
Aquifer Name	Gage/Lynw/Silv	Gage/Lynw/Silv				
12/24/2008	-17.19	-16.92				
03/24/2009	-17.34	-17.01				
04/16/2009	-17.64	-17.33				
06/30/2009	-17.86	-17.72				
09/24/2009	-18.17	-18.04				

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2008-2009

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Commerce #1						Reference Point Elevation: 170.09
Depth of Well	1330-1390	940-960	760-780	570-590	325-345	205-225
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Hollydale	Exposition/Gage
10/22/2008		53.14	48.99	15.81	20.52	56.05
11/13/2008	57.15	53.49	49.59	17.26	21.21	56.17
11/18/2008	56.97	53.29	49.42	18.63	21.28	55.85
1/12/2009		55.47	52.09	22.90	25.74	56.28
3/24/2009		57.31	53.89	24.10	28.51	56.32
5/7/2009		55.75	51.71	19.83	26.26	56.05
5/12/2009		57.31	53.89	24.10	28.51	56.32
6/29/2009		53.31	49.21	17.65	24.43	55.38
8/27/2009		50.31	46.19	18.89	26.70	55.25
9/15/2009		49.81	45.89	16.15	20.49	54.58
9/21/2009		49.84	45.82	10.24	16.71	54.54
Compton #1						Reference Point Elevation: 67.17
Depth of Well	1370-1390	1150-1170	800-820	460-480	325-345	
Aquifer Name	Sunnyside	Sunnyside	Silverado	Hollydale	Gage	
12/19/2008	-58.82	-58.53	-21.36	-7.00	-2.44	
12/29/2008	-57.38	-57.08	-21.49	-5.59	-1.75	
3/24/2009	-58.26	-57.91	-21.04	-6.88	-4.47	
4/15/2009	-61.62	-61.22	-22.53	-7.93	-4.41	
6/25/2009	-66.06	-65.71	-24.53	-9.01	-5.80	
8/28/2009	-68.57	-68.25	-29.72	-14.64	-11.77	
9/24/2009	-71.73	-71.38	-27.85	-15.46	-13.04	
Compton #2						Reference Point Elevation: 75.11
Depth of Well	1479-1495	830-850	585-605	380-400	295-315	150-170
Aquifer Name	Sunnyside	Sunnyside	Silverado	Hollydale	Gage	Exposition
10/1/2008	-18.74	-51.00	-41.33	-40.43	-34.81	-24.80
12/3/2008	-21.56	-49.02	-38.99	-37.65	-29.48	-22.73
12/23/2008	-21.56	-47.50	-37.31	-36.40	-29.75	-21.79
3/27/2009	-20.85	-45.57	-38.61	-37.80	-32.5	-23.07
5/21/2009		-48.87	-41.69	-41.66	-33.79	-23.91
6/25/2009	-23.78	-48.44	-40.00	-39.09	-32.65	-23.74
6/30/2009	-23.94	-48.56	-40.46	-39.13	-30.86	-23.22
9/15/2009	-27.56	-51.60	-41.75	-40.74	-33.77	-26.19
Downey #1						Reference Point Elevation: 97.21
Depth of Well	1479-1495	830-850	585-605	380-400	295-315	150-170
Aquifer Name	Sunnyside	Sunnyside	Silverado	Hollydale	Gage	Exposition
11/12/2008	-5.34	-1.23	2.97	6.02	36.57	41.42
1/5/2009	1.62	4.75	9.45	9.96	36.96	41.15
2/18/2009	2.34	5.31	10.28	10.55	36.81	40.91
3/30/2009	3.31	6.25	7.51	8.33	36.34	40.69
5/14/2009	-1.35	-1.31	4.39	7.02	35.91	40.42
6/23/2009	-4.16	-0.08	2.20	4.36	35.31	40.23
8/24/2009	-8.32	-4.61	-2.02	1.50	33.90	39.40
9/16/2009	-9.56	-5.57	-1.79	1.49	33.56	39.12
Gardena #1						Reference Point Elevation: 82.20
Depth of Well	970-990	445-465	345-365	120-140		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
12/19/2008	-54.50	-130.41	-97.00	-12.05		
12/23/2008	-54.53	-131.82	-97.30	-11.79		
2/18/2009	-55.36	-131.58	-98.14	-11.96		
2/20/2009	-55.30	-133.20	-98.38	-11.84		
3/26/2009	-55.43	-133.32	-98.74	-11.40		
4/9/2009	-57.80	-134.80	-99.61	-11.72		
6/29/2009	-56.30	-129.83	-97.41	-11.85		
8/24/2009	-56.95	-132.85	-99.01	-12.13		
9/22/2009	-57.20	-131.71	-99.10	-12.12		

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2008-2009

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Gardena #2						Reference Point Elevation: 26.74
Depth of Well	1275-1335	770-790	610-630	340-360	235-255	
Aquifer Name	Sunnyside	Silverado	Silverado	Lynwood	Gardena	
12/23/2008	-42.52	-56.68	-56.85	-23.86	-10.12	
1/15/2009	-42.86	-55.41	-55.33	-23.00	-10.11	
3/26/2009	-43.33	-58.35	-58.65	-24.39	-10.73	
4/3/2009	-43.81	-58.71	-58.99	-24.48	-10.73	
6/29/2009	-44.08	-58.16	-58.38	-24.60	-11.25	
7/10/2009	-44.17	-58.33	-58.58	-24.63	-11.40	
7/14/2009	-44.21	-58.56	-58.76	-24.71	-11.43	
8/19/2009	-44.44	-58.52	-58.76	-24.82	-11.60	
9/22/2009	-44.53	-58.64	-58.89	-24.88	-11.50	
Hawthorne #1						Reference Point Elevation: 86.35
Depth of Well	910-950	710-730	520-540	400-420	240-260	110-130
Aquifer Name	Sunnyside	Silverado	Silverado	Silverado	Lynwood	Gage
12/29/2008	-81.73	-11.99	-10.8	-10.59	-6.54	1.57
1/15/2009	-80.68	-12.04	-10.83	-10.63	-6.50	1.66
3/24/2009	-78.99	-13.44	-12.1	-11.86	-7.44	1.64
5/18/2009	-84.35	-14.08	-12.85	-12.6	-8.08	1.07
6/30/2009	-83.97	-13.83	-12.55	-12.33	-7.94	1.14
9/28/2009	-83.16	-13.82	-12.52	-12.26	-7.94	1.11
Huntington Park #1						Reference Point Elevation: 177.08
Depth of Well	890-910	690-710	420-440	275-295	114-134	
Aquifer Name	Silverado	Jefferson	Gage	Exposition	Gaspur	
12/19/2008	-29.36	-29.04	-22.28	15.04	Dry	
3/31/2009	-29.09	-27.93	-21.69	14.65	Dry	
5/20/2009	-32.08	-31.22	-24.2	14.21	Dry	
6/29/2009	-32.62	-34.12	-24.59	14.34	Dry	
9/28/2009	-32.22	-33.62	-25.8	13.11	Dry	
Inglewood #1						Reference Point Elevation: 110.56
Depth of Well	1380-1400		430-450	280-300	150-170	
Aquifer Name	Pico Formation	Abandoned	Silverado	Lynwood	Gage	
12/29/2008	-32.34		-46.17	-0.20	5.21	
3/24/2009	-32.32		-44.67	0.04	5.2	
4/21/2009	-32.39		-45.35	0.00	5.46	
5/9/2009	-32.65		-45.72	0.12	5.19	
6/25/2009	-32.38		-45.91	-0.06	5.32	
8/27/2009	-32.71		-46.34	-0.12	5.35	
9/24/2009	-33.08		-46.26	-0.09	5.43	
Inglewood #2						Reference Point Elevation: 217.33
Depth of Well	800-840	450-470	330-350	225-245		
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood		
12/29/2008	-24.89	-17.27	-6.24	-1.97		
3/24/2009	-25.00	-17.18	-6.04			
4/14/2009	-24.91	-16.95	-5.82			
6/25/2009	-25.16	-17.20	-6.01	-1.63		
9/30/2009	-25.65	-17.31	-5.95			
Lakewood #1						Reference Point Elevation: 37.91
Depth of Well	989-1009	640-660	450-470	280-300	140-160	70-90
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage	Artesia	Bellflower
10/23/2008	-108.23	-73.41	-71.14	-35.15	-18.54	11.01
12/30/2008	-66.90	-54.56	-52.29	-27.29	-12.70	11.42
3/30/2009	-57.22	-49.34	-47.12	-29.06	-14.32	11.85
5/4/2009	-108.83	-70.29	-60.61	-28.91	-13.84	11.39
6/30/2009	-79.38	-61.00	-57.37	-31.80	-16.22	11.16
9/23/2009	-79.86	-61.13	-57.29	-33.81	-18.04	9.960

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2008-2009

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
La Mirada #1						Reference Point Elevation: 75.85
Depth of Well	1130-1150	965-985	690-710	470-490	225-245	
Aquifer Name	Sunnyside	Silverado	Lynwood	Jefferson	Gage	
10/31/2008	-36.76	-34.74	-57.82	-70.7	-34.49	
12/24/2008	-33.49	-31.4	-38.07	-46.58	-24.84	
3/24/2009	-28.86	-26.01	-32.73	-44.85	-19.53	
4/22/2009	-27.57	-25.02	-39.45	-52.99	-23.65	
6/26/2009	-32.27	-29.33	-47.30	-62.10	-28.78	
9/3/2009	-35.99	-33.21	-50.84	-68.98	-33.30	
9/23/2009	-36.00	-32.84	-48.38	-67.08	-33.34	
Lomita #1						Reference Point Elevation: 76.91
Depth of Well	1240-1260	700-720	550-570	400-420	220-240	100-120
Aquifer Name	Sunnyside	Sunnyside	Silverado	Silverado	Gage	Gage
12/24/2008	-32.18	-19.05	-18.52	-18.37	-16.19	-18.17
3/30/2009	-31.69	-19.83	-20.61	-19.38	-17.25	-19.04
6/29/2009	-32.35	-20.02	-18.59	-18.9	-16.51	-18.43
8/10/2009	-32.19	-19.91	-18.37	-18.67	-16.58	-18.19
8/26/2009	-34.67	-20.34	-20.14	-18.39	-17.96	-20.54
9/22/2009	-33.23	-20.49	-19.02	-19.71	-16.79	-18.76
Long Beach #1						Reference Point Elevation: 28.69
Depth of Well	1430-1450	1230-1250	970-990	599-619	400-420	155-175
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Jefferson	Gage
10/31/2008	-38.71	-41.02	-82.58	-54.61	-51.83	-22.74
12/16/2008	-35.80	-37.56	-78.34	-50.43	-46.57	-19.04
3/26/2009	-38.72	-41.34	-75.06	-45.41	-42.65	-14.82
4/14/2009	-41.23	-42.63	-79.17	-46.33	-43.46	-17.11
6/26/2009	-43.95	-46.78	-80.20	-52.24	-49.70	-20.82
8/20/2009	-45.6	-48.20	-84.72	-48.34	-44.93	-22.32
8/25/2009	-45.22	-47.80	-82.00	-50.49	-47.39	-21.96
9/23/2009	-48.75	-52.04	-89.44	-47.60	-43.59	-22.31
Long Beach #2						Reference Point Elevation: 42.15
Depth of Well	970-990	720-740	450-470	280-300	160-180	95-115
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Jefferson	Gage
11/14/2008	-81.07	-48.37	-36.45	-12.40	-0.78	1.59
12/23/2008	-79.19	-46.58	-35.7	-11.41	-0.47	1.64
3/26/2009	-80.02	-44.72	-35.18	-11.07	-0.23	1.79
4/13/2009	-85.72	-46.44	-39.73	-10.39	-0.44	1.65
6/25/2009	-90.94	-49.65	-42.07	-12.22	-0.62	1.90
8/24/2009	-94.09	-51.67	-45.58	-13.46	-1.23	1.38
9/8/2009	-95.26	-51.74	-46.71	-13.95	-1.39	1.28
9/18/2009	-99.10	-51.65	-45.46	-13.77	-1.39	1.26
Long Beach #3						Reference Point Elevation: 24.60
Depth of Well	1350-1390	997-1017	670-690	530-550	410-430	
Aquifer Name	Sunnyside	Silverado	Silverado	Silverado	Lynwood	
12/30/2008	-37.00	-50.6	-50.62	-50.91	-1.48	
1/27/2009	-37.13	-53.75	-53.76	-53.98	-1.35	
2/4/2009	-37.10	-54.42	-54.42	-54.74	-1.36	
3/26/2009	-37.23	-51.17	-51.18	-51.44	-1.66	
3/27/2009	-37.29	-51.17	-52.09	-51.45	-2.09	
6/24/2009	-36.99	-53.91	-53.89	-54.27	-1.65	
9/18/2009	-38.32	-53.33	-53.36	-53.69	-1.70	
Long Beach #4						Reference Point Elevation: 9.52
Depth of Well	1200-1220	800-820				
Aquifer Name	Pico Formation	Sunnyside				
10/25/2007	-35.73	-18.82				
12/27/2007	-35.23	-17.52				
03/19/2008	-34.46	-16.11				
09/17/2008	-34.47	-15.11				

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2008-2009

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Long Beach #6						Reference Point Elevation: 32.53
Depth of Well	1490-1510	930-950	740-760	480-500	380-400	220-240
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Lynwood	Gage
10/31/2008	-46.72	-64.22	-65.19	-101.46	-101.68	-41.51
12/23/2008	-43.47	-52.51	-53.4	-99.58	-99.65	-39.46
3/20/2009	-47.74	-65.78	-66.75	-98.36	-98.60	-38.21
4/2/2009	-49.22	-67.85	-69.05	-109.53	-109.58	-38.89
6/25/2009	-54.17	-72.3	-73.2	-103.28	-103.51	-41.61
9/1/2009	-56.66	-74.85	-75.92	-108.34	-108.11	-41.81
9/23/2009	-59.54	-80.30	-81.52	-125.02	-124.84	-41.60
Long Beach #8						Reference Point Elevation: 17.78
Depth of Well	1435-1455	1020-1040	780-800	635-655	415-435	165-185
Aquifer Name	Pico Formation	Sunnyside	Silverado	Silverado	Lynwood	Gage
12/30/2008	-16.83	-33.84	-47.45	-45	-44.73	2.41
3/25/2009	-17.05	-34.54	-47.2	-44.69	-44.43	2.34
6/30/2009	-17.16	-35.1	-49.54	-46.81	-46.56	2.25
9/28/2009	-18.5	-36.71	-50.45	-47.77	-47.51	1.23
Los Angeles #1						Reference Point Elevation: 173.63
Depth of Well	1350-1370	1080-1100	920-940	640-660	350-370	
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Gage	
12/31/2008	-24.34	-24.58	-24.69	-27.81	-20.67	
3/24/2009	-23.64	-23.62	-25.05	-28.14	-20.43	
5/12/2009	-24.65	-24.76	-26.07	-28.2	-20.58	
6/25/2009	-25.07	-24.99	-25.32	-28.21	-20.36	
9/23/2009	-25.85	-24.62	-25.58	-32.42	-20.66	
Montebello #1						Reference Point Elevation: 192.60
Depth of Well	960-980	690-710	500-520	370-390	210-230	90-110
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Gage	Exposition
11/12/2008	89.29	83.3	82.58	79.05	79.01	Dry
12/23/2008	89.26	84.35	83.75	80.5	78.33	Dry
1/21/2009	90.92	85.75	85.05	82.53	79.12	Dry
3/30/2009	96.42	93.57	92.87	88.73	82.88	Dry
5/7/2009	93.02	87.08	86.37	82.85	82.25	Dry
6/30/2009	88.14	80.46	79.79	76.85	78.62	Dry
9/30/2009	80.24	72.99	72.35	69.75	73.5	Dry
Norwalk #1						Reference Point Elevation: 95.44
Depth of Well	1400-1420	990-1010	720-740	430-450	220-240	
Aquifer Name	Sunnyside	Silverado	Lynwood	Jefferson	Gage	
10/31/2008	26.42	-15.96	5.31	-2.26	-1.31	
12/16/2008	28.54	-15.31	6.27	-0.18	-0.02	
1/27/2009	30.19	-12.42	9.03	1.59	1.02	
3/24/2009	30.53	-10.88	10.44	2.66	1.88	
4/29/2009	28.83	-11.92	9.03	0.4	0.26	
6/30/2009	26.63	-16.06	5.73	-1.59	-0.93	
9/17/2009	22.98	-19.5	1.5	-3.61	-2.71	
Norwalk #2						Reference Point Elevation: 107.4
Depth of Well	1460-1480	1260-1280	960-980	800-820	480-500	236-256
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gardena	Exposition
10/10/2008	9.26	9.29	3.64	6.2	16.13	26.41
11/14/2008	8.44	8.49	3.21	5.7	16.56	26.6
12/24/2008	9.15	9.23	6.27	9.88	19.62	28.21
1/14/2009	10.58	10.63	8.32	11.67		
3/25/2009	13.13	13.15	11.4	14.39	22.13	28.96
4/28/2009	11.72	11.77	8.55	11.22	18.95	27.24
6/26/2009	8.15	8.23	2.72	5.49	14.74	24.57
9/23/2009	3.56	3.6	-2.84	-0.6	11.62	21.46

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2008-2009

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Pico #1						Reference Point Elevation: 181.06
Depth of Well	860-900	460-480	380-400	170-190		
Aquifer Name	Pico Formation	Silverado	Silverado	Gardena		
11/10/2008	132.06	102.33	101.04	110.38		
12/12/2008	129.55	110.79	108.66	110.50		
12/30/2008	130.56	118.43	118.06	115.66		
3/24/2009	137.94	129.37	125.89	128.01		
4/20/2009	138.53	114.13	115.91	124.62		
6/30/2009	129.8	102.93	101.16	101.94		
9/14/2009	124.37	96.57	94.48	101.3		
9/23/2009	123.46	96.56	94.14	100.38		
Pico #2						Reference Point Elevation: 149.6
Depth of Well	1180-1200	830-850	560-580	320-340	235-255	100-120
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gaspur
10/8/2008	67.89	63.53	68.83	80.61	81.19	
11/10/2008	66.07	61.84	66.48	74.13	75.00	81.68
12/23/2008	69.69	69.15	71.74	77.43	76.22	83.15
1/26/2009	69.98	67.82	71.01	77.88	77.16	82.35
3/30/2009	79.32	76.41	82.37	88.86	88.36	93.32
5/14/2009	69.96	66.85	73.35	80.28	80.83	90.77
6/10/2009	66.38	63.36	68.8	80.95	80.62	88.2
7/14/2009	60.12	59.34	64.1	77.75	77.82	86.83
9/28/2009	53.84	50.89	56.96	70.9	70.76	76.87
PM-3 Madrid						Reference Point Elevation: 70.68
Depth of Well	640-680	480-520	240-280	145-185		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
12/23/2008	-11.53	-8.56	-8.51	-8.45		
3/25/2009	-11.89	-8.89	-8.83	-8.81		
4/8/2009	-12.16	-9.17	-9.15	-9.14		
6/30/2009	-12.52	-9.48	-9.37	-9.33		
8/25/2009	-12.74	-9.73	-9.64	-9.65		
9/22/2009	-12.80	-9.80	-9.75	-9.72		
PM-4 Mariner						Reference Point Elevation: 97.7
Depth of Well	670-710	500-540	340-380	200-240		
Aquifer Name	Sunnyside	Silverado	Lynwood	Lynwood		
12/24/2008	-5.92	-3.85	-0.77	-0.74		
3/26/2009	-6.84	-4.04	-1.05	-1.02		
4/5/2009	-6.91	-4.36	-1.22	-1.21		
6/30/2009	-7.39	-5.22	-2.15	-2.06		
9/22/2009	-7.76	-6.01	-2.88	-2.84		
PM-5 Columbia Park						Reference Point Elevation: 76.72
Depth of Well	1195-1235	905-925	770-790	530-550	390-410	240-260
Aquifer Name	Not Defined	Not Defined	Not Defined	Not Defined	Not Defined	Not Defined
5/29/2009	-38.71	-47.06	-11.03	-8.49	-2.47	-2.08
6/18/2009	-36.32	-47.13	-10.55	-7.87	-2.5	-2.08
9/22/2009	-37.58	-47.45	-10.51	-8.15	-2.82	-2.45
PM-6 Madrona Marsh						Reference Point Elevation: 79
Depth of Well	1195-1235	905-925	770-790	530-550	390-410	240-260
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Lynwood	Gage
9/4/2009	-34.34	-13.9	-12.05	-5.28	-4.24	-3.8
9/29/2009	-37.34	-14.2	-12.65	-5.56	-4.45	-4.01
Rio Hondo #1						Reference Point Elevation: 144.36
Depth of Well	1110-1130	910-930	710-730	430-450	280-300	140-160
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gardena
12/24/2008	64.28	64.43	63.69	53.8	59.28	60.93
2/2/2009	65.39	62.22	61.43	50.63	56.47	58.66
2/5/2009	65.29	62.39	61.61	49.93	56.19	58.42
2/11/2009	66.51	67.37	66.64	56.12	61.94	63.88
3/23/2009	72.99	72.69	71.87	61.77	69.75	71.77
5/5/2009	67.48	63.12	62.19	53.15	62.03	64.36
6/26/2009	60.38	55.94	55.1	45.73	55.27	58.14
8/18/2009	55.71	52.71	51.93	42.47	51.15	53.72
9/14/2009	53.06	48.42	47.54	39.16	48.41	51.16
9/21/2009	52.86	49.03	48.18	35.88	47.63	50.57

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2008-2009

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
South Gate #1						Reference Point Elevation: 90.96
Depth of Well	1440-1460	1320-1340	910-930	565-585	220-240	
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Exposition	
1/8/2009	-11.1	-8.56	-2.87	-4.74	32.55	
3/27/2009	-10.56	-8.34	-3.36	-7.18	32.22	
4/2/2009	-10.97	-8.81	-3.96	-6.95	32.16	
5/20/2009	-15.38	-12.72	-7.11	-10.67	31.68	
7/2/2009	-17.98	-15.69	-9.52	-12.79	31.25	
9/30/2009	-21.13	-18.76	-13.91	-12.59	29.86	
Westchester #1						Reference Point Elevation: 124.27
Depth of Well	740-760	560-580	455-475	310-330	215-235	
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Gage	
12/29/2008	1.97	8.76	8.98	9.03	9.10	
3/24/2009	1.98	8.79	9.01	9.06	9.12	
4/9/2009	1.45	8.64	8.49	7.91	9.00	
6/25/2009	1.65	8.58	8.76	8.79	8.84	
8/26/2009	1.62	9.27	8.72	8.75	8.79	
9/24/2009	0.53	8.56	8.78	9.00	8.85	
Whittier #1						Reference Point Elevation: 217.17
Depth of Well	1180-1200	920-940	600-620	450-470	200-220	
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gage	
10/31/2008	122.73	122.81	114.95	112.11	198.59	
12/30/2008	122.41	122.47	114.82	112.09	198.99	
3/24/2009	122.06	122.01	114.76	112.15	199.81	
4/22/2009	121.84	121.86	113.98	112.05		
6/30/2009	120.4	121.44	113.34	111.15	199.22	
9/2/2009	120.64	120.75	112.39	110.22	198.76	
9/23/2009	120.52	120.56	111.99	109.68	198.52	
Whittier #2						Reference Point Elevation: 165.17
Depth of Well	1370-1390	1090-1110	655-675	425-445	315-335	150-170
Aquifer Name	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood	Gardena
12/30/2008	87.71	88.23	83.15	85.39	95.42	102.65
3/6/2009	93.46	93.49	93.31	94.39	102.78	106.16
3/24/2009	94.27	94.36	92.95	92.04	102.44	106.71
4/24/2009	92.26	92.69		85.17	100.97	106.78
6/26/2009	87.28	87.57	70.46	71.69	93.92	103.26
8/17/2009	83.22	83.6	66.01	66.79	89.26	100.05
9/28/2009	80.99	81.35	60.87	62.07	87.26	98.00
Willowbrook #1						Reference Point Elevation: 96.21
Depth of Well	885-905	500-520	360-380	200-220		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
11/14/2008	-53.07	-36.18	-38.64	-38.17		
12/23/2008	-48.17	-34.86	-36.83	-37.44		
3/24/2009	-51.65	-35.52	-38.58	-37.87		
5/11/2009	-53.63	-36.41	-39.72	-39.03		
5/12/2009	-53.64	-36.4	-39.67	-38.89		
5/26/2009	-54.05	-37.05	-39.4	-38.72		
6/24/2009	-54.26	-36.73	-39.85	-39.09		
8/7/2009	-54.58	-37.69	-41.23	-40.34		
9/16/2009	-54.82	-37.99	-41.47	-40.71		
Wilmington #1						Reference Point Elevation: 37.96
Depth of Well	915-935	780-800	550-570	225-245	120-140	
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gage	
12/24/2008	-48.8	-49.26	-49.34	-17.79	-14.35	
1/27/2009	-52.02	-52.46	-52.56	-17.96	-14.39	
2/4/2009	-52.73	-53.21	-53.29	-17.92	-14.31	
3/26/2009	-48.87	-49.38	-49.45	-17.19	-13.67	
6/30/2009	-51.57	-52.14	-52.11	-17.67	-13.97	
8/17/2009	-50.78	-51.34	-51.31	-17.73	-14.1	
9/18/2009	-50.71	-52.14	-51.26	-17.5	-13.82	

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2008-2009

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Wilmington #2						Reference Point Elevation: 29.78
Depth of Well	950-970	755-775	540-560	390-410	120-140	
Aquifer Name	Sunnyside	Silverado	Lynwood	Lynwood	Gage	
12/23/2008	-34.92	-30.12	-25.47	-24.57	-6.97	
3/26/2009	-35.35	-30.52	-25.8	-24.9	-6.74	
4/7/2009	-36.68	-31.49	-26.48	-25.53	-6.83	
6/30/2009	-37.1	-31.86	-26.41	-25.89	-6.83	
9/18/2009	-36.32	-31.12	-26.25	-25.29	-7.84	
9/30/2008	-32.37	-28.32	-23.89	-23.07	-6.62	
Whittier Narrows #1						Reference Point Elevation: 215.14
Depth of Well	749-769	609.5-629	462.5-482.5	392.5-402	334-343.5	272.5-282.5
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood
3/28/2009	170.27	173.18	176.78	184.19	185.1	186.47
9/6/2009	168.56	169.97	172.32	177.05	178.01	179.29
				ZONE 7	**ZONE 8**	**ZONE 9**
Depth of Well				233.5-243	163-173	95-104.5
Aquifer Name				Jefferson	Gardena	Gaspur
3/28/2009				186.42	186.45	187.82
9/6/2009				179.2	179.22	181.72
Whittier Narrows #2						Reference Point Elevation: 209.08
Depth of Well	659-678	579-598	469-488	419-428	329-338	263-273
Aquifer Name	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Not Defined
3/27/2009	-11.24	-11.07	-9.97	-1.75	111.3	164.11
9/5/2009	-13.78	-13.62	-13.59	-5.31	99.31	153.64
				ZONE 7	**ZONE 8**	**ZONE 9**
Depth of Well				214-224	136-145	91-100
Aquifer Name				Not Defined	Not Defined	Gardena
3/27/2009				165.07	165.8	170.82
9/5/2009				154.7	155.43	163.36

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Bell #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				9/28/09	9/28/09	9/28/09	9/28/09	9/28/09	9/28/09
General Mineral									
Total Dissolved Solid (TDS)	mg/l	1000	S	920	330	290	340	420	620
Cation Sum	meq/l			17	5.6	5.1	6	7.2	11
Anion Sum	meq/l			17	5.6	5.1	6	7.2	10
Iron, Total, ICAP	mg/l	0.3	S	0.11	ND	ND	ND	ND	0.021
Manganese, Total, ICAP/MS	ug/l	50	S	19	**69**	**50**	**64**	2.7	16
Turbidity	NTU	5	S	0.5	0.41	0.2	2	0.26	**11**
Alkalinity	mg/l			640	170	160	180	180	240
Boron	mg/l	1	N	**1.6**	0.12	0.12	0.15	0.13	0.15
Bicarbonate as HCO3,calcula	mg/l			780	210	190	220	220	290
Calcium, Total, ICAP	mg/l			12	47	44	52	70	110
Carbonate as CO3, Calculated	mg/l			10	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			52	160	150	180	250	380
Chloride	mg/l	500	S	140	21	27	28	47	100
Fluoride	mg/l	2	P	0.45	0.25	0.43	0.45	0.34	0.39
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.83	0.67	0.57	0.69	0.72	0.93
Magnesium, Total, ICAP	None			5.4	10	11	13	18	29
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	1.2	2.1
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			5.2	2.7	3.2	3.3	2.7	3.1
Sodium, Total, ICAP	mg/l			370	54	46	52	50	66
Sulfate	mg/l	500	S	1.2	76	56	73	110	120
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	1.2	2.1
Total Organic Carbon	mg/l			17	0.46	0.53	0.55	ND	0.46
Carbon Dioxide	mg/l			6.4	2.5	2.6	3.1	3.8	6.1
General Physical									
Apparent Color	ACU	15	S	**300**	3	3	5	ND	5
Lab pH	Units			8.3	8.1	8.1	8.1	8	7.9
Odor	TON	3	S	2	2	1	1	2	**3**
pH of CaCO3 saturation(25C)	Units			7.5	7.5	7.5	7.4	7.3	7
pH of CaCO3 saturation(60C)	Units			7	7	7.1	6.9	6.8	6.5
Specific Conductance	µmho/cm	1600	S	**1600**	550	510	580	710	1000
Metal									
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	28
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.7	ND	ND	2.4	4.3	4.8
Barium, Total, ICAP/MS	ug/l	1000	P	12	35	34	62	230	89
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.8	4.1	3.1	4.2	3.9	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	4.5	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	5.1	ND	ND	ND	8.5	6.6
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	29	ND	ND	ND	ND	ND
Volatile Organic Compound									
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	0.52	**5**
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	1.4	2.4

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Bell Gardens #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/22/09	9/25/09	5/22/09	9/25/09	5/22/09	9/25/09	5/22/09	9/25/09	5/22/09	9/25/09	5/22/09	9/25/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	444	440	258	280	454	420	376	320	352	770	398	360
Cation Sum	meq/l			7	6.8	4.7	4.7	7.1	6.7	5.7	5.4	5.4	5.3	6.2	5.9
Anion Sum	meq/l			7.2	7.2	4.7	4.9	6.9	7.2	5.6	5.8	5.2	5.5	6.1	6.3
Iron, Total, ICAP	mg/l	0.3	S	ND	0.037	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	49	48	**53**	**53**	ND	ND	ND	ND	ND	ND	ND	ND
Turbidity	NTU	5	S	0.1	0.23	0.2	0.28	0.1	0.25	0.15	0.28	0.05	0.7	0.2	0.18
Alkalinity	mg/l			165	170	159	160	146	150	127	130	139	140	157	160
Boron	mg/l	1	N	0.1		0.13	0.13	0.17	0.17	0.16	0.16	0.18	0.17	0.16	0.16
Bicarbonate as HCO3,calcula	mg/l			201	200	193	190	178	180	155	160	169	170	191	190
Calcium, Total, ICAP	mg/l			93	87	38	37	75	69	54	49	53	49	64	59
Carbonate as CO3, Calculated	mg/l			ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			286	270	126	120	241	220	176	160	174	170	209	190
Chloride	mg/l	500	S	49	50	28	31	61	64	44	45	33	37	41	42
Fluoride	mg/l	2	P	0.17	0.2	0.26	0.28	0.28	0.32	0.37	0.41	0.19	0.22	0.31	0.35
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.9	0.9	0.6	0.58	0.7	0.64	0.5	0.44	0.4	0.41	0.5	0.58
Magnesium, Total, ICAP	None			13	13	7.6	7.6	13	13	10	9.6	10	10	12	12
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	2.3	2.5	1.7	1.8	1.7	1.9	1.8	1.9
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			2.1	2	2.5	2.3	3.4	3.1	3.1	2.9	2.8	2.6	3.2	3
Sodium, Total, ICAP	mg/l			29	30	49	50	50	50	48	48	43	44	45	45
Sulfate	mg/l	500	S	120	120	34	38	100	110	79	85	67	72	79	85
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	2.3	2.5	1.7	1.8	1.7	1.9	1.8	1.9
Total Organic Carbon	mg/l			ND	ND	0.37	0.41	0.36	0.4	ND	0.33	0.3	0.31	ND	ND
Carbon Dioxide	mg/l			2.6	2.6	2	2.1	2.9	2.9	2.5	2.6	3.5	3.3	3.9	3.4
General Physical															
Apparent Color	ACU	15	S	3	3	5	5	ND	ND	ND	ND	ND	ND	3	ND
Lab pH	Units			8.1	8.1	8.2	8.2	8	8	8	8	7.9	7.9	7.9	8
Odor	TON	3	S	2	2	1	2	1	2	1	2	1	1	1	2
pH of CaCO3 saturation(25C)	Units			7.2	7.2	7.6	7.6	7.3	7.4	7.5	7.6	7.5	7.5	7.4	7.4
pH of CaCO3 saturation(60C)	Units			6.7	6.8	7.1	7.1	6.9	6.9	7.1	7.1	7	7.1	6.9	6.9
Specific Conductance	µmho/cm	1600	S	699	690	480	480	721	710	589	570	548	550	629	610
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.9	2.6	ND	ND	2.9	ND	2.5	2.4	1.3	1.5	2	2.3
Barium, Total, ICAP/MS	ug/l	1000	P	87	93	56	54	120	130	45	45	48	52	53	51
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	3.3	ND	3.2	1	3.4	1	3.2	ND	3.7	1	4
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	2.8	2.7	1.1	0.96
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	2.2
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9	0.59
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Cerritos #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/6/09	8/31/09	4/6/09	8/31/09	4/6/09	8/31/09	4/6/09	8/31/09	4/6/09	8/31/09	4/6/09	8/31/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	272	270	256	270	300	310	282	280	244	270	260	260
Cation Sum	meq/l			4.7	4.6	4.4	4.7	5.1	5.4	4.8	5.2	4.6	4.6	4.6	4.5
Anion Sum	meq/l			4.8	4.7	4.4	4.5	5.1	5.1	4.9	4.8	4.5	4.5	4.6	4.6
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	0.02	ND	0.023	0.077	0.088	0.056	0.06	0.055	0.063
Manganese, Total, ICAP/MS	ug/l	50	S	29	26	32	28	**52**	**50**	**82**	**77**	**120**	**120**	**140**	**140**
Turbidity	NTU	5	S	0.05	0.11	0.1	0.062	0.1	0.11	0.55	0.24	0.2	0.31	**9**	0.64
Alkalinity	mg/l			166	160	160	160	167	170	181	180	182	180	189	190
Boron	mg/l	1	N	0.083	0.076	0.068	0.077	0.086	0.094	0.084	0.089	0.087	0.09	0.079	0.07
Bicarbonate as HCO3,calcula	mg/l			202	190	195	200	203	200	220	210	221	220	230	230
Calcium, Total, ICAP	mg/l			34	33	33	35	41	43	45	49	39	39	46	44
Carbonate as CO3, Calculated	mg/l			2.1	2.5	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			104	100	105	110	128	140	158	170	137	140	154	150
Chloride	mg/l	500	S	15	15	13	13	19	19	13	14	10	10	10	10
Fluoride	mg/l	2	P	0.25	0.28	0.36	0.41	0.37	0.44	0.5	0.57	0.44	0.51	0.3	0.35
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.66	0.5	0.65	0.6	0.58	0.6	0.69	0.5	0.63	0.6	0.68
Magnesium, Total, ICAP	None			4.7	4.6	5.4	5.4	6.3	6.8	11	11	9.7	9.6	9.4	9.2
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			2.1	2.1	2.2	2.3	2	2.2	1.9	2.1	2	2	2	2
Sodium, Total, ICAP	mg/l			58	58	52	55	57	61	37	40	41	41	35	34
Sulfate	mg/l	500	S	51	51	41	41	59	58	41	43	29	29	25	
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.065	0.053	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31	0.3
Carbon Dioxide	mg/l			2.1	ND	2.5	ND	2.6	2.8	3.6	2.7	3.6	2.5	3.8	2.8
General Physical															
Apparent Color	ACU	15	S	3	ND	5	ND	3	ND	5	ND	5	ND	5	ND
Lab pH	Units			8.2	8.3	8.1	8.3	8.1	8.1	8	8.1	8	8.2	8	8.1
Odor	TON	3	S	2	1	2	**3**	2	1	2	2	2	2	1	1
pH of CaCO3 saturation(25C)	Units			7.6	7.6	7.6	7.6	7.5	7.5	7.4	7.4	7.5	7.5	7.4	7.4
pH of CaCO3 saturation(60C)	Units			7.2	7.2	7.2	7.2	7.1	7.1	7	7	7.1	7.1	7	7
Specific Conductance	µmho/cm	1600	S	460	460	428	430	497	500	459	470	431	430	435	440
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	**14**	**15**	**11**	**12**	**20**	**19**	4.8	5.5	9.3	9	**36**	**36**
Barium, Total, ICAP/MS	ug/l	1000	P	52	47	110	94	130	110	65	59	85	76	110	96
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Cerritos #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/6/09	8/31/09	4/6/09	8/31/09	4/6/09	8/31/09	4/6/09	8/31/09	4/6/09	8/31/09	4/6/09	8/31/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	200	210	500	490	194	230	232	240	228	230	924	970
Cation Sum	meq/l			3.6	4	8.3	8.4	3.8	3.8	4.2	4.4	4.1	4.1	16	16
Anion Sum	meq/l			3.6	3.6	8.5	8.3	3.7	3.8	4.1	4.2	3.7	4.3	16	17
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.028	0.031	0.082	0.085	0.24	0.24
Manganese, Total, ICAP/MS	ug/l	50	S	14	12	ND	ND	42	39	**90**	**89**	**110**	**110**	**720**	**780**
Turbidity	NTU	5	S	0.1	0.15	0.1	0.094	0.15	0.81	0.3	0.18	0.25	0.29	0.4	2
Alkalinity	mg/l			152	150	180	170	160	170	178	180	161	190	340	350
Boron	mg/l	1	N	0.055	ND	0.14	0.13	0.064	0.054	0.076	0.065	0.074	0.067	0.11	0.094
Bicarbonate as HCO3,calcula	mg/l			185	180	219	210	194	200	217	220	196	230	414	430
Calcium, Total, ICAP	mg/l			41	46	95	97	44	46	51	53	51	50	200	210
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	2	ND	ND	ND	ND	2.1	ND	2.2
Hardness (Total, as CaCO3)	mg/l			125	140	311	320	135	140	162	170	157	160	668	690
Chloride	mg/l	500	S	5.9	5.8	75	74	5.3	5.3	6.1	6.1	5.9	5.9	160	170
Fluoride	mg/l	2	P	0.28	0.31	0.36	0.39	0.29	0.32	0.4	0.45	0.33	0.37	0.24	0.35
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.5	0.58	0.8	0.83	0.7	0.69	0.6	0.75	0.7	0.76	1.2	1.4
Magnesium, Total, ICAP	None			5.4	5.8	18	19	6	6.1	8.5	8.7	7.2	7.2	41	42
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	3.3	3.3	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			2.7	2.8	4.2	4.3	2.5	2.4	2.6	2.6	2.7	2.7	4.4	4.5
Sodium, Total, ICAP	mg/l			24	26	45	45	23	23	21	21	21	21	55	55
Sulfate	mg/l	500	S	20	20	120	120	17	17	17	17	16	16	230	230
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	3.3	3.3	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	0.38	0.44	ND	ND	0.48	ND	ND	ND	1.4	1.3
Carbon Dioxide	mg/l			2.4	2.3	4.5	3.8	2	2.2	3.6	2.7	2.6	2.6	14	8.8
General Physical															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	3	3	5	3
Lab pH	Units			8.1	8.1	7.9	8	8.2	8.2	8	8.1	8.1	8.2	7.7	7.9
Odor	TON	3	S	2	2	2	1	2	**3**	2	2	2	2	2	**3**
pH of CaCO3 saturation(25C)	Units			7.6	7.5	7.1	7.1	7.5	7.5	7.4	7.4	7.4	7.4	6.5	6.5
pH of CaCO3 saturation(60C)	Units			7.1	7.1	6.7	6.7	7.1	7	7	6.9	7	6.9	6.1	6.1
Specific Conductance	µmho/cm	1600	S	353	350	811	810	353	360	397	400	393	390	1480	1500
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.5	2.6	2.5	2.3	3.2	3	8.3	8.1	**19**	**17**	7.3	7.7
Barium, Total, ICAP/MS	ug/l	1000	P	110	100	170	170	120	110	170	150	180	160	130	120
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		1.2		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Commerce #1									
				Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/7/09	9/21/09	5/7/09	9/21/09	5/7/09	9/21/09	5/7/09	9/21/09	5/7/09	9/21/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	710	640	534	460	526	500	458	480	402	390
Cation Sum	meq/l			11	12	8.2	8.8	8.5	9	7.8	8.5	6.6	6.9
Anion Sum	meq/l			12	12	8.3	8.5	8.8	8.7	7.9	8	6.7	6.6
Iron, Total, ICAP	mg/l	0.3	S	ND	0.031	0.079	0.084	0.073	0.059	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	10	13	**50**	48	**68**	**66**	ND	ND	ND	ND
Turbidity	NTU	5	S	0.95	2.3	0.2	0.58	0.45	0.33	0.45	0.86	0.9	1.2
Alkalinity	mg/l			323	320	230	230	206	200	188	180	176	170
Boron	mg/l	1	N	0.53	0.55	0.23	0.23	0.24	0.25	0.15		0.13	
Bicarbonate as HCO3,calcula	mg/l			393	390	280	270	251	240	229	220	214	200
Calcium, Total, ICAP	mg/l			53	55	60	64	48	51	74	83	58	63
Carbonate as CO3, Calculated	mg/l			2.6	3	ND	2.1	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			226	240	232	250	202	210	275	310	223	240
Chloride	mg/l	500	S	180	190	100	110	120	120	72	76	62	63
Fluoride	mg/l	2	P	0.36	0.38	0.34	0.36	0.42	0.44	0.36	0.36	0.45	0.47
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.9	0.96	0.8	0.88	0.6	0.62	0.7	0.72	0.5	0.62
Magnesium, Total, ICAP	None			24	25	20	22	20	21	22	24	19	20
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	4	4.2	6.3	6.5
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			5.5	6	3.3	3.6	3.3	3.5	2.2	2.4	1.8	1.8
Sodium, Total, ICAP	mg/l			150	160	80	86	100	110	51	54	47	48
Sulfate	mg/l	500	S	ND	ND	43	41	62	65	88	93	46	48
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	4	4.2	6.3	6.5
Total Organic Carbon	mg/l			3.8	4.1	0.91	0.92	0.79	0.76	ND	0.31	ND	ND
Carbon Dioxide	mg/l			6.4	5.5	4.6	3.7	4.1	4.3	4.7	4.6	4.4	3.8
General Physical													
Apparent Color	ACU	15	S	**20**	**20**	3	3	ND	5	ND	ND	ND	ND
Lab pH	Units			8	8.1	8	8.1	8	8	7.9	7.9	7.9	8
Odor	TON	3	S	**3**	**40**	2	2	2	2	**3**	2	1	1
pH of CaCO3 saturation(25C)	Units			7.1	7.1	7.2	7.2	7.4	7.3	7.2	7.2	7.4	7.3
pH of CaCO3 saturation(60C)	Units			6.7	6.7	6.8	6.8	6.9	6.9	6.8	6.7	6.9	6.9
Specific Conductance	umho/cm	1600	S	1160	1200	829	860	869	880	773	800	656	670
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	23	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	82	85	87	97	250	230	80	86	52	57
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	1.4	ND	2	ND	6.9	8.5	10	14
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	100	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	1.8	1.4	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.5	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		2.8		2.4

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Compton #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/15/09	9/9/09	4/15/09	9/9/09	4/15/09	9/9/09	4/15/09	9/9/09
General Mineral											
Total Dissolved Solid (TDS)	mg/l	1000	S	232	240	296	290	312	340	326	350
Cation Sum	meq/l			4.2	4.1	5	4.9	5.4	5.3	5.7	5.8
Anion Sum	meq/l			3.9	4	4.7	4.9	5.1	5.2	5.4	5.5
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	ND	0.03	0.031	0.074	0.083
Manganese, Total, ICAP/MS	ug/l	50	S	16	17	21	19	**61**	**59**	**87**	**86**
Turbidity	NTU	5	S	0.7	0.2	0.1	0.064	0.65	0.5	1	0.7
Alkalinity	mg/l			175	180	145	150	162	160	168	170
Boron	mg/l	1	N	0.16	0.16	0.1	0.11	0.12	0.12	0.096	0.1
Bicarbonate as HCO3,calcula	mg/l			212	220	176	180	197	200	204	210
Calcium, Total, ICAP	mg/l			22	22	41	42	52	51	61	63
Carbonate as CO3, Calculated	mg/l			3.5	3.1	2.3	2.2	2	ND	2.1	ND
Hardness (Total, as CaCO3)	mg/l			63.2	63	117	120	169	170	179	180
Chloride	mg/l	500	S	13	14	21	23	23	25	21	20
Fluoride	mg/l	2	P	0.31	0.33	0.33	0.36	0.27	0.29	0.27	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.57	0.7	0.71	0.8	0.73	0.8	0.8
Magnesium, Total, ICAP	None			2	2	3.6	3.5	9.4	9.3	6.5	6.6
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			1.6	1.6	1.8	1.8	2.7	2.8	2.6	2.7
Sodium, Total, ICAP	mg/l			66	65	59	57	44	44	46	46
Sulfate	mg/l	500	S	ND	1.5	59	61	57	59	71	70
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.4	3.2	0.74	0.73	0.59	0.55	ND	ND
Carbon Dioxide	mg/l			ND	ND	ND	ND	2	2.2	2.1	2.5
General Physical											
Apparent Color	ACU	15	S	**30**	**20**	10	5	5	5	3	3
Lab pH	Units			8.4	8.3	8.3	8.3	8.2	8.2	8.2	8.1
Odor	TON	3	S	**3**	2	2	**3**	**4**	**3**	**4**	**3**
pH of CaCO3 saturation(25C)	Units			7.8	7.8	7.6	7.6	7.4	7.4	7.4	7.3
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7.1	7.1	7	7	6.9	6.9
Specific Conductance	µmho/cm	1600	S	378	380	478	470	502	500	542	530
Metal											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	**18**	**24**
Barium, Total, ICAP/MS	ug/l	1000	P	8.7	10	15	13	63	63	170	160
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	2.1	ND	2.2	ND	2.5	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Compton #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/21/09	9/15/09	5/21/09	9/15/09	5/21/09	9/15/09	5/21/09	9/15/09	5/21/09	9/15/09	5/21/09	9/15/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	596	570	350	340	300	310	336	360	406	400	480	470
Cation Sum	meq/l			9.5	11	5.8	6	4.9	4.9	5.9	6.2	6.4	6.6	7.5	8.2
Anion Sum	meq/l			9.7	10	5.9	6.4	4.9	5.3	6	6.3	6.3	6.8	7.5	8
Iron, Total, ICAP	mg/l	0.3	S	ND	0.11	ND	0.032	ND	ND	ND	0.031	ND	0.049	ND	0.042
Manganese, Total, ICAP/MS	ug/l	50	S	13	13	38	35	32	32	45	42	**110**	**99**	16	48
Turbidity	NTU	5	S	3.8	2.1	1.7	0.3	0.3	0.86	0.1	0.25	**16**	**10**	**26**	**9.4**
Alkalinity	mg/l			467	490	277	300	158	170	182	190	190	200	181	190
Boron	mg/l	1	N	0.66	0.73	0.18	0.18	0.11	0.1	0.12	0.11	0.12	0.12	0.16	0.16
Bicarbonate as HCO3,calcula	mg/l			567	600	337	360	192	200	221	230	231	240	220	230
Calcium, Total, ICAP	mg/l			12	13	26	27	42	43	61	64	58	63	77	82
Carbonate as CO3, Calculated	mg/l			7.4	8.3	2.8	3.7	2	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			38.6	41	85.5	88	130	130	193	210	198	220	262	290
Chloride	mg/l	500	S	13	15	13	14	19	22	27	29	32	37	67	74
Fluoride	mg/l	2	P	0.41	0.37	0.27	0.24	0.22	0.2	0.24	0.21	0.31	0.28	0.38	0.33
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.7	0.76	0.6	0.74	0.7	0.68	0.8	0.84	0.8	0.76	0.6	0.77
Magnesium, Total, ICAP	None			2.1	2.3	5	5.1	6.1	6.4	10	11	13	14	17	20
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			2.7	3	4	4	2.6	2.5	2.6	2.6	4	4.1	3.8	4.7
Sodium, Total, ICAP	mg/l			200	230	92	95	51	50	45	46	53	51	50	54
Sulfate	mg/l	500	S	ND	ND	ND	ND	56	63	74	81	76	87	93	100
Surfactants	mg/l	0.5	S	ND	0.064	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			14	16	3.4	3.2	0.66	0.68	0.32	0.47	0.76	0.41	1.3	0.53
Carbon Dioxide	mg/l			4.7	4.6	4.4	3.7	2	2.2	2.9	3	3	3.8	5.7	4.3
General Physical															
Apparent Color	ACU	15	S	**100**	**150**	**20**	**30**	10	10	3	ND	**15**	10	**15**	3
Lab pH	Units			8.3	8.3	8.1	8.2	8.2	8.2	8.1	8.1	8.1	8	7.8	7.9
Odor	TON	3	S	**8**	**3**	**3**	2	1	2	1	2	1	2	2	2
pH of CaCO3 saturation(25C)	Units			7.6	7.6	7.5	7.5	7.5	7.5	7.3	7.3	7.3	7.3	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7.2	7.1	7.1	7	7.1	7.1	6.9	6.8	6.9	6.8	6.8	6.7
Specific Conductance	µmho/cm	1600	S	906	900	565	560	489	490	587	580	636	630	751	740
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	26	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	3	ND	2.2	ND	ND	ND	ND	1.2	4	3	4.6	4.8
Barium, Total, ICAP/MS	ug/l	1000	P	13	14	20	19	26	27	32	33	78	83	89	53
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.6	5.8
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Downey #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/14/09	9/16/09	5/14/09	9/16/09	5/14/09	9/16/09	5/14/09	9/16/09	5/14/09	9/16/09	5/14/09	9/16/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	182	210	414	400	490	480	534	570	426	400	690	960
Cation Sum	meq/l			3.6	3.8	6.1	6.7	13	8.3	7.3	9.2	7.2	7	16	17
Anion Sum	meq/l			3.6	3.8	6.4	5.9	8.2	7.7	9	8.5	7.2	5.7	16	16
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	ND	ND	ND	ND	ND	ND	3.7	3.4	**130**	**110**	**79**	**68**
Turbidity	NTU	5	S	0.1	0.14	0.1	0.39	0.2	0.46	0.15	0.1	4.2	2.9	0.6	0.44
Alkalinity	mg/l			153	160	159	140	177	150	191	170	212	150	390	390
Boron	mg/l	1	N	0.1	0.064	0.06	0.059	0.14	0.096	**2.7**	0.21	0.086	0.093	0.22	0.23
Bicarbonate as HCO3,calcula	mg/l			186	200	193	170	215	190	232	200	258	190	475	470
Calcium, Total, ICAP	mg/l			37	42	75	86	85	110	3.2	99	91	88	170	190
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			116	130	241	270	319	340	14.2	330	297	290	585	640
Chloride	mg/l	500	S	5.2	5.1	38	38	69	68	76	76	40	34	110	100
Fluoride	mg/l	2	P	0.31	0.28	0.29	0.25	0.34	0.29	0.4	0.35	0.32	0.37	0.41	0.27
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.65	0.8	0.75	0.9	0.86	-0.6	0.74	0.8	0.77	1.3	1.1
Magnesium, Total, ICAP	None			5.8	5.9	13	13	26	19	1.5	19	17	16	39	39
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	2	2	3.2	3.2	1.9	1.9	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3	2.8	3.7	3.5	3.3	3.4	1.3	4.3	3.5	3.5	6.3	6.1
Sodium, Total, ICAP	mg/l			27	25	28	27	160	32	160	58	26	25	89	88
Sulfate	mg/l	500	S	17	17	94	93	120	120	140	140	88	76	250	250
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	0.1	ND	2	2	3.2	3.2	1.9	1.9	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	ND	ND	ND	ND	0.46	0.45	ND	ND	0.73	0.65
Carbon Dioxide	mg/l			ND	2.2	2.5	2.5	2.8	3	3.8	4.4	5.3	3.1	12	6.2
General Physical															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.2	8.2	8.1	8	8.1	8	8	7.9	7.9	8	7.8	7.8
Odor	TON	3	S	1	2	1	1	1	1	1	1	1	2	1	1
pH of CaCO3 saturation(25C)	Units			7.6	7.5	7.3	7.3	7.2	7.2	8.6	7.1	7.1	7.2	6.5	6.8
pH of CaCO3 saturation(60C)	Units			7.2	7.1	6.8	6.8	6.7	6.7	8.1	6.7	6.6	6.8	6.1	6
Specific Conductance	µmho/cm	1600	S	348	350	625	620	783	780	876	870	687	640	1440	1400
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	3.1	2.9	2.5	2.6	3.1	3.5	2.1	2.8	4.4	4.4	2.6	3.9
Barium, Total, ICAP/MS	ug/l	1000	P	100	95	180	160	140	140	91	89	260	220	77	73
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	3.7	4.5	2.7	3.4	1.7	2.8	1.1	2.6	ND	4.8	ND	5.5
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	0.9	0.56	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.7	0.68	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		3.6		2.8		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Huntington Park #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				5/20/09	9/27/09	5/20/09	9/27/09	5/20/09	9/27/09	5/20/09	9/27/09
General Mineral											
Total Dissolved Solid (TDS)	mg/l	1000	S	396	380	360	470	496	540	726	700
Cation Sum	meq/l			5.9	6.1	6	8.3	7.7	9	12	12
Anion Sum	meq/l			6	6.1	5.9	8.3	7.4	9.5	12	12
Iron, Total, ICAP	mg/l	0.3	S	0.25	0.26	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	**53**	48	ND	ND	ND	ND	ND	ND
Turbidity	NTU	5	S	1.8	2.1	0.2	0.34	0.05	0.15	0.1	0.2
Alkalinity	mg/l			181	180	180	240	197	240	298	310
Boron	mg/l	1	N	0.14	0.12	0.14	0.38	0.15	0.16	0.17	0.16
Bicarbonate as HCO3,calcula	mg/l			220	220	219	290	240	290	363	370
Calcium, Total, ICAP	mg/l			61	62	60	85	80	94	130	130
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	2	ND	2.3
Hardness (Total, as CaCO3)	mg/l			210	220	207	310	282	340	452	470
Chloride	mg/l	500	S	21	23	22	34	43	64	69	72
Fluoride	mg/l	2	P	0.48	0.53	0.41	0.37	0.37	0.38	0.35	0.37
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.74	0.7	0.8	0.7	1	1	1.2
Magnesium, Total, ICAP	None			14	15	14	23	20	24	31	33
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	4.8	1.8	2.5	4.4	4.5
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.1	3.2	3.1	3.8	3.4	3.8	4.4	4.5
Sodium, Total, ICAP	mg/l			38	39	40	49	46	51	57	58
Sulfate	mg/l	500	S	84	90	81	110	100	130	170	170
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	**0.5**	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	4.8	1.8	2.5	4.4	4.5
Total Organic Carbon	mg/l			ND	ND	ND	0.38	1.2	2.5	0.36	0.42
Carbon Dioxide	mg/l			4.5	3.1	3.6	6.5	5	4.2	9.4	6.4
General Physical											
Apparent Color	ACU	15	S	5	10	3	3	ND	3	ND	ND
Lab pH	Units			7.9	8.1	8	7.9	7.9	8	7.8	8
Odor	TON	3	S	2	1	1	1	1	2	1	1
pH of CaCO3 saturation(25C)	Units			7.3	7.3	7.3	7.1	7.2	7	6.8	6.7
pH of CaCO3 saturation(60C)	Units			6.9	6.9	6.9	6.6	6.7	6.6	6.3	6.3
Specific Conductance	µmho/cm	1600	S	589	580	589	770	761	870	1110	1100
Metal											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	1	1.9	ND	ND	ND	1.5
Barium, Total, ICAP/MS	ug/l	1000	P	64	59	78	69	95	110	99	100
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	3.2	ND	4.5	2.9	5	2.8	6.8
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	5.9	7.9
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	0.6	**15**	**5.5**	**7.7**	0.8	0.79
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	0.74	0.99	1.7	0.8	0.63
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	0.86	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	1.1	1.2	0.84	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	**0.7**	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	**1.4**	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		4.8		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Inglewood #2					
				Zone 1		Zone 2		Zone 3	
				4/14/09	9/30/09	4/14/09	9/30/09	4/14/09	9/30/09
General Mineral									
Total Dissolved Solid (TDS)	mg/l	1000	S	**1680**	**1600**	**1526**	**1500**	310	320
Cation Sum	meq/l			28	30	25	27	5.6	5.3
Anion Sum	meq/l			29	30	29	27	5.7	5.6
Iron, Total, ICAP	mg/l	0.3	S	**0.57**	**0.57**	**0.43**	**0.41**	0.13	0.12
Manganese, Total, ICAP/MS	ug/l	50	S	28	25	26	23	37	36
Turbidity	NTU	5	S	2	2.4	**51**	**51**	0.45	0.85
Alkalinity	mg/l			1400	1400	1300	1300	257	250
Boron	mg/l	1	N	**3.7**	**3.9**	**3.3**	**3.4**	0.22	0.21
Bicarbonate as HCO3,calcula	mg/l			1700	1800	1580	1600	313	300
Calcium, Total, ICAP	mg/l			17	17	11	11	34	32
Carbonate as CO3, Calculated	mg/l			11	18	13	17	2.6	2.7
Hardness (Total, as CaCO3)	mg/l			112	110	64.1	66	134	130
Chloride	mg/l	500	S	29	34	96	21	20	21
Fluoride	mg/l	2	P	0.48	0.56	0.27	0.29	0.21	0.22
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1	1.2	0.9	1	0.7	0.67
Magnesium, Total, ICAP	None			17	17	8.9	9.2	12	12
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			23	25	18	19	6.7	6.4
Sodium, Total, ICAP	mg/l			570	620	530	580	62	59
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			39	41	23	24	1.4	1.4
Carbon Dioxide	mg/l			28	19	21	16	4.1	3.7
General Physical									
Apparent Color	ACU	15	S	**400**	**500**	**250**	**200**	10	10
Lab pH	Units			8	8.2	8.1	8.2	8.1	8.1
Odor	TON	3	S	**4**	**3**	**8**	**3**	**4**	2
pH of CaCO3 saturation(25C)	Units			7	7	7.2	7.2	7.4	7.5
pH of CaCO3 saturation(60C)	Units			6.5	6.5	6.8	6.7	7	7
Specific Conductance	umho/cm	1600	S	**2510**	**2500**	**2340**	**2300**	525	520
Metal									
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.3	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	42	40	24	22	17	16
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.4	3.6	1.9	3.9	ND	4.1
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	7.8	ND	7	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	57	ND	ND	ND	ND	ND
Volatile Organic Compound									
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	La Mirada #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/22/09	9/3/09	4/22/09	9/3/09	4/22/09	9/3/09	4/22/09	9/3/09	4/22/09	9/3/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	354	340	260	240	312	330	382	390	**1022**	**1200**
Cation Sum	meq/l			5.9	5.9	4.2	4.3	5.4	5.8	6.6	7.1	15	17
Anion Sum	meq/l			5.7	6.6	4.4	4.8	5.3	6.1	6.5	6.8	14	16
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	9.9	11	2.9	3	18	18	**50**	**52**	24	5.5
Turbidity	NTU	5	S	0.1	0.15	0.05	0.069	1	0.2	0.5	0.098	0.2	0.16
Alkalinity	mg/l			165	200	150	170	185	220	200	200	175	150
Boron	mg/l	1	N	0.15	0.16	0.1	0.11	0.14	0.15	0.13	0.13	0.13	0.16
Bicarbonate as HCO3,calcula	mg/l			200	240	182	200	225	270	243	240	213	190
Calcium, Total, ICAP	mg/l			15	15	9.6	9.8	21	23	44	48	120	150
Carbonate as CO3, Calculated	mg/l			2.1	3.1	2.4	3	ND	2.4	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			51	52	29.7	30	81.7	89	176	190	473	560
Chloride	mg/l	500	S	22	25	13	15	14	17	28	33	257	320
Fluoride	mg/l	2	P	0.83	0.78	0.59	0.57	0.77	0.74	0.57	0.56	0.36	0.27
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.2	0.41	0.1	0.21	0.3	0.49	0.5	0.69	0.7	0.89
Magnesium, Total, ICAP	None			3.3	3.4	1.4	1.5	7.1	7.5	16	17	42	47
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	**17**	**22**
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			2.1	2.1	1.6	1.7	2.5	2.5	2.7	2.8	4.1	4.4
Sodium, Total, ICAP	mg/l			110	110	82	84	86	91	70	75	120	130
Sulfate	mg/l	500	S	84	91	46	49	55	61	83	89	92	97
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	**17**	**22**
Total Organic Carbon	mg/l			ND	ND	ND	ND	0.36	0.38	ND	ND	0.37	0.38
Carbon Dioxide	mg/l			2.1	2	ND	ND	2.9	3.2	5	3.4	7	3.8
General Physical													
Apparent Color	ACU	15	S	5	ND	ND	ND	10	5	3	ND	ND	ND
Lab pH	Units			8.2	8.3	8.3	8.4	8.1	8.1	7.9	8.1	7.7	7.9
Odor	TON	3	S	1	1	1	1	1	1	2	1	1	1
pH of CaCO3 saturation(25C)	Units			8	7.9	8.2	8.1	7.8	7.7	7.4	7.4	7	7
pH of CaCO3 saturation(60C)	Units			7.5	7.4	7.8	7.7	7.3	7.2	7	6.9	6.6	6.6
Specific Conductance	µmho/cm	1600	S	570	570	421	420	520	530	634	650	1440	**1700**
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	5.3	6.3	7.4	8	7.2	6.8	3.5	3.9	2	1.3
Barium, Total, ICAP/MS	ug/l	1000	P	50	55	23	25	34	38	39	41	99	130
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	4.3	2.8
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	11	13
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		**8.5**

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Lakewood #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/4/09	9/10/09	5/4/09	9/10/09	5/4/09	9/10/09	5/4/09	9/10/09	5/4/09	9/10/09	5/4/09	9/10/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	170	180	200	200	214	210	244	250	238	240	422	440
Cation Sum	meq/l			2.8	2.9	3.3	3.5	3.8	3.9	4.5	4.7	4.3	4.3	7.2	7.8
Anion Sum	meq/l			2.8	2.8	3.2	3.3	3.6	3.7	4.3	4.6	4	4.2	7	7.1
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.055	0.059	0.096	0.1	0.095	0.11
Manganese, Total, ICAP/MS	ug/l	50	S	9.3	4.8	17	18	24	24	**230**	**92**	**55**	**53**	**260**	**240**
Turbidity	NTU	5	S	0.3	0.49	0.25	0.05	1.2	0.53	0.8	0.11	0.15	0.13	0.65	0.46
Alkalinity	mg/l			94	97	134	140	149	150	165	160	172	180	196	200
Boron	mg/l	1	N	0.054	0.06	ND	0.053	0.065	0.075	0.069	0.075	0.085	0.094	0.082	0.085
Bicarbonate as HCO3,calcula	mg/l			113	120	163	170	181	190	201	200	209	220	239	250
Calcium, Total, ICAP	mg/l			10	10	31	32	40	40	49	52	48	49	93	100
Carbonate as CO3, Calculated	mg/l			2.9	3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			26.4	28	93.1	95	120	120	148	160	157	160	271	290
Chloride	mg/l	500	S	20	20	6.2	6	9.8	9.7	27	35	11	10	78	78
Fluoride	mg/l	2	P	0.46	0.48	0.28	0.28	0.32	0.32	0.33	0.32	0.49	0.5	0.22	0.23
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.2	0.32	0.4	0.47	0.5	0.61	0.6	0.71	0.6	0.67	0.8	0.88
Magnesium, Total, ICAP	None			0.35	0.36	3.8	3.8	5	5	6.2	6.4	8.9	8.9	9.5	10
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			ND	ND	2	2.2	2.2	2.3	2.6	2.8	2.6	2.7	3.8	4.1
Sodium, Total, ICAP	mg/l			53	54	33	35	31	32	35	35	25	25	38	42
Sulfate	mg/l	500	S	14	14	16	16	17	17	13	13	13	13	41	40
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.06	0.11
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.8	0.79	ND	ND	ND	ND	0.44	0.48	ND	ND	0.71	0.67
Carbon Dioxide	mg/l			ND	ND	2.1	ND	2.4	2	2.6	2.4	3.4	2.9	4.9	4.8
General Physical															
Apparent Color	ACU	15	S	**15**	**15**	5	3	5	3	5	3	5	3	3	3
Lab pH	Units			8.6	8.7	8.1	8.2	8.1	8.2	8.1	8.1	8	8.1	7.9	7.9
Odor	TON	3	S	2	2	2	1	**3**	1	2	2	**3**	2	**3**	2
pH of CaCO3 saturation(25C)	Units			8.4	8.4	7.7	7.7	7.6	7.6	7.5	7.4	7.4	7.4	7.1	7
pH of CaCO3 saturation(60C)	Units			8	7.9	7.3	7.3	7.1	7.1	7	7	7	7	6.7	6.6
Specific Conductance	µmho/cm	1600	S	286	280	315	310	356	350	432	440	397	390	708	700
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	**11**	**13**	1.8	1.9	1.2	1.2	**11**	**11**	3.5	4	**24**	**22**
Barium, Total, ICAP/MS	ug/l	1000	P	42	17	21	23	28	31	360	160	110	110	250	270
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Long Beach #1										
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	Zone 6	
				4/14/09	8/25/09	4/14/09	8/25/09	4/14/09	8/25/09	4/14/09	8/25/09	4/14/09	4/14/09	8/25/09
General Mineral														
Total Dissolved Solid (TDS)	mg/l	1000	S	224	200	212	210	190	180	270	240	852	**1014**	940
Cation Sum	meq/l			3.5	3.6	3.4	3.4	3.2	3	4	3.4	14	17	15
Anion Sum	meq/l			3.8	3.5	3.6	3.5	3.2	3.1	3.7	3.7	13	14	16
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	0.034	0.16	0.14
Manganese, Total, ICAP/MS	ug/l	50	S	2.8	2.2	ND	ND	ND	2.7	21	18	**77**	**380**	**360**
Turbidity	NTU	5	S	0.6	0.29	0.3	0.27	0.8	0.56	0.9	1.1	3.7	**25**	1.7
Alkalinity	mg/l			166	150	156	150	130	120	135	130	154	152	240
Boron	mg/l	1	N	0.19	0.19	0.18	0.17	0.089	0.085	0.077	0.067	0.13	0.11	0.1
Bicarbonate as HCO3,calcula	mg/l			197	180	185	180	156	140	164	160	187	185	290
Calcium, Total, ICAP	mg/l			2.3	2.3	2.5	2.5	5.3	5.3	22	19	71	200	180
Carbonate as CO3, Calculated	mg/l			13	10	12	9.8	6.4	5.8	2.7	2.4	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			6.57	6.6	6.78	6.9	14.4	14	63.6	56	223	639	560
Chloride	mg/l	500	S	15	15	15	15	12	12	12	12	200	190	180
Fluoride	mg/l	2	P	0.64	0.63	0.54	0.59	0.64	0.64	0.39	0.38	0.22	0.26	0.24
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.2	0.11	0.2	0.14	0.3	0.23	0.5	0.41	0.8	0.9	1.3
Magnesium, Total, ICAP	None			0.2	0.21	0.13	0.14	0.29	0.28	2.1	1.8	11	34	30
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			ND	ND	ND	ND	ND	ND	1.3	1.1	3.2	4	3.8
Sodium, Total, ICAP	mg/l			78	79	75	76	66	63	61	51	210	95	89
Sulfate	mg/l	500	S	ND	ND	ND	ND	13	14	30	32	224	288	270
Surfactants	mg/l	0.5	S	ND	ND	0.092	0.085	ND	ND	ND	ND	ND	0.074	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.2	2.9	3.3	2.9	1.8	1.7	0.76	0.62	1.4	1.3	1.2
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	2.4	4.8	4.9
General Physical														
Apparent Color	ACU	15	S	**100**	**50**	**100**	**40**	**40**	**30**	10	10	5	5	5
Lab pH	Units			9	8.9	9	8.9	8.8	8.8	8.4	8.4	8.1	7.8	8
Odor	TON	3	S	**3**	2	**4**	2	**3**	2	2	2	**3**	1	2
pH of CaCO3 saturation(25C)	Units			8.8	8.8	8.8	8.8	8.5	8.6	7.9	7.9	7.3	6.9	6.7
pH of CaCO3 saturation(60C)	Units			8.3	8.4	8.3	8.3	8.1	8.1	7.4	7.5	6.9	6.4	6.3
Specific Conductance	µmho/cm	1600	S	348	340	342	340	300	300	367	360	1390	1530	1500
Metal														
Aluminum, Total, ICAP/MS	ug/l	1000	P	38	30	34	30	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	7.8
Barium, Total, ICAP/MS	ug/l	1000	P	2	ND	2.1	ND	ND	ND	8.5	7.1	49	250	230
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	2.3	1.4	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.7	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound														
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND			ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Long Beach #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/13/09	9/8/09	4/13/09	9/8/09	4/13/09	9/8/09	4/13/09	9/8/09	4/13/09	9/8/09	4/13/09	9/8/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	420	420	262	250	226	210	328	300	**1070**	**1100**	**1270**	**1300**
Cation Sum	meq/l			6.6	6.9	4.4	4.5	3.9	3.8	5.4	5.7	17	16	21	21
Anion Sum	meq/l			6.9	6.9	4.5	4.5	3.8	3.5	5.2	5.3	17	17	20	19
Iron, Total, ICAP	mg/l	0.3	S	0.24	0.21	0.029	0.025	ND	ND	ND	ND	0.2	0.22	0.21	0.22
Manganese, Total, ICAP/MS	ug/l	50	S	16	17	20	19	ND	ND	30	30	**190**	**190**	**370**	**360**
Turbidity	NTU	5	S	0.5	0.56	0.35	0.53	0.2	0.13	0.3	1.2	2	2.8	1.2	2.6
Alkalinity	mg/l			310	310	196	190	144	130	149	150	292	310	307	240
Boron	mg/l	1	N	0.51	0.53	0.19	0.2	0.14	0.14	0.1	0.1	0.32	0.29	0.38	0.38
Bicarbonate as HCO3,calcula	mg/l			376	380	238	240	174	160	181	180	356	380	374	290
Calcium, Total, ICAP	mg/l			6.9	7.1	14	15	13	13	46	48	190	180	230	240
Carbonate as CO3, Calculated	mg/l			6.1	6.2	3.1	2.8	2.8	2.7	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			23.4	24	42	44	37.4	38	136	140	594	560	723	750
Chloride	mg/l	500	S	22	22	21	21	23	24	39	42	130	120	170	180
Fluoride	mg/l	2	P	0.56	0.64	0.38	0.43	0.49	0.54	0.28	0.31	0.15	0.17	0.26	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.4	0.39	0.4	0.36	0.3	0.28	0.7	0.5	1.2	1	1.3	1.1
Magnesium, Total, ICAP	None			1.5	1.5	1.7	1.7	1.2	1.2	5.1	5.5	29	27	36	38
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			2.3	2.4	1.7	1.7	1.2	1.3	2.8	3.1	5.1	5	6.2	6.6
Sodium, Total, ICAP	mg/l			140	150	80	81	71	70	60	64	120	120	140	140
Sulfate	mg/l	500	S	ND	ND	ND	ND	9.4	8.3	55	56	360	360	420	440
Surfactants	mg/l	0.5	S	ND	0.061	ND	ND	ND	ND	0.056	0.074	0.062	0.089	0.098	0.087
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			14	9.8	4	3.8	2	1.8	1.5	1.2	1.4	1.3	1.5	1.4
Carbon Dioxide	mg/l			2.5	2.5	2	2.1	ND	ND	ND	2.8	9.3	15	9.7	10
General Physical															
Apparent Color	ACU	15	S	**300**	**200**	**50**	**30**	**25**	**25**	5	5	5	5	5	5
Lab pH	Units			8.4	8.4	8.3	8.3	8.4	8.4	8.2	8	7.8	7.6	7.8	7.7
Odor	TON	3	S	2	**3**	1	**3**	**8**	2	1	**3**	1	**3**	2	**8**
pH of CaCO3 saturation(25C)	Units			8	8	7.9	7.9	8.1	8.1	7.5	7.5	6.6	6.6	6.5	6.6
pH of CaCO3 saturation(60C)	Units			7.6	7.6	7.5	7.5	7.6	7.7	7.1	7.1	6.2	6.2	6.1	6.2
Specific Conductance	µmho/cm	1600	S	646	640	436	420	374	370	526	530	1550	1500	**1850**	**1800**
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	1	5.7	4.9	8.6	6.4
Barium, Total, ICAP/MS	ug/l	1000	P	6.9	7.9	10	9.4	ND	ND	29	29	87	88	96	95
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	1.4	ND	ND	ND	ND	ND	ND	3.4	ND	4.6	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	2.5	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	5.9	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	1.7
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9	2.4
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Long Beach #6											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/2/09	9/1/09	4/2/09	9/1/09	4/2/09	9/1/09	4/2/09	9/1/09	4/2/09	9/1/09	4/2/09	9/1/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	678	690	666	690	240	230	240	230	196	180	264	250
Cation Sum	meq/l			12	11	11	11	3.7	3.7	3.8	3.7	3.2	3.2	4.5	4.5
Anion Sum	meq/l			11	11	11	11	3.7	3.7	3.6	3.8	3.1	6.2	3.5	4.7
Iron, Total, ICAP	mg/l	0.3	S	0.1	0.089	0.1	0.12	0.033	0.031	0.025	0.026	ND	ND	0.092	0.085
Manganese, Total, ICAP/MS	ug/l	50	S	15	17	22	25	4.2	4.4	16	17	6.9	5.5	**100**	**100**
Turbidity	NTU	5	S	4.1	2.5	1.5	1.2	0.3	0.49	0.55	0.4	0.25	0.32	0.25	1.1
Alkalinity	mg/l			539	540	524	530	159	160	152	160	116	270	130	140
Boron	mg/l	1	N	**1.2**	**1.1**	**1.1**	**1.1**	0.25	0.23	0.21	0.19	0.093	0.095	ND	0.059
Bicarbonate as HCO3,calcula	mg/l			654	650	635	640	191	190	183	190	140	330	158	170
Calcium, Total, ICAP	mg/l			8.5	7.8	8.5	8.2	5.2	4.8	6.2	6	12	12	44	44
Carbonate as CO3, Calculated	mg/l			11	10	10	12	7.8	7	6	6	2.9	5	ND	ND
Hardness (Total, as CaCO3)	mg/l			28.2	26	27.4	27	14	13	16.9	16	33.3	34	133	130
Chloride	mg/l	500	S	18	20	18	20	16	17	16	17	19	19	27	54
Fluoride	mg/l	2	P	0.7	0.7	0.68	0.73	0.61	0.66	0.63	0.69	0.56	0.61	0.2	0.19
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.7	0.65	0.7	0.73	0.4	0.27	0.3	0.3	0.3	0.53	0.5	0.48
Magnesium, Total, ICAP	None			1.7	1.6	1.5	1.5	0.25	0.24	0.35	0.35	0.82	0.81	5.5	5.3
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			ND	1.7	ND	1.6	ND	ND	ND	ND	1	1.2	2.3	2.4
Sodium, Total, ICAP	mg/l			260	250	240	230	79	79	80	78	57	58	42	41
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	4.8	3.6	11	10	7.5	15
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			25	18	18	24	6.4	4.4	5.4	4	2.2	1.9	0.65	0.61
Carbon Dioxide	mg/l			4.3	4.3	4.1	3.7	ND	ND	ND	ND	ND	2.3	2.1	2.6
General Physical															
Apparent Color	ACU	15	S	**400**	**300**	**400**	**300**	**150**	**130**	**100**	**100**	**50**	**50**	5	5
Lab pH	Units			8.4	8.4	8.4	8.5	8.8	8.7	8.7	8.7	8.5	8.4	8.1	8
Odor	TON	3	S	**4**	**3**	**4**	**3**	**3**	2	**4**	1	**4**	1	**4**	1
pH of CaCO3 saturation(25C)	Units			7.7	7.7	7.7	7.7	8.4	8.5	8.4	8.4	8.2	7.8	7.6	7.6
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7.3	7.3	8	8	7.9	7.9	7.8	7.4	7.2	7.1
Specific Conductance	µmho/cm	1600	S	1050	1100	1010	1000	361	360	355	360	311	310	453	450
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	45	29	65	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.3	2.9	1.5	1.3	ND	ND	ND	ND	ND	ND	3.3	3.4
Barium, Total, ICAP/MS	ug/l	100	P	7.8	7.6	13	13	3.8	4	8.2	8.7	ND	3.3	19	16
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	0.016	ND	0.011	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	1.2	1.6	1.4	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	3.1	ND	3.4	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Los Angeles #1									
				Zone 1	Zone 1	Zone 2	Zone 2	Zone 3	Zone 3	Zone 4	Zone 4	Zone 5	Zone 5
				5/12/09	9/23/09	5/12/09	9/23/09	5/12/09	9/23/09	5/12/09	9/23/09	5/12/09	9/23/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	372	360	380	360	404	370	664	630	672	650
Cation Sum	meq/l			5.7	5.2	6.1	5.6	6	5.6	10	9.7	10	11
Anion Sum	meq/l			5.6	5.7	5.8	6.3	5.9	6.1	10	11	10	11
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	0.17	0.16	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	44	45	**61**	**58**	14	14	ND	ND	ND	ND
Turbidity	NTU	5	S	0.2	0.087	0.2	1.1	0.1	0.067	0.4	1.1	0.15	0.093
Alkalinity	mg/l			177	180	179	190	181	180	214	220	219	220
Boron	mg/l	1	N	0.14	0.14	0.14	0.14	0.15	0.16	0.18		0.19	ND
Bicarbonate as HCO3,calcula	mg/l			215	220	218	240	220	220	261	260	267	270
Calcium, Total, ICAP	mg/l			55	50	61	56	60	55	110	100	110	110
Carbonate as CO3, Calculated	mg/l			2.2	2	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			187	170	214	200	212	200	390	370	394	410
Chloride	mg/l	500	S	20	22	20	22	20	22	72	80	79	82
Fluoride	mg/l	2	P	0.28	0.31	0.45	0.49	0.38	0.41	0.39	0.42	0.39	0.42
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.8	0.75	0.7	0.65	0.7	0.58	0.9	0.81	0.9	0.84
Magnesium, Total, ICAP	None			12	12	15	14	15	15	28	28	29	31
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	**12**	**14**	**14**	**15**
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.8	3.6	3.4	3.2	3.2	3	4.2	4.1	4.3	4.7
Sodium, Total, ICAP	mg/l			43	43	39	39	39	39	56	57	57	59
Sulfate	mg/l	500	S	70	72	80	84	80	84	140	140	130	140
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	**12**	**14**	**14**	**15**
Total Organic Carbon	mg/l			0.34	0.41	ND	ND	ND	ND	0.43	0.43	0.43	0.46
Carbon Dioxide	mg/l			2.2	2.4	3.6	4.2	3.6	4.2	5.4	6.4	5.5	7
General Physical													
Apparent Color	ACU	15	S	5	5	3	ND	ND	**15**	10	5	**15**	**15**
Lab pH	Units			8.2	8.2	8	8	8	7.9	7.9	7.8	7.9	7.8
Odor	TON	3	S	2	1	2	1	1	1	1	1	1	2
pH of CaCO3 saturation(25C)	Units			7.4	7.4	7.3	7.3	7.3	7.4	7	7	7	7
pH of CaCO3 saturation(60C)	Units			6.9	7	6.9	6.9	6.9	6.9	6.5	6.6	6.5	6.5
Specific Conductance	umho/cm	1600	S	552	550	582	580	579	580	995	1000	1040	1000
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	1.2	ND	1.3
Barium, Total, ICAP/MS	ug/l	100	P	26	29	44	49	64	69	**130**	**160**	**140**	**160**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	**390**	**550**	**600**	**670**
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.2
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	**48**	**43**	**50**	**45**
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	2.6	2.5	2.8	2.5
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	0.5	ND	0.54
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	**0.7**	**0.9**	**0.9**	**0.95**
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	**0.53**	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		4.6		4.9

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Montebello #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/7/09	9/21/09	5/7/09	9/21/09	5/7/09	9/21/09	5/7/09	9/21/09	5/7/09	9/21/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	**2070**	**2200**	866	880	540	530	520	500	510	480
Cation Sum	meq/l			36	35	15	15	8.4	9.3	8.4	8.6	8.1	8.5
Anion Sum	meq/l			36	37	15	15	8.5	8.9	8.4	8.4	8.3	8.2
Iron, Total, ICAP	mg/l	0.3	S	0.15	0.21	0.19	0.24	0.042	0.037	0.094	0.024	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	7.9	8.8	26	27	**110**	**99**	**71**	46	ND	ND
Turbidity	NTU	5	S	0.9	0.54	0.5	**9.5**	0.85	1.1	0.2	0.3	0.15	0.48
Alkalinity	mg/l			898	900	564	580	193	200	184	190	189	190
Boron	mg/l	1	N	**6.2**	**6**	**2.2**	**2.2**	0.23	0.29	0.12	0.14	0.22	0.22
Bicarbonate as HCO3,calcula	mg/l			1090	1100	685	700	235	240	224	230	230	230
Calcium, Total, ICAP	mg/l			13	13	17	18	91	99	99	97	78	84
Carbonate as CO3, Calculated	mg/l			11	14	7.1	8.1	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			53.4	57	70	75	293	310	313	310	261	280
Chloride	mg/l	500	S	**650**	**680**	120	130	67	77	70	70	72	70
Fluoride	mg/l	2	P	0.46	0.47	0.32	0.33	0.16	0.17	0.19	0.25	0.37	0.41
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.9	1	0.8	0.9	0.9	1	0.9	0.91	0.6	0.77
Magnesium, Total, ICAP	None			5.7	5.9	7.2	7.6	16	16	16	17	16	17
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2.9	3
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			7.7	ND	5.2	5.3	3.5	3.7	3.6	3.6	3.3	3.4
Sodium, Total, ICAP	mg/l			780	790	290	310	57	68	46	53	65	66
Sulfate	mg/l	500	S	ND	ND	ND	ND	130	130	130	130	110	110
Surfactants	mg/l	0.5	S	0.188	ND	0.065	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2.9	3
Total Organic Carbon	mg/l			30	33	23	23	1.2	1.3	0.75	0.71	0.44	0.41
Carbon Dioxide	mg/l			11	9.4	7.1	6.4	3.9	3.2	3.7	3.5	6	4.4
General Physical													
Apparent Color	ACU	15	S	**300**	**300**	**150**	**130**	10	**15**	5	ND	ND	ND
Lab pH	Units			8.2	8.3	8.2	8.3	8	8.1	8	8	7.8	7.9
Odor	TON	3	S	**4**	**8**	**4**	**8**	**3**	2	**3**	2	2	1
pH of CaCO3 saturation(25C)	Units			7.3	7.3	7.4	7.4	7.1	7.1	7.1	7.1	7.2	7.2
pH of CaCO3 saturation(60C)	Units			6.9	6.8	7	6.9	6.7	6.6	6.7	6.7	6.7	6.7
Specific Conductance	umho/cm	1600	S	**3640**	**3700**	1390	1500	823	860	829	810	805	790
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	40	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	6	8.5	ND	1.2	ND	ND	ND	1.1	1.9	1.7
Barium, Total, ICAP/MS	ug/l	100	P	36	35	23	23	34	36	80	84	59	62
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.6	3.3	1.2	1.2	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	6.2	8	2.2	3.5	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	13	21	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Norwalk #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/29/09	9/17/09	4/29/09	9/17/09	4/29/09	9/17/09	4/29/09	9/17/09	4/29/09	9/17/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	478	490	318	310	244	230	204	190	460	420
Cation Sum	meq/l			8.2	8.9	4.9	5.2	3.9	4.1	3.4	3.5	7.6	7.4
Anion Sum	meq/l			7.7	8	5.3	5.4	3.9	4.1	3.4	3.5	7.8	7.1
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.033	ND	0.13	0.067
Manganese, Total, ICAP/MS	ug/l	50	S	ND	2.5	6.3	7.4	16	19	48	42	**160**	**120**
Turbidity	NTU	5	S	0.2	0.42	0.8	0.5	0.3	0.79	3.2	0.9	**37**	**66**
Alkalinity	mg/l			273	280	186	190	120	130	130	140	200	190
Boron	mg/l	1	N	0.4	0.43	0.2	0.21	ND	0.051	0.05	0.055	0.082	0.088
Bicarbonate as HCO3,calcula	mg/l			332	340	225	230	146	150	158	170	244	230
Calcium, Total, ICAP	mg/l			13	13	9.2	9.4	24	26	27	29	69	67
Carbonate as CO3, Calculated	mg/l			2.7	3	3.7	4.3	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			59.6	63	28.3	29	68.2	74	89.2	94	238	230
Chloride	mg/l	500	S	61	65	55	54	45	50	21	20	130	110
Fluoride	mg/l	2	P	0.47	0.47	0.57	0.57	0.3	0.29	0.3	0.29	0.26	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.3	0.35	0.3	0.35	0.3	0.36	0.3	0.37	0.6	0.67
Magnesium, Total, ICAP	None			6.6	7.1	1.3	1.3	2	2.1	5.3	5.5	16	15
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			2.5	2.5	ND	1.4	2.1	2.1	1.7	1.7	3.4	3.3
Sodium, Total, ICAP	mg/l			160	170	100	110	57	59	37	37	64	62
Sulfate	mg/l	500	S	22	26	ND		12	9.9	8.7	9	5.1	4.9
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.123	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.4	2.4	2.6	2.8	0.46	0.37	0.4	0.41	1.6	1.9
Carbon Dioxide	mg/l			4.3	4.2	ND	ND	ND	ND	2.1	ND	6.3	4.6
General Physical													
Apparent Color	ACU	15	S	**25**	**30**	**35**	**40**	3	3	3	3	3	10
Lab pH	Units			8.1	8.1	8.4	8.5	8.2	8.2	8.1	8.1	7.8	7.9
Odor	TON	3	S	**40**	**8**	2	**3**	**3**	**3**	**4**	2	**4**	2
pH of CaCO3 saturation(25C)	Units			7.8	7.8	8.1	8.1	7.9	7.8	7.8	7.8	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7.4	7.3	7.7	7.7	7.5	7.4	7.4	7.3	6.8	6.8
Specific Conductance	µmho/cm	1600	S	800	800	520	510	410	420	333	330	786	740
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	41	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	5.1	5.3	**17**	**18**	**13**	**11**
Barium, Total, ICAP/MS	ug/l	100	P	ND	13	6.5	7.4	73	87	**110**	**120**	**350**	**270**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	1.7	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	27	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		**8.7**		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Norwalk #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/28/09	9/22/09	4/28/09	9/22/09	4/28/09	9/22/09	4/28/09	9/22/09	4/28/09	9/22/09	4/28/09	9/22/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	434	430	288	290	246	260	338	310	462	440	534	510
Cation Sum	meq/l			7.4	7.7	4.9	4.9	4.2	4.3	5.6	5.7	7.5	7.8	8.7	8.6
Anion Sum	meq/l			7	7.3	4.8	4.9	4.1	4.1	5.2	5.4	7.3	7.5	8.2	8.3
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	10	9.9	8.6	9.9	23	24	ND	ND	14	10	7.1	11
Turbidity	NTU	5	S	0.25	0.11	0.3	0.23	0.2	0.15	0.1	0.075	0.2	0.094	0.2	0.18
Alkalinity	mg/l			179	180	187	190	154	150	164	170	163	160	182	180
Boron	mg/l	1	N	0.21	0.22	0.24	0.23	ND	ND	0.054	ND	0.12	0.12	0.2	0.19
Bicarbonate as HCO3,calcula	mg/l			218	220	227	220	187	180	200	200	198	190	222	220
Calcium, Total, ICAP	mg/l			55	60	12	12	42	44	66	66	84	86	87	85
Carbonate as CO3, Calculated	mg/l			ND	ND	2.9	3.3	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			183	200	39.4	39	126	130	210	210	280	290	295	290
Chloride	mg/l	500	S	66	71	29	33	12	13	20	23	64	71	73	74
Fluoride	mg/l	2	P	0.31	0.33	0.44	0.47	0.2	0.21	0.27	0.29	0.23	0.25	0.34	0.37
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.72	0.3	0.32	0.6	0.54	0.7	0.73	0.7	0.74	0.6	0.69
Magnesium, Total, ICAP	None			11	12	2.3	2.3	5.2	5.4	11	12	17	17	19	18
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	1.1	1.1	2.5	2.7	2.6	2.5
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.9	4.1	2.5	2.4	2.6	2.8	3.3	3.3	3.9	4	4	4.1
Sodium, Total, ICAP	mg/l			83	83	93	93	36	38	30	31	42	45	61	62
Sulfate	mg/l	500	S	75	85	11	12	32	34	62	67	97	110	110	120
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	1.1	1.1	2.5	2.7	2.6	2.5
Total Organic Carbon	mg/l			1.1	1	1.3	1.2	0.32	0.3	ND	ND	0.35	0.41	0.47	0.47
Carbon Dioxide	mg/l			3.6	3.1	ND	ND	2.4	2.5	3.3	3	4.1	3.2	5.8	5
General Physical															
Apparent Color	ACU	15	S	5	10	**20**	**20**	ND	3	ND	ND	ND	3	ND	ND
Lab pH	Units			8	8.1	8.3	8.4	8.1	8.1	8	8.1	7.9	8	7.8	7.9
Odor	TON	3	S	1	1	2	1	**3**	1	1	1	2	1	2	1
pH of CaCO3 saturation(25C)	Units			7.4	7.3	8	8	7.5	7.5	7.3	7.3	7.2	7.2	7.2	7.2
pH of CaCO3 saturation(60C)	Units			6.9	6.9	7.6	7.6	7.1	7.1	6.9	6.9	6.8	6.8	6.7	6.7
Specific Conductance	µmho/cm	1600	S	726	720	473	470	394	390	529	530	732	740	829	800
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.8	2.7	ND	ND	ND	ND	2.1	2.4	2.3	2.5	1.6	1.7
Barium, Total, ICAP/MS	ug/l	100	P	50	55	8.5	9.2	26	28	**140**	**140**	78	80	53	56
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	3.2	ND	2.9	ND	2	3.1	3.2	1.7	3.7	1	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	0.5	0.66	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		1.7		1.6		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Pico #1					
				Zone 2		Zone 3		Zone 4	
				5/5/09	9/14/09	5/5/09	9/14/09	5/5/09	9/14/09
General Mineral									
Total Dissolved Solid (TDS)	mg/l	1000	S	416	370	606	570	554	600
Cation Sum	meq/l			6.7	6.4	9.3	9.6	9.3	8.9
Anion Sum	meq/l			6.5	5.8	9.3	8.5	9.5	9.3
Iron, Total, ICAP	mg/l	0.3	S	**0.31**	**0.32**	**0.45**	**0.46**	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	36	29	19	17	ND	ND
Turbidity	NTU	5	S	2.3	0.62	4.8	4.7	0.05	0.21
Alkalinity	mg/l			172	160	190	160	170	170
Boron	mg/l	1	N	0.071	0.069	0.15	0.12	0.22	0.21
Bicarbonate as HCO3,calcula	mg/l			209	190	232	200	207	210
Calcium, Total, ICAP	mg/l			85	81	110	120	96	92
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			274	260	353	390	314	300
Chloride	mg/l	500	S	34	29	77	73	100	99
Fluoride	mg/l	2	P	0.28	0.24	0.29	0.26	0.29	0.25
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.75	0.6	0.81	0.6	0.74
Magnesium, Total, ICAP	None			15	14	19	21	18	17
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	1.6	1.6
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.2	3.2	4.3	4.2	4.7	4.4
Sodium, Total, ICAP	mg/l			26	25	50	39	67	65
Sulfate	mg/l	500	S	100	89	160	150	150	140
Surfactants	mg/l	0.5	S	ND	ND	ND	0.055	ND	0.057
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	1.6	1.6
Total Organic Carbon	mg/l			ND	ND	0.48	0.44	0.62	0.59
Carbon Dioxide	mg/l			5.4	3.2	9.6	4.4	6.8	4.4
General Physical									
Apparent Color	ACU	15	S	5	5	10	10	ND	ND
Lab pH	Units			7.8	8	7.6	7.9	7.7	7.9
Odor	TON	3	S	2	1	1	1	2	1
pH of CaCO3 saturation(25C)	Units			7.2	7.2	7	7.1	7.1	7.2
pH of CaCO3 saturation(60C)	Units			6.7	6.8	6.6	6.6	6.7	6.7
Specific Conductance	µmho/cm	1600	S	630	590	890	890	929	910
Metal									
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	3	3
Barium, Total, ICAP/MS	ug/l	100	P	**110**	93	69	70	58	58
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	1.1	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND
Volatile Organic Compound									
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Pico #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/14/09	9/25/09	5/14/09	9/25/09	5/14/09	9/25/09	5/14/09	9/25/09	5/14/09	9/25/09	5/14/09	9/25/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	514	510	590	570	502	490	482	460	498	420	270	500
Cation Sum	meq/l			8.6	8.5	9.4	9.3	8.4	8.1	7.9	7.7	8.3	8	4.8	8.3
Anion Sum	meq/l			8.7	9.2	9.9	10	8.7	8.7	8.3	8.4	8.6	12	4.8	9.1
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	ND	ND	ND	2.3	ND	ND	ND	ND	28	27	41	28
Turbidity	NTU	5	S	0.5	0.19	0.2	1.9	0.2	1.3	0.4	0.18	0.25	0.078	0.7	3.1
Alkalinity	mg/l			208	220	220	220	192	190	148	150	147	320	98	150
Boron	mg/l	1	N	0.1	0.066	0.13	0.14	0.14	0.16	0.23	0.24	0.22	0.22	0.16	0.16
Bicarbonate as HCO3,calcula	mg/l			253	270	268	270	234	230	180	180	179	390	119	180
Calcium, Total, ICAP	mg/l			110	110	110	110	93	91	64	63	60	61	26	61
Carbonate as CO3, Calculated	mg/l			2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			365	360	378	370	319	310	222	220	224	220	103	240
Chloride	mg/l	500	S	50	53	78	80	69	71	95	94	100	100	47	120
Fluoride	mg/l	2	P	0.25	0.25	0.26	0.28	0.31	0.33	0.33	0.35	0.36	0.41	0.45	0.33
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.1	0.96	1	1	0.9	0.86	0.5	0.55	0.4	0.78	-0.4	0.4
Magnesium, Total, ICAP	None			22	21	25	23	21	20	15	14	18	17	9.3	21
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	3.1	3.2	2.9	3	3.1	3.2	2.4	2.6	1.9	2	2.1	4.7
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			4.5	3.7	4.1	3.5	4.4	3.8	4.2	3.6	4.7	4	5.2	6.9
Sodium, Total, ICAP	mg/l			28	26	39	39	45	43	78	75	85	78	59	78
Sulfate	mg/l	500	S	140	140	150	150	130	130	120	120	130	120	66	120
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	3.1	3.2	2.9	3	3.1	3.2	2.4	2.6	1.9	2	2.1	4.7
Total Organic Carbon	mg/l			0.32	ND	0.34	0.31	0.35	0.31	0.68	0.61	0.87	0.86	1.1	1.3
Carbon Dioxide	mg/l			3.3	5.4	4.4	4.5	3.8	4	3.7	3.6	4.7	8.9	4.9	4.5
General Physical															
Apparent Color	ACU	15	S	ND	ND	ND	3	ND	3	ND	ND	3	3	3	5
Lab pH	Units			8.1	7.9	8	8	8	8	7.9	7.9	7.8	7.9	7.6	7.8
Odor	TON	3	S	1	1	1	2	1	2	1	2	1	1	1	**3**
pH of CaCO3 saturation(25C)	Units			7	7	7	7	7.1	7.1	7.4	7.4	7.4	7.1	8	7.4
pH of CaCO3 saturation(60C)	Units			6.6	6.5	6.5	6.5	6.7	6.7	6.9	6.9	7	6.6	7.5	7
Specific Conductance	µmho/cm	1600	S	822	830	941	940	837	840	819	820	845	850	499	900
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.8	1.9	2.2	2.5	1.7	1.9	2.7	2.7	1.2	1.2	**17**	**11**
Barium, Total, ICAP/MS	ug/l	100	P	**190**	**190**	**130**	**130**	**110**	**120**	61	62	85	95	71	**170**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.9	4.6	1.3	4.1	1.7	3.9	1.5	3.5	1.1	3.1	2.6	3.3
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	2.5
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	0.6	0.76	2	2.1	4.9	**5.3**	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		1.8		ND		0.93		ND		ND		1.2

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Rio Hondo #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/5/09	9/14/09	5/5/09	9/14/09	5/5/09	9/14/09	5/5/09	9/14/09	5/5/09	9/14/09	5/5/09	9/14/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	270	270	492	470	492	490	428	420	368	380	276	250
Cation Sum	meq/l			4.4	4.5	7.4	7.4	8	8.1	6.4	6.2	5.6	5.7	4.3	4.2
Anion Sum	meq/l			4.3	4.5	7.3	7.5	8	7.5	6.2	6.4	5.8	5.9	4.2	4.3
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	0.06	0.074	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	26	21	40	35	ND	ND	ND	ND	ND	ND	ND	ND
Turbidity	NTU	5	S	4.3	2.9	0.2	0.64	0.3	0.44	0.05	0.21	1.1	4	0.25	0.81
Alkalinity	mg/l			143	150	162	170	188	160	128	130	112	120	91	100
Boron	mg/l	1	N	0.063	0.068	0.05	0.051	0.16	0.15	0.19	0.18	0.14	0.13	0.15	0.13
Bicarbonate as HCO3,calcula	mg/l			174	180	197	200	229	200	156	160	136	150	111	120
Calcium, Total, ICAP	mg/l			39	42	89	97	88	92	56	56	50	52	33	34
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			132	140	310	310	290	300	185	190	170	180	119	120
Chloride	mg/l	500	S	17	18	49	50	63	63	61	64	61	62	39	37
Fluoride	mg/l	2	P	0.25	0.22	0.21	0.18	0.29	0.26	0.38	0.33	0.32	0.27	0.34	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.5	0.62	0.8	0.91	0.8	0.85	0.4	0.47	0.2	0.19	-0.3	-0.04
Magnesium, Total, ICAP	None			8.3	8.4	18	17	17	16	11	11	11	11	8.9	8.6
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	1.8	1.8	1.8	1.9	1.8	1.8	2	2.1
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			2.7	2.8	3.7	3.4	3.8	3.8	3.6	3.4	3.3	3.3	3.4	3.3
Sodium, Total, ICAP	mg/l			39	39	27	25	49	49	59	56	49	48	41	40
Sulfate	mg/l	500	S	45	47	130	130	110	110	86	87	80	76	53	52
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	1.8	1.8	1.8	1.9	1.8	1.8	2	2.1
Total Organic Carbon	mg/l			0.3	ND	ND	ND	0.36	0.38	0.4	0.42	0.34	0.32	0.32	0.31
Carbon Dioxide	mg/l			2.3	ND	3.2	2.9	4.7	2.9	3.2	2.9	3.5	4.3	4.6	3.2
General Physical															
Apparent Color	ACU	15	S	3	3	3	ND	5	ND	ND	ND	ND	3	ND	ND
Lab pH	Units			8.1	8.2	8	8.1	7.9	8	7.9	8	7.8	7.8	7.6	7.8
Odor	TON	3	S	2	1	1	1	2	1	2	1	1	1	1	1
pH of CaCO3 saturation(25C)	Units			7.6	7.6	7.2	7.1	7.1	7.2	7.5	7.5	7.6	7.6	7.9	7.8
pH of CaCO3 saturation(60C)	Units			7.2	7.1	6.7	6.7	6.7	6.7	7.1	7	7.2	7.1	7.4	7.4
Specific Conductance	µmho/cm	1600	S	441	430	739	710	792	780	658	650	587	590	446	430
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	1	ND	2.5	2.4	2.9	3	2	1.9	1.5	1.5
Barium, Total, ICAP/MS	ug/l	100	P	20	20	57	58	**140**	**130**	53	54	59	61	64	61
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	1.3	ND	ND	ND	1.2	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	South Gate #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/20/09	9/30/09	5/20/09	9/30/09	5/20/09	9/30/09	5/20/09	9/30/09	5/20/09	9/30/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	308	300	418	390	426	420	472	450	580	540
Cation Sum	meq/l			5	4.9	6.4	6.3	6.5	6.4	7.3	7.1	9.4	8.8
Anion Sum	meq/l			5.1	5.4	6.5	6.7	6.6	6.7	7.5	7.5	9.6	9.3
Iron, Total, ICAP	mg/l	0.3	S	ND	0.025	ND	ND	ND	ND	ND	ND	0.079	0.08
Manganese, Total, ICAP/MS	ug/l	50	S	**54**	47	ND	ND	ND	ND	ND	ND	**140**	**110**
Turbidity	NTU	5	S	0.35	0.29	0.1	0.22	0.15	0.15	0.05	0.4	0.4	0.62
Alkalinity	mg/l			165	180	143	150	154	160	167	170	200	200
Boron	mg/l	1	N	0.11	0.11	0.14	0.13	0.11	0.11	0.16	0.15	0.14	0.13
Bicarbonate as HCO3,calcula	mg/l			201	220	174	180	187	190	203	200	243	250
Calcium, Total, ICAP	mg/l			49	47	68	65	73	71	78	75	99	91
Carbonate as CO3, Calculated	mg/l			ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			153	150	219	220	240	240	257	250	350	330
Chloride	mg/l	500	S	21	23	51	52	46	46	59	62	110	100
Fluoride	mg/l	2	P	0.31	0.3	0.31	0.29	0.36	0.36	0.36	0.36	0.39	0.41
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.75	0.5	0.64	0.7	0.72	0.7	0.74	0.8	0.87
Magnesium, Total, ICAP	None			7.4	7.5	12	13	14	15	15	15	25	24
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	2.1	2.2	2.2	2.3	2.1	2.3	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			2.3	2.3	3.1	3	2.7	2.7	3.1	2.9	2.9	2.8
Sodium, Total, ICAP	mg/l			44	43	44	43	37	37	49	48	53	51
Sulfate	mg/l	500	S	55	56	100	100	99	100	110	110	120	110
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.13	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	2.1	2.2	2.2	2.3	2.1	2.3	ND	ND
Total Organic Carbon	mg/l			ND	ND	0.3	0.37	ND	ND	ND	ND	0.73	0.66
Carbon Dioxide	mg/l			2.6	2.4	3.6	2.8	3.1	2.9	4.2	3.3	5	4.4
General Physical													
Apparent Color	ACU	15	S	5	ND	ND	ND	3	ND	ND	ND	3	ND
Lab pH	Units			8.1	8.2	7.9	8	8	8	7.9	8	7.9	8
Odor	TON	3	S	2	2	1	2	1	1	1	1	2	1
pH of CaCO3 saturation(25C)	Units			7.5	7.4	7.4	7.4	7.3	7.3	7.2	7.3	7.1	7.1
pH of CaCO3 saturation(60C)	Units			7	7	6.9	6.9	6.9	6.9	6.8	6.8	6.6	6.6
Specific Conductance	umho/cm	1600	S	503	500	667	650	666	650	746	730	956	900
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.4	2.7	2.8	2.7	3	2.9	2.1	2.1	2.6	2.8
Barium, Total, ICAP/MS	ug/l	100	P	**140**	**120**	93	86	**150**	**130**	76	68	**240**	**200**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	2.8	ND	2.6	1.3	3.4	ND	3.2	ND	3.9
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.7	0.55	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.7	0.79	4.4	3.6	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		1		2.2		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Whittier #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/22/09	9/2/09	4/22/09	9/2/09	4/22/09	9/2/09	4/22/09	9/2/09	4/22/09	9/2/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	**2754**	**2700**	**2614**	**2600**	**1816**	**1700**	756	690	700	690
Cation Sum	meq/l			41	42	37	40	27	28	12	12	11	12
Anion Sum	meq/l			40	40	38	37	27	26	11	10	11	11
Iron, Total, ICAP	mg/l	0.3	S	**0.59**	**0.58**	**0.44**	**0.46**	0.29	**0.3**	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	**59**	**60**	**99**	**89**	**83**	**81**	24	25	6.1	5.8
Turbidity	NTU	5	S	4.4	4	3.2	3.8	2	0.71	0.15	0.16	0.2	0.88
Alkalinity	mg/l			278	210	298	230	292	210	258	200	233	240
Boron	mg/l	1	N	0.89	0.88	0.96	0.95	0.64	0.63	0.19	0.2	0.16	0.16
Bicarbonate as HCO3,calcula	mg/l			339	260	363	280	356	250	315	240	284	290
Calcium, Total, ICAP	mg/l			200	200	190	190	160	160	79	83	80	83
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			1080	1000	969	1000	766	780	341	360	360	370
Chloride	mg/l	500	S	280	280	240	240	190	190	75	78	81	82
Fluoride	mg/l	2	P	0.26	0.26	0.27	0.28	0.46	0.47	0.18	0.17	0.29	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.9	1.1	1	1.1	0.9	1	0.5	0.65	0.5	0.81
Magnesium, Total, ICAP	None			140	130	120	130	89	91	35	36	39	40
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	3.8	3.9	5	5
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			11	12	9.6	11	6.7	7.3	4.1	4.2	3.5	3.7
Sodium, Total, ICAP	mg/l			450	490	410	450	260	280	110	110	87	92
Sulfate	mg/l	500	S	**1290**	**1300**	**1230**	**1200**	**760**	**770**	180	190	170	170
Surfactants	mg/l	0.5	S	0.056	ND	0.071	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	3.8	3.9	5	5
Total Organic Carbon	mg/l			1.7	1.7	2.1	2.2	1.1	1.1	ND	ND	ND	ND
Carbon Dioxide	mg/l			18	6.6	15	6.9	15	6	16	6.2	12	6.2
General Physical													
Apparent Color	ACU	15	S	**15**	**20**	**15**	**15**	10	10	ND	ND	3	ND
Lab pH	Units			7.5	7.8	7.6	7.8	7.6	7.8	7.5	7.8	7.6	7.9
Odor	TON	3	S	**3**	2	**3**	2	**3**	1	**3**	1	1	1
pH of CaCO3 saturation(25C)	Units			6.6	6.7	6.6	6.7	6.7	6.8	7	7.1	7.1	7.1
pH of CaCO3 saturation(60C)	Units			6.2	6.3	6.2	6.3	6.2	6.4	6.6	6.7	6.6	6.6
Specific Conductance	umho/cm	1600	S	**3420**	**3500**	**3240**	**3300**	**2350**	**2400**	1100	1100	1040	1100
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.2	ND	1.4	ND	1.7	ND	1.5	1.4	1	ND
Barium, Total, ICAP/MS	ug/l	100	P	16	17	18	17	22	21	29	33	25	27
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.5	ND	ND	ND	ND	ND	ND	ND	3.8	3.2
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	4.7	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	5.5	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	6.2	ND	ND	ND	13	13	15	16
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		1.6		2.5

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Whittier #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/24/09	10/1/09	4/24/09	9/30/09	4/24/09	9/30/09	4/24/09	9/30/09	4/24/09	9/30/09	4/24/09	9/30/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	**1090**	880		240	778	730	**1790**	**1700**	730	670	**1110**	**1100**
Cation Sum	meq/l			17	15	4.1	3.8	12	11	27	27	12	11	17	17
Anion Sum	meq/l			17	15	4	4	12	12	28	28	11	11	17	18
Iron, Total, ICAP	mg/l	0.3	S	**0.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	**370**	**98**	37	35	**56**	**74**	**220**	**220**	ND	ND	ND	ND
Turbidity	NTU	5	S	0.35	0.7	0.15	0.15	0.1	0.22	0.1	0.11	0.3	0.47	0.25	0.41
Alkalinity	mg/l			289	250	168	170	214	210	409	400	205	210	350	360
Boron	mg/l	1	N	0.54	0.59	0.27	0.24	0.23	0.22	0.85	0.79	0.17	0.17	0.34	0.33
Bicarbonate as HCO3,calcula	mg/l			352	310	205	200	261	250	499	490	250	250	427	440
Calcium, Total, ICAP	mg/l			130	99	22	21	86	78	130	130	130	110	170	160
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	2.3	ND	ND	ND	2.1	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			481	360	73.1	69	363	330	666	650	428	380	593	560
Chloride	mg/l	500	S	190	220	11	11	120	120	230	250	120	110	92	92
Fluoride	mg/l	2	P	0.27	0.26	0.29	0.28	0.3	0.28	0.45	0.45	0.25	0.24	0.28	0.26
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.7	0.95	0.1	0.43	0.7	0.84	0.8	1.2	0.8	0.92	0.9	1.2
Magnesium, Total, ICAP	None			38	27	4.4	4.1	36	33	83	81	25	23	41	40
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	0.56	0.52	2.5	2.4	4.6	4	7.6	7.7
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			5.5	4.6	2.4	2.3	4	3.8	4	3.9	4.5	4.3	4.9	4.5
Sodium, Total, ICAP	mg/l			170	170	59	55	110	110	310	320	72	69	120	120
Sulfate	mg/l	500	S	270	180	16	15	210	220	**620**	**630**	170	170	320	350
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	0.56	0.52	2.5	2.4	4.6	4	7.6	7.7
Total Organic Carbon	mg/l			1.2	0.83	0.7	0.54	0.42	0.46	0.49	0.48	0.36	0.33	0.53	0.55
Carbon Dioxide	mg/l			18	6	4.2	ND	6.8	4.2	33	12	8.2	5.1	22	11
General Physical															
Apparent Color	ACU	15	S	10	ND	5	5	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.5	7.9	7.9	8.2	7.8	8	7.4	7.8	7.7	7.9	7.5	7.8
Odor	TON	3	S	**8**	2	2	1	1	2	1	2	1	1	1	2
pH of CaCO3 saturation(25C)	Units			6.8	7	7.8	7.8	7.1	7.2	6.6	6.6	6.9	7	6.6	6.6
pH of CaCO3 saturation(60C)	Units			6.3	6.5	7.3	7.4	6.6	6.7	6.2	6.2	6.5	6.5	6.1	6.2
Specific Conductance	µmho/cm	1600	S	**1610**	1500	416	380	1200	1200	**2520**	**2500**	1140	1100	1530	**1600**
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.5	2.2	ND	ND	2	2.8	1.4	2.5	1.5	1.6	1.9	2.6
Barium, Total, ICAP/MS	ug/l	100	P	51	37	18	19	46	45	14	14	79	77	35	39
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2	4.4	ND	3.3	3.9	5.5	2	5.3	3	5.7	4.7	9.8
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	3.6	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	5.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.1
Selenium, Total, ICAP/MS	ug/l	50	P	ND	5.9	ND	ND	ND	ND	9	10	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	1.4	0.98	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	0.6
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		1.2		ND		2.4		2.5

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Whittier Narrows #1								
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
				9/6/09	9/6/09	9/6/09	9/6/09	9/6/09	9/6/09	9/6/09	9/6/09	9/6/09
General Mineral												
Total Dissolved Solid (TDS)	mg/l	1000	S	**1400**	200	420	460	410	530	560	570	600
Cation Sum	meq/l			20	3.7	7.2	8.2	6.3	9.5	9.9	10	11
Anion Sum	meq/l			21	3.4	6.6	7.4	6.5	8.7	9.1	9.3	9.7
Iron, Total, ICAP	mg/l	0.3	S	**9.3**	0.038	0.04	0.048	ND	ND	0.023	0.029	0.021
Manganese, Total, ICAP/MS	ug/l	50	S		17	ND	ND	ND	34	33	16	20
Turbidity	NTU	5	S	**22**	0.31	0.35	0.52	0.31	0.6	0.34	0.46	0.49
Alkalinity	mg/l			70	110	140	150	140	160	160	160	170
Boron	mg/l	1	N	**1**	0.17	0.058	0.058	ND	0.24	0.28	0.28	0.3
Bicarbonate as HCO3,calcula	mg/l			85	140	170	180	170	200	200	200	210
Calcium, Total, ICAP	mg/l			63	12	100	110	83	99	90	92	85
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			210	33	290	330	260	310	280	300	290
Chloride	mg/l	500	S	**690**	33	61	73	65	98	110	120	120
Fluoride	mg/l	2	P	0.77	0.41	0.25	0.26	0.27	0.25	0.26	0.26	0.31
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			-0.61	-0.25	0.67	0.83	0.78	0.94	0.84	0.87	0.85
Magnesium, Total, ICAP	None			13	0.53	9.3	14	12	15	15	16	18
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	1.3	1.3	1.1	1.3	1.9	2.1	3
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	0.29	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.5	1.8	2.9	4.4	3.8	5.2	5.5	5.7	6
Sodium, Total, ICAP	mg/l			350	68	32	35	24	73	94	93	110
Sulfate	mg/l	500	S	ND	8.4	99	110	86	120	130	130	130
Surfactants	mg/l	0.5	S	0.25	0.08	0.12	0.08	0.074	0.11	0.11	0.15	0.17
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	1.3	1.3	1.1	1.6	1.9	2.1	3
Total Organic Carbon	mg/l			5.9	0.49	0.37	0.53	0.5	0.95	1	1.1	1.6
Carbon Dioxide	mg/l			11	2.3	3.5	2.9	2.4	2.7	2.9	2.9	3
General Physical												
Apparent Color	ACU	15	S	**50**	3	ND	3	ND	ND	ND	3	5
Lab pH	Units			7.1	8	7.9	8	8.1	8.1	8	8.1	8.1
Odor	TON	3	S	**3**	2	1	1	1	1	2	2	2
pH of CaCO3 saturation(25C)	Units			7.7	8.2	7.2	7.2	7.3	7.1	7.2	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7.3	7.8	6.8	6.7	6.8	6.7	6.8	6.7	6.8
Specific Conductance	µmho/cm	1600	S	**2300**	350	670	740	660	880	920	960	1000
Metal												
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P		ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	**15**	1.8	1.1	1.7	1.4	1.7	1.8	1.5	1.2
Barium, Total, ICAP/MS	ug/l	100	P		24	**200**	**190**	**190**	**130**	**110**	85	53
Beryllium, Total, ICAP/MS	ug/l	4	P		ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P		ND	3.1	2.6	1.7	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P		ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P		ND	ND	ND	ND	ND	ND	3.3	3.2
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P		ND	ND	ND	ND	22	6.1	6.1	5.5
Selenium, Total, ICAP/MS	ug/l	50	P	26	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S		ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P		ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	39	ND	ND	31	40	58	ND	45	26
Volatile Organic Compound												
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	0.5	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	0.63	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Willowbrook #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				5/11/09	9/16/09	5/11/09	9/16/09	5/11/09	9/16/09	5/11/09	9/16/09
General Mineral											
Total Dissolved Solid (TDS)	mg/l	1000	S	358	340	350	310	336	330	342	330
Cation Sum	meq/l			5.8	6.1	5.4	5.7	5.6	5.9	5.6	5.9
Anion Sum	meq/l			5	6	6.9	5.5	5.8	5.7	5.9	5.6
Iron, Total, ICAP	mg/l	0.3	S	0.06	0.064	ND	ND	0.079	0.085	ND	0.03
Manganese, Total, ICAP/MS	ug/l	50	S	**55**	**54**	**50**	47	30	28	**91**	**84**
Turbidity	NTU	5	S	0.35	0.96	0.15	0.069	0.35	0.1	4.6	**35**
Alkalinity	mg/l			183	230	241	180	186	180	190	180
Boron	mg/l	1	N	0.17	0.17	0.12	0.11	0.12	0.12	0.12	0.12
Bicarbonate as HCO3,calcula	mg/l			223	280	293	210	226	220	231	220
Calcium, Total, ICAP	mg/l			42	43	55	58	57	60	57	60
Carbonate as CO3, Calculated	mg/l			ND	2.7	2.4	2.1	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			141	140	179	190	192	200	183	190
Chloride	mg/l	500	S	17	17	20	20	20	20	23	23
Fluoride	mg/l	2	P	0.27	0.24	0.29	0.26	0.4	0.37	0.37	0.33
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.81	0.9	0.83	0.7	0.76	0.8	0.79
Magnesium, Total, ICAP	None			8.7	8.8	10	10	12	13	9.9	10
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			4.1	4.4	2.5	2.6	3.3	3.4	2.7	2.9
Sodium, Total, ICAP	mg/l			66	71	41	43	39	41	43	45
Sulfate	mg/l	500	S	40	38	70	69	72	72	67	65
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.6	1.8	0.31	ND	ND	ND	ND	ND
Carbon Dioxide	mg/l			2.9	3.2	3.8	2.3	3.7	2.9	3	2.7
General Physical											
Apparent Color	ACU	15	S	**15**	**15**	ND	3	ND	3	3	5
Lab pH	Units			8.1	8.2	8.1	8.2	8	8.1	8.1	8.1
Odor	TON	3	S	**4**	2	2	1	2	1	1	1
pH of CaCO3 saturation(25C)	Units			7.5	7.4	7.2	7.4	7.3	7.3	7.3	7.3
pH of CaCO3 saturation(60C)	Units			7	6.9	6.8	6.9	6.9	6.9	6.9	6.9
Specific Conductance	µmho/cm	1600	S	565	570	527	530	544	540	547	550
Metal											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	9	6.3	ND	ND	3.1	3.1	3.3	5
Barium, Total, ICAP/MS	ug/l	100	P	43	44	49	52	68	71	**123**	**130**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	3.5	ND	4.4	ND	4.5
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethan	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Carson #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/30/09	8/19/09	3/30/09	8/19/09	3/30/09	8/19/09	3/30/09	8/19/09
General Mineral											
Total Dissolved Solid (TDS)	mg/l	1000	S	218	200	244	220	318	300	394	360
Cation Sum	meq/l			3.5	5.6	4.1	4.3	5.3	3.7	6.3	6.6
Anion Sum	meq/l			3.5	3.5	4	4.1	5.2	5.3	6.2	6.2
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	0.022	0.023	ND	ND	0.057	0.064
Manganese, Total, ICAP/MS	ug/l	50	S	27	29	18	15	31	22	**85**	**87**
Turbidity	NTU	5	S	0.3	0.32	0.25	0.35	0.1	0.12	3.2	1.2
Alkalinity	mg/l			146	150	172	180	164	170	180	180
Boron	mg/l	1	N	0.1		0.11		0.11		0.13	
Bicarbonate as HCO3,calcula	mg/l			177	180	209	210	199	210	219	220
Calcium, Total, ICAP	mg/l			20	46	32	34	44	21	51	54
Carbonate as CO3, Calculated	mg/l			ND	2.4	ND	2.6	2	2.3	ND	ND
Hardness (Total, as CaCO3)	mg/l			66.4	170	108	120	159	72	185	200
Chloride	mg/l	500	S	20	21	21	22	22	23	42	42
Fluoride	mg/l	2	P	0.24	0.27	0.2	0.22	0.29	0.32	0.38	0.42
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.3	0.79	0.4	0.7	0.7	0.43	0.6	0.71
Magnesium, Total, ICAP	None			4	13	6.8	7.5	12	4.4	14	15
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			2.8	3.1	2.5	2.5	3	2.8	3.6	3.6
Sodium, Total, ICAP	mg/l			49	47	43	45	46	50	57	58
Sulfate	mg/l	500	S	ND	ND	ND	ND	62	61	68	68
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.88	0.35	0.51	0.38	0.36	0.69	0.42	0.39
Carbon Dioxide	mg/l			ND	ND	3.4	ND	2.1	ND	3.6	2.9
General Physical											
Apparent Color	ACU	15	S	10	10	5	ND	3	ND	5	3
Lab pH	Units			8.2	8.3	8	8.3	8.1	8.2	8	8.1
Odor	TON	3	S	**3**	1	**3**	1	1	1	2	1
pH of CaCO3 saturation(25C)	Units			7.9	7.5	7.6	7.6	7.5	7.8	7.4	7.4
pH of CaCO3 saturation(60C)	Units			7.5	7.1	7.2	7.1	7.1	7.4	7	6.9
Specific Conductance	µmho/cm	1600	S	353	340	531	390	509	510	605	610
Metal											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	100	P	18	64	38	37	68	16	**184**	**180**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Carson #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/31/09	8/20/09	3/31/09	8/20/09	3/31/09	8/20/09	3/31/09	8/20/09	3/31/09	8/20/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	234	230	272	230	290	270	236	220	262	240
Cation Sum	meq/l			4	3.9	4.4	4.6	4.7	4.8	4.2	4.3	4.5	4.6
Anion Sum	meq/l			4.1	3.9	4.6	4.6	4.7	4.7	4.2	4.2	4.6	4.6
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	0.053	0.059
Manganese, Total, ICAP/MS	ug/l	50	S	ND	ND	9.9	7.6	22	17	13	10	**51**	**58**
Turbidity	NTU	5	S	0.15	0.41	0.15	0.42	0.1	0.25	0.1	0.097	0.7	**7**
Alkalinity	mg/l			178	170	199	200	183	180	179	180	178	180
Boron	mg/l	1	N	0.14		0.14		0.13		0.11		0.12	
Bicarbonate as HCO3,calcula	mg/l			215	200	241	240	222	220	217	220	216	220
Calcium, Total, ICAP	mg/l			2.4	2.2	11	11	28	28	31	31	40	40
Carbonate as CO3, Calculated	mg/l			5.6	7.5	5	4.4	2.9	2.8	2.2	2.5	2.2	2.2
Hardness (Total, as CaCO3)	mg/l			7.56	7.1	42.7	43	108	110	119	120	137	140
Chloride	mg/l	500	S	20	19	21	21	23	23	22	22	22	21
Fluoride	mg/l	2	P	0.33	0.35	0.24	0.26	0.29	0.3	0.24	0.26	0.29	0.32
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			-0.1	-0.032	0.5	0.43	0.6	0.64	0.6	0.64	0.7	0.69
Magnesium, Total, ICAP	None			0.38	0.37	3.7	3.8	9.2	9.6	10	11	8.9	9.3
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			1.8	1.7	3.8	4	4.2	4.4	3.7	3.8	3.2	3.2
Sodium, Total, ICAP	mg/l			87	85	80	84	55	58	39	40	39	40
Sulfate	mg/l	500	S	ND	ND	ND	ND	20	23	ND	ND	17	17
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.06	0.051	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.9	1.6	1.2	1.1	0.73	0.6	0.44	0.43	ND	ND
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	2.2	2	2.2	2.3
General Physical													
Apparent Color	ACU	15	S	**35**	**40**	**25**	**25**	10	5	3	5	5	5
Lab pH	Units			8.6	8.8	8.5	8.5	8.3	8.3	8.2	8.3	8.2	8.2
Odor	TON	3	S	**4**	1	**3**	2	**4**	2	**4**	1	**4**	2
pH of CaCO3 saturation(25C)	Units			8.7	8.8	8	8	7.7	7.7	7.6	7.6	7.5	7.5
pH of CaCO3 saturation(60C)	Units			8.3	8.3	7.6	7.6	7.2	7.2	7.2	7.2	7.1	7.1
Specific Conductance	µmho/cm	1600	S	371	370	424	430	451	450	399	410	429	440
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	41	ND	ND	ND	ND	ND	ND	ND	26	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	100	P	ND	ND	6.9	5.9	15	13	18	15	24	20
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Chandler #3			
				Zone 2		Zone 1	
				4/16/09	9/10/09	4/16/09	9/10/09
General Mineral							
Total Dissolved Solid (TDS)	mg/l	1000	S	**1214**	**1200**	610	610
Cation Sum	meq/l			20	21	11	11
Anion Sum	meq/l			13	18	10	11
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	0.19	0.2
Manganese, Total, ICAP/MS	ug/l	50	S	16	10	**77**	**75**
Turbidity	NTU	5	S	1.7	1.4	1.1	0.24
Alkalinity	mg/l			347	360	340	350
Boron	mg/l	1	N	0.34	0.45	0.22	0.24
Bicarbonate as HCO3,calcula	mg/l			423	440	414	420
Calcium, Total, ICAP	mg/l			200	200	72	73
Carbonate as CO3, Calculated	mg/l			ND	ND	2.7	2.2
Hardness (Total, as CaCO3)	mg/l			705	710	266	270
Chloride	mg/l	500	S	121	210	120	120
Fluoride	mg/l	2	P	0.12	0.14	0.25	0.26
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND
Langelier Index - 25 degree	None			1.2	1.2	1	0.95
Magnesium, Total, ICAP	None			50	52	21	21
Mercury	ug/l	2	P	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	**11**	**20**	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.7	4	3.2	3.5
Sodium, Total, ICAP	mg/l			130	150	120	120
Sulfate	mg/l	500	S	69	150	11	12
Surfactants	mg/l	0.5	S	0.092	0.072	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	**11**	**20**	ND	ND
Total Organic Carbon	mg/l			1	0.95	1.6	1.4
Carbon Dioxide	mg/l			14	16	6.8	8.8
General Physical							
Apparent Color	ACU	15	S	3	3	10	10
Lab pH	Units			7.7	7.7	8	7.9
Odor	TON	3	S	2	2	2	2
pH of CaCO3 saturation(25C)	Units			6.5	6.5	7	7
pH of CaCO3 saturation(60C)	Units			6.1	6.1	6.5	6.5
Specific Conductance	umho/cm	1600	S	**1910**	**1800**	1040	1000
Metal							
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	4.7	2.6	4.1	3.2
Barium, Total, ICAP/MS	ug/l	100	P	**140**	**130**	45	41
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	12	4.1	6.2	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	2.2	ND	2	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	54	43	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	16	8.8	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND
Volatile Organic Compound							
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND
Perchlorate	ug/l	6	P		3.8		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Gardena #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/9/09	8/24/09	4/9/09	8/24/09	4/9/09	8/24/09	4/9/09	8/24/09
General Mineral											
Total Dissolved Solid (TDS)	mg/l	1000	S	466	380	324	330	304	310	**2976**	**2600**
Cation Sum	meq/l			7.8	6.7	5.7	5.8	5.5	5.5	37	37
Anion Sum	meq/l			7.7	6.8	5.7	5.8	5.3	5.3	34	39
Iron, Total, ICAP	mg/l	0.3	S	ND	0.027	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	**62**	**73**	**58**	**54**	**51**	48	ND	ND
Turbidity	NTU	5	S	**7.3**	**5.1**	**14**	**9.6**	**9.9**	**7.7**	**5.3**	**7.7**
Alkalinity	mg/l			176	260	180	180	169	170	180	190
Boron	mg/l	1	N	0.27	0.33	0.13		0.13		0.14	0.12
Bicarbonate as HCO3,calcula	mg/l			213	320	219	220	206	200	219	230
Calcium, Total, ICAP	mg/l			48	31	53	56	52	54	420	420
Carbonate as CO3, Calculated	mg/l			3.5	3.2	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			173	120	186	200	179	180	1540	1600
Chloride	mg/l	500	S	77	33	29	29	22	22	**1000**	**1200**
Fluoride	mg/l	2	P	0.24	0.2	0.39	0.38	0.42	0.4	0.14	0.13
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1	0.74	0.6	0.63	0.6	0.59	0.8	1
Magnesium, Total, ICAP	None			13	10	13	13	12	12	120	120
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	2	ND	ND	ND	ND	ND	**16**	**18**
Nitrite, Nitrogen by IC	mg/l	1	P	**3.3**	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			8.1	8.9	3.7	3.7	3.2	3.2	7	7.3
Sodium, Total, ICAP	mg/l			95	95	43	42	42	41	130	130
Sulfate	mg/l	500	S	91	25	59	62	63	66	41	42
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.11	0.097
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	5.3	ND	ND	ND	ND	ND	**16**	**18**
Total Organic Carbon	mg/l			8.2	3.4	0.32	ND	ND	0.56	ND	0.33
Carbon Dioxide	mg/l			ND	3.4	3.6	3.8	3.4	3.3	18	13
General Physical											
Apparent Color	ACU	15	S	**15**	**20**	10	3	5	3	3	3
Lab pH	Units			8.4	8.2	8	8	8	8	7.3	7.5
Odor	TON	3	S	**3**	**8**	1	1	1	2	1	1
pH of CaCO3 saturation(25C)	Units			7.4	7.4	7.4	7.3	7.4	7.4	6.5	6.5
pH of CaCO3 saturation(60C)	Units			7	7	6.9	6.9	7	7	6	6
Specific Conductance	µmho/cm	1600	S	822	650	553	540	526	520	**3810**	**3800**
Metal											
Aluminum, Total, ICAP/MS	ug/l	1000	P	24	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	5	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	**15**	**140**	ND	ND	ND	ND	3.6	3
Barium, Total, ICAP/MS	ug/l	100	P	28	20	61	56	52	43	**480**	**460**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.6	ND	3.4	ND	2.9	ND	14	12
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	12	5.9
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		**8.5**

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Gardena #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/3/09	8/20/09	4/3/09	8/20/09	4/3/09	8/20/09	4/3/09	8/20/09	4/3/09	8/20/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	344	320	302	300	294	300	226	200	290	290
Cation Sum	meq/l			6.3	6.1	5.5	5.5	5.3	5.2	4.2	4.2	5.3	5.3
Anion Sum	meq/l			6.1	6.2	5.6	5.6	5.3	5.1	4.4	4.1	5.2	5.2
Iron, Total, ICAP	mg/l	0.3	S	0.027	0.025	0.043	0.042	0.051	0.053	0.026	0.028	0.052	0.047
Manganese, Total, ICAP/MS	ug/l	50	S	28	23	41	39	**56**	**52**	44	43	**77**	**63**
Turbidity	NTU	5	S	0.4	0.69	0.1	0.19	0.2	0.2	0.55	0.5	4.2	4.1
Alkalinity	mg/l			286	290	190	190	185	180	188	170	193	190
Boron	mg/l	1	N	0.32		0.17		0.13		0.093		0.13	
Bicarbonate as HCO3,calcula	mg/l			347	350	231	230	225	210	228	210	235	230
Calcium, Total, ICAP	mg/l			16	16	38	37	48	46	32	31	49	48
Carbonate as CO3, Calculated	mg/l			5.7	5.2	2.4	2.3	ND	ND	2.3	2.2	ND	ND
Hardness (Total, as CaCO3)	mg/l			66.3	65	144	140	169	160	118	110	168	170
Chloride	mg/l	500	S	14	14	22	23	23	23	21	22	38	38
Fluoride	mg/l	2	P	0.24	0.28	0.26	0.29	0.36	0.41	0.27	0.31	0.28	0.32
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.7	0.65	0.7	0.69	0.7	0.66	0.6	0.58	0.6	0.7
Magnesium, Total, ICAP	None			6.4	6.3	12	12	12	12	9.3	9.1	11	11
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			5.5	5.5	5.8	5.8	3.6	3.7	3.2	3.2	3	3.2
Sodium, Total, ICAP	mg/l			110	110	57	56	42	43	41	42	44	45
Sulfate	mg/l	500	S	ND	ND	56	55	43	43	ND	ND	12	12
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.4	3.2	0.6	0.63	0.44	0.34	0.57	0.79	ND	0.43
Carbon Dioxide	mg/l			2.3	2.5	2.4	2.4	2.9	2.7	2.4	2.1	3.9	3
General Physical													
Apparent Color	ACU	15	S	**25**	**30**	5	5	3	3	5	5	5	3
Lab pH	Units			8.4	8.4	8.2	8.2	8.1	8.1	8.2	8.2	8	8.1
Odor	TON	3	S	2	2	**3**	2	2	2	**3**	1	**4**	**3**
pH of CaCO3 saturation(25C)	Units			7.7	7.7	7.5	7.5	7.4	7.4	7.6	7.6	7.4	7.4
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7.1	7.1	7	7	7.1	7.2	6.9	7
Specific Conductance	umho/cm	1600	S	574	570	528	530	497	490	397	400	511	510
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	100	P	21	18	22	19	23	21	57	50	82	76
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Hawthorne #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/18/09	9/27/09	5/18/09	9/27/09	5/18/09	9/27/09	5/18/09	9/27/09	5/18/09	9/27/09	5/18/09	9/27/09
General Mineral															
Total Dissolved Solid (TDS)	mg/l	1000	S	958	850	858	770	630	630	524	420	**1250**	980	**1900**	**1700**
Cation Sum	meq/l			14	16	14	15	11	11	8	7.7	17	16	30	29
Anion Sum	meq/l			15	16	14	14	11	11	7.8	7.9	16	16	28	29
Iron, Total, ICAP	mg/l	0.3	S	0.15	0.14	0.12	0.12	0.21	0.22	ND	0.026	ND	0.023	ND	0.028
Manganese, Total, ICAP/MS	ug/l	50	S	13	13	**55**	**54**	**70**	**70**	38	40	**230**	**210**	**540**	**510**
Turbidity	NTU	5	S	0.55	0.47	**6.8**	**5.7**	0.25	0.72	2.6	0.81	0.25	0.32	**6.7**	**19**
Alkalinity	mg/l			700	710	633	640	494	510	316	320	217	220	316	350
Boron	mg/l	1	N	**1.4**	**1.4**	**1**	**1**	0.61	0.62	0.36	0.34	0.16	0.15	0.35	0.34
Bicarbonate as HCO3,calcula	mg/l			851	860	769	770	601	620	385	390	264	270	385	420
Calcium, Total, ICAP	mg/l			15	15	16	18	38	38	38	36	140	130	240	230
Carbonate as CO3, Calculated	mg/l			7	10	10	12	4.9	6.3	2.5	3.4	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			86.9	89	79.9	87	194	190	172	160	555	530	921	860
Chloride	mg/l	500	S	47	49	49	51	43	44	52	54	340	340	460	**500**
Fluoride	mg/l	2	P	0.12	0.11	0.24	0.25	0.22	0.22	0.35	0.38	0.27	0.28	0.24	0.23
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.8	0.94	0.9	1.1	1	1.1	0.7	0.84	0.9	1	1.1	1.3
Magnesium, Total, ICAP	None			12	12	9.7	10	24	24	17	17	49	48	71	71
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	1
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			19	19	13	14	14	14	9.1	8.8	7.9	7.5	7.1	7
Sodium, Total, ICAP	mg/l			280	290	270	280	150	160	100	99	120	120	250	260
Sulfate	mg/l	500	S	ND	ND	ND	2.5	ND	ND	ND	ND	100	100	420	390
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	1
Total Organic Carbon	mg/l			14	11	14	13	5.4	5.8	2.5	2.6	1	0.95	1.5	1.4
Carbon Dioxide	mg/l			11	7.6	6.3	5.5	7.8	6.4	6.3	4.7	6.9	5	16	14
General Physical															
Apparent Color	ACU	15	S	**100**	**200**	**150**	**250**	**50**	**60**	**20**	**25**	5	5	5	5
Lab pH	Units			8.1	8.3	8.3	8.4	8.1	8.2	8	8.1	7.8	7.9	7.6	7.7
Odor	TON	3	S	**3**	2	**3**	2	2	2	**3**	2	2	**3**	**8**	2
pH of CaCO3 saturation(25C)	Units			7.3	7.3	7.4	7.3	7.1	7.1	7.3	7.3	6.9	6.9	6.5	6.5
pH of CaCO3 saturation(60C)	Units			6.9	6.9	6.9	6.9	6.6	6.6	6.8	6.8	6.4	6.5	6	6
Specific Conductance	µmho/cm	1600	S	1410	1400	1310	1300	1040	1000	768	750	**1690**	**1700**	**2790**	**2800**
Metal															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.1	ND	1.7	ND	1.8	ND	ND	ND	ND	ND	3.1	3.8
Barium, Total, ICAP/MS	ug/l	100	P	30	32	28	29	37	40	37	35	**160**	**160**	45	51
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	1.1	ND	2.6	ND	ND	ND	6.7	ND	4.2	2.2	6.4
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	3.4	ND	3.9	ND	ND	ND	ND	ND	ND	ND	2.4
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.9	11
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.4
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	**34**	**31**
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	1.3
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	0.57
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.6	7.1
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4	3.7
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	1
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1	1.7
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Inglewood #1							
				Zone 1		Zone 3		Zone 4		Zone 5	
				5/8/09	8/27/09	5/8/09	8/27/09	5/8/09	8/27/09	5/8/09	8/27/09
General Mineral											
Total Dissolved Solid (TDS)	mg/l	1000	S		**2400**	**1590**	**1200**	902	780	**1310**	**1400**
Cation Sum	meq/l			42	42	19	20	13	14	20	21
Anion Sum	meq/l			42	42	20	21	13	14	20	20
Iron, Total, ICAP	mg/l	0.3	S	0.067	0.11	**0.44**	**0.48**	**0.35**	**0.36**	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	19	15	**350**	**370**	**210**	**210**	ND	ND
Turbidity	NTU	5	S	0.9	0.91	3.8	4.5	2.3	2.8	0.25	0.26
Alkalinity	mg/l			839	850	315	320	231	230	274	270
Boron	mg/l	1	N	**4.8**		0.43	0.43	0.2	0.2	0.25	0.22
Bicarbonate as HCO3,calcula	mg/l			1020	1000	384	390	281	280	334	330
Calcium, Total, ICAP	mg/l			150	140	130	140	100	110	170	180
Carbonate as CO3, Calculated	mg/l			4.2	3.9	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			589	570	543	590	435	460	676	710
Chloride	mg/l	500	S	**830**	**850**	380	400	240	240	390	400
Fluoride	mg/l	2	P	0.27	0.29	0.44	0.45	0.39	0.4	0.24	0.24
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.5	1.5	1.1	0.87	0.9	0.83	0.9	0.77
Magnesium, Total, ICAP	None			52	51	53	58	45	47	61	64
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	7.7	8
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			16	16	7.2	7.7	9.4	9.8	7.7	8.1
Sodium, Total, ICAP	mg/l			690	690	180	190	99	100	140	140
Sulfate	mg/l	500	S	70	69	130	140	91	95	130	150
Surfactants	mg/l	0.5	S	0.199	0.089	0.051	ND	ND	ND	**0.7**	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	7.7	8
Total Organic Carbon	mg/l			38	8.4	1.2	1.3	0.58	0.6	0.8	0.63
Carbon Dioxide	mg/l			27	29	10	17	5.8	7.3	14	20
General Physical											
Apparent Color	ACU	15	S	**100**	**150**	10	**15**	10	10	ND	ND
Lab pH	Units			7.8	7.8	7.8	7.6	7.9	7.8	7.6	7.4
Odor	TON	3	S	**8**	2	2	2	2	1	2	1
pH of CaCO3 saturation(25C)	Units			6.3	6.3	6.7	6.7	7	7	6.7	6.7
pH of CaCO3 saturation(60C)	Units			5.8	5.8	6.3	6.3	6.6	6.5	6.2	6.2
Specific Conductance	µmho/cm	1600	S	**4120**	**4100**	**2000**	**2000**	1380	1400	**2010**	**2000**
Metal											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	9.7	1.8	1.1	1.3	ND	3.1	1.4
Barium, Total, ICAP/MS	ug/l	100	P	**227**	**310**	43	47	**100**	**110**	**230**	**240**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	10	1.3	5	2.3	3.2	1.5	ND	2.3
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	4.9	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	5.4	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	40	34	6.6	9.8	5.1	ND	13	7.7
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound											
Trichloroethylene (TCE)	ug/l	5	P	1.2	1.1	ND	ND	ND	ND	1.1	0.97
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Lomita #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/30/09	8/26/09	3/30/09	8/26/09	3/30/09	8/26/09	3/30/09	8/26/09	3/30/09	8/26/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	**2328**	**2200**	**1056**	**1100**	916	950	584	690	**1652**	**1700**
Cation Sum	meq/l			28	26	16	17	16	17	10	13	23	24
Anion Sum	meq/l			29	27	17	18	16	17	9.9	12	24	25
Iron, Total, ICAP	mg/l	0.3	S	0.13	0.12	ND	ND	0.033	ND	ND	ND	0.12	0.12
Manganese, Total, ICAP/MS	ug/l	50	S	**446**	**430**	**180**	**200**	**160**	**160**	**89**	**120**	**330**	**340**
Turbidity	NTU	5	S	0.55	1.4	4.8	3.4	3.5	2.3	**5.6**	3.3	0.9	0.62
Alkalinity	mg/l			262	260	236	240	277	290	229	240	249	260
Boron	mg/l	1	N	0.67	0.62	0.44	0.42	0.43	0.37	0.36	0.36	0.56	0.5
Bicarbonate as HCO3,calcula	mg/l			319	320	287	300	337	360	279	290	303	310
Calcium, Total, ICAP	mg/l			230	220	120	120	110	110	59	88	180	190
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	2.2	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			826	780	436	450	398	420	213	320	655	700
Chloride	mg/l	500	S	**820**	**760**	420	430	350	370	180	250	**650**	**680**
Fluoride	mg/l	2	P	0.08	0.086	0.15	0.13	0.14	0.11	0.24	0.19	0.088	0.076
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.1	1	1	0.85	1.1	0.93	0.8	0.79	1.1	0.98
Magnesium, Total, ICAP	None			61	57	33	35	30	32	16	24	50	52
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			16	15	12	12	11	11	7.4	9	14	14
Sodium, Total, ICAP	mg/l			250	240	170	180	180	180	130	150	220	220
Sulfate	mg/l	500	S	12	9.6	26	25	22	24	10	14	22	22
Surfactants	mg/l	0.5	S	0.116	0.089	0.094	ND	0.071	ND	0.096	ND	0.056	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.8	1.1	1.8	1.3	2.5	2.2	2.3	1.9	1.3	0.88
Carbon Dioxide	mg/l			10	13	5.9	9.1	5.5	10	4.6	7.1	7.9	12
General Physical													
Apparent Color	ACU	15	S	10	10	**15**	**15**	**15**	**15**	**25**	**20**	5	3
Lab pH	Units			7.7	7.6	7.9	7.7	8	7.8	8	7.8	7.8	7.6
Odor	TON	3	S	**3**	**3**	**4**	**4**	**4**	**8**	**8**	**4**	2	**4**
pH of CaCO3 saturation(25C)	Units			6.6	6.6	6.9	6.9	6.9	6.8	7.2	7	6.7	6.7
pH of CaCO3 saturation(60C)	Units			6.1	6.2	6.5	6.4	6.4	6.4	6.8	6.6	6.3	6.2
Specific Conductance	umho/cm	1600	S	**2890**	**2800**	**1740**	**1800**	**1620**	**1700**	1030	1300	**2460**	**2500**
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	5.5	ND	3.9	1.3	3.4	ND	4.7	ND	1.4	1.7
Barium, Total, ICAP/MS	ug/l	100	P	**130**	**110**	74	70	69	63	36	47	**120**	**110**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	10	4.5	5.4	2.4	5.3	ND	3.3	2.1	7.4	3.2
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	24	22	11	13	ND	9.5	18	7	ND	20
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Long Beach #3									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/27/09	8/18/09	3/27/09	8/18/09	3/27/09	8/18/09	3/27/09	8/18/09	3/27/09	8/18/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	422	470	216	230	248	250	**1940**	**2300**	**2110**	**2500**
Cation Sum	meq/l			7.9	7.8	3.8	4	4.2	4.3	27	27	31	30
Anion Sum	meq/l			8.1	7.9	3.8	3.8	4.2	4.1	28	27	31	30
Iron, Total, ICAP	mg/l	0.3	S	0.047	0.056	ND	ND	0.023	0.024	0.13	0.14	0.28	0.29
Manganese, Total, ICAP/MS	ug/l	50	S	13	14	9.8	7.4	13	11	**270**	**270**	**350**	**400**
Turbidity	NTU	5	S	0.5	0.84	0.15	0.25	0.15	0.25	**6.5**	0.75	1.7	1.8
Alkalinity	mg/l			380	370	136	130	162	160	123	120	134	140
Boron	mg/l	1	N	0.37		0.12		0.15		0.11		0.11	
Bicarbonate as HCO3,calcula	mg/l			461	440	165	160	197	190	150	150	163	170
Calcium, Total, ICAP	mg/l			11	11	17	18	21	22	300	300	370	350
Carbonate as CO3, Calculated	mg/l			7.5	7.1	2.7	2.6	2.6	2.5	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			41.5	42	54.8	58	67.3	70	1080	1100	1270	1200
Chloride	mg/l	500	S	18	19	20	22	34	33	**850**	**810**	**940**	**920**
Fluoride	mg/l	2	P	0.52	0.48	0.37	0.31	0.32	0.26	0.15	0.11	0.16	0.11
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.7	0.65	0.4	0.41	0.5	0.48	1	1	1.1	1.1
Magnesium, Total, ICAP	None			3.4	3.4	3	3.1	3.6	3.7	80	80	85	87
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.3	3.3	2.1	2.1	2.7	2.4	12	12	9.4	9.9
Sodium, Total, ICAP	mg/l			160	160	61	65	65	65	110	110	110	110
Sulfate	mg/l	500	S	ND	ND	23	25	ND	ND	66	66	67	69
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.105	0.099
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			8.2	7.5	1.4	1.2	2.8	2.7	0.8	0.63	0.78	0.85
Carbon Dioxide	mg/l			3	3	ND	ND	ND	ND	3.9	3.9	4.2	4.4
General Physical													
Apparent Color	ACU	15	S	**50**	**80**	**15**	**20**	**15**	**25**	5	5	10	5
Lab pH	Units			8.4	8.4	8.4	8.4	8.3	8.3	7.8	7.8	7.8	7.8
Odor	TON	3	S	**4**	**3**	2	2	2	2	**4**	**3**	**4**	2
pH of CaCO3 saturation(25C)	Units			7.7	7.7	8	8	7.8	7.8	6.8	6.8	6.7	6.7
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7.6	7.5	7.4	7.4	6.3	6.4	6.2	6.2
Specific Conductance	µmho/cm	1600	S	755	740	373	380	421	410	**2890**	**2800**	**3100**	**3200**
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	3.1	2.5	4	3.4
Barium, Total, ICAP/MS	ug/l	100	P	9.5	9.6	18	13	9.1	7.8	**110**	93	**190**	**170**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	3.9	ND	4.6
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	5.8	ND	6.9	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	15	18	18	23
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Long Beach #8					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				9/28/09	9/29/09	9/28/09	9/29/09	9/29/09	9/29/09
General Mineral									
Total Dissolved Solid (TDS)	mg/l	1000	S	640	600	840	**1300**	**1000**	**1100**
Cation Sum	meq/l			12	9.5	16	22	17	17
Anion Sum	meq/l			11	9.1	15	24	18	17
Iron, Total, ICAP	mg/l	0.3	S	0.19	0.15	0.19	0.17	**1**	**0.96**
Manganese, Total, ICAP/MS	ug/l	50	S	20	24	32	27	**150**	**830**
Turbidity	NTU	5	S	1.5	2.6	1.7	2.6	**260**	**22**
Alkalinity	mg/l			530	400	620	390	310	210
Boron	mg/l	1	N	**1.2**	0.74	**1.3**	0.98	0.58	0.21
Bicarbonate as HCO3,calcula	mg/l			640	490	750	480	370	250
Calcium, Total, ICAP	mg/l			7.2	8.2	11	43	56	110
Carbonate as CO3, Calculated	mg/l			12	7.4	9.7	3.7	2.9	ND
Hardness (Total, as CaCO3)	mg/l			26	32	47	230	240	420
Chloride	mg/l	500	S			84	**570**	420	460
Fluoride	mg/l	2	P	0.88	0.82	0.63	0.21	0.17	0.47
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.69	0.53	0.75	0.95	0.95	0.84
Magnesium, Total, ICAP	None			2	2.8	4.9	31	25	37
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			1.9	3.6	6.8	10	8.5	5.8
Sodium, Total, ICAP	mg/l			270	200	330	390	260	190
Sulfate	mg/l	500	S	ND		ND	ND	ND	21
Surfactants	mg/l	0.5	S	ND	ND	ND	0.055	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			19	19	28	8.9	15	1.1
Carbon Dioxide	mg/l			3.6	3.4	6.2	6.5	5.2	5.7
General Physical									
Apparent Color	ACU	15	S	**600**	**350**	**400**	**80**	**60**	**15**
Lab pH	Units			8.5	8.4	8.3	8.1	8.1	7.9
Odor	TON	3	S	**4**	**3**	**3**	2	**3**	**4**
pH of CaCO3 saturation(25C)	Units			7.8	7.8	7.5	7.1	7.1	7
pH of CaCO3 saturation(60C)	Units			7.3	7.4	7.1	6.7	6.7	6.6
Specific Conductance	µmho/cm	1600	S	1000	940	1400	**2400**	**1800**	**1900**
Metal									
Aluminum, Total, ICAP/MS	ug/l	1000	P	29	ND	ND	ND	490	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.8	ND	2.3	6.5	5	7.2
Barium, Total, ICAP/MS	ug/l	100	P	9.6	7.7	15	23	34	74
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.9	2.3	2.1	1.5	1.7	4.3
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	5.5	6	4.1	4.2	3.7	2.4
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	0.56	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	25	14	7.4
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND
Volatile Organic Compound									
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	PM-3 Madrid							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/8/09	8/25/09	4/8/09	8/25/09	4/8/09	8/25/09	4/8/09	8/25/09
General Mineral											
Total Dissolved Solid (TDS)	mg/l	1000	S	434	380	354	300	778	680	958	**1000**
Cation Sum	meq/l			7.4	6.9	5.6	5.5	11	10	14	15
Anion Sum	meq/l			6.9	7	5.3	5.5	11	11	14	15
Iron, Total, ICAP	mg/l	0.3	S	0.054	0.048	0.13	0.12	0.1	0.097	**0.42**	**0.37**
Manganese, Total, ICAP/MS	ug/l	50	S	30	23	40	39	**57**	**55**	**310**	**330**
Turbidity	NTU	5	S	0.5	0.91	0.3	0.36	0.9	1.5	3.6	4.8
Alkalinity	mg/l			311	310	194	190	186	200	196	200
Boron	mg/l	1	N	0.37		0.12		0.19		0.39	
Bicarbonate as HCO3,calcula	mg/l			378	380	236	230	227	250	239	240
Calcium, Total, ICAP	mg/l			13	12	42	42	92	88	110	120
Carbonate as CO3, Calculated	mg/l			4.9	4.3	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			72.8	68	154	160	337	320	415	430
Chloride	mg/l	500	S	24	25	49	58	240	240	330	360
Fluoride	mg/l	2	P	0.28	0.28	0.36	0.37	0.3	0.31	0.27	0.27
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.5	0.45	0.6	0.44	0.7	0.69	0.7	0.69
Magnesium, Total, ICAP	None			9.8	9.3	12	12	26	25	34	35
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			13	12	3.4	3.3	5.4	5.1	6.6	6.5
Sodium, Total, ICAP	mg/l			130	120	56	53	90	87	130	130
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	2.8	42	52
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.3	3.2	0.56	0.5	0.71	0.89	0.87	0.99
Carbon Dioxide	mg/l			3.1	3.6	3.9	4.8	5.9	6.4	7.8	8.1
General Physical											
Apparent Color	ACU	15	S	**30**	**30**	5	5	3	3	10	10
Lab pH	Units			8.3	8.2	8	7.9	7.8	7.8	7.7	7.7
Odor	TON	3	S	2	**4**	2	2	**3**	**4**	**3**	2
pH of CaCO3 saturation(25C)	Units			7.8	7.8	7.4	7.5	7.1	7.1	7	7
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7	7	6.7	6.7	6.6	6.6
Specific Conductance	µmho/cm	1600	S	671	650	533	540	1140	1100	1510	**1600**
Metal											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	1.3	ND	5.8	5
Barium, Total, ICAP/MS	ug/l	100	P	23	19	19	17	67	56	83	76
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	1.1	ND	1.3
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	5.5	5	5.8	5.2
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.9	1
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	3.9	3.3	3.4	**8.6**
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	0.9	0.84	1.2	1.2
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	0.55
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	PM-4 Mariner							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/5/09	8/30/09	4/5/09	8/30/09	4/5/09	8/30/09	4/5/09	8/30/09
General Mineral											
Total Dissolved Solid (TDS)	mg/l	1000	S	324	330	**15400**	**17000**	630	620	636	650
Cation Sum	meq/l			6	6	210	210	10	10	11	11
Anion Sum	meq/l			5.8	5.9	200	210	10	9.9	11	11
Iron, Total, ICAP	mg/l	0.3	S	0.065	0.068	0.22	0.22	0.024	0.023	0.14	0.17
Manganese, Total, ICAP/MS	ug/l	50	S	35	35	**900**	**1000**	40	29	**79**	**83**
Turbidity	NTU	5	S	0.1	0.22	1.9	1.9	0.75	1.3	0.35	0.55
Alkalinity	mg/l			252	250	157	160	193	170	212	200
Boron	mg/l	1	N	0.17	0.17	ND	0.25	0.23	0.24	0.24	0.23
Bicarbonate as HCO3,calcula	mg/l			306	310	191	190	234	210	258	240
Calcium, Total, ICAP	mg/l			27	28	1500	1500	38	36	73	80
Carbonate as CO3, Calculated	mg/l			3.2	3	ND	ND	2.4	2.8	2.1	2.6
Hardness (Total, as CaCO3)	mg/l			117	120	5640	5600	136	130	265	290
Chloride	mg/l	500	S	28	29	**6500**	**6800**	100	100	110	120
Fluoride	mg/l	2	P	0.33	0.36	0.082	0.1	0.53	0.65	0.26	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.7	0.66	1.2	1.6	0.7	0.75	0.9	1.1
Magnesium, Total, ICAP	None			12	12	460	460	10	9.5	20	21
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			7.1	7	50	59	5.9	5.8	6.2	6.9
Sodium, Total, ICAP	mg/l			79	80	2200	2200	170	170	120	120
Sulfate	mg/l	500	S	ND	ND	**850**	**850**	160	170	160	160
Surfactants	mg/l	0.5	S	ND	ND	0.071	0.11	0.056	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.8	1.7	ND	1.4	2.1	2.4	1.1	1
Carbon Dioxide	mg/l			3.2	3.4	20	8.4	2.4	ND	3.4	2.5
General Physical											
Apparent Color	ACU	15	S	**15**	10	5	5	**30**	**30**	5	5
Lab pH	Units			8.2	8.2	7.2	7.6	8.2	8.3	8.1	8.2
Odor	TON	3	S	1	2	2	1	2	1	1	1
pH of CaCO3 saturation(25C)	Units			7.5	7.5	6	6	7.5	7.6	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7.1	7.1	5.5	5.5	7.1	7.1	6.7	6.7
Specific Conductance	µmho/cm	1600	S	612	570	**18900**	**19100**	1050	1000	1060	1100
Metal											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	**17**	9.1	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	100	P	24	20	**225**	**210**	82	62	59	48
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	42	12	ND	7	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	13	9.8	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	**87**	43	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	1.7	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	PM-6 Madrona Marsh					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				9/29/09	9/29/09	9/29/09	9/29/09	9/29/09	9/29/09
General Mineral									
Total Dissolved Solid (TDS)	mg/l	1000	S	690	**4700**	**14200**	400	**4600**	890
Cation Sum	meq/l			11	66	170	6.5	54	15
Anion Sum	meq/l			12	77	160	6.7	61	14
Iron, Total, ICAP	mg/l	0.3	S	0.08	0.086	0.094	0.028	**1.1**	0.13
Manganese, Total, ICAP/MS	ug/l	50	S	30	**140**	**310**	18	**1200**	**220**
Turbidity	NTU	5	S	0.89	1.2	**36**	0.78	**13**	0.81
Alkalinity	mg/l			540	240	150	250	210	190
Boron	mg/l	1	N	0.76	0.57	0.29	0.27	0.24	0.19
Bicarbonate as HCO3,calcula	mg/l			660	300	180	300	250	230
Calcium, Total, ICAP	mg/l			9.1	160	980	16	470	110
Carbonate as CO3, Calculated	mg/l			11	ND	ND	4.3	ND	ND
Hardness (Total, as CaCO3)	mg/l			49	730	5400	80	1800	420
Chloride	mg/l	500	S	53	**2600**	**6400**	55	**1900**	260
Fluoride	mg/l	2	P	0.58	0.085	0.1	0.59	0.14	0.23
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.76	1.1	1.6	0.57	1.2	0.82
Magnesium, Total, ICAP	None			6.3	81	720	9.9	150	34
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			6.7	43	94	5.7	21	7.7
Sodium, Total, ICAP	mg/l			240	1200	1300	110	420	150
Sulfate	mg/l	500	S	1.1	1.4	22	9.4	120	150
Surfactants	mg/l	0.5	S	ND	0.078	0.11	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			8.2	1.2	1.8	3.3	1.4	2.3
Carbon Dioxide	mg/l			4	7	4.5	2.3	12	5.2
General Physical									
Apparent Color	ACU	15	S	**300**	10	**100**	**25**	**20**	5
Lab pH	Units			8.4	7.8	7.8	8.3	7.5	7.9
Odor	TON	3	S	2	2	**200**	1	2	1
pH of CaCO3 saturation(25C)	Units			7.7	6.8	6.2	7.8	6.4	7
pH of CaCO3 saturation(60C)	Units			7.2	6.3	5.7	7.3	5.9	6.6
Specific Conductance	µmho/cm	1600	S	1100	**7500**	**16900**	660	**5800**	**1600**
Metal									
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	**18**	**52**	1.3	**19**	**13**
Barium, Total, ICAP/MS	ug/l	100	P	23	**480**	**2500**	9.1	**220**	33
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.2	4.2	7.8	ND	ND	4.6
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	4.2	13	18	ND	4.9	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	5.8	35	ND	16	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	29	**110**	ND	27	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND
Volatile Organic Compound									
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Westchester #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/9/09	8/26/09	4/9/09	8/26/09	4/9/09	8/26/09	4/9/09	8/26/09	4/9/09	8/26/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	**1020**	960	706	710	590	590	576	580	532	550
Cation Sum	meq/l			18	16	13	13	11	11	10	11	10	10
Anion Sum	meq/l			18	17	13	14	11	11	10	11	9.7	9.8
Iron, Total, ICAP	mg/l	0.3	S	0.24	0.22	0.13	0.12	0.22	0.2	0.13	0.13	0.27	**0.3**
Manganese, Total, ICAP/MS	ug/l	50	S	**99**	ND	**52**	**53**	**150**	**140**	**77**	**120**	**180**	**180**
Turbidity	NTU	5	S	0.65	0.6	0.35	0.44	0.3	0.38	0.35	0.39	1.2	0.92
Alkalinity	mg/l			710	650	544	590	463	450	344	360	308	310
Boron	mg/l	1	N	**1.5**	**1.2**	0.91	0.83	0.47	0.48	0.24	0.24	0.22	0.21
Bicarbonate as HCO3,calcula	mg/l			864	790	662	710	564	550	419	440	375	370
Calcium, Total, ICAP	mg/l			53	55	31	31	47	46	71	74	66	70
Carbonate as CO3, Calculated	mg/l			5.6	4.7	4.3	5	2.9	3.3	2.2	2.2	ND	ND
Hardness (Total, as CaCO3)	mg/l			231	240	152	150	201	200	292	310	299	290
Chloride	mg/l	500	S	110	99	69	67	61	61	62	66	65	70
Fluoride	mg/l	2	P	0.26	0.24	0.27	0.24	0.26	0.23	0.25	0.23	0.31	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.9	1.2	0.6	0.93	0.6	0.92	0.6	0.95	0.6	0.79
Magnesium, Total, ICAP	None			24	24	18	18	21	21	29	30	26	27
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			14	12	15	15	12	12	9.1	9.6	7	7.4
Sodium, Total, ICAP	mg/l			300	260	230	220	150	150	97	100	90	95
Sulfate	mg/l	500	S	30	36	ND	ND	ND	0.64	73	76	80	84
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			22	22	9.3	8.2	4.2	3.9	1.9	2	1.4	1.6
Carbon Dioxide	mg/l			14	14	11	11	12	9.9	8.7	9.2	7.7	9.2
General Physical													
Apparent Color	ACU	15	S	**300**	**100**	**75**	**40**	**30**	**25**	**15**	10	10	10
Lab pH	Units			8	8	8	8	7.9	8	7.9	7.9	7.9	7.8
Odor	TON	3	S	**3**	2	**3**	2	**3**	2	1	1	2	2
pH of CaCO3 saturation(25C)	Units			7.1	6.8	7.4	7.1	7.3	7	7.3	6.9	7.3	7
pH of CaCO3 saturation(60C)	Units			6.6	6.4	7	6.7	6.9	6.6	6.8	6.5	6.9	6.6
Specific Conductance	umho/cm	1600	S	**1620**	1500	1220	1200	1030	1000	988	970	921	920
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	1.2	ND	ND	1.9	ND	ND	ND	1.8	1.3
Barium, Total, ICAP/MS	ug/l	100	P	95	98	**130**	**120**	75	67	42	71	60	59
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.4	2	1.2	ND	7.1	ND	ND	ND	3.9	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Wilmington #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/26/09	8/18/09	3/26/09	8/18/09	3/26/09	8/18/09	3/26/09	8/18/09	3/26/09	8/18/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	584	670	**1790**	**2300**	**1890**	**2100**	**1300**	**1100**	976	**1100**
Cation Sum	meq/l			ND	11	29	31	23	28	21	19	18	18
Anion Sum	meq/l			10	11	29	53	31	29	21	19	18	18
Iron, Total, ICAP	mg/l	0.3	S	ND	ND	0.055	0.055	ND	ND	ND	0.022	0.23	0.22
Manganese, Total, ICAP/MS	ug/l	50	S	25	21	28	28	ND	8.2	17	14	**97**	**86**
Turbidity	NTU	5	S	0.15	0.51	0.25	0.44	0.3	0.31	0.1	0.24	**5**	4.7
Alkalinity	mg/l			142	150	141	140	134	140	155	160	170	170
Boron	mg/l	1	N	0.21		0.22		ND		0.23		ND	
Bicarbonate as HCO3,calcula	mg/l			173	180	172	170	163	170	189	190	207	210
Calcium, Total, ICAP	mg/l			61	62	260	260	100	170	110	90	150	150
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			235	240	896	900	744	620	435	360	580	580
Chloride	mg/l	500	S	270	280	**840**	**1700**	**960**	**870**	450	390	360	370
Fluoride	mg/l	2	P	0.14	0.099	0.063	ND	0.072	ND	0.11	0.075	0.13	0.082
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.8	0.8	1.1	0.6	0.92	0.8	0.89	0.8	1.1
Magnesium, Total, ICAP	None			20	20	60	62	120	47	39	34	50	50
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			7.9	8	9.3	9.8	13	8.9	7.7	7.4	6.9	7.9
Sodium, Total, ICAP	mg/l			130	130	260	290	170	360	280	270	140	150
Sulfate	mg/l	500	S	ND	ND	110	120	82	98	240	240	210	210
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.5	3.3	3	1.9	4.1	2.1	2.5	2.2	4.8	3.6
Carbon Dioxide	mg/l			2.8	ND	7.1	3.5	4.2	3.5	3.9	2.5	5.4	3.4
General Physical													
Apparent Color	ACU	15	S	3	5	3	5	10	10	3	5	10	5
Lab pH	Units			8	8.2	7.6	7.9	7.8	7.9	7.9	8.1	7.8	8
Odor	TON	3	S	**200**	**8**	**67**	**8**	**400**	**40**	**40**	**4**	**67**	**20**
pH of CaCO3 saturation(25C)	Units			7.4	7.4	6.8	6.8	7.2	7	7.1	7.2	7	6.9
pH of CaCO3 saturation(60C)	Units				6.9	6.4	6.4	6.8	6.5	6.7	6.8	6.5	6.5
Specific Conductance	µmho/cm	1600	S	1190	1100	**3010**	**3100**	**3280**	**3100**	**2210**	**1900**	**1810**	**1800**
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	5.5	ND	5.6	ND	3	ND	2.5	ND
Barium, Total, ICAP/MS	ug/l	100	P	12	10	16	16	29	25	42	34	**120**	**120**
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	7.6	2.4	18	4.6	20	12	9.4	4.1	8.4	3.7
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	5.7	ND	10	ND	24	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	0.5	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	1.2	1.9
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2008/2009

Constituents	Units	MCL	MCL Type	Wilmington #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/7/09	9/8/09	4/7/09	9/8/09	4/7/09	9/8/09	4/7/09	9/8/09	4/7/09	9/8/09
General Mineral													
Total Dissolved Solid (TDS)	mg/l	1000	S	502	530	**1770**	**1500**	399	390	**1300**	960	**5870**	**5600**
Cation Sum	meq/l			8.8	8.5	15	25	6.2	6.6	17	16	94	89
Anion Sum	meq/l			9.3	8.9	26	26	6.5	6.6	18	16	97	96
Iron, Total, ICAP	mg/l	0.3	S	0.092	0.093	0.07	0.073	ND	0.028	ND	0.041	ND	0.021
Manganese, Total, ICAP/MS	ug/l	50	S	4.5	4.1	12	14	9.8	10	11	11	**71**	**80**
Turbidity	NTU	5	S	0.4	1.3	0.4	0.44	0.25	0.14	0.5	1.2	0.9	0.61
Alkalinity	mg/l			404	380	516	490	171	160	291	270	193	180
Boron	mg/l	1	N	0.68	0.63	**1.9**	**1.9**	0.16	0.16	0.6	0.61	0.56	0.62
Bicarbonate as HCO3,calcula	mg/l			487	460	627	590	208	190	355	330	235	220
Calcium, Total, ICAP	mg/l			3.8	3.1	33	32	23	25	49	42	320	310
Carbonate as CO3, Calculated	mg/l			16	11	6.5	4.6	2.1	ND	ND	2.1	ND	ND
Hardness (Total, as CaCO3)	mg/l			19	17	181	170	93.3	100	213	190	1420	1400
Chloride	mg/l	500	S	42	42	**560**	**590**	110	120	420	390	**3000**	**3000**
Fluoride	mg/l	2	P	0.91	0.98	0.31	0.35	0.25	0.27	0.56	0.64	0.18	0.2
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.5	0.27	1.1	0.91	0.4	0.34	0.5	0.69	1.1	1.1
Magnesium, Total, ICAP	None			2.3	2.2	24	23	8.7	9.4	22	19	150	150
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			4.9	4.7	12	12	4.9	4.8	7.5	7.5	21	24
Sodium, Total, ICAP	mg/l			190	180	260	490	97	100	290	290	1500	1400
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND		420	410
Surfactants	mg/l	0.5	S	ND	0.051	0.15	0.14	ND	ND	0.139	0.16	0.159	0.21
Total Nitrate, Nitrite-N, CAL	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			9.8	14	20	8.7	2.2	2.2	9.7	7.1	1.4	1.5
Carbon Dioxide	mg/l			ND	2.1	6.5	8.1	2.2	2.4	12	5.5	7.7	7.8
General Physical													
Apparent Color	ACU	15	S	**150**	**200**	**100**	**100**	**15**	**15**	**50**	**50**	**15**	**15**
Lab pH	Units			8.7	8.6	8.2	8.1	8.2	8.1	7.7	8	7.7	7.7
Odor	TON	3	S	**3**	**8**	**4**	**8**	2	2	**400**	**200**	**3**	**8**
pH of CaCO3 saturation(25C)	Units			8.2	8.3	7.1	7.2	7.8	7.8	7.2	7.3	6.6	6.6
pH of CaCO3 saturation(60C)	Units			7.7	7.8	6.7	6.7	7.3	7.3	6.8	6.9	6.1	6.2
Specific Conductance	µmho/cm	1600	S	821	800	**2650**	**2600**	664	700	**1900**	**1800**	**9210**	**9300**
Metal													
Aluminum, Total, ICAP/MS	ug/l	1000	P	27	ND	24	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	2.4	5	ND	1.5	1.5	2.2	9.7	4
Barium, Total, ICAP/MS	ug/l	100	P	5.4	4.9	46	49	11	12	41	36	73	67
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.6	1.8	1.8	1.6	ND	ND	1.8	1.4	ND	6.5
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	3.7	ND	5.9	ND	ND	ND	3.4	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	13	ND	ND	ND	ND	7.5	25	29
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compound													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	100	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P		ND		ND		ND		ND		ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.3
QUALITY OF REPLENISHMENT WATER

Constituent	Units	Regulatry Limit (MCL)	IMPORTED WATER			RECYCLED WATER							LOCAL WATER
			Treated Colorado River & State Project Water[a]	Untreated Colorado River Water[b]	Untreated State Project Water[c]	West Basin MWD WRP[d]	Terminal Island Treatment Plant[e]	WRD Vander Lans WRP[f]	Whittier Narrows WRP[g]	San Jose Creek East WRP[g]	San Jose Creek West WRP[g]	Pomona WRP[g]	Stormwater[h]
			2008	2008	2008	2008	2008	2008	2008-2009	2008-2009	2008-2009	2008-2009	2008-2009
Total Dissolved Solids (TDS)	mg/L	1000	565 / 307	688	289	54.3	251[j]	387[k]	576	661	562	584	308.0
Iron	µg/L	300	ND / ND	ND	ND	ND	6.7	ND	30	80	40	60	7,832
Manganese	µg/L	50	ND / ND	ND	ND	ND	1.71	2.3	3.46	20.1	8.7	2.83	NA
Nitrate (as N)	mg/L	10	0.5 / 0.7	ND	0.7	0.24	1.17	0.86[k]	5.93	4	7.22	5.97	2.6
Chloride	mg/L	500	96 / 75	99	72	5.5	82[j]	66.6[k]	114	155	111	130	50.8
Trichloroethylene (TCE)	µg/L	5	ND / ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Tetrachloroethylene (PCE)	µg/L	5	ND / ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Arsenic	µg/L	10	2.4 / 2.3	2.6	3.1	0.2	0.24	ND	1.28	0.346	0.531	1.15	2.3
Total Organic Carbon (TOC)	mg/L	None	2.2 / 2.1	2.9	2.6	0.22	0.58	0.64	4.96	5.46	5.14	6.74	8.1
Perchlorate	µg/L	6	ND / ND	1.5	ND	ND	NA	ND	NA	NA	NA	NA	NA
Boron	µg/L	None	150 / 180	140	180	NA	519[j]	210[k]	250	330	350	270	NA
Chromium, Total	µg/L	50	ND / ND	ND	ND	0.5	0.53	ND	1.1	0.39	ND	0.90	12.6
Chromium VI	µg/L	None	0.22 / 0.40	ND	0.39	NA	NA	NA	ND	ND	ND	ND	ND
Copper, Total	µg/L	1,000	ND / ND	ND	ND	5.2	1.4	ND	4.08	3.4	5.4	6.65	25.2
Lead, Total	µg/L	15	ND / ND	ND	ND	ND	0.02	ND	0.60	0.096	0.090	0.42	16.8
Selenium	µg/L	50	ND / ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	0.7
Nitrite (as N)	mg/L	1	ND / ND	ND	ND	ND	NA	0.039[k]	0.02	0.02	0.003	0.540	ND
Alkalinity	mg/L	None	109 / 86	127	84	46	NA	NA	167	161	157	180	81
Hardness	mg/L	None	253 / 121	314	120	30.5	53.4	12	211	245	214	229	144
Nitrite (as N)	mg/L	1	ND / ND	ND	ND	ND	NA	0.039[k]	0.02	0.02	0.003	0.54	ND
pH	Units	None	8.1 / 8.3	8.2	7.9	7.5	7.4	8.01	7.3	7.0	7.0	7.6	7.50
Sulfate	mg/L	500	209 / 58	269	50	1.4	50[j]	134[k]	106	130	96.5	70.9	69.6
Turbidity	NTU	5	0.06 / 0.04	1.4	1.1	0.04	0.06	0.13	0.8	0.7	0.6	0.9	14.9
Methyl-tert-butyl-ether (MTBE)	µg/L	5	ND / ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND
n-Nitrosodimethylamne (NDMA)	ng/L	None	ND - 10[i]	NA	NA	7.1	4.0	121	124	211	279	142	NA

See footnotes on following Page.

TABLE 3.3
QUALITY OF REPLENISHMENT WATER

Notes:

a = Used at the seawater intrusion barriers: generally, Weymouth Plant effluent (to the Dominguez Gap and Alamitos Barriers) / Jensen Plant effluent (to the West Coast Barrier)
b = Used at the Montebello Forebay spreading grounds (Lake Mathews)
c = Used at the Montebello Forebay spreading grounds (Castaic Lake)
d = Effluent of treatment plant before blending with treated Colorado River/State Project water; used at the West Coast Basin Barrier
e = Effluent of treatment plant before blending with treated Colorado River/State Project water; used at the Dominguez Gap Barrier
f = Effluent of treatment plant before blending with treated Colorado River/State Project water; used at the Alamitos Barrier
g = Effluent of treatment plant; used at the Montebello Forebay spreading grounds
h = Average of water samples collected from LACDPW San Gabriel River Monitoring Station S14 from November 2008 through February 2009 (5 storm events total)
i = Range of concentrations detected in the MWD distribution system
j = Average concentration in blended water (treatment plant effluent and treated Colorado River/State Project water); directly used at the Dominguez Gap Barrier
k = Average concentration in blended water (treatment plant effluent and treated Colorado River/State Project water); directly used at the Alamitos Barrier

NA = Not Available/Analyzed
ND = Not Detected
MCL = Maximum Contaminant Level
WRP = Water Reclamation Plant

Sources of Data:

2008 Water Quality Report to MWD Member Agencies (Metropolitan Water District of Southern California [MWD], 2009)
October 2008 - September 2009 Annual Monitoring Report, Montebello Forebay Groundwater Recharge (County Sanitation Districts of Los Angeles County, December 2009)
2008 Annual Report, West Coast Basin Barrier Project, Edward C. Little Water Recycling Facility (West Basin Municipal Water District [WBMWD], March 2009)
2008-09 Stormwater Monitoring Report, Los Angeles County (Los Angeles County Department of Public Works [LACDPW], 2009)
2008 Annual Summary Report, Harbor Water Recycling/Dominguez Gap Barrier Project (Los Angeles Department of Water and Power [LADPW], February 2009)
2008 Annual Monitoring Report, Alamitos Barrier Recycled Water Project, Leo J. Vander Lans Water Treatment Facility (Water Replenishment District of Southern California [WRD], April 20

TABLE 3.4
MAJOR MINERAL WATER QUALITY GROUPS

NESTED MONITORING WELL LOCATIONS	GROUP A ZONES Generally Calcium Bicarbonate or Calcium Bicarbonate/Sulfate Dominant	GROUP B ZONES Generally Calcium-Sodium Bicarbonate or Sodium-Bicarbonate Dominant	GROUP C ZONES Generally Sodium-Chloride Dominant	OTHER ZONES Generally Different Than Groups A, B, and C
CENTRAL BASIN				
Bell Gardens #1	1, 2, 3, 4, 5, 6			
Cerritos #1	1, 2, 3, 4, 5, 6			
Cerritos #2	1, 2, 3, 4, 5, 6			
Commerce #1	2, 3, 4, 5, 6			
Compton #1	2, 3, 4, 5	1		
Compton #2	3, 4, 5	1		
Downey #1	2, 3, 4, 5, 6	1		
Huntington Park #1	1, 2, 3, 4			
Inglewood #2		1, 3	2	
Lakewood #1	6	1, 2, 3, 4, 5		
La Mirada #1		1, 2, 3, 4		5
Long Beach #1	5, 6	1, 2, 3, 4		
Long Beach #2	4, 5, 6	1, 2, 3		
Long Beach #6		1, 2, 3, 4, 5, 6		
Los Angeles #1	1, 2, 3, 4, 5			
Montebello #1	3, 4, 5	1, 2		
Norwalk #1	4, 5	1, 2, 3		
Norwalk #2	3, 4, 5, 6	1, 2		
Rio Hondo #1	1, 2, 3, 4, 5, 6,			
Pico #1	2, 3, 4			1
Pico #2	1, 2, 3, 4, 5, 6			
South Gate #1	1, 2, 3, 4, 5			
Willowbrook #1	2, 3, 4	1		
Whittier #1	1, 2, 3, 4, 5			
Whittier #2	1, 3, 4, 5, 6	2		
WEST COAST BASIN				
Carson #1	3, 4	1, 2		
Carson #2	1, 2, 3, 4, 5			
Gardena #1	2, 3, 4			1
Gardena #2	2, 3, 4, 5	1		
Hawthorne #1	5, 6	1, 2, 3, 4		
Inglewood #1	3, 4, 5			1
Lomita #1				1, 2, 3, 4, 5, 6
Long Beach #3		1, 2, 3	4, 5	
PM-3 Madrid	3, 4	2		1
PM-4 Mariner			2, 3, 4	1
Westchester #1		1, 2, 3, 4, 5		
Wilmington #1			1, 2, 3, 4, 5	
Wilmington #2		3	4, 5	

FIGURES

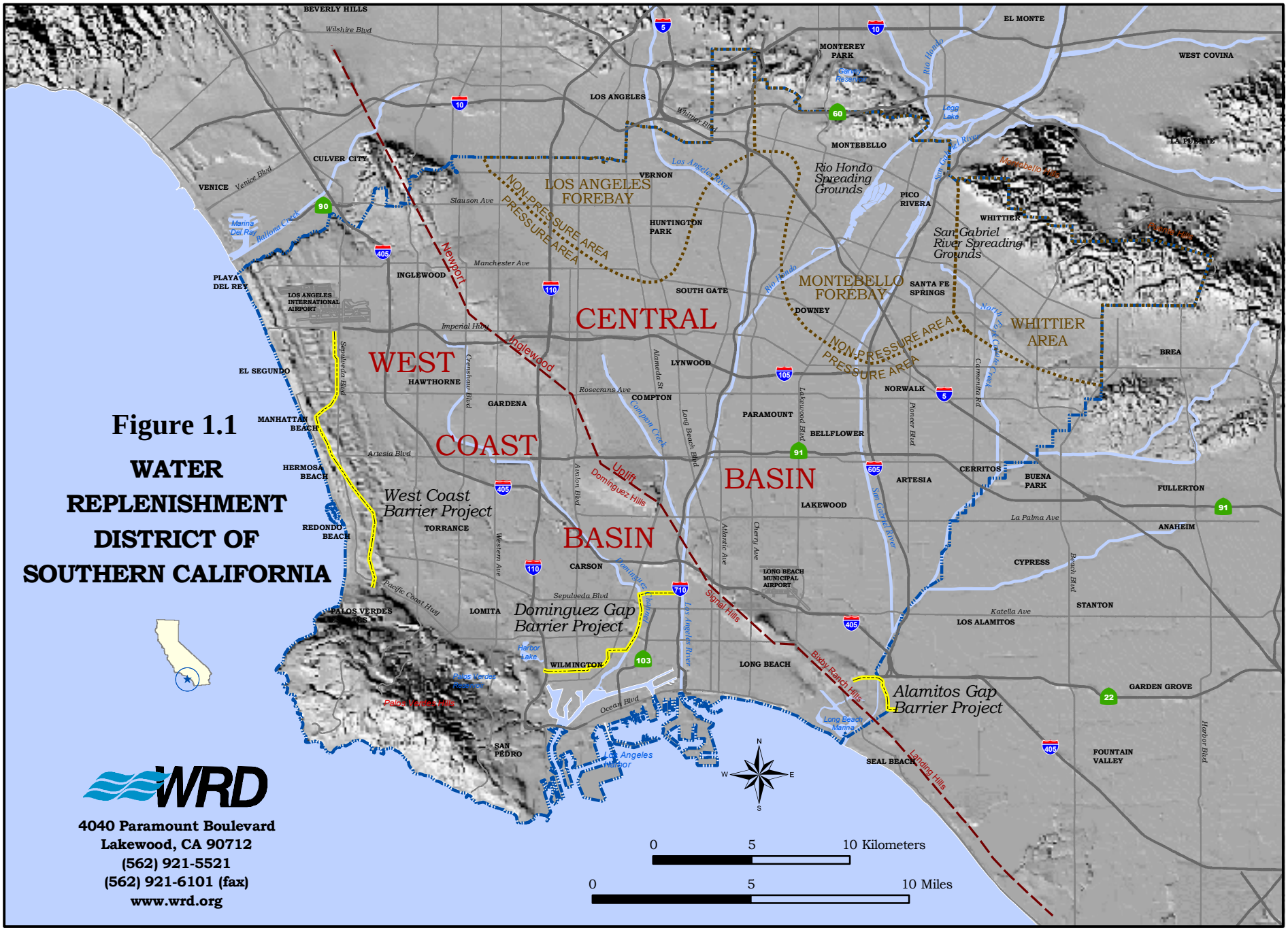


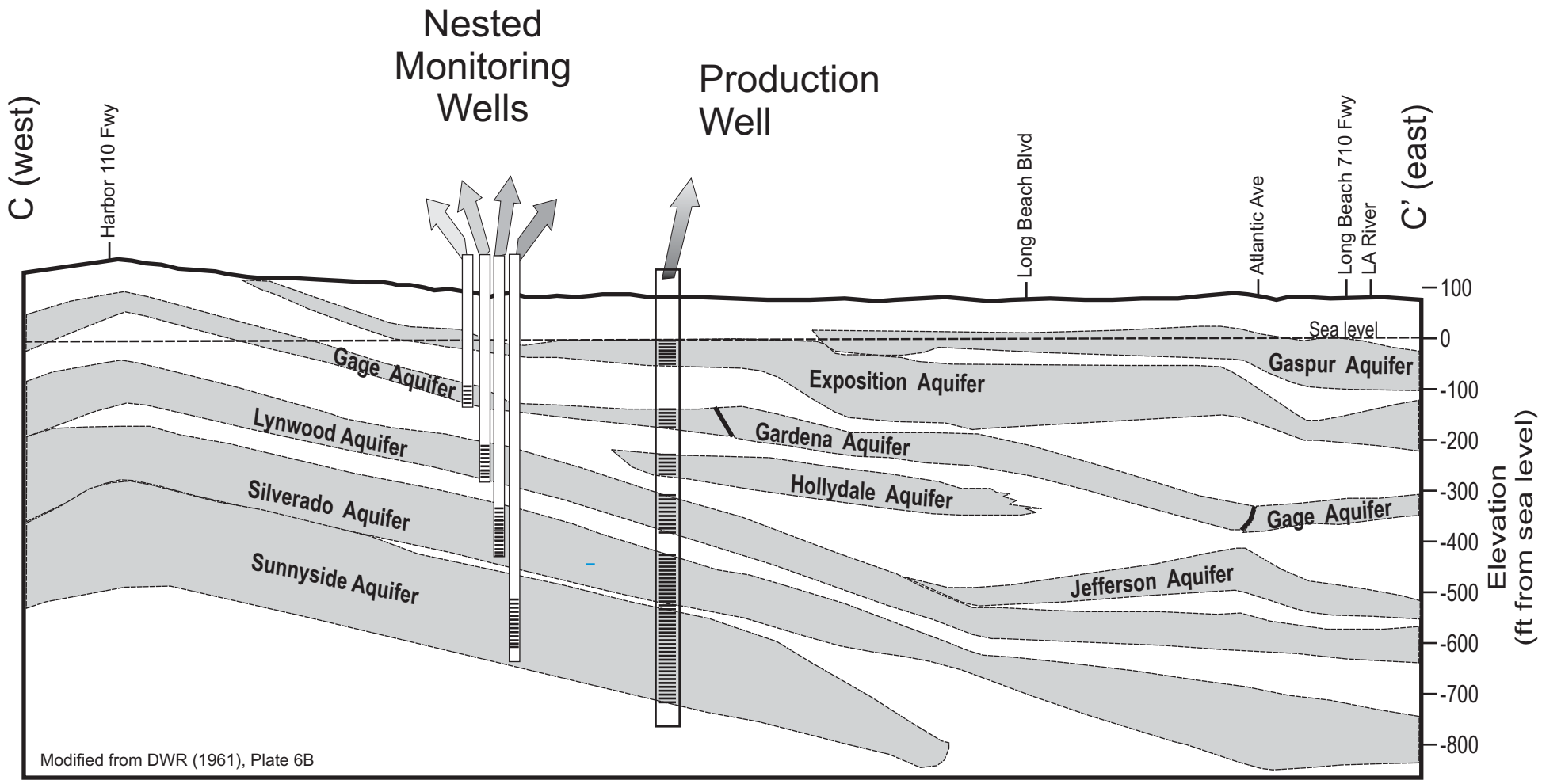
Figure 1.1

WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA

WRD

4040 Paramount Boulevard
Lakewood, CA 90712
(562) 921-5521
(562) 921-6101 (fax)
www.wrd.org

FIGURE 1.2
NESTED WELLS vs. PRODUCTION WELLS
FOR AQUIFER-SPECIFIC DATA



Production wells are typically perforated across multiple aquifers producing an average water quality. Nested monitoring wells are screened in a portion of a specific aquifer, providing water quality and water level information for the specific zone.

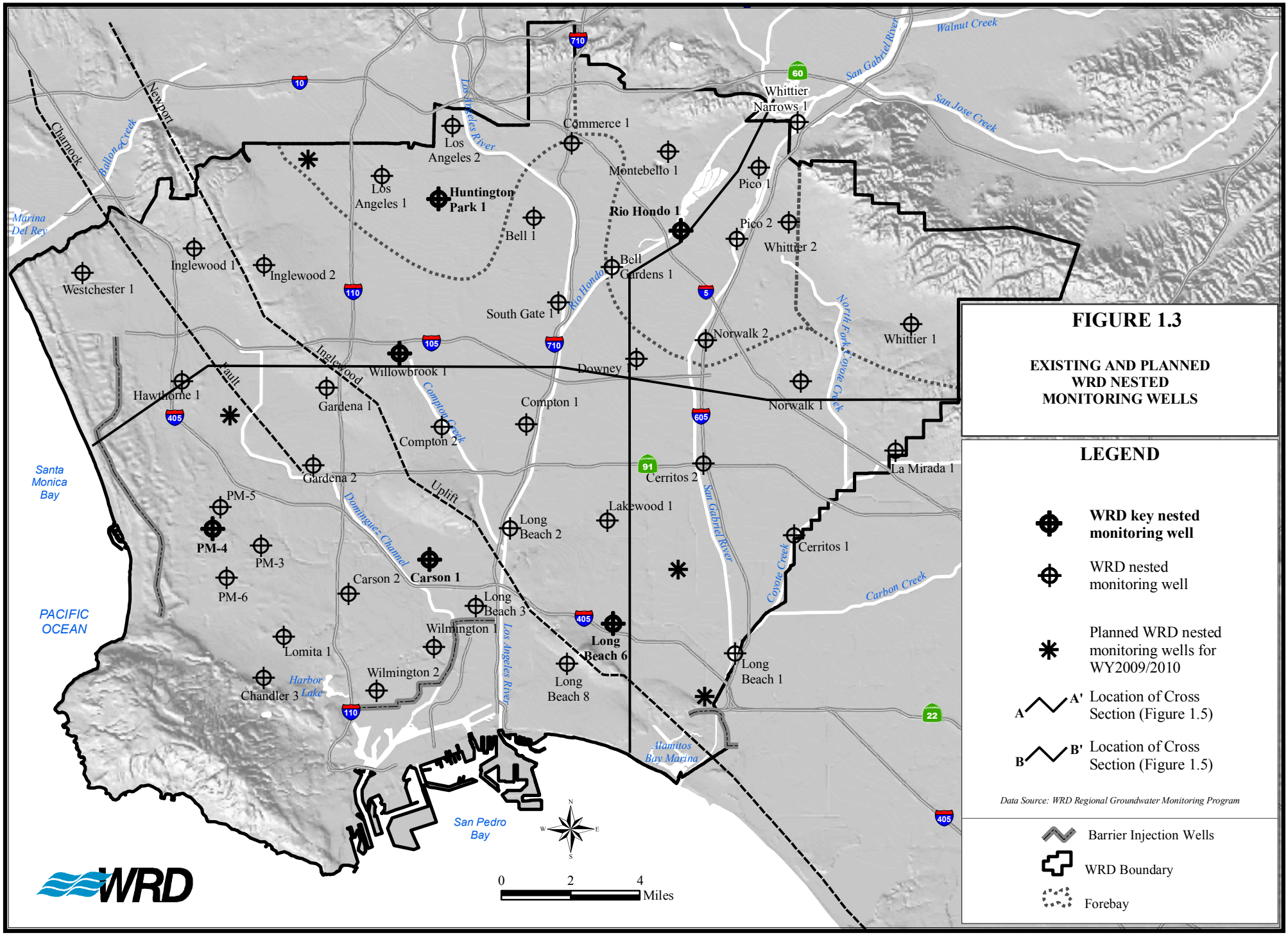
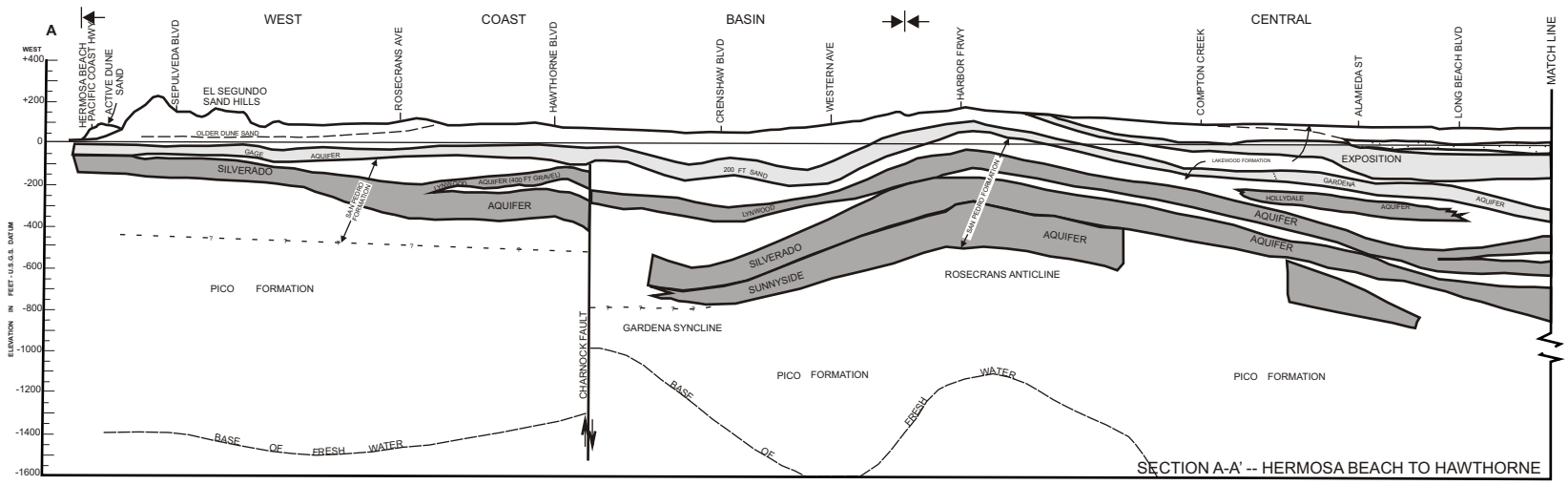
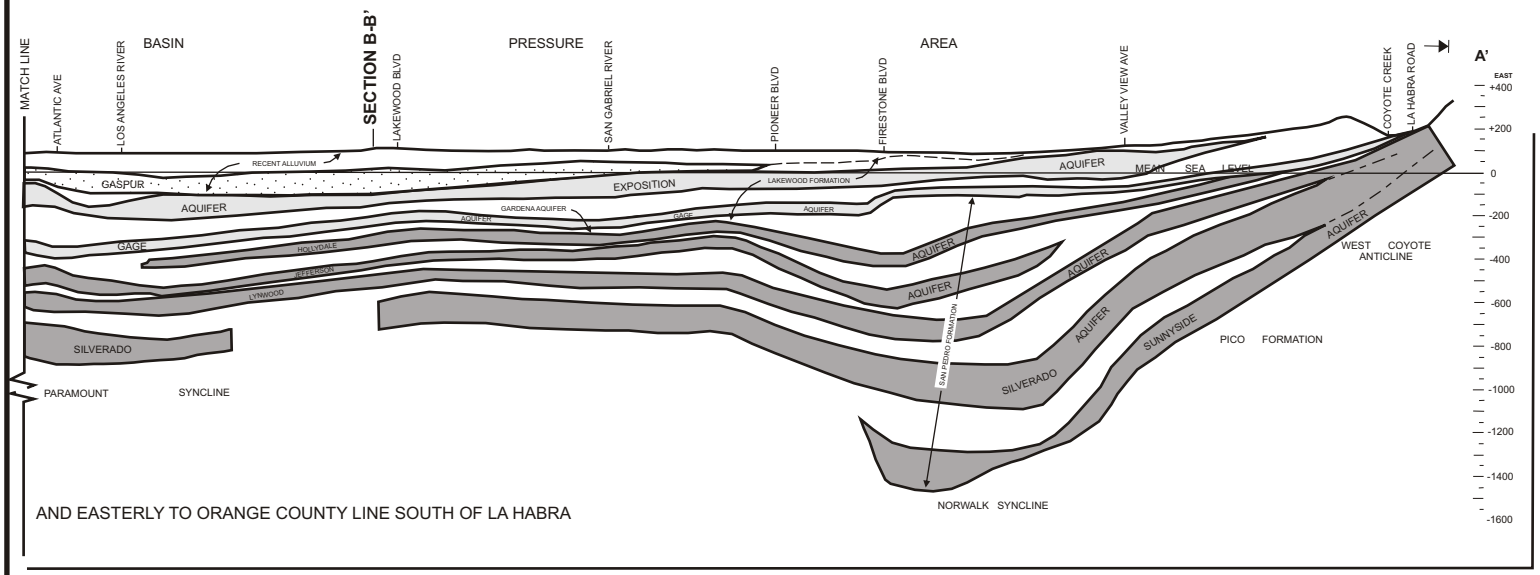


FIGURE 1.3
EXISTING AND PLANNED WRD NESTED MONITORING WELLS
LEGEND
WRD key nested monitoring well
WRD nested monitoring well
Planned WRD nested monitoring wells for WY2009/2010
A A' Location of Cross Section (Figure 1.5)
B B' Location of Cross Section (Figure 1.5)
Data Source: WRD Regional Groundwater Monitoring Program
Barrier Injection Wells
WRD Boundary
Forebay
Huntington Park 1
Rio Hondo 1
PM-4
Carson 1
Long Beach 6
Commerce 1
Los Angeles 2
Los Angeles 1
Montebello 1
Pico 1
Pico 2
Whittier 2
Whittier Narrows 1
Bell 1
Bell Gardens 1
Inglewood 1
Inglewood 2
Westchester 1
South Gate 1
Norwalk 2
Whittier 1
Willowbrook 1
Downey 1
Hawthorne 1
Gardena 1
Compton 1
Norwalk 1
Compton 2
Gardena 2
Cerritos 2
La Mirada 1
PM-5
PM-3
PM-6
Lakewood 1
Long Beach 2
Cerritos 1
Carson 2
Long Beach 3
Wilmington 1
Lomita 1
Wilmington 2
Chandler 3
Long Beach 8
Long Beach 1
Harbor Lake
Santa Monica Bay
PACIFIC OCEAN
San Pedro Bay
Alamitos Bay Marina
Newport
Charnock
Ballona Creek
Marina Del Rey
Inglewood
Fault
Uplift
Dominguez Channel
Compton Creek
Los Angeles River
Rio Hondo
San Gabriel River
Walnut Creek
San Jose Creek
North Fork Coyote Creek
Coyote Creek
Carbon Creek
0 2 4 Miles
WRD



SECTION A-A' -- HERMOSA BEACH TO HAWTHORNE



AND EASTERLY TO ORANGE COUNTY LINE SOUTH OF LA HABRA

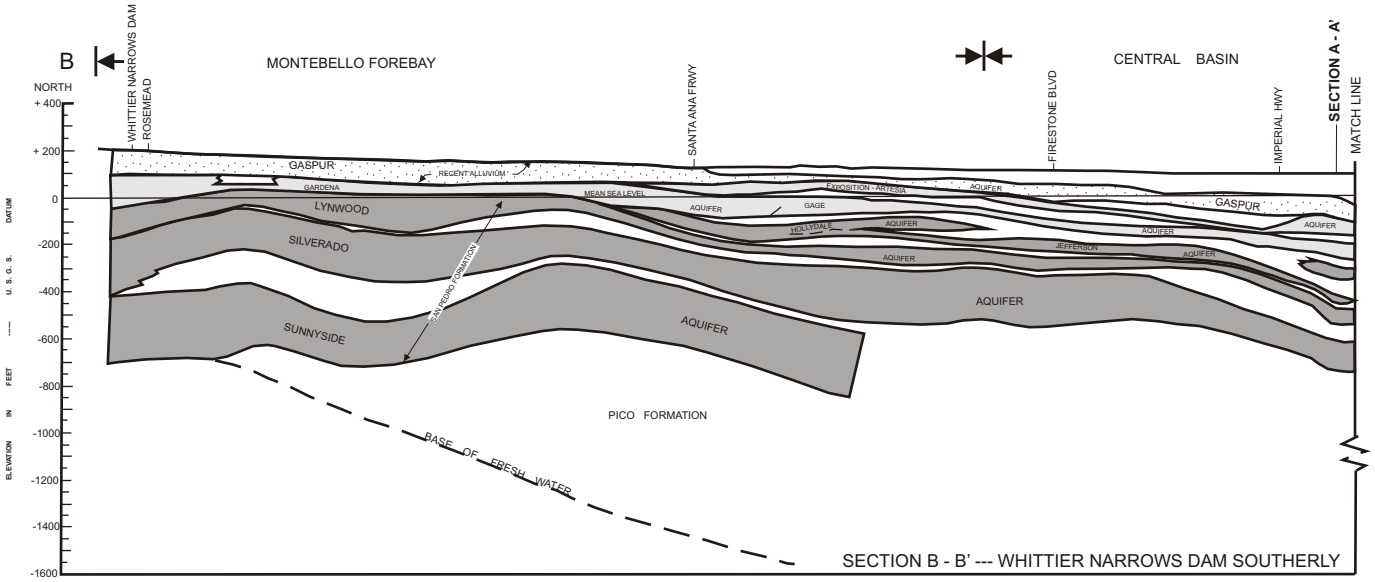
LEGEND

- AQUICLUDES AND DEEPER UNDIFFERENTIATED FORMATIONS
- AQUIFERS IN RECENT ALLUVIUM (INCLUDES THE GASPUR AND BALLONA AQUIFERS)
- AQUIFERS IN LAKEWOOD FORMATION (INCLUDES THE ARTESIA, EXPOSITION, GAGE, AND GARDENA AQUIFERS)
- AQUIFERS IN THE SAN PEDRO FORMATION (INCLUDES THE HOLLYDALE, JEFFERSON, LYNWOOD, SILVERADO AND SUNNYSIDE AQUIFERS)

IDEALIZED GEOLOGIC CROSS SECTION AA'

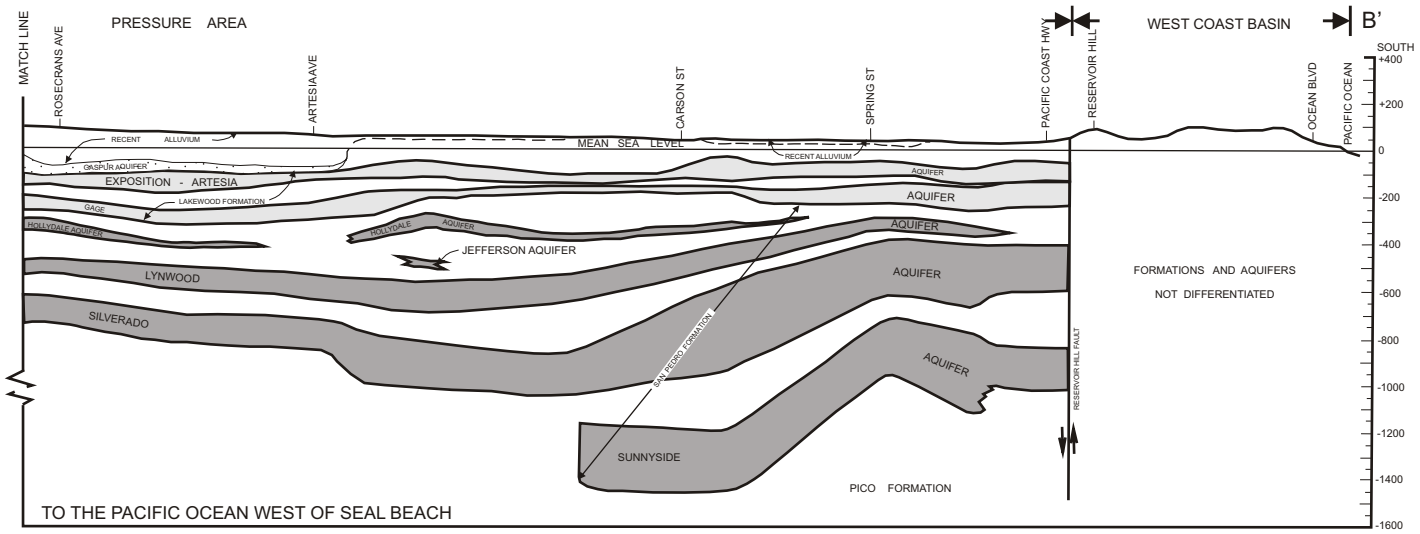
Adapted from
CDWR Bull. 104 App. B

FIGURE 1.4



LEGEND

- AQUICLUDES AND DEEPER UNDIFFERENTIATED FORMATIONS
- AQUIFERS IN RECENT ALLUVIUM (INCLUDES THE GASPUR AND BALLONA AQUIFERS)
- AQUIFERS IN LAKEWOOD FORMATION (INCLUDES THE ARTESIA, EXPOSITION, GAGE, AND GARDENA AQUIFERS)
- AQUIFERS IN THE SAN PEDRO FORMATIO (INCLUDES THE HOLLYDALE, JEFFERSON, LYNWOOD, SILVERADO AND SUNNYSIDE AQUIFERS)



IDEALIZED GEOLOGIC CROSS SECTION BB'

Adapted from
CDWR Bull. 104 App. B

FIGURE 1.5

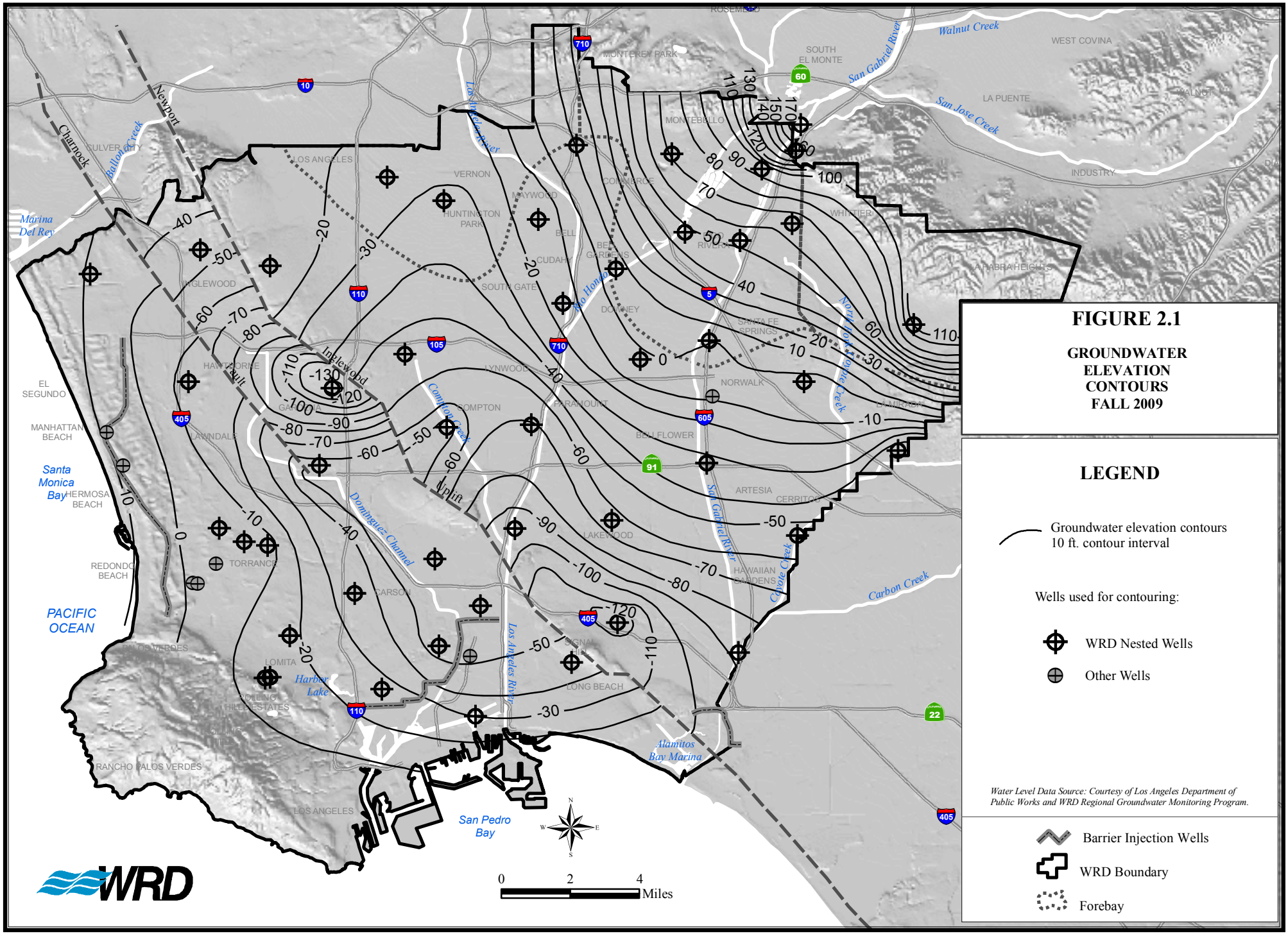


FIGURE 2.1
GROUNDWATER ELEVATION CONTOURS FALL 2009
LEGEND
Groundwater elevation contours
10 ft. contour interval
Wells used for contouring:
WRD Nested Wells
Other Wells
Water Level Data Source: Courtesy of Los Angeles Department of Public Works and WRD Regional Groundwater Monitoring Program.
Barrier Injection Wells
WRD Boundary
Forebay
WRD
0 2 4 Miles
PACIFIC OCEAN
Santa Monica Bay
San Pedro Bay
Marina Del Rey
Alamitos Bay Marina
Harbor Lake
Los Angeles River
San Gabriel River
Walnut Creek
San Jose Creek
Coyote Creek
Carbon Creek
Dominguez Channel
Compton Creek
Torrance Lomita Creek
Ballona Creek
Inglewood
Uplift
Charnock
Newport
Los Angeles
Orange
Riverside
San Bernardino
Ventura
Kern
Imperial
San Diego

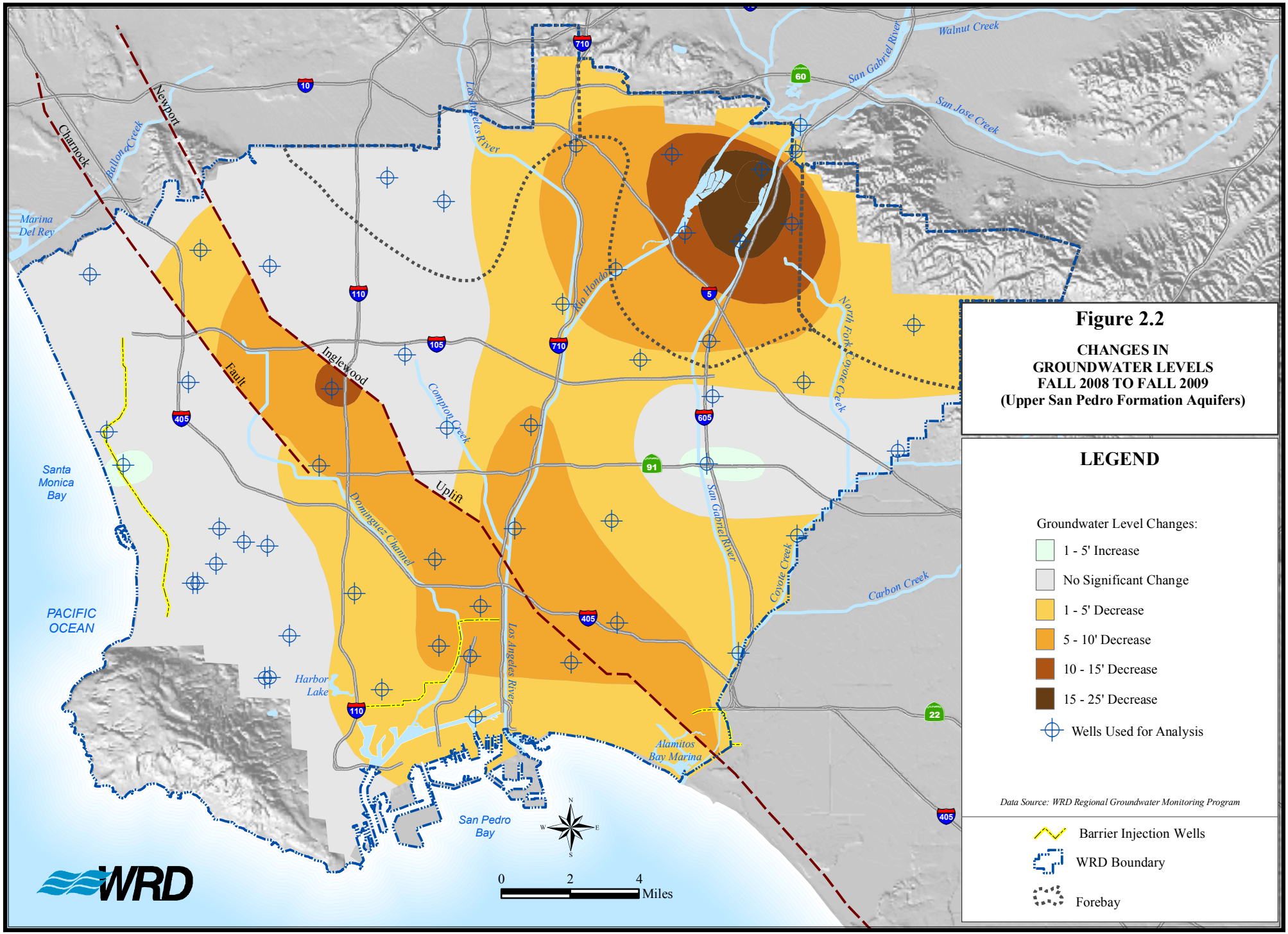


Figure 2.2
CHANGES IN
GROUNDWATER LEVELS
FALL 2008 TO FALL 2009
(Upper San Pedro Formation Aquifers)
LEGEND
Groundwater Level Changes:
1 - 5' Increase
No Significant Change
1 - 5' Decrease
5 - 10' Decrease
10 - 15' Decrease
15 - 25' Decrease
Wells Used for Analysis
Data Source: WRD Regional Groundwater Monitoring Program
Barrier Injection Wells
WRD Boundary
Forebay
Newport
Charnock
Fault
Inglewood
Uplift
Dominguez Channel
Los Angeles River
San Gabriel River
Walnut Creek
San Jose Creek
Rio Hondo
North Fork Coyote Creek
Compton Creek
Coyote Creek
Carbon Creek
Ballona Creek
Marina Del Rey
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
Alamitos Bay Marina
San Pedro Bay
0 2 4
Miles
WRD

FIGURE 2.3
WATER LEVELS IN WRD KEY NESTED MONITORING WELL RIO HONDO #1

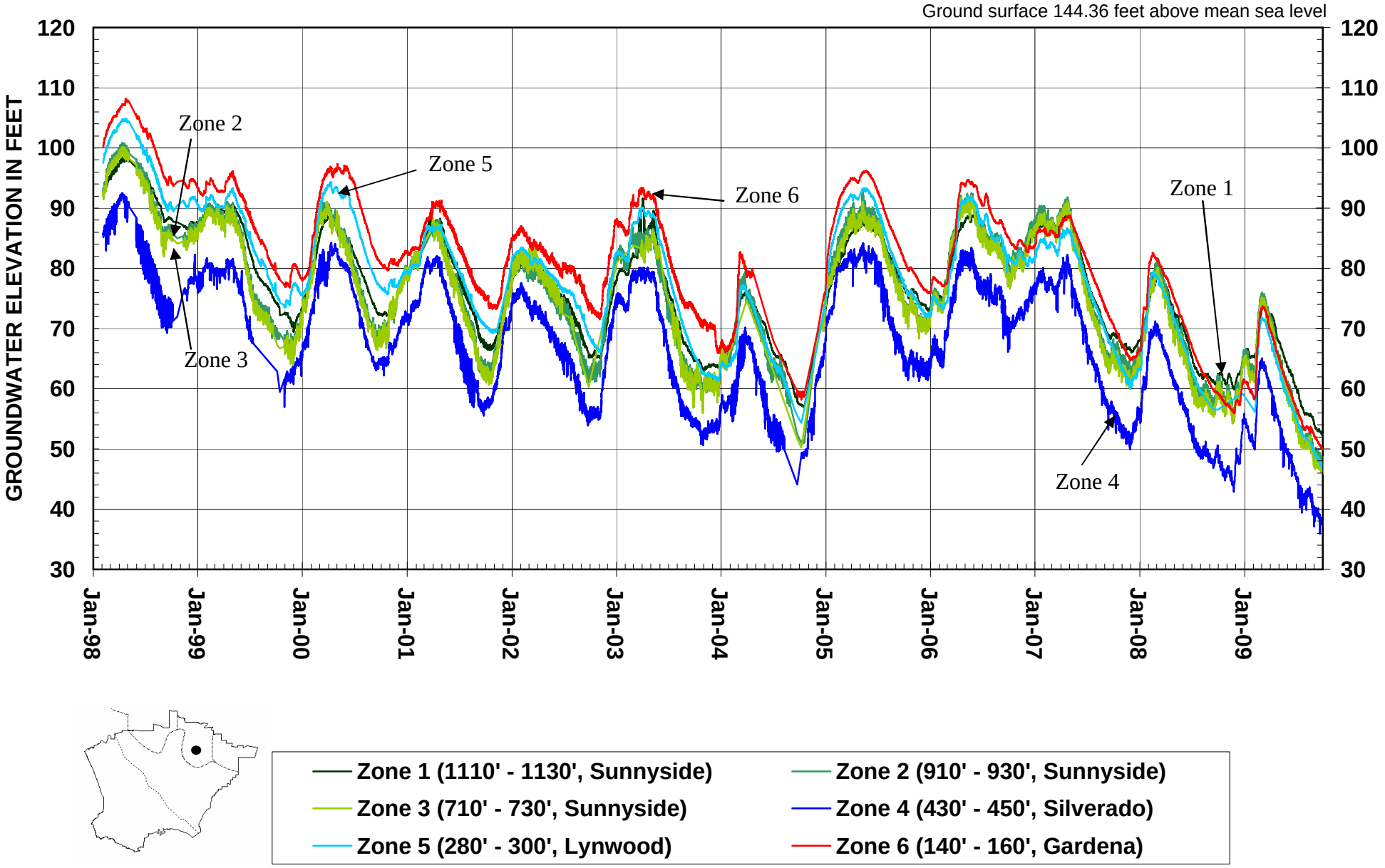
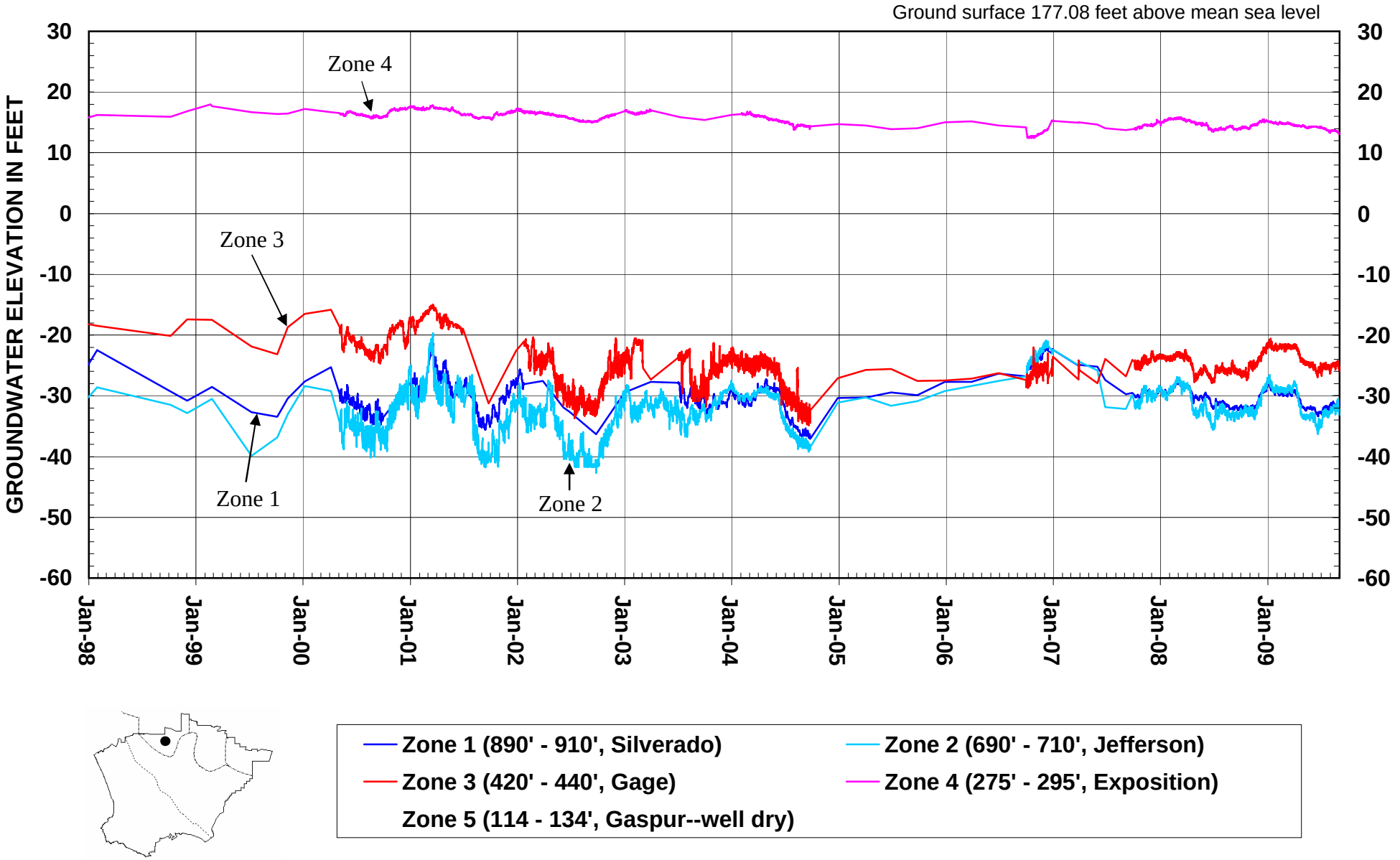


FIGURE 2.4
WATER LEVELS IN WRD KEY NESTED MONITORING WELL HUNTINGTON PARK #1



1/28/2010

FIGURE 2.5

WATER LEVELS IN WRD KEY NESTED MONITORING WELL WILLOWBROOK #1

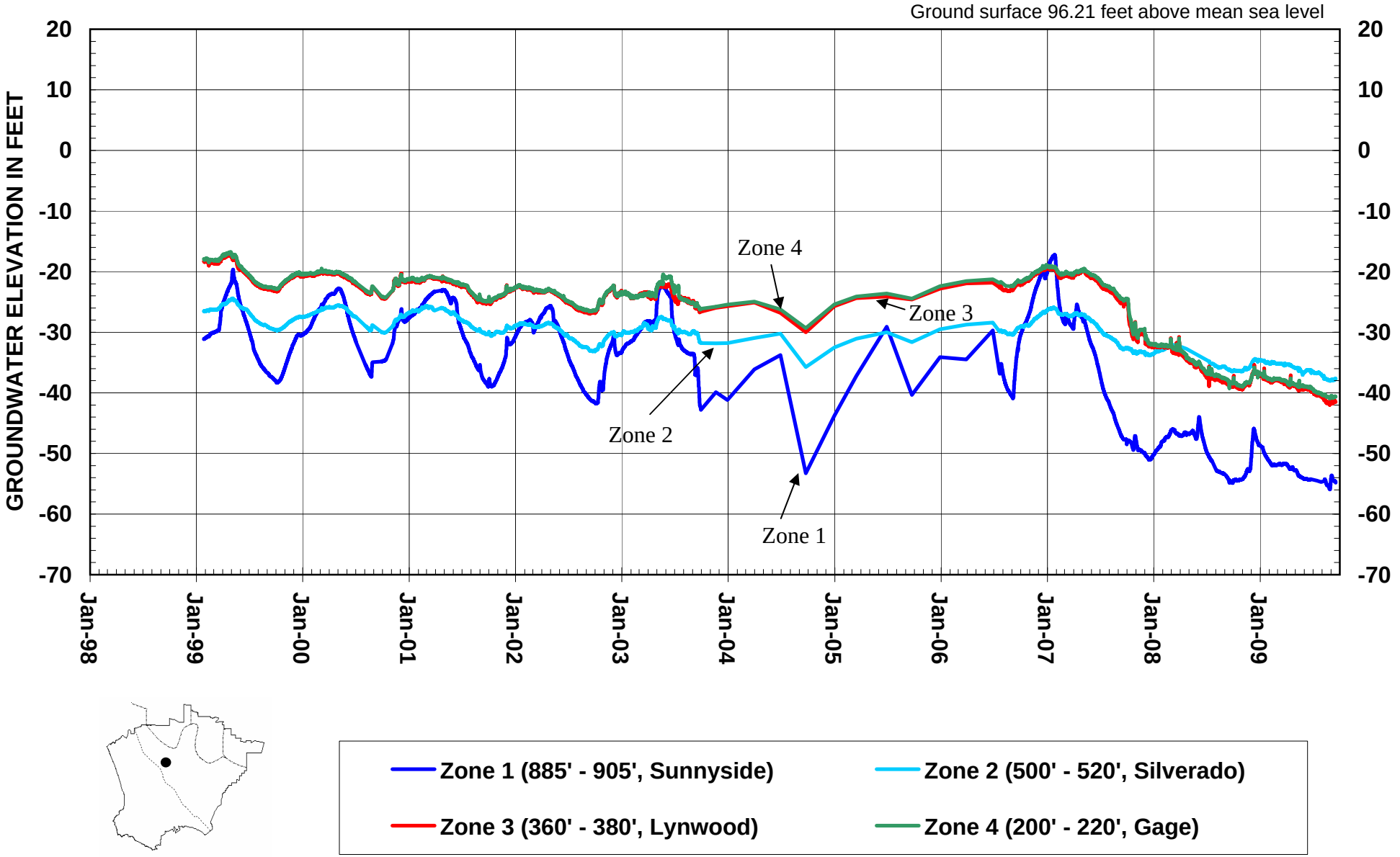


FIGURE 2.6
WATER LEVELS IN WRD KEY NESTED MONITORING WELL LONG BEACH #6

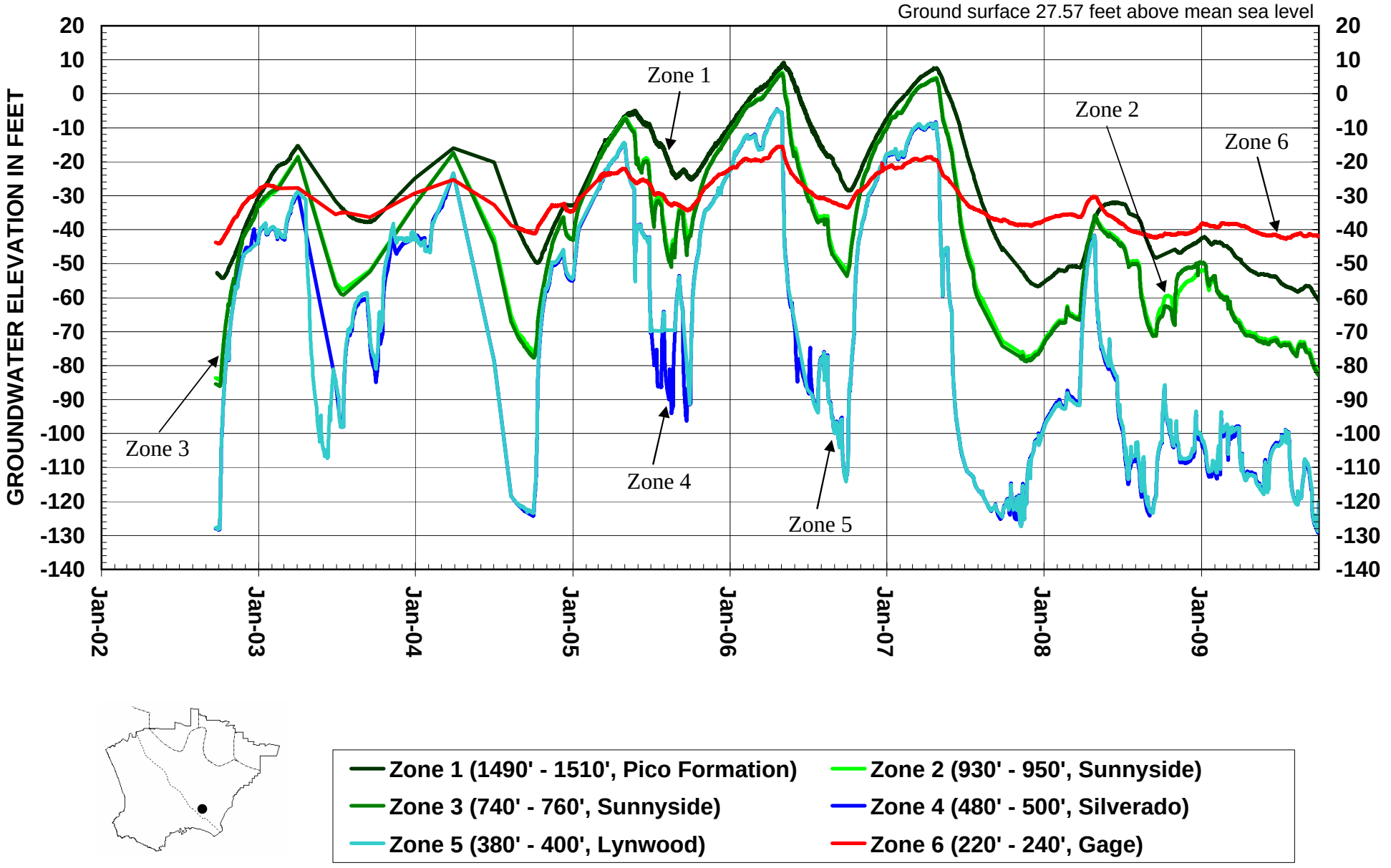


FIGURE 2.7
WATER LEVELS IN WRD KEY NESTED MONITORING WELL PM-4 MARINER

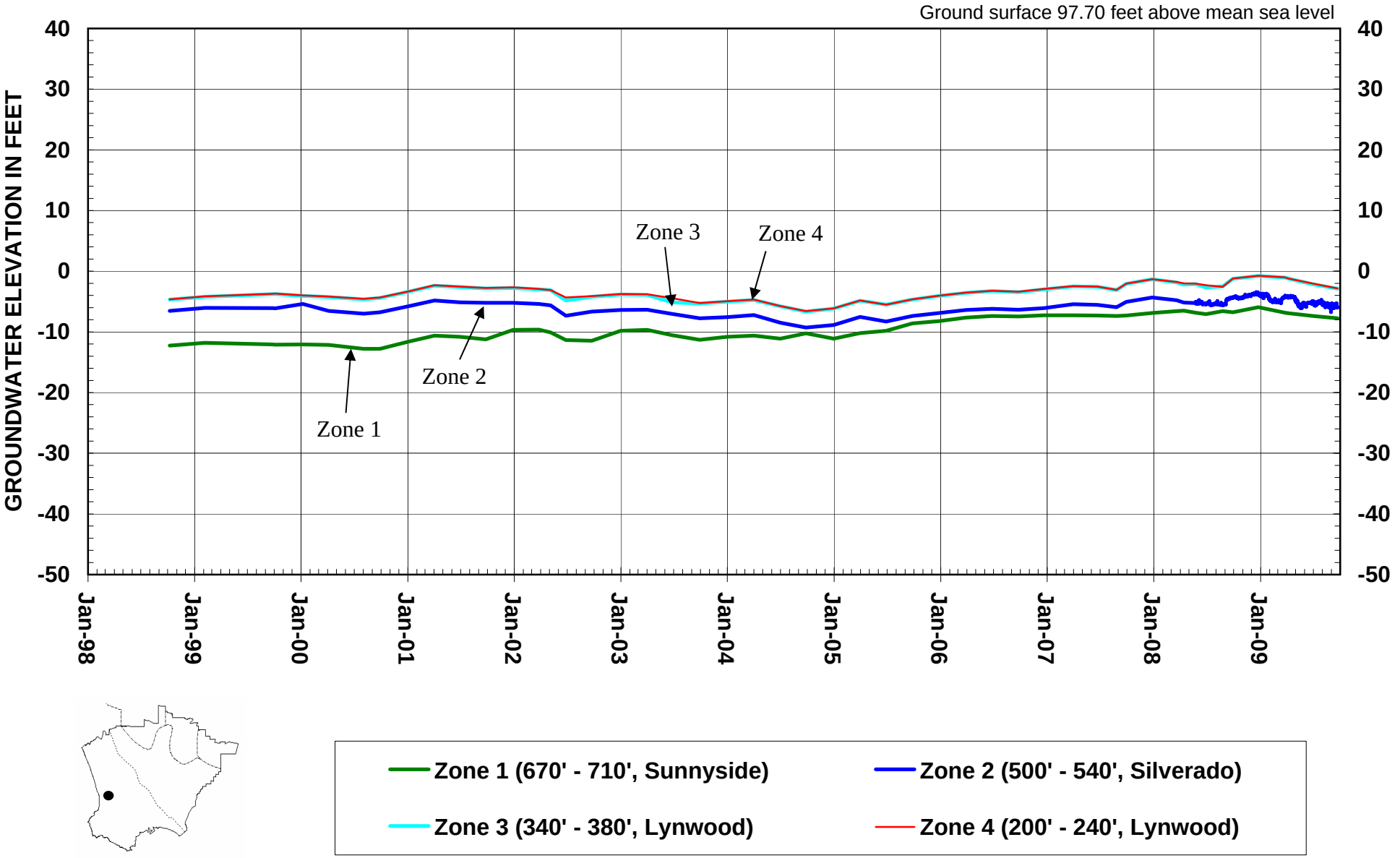
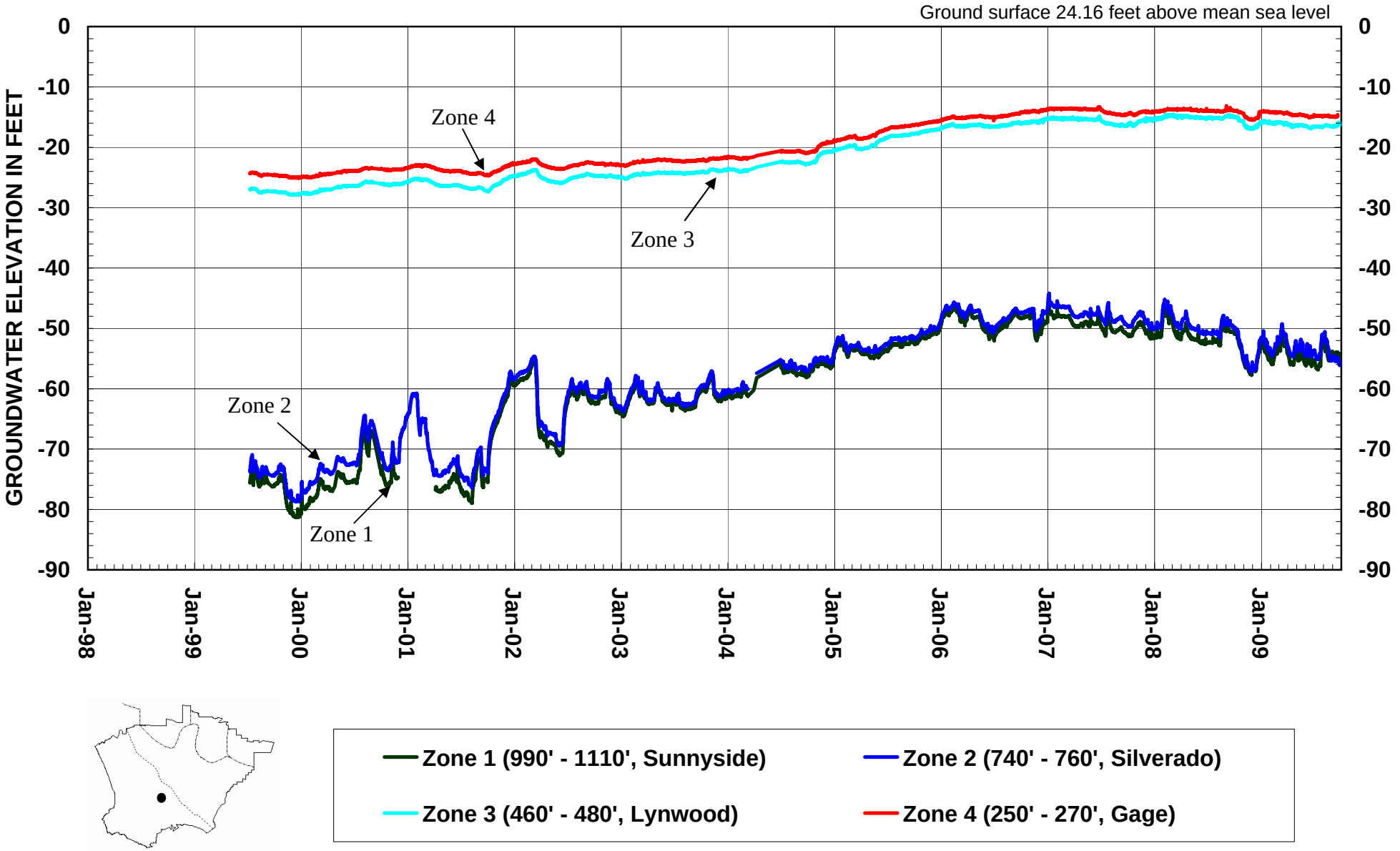


FIGURE 2.8
WATER LEVELS IN WRD KEY NESTED MONITORING WELL CARSON #1



1/28/2010

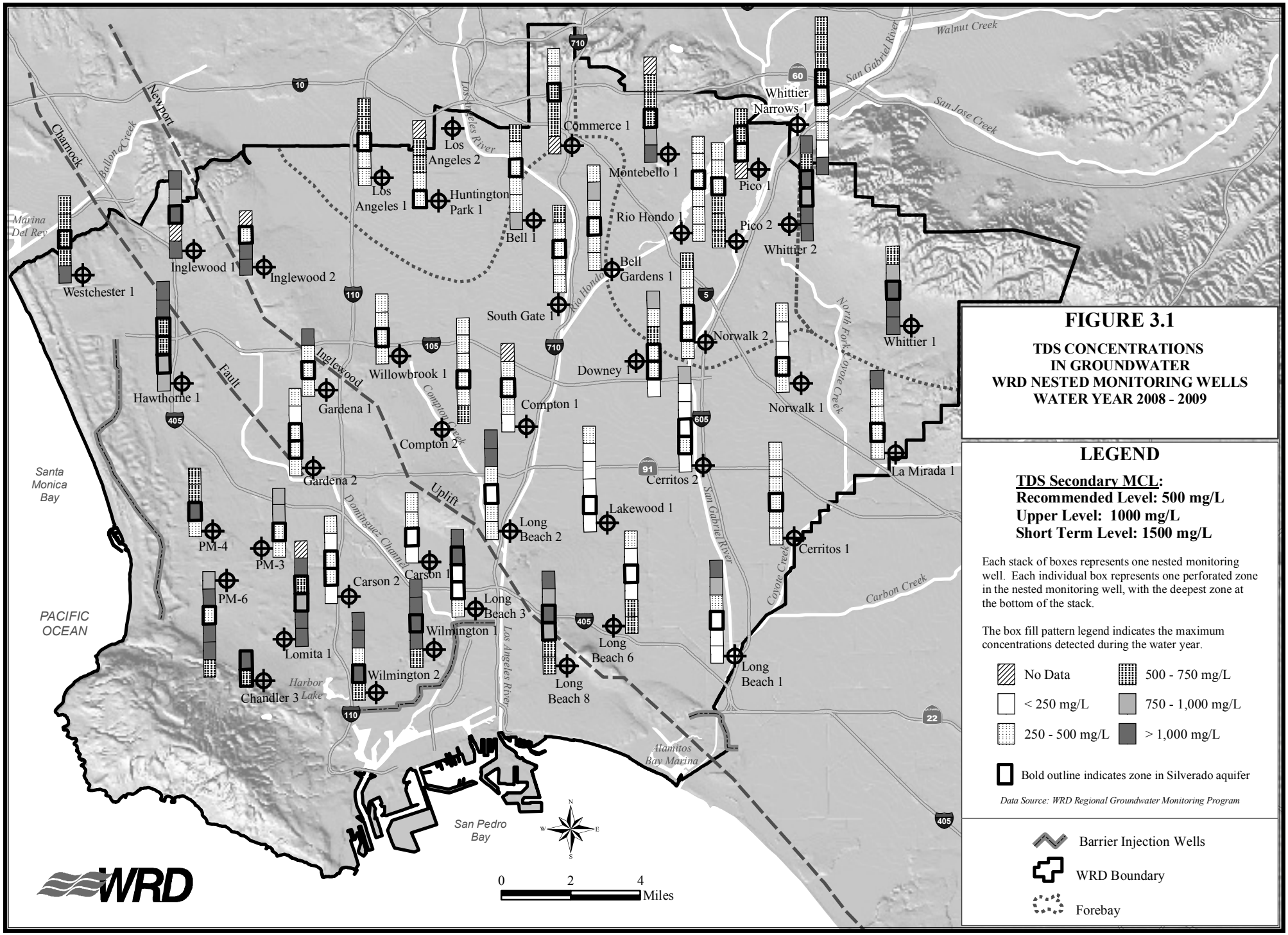


FIGURE 3.1
TDS CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2008 - 2009
LEGEND
TDS Secondary MCL:
Recommended Level: 500 mg/L
Upper Level: 1000 mg/L
Short Term Level: 1500 mg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
500 - 750 mg/L
< 250 mg/L
750 - 1,000 mg/L
250 - 500 mg/L
> 1,000 mg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Barrier Injection Wells
WRD Boundary
Forebay
Westchester 1
Inglewood 1
Inglewood 2
Hawthorne 1
Los Angeles 1
Los Angeles 2
Huntington Park 1
Willowbrook 1
Gardena 1
Gardena 2
Compton 1
Compton 2
Bell 1
South Gate 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Downey 1
Norwalk 1
Norwalk 2
Pico 1
Pico 2
Whittier Narrows 1
Whittier 1
Whittier 2
La Mirada 1
Cerritos 1
Cerritos 2
Lakewood 1
Long Beach 1
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
PM-3
PM-4
PM-6
Carson 1
Carson 2
Wilmington 1
Wilmington 2
Lomita 1
Chandler 3
Harbor Lake
Marina Del Rey
Santa Monica Bay
PACIFIC OCEAN
San Pedro Bay
Alamitos Bay Marina
Newport
Charnock
Ballona Creek
Los Angeles River
San Gabriel River
Walnut Creek
San Jose Creek
Rio Hondo
North Fork Coyote Creek
Coyote Creek
Carbon Creek
Compton Creek
Dominguez Channel
Inglewood Fault
Uplift
0 2 4 Miles
WRD

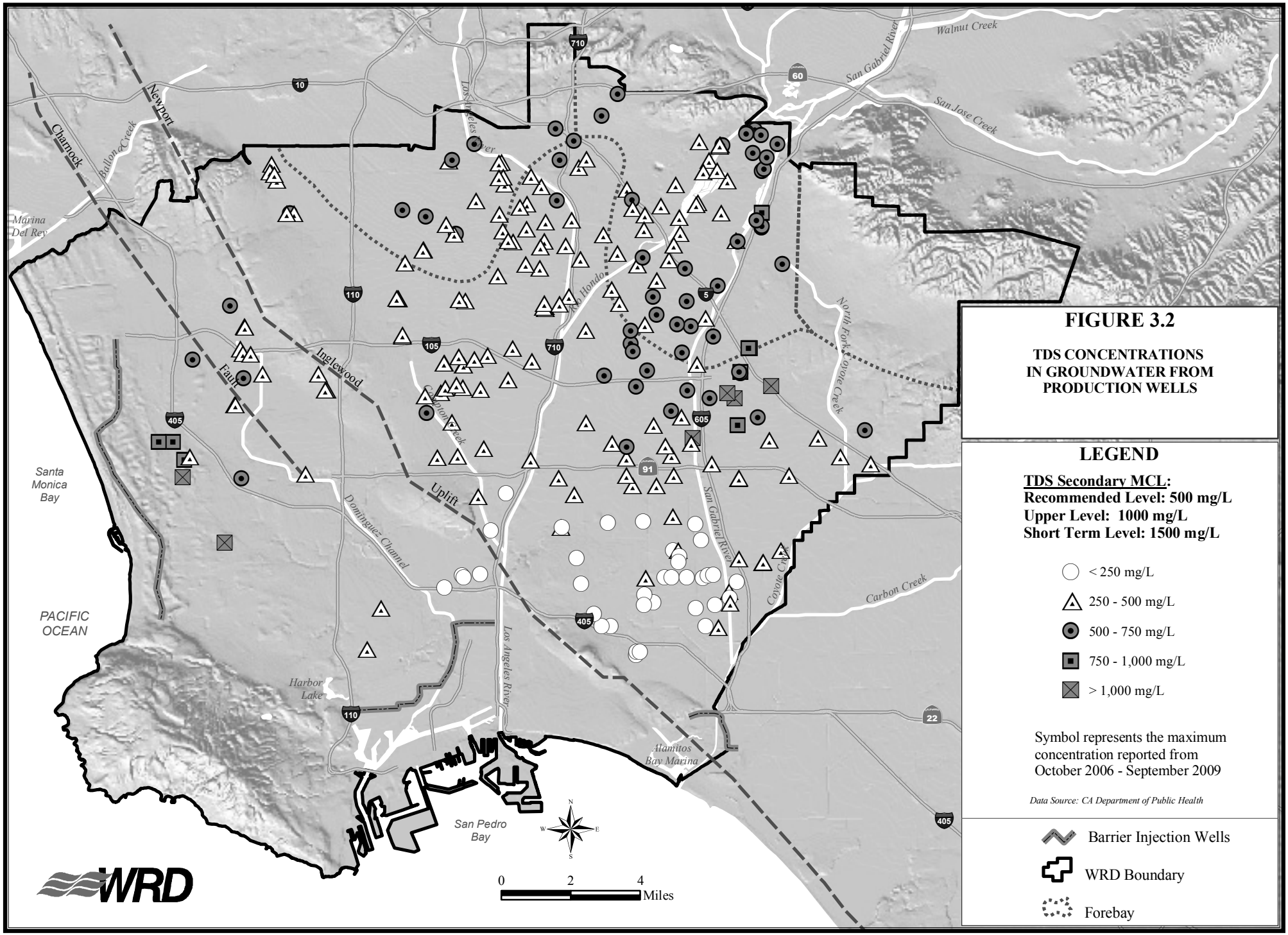


FIGURE 3.2
TDS CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS
LEGEND
TDS Secondary MCL:
Recommended Level: 500 mg/L
Upper Level: 1000 mg/L
Short Term Level: 1500 mg/L
< 250 mg/L
250 - 500 mg/L
500 - 750 mg/L
750 - 1,000 mg/L
> 1,000 mg/L
Symbol represents the maximum concentration reported from October 2006 - September 2009
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Charnock
Newport
Ballona Creek
Marina Del Rey
Los Angeles River
Walnut Creek
San Gabriel River
San Jose Creek
Rio Hondo
North Fork Coyote Creek
Inglewood
Fault
Centinela Creek
Uplift
Dominguez Channel
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
San Pedro Bay
Alamitos Bay Marina
Coyote Creek
Carbon Creek
0 2 4 Miles
WRD

FIGURE 3.3
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL RIO HONDO #1

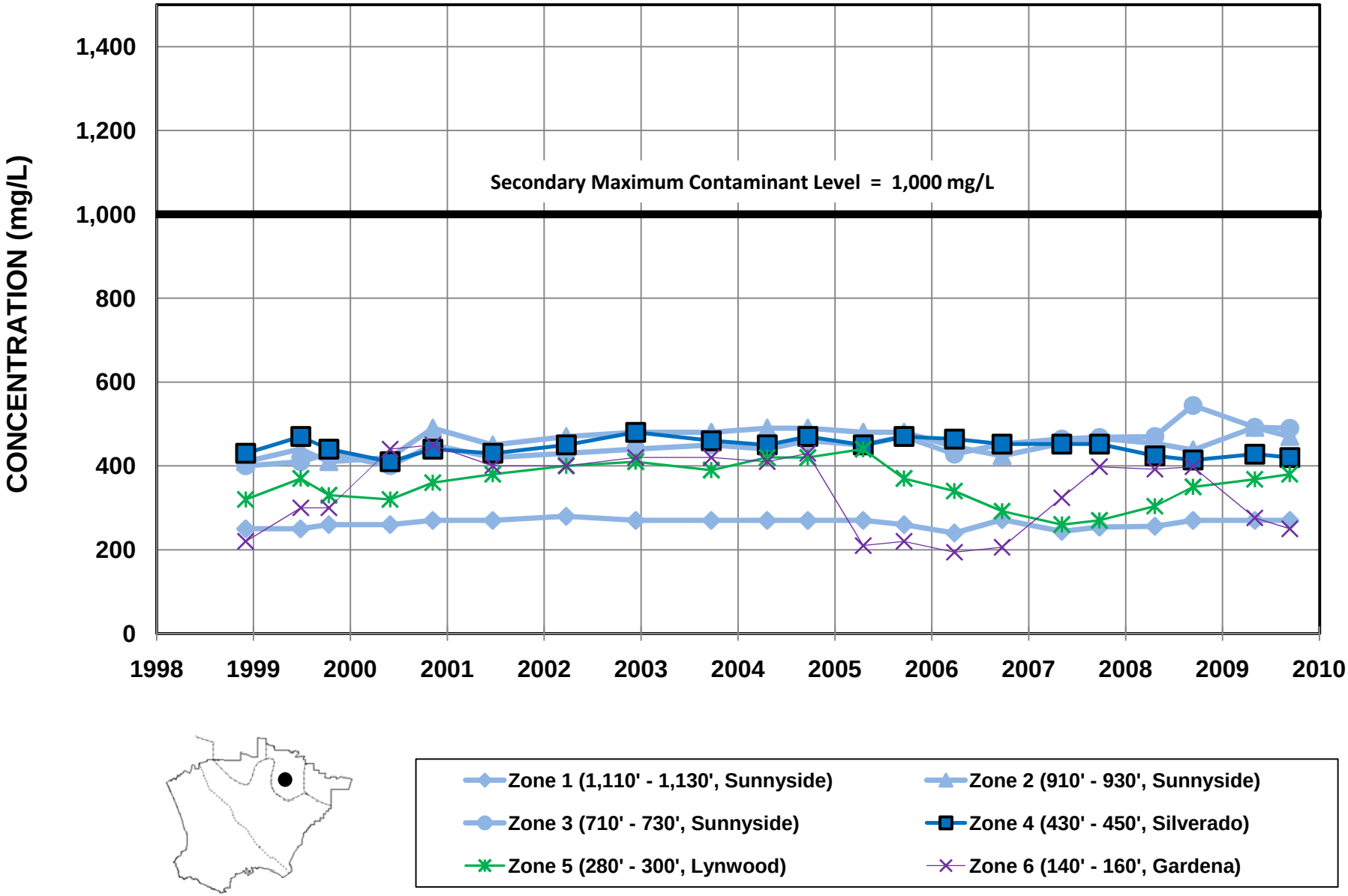


FIGURE 3.4
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL HUNTINGTON PARK #1

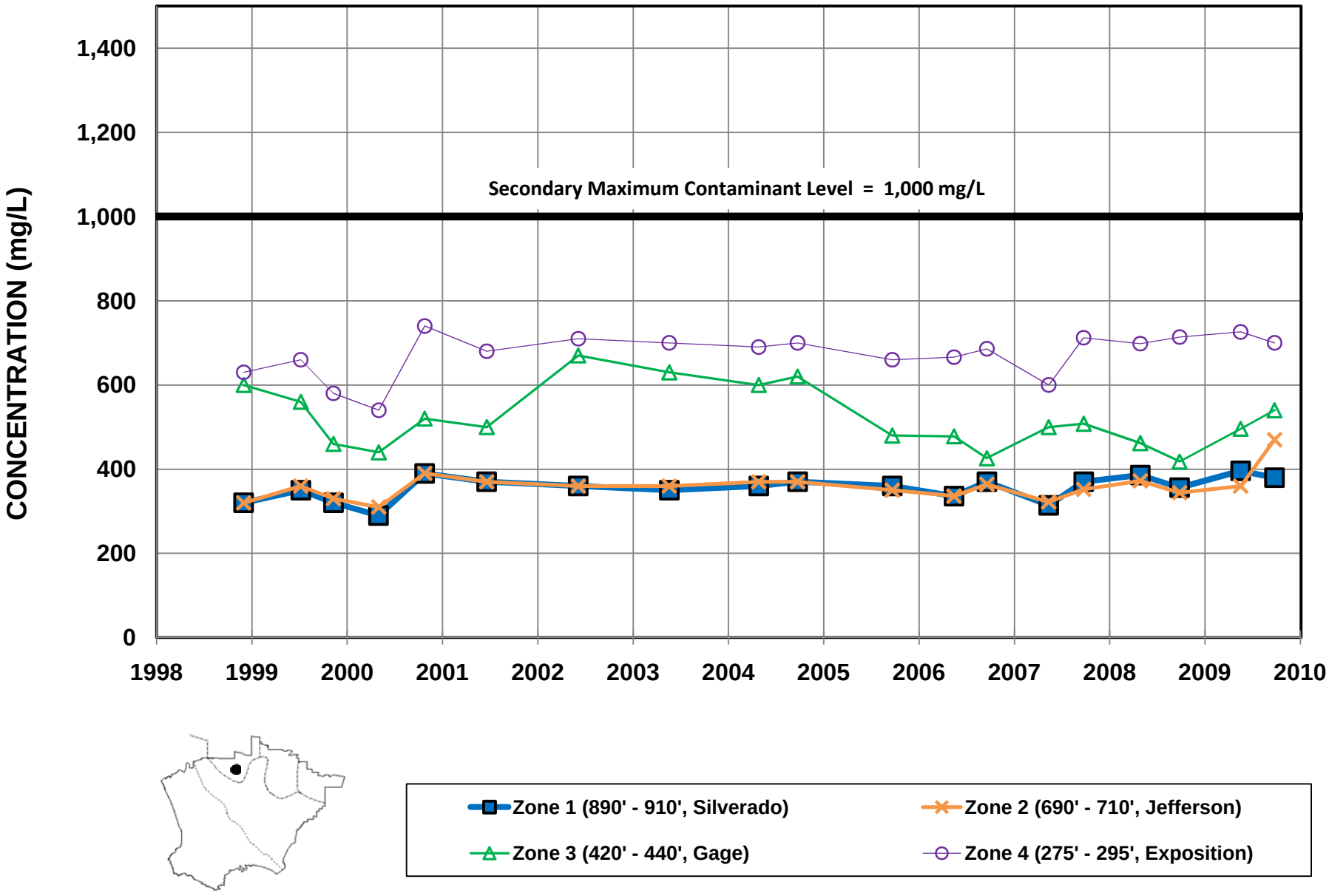


FIGURE 3.5
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL WILLOWBROOK #1

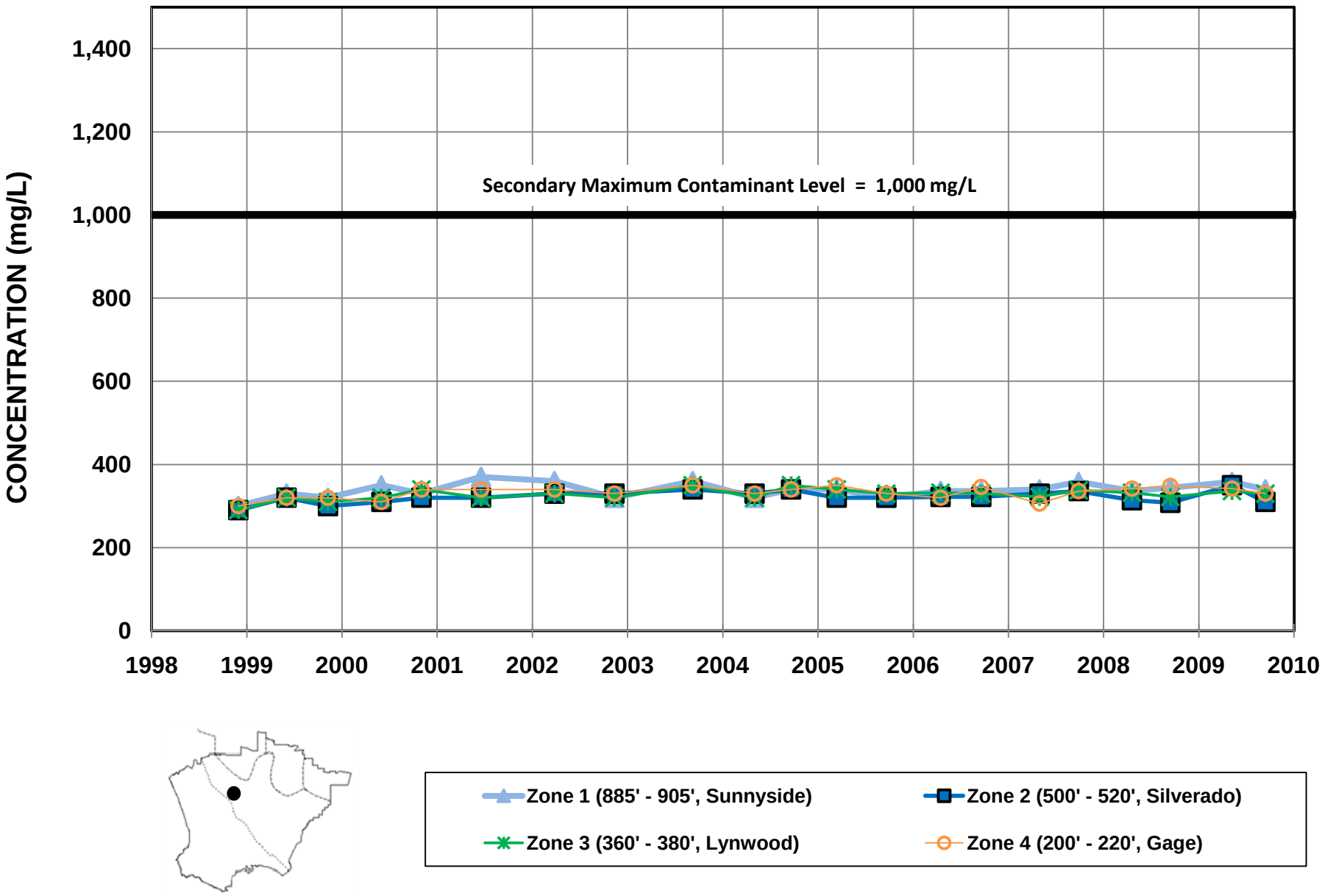


FIGURE 3.6
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL LONG BEACH #6

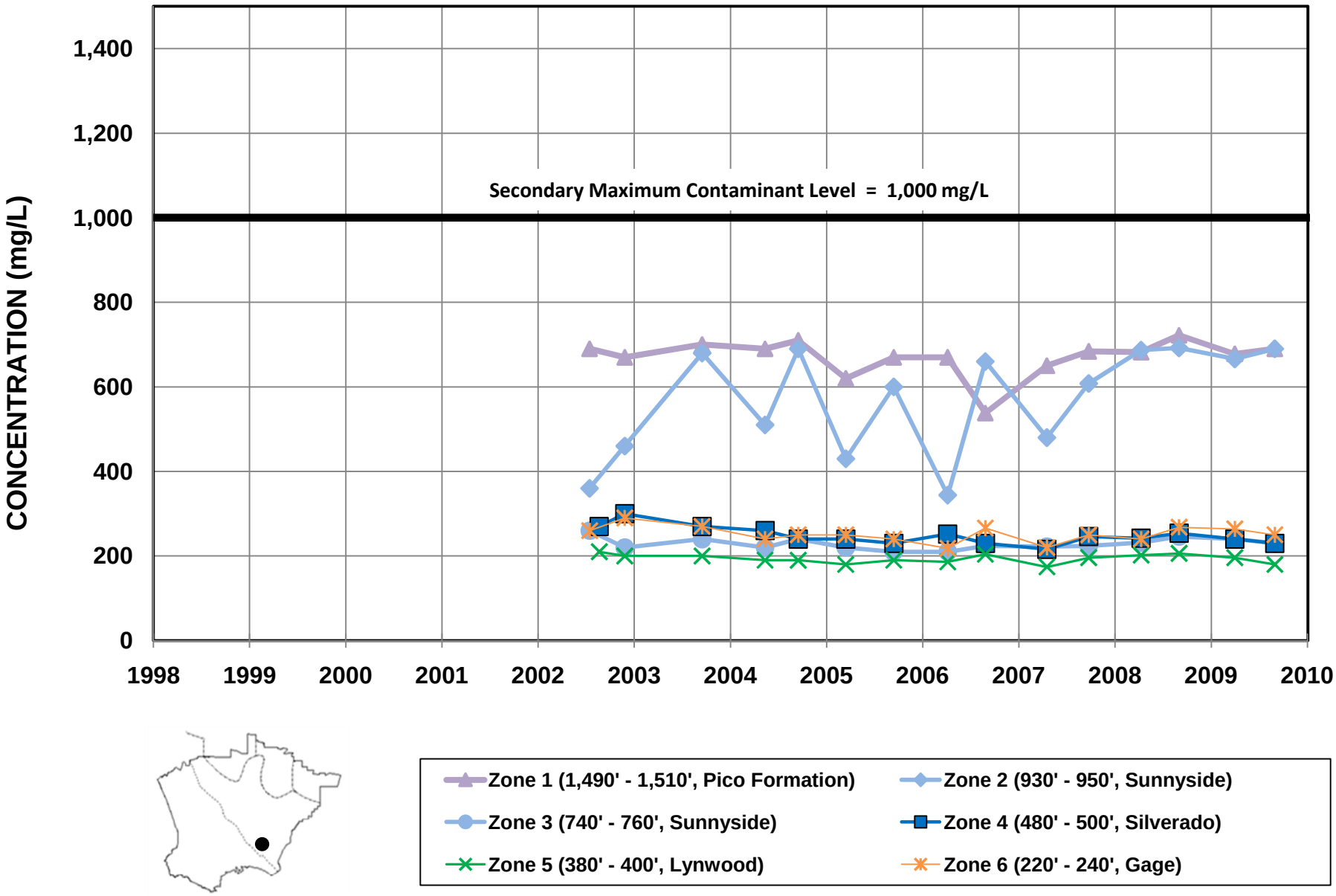


FIGURE 3.7
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL PM-4 MARINER

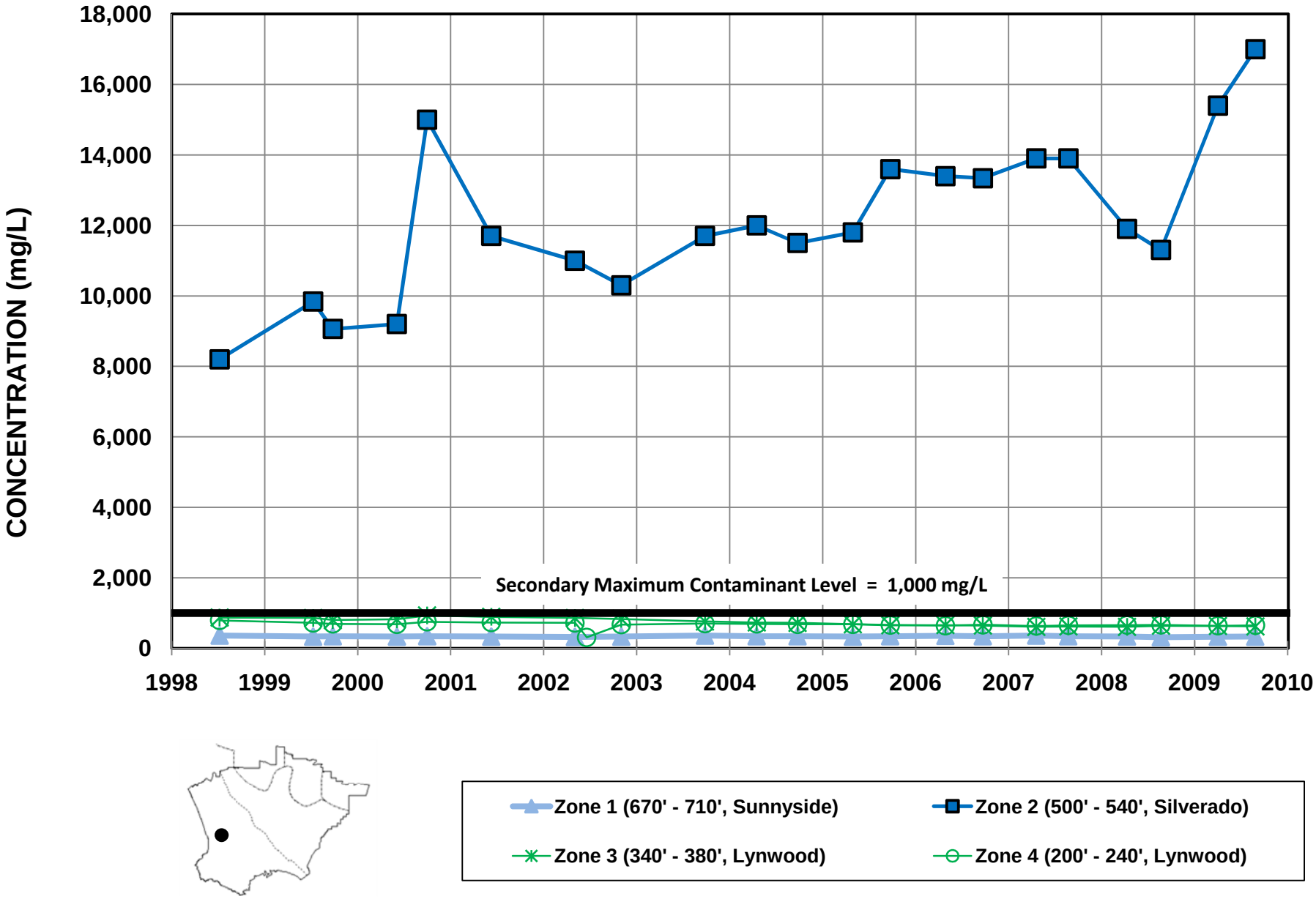
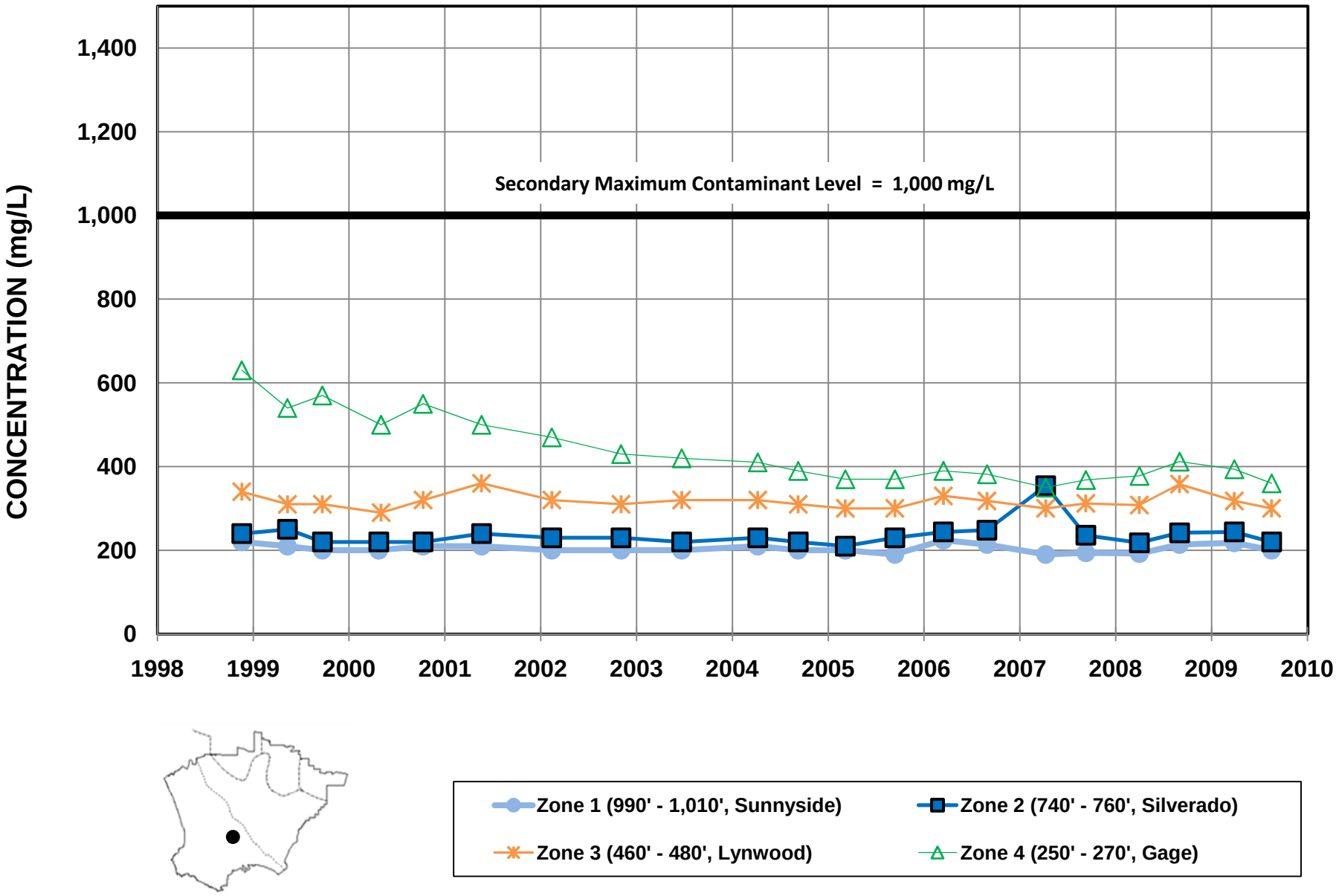


FIGURE 3.8
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL CARSON #1



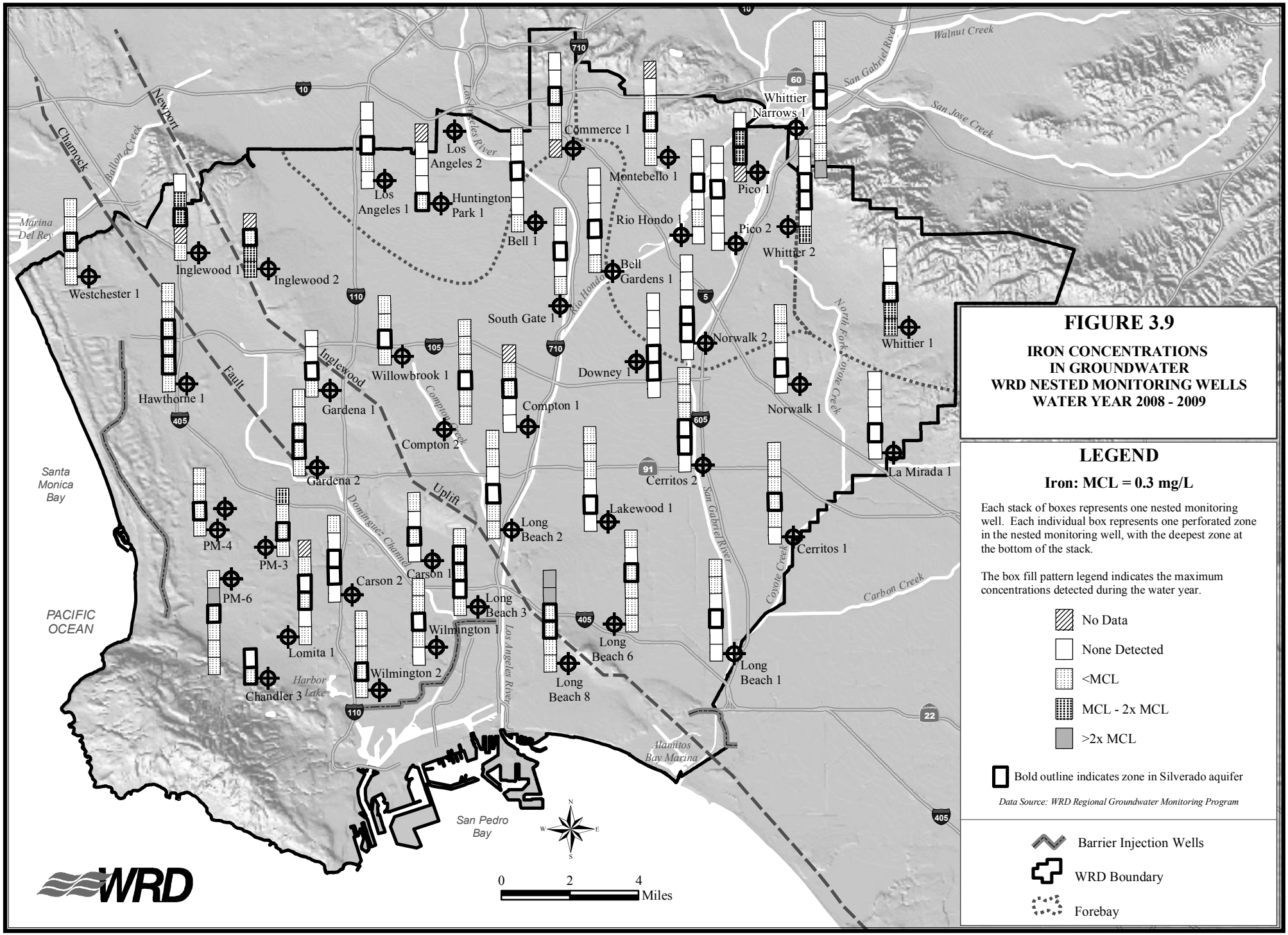


FIGURE 3.9
IRON CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2008 - 2009
LEGEND
Iron: MCL = 0.3 mg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
<MCL
MCL - 2x MCL
>2x MCL
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Barrier Injection Wells
WRD Boundary
Forebay
Westchester 1
Inglewood 1
Inglewood 2
Hawthorne 1
Gardena 1
Gardena 2
Willowbrook 1
Los Angeles 1
Los Angeles 2
Huntington Park 1
Bell 1
Commerce 1
South Gate 1
Compton 1
Compton 2
Montebello 1
Rio Hondo 1
Bell Gardens 1
Downey 1
Norwalk 2
Norwalk 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
La Mirada 1
Cerritos 2
Cerritos 1
Lakewood 1
Long Beach 1
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Carson 1
Carson 2
Wilmington 1
Wilmington 2
PM-3
PM-4
PM-6
Lomita 1
Chandler 3
Harbor Lake
Inglewood Fault
Uplift
Dominguez Channel
Compton Creek
Los Angeles River
Rio Hondo
San Gabriel River
Walnut Creek
San Jose Creek
North Fork Coyote Creek
Coyote Creek
Carbon Creek
Alamitos Bay Marina
San Pedro Bay
Santa Monica Bay
PACIFIC OCEAN
Marina Del Rey
Ballona Creek
Newport
Charnock
0 2 4 Miles
WRD

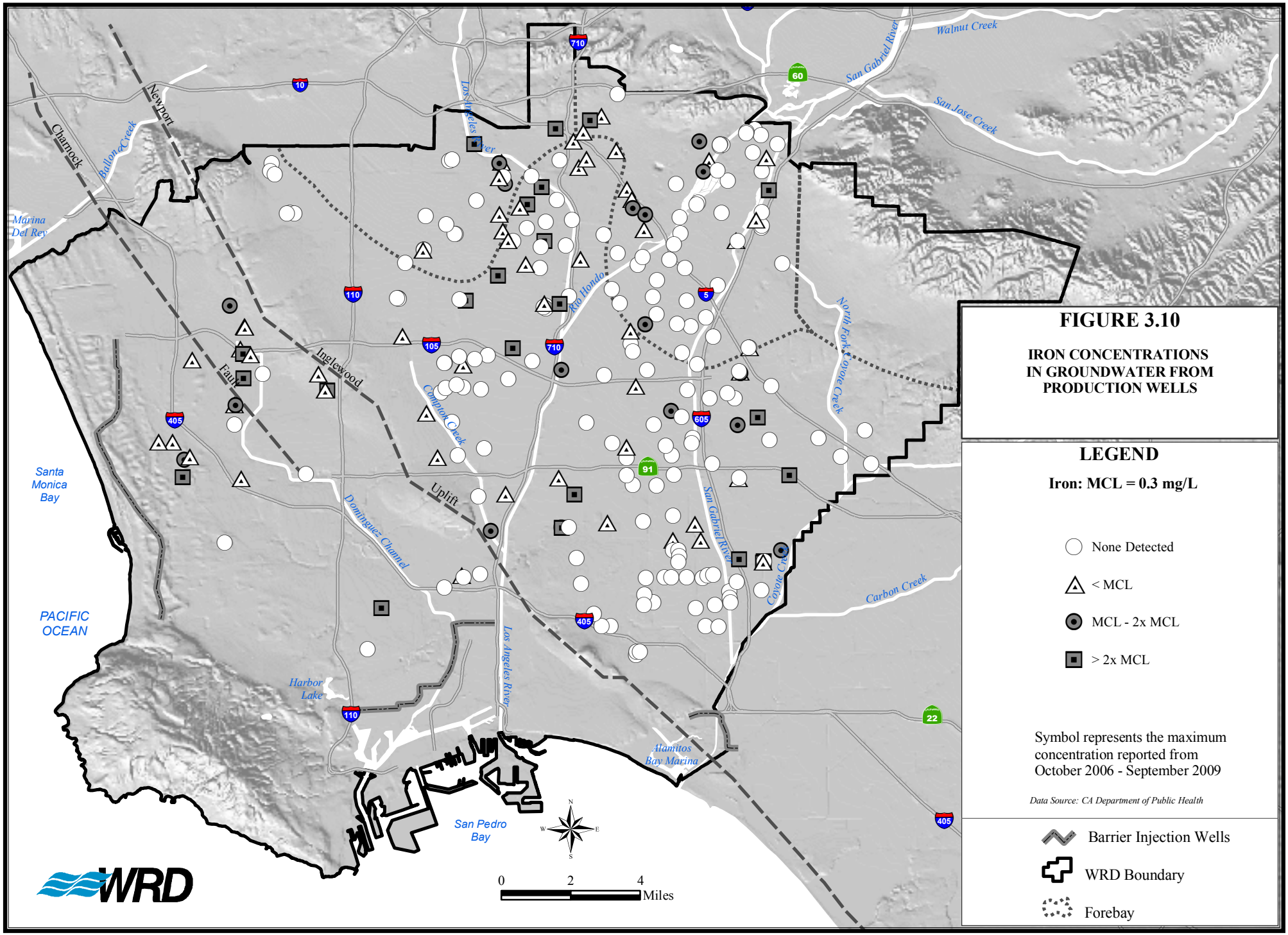


FIGURE 3.10
IRON CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Iron: MCL = 0.3 mg/L
None Detected
< MCL
MCL - 2x MCL
> 2x MCL
Symbol represents the maximum concentration reported from October 2006 - September 2009
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Walnut Creek
San Gabriel River
San Jose Creek
Los Angeles River
Newport
Charnock
Ballona Creek
Marina Del Rey
Rio Hondo
North Fork Coyote Creek
Inglewood
Fault
Compton Creek
Uplift
Dominguez Channel
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
Los Angeles River
San Gabriel River
Coyote Creek
Carbon Creek
Alamitos Bay Marina
San Pedro Bay
0 2 4 Miles
WRD

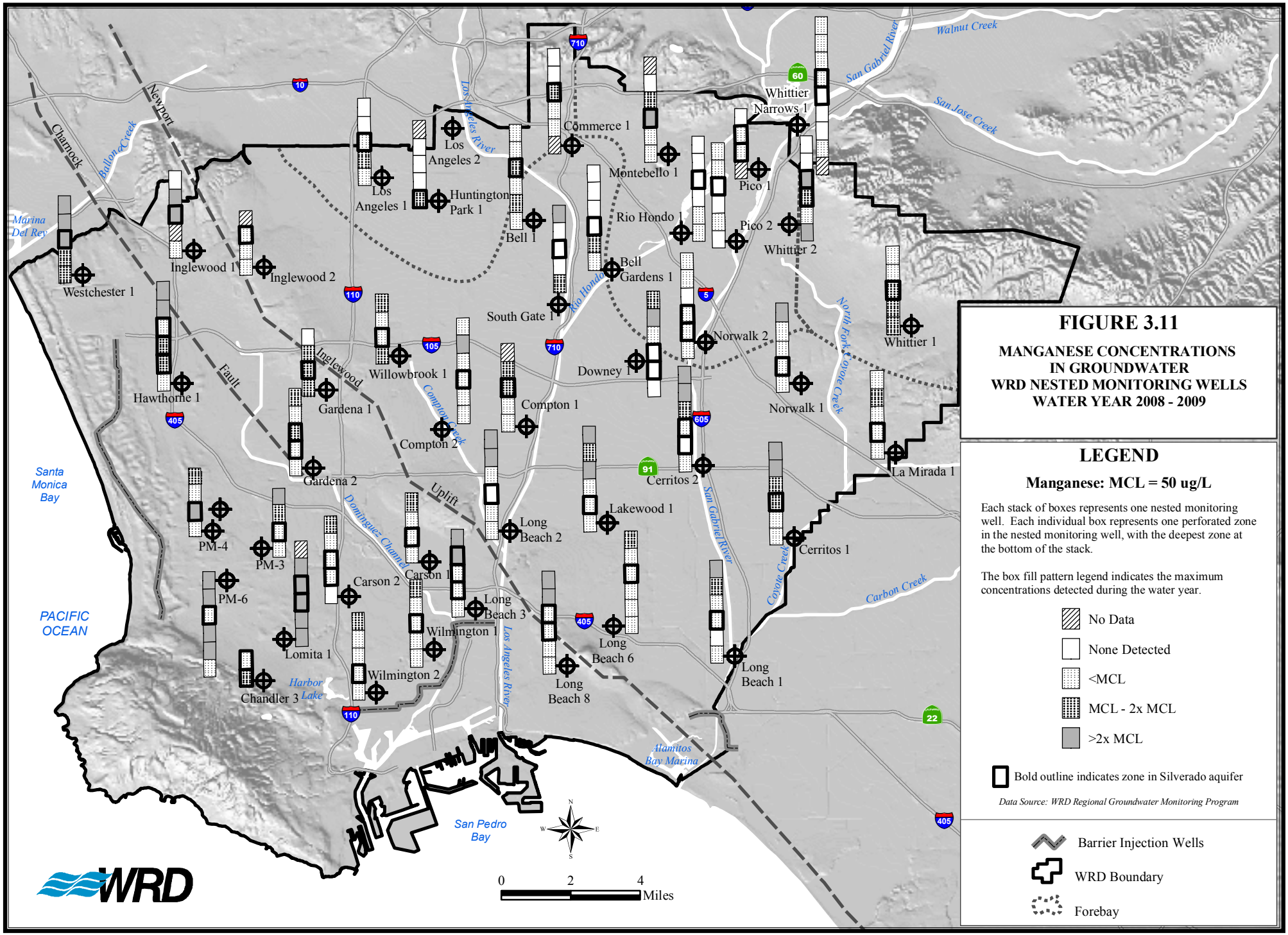


FIGURE 3.11

MANGANESE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2008 - 2009

LEGEND

Manganese: MCL = 50 ug/L

Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.

The box fill pattern legend indicates the maximum concentrations detected during the water year.

- No Data
- None Detected
- <MCL
- MCL - 2x MCL
- >2x MCL

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

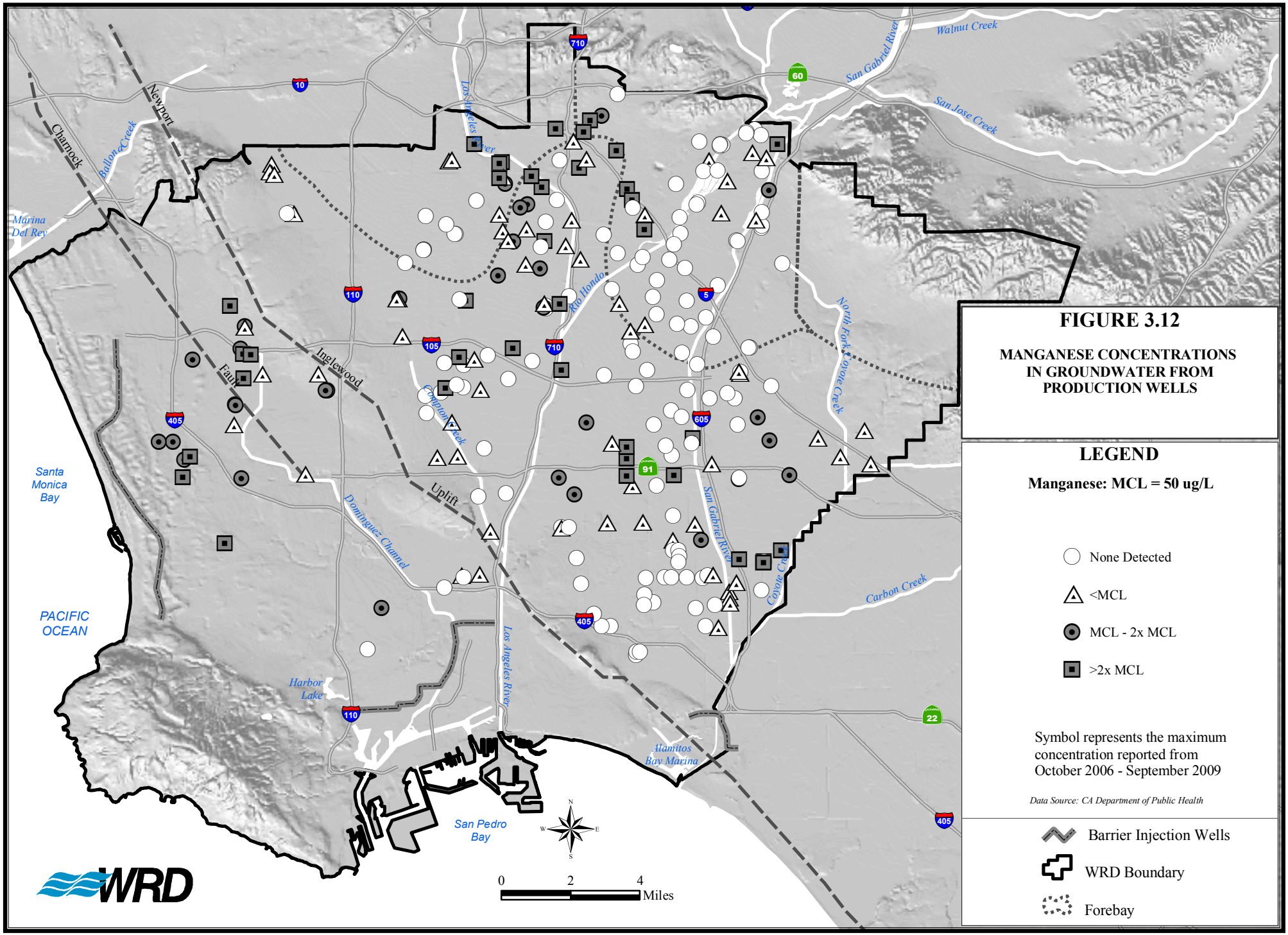


FIGURE 3.12
MANGANESE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Manganese: MCL = 50 ug/L
None Detected
<MCL
MCL - 2x MCL
>2x MCL
Symbol represents the maximum concentration reported from October 2006 - September 2009
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Marina Del Rey
Ballona Creek
Charnock
Newport
Inglewood
Fault
Uplift
Dominguez Channel
Los Angeles River
Rio Hondo
San Gabriel River
Walnut Creek
San Jose Creek
North Fork Coyote Creek
Coyote Creek
Carbon Creek
Compton Creek
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
Alamitos Bay Marina
San Pedro Bay
0 2 4 Miles
WRD

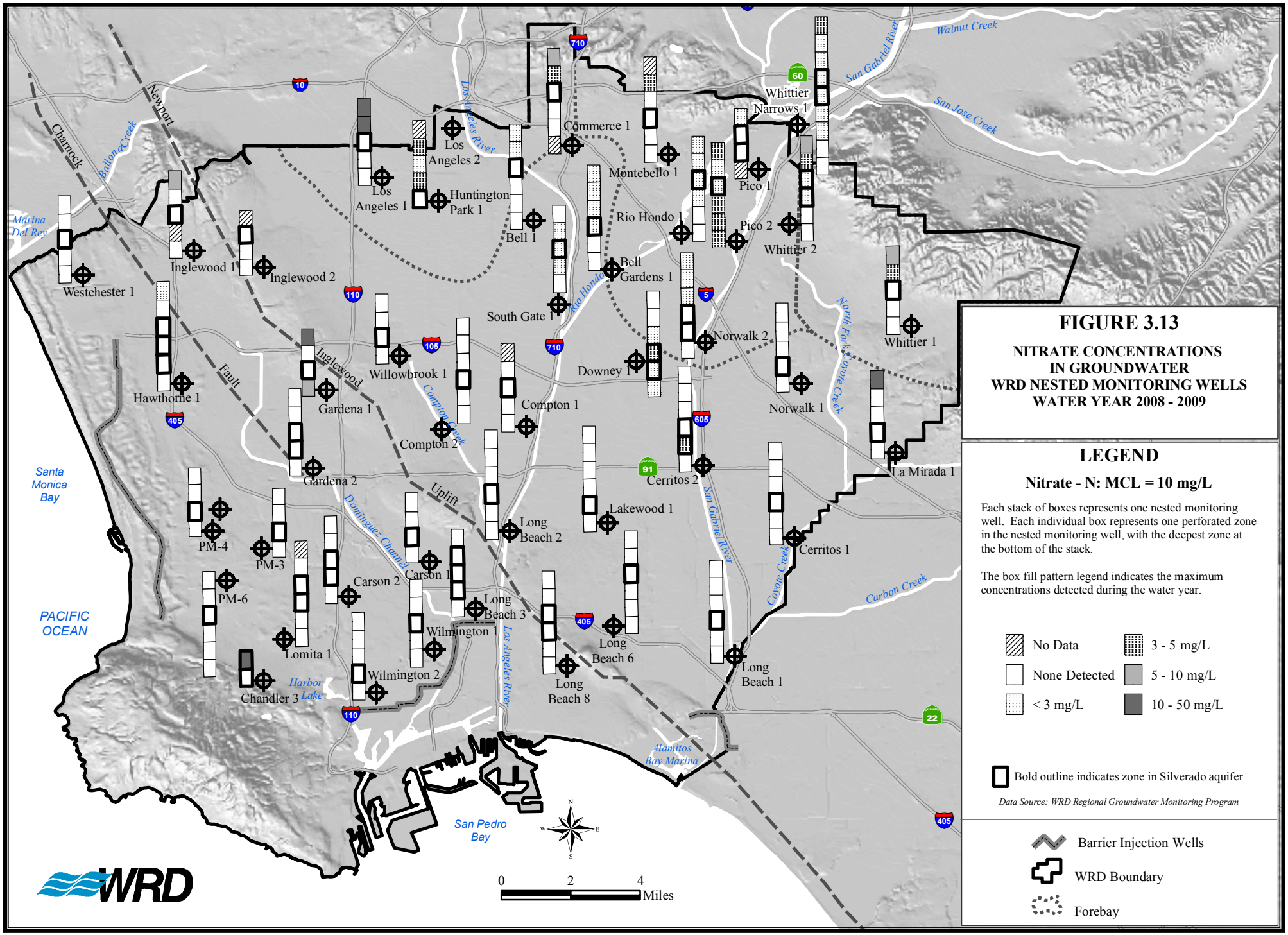


FIGURE 3.13

NITRATE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2008 - 2009

LEGEND

Nitrate - N: MCL = 10 mg/L

Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.

The box fill pattern legend indicates the maximum concentrations detected during the water year.

- No Data
- None Detected
- < 3 mg/L
- 3 - 5 mg/L
- 5 - 10 mg/L
- 10 - 50 mg/L

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

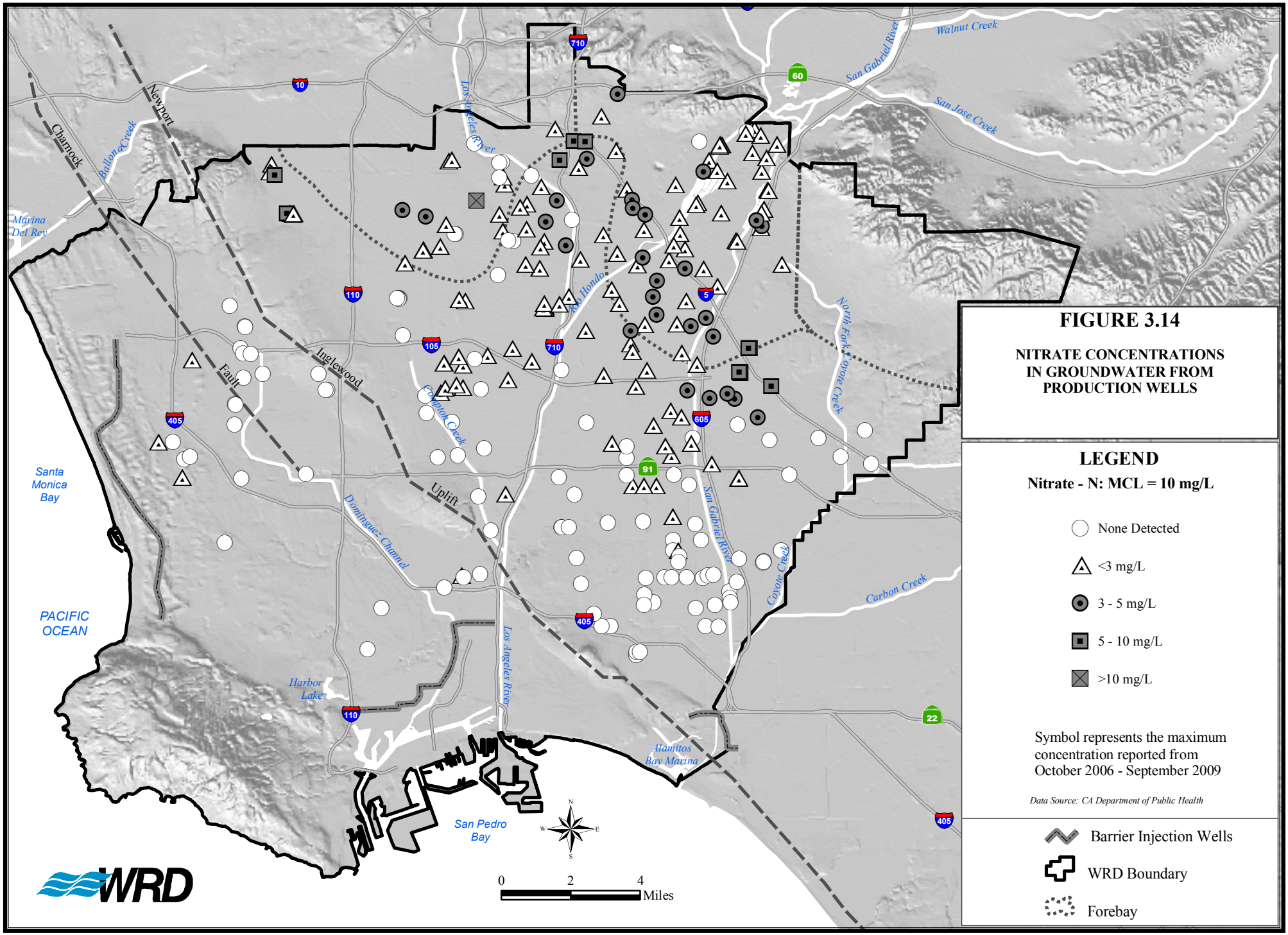


FIGURE 3.14
NITRATE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Nitrate - N: MCL = 10 mg/L
None Detected
<3 mg/L
3 - 5 mg/L
5 - 10 mg/L
>10 mg/L
Symbol represents the maximum concentration reported from October 2006 - September 2009
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Marina Del Rey
Ballona Creek
Charnock
Newport
Inglewood
Fault
Uplift
Dominguez Channel
Compton Creek
Rio Hondo
Los Angeles River
San Gabriel River
Walnut Creek
San Jose Creek
North Fork Coyote Creek
Coyote Creek
Carbon Creek
Harbor Lake
Alamitos Bay Marina
Santa Monica Bay
PACIFIC OCEAN
San Pedro Bay
0 2 4 Miles
WRD

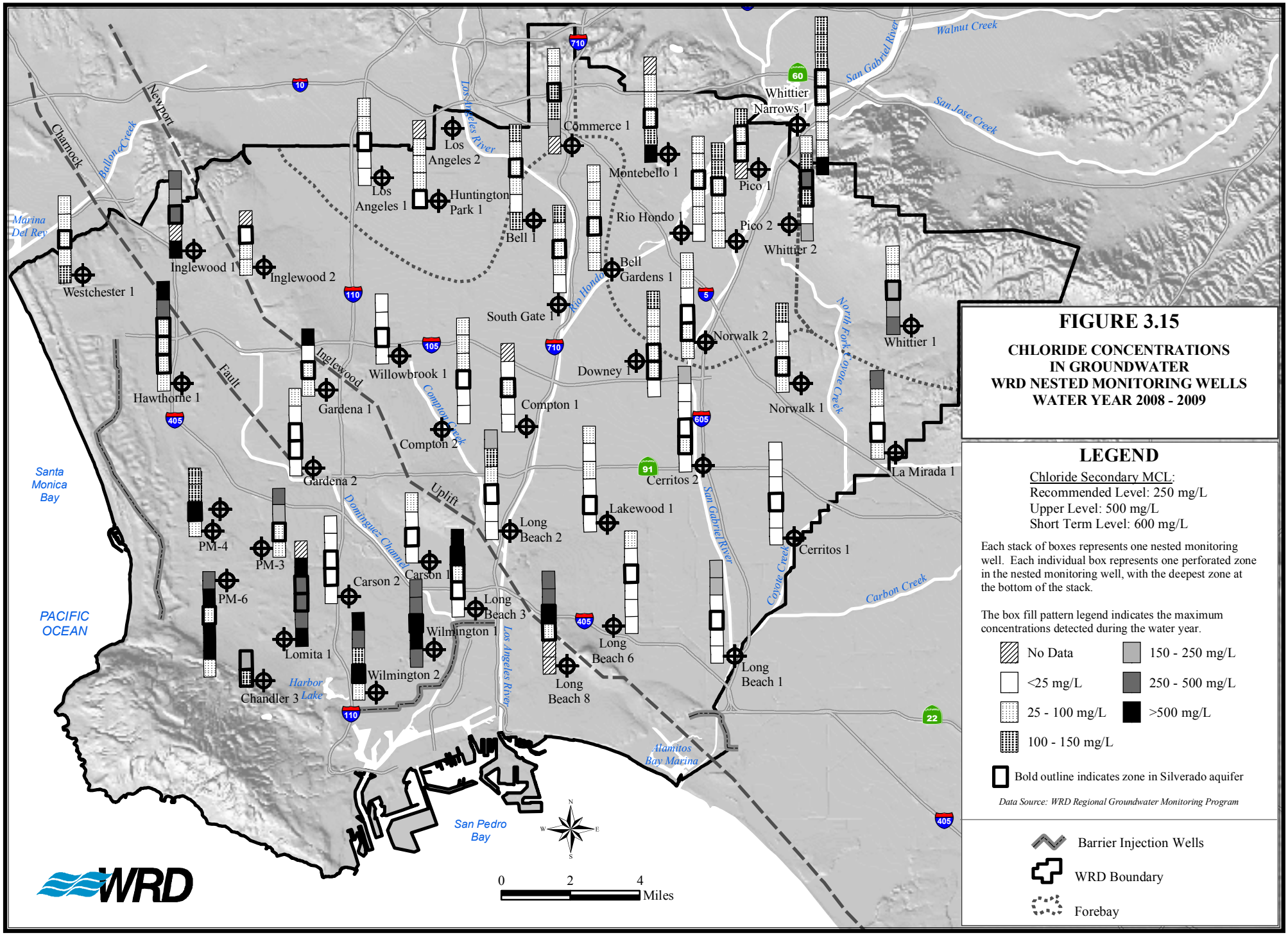


FIGURE 3.15

CHLORIDE CONCENTRATIONS IN GROUNDWATER WRD NESTED MONITORING WELLS WATER YEAR 2008 - 2009

LEGEND

Chloride Secondary MCL:
Recommended Level: 250 mg/L
Upper Level: 500 mg/L
Short Term Level: 600 mg/L

Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.

The box fill pattern legend indicates the maximum concentrations detected during the water year.

- No Data
- <25 mg/L
- 25 - 100 mg/L
- 100 - 150 mg/L
- 150 - 250 mg/L
- 250 - 500 mg/L
- >500 mg/L

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

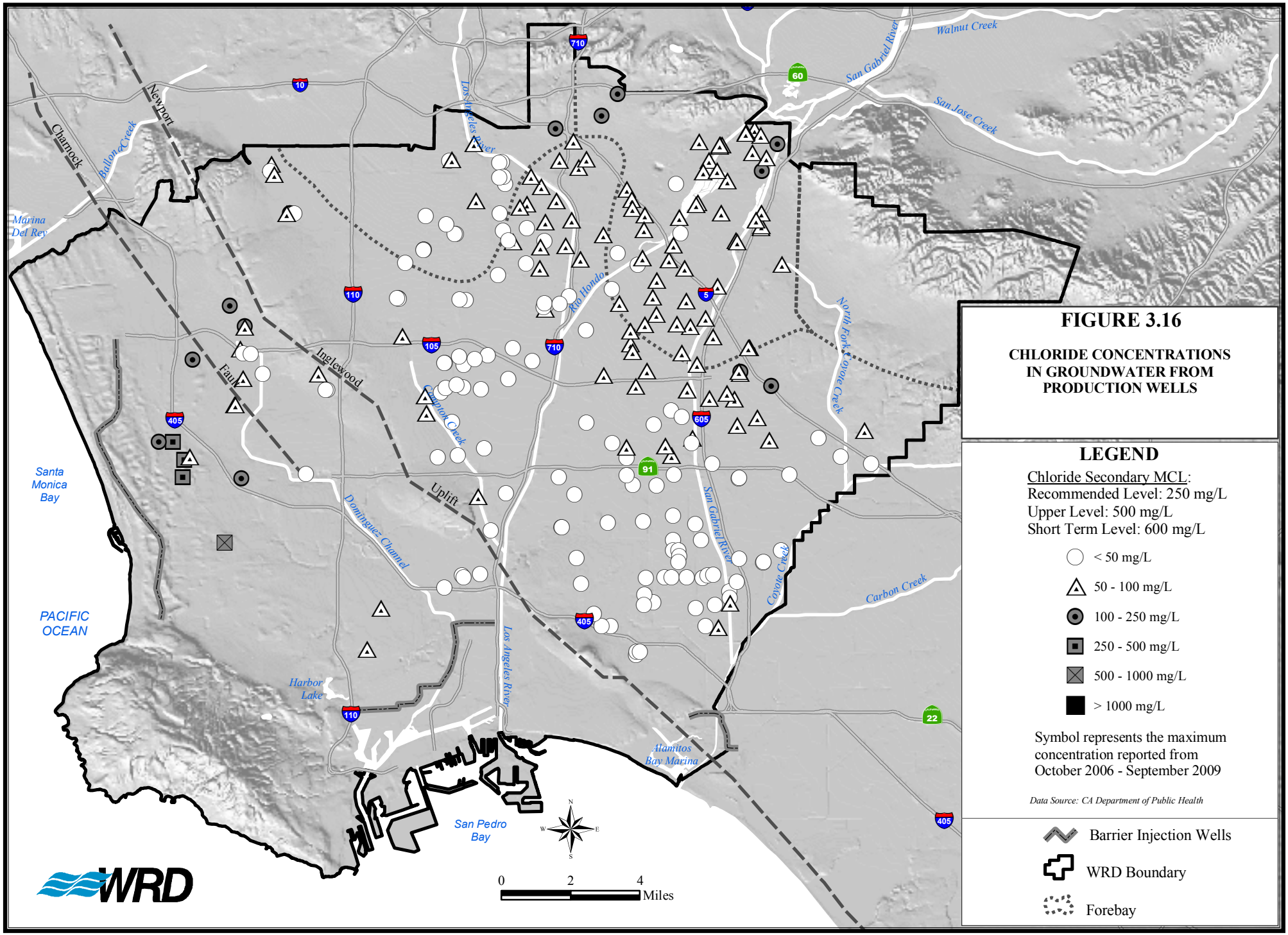


FIGURE 3.16
CHLORIDE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Chloride Secondary MCL:
Recommended Level: 250 mg/L
Upper Level: 500 mg/L
Short Term Level: 600 mg/L
< 50 mg/L
50 - 100 mg/L
100 - 250 mg/L
250 - 500 mg/L
500 - 1000 mg/L
> 1000 mg/L
Symbol represents the maximum concentration reported from October 2006 - September 2009
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Charnock
Newport
Ballona Creek
Marina Del Rey
Los Angeles River
Walnut Creek
San Gabriel River
San Jose Creek
Rio Hondo
North Fork Coyote Creek
Inglewood
Fault
Compton Creek
Uplift
Dominguez Channel
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
San Pedro Bay
Alamitos Bay Marina
Coyote Creek
Carbon Creek
0 2 4 Miles
WRD

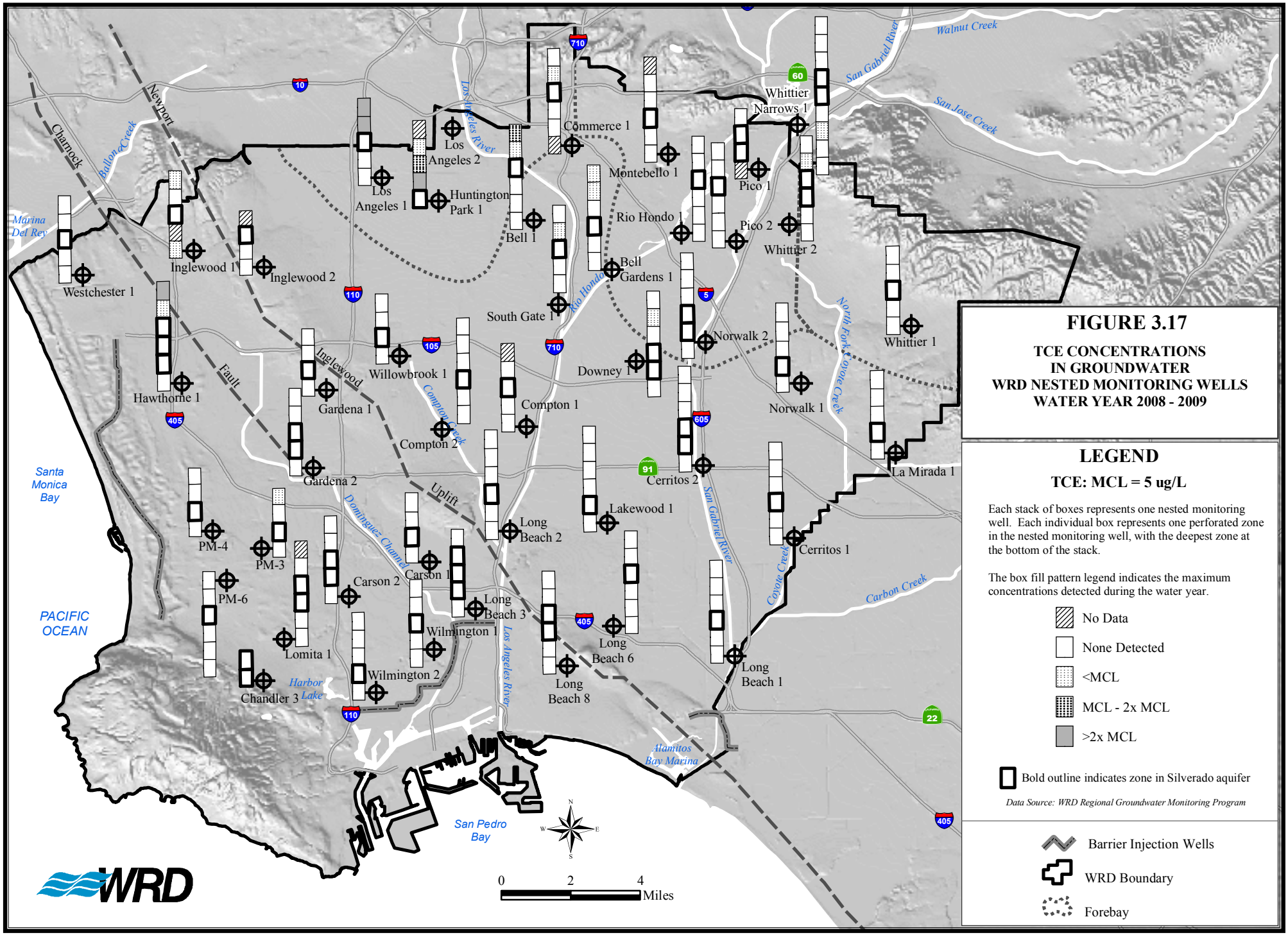


FIGURE 3.17

TCE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2008 - 2009

LEGEND

TCE: MCL = 5 ug/L

Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.

The box fill pattern legend indicates the maximum concentrations detected during the water year.

- No Data
- None Detected
- <MCL
- MCL - 2x MCL
- >2x MCL

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

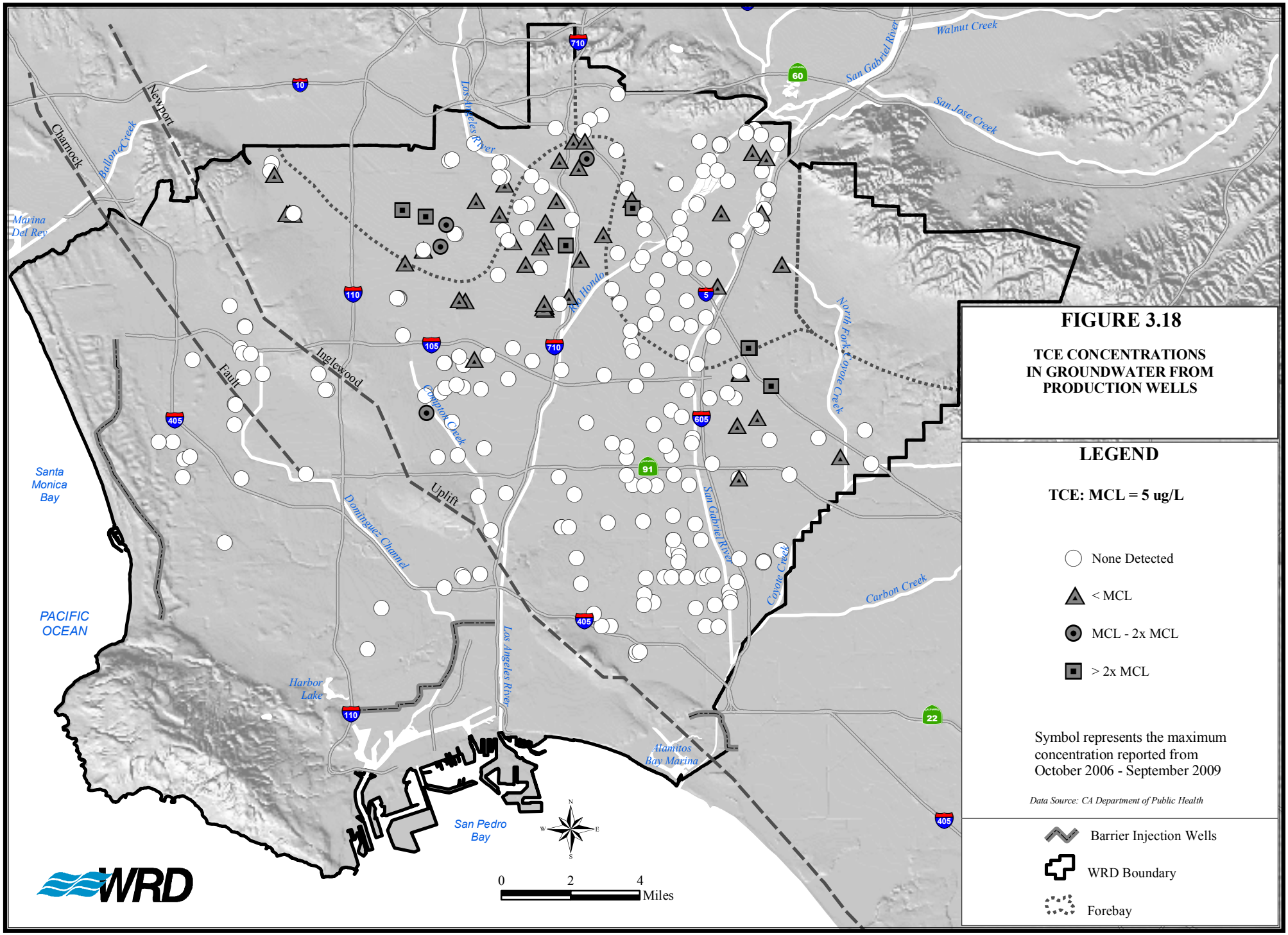


FIGURE 3.18
TCE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
TCE: MCL = 5 ug/L
None Detected
< MCL
MCL - 2x MCL
> 2x MCL
Symbol represents the maximum concentration reported from October 2006 - September 2009
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Walnut Creek
San Gabriel River
San Jose Creek
Los Angeles River
Newport
Charnock
Ballona Creek
Marina Del Rey
Rio Hondo
North Fork Coyote Creek
Inglewood
Fault
Compton Creek
Uplift
Dominguez Channel
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
Alamitos Bay Marina
San Pedro Bay
Carbon Creek
Coyote Creek
0 2 4 Miles
WRD

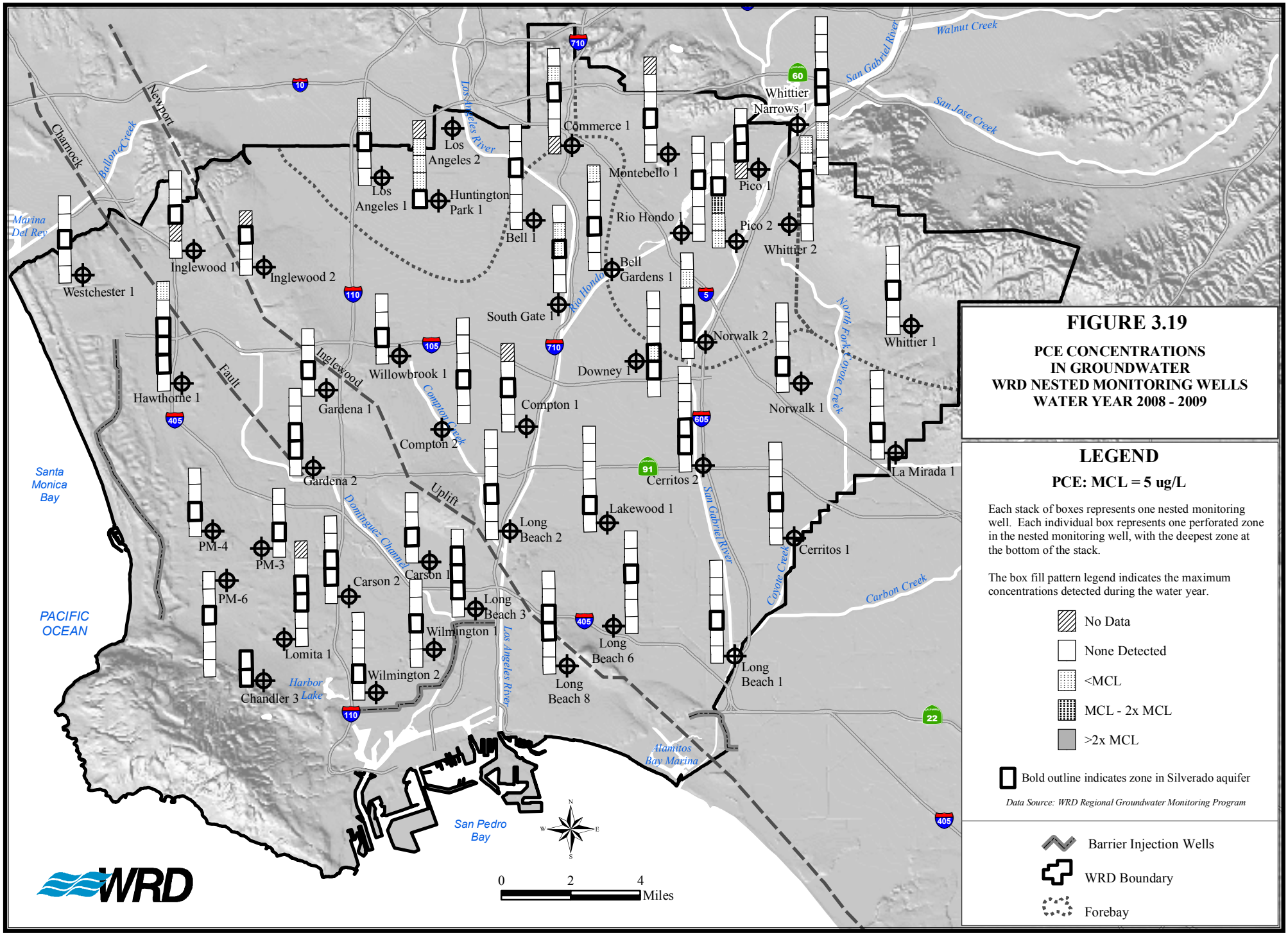
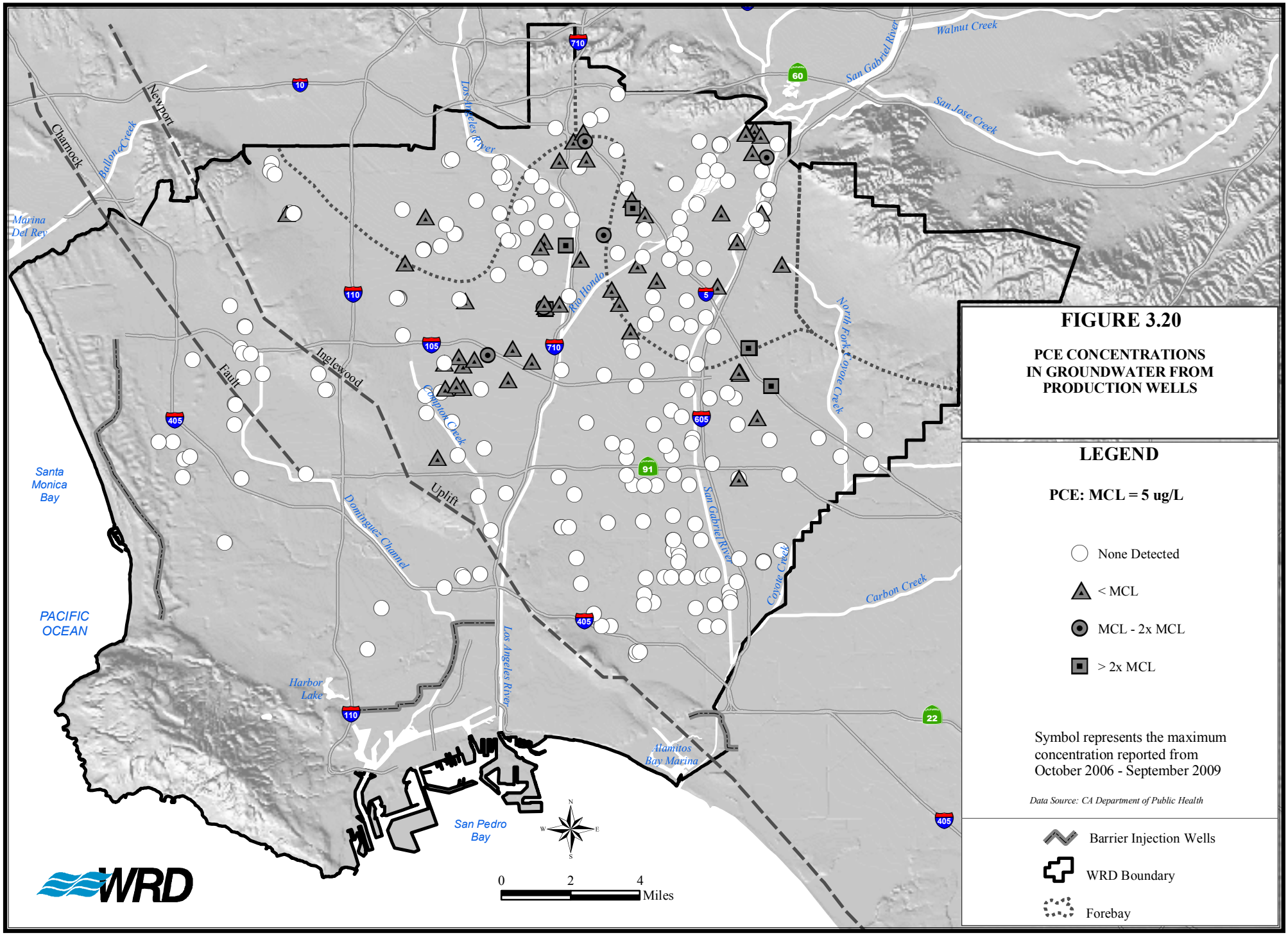


FIGURE 3.19
PCE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2008 - 2009
LEGEND
PCE: MCL = 5 ug/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
<MCL
MCL - 2x MCL
>2x MCL
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Barrier Injection Wells
WRD Boundary
Forebay
Westchester 1
Inglewood 1
Inglewood 2
Hawthorne 1
Los Angeles 1
Los Angeles 2
Huntington Park 1
Willowbrook 1
Gardena 1
Gardena 2
Compton 1
Compton 2
Bell 1
South Gate 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Downey 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 1
Norwalk 2
Cerritos 2
Cerritos 1
La Mirada 1
Lakewood 1
Long Beach 1
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
PM-4
PM-3
PM-6
Carson 1
Carson 2
Wilmington 1
Wilmington 2
Lomita 1
Chandler 3
Harbor Lake
Marina Del Rey
Santa Monica Bay
PACIFIC OCEAN
San Pedro Bay
Alamitos Bay Marina
Fault
Uplift
Newport
Charnock
Ballona Creek
Dominguez Channel
Compton Creek
Los Angeles River
Rio Hondo
San Gabriel River
Walnut Creek
San Jose Creek
North Fork Coyote Creek
Coyote Creek
Carbon Creek
0 2 4 Miles
WRD


Walnut Creek
San Gabriel River
San Jose Creek
Los Angeles River
Ballona Creek
Newport
Charnock
Marina Del Rey
Rio Hondo
North Fork Coyote Creek
Inglewood
Fault
Compton Creek
Uplift
Dominguez Channel
San Gabriel River
Coyote Creek
Carbon Creek
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
Los Angeles River
Alamitos Bay Marina
San Pedro Bay
0 2 4 Miles
WRD
FIGURE 3.20
PCE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
PCE: MCL = 5 ug/L
None Detected
< MCL
MCL - 2x MCL
> 2x MCL
Symbol represents the maximum concentration reported from October 2006 - September 2009
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay

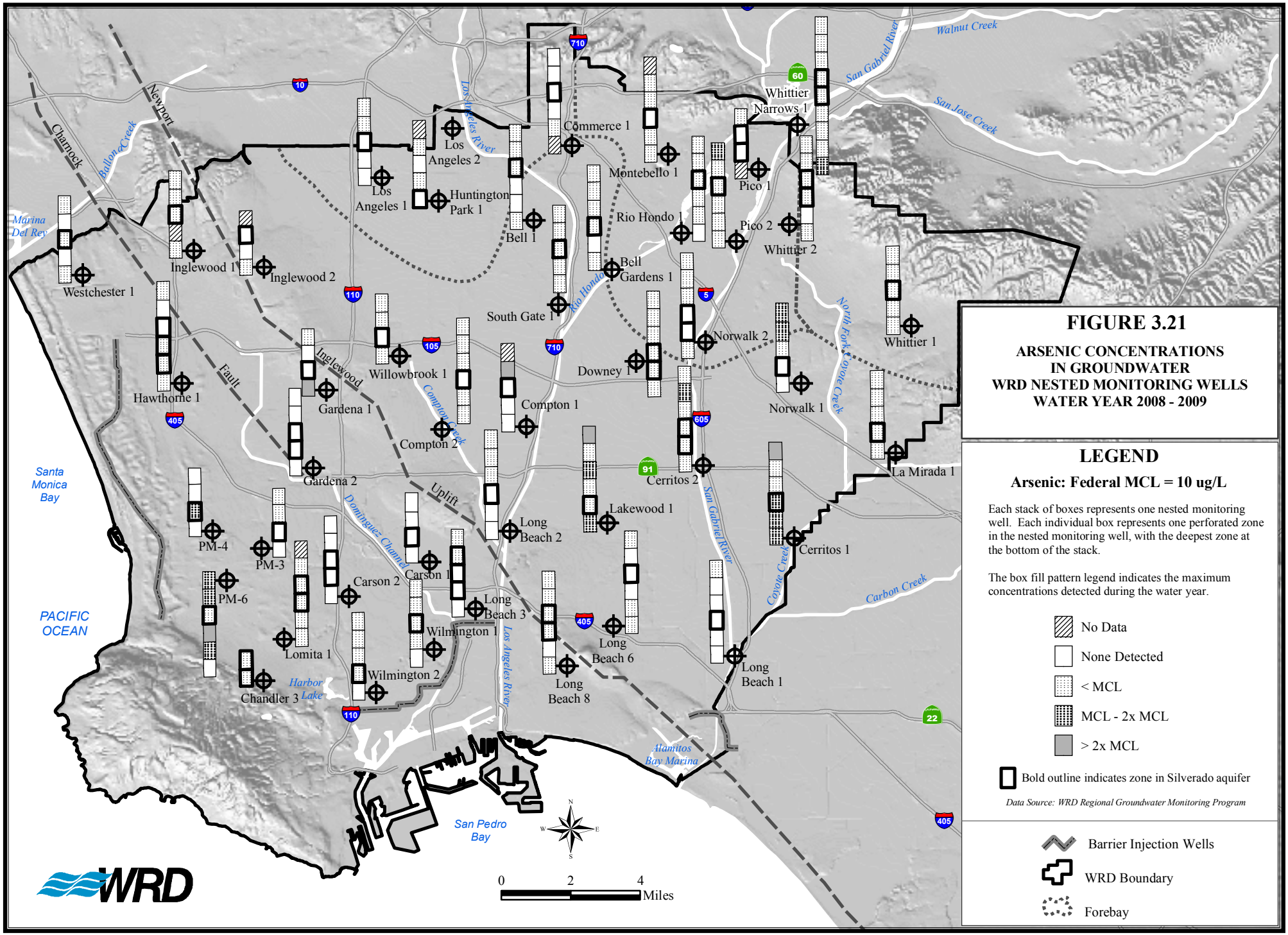


FIGURE 3.21

ARSENIC CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2008 - 2009

LEGEND

Arsenic: Federal MCL = 10 ug/L

Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.

The box fill pattern legend indicates the maximum concentrations detected during the water year.

- No Data
- None Detected
- < MCL
- MCL - 2x MCL
- > 2x MCL

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

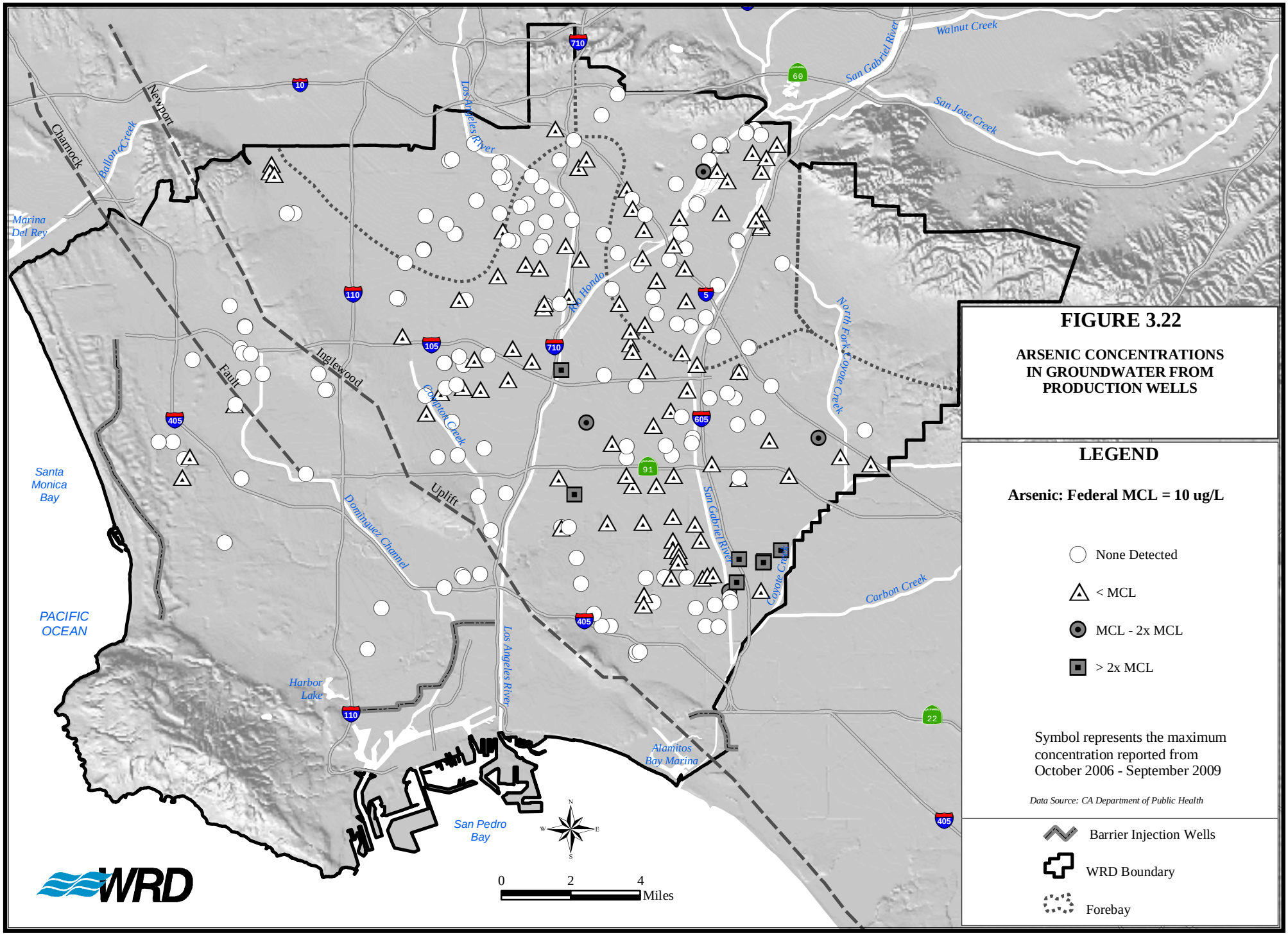


FIGURE 3.22
ARSENIC CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Arsenic: Federal MCL = 10 ug/L
None Detected
< MCL
MCL - 2x MCL
> 2x MCL
Symbol represents the maximum concentration reported from October 2006 - September 2009
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Marina Del Rey
Ballona Creek
Newport
Charnock
Los Angeles River
Walnut Creek
San Gabriel River
San Jose Creek
Rio Hondo
North Fork Coyote Creek
Inglewood
Fault
Compton Creek
Uplift
Dominguez Channel
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
Los Angeles River
San Gabriel River
Coyote Creek
Carbon Creek
Alamitos Bay Marina
San Pedro Bay
0 2 4 Miles
WRD

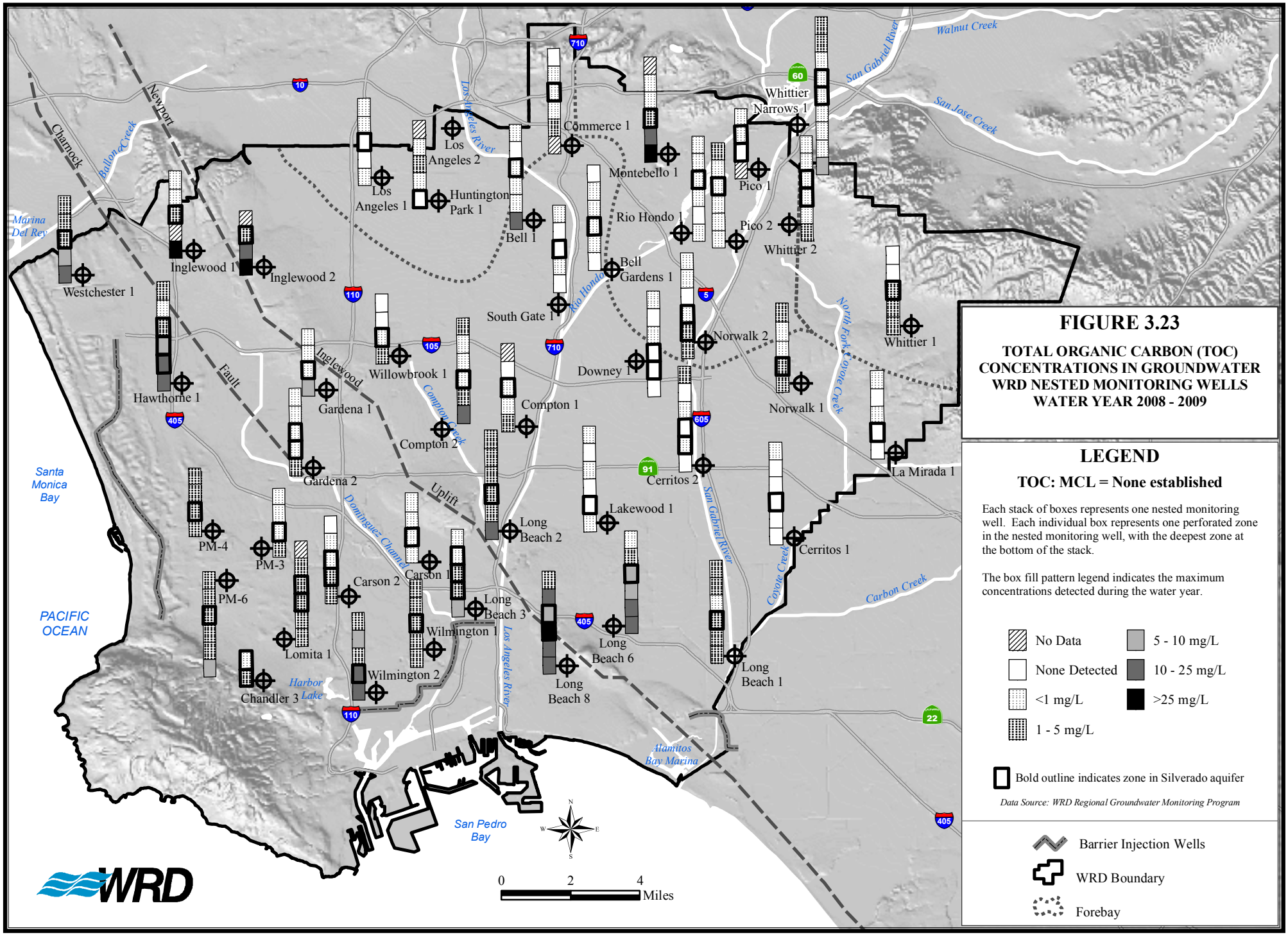


FIGURE 3.23

TOTAL ORGANIC CARBON (TOC) CONCENTRATIONS IN GROUNDWATER WRD NESTED MONITORING WELLS WATER YEAR 2008 - 2009

LEGEND

TOC: MCL = None established

Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.

The box fill pattern legend indicates the maximum concentrations detected during the water year.

- No Data
- None Detected
- <1 mg/L
- 1 - 5 mg/L
- 5 - 10 mg/L
- 10 - 25 mg/L
- >25 mg/L

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

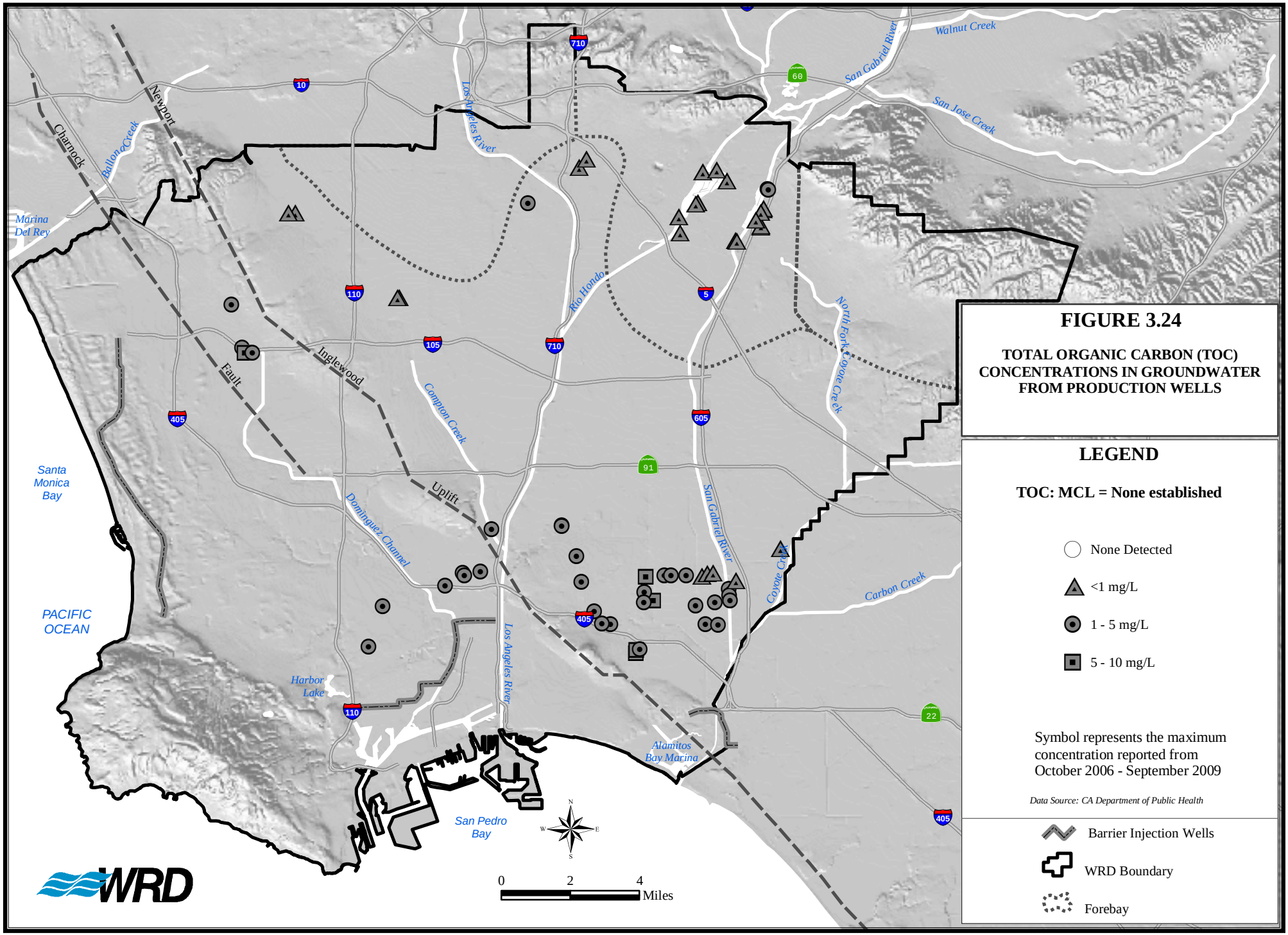


FIGURE 3.24
TOTAL ORGANIC CARBON (TOC) CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
TOC: MCL = None established
None Detected
<1 mg/L
1 - 5 mg/L
5 - 10 mg/L
Symbol represents the maximum concentration reported from October 2006 - September 2009
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Marina Del Rey
Ballona Creek
Newport
Charnock
Los Angeles River
Walnut Creek
San Gabriel River
San Jose Creek
Rio Hondo
North Fork Coyote Creek
Inglewood
Fault
Common Creek
Uplift
Dominguez Channel
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
San Pedro Bay
Alamitos Bay Marina
Carbon Creek
Coyote Creek
0 2 4 Miles
WRD

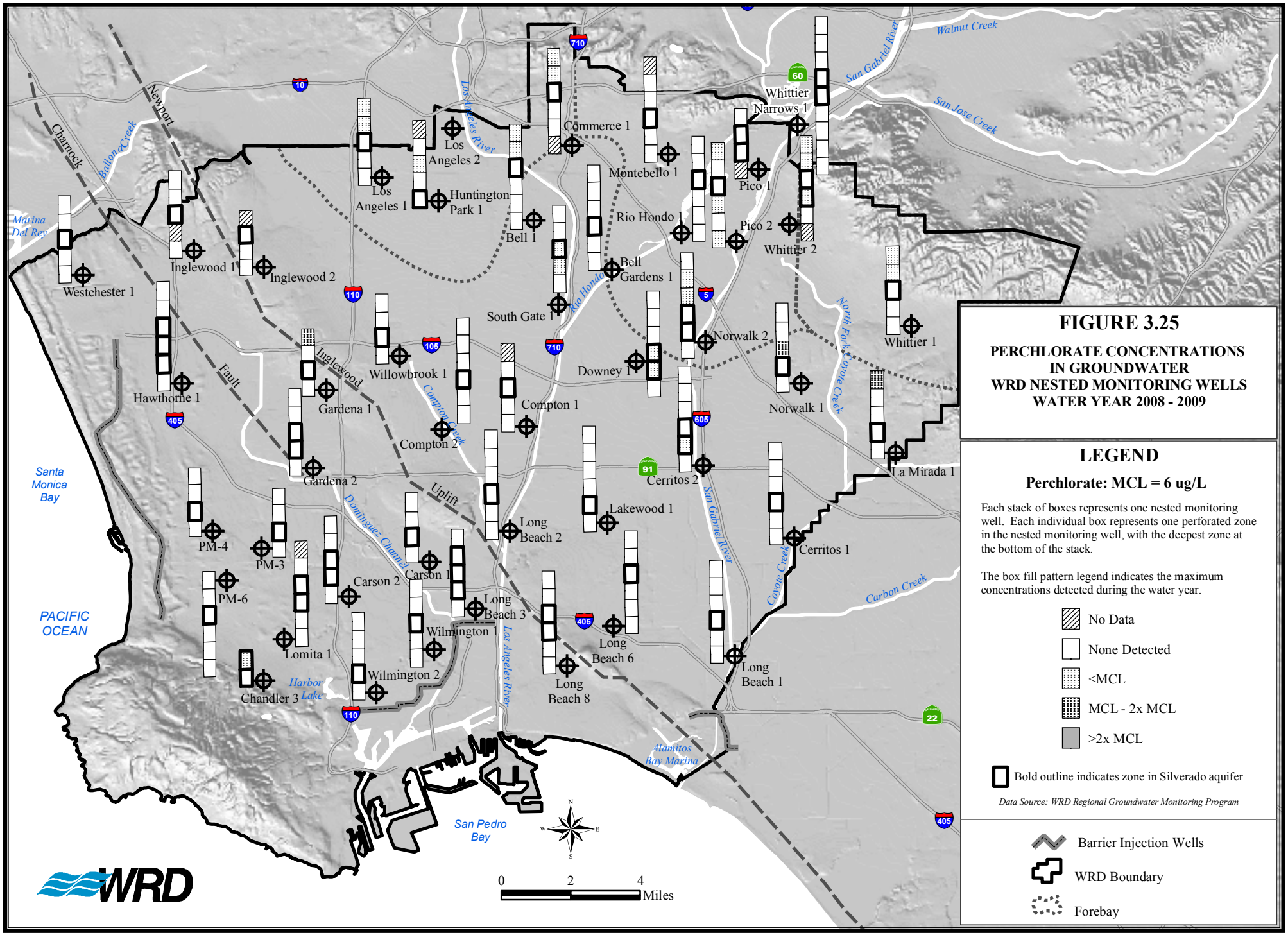


FIGURE 3.25

PERCHLORATE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2008 - 2009

LEGEND

Perchlorate: MCL = 6 ug/L

Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.

The box fill pattern legend indicates the maximum concentrations detected during the water year.

- No Data
- None Detected
- <MCL
- MCL - 2x MCL
- >2x MCL

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

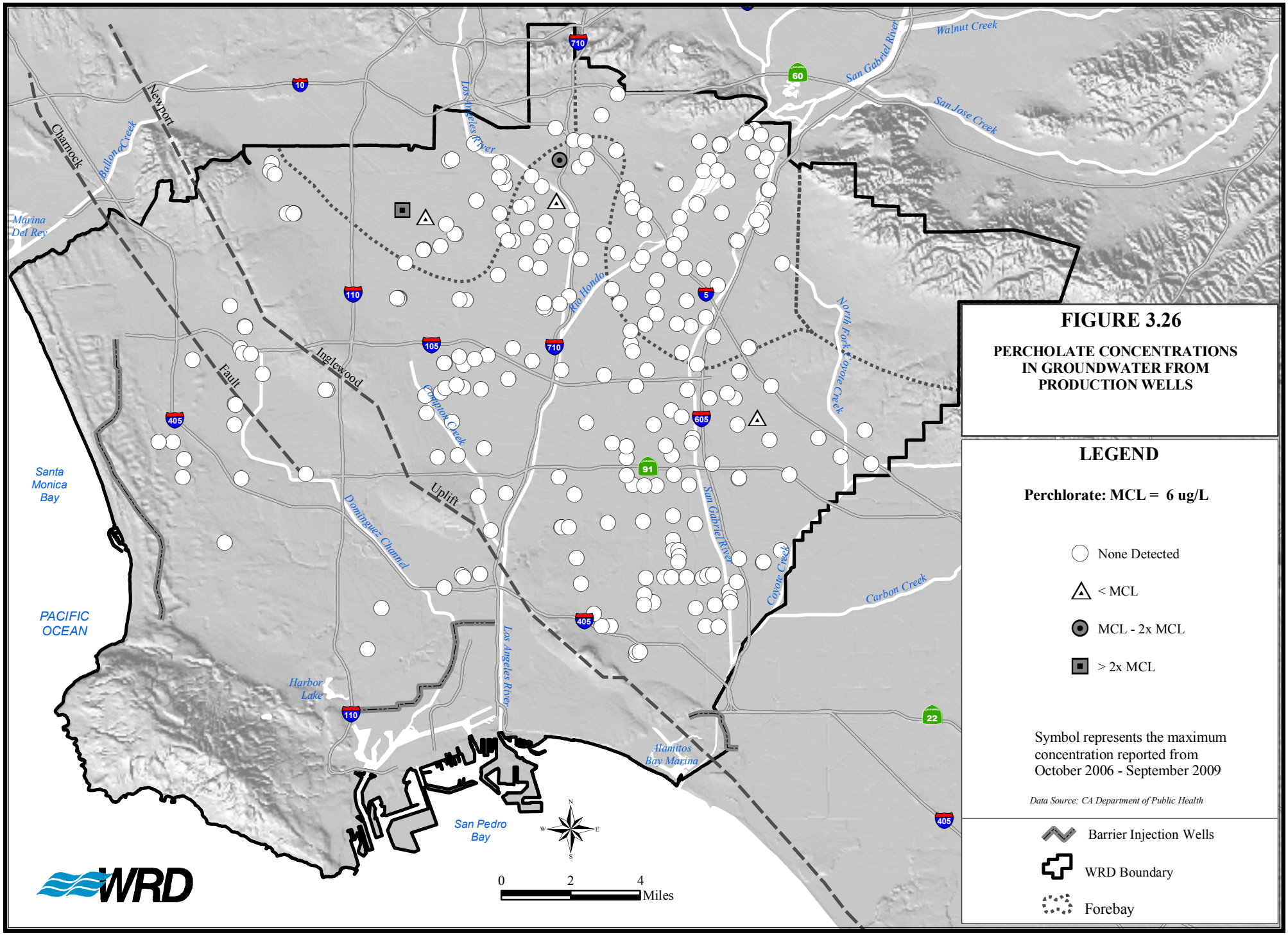


FIGURE 3.26
PERCHOLATE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Perchlorate: MCL = 6 ug/L
None Detected
< MCL
MCL - 2x MCL
> 2x MCL
Symbol represents the maximum concentration reported from October 2006 - September 2009
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Marina Del Rey
Ballona Creek
Charnock
Newport
Inglewood
Fault
Uplift
Dominguez Channel
Los Angeles River
Rio Hondo
San Gabriel River
Walnut Creek
San Jose Creek
North Fork Coyote Creek
Coyote Creek
Carbon Creek
Compton Creek
Harbor Lake
Alamitos Bay Marina
San Pedro Bay
Santa Monica Bay
PACIFIC OCEAN
0 2 4 Miles
WRD