Water Replenishment District
of Southern California

REGIONAL GROUNDWATER MONITORING REPORT WATER YEAR 2010-2011

Central and West Coast Basins
Los Angeles County, California

March 2012

WRD

Cover

WRD was presented with the 2011 Groundwater Protection Award
by the National Groundwater Association for its
Regional Groundwater Monitoring Program.

REGIONAL GROUNDWATER MONITORING REPORT
CENTRAL BASIN AND WEST COAST BASIN
LOS ANGELES COUNTY, CALIFORNIA
WATER YEAR 2010-2011

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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 Basin and West Coast Basin (CBWCB) 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 CBWCB.

WRD has been monitoring the CBWCB for over 50 years, and this year's annual report presents the most comprehensive information to date due to our growing network of aquifer-specific monitoring wells and in-depth water quality analysis. The Regional Groundwater Monitoring Program currently consists of a network of nearly 300 monitoring wells at over 50 locations throughout the District. 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 which runs from October 1 through September 30 of each year. This current report is for water year 2010-11. Detailed information is presented in the body of the report with a summary below:

Groundwater Levels

Groundwater levels increased over most of the Central Basin during water year 2010-11. Water levels increased in the Montebello Forebay area up to 31 feet and up to 100 feet in the Long Beach area. Water levels increased 5 to 10 feet across the Los Angeles Forebay area and most of the Central Basin Pressure Area. Water levels were generally stable across the West Coast Basin during water year 2010-11. Water levels decreased up to 3

feet in the Carson, and Dominguez Gap areas and along the West Coast Basin barrier. Water levels increased up to 6 feet in the Gardena, Inglewood, and Lomita areas.

Groundwater Quality

Annually, WRD collects nearly 500 groundwater samples from its monitoring well network and analyzes them for over 100 water quality constituents to produce nearly 60,000 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 this monitoring and analysis include data tables, water quality maps, and graphs of trends which are presented in Chapter 3 of this report. Overall, the groundwater in the CBWCB continues to be of high quality, suitable for potable and non-potable uses, and continues to meet our high standards. There are localized areas of marginal to poor water quality that go untapped or may require treatment prior to use. The causes of these lesser quality areas can be from natural or human sources. WRD will continue to focus on these areas to monitor trends and look for ways to mitigate any contamination that makes the groundwater unsuitable for use.

Analysis for this report uses maps and trend graphs to focus on ten key water quality constituents to represent overall groundwater quality in the basins, including total dissolved solids (TDS), iron, manganese, nitrate, chloride, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, perchlorate, and hexavalent chromium. TDS, where elevated, is typically present along with chloride as an indicator of historic seawater intrusion. The most prevalent water quality issue in the CBWCB is manganese, a naturally occurring contaminant that requires treatment prior to delivery as drinking water. TCE and PCE, volatile organic contaminants that can leak into groundwater from industrial and commercial facilities, have also impacted wells in the District and are closely monitored. WRD is also currently investigating perchlorate and hexavalent chromium, emerging contaminants of concern.

Upcoming Activities and Challenges Ahead

WRD remains committed to its statutory charge to protect and preserve the groundwater resources in the CBWCB. 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 its unavailability for groundwater replenishment. 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.

WRD will continue to use the data generated by the RGWMP along with WRD's geographic information system (GIS) capabilities to address current and upcoming issues related to water quality and groundwater replenishment in the CBWCB. WRD staff will be working on refining the hydrogeologic conceptual model of the CBWCB 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 CBWCB groundwater resources and will continue to fund the Safe Drinking Water Program to address impacted groundwater. WRD will meet with other stakeholders and the Regional Water Quality Control Board to prepare a Salt / Nutrient Management Plan for the CBWCB.

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 46 sites across the CBWCB.

On November 4, 2009 the State Legislature amended the Water Code with SBx7-6, which mandates a statewide groundwater elevation monitoring program to track seasonal and long-term trends in groundwater elevations in California's groundwater basins. In accordance with this amendment to the Water Code, California Department of Water Resources (DWR) developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program. In October 2011 WRD was assigned to be the Designated Monitoring Entity (DME) responsible for collecting and reporting CBWCB groundwater level data to CASGEM. Through the RGWMP, WRD will continue to collect CBWCB groundwater level data, track seasonal and long-term trends and provide data to the CASGEM program.

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.

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GLOSSARY OF ACRONYMS

ASR	Aquifer Storage and Recovery
AWTF	Advanced Water Treatment Facility
AWWA	American Water Works Association
BGS	Below Ground Surface
CASGEM	California Statewide Groundwater Elevation Monitoring
CDPH	California Department of Public Health (formerly California Department of Health Services)
CSDLAC	County Sanitation Districts of Los Angeles County
CBWCB	Central Basin and West Coast Basin
DBMS	Database Management System
DME	Designated Monitoring Entity
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
LAX	Los Angeles International Airport
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 or Tetrachloroethylene
PHG	Public Health Goal
RGWMP	Regional Groundwater Monitoring Program
RGWMR	Regional Groundwater Monitoring Report

RL	Response Level

GLOSSARY OF ACRONYMS (continued)

SAT	Soil Aquifer Treatment
SWRCB	State Water Resources Control Board
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 Basin and West Coast Basin (CBWCB) 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 CBWCB.

As part of accomplishing this mission, WRD maintains a thorough and current understanding of groundwater conditions in the CBWCB 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 CBWCB 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 CBWCB 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 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, which occurs from October 1 to the following September 30. During water year 1994-95, WRD and the United States Geological Survey (USGS) began a cooperative study to improve the understanding of the geohydrology and geochemistry of the CBWCB. The initial study was documented in USGS Water Resources Investigations Report 03-4065, *Geohydrology, Geochemistry and Ground-Water Simulation-Optimization of the Central Basin and West Coast Basin, Los Angeles County, California* (Reichard et al. 2003). This study was the nucleus of the ongoing 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 CBWCB. The study focused on new data collection through drilling and construction of nested groundwater monitoring wells and conducting depth-specific water quality monitoring.

Figure 1.3 shows the locations of wells in the resultant WRD nested monitoring well network. Currently, WRD has nearly 300 wells at over 50 locations. 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. Three new wells are

scheduled to be completed in 2012, with an additional deep well scheduled for late 2012 or 2013. 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 each year for water years 1972-73 through 1994-95, 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 CBWCB. This Regional Groundwater Monitoring Report is published in lieu of the previous *Annual Reports*.

1.2 CONCEPTUAL HYDROGEOLOGIC MODEL

As described above, the RGWMP changes the focus of groundwater monitoring efforts in the CBWCB from production wells 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 CBWCB 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 modified versions of cross-sections presented in

Bulletin 104 as well as recent data from the RGWMP, and illustrate a simplified aquifer system in the CBWCB. The main potable production aquifers are shown, including the deeper Lynwood, Silverado, and Sunnyside aquifers of the lower Pleistocene San Pedro Formation. Other 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 CBWCB. 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 CBWCB 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 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 and Interactive Well Search Tool, which was made available to the public for access to CBWCB 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 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 CBWCB for water year 2010-11, and discusses the status of the RGWMP. Section 1 provides an overview of WRD and its RGWMP. Section 2 discusses groundwater levels for water year 2010-11. 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 and related activities. Section 6 lists the references used in this report. Tables and figures are presented at the end of the report. WRD Regional Groundwater Monitoring Reports can be viewed online and can be downloaded in PDF format from the WRD web site at *http://www.wrd.org*.

SECTION 2
GROUNDWATER LEVELS

Groundwater levels are an indication of the amount of groundwater in the basins. The levels indicate 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. WRD uses groundwater levels to determine when additional replenishment water is required and to calculate groundwater storage changes. Groundwater levels can also be used to demonstrate possible source areas for seawater intrusion or show the effectiveness of seawater barrier injection wells.

WRD tracks groundwater levels throughout the year by measuring the depth to water in monitoring wells and production wells located throughout the CBWCB. **Table 2.1** presents groundwater level measurements collected from the District's nested monitoring wells during water year 2010-11. 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 GIS water level database for archiving and analysis.

From the water level database, a groundwater elevation contour map, change in groundwater level map, and groundwater elevation hydrographs for key wells 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 CBWCB in the deeper, main producing aquifers. The levels were measured at the end of the water year during Fall 2011. 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 CHANGES IN GROUNDWATER LEVELS

The results of groundwater level changes observed over the water year are illustrated in **Figure 2.2**, which is a groundwater level change map. Groundwater levels increased significantly over most of the Central Basin during water year 2010-11. Water levels increased up to 31 feet in the unconfined Montebello Forebay, and about 5 to 10 feet across the unconfined Los Angeles Forebay and most of the Central Basin Pressure Area. Groundwater levels increased up to 100 feet in the Long Beach Pressure Area. The reasons for these increases were a wet winter of 2010-11, availability of imported water, and reduced pumping, especially by the City of Long Beach as a result of WRDs in-lieu replenishment program. In the West Coast Basin water levels were generally stable over water year 2010-11. Water levels decreased up to 3 feet along the West Coast Basin Barrier and in the Carson and Dominguez Gap areas. Water levels increased in the Gardena, Inglewood, and Lomita areas up to 6 feet.

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 WRD Engineering Survey and Report (ESR). The ESR hydrographs illustrate the general history of groundwater conditions in the CBWCB: 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 groundwater management policies, water levels increased 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 through time 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, one in the Montebello Forebay, one in the Los Angeles Forebay, two in the Central Basin Pressure Area, and two in the West Coast Basin, respectively. These hydrographs illustrate there can be distinct ground water elevation differences, up to 80 feet, between individual aquifers at a nested well location. The differences in elevation are influenced by variable discharge (i.e. pumping from 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 zones are in the main flow system when corresponding zones show the greatest depths and seasonal fluctuations in groundwater levels during the water year. 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 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 deepest 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 aquifers are similar and seasonal highs and lows are in response to recharge and pumping. Groundwater 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 increased over the past water year by about 26 feet.

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 114 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 perforated above the water table, and therefore no water elevations can be shown on the graph. There is a large separation in water levels between Zone 4 and the deeper three zones suggesting the presence of a low permeability aquitard(s) above zone 3 that hydraulically isolates the Exposition aquifer from the deeper aquifers. Water levels in the deepest 2 zones, in the Silverado and Jefferson aquifers, were generally similar and increased by about 2 feet over the past water year. In general water levels in the Los Angeles Forebay have remained relatively stable over the past 14 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 have generally shallower water levels than Zone 1. The upper 2 zones track very closely. These trends suggest some aquifer separation (aquitards) between Zone 1 and 2 and between zone 2 and 3. Zones 3 and 4 likely have little hydraulic separation. Willowbrook water levels in all zones increased 2 to 10 feet over water year 2010-11, but have generally declined 10 to 20 feet over the past 12 years.

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, have varied over 110 feet through a seasonal cycle, from a high of 5 feet below sea level in April 2006 to lows of greater than 120 feet below sea level in recent years. Water levels of the other zones generally show significant seasonal variation also, with typical seasonal lows in the late summer and fall and highs in spring. Seasonal pumping cycles have changed in recent years and many production wells in the area near the Long Beach #6 monitoring well pump groundwater year-round when imported surface water is unavailable or expensive. When year-round pumping takes place, the typical fall water level rebound does not occur and groundwater levels can remain at the low levels as seen during water year 2008-09. In contrast between November 2010 and the end of the water year, the City of Long Beach turned off their pumping for many of these months resulting in a nearly year-long rebound of groundwater levels. **Figure 2.6** shows the groundwater level increase that occurred in all zones over the past water year with zones 4 and 5 ending the year, over 100 feet higher than the previous year.

2.7 GROUNDWATER LEVELS IN THE WEST COAST BASIN

Figure 2.7 is a nested hydrograph for WRD's PM-4 Mariner nested monitoring well. 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 710 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 decrease

about 2 feet in all zones over water year 2010-11 and have been generally stable, increasing 2 to 6 feet over the past 12 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 250 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. Groundwater elevations currently differ by about 35 feet between the upper zones and lower zones which 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 were generally stable over the past water year and have generally increased 20 feet over the past 12 years. Water levels in zones 3 and 4 have both been relatively stable over the past water year but have generally increased 12 feet over the past 10 years.

SECTION 3
GROUNDWATER AND REPLENISHMENT WATER QUALITY

This section discusses the vertical and horizontal distribution of water quality constituents in the CBWCB 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 CBWCB groundwater replenishment. Regional groundwater quality maps summarize water quality constituents of interest in WRD nested monitoring wells and purveyors production wells. Water quality trends for 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 the California Department of Public Health (CDPH) establishes after health effect, risk assessment, 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 other 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 CBWCB groundwater quality. Semi-annual groundwater samples from WRD nested wells were collected and submitted to a 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 water year 2010-11. **Table 3.2** presents water quality analytical results from WRD nested monitoring wells in the West Coast Basin during water year 2010-11. Supplementing the data from the nested monitoring well network, data for CBWCB production wells were obtained from the CDPH based on results submitted over the past three years by purveyors for their Title 22 compliance.

Water quality maps for nested monitoring wells and production wells are presented for ten of the most significant water quality constituents including TDS, iron, manganese, nitrate, chloride, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, perchlorate, and hexavalent chromium. The maps illustrate areal 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 purveyor's production wells.

Trends for TDS are presented for six key nested monitoring wells in the CBWCB. 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 (up to 13 years) variation of TDS in the different aquifers. Locations of the six 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 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 water year 2010-11 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 28 out of 30 (93%) WRD nested monitoring wells had a Silverado zone with TDS concentrations below 1,000 mg/L and 25 out of 30 (83%) were below 500 mg/L. In contrast, West Coast Basin nested monitoring well data show generally higher TDS concentrations. Silverado zones of 13 out of 19 (68%) nested wells had a zone with TDS below 1,000 mg/L and 9 out of 19 (47%) had a zone below 500 mg/L. Elevated TDS concentrations in the West Coast Basin are observed along coastal margin from Redondo Beach to Los Angeles International Airport (LAX), Inglewood, and the Dominguez Gap area.

Figure 3.2 presents CDPH water quality data for TDS in production wells across the CBWCB for the period spanning water years 2008-11. In the Central Basin, TDS did not exceed the Upper Level MCL in 239 out of 240 (99.6%) and 172 (64%) were below 500mg/L.

Data from West Coast Basin production wells indicate that most drinking water wells had TDS concentrations below 1000 mg/L. TDS did not exceed the Upper Level MCL in 25 out of 28 (89%) and 18 (64%) were below 500mg/L. Production wells with higher levels of TDS are generally located along the coastal margin of the West Coast Basin while further inland production wells had generally lower TDS. The elevated TDS concentrations may be caused by seawater intrusion, connate brines, or possibly oil field brines.

Trends in TDS concentrations at six key WRD nested monitoring wells are shown on **Figures 3.3 thru 3.8**. All of the aquifers in the 4 key Central Basin wells were below the MCL for TDS. Trends are generally stable to slightly increasing over the past 8 to 12 years. In the Montebello and Los Angeles Forebays (**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 types. 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 12 years. In the southern sub-area of the Central Basin, **Figure 3.6** shows (Long Beach #6) slightly decreasing TDS concentrations with little variability in the four shallowest aquifers, and more variable, slightly increasing TDS in the deepest 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 12 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 at 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 while TDS decreases 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. Some industrial processes cannot tolerate more than 0.1 mg/L. 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. While these problems are recognized, iron is considered an essential nutrient, important for human health, and does not pose significant health effects except in special cases.

Nested monitoring well data do not indicate iron to be a widespread water quality problem in groundwater in the CBWCB. **Figure 3.9** shows iron data in WRD nested monitoring wells for water year 2010-11. In the Central Basin, iron was below the MCL in Silverado zones in 27 out of the 30 (90%) nested wells tested. In zones above or below the Silverado, iron was detected above the MCL in only 7 out of the 30 (23%) Central Basin nested wells.

At nested monitoring wells in the West Coast Basin, elevated iron occurs locally. Iron was below the MCL in 17 out of 19 well locations (89%). Nine well locations had iron concentrations above the MCL in zones above or below the Silverado.

Figure 3.10 presents CDPH water quality data for iron in production wells across the CBWCB for the period spanning water years 2008-11. Data from CDPH indicate 209 of 242 (86%) Central Basin production wells tested have iron concentrations in groundwater below the secondary MCL. In the West Coast Basin, 18 production wells out of 29 (62%) tested have iron concentrations below the secondary MCL.

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 micrograms per liter (µg/L). Like iron, it is considered an essential nutrient for human health.

Manganese concentrations in the WRD nested monitoring wells (**Figure 3.11**) exhibit widespread vertical and horizontal variations across the CBWCB. 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. Ten out of 30 (33%) nested monitoring wells in the Central Basin had manganese concentrations exceeding

the MCL in the Silverado Aquifer. In the West Coast Basin manganese was below the MCL in the Silverado aquifer zones at 13 out of 19 nested wells (68%).

Figure 3.12 presents CDPH water quality data for manganese in production wells across the CBWCB for the period spanning water years 2008-11. In the Central Basin, data show a large number of wells having elevated manganese concentrations with 43 out of 247 production wells (17%) tested exceeding the MCL. The production wells with elevated manganese are not limited to a specific area but tend to be widespread. 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 18 out of 29 production wells (62%) tested had concentrations of manganese exceeding the MCL.

3.1.4 Nitrate

CDPH Primary MCLs limit two forms of nitrogen in drinking water, nitrate and nitrite. Nitrate cannot exceed a concentration of 45 mg/L (measured as Nitrate), corresponding to 10 mg/L nitrate as nitrogen. Nitrite is limited to 1 mg/L as nitrogen. The combined total of the nitrate and nitrite, 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 itself is not harmful; however, it can be converted back to nitrite, which can be harmful.

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 can be 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 nitrate and nitrate are converted to nitrogen gas and hence, are returned to the atmosphere.

Figure 3.13 presents nitrate (as nitrogen) water quality data for nested monitoring wells in the CBWCB during water year 2010-11. In the Central Basin, nitrate did not exceed the MCL in the Silverado zone of any nested monitoring well. Nitrate above the MCL was limited to the shallowest zones at 2 of the 30 (7%) nested well locations. Nested monitoring wells in the very near vicinity of the Montebello and Los Angeles Forebay areas typically have nitrate in upper zones. Some wells downgradient from the Montebello Forebay have middle zones above detection limits but below the MCL. Nested wells more distant from the forebay areas do not generally have detectable concentrations of nitrate. The detectable but relatively low concentrations of nitrate at and near the forebay areas may be due to the local water and/or recycled water component of recharge at the spreading grounds. The generally widespread shallow occurrences of nitrate around the Central Basin may be attributed to local surface recharge impacted by agricultural activities prior to extensive land development.

In the West Coast Basin nested monitoring wells, nitrate was present above the MCL in the shallowest zones of two out of the 19 (11%) nested monitoring wells. Only one of the two was in the Silverado aquifer. Shallow occurrences of nitrate with deeper zones below detection limits may be attributable to local surface recharge impacted by agricultural activities prior to extensive land development.

Figure 3.14 presents CDPH water quality data for nitrate in production wells across the CBWCB for the period spanning water years 2008-11. The nitrate MCL was exceeded in one Central Basin production well. The nitrate MCL was not exceeded in any production well in the West Coast Basin during the 2008-11 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 recommended level MCL for chloride is 250 mg/L with an upper level MCL of 500 mg/L, and a short term MCL of 600 mg/l. **Figure 3.15** presents water quality data for chloride in WRD nested monitoring wells in the CBWCB during water year 2010-11. In the Central Basin the Silverado zones of the nested monitoring wells contain generally low chloride concentrations. Only one of the 30 (3%) Central Basin nested wells exceed the recommended level MCL in the Silverado aquifer. In the West Coast Basin chloride concentrations exceeded the secondary recommended level MCL limit in the Silverado zones in 9 of the 19 (47%) 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 CBWCB for the period spanning water years 2008-11. Chloride was not detected above the secondary recommended level MCL level in any of the Central Basin production wells. In the West Coast Basin, available CDPH data indicate that five production wells on the west side of the basin had chloride concentrations above the recommended level MCL.

3.1.6 Trichloroethylene (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. If present in water, it can be removed easily by common treatment processes, including air stripping or granular activated carbon.

TCE (**Figure 3.17**) was below the MCL in 27 out of 30 (90%) WRD nested monitoring well locations in the Central Basin. In the West Coast Basin, TCE was below the MCL in 18 out of 19 (95%) nested monitoring well. No Central Basin or West Coast Basin nested well contained a detectable TCE concentration in the Silverado aquifer.

Figure 3.18 presents CDPH water quality data for TCE in production wells across the CBWCB the period spanning water years 2008-11. A total of 279 wells were tested for TCE. The data show that over the past three years, TCE has been detected in 56 (20%) of the production wells in the Central Basin. Seventeen out of the 56 (30%) detections were above the MCL. Wells impacted by TCE are generally 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. Like TCE, PCE can be easily removed from water using common treatment processes.

During water year 2010-11, PCE (**Figure 3.19**) was not detected above the MCL at any nested well locations in the Central Basin or the West Coast Basin. **Figure 3.20** presents CDPH water quality data for PCE in production wells across the CBWCB for the period spanning water years 2008-11. In the Central Basin, PCE was below the detection limit in 221 out of the 279 (79%) production wells tested. PCE was detected in 58 production wells and 17 out of the 58 (24%) were above the MCL. 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 of the 29 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 a primary MCL for arsenic at 10 µg/L.

Figure 3.21 presents arsenic water quality data for WRD nested monitoring wells during water year 2010-11. Arsenic concentrations greater than the MCL in the Central Basin were found at 6 out of 30 (20%) nested wells and only one (3%) Central Basin well exceeded the MCL in the Silverado aquifer. In the West Coast Basin, arsenic was detected above the MCL at 4 out of 19 (21%) nested monitoring wells, two (6%) were in a Silverado aquifer zone.

Figure 3.22 presents CDPH water quality data for arsenic in production wells across the CBWCB for the period spanning water years 2008-11. Twelve production wells out of 244 (5%) tested in the Central Basin contained arsenic concentrations above the MCL. Arsenic did not exceed the MCL in any of the 27 West Coast Basin production wells tested.

3.1.9 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 of 6 µg/L for perchlorate.

Figure 3.23 presents perchlorate water quality data for WRD nested monitoring wells during water year 2010-11. Perchlorate was not detected in the Silverado zone of any nested monitoring well CBWCB. In the West Coast Basin, perchlorate was not detected

in the Silverado zone of any nested monitoring well. Perchlorate was detected above the MCL in the shallowest zone of one nested monitoring well in the West Coast Basin.

Figure 3.24 presents CDPH water quality data for perchlorate in production wells across the CBWCB for the period spanning water years 2008-11. Eight production wells out of 221 (4%) sampled had detectable perchlorate in the Central Basin, 3 (1.4%) had perchlorate concentrations above the MCL. Perchlorate was not detected in any of 29 West Coast Basin production wells sampled.

3.1.10 Hexavalent Chromium

Hexavalent chromium or chrome 6 is one of two forms of the metal chromium along with trivalent chromium or chrome 3. Together, these forms of chromium are designated "total chromium". The MCL for total chromium is 50 µg/L. Both forms of chromium occur naturally in groundwater and are also introduced to soil and groundwater through disposal practices from commercial and industrial operations. Only hexavalent chromium is considered a health risk at naturally occurring levels. It has been known to increase cancer risk when inhaled and recently shown to increase cancer risk if ingested. CDPH has established a PHG of 0.002 µg/L for hexavalent chromium and is developing an MCL. As a result of these recent regulatory activities WRD has conducted basinwide baseline sampling for hexavalent chromium to make an assessment of the general distribution and threat of both the natural and commercial/industrial occurrence and distribution of this emerging chemical of concern.

Figure 3.25 shows hexavalent chromium in WRD nested monitoring wells in the CBWCB. Concentrations of less than 5 µg/L of hexavalent chromium were detected in 26 out of 30 (87%) of nested wells in the Central Basin. One nested well in the Central Basin had hexavalent chromium between 5 and 10 µg/L in the shallowest zone, a second nested well had hexavalent chromium between 10 and 50 µg/L, and a third nested well had hexavalent chromium above 50 µg/L in the shallowest two zones. In the West Coast Basin, hexavalent chromium was less than 5 µg/L or below detection in 18 out of 19

(95%) nested monitoring wells. One nested well in the West Coast Basin had hexavalent chromium between 5 and 10 µg/L.

Figure 3.26 show hexavalent chromium in CBWCB production wells from limited sampling between 2008 and 2011. Over the three year period, 52 production wells were sampled for hexavalent chromium. Hexavalent chromium was below 5 µg/L in 48 out of 52 (92%) production wells. Four production wells, all in the Central Basin, had hexavalent chromium had concentrations between 5 and 10 µg/L.

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, perchlorate, and hexavalent chromium. Monitoring 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 CBWCB. Only 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 the two imported waters.

In 2010 the average TDS concentration of untreated Colorado River water was 592 mg/L and the average TDS concentration of untreated State Project Water was 282 mg/L.

Average concentrations of nitrate were below detection limits in untreated Colorado River Water and the average nitrate concentration of State Project Water was 0.6 mg/L. Recently and historically, both Colorado River and State Project Water nitrate concentrations have remained far below the MCL.

The average iron concentrations of untreated Colorado River Water were 120 µg/L, below the MCL, and manganese concentrations were below the detection limit. Iron and manganese in State Project Water were 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.

According to the MWD, TCE and PCE have not been detected in Colorado River Water or State Project Water during the calendar year 2010 reporting period. Perchlorate was below the MCL in untreated Colorado River Water and not detected in State Project Water during calendar year 2010. Hexavalent chromium was detected at relatively low levels in imported waters.

3.2.2 Quality of Recycled Water

Recycled water is used for groundwater recharge in the CBWCB through 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. Average water quality data from these WRPs is shown in **Table 3.3**. 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 the 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) to use up to 100 percent recycled water at the West Coast Barrier. **Table 3.3** presents average water quality data for this injected recycled water.

The Alamitos Seawater Barrier receives a blend of treated imported water and recycled water from the Leo J. Vander Lans Treatment Facility, owned by WRD. The recycled water is disinfected tertiary effluent from the Long Beach Water Reclamation Plant of the County Sanitation Districts of Los Angeles County (CSDLAC) which is further treated with microfiltration, reverse osmosis, and ultraviolet light by WRD. The water meets drinking water quality standards and other stringent requirements of 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 with imported water.

Tertiary effluent from the City of Los Angeles Terminal Island Treatment Plant (TITP) is treated 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 water year 2010-11 are presented on **Table 3.3**. The average TDS, manganese, nitrate, chloride, arsenic, TCE, PCE, and perchlorate in stormwater spread in the Montebello Forebay are relatively low. Metals including iron, and lead exceeded drinking water standards, however, due to elevated turbidity it is likely that sediment collected with the stormwater sample was dissolved by the nitric acid required to be added to water samples for preservation between sampling and analysis, causing the high metals concentrations.

3.3 MINERAL CHARACTERISTICS OF GROUNDWATER IN THE CBWCB

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 classified separately in Group D.

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 conducting ongoing research on trace element isotopes in 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 CBWCB during water year 2010-11. 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 CBWCB. 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) are monitored continuously in the CBWCB during the 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 CBWCB. Vertical head differences between 1 and 80 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 merged aquifers.
- Basinwide hydrographs and groundwater elevations measured in nested monitoring wells and key production wells indicate overall increases in Central Basin groundwater levels during water year 2010-11. Groundwater levels increased up to 31 feet in the Montebello Forebay and 5 to 10 feet in the Los Angeles Forebay and across most of the Central Basin Pressure Area. In the Long Beach Area of the Central Basin, water levels increased up to 100 feet.
- Water levels were generally stable in the West Coast Basin during water year 2010-11. Decreases up to three feet were observed along the West Basin Barrier areas

and the Carson, and Dominguez Gap areas of West Coast Basin. Water levels increased slightly, from 1 up to 6 feet in the Gardena, Inglewood,and Lomita areas. Otherwise the West Coast Basin water levels did not change significantly.

- Based on data obtained from WRD nested monitoring wells during water year 2010-11, the water quality associated with key constituents in groundwater differs both vertically between aquifers and horizontally across the CBWCB.
- TDS concentrations for WRD nested monitoring wells and production wells located in the Central Basin are relatively low. TDS concentrations for WRD nested monitoring wells and production wells located in the West Coast Basin are elevated in portions of the basin, primarily the coastal margin from Redondo Beach to LAX, and the Inglewood and Dominguez Gap areas. The elevated TDS concentrations may be caused by seawater intrusion, connate brines, or possibly oil field brines.
- The Secondary MCL for iron is 0.3 mg/L. Iron is generally present at low levels in most WRD nested monitoring wells. In the Central Basin concentrations were below the MCL in the Silverado Aquifer zone at 27 of 30 (90%) nested well locations. In the West Coast Basin iron concentrations were below the MCL in the Silverado Aquifer zone at 17 of 19 (89%) nested well locations. Iron was detected below the MCL in 209 of 242 (86%) production wells in the Central Basin and 18 out of 29 (62%) in the West Coast Basin tested.
- The Secondary MCL for manganese is 50 µg/L. Manganese concentrations exceed the MCL in the Silverado zones 10 out of 30 (33%) nested monitoring wells in the Central Basin and 13 out of 19 (68%) wells in the West Coast Basin. Manganese concentrations exceeded the MCL in 43 out of 247 (17%) production wells in the Central Basin and 18 out of 29 (62%) production wells sampled in the West Coast Basin
- The MCL for nitrate is 10 µg/L. Nitrate concentrations in WRD nested monitoring wells in the CBWCB 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 one Central Basin production well had nitrate over the MCL. No West Coast Basin

production wells had nitrate greater than the MCL.

- Chloride concentrations are reasonably low in Central Basin monitoring wells and production wells, as well as in wells in the inland areas of the West Coast Basin. Some coastal areas of the West Coast Basin are impacted by high chloride groundwater.
- The MCL for TCE in drinking water is 5 µg/L. TCE was below the MCL in 27 out of 30 (90%) of nested monitoring wells in the Central Basin and 18 out of 19 (95%) in the West Coast Basin. CDPH data indicate that TCE was detected in 56 production wells in the Central Basin during the period spanning water years 2008-11, 17 out of the 56 (30%) of the detections exceed the MCL. In the West Coast Basin, TCE was not detected in any production wells.
- The MCL for PCE in drinking water is 5 µg/L. PCE was not detected above the MCL in the Silverado zone of any nested monitoring wells in the Central Basin or the West Coast Basin. CDPH data indicate that PCE was detected in 58 production wells in the Central Basin during the period spanning water years 2008-11. A total of 14 out of the 58 (24%) of the detections exceeded the MCL. PCE was not detected in any of the West Coast Basin production wells.
- The MCL for arsenic, a naturally occurring mineral, in drinking water is 10 µg/L. Arsenic was below the MCL in the Silverado zones of 29 out of 30 (97%) nested monitoring wells in the Central Basin and 17 out of 19 (89%) in the West Coast Basin. During the 2008 through 2011 period, 12 production wells of the 244 (5%) tested in the Central Basin had arsenic concentrations above the MCL. Arsenic was not detected above the MCL in any West Coast Basin production wells.
- The MCL for perchlorate in drinking water is 6 µg/L. Perchlorate was not detected above the MCL in any CBWCB nested monitoring well. Perchlorate was detected above the MCL in 3 out of 221 (1.4%) production wells tested in the Central basin during the 2008 through 2011 period. Perchlorate was not detected in any production wells in the West Coast Basin.
- Hexavalent chromium occurs naturally in groundwater and can be introduced through industrial and commercial activities. It is an emerging groundwater contaminant of concern and the State of California is in the process of establishing an MCL for

hexavalent chromium. In anticipation of this new regulatory standard WRD has collected basinwide groundwater samples from its nested monitoring well network. Results indicate relatively low concentrations below 5 µg/L are generally widespread and are observed at many of the nested monitoring wells. Concentrations detected above 5 µg/L were limited to the shallowest zones at three Central Basin and one West Coast Basin nested well location(s). Production well sampling for the 2008-11 period indicate 57 out of 61 (93%) wells had hexavalent chromium below 5 µg/L and 4 production wells were between 5 and 10 µg/L.

- The water quality associated with key constituents in untreated imported water used at the Montebello Forebay Spreading Grounds and treated imported water used at the Seawater Barriers 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 to recharge 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 collected and analyzed for water quality parameters by the LACDPW. Recent available data from water year 2010-11 show that average stormwater TDS concentrations 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 CBWCB is of generally good quality and is suitable for use by the pumpers in the District, the stakeholders, and the public. Groundwater from localized areas with marginal to poor water quality can still be utilized but 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 current water year 2011-12 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 scarcity of discounted imported replenishment water deliveries from MWD, WRD has developed 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 by WRD Staff 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 CBWCB 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 utilized at selected locations which can track water quality changes to supplement the automated water level data. Telemetry technology is being tested which can send real-time water level data directly to the WRD office and post the information 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. Three new wells have been completed in the past year, and four additional wells are scheduled to be completed by 2013. 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, perchlorate, and hexavalent chromium. Emerging chemicals of concern which have not been comprehensively monitored could include 1,2,3-trichloropropane, pesticides, n-nitrosodimethylamine (NDMA), 1,4-dioxane, pharmaceuticals and personal care products, and other emerging chemicals of concern.
- WRD staff will be working on refining the hydrogeologic conceptual model of the CBWCB 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 Basin 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. The list includes approximately 46 sites across the CBWCB.
- WRD will continue to be proactively involved in the oversight of the most significant contaminated sites that threaten CBWCB groundwater resources including the

Regional Perchlorate Investigation in the Northern Central Basin, the Omega Chemical Superfund Site, and others.

- WRD will continue to fund the Safe Drinking Water Program to address VOC impacted groundwater, especially by PCE and TCE in the CBWCB.
- Salt / Nutrient Management Plans are a new State requirement for groundwater basins throughout California. The Plans are required as part of the Recycled Water Policy issued by the State Water Resources Control Board (SWRCB) and effective as of May 14, 2009. The purpose is to "establish uniform requirements for recycled water use and to develop sustainable water supplies throughout the state". The SWRCB therefore "supports and encourages every region…to develop a Salt / Nutrient Management Plan by 2014". With one exception (elevated TDS concentrations near the coast due to historic seawater intrusion, now controlled through freshwater barrier injection), salts and nutrients have not been shown to be a concern in the CBWCB. However, since Salt / Nutrient Management Plans are required, WRD began meeting with other stakeholders and the LARWQCB, the agency responsible for bringing stakeholders' plans to the SWRCB for approval, to initiate development of a Salt / Nutrient Management Plan for the CBWCB. WRD will continue to take the lead in working with the LARWQCB and stakeholders to develop a Plan for the CBWCB.
- On November 4, 2009 the State Legislature amended the Water Code with SBx7-6, mandating a statewide groundwater elevation monitoring program to track seasonal and long-term trends in California's groundwater basins. In accordance with this amendment DWR developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program. In October 2011, WRD was designated the agency responsible for collecting and reporting CBWCB groundwater level data to CASGEM. Through the RGWMP, WRD will continue to collect CBWCB groundwater level data, track seasonal and long-term trends and provide the data to the CASGEM program.
- 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 CBWCB.

SECTION 6

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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	102041	1750	1730	1750	Pico Formation
	2	102042	1215	1195	1215	Sunnyside
	3	102043	985	965	985	Silverado
	4	102044	635	615	635	Silverado
	5	102045	440	420	440	Hollydale
	6	102046	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
Carson #3	1	102075	1790	1600	1620	Pico Formation
	2	102076	1240	1220	1240	Sunnyside
	3	102077	1100	1080	1100	Sunnyside
	4	102078	890	870	890	Silverado
	5	102079	640	620	640	Silverado
	6	102080	380	360	380	Lynwood
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
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

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
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
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

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
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	Pico Formation
	2	102004	730	710	730	Sunnyside
	3	102005	525	505	525	Sunnyside
	4	102006	430	410	430	Silverado
	5	102007	265	245	265	Lynwood
	6	102008	155	135	155	Exposition
Los Angeles #3	1	102069	1230	1210	1230	Sunnyside
	2	102070	895	875	895	Silverado
	3	102071	725	705	725	Lynwood
	4	102072	570	550	570	Hollydale
	5	102073	350	330	350	Gage
	6	102074	210	190	210	Expo
Manhattan Beach #1	1	102081	1990	1950	1990	Pico Formation
	2	102082	1590	1570	1590	Pico Formation
	3	102083	1270	1250	1270	Sunnyside
	4	102084	885	865	885	Silverado
	5	102085	660	640	660	Silverado
	6	102086	340	320	340	Lynwood
	7	102087	200	180	200	Gage
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

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
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
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	Pico Formation
	2	102048	960	940	960	Pico Formation
	3	102049	790	770	790	Sunnyside
	4	102050	600	580	600	Sunnyside
	5	102051	340	320	340	Silverado
	6	102052	160	140	160	Gage
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
Seal Beach #1	1	102062	1390	1345	1365	Sunnyside
	2	102063	1180	1160	1180	Sunnyside
	3	102064	1040	1020	1040	Sunnyside
	4	102065	795	775	795	Silverado
	5	102066	625	605	625	Lynwood
	6	102067	235	215	235	Gage
	7	102068	70	60	70	Gaspur
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

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
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
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 2010-2011

	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
12/27/2010	-17.43	-31.82	-10.46	-9.53	-4.84	18.6
3/23/2011	-11.98	-24.48	-4.42	-3.81	0.3	20.55
6/27/2011	-7.51	-21.25	-0.46	-1.55	1.75	19.44
9/22/2011	-7.06	-23.04	-2.26	-5.71	-1.72	19.02
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
11/3/2010	0.12	0.98	3.33	10.19	13.61	13.61
11/4/2010	0.13	1.25	3.63	10.21	13.37	13.42
12/27/2010	8.44	11.24	13.66	17.93	20.38	18.73
3/23/2011	18.29	20.37	22.59	27.29	28.06	23.97
5/24/2011	21.47	23.23	24.73	29.46	30.05	25.01
6/23/2011	21.45	22.83	25.10	28.81	29.1	24.95
9/27/2011	22.78	21.94	21.82	25.64	27.49	24.46
Carson #1						Reference Point Elevation: 24.16
Depth of Well	990-1010	740-760	460-480	250-270		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
10/25/2010	-53.13	-51.49	-16.51	-14.73		
11/23/2010	-52.78	-51.16	-16.34	-14.67		
12/14/2010	-55.1	-53.44	-16	-14.25		
12/14/2010	-53.66	-52.04	-16.38	-14.63		
1/19/2011	-52.78	-51.11	-15.9	-14.2		
1/21/2011	-52.85	-51.19	-16.02	-14.3		
2/15/2011	-54.17	-52.63	-16.24	-14.45		
3/16/2011	-54.76	-53.06	-16.2	-14.4		
4/14/2011	-55.58	-53.92	-16.19	-14.38		
5/11/2011	-56.01	-54.36	-16.16	-14.33		
6/16/2011	-55.36	-53.64	-15.92	-14.12		
7/20/2011	-55.52	-53.79	-15.89	-14.1		
8/11/2011	-51.9	-50.63	-15.84	-14.09		
9/19/2011	-53.03	-51.65	-15.73	-13.98		
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	
12/14/2010	-39.34	-34.37	-34	-30.24	-27.61	
3/24/2011	-39.66	-34.47	-34.09	-30.27	-27.59	
3/29/2011	-39.48	-33.44	-34	-26.1	-27.47	
6/20/2011	-39.99	-34.74	-34.35	-30.48	-27.79	
9/19/2011	-40.69	-34.57	-34.07	-30.06	-27.36	
Carson #3						Reference Point Elevation: 18.36
Depth of Well	1600-1620	1220-1240	1080-1100	870-890	620-640	360-380
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood
11/8/2010	-37.94	-43.56	-45.4	-46.15	-45.93	-18.91
12/2/2010	-37.17	-42.43	-44.63	-46.1	-45.84	-18.95
12/14/2010	-37.12	-42.48	-44.69	-46.3	-46.07	-18.93
3/16/2011	-36.98	-42.74	-45.07	-46.85	-46.58	-18.76
6/16/2011	-36.92	-42.9	-44.92	-46.69	-46.3	-18.74
9/27/2011	-36.76	-43.02	-45.58	-46.95	-46.81	-18.73

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2010-2011

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
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
10/14/2010	-47.44	-54.23	-40.46	11.68	15.90	15.91
10/28/2010	-42.98	-51.29	-33.71	13.05	16.79	16.81
11/2/2010	-41.6	-50.22	-33.38	13.41	17.03	17.04
12/17/2010	-29.82	-35.73	-22.06	15.74	18.53	18.54
3/16/2011	-26.88	-36.88	-18.56	18.92	21.35	21.33
4/25/2011	-24.45	-28.86	-12.90	19.29	21.09	21.10
6/30/2011	-26.62	-30.19	-17.37	17.87	19.79	19.73
9/22/2011	-28.12	-30.76	-27.22	15.87	18.73	18.76
Cerritos #2						Reference Point Elevation: 76.82
Depth of Well	1350-1370	915-935	740-760	490-510	350-370	150-170
Aquifer Name	Sunnyside	Silverado	Silverado	Jefferson	Gage	Gaspur
10/27/2010	-22.70	-27.74	-29.84	-7.65	20.13	28.62
12/15/2010	-15.30	-21.17	-22.56	-2.59	21.64	29.27
3/17/2011	-8.24	-16.48	-18.21	1.47	23.84	30.87
4/25/2011	-5.79	-10.73	-17.40	2.16	24.25	31.23
6/30/2011	-1.36	-16.29	-19.70	1.05	24.01	31.22
9/16/2011	-3.92	-18.29	-20.05	0.42	23.24	30.53
Chandler #3						Reference Point Elevation: 153.2
Depth of Well	341-363	165-192				
Aquifer Name	Gage/Lynw/Silv	Gage/Lynw/Silv				
12/26/2010	-17.16	-17.13				
01/25/2011	-16.62	-16.60				
03/24/2011	-16.55	-16.35				
06/16/2011	-17.24	-16.78				
06/24/2011	-17.52	-17.20				
09/20/2011	-17.2	-17.13				
Commerce #1						Reference Point Elevation: 159.60
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
12/23/2010	42.80	42.36	38.96	2.90	2.10	41.88
3/22/2011	43.42	48.33	45.50	11.71	11.86	42.94
6/21/2011	44.78	50.28	47.23	12.69	17.58	43.93
7/12/2011	44.79	49.79	46.63	12.36	16.82	43.57
9/22/2011	45.10	49.94	46.85	9.870	11.68	43.28
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	
10/14/2010	-70.17	-69.84	-27.27	-14.94	-12.71	
12/22/2010	-46.15	-45.99	-22.68	-7.75	-4.010	
3/23/2011	-56.76	-56.39	-16.63	-3.41	-0.22	
4/26/2011	-44.06	-43.83	-16.08	-3.67	-1.12	
6/15/2011	-29.87	-29.77	-13.70	-4.24	-2.79	
9/29/2011	-23.85	-23.84	-18.28	-5.61	-2.91	
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
10/14/2010	-29.38	-49.54	-41.14	-40.59	-36.14	-28.09
12/22/2010	-28.62	-45.13	-41.24	-40.18	-32.57	-25.69
1/5/2011	-27.58	-43.79	-38.81	-37.77	-31.49	-25.56
3/23/2011	-19.80	-41.27	-40.23	-39.15	-31.25	-24.52
6/20/2011	-13.83	-35.58	-37.58	-36.8	-31.46	-24.99
9/27/2011	-6.27	-39.35	-38.76	-37.97	-31.67	-24.78

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2010-2011

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
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
12/15/2010	-2.12	1.16	5.40	7.55	32.43	36.49
3/24/2011	9.25	11.77	14.81	14.90	33.82	36.71
4/20/2011	10.42	13.17	15.33	14.10	33.98	36.83
6/22/2011	15.45	15.64	13.13	14.18	34.19	37.25
9/27/2011	11.21	11.43	12.40	14.01	34.58	37.83
Gardena #1						Reference Point Elevation: 82.20
Depth of Well	970-990	445-465	345-365	120-140		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
12/15/2010	-57.33	-135.91	-99.09			
12/23/2010	-57.35	-137.14	-99.53	-12.13		
3/15/2011	-56.98	-136.54	-98.75	-11.73		
4/14/2011	-57.26	-139.03	-100.31	-12.00		
6/15/2011	-56.94	-136.38	99.25			
6/16/2011	-57.27	-137.15	-99.77	-11.70		
9/15/2011	-57.15	-135.14	-99.52	-11.92		
9/19/2011	-57.48	-138.33	-101.32	-12.04		
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	
12/31/2010	-43.97	-54.88	-55.09	-22.70	-10.14	
1/4/2011	-44.03	-54.90	-55.10	-22.71	-10.25	
3/16/2011	-43.94	-55.43	-55.61	-23.19	-10.51	
4/5/2011	-44.00	-55.44	-55.64	-23.54	-10.72	
6/16/2011	-44.06	-54.45	-54.37	-23.31	-10.81	
9/19/2011	-44.36	-58.64	-58.91	-24.69	-11.59	
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
12/23/2010	-69.26	-11.02	-10.02	-9.80	-6.14	1.52
3/16/2011	-68.48	-11.04	-10.02	-9.80	-6.00	1.93
6/16/2011	-65.36	-11.50	-10.36	-10.11	-6.27	2.21
9/28/2011	-66.55	-12.32	-11.17	-10.85	-6.83	2.15
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	
10/26/2010	-30.55	-32.17	-22.79	12.78	Dry	
11/28/2010	-29.97	-32.15	-23.44	13.21	Dry	
1/20/2011	-27.84	-29.31	-20.99	13.81	Dry	
2/15/2011	-27.46	-27.37	-20.40	14.28	Dry	
3/15/2011	-26.53	-27.05	-18.92	14.59	Dry	
4/14/2011	-25.68	-27.38	-18.23	14.74	Dry	
5/12/2011	-25.49	-27.17	-17.75	14.57	Dry	
7/21/2011	-27.75	-32.22	-20.45	14.51	Dry	
8/11/2011	-25.05	-26.94	-17.54	14.04	Dry	
9/22/2011	-25.41	-28.89	-19.41	14.24	Dry	
Inglewood #1						Reference Point Elevation: 113.36
Depth of Well	1380-1400		430-450	280-300	150-170	
Aquifer Name	Pico Formation	Abandoned	Silverado	Lynwood	Gage	
12/23/2010	-29.92		-37.93	3.66	8.22	
1/25/2011	-30.29		-37.49	3.81	8.51	
3/23/2011	-31.73		-36.55	4.09	8.67	
6/17/2011	-32.92		-35.53	4.31	8.85	
… 9/22/2011	-33.49		-35.23	4.40	8.92	

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2010-2011

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
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		
12/15/2010	-26.21	-17.64	-5.38	-1.02		
3/23/2011	-26.13	-17.25	-5.26	-0.96		
6/17/2011	-25.98	-17.45	-5.33	-0.96		
9/22/2011	-26.17	-17.95	-5.48	2.84		
Lakewood #1						Reference Point Elevation: 53.41
Depth of Well	989-1009	640-660	450-470	280-300	140-160	70-90
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage	Artesia	Bellflower
11/1/2010	-83.99	-44.76	-39.51	-15.12	-0.93	24.75
12/15/2010	-45.27	-33.00	-28.97	-10.40	2.72	25.42
3/15/2011	-53.18	-32.98	-29.35	-8.29	6.38	27.69
3/16/2011	-58.37	-33.91	-30.53	-9.03	6.14	27.60
6/15/2011	-36.35	-24.93	-23.18	-8.91	5.79	27.95
9/15/2011	-33.62	-25.35	-24.74	-8.00	6.42	27.49
9/28/2011	-40.85	-25.19	-24.49	-9.04	5.61	27.410
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	
10/27/2010	-30.48	-26.45	-33.30	-42.45	-18.18	
12/17/2010	-16.55	-16.07	-23.67	-33.20	-10.87	
1/25/2011	-6.97	-6.93	-20.02	-32.69	-5.87	
3/22/2011	-5.11	-3.80	-18.51	-20.12	-3.59	
4/20/2011	-4.89	-3.64	-13.24	-32.02	-2.49	
6/30/2011	-2.54	-0.62	-21.15	-40.09	-5.59	
9/16/2011	5.28	6.26	-18.77	-39.95	-8.23	
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
12/14/2010	-31.43	-20.28	-18.54	-18.22	-16.18	-17.2
3/16/2011	-29.85	-18.82	-18.08	-17.98	-15.89	-16.61
4/7/2011	-29.37	-18.48	-17.92	-17.7	-15.74	-16.43
6/17/2011	-30.78	-19.51	-17.35	-17.88	-15.77	-16.58
9/20/2011	-31.62	-19.29	-17.79	-18.78	-15.98	-16.85
Long Beach #1						Reference Point Elevation: 31.16
Depth of Well	1430-1450	1230-1250	970-990	599-619	400-420	155-175
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Jefferson	Gage
10/28/2010	-46.11	-49.1	-81.92	-45.93	-41.66	-11.89
12/17/2010	-30.54	-32.08	-43.84	-28.47	-24.57	-6.11
2/1/2011	-22.68	-24.63	-46.67	-28.94	-26.7	-2.84
3/17/2011	-24.20	-26.61	-60.52	-33.22	-30.23	-4.56
4/6/2011	-22.73	-24.03	-53.56	-29.96	-25.92	-3.62
6/30/2011	-9.05	-10.57	-33.34	-17.99	-16.28	-3.64
9/26/2011	3.29	2.02	-8.49	-14.72	-14.60	-3.96
Long Beach #2						Reference Point Elevation: 44.35
Depth of Well	970-990	720-740	450-470	280-300	160-180	95-115
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Jefferson	Gage
12/17/2010	-55.69	-43.62	-39.43	-10.23	0.91	2.91
1/12/2011	-45.78	-41.09	-39.09	-9.29	1.41	3.25
3/24/2011	-80.3	-42.47	-39.38	-9.11	1.61	3.55
6/15/2011	-35.63	-33.27	-39.16	-7.95	2.26	4.14
9/16/2011	-26.80	-38.08	-40.96	-8.6	1.98	3.92

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2010-2011

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Long Beach #3						Reference Point Elevation: 27.68
Depth of Well	1350-1390	997-1017	670-690	530-550	410-430	
Aquifer Name	Sunnyside	Silverado	Silverado	Silverado	Lynwood	
12/17/2010	-37.00	-50.97	-50.97	-51.35	-2.61	
1/12/2011	-36.8	-51.08	-51.07	-51.45	-1.97	
3/29/2011	-37.30	-51.41	-51.42	-51.74	-1.16	
4/6/2011	-37.24	-52.74	-52.7	-53.08	-0.98	
6/15/2011	-37.53	-53.12	-53.13	-53.51	-0.59	
9/16/2011	-37.28	-51.61	-51.62	-52.02	-0.52	
Long Beach #4						Reference Point Elevation: 9.52
Depth of Well	1200-1220	800-820				
Aquifer Name	Pico Formation	Sunnyside				
12/28/2010	-36.93	-18.52				
03/24/2011	-36.91	-17.68				
06/22/2011	-37.80	-17.77				
09/16/2011	-36.28	-16.05				
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
10/27/2010	-62.80	-79.08	-80.15	-124.63	-124.67	-42.60
11/8/2010	-62.19	-73.31	-73.61	-107.92	-108.18	-41.76
12/14/2010	-48.32	-49.21	-49.26	-65.42	-65.82	-36.01
1/5/2011	-40.18	-39.86	-39.92	-56.66	-57.09	-33.16
1/20/2011	-37.24	-39.53	-40.17	-77.79	-77.92	-33.17
1/21/2011	-37.22	-39.84	-40.52	-79.02	-79.13	-33.41
2/2/2011	-37.62	-43.80	-44.57	-89.94	-90.02	-34.79
2/15/2011	-38.11	-46.25	-47.11	-96.35	-96.40	-35.46
3/15/2011	-40.45	-49.92	-50.89	-103.33	-103.39	-35.89
4/7/2011	-38.97	-46.12	-46.59	-80.31	-80.65	-35.10
4/14/2011	-37.36	-43.90	-44.34	-70.96	-70.90	-34.70
5/11/2011	-29.76	-31.31	-31.44	-47.52	-47.51	-30.52
6/15/2011	-21.77	-24.67	-25.56	-40.30	-40.32	-28.67
7/20/2011	-17.76	-19.42	-19.61	-36.62	-36.64	-27.87
8/11/2011	-15.07	-19.87	-20.14	-29.71	-29.71	-27.23
9/16/2011	-10.75	-12.95	-13.04	-23.45	-23.46	-27.34
Long Beach #8						Reference Point Elevation: 18.24
Depth of Well	1435-1455	1020-1040	780-800	635-655	415-435	165-185
Aquifer Name	Pico Formation	Sunnyside	Silverado	Silverado	Lynwood	Gage
10/27/2010	-18.31	-35.43	-46.64	-44.6	-44.13	1.39
1/4/2011	-17.80	-34.58	-46.68	-44.52	-43.85	1.6
3/23/2011	-17.98	-35.10	-47.93	-45.53	-45.13	1.96
6/20/2011	-17.52	-35.18	-46.43	-46.83	-46.45	2.37
9/19/2011	-17.21	-34.98	-48.00	-45.55	-45.1	2.47
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	
12/16/2010	-28.52	-23.88	-24.73	-25.96	-18.73	
3/23/2011	-24.58	-21.27	-22.63	-23.28	-16.43	
6/21/2011	-20.93	-19.26	-20.71	-21.65	-14.63	
9/28/2011	-19.99	-18.90	-20.46	-21.83	-14.01	

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2010-2011

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Los Angeles #2						Reference Point Elevation: 218.59
Depth of Well	1330-1370	710-730	505-525	410-430	245-265	135-155
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Lynwood	Exposition
11/3/2010	47.44	-1.44	-1.94	-16.58	-25.47	Dry
11/30/2010	47.44	-1.76	-2.25	-16.98	-25.86	Dry
12/27/2010	47.55	-1.23	-1.66	-16.35	-25.56	Dry
3/22/2011	48.08	-0.98	-1.39	-15.40	-24.41	Dry
5/12/2011	48.43	-0.04	-0.41	-14.22	-23.35	Dry
6/21/2011	48.65	0.75	0.41	-13.84	-22.45	Dry
9/29/2011	48.45	0.81	0.44	-12.91		Dry
Los Angeles #3						Reference Point Elevation: 145.71
Depth of Well	1210-1230	875-895	705-715	550-570	330-350	190-210
Aquifer Name	Sunnyside	Silverado	Lynwood	Hollydale	Gage	Exposition
12/1/2010	-16.96	-6.9	-11.92	-19.23	-17.88	4.49
12/27/2010	-16.58	-6.5	-11.4	-18.23	-17.22	4.56
3/22/2011	-14.36	-5.49	-10.08	-15.32	-14.81	5.1
6/21/2011	-11.75	-4.41	-8.8	-13.98	-12.75	5.89
7/28/2011	-10.8	-4.31	-8.98	-14.29	-12.37	5.92
9/28/2011	-10.44	-4.16	-8.62	-13.7	-11.71	6.32
Manhattan Beach #1						Reference Point Elevation: 129.12
Depth of Well	1950-1990	1570-1590	1250-1270	865-885	640-660	320-340
Aquifer Name	Pico Formation	Pico Formation	Sunnyside	Silverado	Silverado	Lynwood
4/8/2011	-0.77	-3.50	-35.90		-2.95	5.89
5/13/2011	-1.08	-3.81	-36.21		-4.39	4.72
6/3/2011	-0.96	-3.64	-36.05		-4.30	4.69
6/9/2011	-1.13	-3.85	-36.27		-4.00	5.00
6/16/2011	-0.71	-3.53	-35.84		-4.06	5.30
9/29/2011	-0.86	-3.62	-35.99		-5.09	4.37
	ZONE 7					
Depth of Well	180-200					
Aquifer Name	Gage					
4/8/2011	8.94					
5/13/2011	8.04					
6/3/2011	7.99					
6/9/2011	8.08					
6/16/2011	8.41					
9/29/2011	7.62					
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
12/27/2010	93.41	93.66	93.01	88.52	79.88	Dry
3/22/2011	103.31	104.60	103.9	98.86	89.89	Dry
4/21/2011	105.51	105.87	105.16	100.28	92.86	Dry
5/3/2011	105.87	106.82	106.10	101.01	93.82	Dry
6/27/2011	105.71	104.41	103.64	98.94	95.60	Dry
9/27/2011	105.96	104.31	103.48	98.72	95.51	95.19
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	
10/1/2010	23.74	-19.76	3.20	-4.65	-3.15	
10/28/2010	22.79	-20.64	3.54	-2.91	-2.31	
11/2/2010	22.74	-20.70	3.68	-2.56	-2.08	
12/15/2010	27.27	-12.84	8.25	-0.74	-0.66	
3/22/2011	37.41	-0.35	18.09	2.91	3.02	
6/27/2011	38.44	5.94	21.76	3.64	3.97	
… 9/16/2011	42.12	11.28	24.06	3.45	3.20	

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2010-2011

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Norwalk #2						Reference Point Elevation: 114.73
Depth of Well	1460-1480	1260-1280	960-980	800-820	480-500	236-256
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gardena	Exposition
10/28/2010	3.42	3.53	-1.40	2.03	14.46	21.38
12/15/2010	7.32	7.42	7.47	10.45	16.29	22.68
3/15/2011	19.09	19.18	19.59	22.16	24.97	28.46
4/20/2011	21.25	21.33	21.26	23.98	26.45	30.35
6/27/2011	24.14	24.25	25.33	27.88	24.50	29.97
9/26/2011	28.28	28.28	26.95	27.41	25.20	30.59
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		
12/15/2010	135.27	124.98	125.08	123.75		
12/30/2010	138.27	132.84	132.24	130.38		
3/15/2011	143.85	129.36	128.78	142.16		
3/17/2011	149.33	136.75	138.52	143.98		
6/15/2011	151.05	143.84	144.06	145.25		
6/22/2011	151.63	130.09	129.35	143.27		
9/15/2011	147.67	133.55	135.22	140.77		
9/27/2011	145.67	140.28	140.44	140.94		
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
12/15/2010	74.04	74.72	79.41	87.35	87.82	90.95
12/30/2010	80.93	83.30	88.17	94.50	95.00	99.39
3/15/2011	90.79	90.95	97.32	103.81	104.71	108.51
3/22/2011	92.20	93.69	99.05	105.26	105.96	110.10
6/15/2011	88.24	89.05	95.44	109.26	110.40	115.98
6/23/2011	88.81	90.35	96.88	111.25	111.70	121.73
9/15/2011	86.68	85.69	91.92	103.89	104.08	110.12
9/27/2011	93.25	87.15	92.57	101.84	101.63	107.71
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		
12/23/2010	-11.39	-8.79	-8.74	-8.71		
3/24/2011	-11.60	-8.66	-8.60	-8.57		
4/4/2011	-11.67	-8.69	-8.64	-8.62		
6/20/2011	-11.79	-8.77	-8.70	-8.66		
9/20/2011	-12.51	-9.58	-9.51	-9.48		
PM-4 Mariner						Reference Point Elevation: 100.59
Depth of Well	670-710	500-540	340-380	200-240		
Aquifer Name	Sunnyside	Silverado	Lynwood	Lynwood		
10/26/2010	-3.24	-0.69	2.49	2.54		
11/28/2010	-3.29	-1.16	2.04	2.09		
12/23/2010	-2.96	-1.17	1.92	2.06		
1/20/2011	-2.68	-0.80	2.31	2.42		
2/15/2011	-2.42	-0.39	2.74	2.81		
3/15/2011	-3.42	-0.95	2.14	2.20		
4/15/2011	-3.91	-0.59	2.49	2.54		
5/11/2011	-3.48	-0.89	2.35	2.39		
6/15/2011	-4.26	-1.87	1.30	1.37		
7/21/2011	-4.81	-2.65	0.49	0.57		
8/11/2011	-5.23	-3.01	0.11	0.18		
9/20/2011	-5.46	-2.95	0.25	0.29		

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2010-2011

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
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	Pico Formation	Pico Formation	Sunnyside	Sunnyside	Silverado	Gage
12/23/2010	-37.07	-44.96	-7.70	-5.97	-0.86	-0.53
2/4/2011	-36.98	-44.65	-7.41	-5.50	-0.22	0.08
3/28/2011	-36.92	-44.66	-9.39	-7.39	-1.17	-0.86
6/20/2011	-36.83	-43.88	-9.98	-8.16	-2.14	-1.88
7/6/2011	-36.90	-44.30	-10.38	-8.56	-2.63	-2.37
9/20/2011	-36.86	-46.48	-11.06	-9.01	-3.27	-2.93
PM-6 Madrona Marsh						Reference Point Elevation: 80.88
Depth of Well	1195-1235	905-925	770-790	530-550	390-410	240-260
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Lynwood	Gage
12/23/2010	-34.91	-10.86	-9.53	-2.15	-0.87	-0.40
3/29/2011	-35.07	-10.97	-9.37	-1.76	-0.20	0.23
6/20/2011	-34.87	-11.39	-9.88	-2.42	-1.08	-0.55
9/19/2011	-35.17	-12.02	-10.63	-3.29	-2.15	-1.69
Rio Hondo #1						Reference Point Elevation: 146.89
Depth of Well	1110-1130	910-930	710-730	430-450	280-300	140-160
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gardena
10/26/2010	59.66	56.44	55.59	47.42	53.79	56.54
11/28/2010	67.35	68.65	67.81	59.81	63.45	64.15
12/30/2010	73.54	77.42	76.63	69.29	76.50	78.57
1/19/2011	77.88	81.08	80.24	72.52	80.81	83.14
1/21/2011	78.05	82.22	81.44	72.64	80.78	83.04
2/8/2011	80.44	82.75	81.94	73.15	79.33	81.21
3/15/2011	83.26	86.49	85.69	77.70	85.98	88.08
4/14/2011	85.68	87.40	86.53	79.63	90.15	92.77
4/28/2011	86.35	88.50	87.67	80.04	90.20	92.79
5/11/2011	85.35	86.10	85.18	79.60	90.18	92.78
6/15/2011	83.21	83.62	82.85	75.15	83.91	86.75
7/20/2011	81.18	80.92	80.10	72.30	81.96	85.19
8/10/2011	80.35	82.95	82.27	73.59	81.22	83.97
9/28/2011	82.36	85.02	84.24	72.78	78.35	80.91
Seal Beach #1						Reference Point Elevation: 9.51
Depth of Well	1345-1365	1160-1180	1020-1040	775-795	605-625	215-235
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gage
10/20/2010	-44.36	-44.43	-44.41	-72.68	-49.05	-10.82
10/28/2010	-44.51	-44.71	-44.58	-71.50	-48.62	-8.75
12/23/2010	-29.58	-29.54	-29.5	-37.15	-28.25	-2.42
1/12/2011	-23.83	-23.89	-23.88	-33.22	-25.78	0.11
2/2/2011	-22.51	-22.58	-22.56	-41.66	-28.52	0.31
3/17/2011	-23.60	-23.55	-23.44	-51.71	-35.59	-2.24
6/30/2011	-9.56	-9.77	-9.61	-28.01	-19.99	0.80
9/21/2011	1.67	1.41	1.63	-8.95	-12.77	0.01
	ZONE 7					
Depth of Well	60-70					
Aquifer Name	Gaspur					
10/20/2010	-2.04					
10/28/2010	-1.61					
12/23/2010	2.90					
1/12/2011	3.90					
2/2/2011	3.78					
3/17/2011	3.26					
6/30/2011	3.55					
9/21/2011	2.68					

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2010-2011

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
South Gate #1					Reference Point Elevation: 102.73	
Depth of Well	1440-1460	1320-1340	910-930	565-585	220-240	
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Exposition	
10/5/2010	-8.09	-5.45	-1.46	-2.15	39.70	
12/15/2010	-3.43	-0.92	3.90	2.77	40.10	
3/23/2011	7.13	9.79	12.71	7.00	41.10	
6/22/2011	10.24	12.09	12.84	6.85	40.81	
9/29/2011	7.11	8.26	11.12	6.92	41.25	
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	
12/15/2010	2.56	8.91	9.10	9.08	9.13	
3/23/2011	2.84	9.01	9.20	9.22	9.28	
4/14/2011	2.52	8.84	8.88	8.92	9.01	
6/17/2011	2.60	8.93	9.14	9.16	9.24	
9/22/2011	2.11	8.77	8.95	8.95	9.02	
Whittier #1					Reference Point Elevation: 217.88	
Depth of Well	1180-1200	920-940	600-620	450-470	200-220	
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gage	
10/28/2010	119.00	119.05	111.05	108.98	199.48	
12/15/2010	119.05	119.06	111.33	109.43	199.52	
3/22/2011	119.05	119.03	112.67	111.17	201.58	
5/2/2011	119.43	119.35	113.33	111.99	201.84	
6/28/2011	119.89	119.93	113.77	112.46	201.61	
9/26/2011	120.30	120.35	114.41	113.09	201.08	
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
11/10/2010	83.67	84.11	71.34	73.92	97.14	104.79
12/30/2010	90.92	91.37	90.98	94.58	107.12	110.28
3/17/2011	98.37	98.62	101.05	102.69	114.07	117.12
6/22/2011	100.98	101.13	102.82	102.09	119.20	124.00
9/27/2011	100.71	100.87	100.62	97.69	114.29	121.28
Willowbrook #1					Reference Point Elevation: 96.21	
Depth of Well	885-905	500-520	360-380	200-220		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
10/25/2010	-53.54	-38.67	-43.3	-42.75		
11/28/2010	-52.84	-38.34	-43.4	-42.63		
12/23/2010	-49.66	-37.75	-42.76	-42.13		
1/19/2011	-46.35	-37.04	-41.74	-41.28		
2/15/2011	-46.24	-37.13	-41.66	-41.23		
3/15/2011	-46.00	-36.76	-40.75	-40.3		
4/14/2011	-46.21	-36.91	-40.77	-40.29		
4/27/2011	-45.28	-36.57	-40.29	-39.86		
5/11/2011	-43.19	-36.35	-40.28	-39.96		
6/15/2011	-41.58	-36.16	-40.18	-39.90		
7/21/2011	-41.73	-36.74	-40.99	-40.37		
8/11/2011	-41.33	-36.79	-41.24	-40.61		
9/29/2011	-43.93	-36.78	-40.06	-40.28		

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2010-2011

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Wilmington #1						Reference Point Elevation: 40.81
Depth of Well	915-935	780-800	550-570	225-245	120-140	
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gage	
10/14/2010	-44.51	-45.14	-45.09	-16.34	-13.10	
11/15/2010	-44.94	-45.43	-45.49	-16.90	-12.51	
12/31/2010	-45.07	-45.66	-45.65	-15.16	-11.72	
2/3/2011	-46.73	-47.38	-47.33	-15.53	-12.04	
3/29/2011	-46.73	-47.29	-47.19	-14.84	-11.35	
5/17/2011	-49.38	-49.94	-49.88	-15.16	-11.52	
6/16/2011	-48.60	-49.23	-49.09	-14.73	-11.02	
9/19/2011	-46.61	-47.22	-47.14	-14.26	-10.69	
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	
11/16/2010	-34.60	-30.12	-25.67	-24.80	-6.44	
12/31/2010	-34.36	-29.89	-25.29	-24.37	-6.43	
3/29/2011	-35.08	-30.11	-25.23	-24.21	-6.30	
6/20/2011	-36.05	-30.68	-25.66	-24.59	-6.37	
9/20/2011	-34.85	-29.44	-26.03	-24.06	-6.17	
Whittier Narrows #1						Reference Point Elevation: 214.96
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
3/17/2011	185.04	186.49	187.99	190.62	191.5	192.43
9/14/2011	182.24	183.88	185.33	187.54	188.34	189.80
	ZONE 7	**ZONE 8**	**ZONE 9**			
Depth of Well	233.5-243	163-173	95-104.5			
Aquifer Name	Jefferson	Gardena	Gaspur			
3/17/2011	192.41	192.25	191.59			
9/14/2011	190.26	190.42	189.95			
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
3/17/2011	-10.80	-10.61	-9.27	-0.02	118.9	173.16
9/15/2011	-10.45	-10.27	-9.13	-0.69	117.21	171.80
	ZONE 7	**ZONE 8**	**ZONE 9**			
Depth of Well	214-224	136-145	91-100			
Aquifer Name	Not Defined	Not Defined	Gardena			
3/17/2011	174.38	175.80	178.05			
9/15/2011	172.64	173.91	177.79			

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TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Bell #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				05/31/11	08/31/11	05/31/11	08/31/11	05/31/11	08/31/11	05/31/11	08/31/11	05/31/11	08/31/11	05/31/11	08/31/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	**1000**	**1000**	350	340	340	310	360	340	480	480	720	690
Cation Sum	meq/l			17	17	5.3	5.8	5	5.4	5.7	6	7.1	7.7	11	12
Anion Sum	meq/l			17	17	5.5	5.5	5.2	5.1	5.7	5.7	7.3	7.4	11	11
Iron, Total, ICAP	mg/l	0.30	S	0.14	0.14	0.026	0.028	ND	ND	0.02	0.024	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	34	22	**81**	**78**	**51**	**51**	**79**	**77**	ND	ND	ND	ND
Turbidity	NTU	5	S	0.8	1.7	0.12	0.12	0.096	0.069	0.16	0.16	0.16	0.22	1.2	3.1
Alkalinity	mg/l			630	630	170	170	160	160	180	170	180	180	250	250
Boron	mg/l	1	N	**1.7**	**1.7**	0.13	0.15	0.12	0.13	0.15	0.16	0.14	0.15	0.16	0.17
Bicarbonate as HCO3,calculated	mg/l			760	760	200	200	190	190	210	210	220	220	300	300
Calcium, Total, ICAP	mg/l			13	13	49	53	43	46	55	59	71	76	120	120
Carbonate as CO3, Calculated	mg/l			15	22	2.3	ND	2.3	ND	2.6	ND	2.3	ND	3	ND
Hardness (Total, as CaCO3)	mg/l			58	57	160	180	150	160	190	200	250	270	420	450
Chloride	mg/l	500	S	140	140	21	23	28	30	25	28	49	53	110	110
Fluoride	mg/l	2	P	0.43	0.42	0.24	0.22	0.4	0.4	0.41	0.42	0.34	0.34	0.34	0.36
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1	1.2	0.8	0.72	0.75	0.35	0.9	0.62	0.96	0.71	1.3	1
Magnesium, Total, ICAP	None			6	6.1	10	11	10	11	13	14	18	19	31	33
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	1.4	1.7	2.7	2.8
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			5.6	6.3	2.6	2.8	3.3	3.5	3.1	3.4	2.7	2.9	2.8	3
Sodium, Total, ICAP	mg/l			360	370	45	49	44	47	40	43	47	51	55	60
Sulfate	mg/l	500	S	ND	ND	74	73	55	52	71	69	110	110	140	130
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.7	2.7	2.8
Total Organic Carbon	mg/l			19	20	0.43	0.44	0.54	0.6	0.32	ND	ND	ND	0.47	0.45
Carbon Dioxide	mg/l			4.1	2.8	ND	2.4	ND	4.4	ND	3.7	2.1	4.1	3.3	6.6
General Physical Properties															
Apparent Color	ACU	15	S	**250**	**200**	ND	ND	3	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.5	8.6	8.3	8.1	8.3	7.8	8.3	8	8.2	7.9	8.2	7.9
Odor	TON	3	S	**10**	**3**	1	2	ND	ND	ND	1	1	ND	ND	ND
pH of CaCO3 saturation(25C)	Units			7.4	7.4	7.5	7.4	7.5	7.5	7.4	7.3	7.3	7.2	6.9	6.9
pH of CaCO3 saturation(60C)	Units			7	7	7	7	7.1	7	6.9	6.9	6.8	6.8	6.4	6.4
Specific Conductance	umho/cm	1600	S	0.14	0.14	0.026	0.028	ND	ND	0.02	0.024	ND	ND	ND	ND
Metals															
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	1.1	ND	ND	ND	ND	1.2	1.1	3.8	3.5	2	1.7
Barium, Total, ICAP/MS	ug/l	1000	P	15	12	34	36	33	35	59	65	230	240	120	130
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	1.1	1.6	ND	ND	ND	ND	ND	ND	1.3	1.4	5.1	4.3
Hexavalent Chromium	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	0.67	1.3	4	4.1
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	11	9	5.6	5.4
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 Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	0.75	**12**	**13**	0.65
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	0.63	ND	2.3	2.1	5	3

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 2010-11

Constituents	Units	MCL	Type	Bell Gardens #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				05/05/11	09/23/11	05/05/11	09/23/11	05/05/11	09/23/11	05/05/11	09/23/11	05/05/11	09/23/11	05/05/11	09/23/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	470	460	290	300	470	450	360	350	370	370	350	370
Cation Sum	meq/l			7.5	7.3	5.1	4.8	7.2	7	5.7	5.5	5.8	5.8	5.4	5.7
Anion Sum	meq/l			7.5	7.4	5	4.9	7.3	7.3	5.9	5.6	5.9	6	5.6	5.9
Iron, Total, ICAP	mg/l	0.30	S	0.042	0.041	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	40	37	**50**	48	ND	ND	ND	ND	ND	ND	ND	ND
Turbidity	NTU	5	S	0.45	0.14	0.25	0.082	0.13	0.086	0.13	0.36	0.069	0.15	0.24	0.055
Alkalinity	mg/l			170	160	160	160	150	140	160	120	150	150	120	150
Boron	mg/l	1	N	0.056	ND	0.14	0.12	0.17	0.16	0.16	0.15	0.17	0.16	0.16	0.15
Bicarbonate as HCO3,calculated	mg/l			210	200	200	190	180	180	190	140	180	180	150	180
Calcium, Total, ICAP	mg/l			99	97	42	38	75	73	57	52	56	56	50	57
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			310	300	140	130	240	240	190	170	190	190	170	190
Chloride	mg/l	500	S	52	52	31	30	65	67	39	53	46	48	50	41
Fluoride	mg/l	2	P	0.18	0.2	0.28	0.3	0.3	0.31	0.34	0.4	0.21	0.22	0.4	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			0.96	0.95	0.64	0.51	0.71	0.59	0.43	0.29	0.3	0.31	0.31	0.45
Magnesium, Total, ICAP	None			14	14	8.4	7.7	14	13	11	10	12	12	9.9	11
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	2.4	2.5	1.7	1.6	2.1	2.2	1.6	1.8
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			2.2	2.2	2.6	2.4	3.5	3.4	3.2	3.1	3.1	3	3.2	3.1
Sodium, Total, ICAP	mg/l			29	29	53	50	52	51	43	47	45	45	47	43
Sulfate	mg/l	500	S	130	130	40	39	110	110	74	80	71	74	79	75
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	2.4	2.5	1.7	1.6	2.1	2.2	1.6	1.8
Total Organic Carbon	mg/l			0.34	0.48	0.39	0.6	0.56	0.62	0.38	0.51	0.34	0.48	0.35	0.46
Carbon Dioxide	mg/l			2.8	2.6	2.2	2.6	2.9	3.4	4.5	3.2	5.6	5.2	3.2	3.9
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.1	8.1	8.2	8.1	8	7.9	7.8	7.9	7.7	7.8	7.9	7.9
Odor	TON	3	S	2	2	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH of CaCO3 saturation(25C)	Units			7.1	7.2	7.5	7.6	7.3	7.3	7.4	7.6	7.4	7.4	7.6	7.4
pH of CaCO3 saturation(60C)	Units			6.7	6.7	7.1	7.1	6.9	6.9	7	7.1	7	7	7.1	7
Specific Conductance	umho/cm	1600	S	0.042	0.041	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals															
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	1.9	2	ND	ND	2.8	2.7	2	2.2	1.2	1.2	2.4	1.8
Barium, Total, ICAP/MS	ug/l	1000	P	99	98	63	62	130	120	53	48	58	59	47	50
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	1.2	ND	1.1	ND	1.1	1.1	1	ND
Hexavalent Chromium	ug/l			ND	ND	ND	ND	0.42	0.34	0.55	0.46	0.56	0.55	0.47	0.55
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 Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.64	ND	3	3.2	ND	0.65
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	1.6	ND	0.5	ND	ND	1.5
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	0.52	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 2010-11

Constituents	Units	MCL	Type	Cerritos #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				04/25/11	09/13/11	04/25/11	09/13/11	04/25/11	09/13/11	04/25/11	09/13/11	04/25/11	09/13/11	04/25/11	09/13/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	300	290	270	260	320	340	270	290	260	270	270	280
Cation Sum	meq/l			4.7	4.6	4.4	4.3	5.1	5.2	4.8	4.8	4.6	4.5	4.6	4.5
Anion Sum	meq/l			4.9	4.7	4.5	4.3	5.2	5.2	4.9	4.7	4.6	4.4	4.6	4.5
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	0.026	0.028	0.081	0.079	0.063	0.058	0.073	0.072
Manganese, Total, ICAP/MS	ug/l	50	S	25	27	28	30	44	46	**79**	**80**	**110**	**110**	**140**	**140**
Turbidity	NTU	5	S	0.092	0.1	0.11	0.14	0.15	0.15	0.18	0.24	0.15	0.3	0.62	0.22
Alkalinity	mg/l			170	160	160	150	170	170	180	180	180	180	190	180
Boron	mg/l	1	N	0.099	0.082	0.11	0.066	0.093	0.09	0.091	0.088	0.092	0.087	0.079	0.078
Bicarbonate as HCO3,calculated	mg/l			200	190	190	180	210	210	220	210	220	220	230	220
Calcium, Total, ICAP	mg/l			35	34	33	32	42	42	45	45	39	38	46	45
Carbonate as CO3, Calculated	mg/l			2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.7	ND
Hardness (Total, as CaCO3)	mg/l			110	100	110	100	130	130	160	160	140	130	150	150
Chloride	mg/l	500	S	16	15	14	13	19	19	13	13	10	10	9.5	9.6
Fluoride	mg/l	2	P	0.25	0.26	0.37	0.37	0.39	0.39	0.53	0.54	0.46	0.47	0.31	0.32
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.69	0.52	0.55	0.42	0.62	0.45	0.57	0.51	0.61	0.46	0.83	0.62
Magnesium, Total, ICAP	None			4.9	4.7	5.3	5.1	6.3	6.4	11	11	10	9.6	9.3	9.1
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			2.2	2.1	2.1	2	2	1.9	1.9	1.9	2	1.8	2.1	2
Sodium, Total, ICAP	mg/l			57	56	51	52	56	58	36	37	40	40	34	34
Sulfate	mg/l	500	S	53	50	47	42	59	61	41	40	29	28	24	24
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.42	ND	0.41	ND	0.42	ND	0.37	ND	0.39	ND	0.48	0.31
Carbon Dioxide	mg/l			ND	2.3	2	2.4	2.5	3.7	3.4	3.7	2.8	3.6	2.1	3.3
General Physical Properties															
Apparent Color	ACU	15	S	3	ND	ND	ND	ND	ND	3	ND	3	3	3	3
Lab pH	Units			8.3	8.1	8.2	8.1	8.1	8	8	8	8.1	8	8.3	8
Odor	TON	3	S	1	ND	1	1	1	ND	1	1	1	ND	1	1
pH of CaCO3 saturation(25C)	Units			7.6	7.6	7.6	7.7	7.5	7.5	7.5	7.5	7.5	7.5	7.4	7.4
pH of CaCO3 saturation(60C)	Units			7.1	7.2	7.2	7.2	7.1	7.1	7	7	7.1	7.1	7	7
Specific Conductance	umho/cm	1600	S	ND	ND	ND	ND	0.026	0.028	0.081	0.079	0.063	0.058	0.073	0.072
Metals															
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**	**14**	**11**	**11**	**19**	**19**	5.2	5.3	8.6	8.6	**36**	**35**
Barium, Total, ICAP/MS	ug/l	1000	P	51	50	100	100	130	130	63	63	83	82	100	100
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	ug/l			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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	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 2010-11

Constituents	Units	MCL	Type	Cerritos #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				04/25/11	09/13/11	04/25/11	09/13/11	04/25/11	09/13/11	04/25/11	09/13/11	04/25/11	09/13/11	04/25/11	09/13/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	210	230	500	520	210	230	230	250	230	240	**1100**	980
Cation Sum	meq/l			3.6	3.7	8.1	8.1	3.8	3.8	4.3	4.4	4.2	4.2	18	16
Anion Sum	meq/l			3.7	3.6	8.5	8.4	3.8	3.7	4.3	4.2	4.2	4.1	18	16
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	ND	ND	0.033	0.031	0.09	0.093	**0.3**	0.27
Manganese, Total, ICAP/MS	ug/l	50	S	12	11	ND	ND	41	39	**90**	**88**	**110**	**110**	**700**	**720**
Turbidity	NTU	5	S	0.11	0.079	0.2	0.11	3.7	1.1	0.13	0.27	0.26	0.3	1.8	2.2
Alkalinity	mg/l			150	150	170	170	160	160	190	180	180	180	350	350
Boron	mg/l	1	N	0.064	0.06	0.15	0.15	0.062	0.066	0.079	0.081	0.076	0.079	0.11	0.11
Bicarbonate as HCO3,calculated	mg/l			190	180	210	210	200	190	230	220	220	220	430	430
Calcium, Total, ICAP	mg/l			42	42	92	91	45	45	52	53	52	52	230	210
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			130	130	300	300	140	140	170	170	160	160	770	690
Chloride	mg/l	500	S	6	6.1	78	79	5.5	5.5	6.4	6.4	6.1	6.2	200	150
Fluoride	mg/l	2	P	0.27	0.29	0.35	0.33	0.29	0.29	0.41	0.42	0.34	0.35	0.33	0.34
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.53	0.36	0.75	0.69	0.66	0.51	0.72	0.59	0.71	0.6	1.4	1.3
Magnesium, Total, ICAP	None			5.5	5.5	18	17	6.2	6	8.8	8.7	7.5	7.4	46	41
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	3.4	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	4.1	4.2	2.5	2.5	2.7	2.8	2.7	2.8	4.4	4.3
Sodium, Total, ICAP	mg/l			24	25	45	46	22	23	20	21	21	22	54	55
Sulfate	mg/l	500	S	21	21	120	120	17	18	18	18	17	17	260	250
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	3.3	3.4	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	0.54	0.42	ND	ND	ND	ND	ND	ND	1.4	1.3
Carbon Dioxide	mg/l			2.6	3.6	4.3	4.7	2.2	2.9	2.9	3.8	3	3.6	11	10
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	5	5
Lab pH	Units			8.1	7.9	7.9	7.8	8.2	8	8.1	8	8.1	8	7.8	7.8
Odor	TON	3	S	1	1	1	2	1	1	2	2	2	1	2	**16**
pH of CaCO3 saturation(25C)	Units			7.6	7.6	7.2	7.2	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	7.1	6.9	6.9	6.9	6.9	6	6
Specific Conductance	umho/cm	1600	S	ND	ND	ND	ND	ND	ND	0.033	0.031	0.09	0.093	0.3	0.27
Metals															
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	2.3	2.3	2.2	2.2	3.1	3	7.9	7.6	**17**	**17**	9.1	7
Barium, Total, ICAP/MS	ug/l	1000	P	110	100	160	150	120	110	170	160	170	180	88	80
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	1.3	1.3	ND	ND	ND	ND	ND	ND	ND	1.1
Hexavalent Chromium	ug/l			0.61	0.72	0.76	0.77	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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	1.1	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 2010-11

Constituents	Units	MCL	Type	Commerce #1									
				Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				05/03/11	09/20/11	05/03/11	09/20/11	05/03/11	09/20/11	05/03/11	09/20/11	05/03/11	09/20/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	630	620	470	450	490	490	430	450	380	390
Cation Sum	meq/l			11	11	8.2	7.7	8.3	8.1	7.7	7.3	6.5	6.4
Anion Sum	meq/l			11	11	8.3	8	8.6	8.3	7.6	7.6	6.8	6.7
Iron, Total, ICAP	mg/l	0.30	S	0.027	ND	0.083	0.093	0.039	0.041	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	8.1	9.2	49	46	**59**	**58**	ND	ND	ND	ND
Turbidity	NTU	5	S	0.18	**5.8**	0.16	0.28	0.12	1.9	0.19	0.59	1.3	**5.8**
Alkalinity	mg/l			310	310	230	220	210	200	180	180	170	170
Boron	mg/l	1	N	0.54	0.56	0.23	0.2	0.24	0.24	0.16	0.16	0.13	0.13
Bicarbonate as HCO3,calculated	mg/l			380	380	280	270	250	250	220	210	210	200
Calcium, Total, ICAP	mg/l			48	48	59	58	44	43	73	67	58	58
Carbonate as CO3, Calculated	mg/l			2.1	2	2.1	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			210	210	230	230	180	180	270	250	230	220
Chloride	mg/l	500	S	170	160	100	96	86	85	72	77	66	66
Fluoride	mg/l	2	P	0.38	0.39	0.36	0.36	0.5	0.5	0.36	0.36	0.47	0.46
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.74	0.72	0.83	0.71	0.61	0.51	0.79	0.56	0.52	0.39
Magnesium, Total, ICAP	None			23	22	20	20	18	18	21	19	19	19
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	4.2	4	6.7	6.7
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	5.4	3.4	3.1	3.3	3.3	2.4	2.2	1.9	1.8
Sodium, Total, ICAP	mg/l			150	150	79	72	100	100	51	52	46	45
Sulfate	mg/l	500	S	10	3.4	42	41	98	89	80	77	50	49
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	4.2	4	6.7	6.7
Total Organic Carbon	mg/l			4.3	4.4	0.89	1	0.81	0.81	0.31	0.35	ND	ND
Carbon Dioxide	mg/l			7.5	7.5	4	4.9	3.9	4.8	3.3	5	4.5	5.7
General Physical Properties													
Apparent Color	ACU	15	S	**25**	**25**	5	5	5	5	ND	ND	ND	3
Lab pH	Units			7.9	7.9	8.1	8	8	7.9	8	7.8	7.9	7.8
Odor	TON	3	S	2	**200**	2	1	2	1	1	1	ND	1
pH of CaCO3 saturation(25C)	Units			7.2	7.2	7.2	7.2	7.4	7.4	7.2	7.3	7.4	7.4
pH of CaCO3 saturation(60C)	Units			6.7	6.7	6.8	6.8	7	7	6.8	6.8	6.9	6.9
Specific Conductance	umho/cm	1600	S	0.027	ND	0.083	0.093	0.039	0.041	ND	ND	ND	ND
Metals													
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	1000	P	67	73	82	100	210	220	75	85	53	58
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	6.4	6.8	11	10
Hexavalent Chromium	ug/l			ND	0.03	ND	ND	ND	ND	5.7	7	11	11
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 Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	2.8	2.4	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.87	0.63	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	0.62
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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	ND	2.4	2.4	2.3	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 2010-11

Constituents	Units	MCL	Type	Compton #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				04/26/11	09/29/11	04/26/11	09/29/11	04/26/11	09/29/11	04/26/11	09/29/11
General Minerals											
Total Dissolved Solid (TDS)	mg/l	1000	S	220	220	270	290	300	300	330	330
Cation Sum	meq/l			3.8	4	4.6	4.9	5	5.5	5.3	5.8
Anion Sum	meq/l			4	3.8	4.8	4.8	5.2	5.1	5.5	5.4
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	0.026	0.031	0.07	0.076
Manganese, Total, ICAP/MS	ug/l	50	S	12	12	18	19	**60**	**58**	**84**	**83**
Turbidity	NTU	5	S	0.25	0.18	0.073	0.15	0.36	0.23	0.32	0.54
Alkalinity	mg/l			180	160	150	140	160	150	170	160
Boron	mg/l	1	N	0.15	0.16	0.11	0.1	0.12	0.12	0.096	0.096
Bicarbonate as HCO3,calculated	mg/l			210	200	180	170	200	180	210	200
Calcium, Total, ICAP	mg/l			20	21	39	42	49	53	59	64
Carbonate as CO3, Calculated	mg/l			2.7	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			58	59	110	120	160	170	170	190
Chloride	mg/l	500	S	14	15	23	24	25	26	21	22
Fluoride	mg/l	2	P	0.3	0.31	0.34	0.34	0.27	0.29	0.26	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.48	0.35	0.59	0.62	0.66	0.68	0.76	0.79
Magnesium, Total, ICAP	None			1.8	1.8	3.3	3.5	8.9	9.7	6.1	6.5
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	1.7	1.7	2.6	2.9	2.5	2.6
Sodium, Total, ICAP	mg/l			60	65	53	57	41	45	42	46
Sulfate	mg/l	500	S	4	4.3	59	64	59	63	73	77
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.3	3.3	0.81	0.73	0.78	0.62	ND	ND
Carbon Dioxide	mg/l			ND	2.2	ND	ND	2.5	2.3	2.6	2.3
General Physical Properties											
Apparent Color	ACU	15	S	**35**	**30**	10	5	5	5	ND	ND
Lab pH	Units			8.3	8.2	8.2	8.2	8.1	8.1	8.1	8.1
Odor	TON	3	S	1	2	1	1	1	1	2	2
pH of CaCO3 saturation(25C)	Units			7.8	7.8	7.6	7.6	7.5	7.4	7.4	7.3
pH of CaCO3 saturation(60C)	Units			7.4	7.4	7.2	7.2	7	7	6.9	6.9
Specific Conductance	umho/cm	1600	S	ND	ND	ND	ND	0.026	0.031	0.07	0.076
Metals											
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	**21**	**20**
Barium, Total, ICAP/MS	ug/l	1000	P	9	9	13	12	65	59	170	160
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	ug/l			0.04	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 Compounds											
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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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	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 2010-11

Constituents	Units	MCL	Type	Compton #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				04/26/11	09/20/11	04/26/11	09/20/11	04/26/11	09/20/11	04/26/11	09/20/11	04/26/11	09/20/11	04/26/11	09/20/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	570	570	350	330	310	290	370	360	370	380	440	500
Cation Sum	meq/l			9.9	9.8	5.8	6.3	4.7	5.3	5.8	6.2	6.2	6.8	7.5	8.6
Anion Sum	meq/l			10	9.8	6.1	6	5.1	4.9	6.1	6	6.5	6.4	7.8	8.5
Iron, Total, ICAP	mg/l	0.30	S	0.043	0.047	0.031	0.048	ND	ND	0.03	0.03	0.029	0.032	ND	**4.5**
Manganese, Total, ICAP/MS	ug/l	50	S	12	13	41	39	38	32	45	40	**110**	**100**	39	**120**
Turbidity	NTU	5	S	1.5	1.3	0.29	2.4	0.098	0.17	0.14	0.16	0.91	0.64	2.3	1.4
Alkalinity	mg/l			480	470	290	280	160	160	190	180	190	190	180	210
Boron	mg/l	1	N	0.66	0.67	0.17	0.18	0.1	0.1	0.11	0.11	0.13	0.12	0.17	0.2
Bicarbonate as HCO3,calculated	mg/l			590	570	350	340	190	200	230	220	230	230	220	250
Calcium, Total, ICAP	mg/l			12	11	26	27	42	46	62	66	62	68	71	80
Carbonate as CO3, Calculated	mg/l			8.7	6.1	3.1	ND	ND	ND	ND	ND	2.2	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			38	37	85	90	130	140	200	210	210	230	240	280
Chloride	mg/l	500	S	14	14	13	13	21	19	28	28	35	35	71	71
Fluoride	mg/l	2	P	0.41	0.41	0.26	0.27	0.22	0.23	0.23	0.24	0.31	0.31	0.38	0.34
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.75	0.59	0.64	0.47	0.65	0.58	0.74	0.75	0.87	0.76	0.64	0.74
Magnesium, Total, ICAP	None			2.2	2.1	5.1	5.5	6.7	7.1	11	12	14	15	16	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			2.9	2.8	4.1	4.3	2.5	2.7	2.6	2.7	3.8	4.2	4	5.3
Sodium, Total, ICAP	mg/l			210	200	92	100	46	53	40	43	43	48	57	66
Sulfate	mg/l	500	S	ND	ND	0.58	0.63	62	54	77	76	81	80	99	110
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			15	15	3.3	3.2	0.82	0.78	0.42	0.34	0.37	0.35	0.44	0.43
Carbon Dioxide	mg/l			4.2	5.6	4.3	6.3	2.1	2.8	3.4	3.4	2.6	3.7	4.7	5.4
General Physical Properties															
Apparent Color	ACU	15	S	**120**	**80**	**35**	**30**	5	3	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.4	8.2	8.1	7.9	8.2	8.1	8	8	8.2	8	7.9	7.9
Odor	TON	3	S	**3**	1	2	ND	1	1	1	ND	1	2	2	1
pH of CaCO3 saturation(25C)	Units			7.6	7.6	7.5	7.5	7.5	7.5	7.3	7.3	7.3	7.2	7.2	7.1
pH of CaCO3 saturation(60C)	Units			7.2	7.2	7	7	7.1	7	6.9	6.8	6.8	6.8	6.8	6.7
Specific Conductance	umho/cm	1600	S	0.043	0.047	0.031	0.048	ND	ND	0.03	0.03	0.029	0.032	ND	4.5
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3100**
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	1.3	ND	ND	ND	ND	ND	1.1	ND	1.5	1.9	7.2	8.3
Barium, Total, ICAP/MS	ug/l	1000	P	12	13	21	19	25	24	35	32	95	87	67	84
Beryllium, Total, ICAP/MS	ug/l	4	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	5.5
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.2
Hexavalent Chromium	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24	0.51
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.1
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4
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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	ND	ND	ND	ND	ND	0.53

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 2010-11

Constituents	Units	MCL	Type	Downey #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				05/04/11	09/26/11	05/04/11	09/26/11	05/04/11	09/26/11	05/04/11	09/26/11	05/04/11	09/26/11	05/04/11	09/26/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	220	210	400	390	520	500	590	610	440	450	920	990
Cation Sum	meq/l			3.8	3.5	6.4	5.9	8.1	7.6	9.3	9.3	7.4	6.8	16	15
Anion Sum	meq/l			3.6	3.6	6.3	6.3	8	8	9.3	9.4	7.1	6.9	15	15
Iron, Total, ICAP	mg/l	0.30	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	2.7	ND	**110**	**110**	**79**	**85**
Turbidity	NTU	5	S	0.064	0.19	0.13	1.1	0.33	0.46	0.13	0.3	0.23	0.29	**8.1**	0.12
Alkalinity	mg/l			160	150	160	160	170	170	200	200	210	210	350	360
Boron	mg/l	1	N	0.068	ND	0.077	ND	0.1	0.078	0.2	0.18	0.098	0.072	0.25	0.22
Bicarbonate as HCO3,calculated	mg/l			190	190	190	190	210	210	240	240	260	250	420	440
Calcium, Total, ICAP	mg/l			42	38	82	75	100	94	99	98	93	85	180	170
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			130	120	260	240	330	310	330	330	310	280	600	560
Chloride	mg/l	500	S	5.2	4.9	39	38	69	69	79	81	38	36	93	94
Fluoride	mg/l	2	P	0.32	0.32	0.28	0.28	0.33	0.34	0.39	0.39	0.41	0.33	0.32	0.42
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.34	0.37	0.55	0.6	0.65	0.7	0.59	0.65	0.67	0.69	0.97	1
Magnesium, Total, ICAP	None			6	5.6	13	12	19	18	20	20	18	17	36	34
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	2.1	2.1	3.3	3.3	1.6	1.6	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			2.9	2.7	3.6	3.2	3.4	3.2	4.4	4.3	3.7	3.3	6.1	5.4
Sodium, Total, ICAP	mg/l			26	24	26	25	32	31	59	59	27	25	84	78
Sulfate	mg/l	500	S	17	17	92	93	110	120	140	150	85	82	260	270
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	2.1	2.1	3.3	3.3	1.6	1.6	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	ND	0.45	ND	0.44	0.46	0.65	ND	0.48	0.65	0.86
Carbon Dioxide	mg/l			4	3.3	5	4	6	4.8	8.9	7.6	7.9	6.4	21	17
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND
Lab pH	Units			7.9	8	7.8	7.9	7.8	7.8	7.7	7.7	7.7	7.8	7.5	7.6
Odor	TON	3	S	1	1	ND	1	1	1	1	1	1	2	ND	1
pH of CaCO3 saturation(25C)	Units			7.5	7.6	7.2	7.3	7.1	7.2	7.1	7.1	7.1	7.1	6.6	6.6
pH of CaCO3 saturation(60C)	Units			7.1	7.1	6.8	6.8	6.7	6.7	6.6	6.6	6.6	6.7	6.1	6.1
Specific Conductance	umho/cm	1600	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals															
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	2.8	2.3	2.3	2.9	3	2	2.1	3.8	3.8	2.4	2.5
Barium, Total, ICAP/MS	ug/l	1000	P	94	99	160	180	130	140	90	96	220	240	66	69
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	3.6	3.7	2.4	2.2	1.9	1.8	ND	1.1	ND	ND	ND	ND
Hexavalent Chromium	ug/l			3.7	3.7	2	1.9	1.2	1.2	0.31	0.3	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 Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	0.58	0.54	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.61	0.56	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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	4.2	3.5	2.6	2.6	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 2010-11

Constituents	Units	MCL	Type	Huntington Park #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				05/19/11	09/25/11	05/19/11	09/25/11	05/19/11	09/25/11	05/19/11	09/25/11
General Minerals											
Total Dissolved Solid (TDS)	mg/l	1000	S	370	370	360	370	690	730	770	790
Cation Sum	meq/l			6.2	5.9	6	5.9	10	11	12	13
Anion Sum	meq/l			5.8	6	6.1	6	11	11	13	13
Iron, Total, ICAP	mg/l	0.30	S	0.22	ND	ND	0.26	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	44	ND	ND	48	3.4	3.1	ND	ND
Turbidity	NTU	5	S	1.9	0.26	0.72	1.8	0.13	0.34	0.26	0.53
Alkalinity	mg/l			160	180	180	170	250	250	340	330
Boron	mg/l	1	N	0.14	0.13	0.14	0.13	0.18	0.19	0.17	0.18
Bicarbonate as HCO3,calculated	mg/l			190	220	220	210	310	300	410	410
Calcium, Total, ICAP	mg/l			62	58	59	59	110	110	140	140
Carbonate as CO3, Calculated	mg/l			2.1	ND	2.2	ND	2.5	ND	4	2.5
Hardness (Total, as CaCO3)	mg/l			220	200	210	210	390	410	490	500
Chloride	mg/l	500	S	23	22	22	22	89	85	78	77
Fluoride	mg/l	2	P	0.51	0.44	0.46	0.5	0.36	0.35	0.36	0.37
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.85	0.58	0.86	0.38	1.2	1.1	1.5	1.3
Magnesium, Total, ICAP	None			15	14	15	15	29	30	35	36
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	3.1	2.9	4.4	4.3
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.3	3.1	3.3	3.1	4.3	4.3	4.8	4.8
Sodium, Total, ICAP	mg/l			40	39	41	38	56	57	59	60
Sulfate	mg/l	500	S	91	84	85	90	160	160	170	170
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	**0.94**	**0.92**	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	3.1	2.9	4.4	4.3
Total Organic Carbon	mg/l			ND	ND	ND	ND	4.4	4.6	0.48	0.61
Carbon Dioxide	mg/l			ND	4.3	2.4	6.6	4.1	5.2	4.6	7.1
General Physical Properties											
Apparent Color	ACU	15	S	5	ND	ND	5	ND	ND	ND	ND
Lab pH	Units			8.2	7.9	8.2	7.7	8.1	8	8.2	8
Odor	TON	3	S	1	**3**	ND	2	1	2	2	2
pH of CaCO3 saturation(25C)	Units			7.4	7.3	7.3	7.3	6.9	6.9	6.7	6.7
pH of CaCO3 saturation(60C)	Units			6.9	6.9	6.9	6.9	6.5	6.4	6.2	6.2
Specific Conductance	umho/cm	1600	S	0.22	ND	ND	0.26	ND	ND	ND	ND
Metals											
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	1000	P	63	46	41	62	140	130	100	100
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	1.4	ND	1.1	1	2.4	2.6
Hexavalent Chromium	ug/l			ND	0.71	0.66	ND	0.22	0.24	2.0	2.0
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 Compounds											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	**10**	**11**	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.52	0.55
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	0.55	0.52	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	0.73	0.78	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	**3.8**	**4.5**	**0.68**	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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	3.7	4.7	2.2	1.9

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 2010-11

Constituents	Units	MCL	Type	Inglewood #2					
				Zone 1		Zone 2		Zone 3	
				04/27/11	09/13/11	04/27/11	09/13/11	04/27/11	09/13/11
General Minerals									
Total Dissolved Solid (TDS)	mg/l	1000	S	**1600**	**1700**	**1500**	**1500**	250	320
Cation Sum	meq/l			30	27	27	25	4.4	5.3
Anion Sum	meq/l			29	29	27	26	4.5	5.4
Iron, Total, ICAP	mg/l	0.30	S	**0.67**	**0.6**	**0.44**	**0.42**	0.14	0.12
Manganese, Total, ICAP/MS	ug/l	50	S	26	26	22	32	**64**	**60**
Turbidity	NTU	5	S	3.3	3.2	**8**	**18**	2.2	0.34
Alkalinity	mg/l			1400	1400	1300	1300	200	240
Boron	mg/l	1	N	**3.9**	**3.8**	**3.4**	**3.2**	0.2	0.22
Bicarbonate as HCO3,calculated	mg/l			1700	1700	1600	1600	240	290
Calcium, Total, ICAP	mg/l			18	17	12	16	30	36
Carbonate as CO3, Calculated	mg/l			22	18	26	15	ND	2
Hardness (Total, as CaCO3)	mg/l			120	110	72	85	100	130
Chloride	mg/l	500	S	32	32	19	30	16	18
Fluoride	mg/l	2	P	0.54	0.55	0.3	0.29	0.29	0.26
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.3	1.2	1.2	1.1	-0.018	0.6
Magnesium, Total, ICAP	None			19	17	10	11	6.5	9.7
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			26	26	19	18	4.1	5.4
Sodium, Total, ICAP	mg/l			620	560	570	540	51	60
Sulfate	mg/l	500	S	ND	ND	ND	ND	4.4	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			40	43	24	23	3.2	1.5
Carbon Dioxide	mg/l			14	18	10	17	11	4.5
General Physical Properties									
Apparent Color	ACU	15	S	**350**	**400**	**200**	**200**	**20**	**15**
Lab pH	Units			8.3	8.2	8.4	8.2	7.6	8
Odor	TON	3	S	**8**	2	**8**	**3**	**3**	1
pH of CaCO3 saturation(25C)	Units			7	7	7.2	7	7.6	7.4
pH of CaCO3 saturation(60C)	Units			6.5	6.5	6.7	6.6	7.1	7
Specific Conductance	umho/cm	1600	S	0.67	0.6	0.44	0.42	0.14	0.12
Metals									
Aluminum, Total, ICAP/MS	ug/l	1000	P	20	ND	43	22	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.4	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	40	45	22	26	21	22
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	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
Chromium, Total, ICAP/MS	ug/l	50	P	1.8	1.2	1.2	ND	ND	ND
Hexavalent Chromium	ug/l			ND	0.03	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 Compounds									
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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	N	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Lakewood #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				05/06/11	09/22/11	05/06/11	09/22/11	05/06/11	09/22/11	05/06/11	09/22/11	05/06/11	09/22/11	05/06/11	09/22/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	160	180	170	180	190	220	250	250	230	240	440	440
Cation Sum	meq/l			2.8	2.7	3.1	3.3	3.7	3.6	4.2	4.5	4	4	7	7
Anion Sum	meq/l			2.8	2.8	3.3	3.2	3.8	3.6	4.4	4.5	4.2	4.1	7.3	7.1
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	ND	0.022	0.055	0.064	0.1	0.097	0.095	0.098
Manganese, Total, ICAP/MS	ug/l	50	S	5.7	5.2	18	18	24	25	**89**	**90**	**54**	**55**	**260**	**250**
Turbidity	NTU	5	S	0.18	0.43	0.33	0.69	0.26	0.58	0.21	0.84	0.2	0.28	0.61	0.44
Alkalinity	mg/l			99	94	140	130	160	150	170	170	180	170	210	200
Boron	mg/l	1	N	0.053	0.053	ND	ND	0.069	0.065	0.065	0.069	0.082	0.088	0.078	0.079
Bicarbonate as HCO3,calculated	mg/l			120	110	170	160	190	190	210	200	220	210	250	240
Calcium, Total, ICAP	mg/l			9.8	9.7	30	32	38	38	45	49	44	45	90	89
Carbonate as CO3, Calculated	mg/l			2.6	ND	ND	ND	2	ND	2.3	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			26	26	91	96	120	110	140	150	150	150	260	260
Chloride	mg/l	500	S	20	20	6.2	6.2	8.6	8.8	24	31	11	11	83	81
Fluoride	mg/l	2	P	0.45	0.45	0.27	0.27	0.3	0.31	0.28	0.3	0.49	0.48	0.2	0.21
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.16	-0.025	0.51	0.37	0.62	0.47	0.77	0.61	0.65	0.5	0.83	0.74
Magnesium, Total, ICAP	None			0.35	0.35	3.6	3.8	4.9	4.7	5.6	6	8.3	8.3	9.3	9.4
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	2.1	2.3	2.2	2.6	2.7	2.5	2.5	3.7	3.7
Sodium, Total, ICAP	mg/l			52	51	29	31	30	29	32	34	24	23	37	38
Sulfate	mg/l	500	S	14	15	16	16	15	15	14	13	13	13	39	39
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.081	0.084
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.88	1	ND	0.37	ND	0.43	0.47	0.63	ND	0.4	0.88	0.9
Carbon Dioxide	mg/l			ND	ND	ND	2.2	2	2.6	ND	3	2.8	3.7	5	5.5
General Physical Properties															
Apparent Color	ACU	15	S	**15**	**15**	3	ND	3	3	5	5	3	ND	3	ND
Lab pH	Units			8.5	8.4	8.2	8.1	8.2	8.1	8.2	8	8.1	8	7.9	7.8
Odor	TON	3	S	**4**	2	2	1	2	1	1	1	1	2	1	2
pH of CaCO3 saturation(25C)	Units			8.4	8.4	7.7	7.7	7.6	7.6	7.5	7.4	7.5	7.5	7.1	7.1
pH of CaCO3 saturation(60C)	Units			7.9	8	7.3	7.3	7.1	7.2	7	7	7	7	6.6	6.7
Specific Conductance	umho/cm	1600	S	ND	ND	ND	ND	ND	0.022	0.055	0.064	0.1	0.097	0.095	0.098
Metals															
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	**12**	**12**	3.9	4.3	1.1	1	**11**	9.3	3.6	3.6	**24**	**25**
Barium, Total, ICAP/MS	ug/l	1000	P	17	17	23	23	30	30	140	160	110	120	270	260
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND
Hexavalent Chromium	ug/l			ND	0.03	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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	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 2010-11

Constituents	Units	MCL	Type	LaMirada #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				05/02/11	09/09/11	05/02/11	09/09/11	05/02/11	09/09/11	05/02/11	09/09/11	05/02/11	09/09/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	350	360	250	250	330	320	420	410	610	740
Cation Sum	meq/l			5.7	5.8	4.3	4.4	5.5	5.6	6.9	7.3	9.8	13
Anion Sum	meq/l			5.6	5.4	4.2	4.1	5.4	5.2	6.9	6.8	10	12
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	9.6	9.5	2.6	3.1	14	14	41	41	25	29
Turbidity	NTU	5	S	0.08	ND	0.09	0.076	0.12	0.059	0.14	0.056	0.17	0.15
Alkalinity	mg/l			150	150	140	140	180	170	200	190	190	180
Boron	mg/l	1	N	0.15	0.15	0.1	0.11	0.14	0.14	0.13	0.13	0.15	0.16
Bicarbonate as HCO3,calculated	mg/l			190	180	170	170	220	210	240	230	230	220
Calcium, Total, ICAP	mg/l			14	14	9.6	10	19	20	47	50	73	99
Carbonate as CO3, Calculated	mg/l			2.1	2.2	2.3	ND	ND	2.7	ND	2.9	ND	2
Hardness (Total, as CaCO3)	mg/l			49	50	30	31	72	74	190	200	290	400
Chloride	mg/l	500	S	24	22	15	14	17	17	40	41	130	190
Fluoride	mg/l	2	P	0.83	0.78	0.6	0.56	0.79	0.75	0.57	0.51	0.47	0.39
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.21	0.26	0.076	-0.099	0.23	0.46	0.36	0.91	0.55	1
Magnesium, Total, ICAP	None			3.2	3.3	1.4	1.5	6	6.2	18	19	26	36
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	7.5	**12**
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	1.7	1.7	2.4	2.4	2.9	2.9	3.1	3.7
Sodium, Total, ICAP	mg/l			110	110	83	86	91	92	70	73	89	100
Sulfate	mg/l	500	S	88	86	47	46	61	63	88	87	95	94
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	7.5	**12**
Total Organic Carbon	mg/l			0.36	0.34	0.31	0.44	0.5	ND	ND	ND	0.37	0.38
Carbon Dioxide	mg/l			ND	ND	ND	2.1	3.1	ND	6.8	ND	6.6	2.6
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	3	3	ND	ND	ND	ND
Lab pH	Units			8.2	8.3	8.3	8.1	8.1	8.3	7.8	8.3	7.8	8.1
Odor	TON	3	S	ND	**3**	ND	1	ND	2	ND	2	ND	2
pH of CaCO3 saturation(25C)	Units			8	8	8.2	8.2	7.8	7.8	7.4	7.4	7.2	7.1
pH of CaCO3 saturation(60C)	Units			7.6	7.6	7.8	7.8	7.4	7.4	7	6.9	6.8	6.6
Specific Conductance	umho/cm	1600	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals													
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	5.7	5.5	7.1	7.1	7.1	6.6	3.1	2.9	1.5	1.7
Barium, Total, ICAP/MS	ug/l	1000	P	50	49	24	24	35	36	43	43	65	88
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.9
Hexavalent Chromium	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	0.38	0.86
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	7.6
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 Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	ND	ND	ND	2.4	4.5

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 2010-11

Constituents	Units	MCL	Type	Long Beach #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				04/06/11	08/29/11	04/06/11	08/29/11	04/06/11	08/29/11	04/06/11	08/29/11	04/06/11	08/29/11	04/06/11	08/29/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	210	220	210	220	180	180	210	210	790	790	940	**1000**
Cation Sum	meq/l			3.3	3.5	3.2	3.4	3	3.2	3.7	3.8	12	13	16	16
Anion Sum	meq/l			3.6	3.6	3.5	3.4	3.1	3	3.8	3.7	13	13	16	16
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	ND	ND	ND	ND	0.033	0.037	0.16	0.17
Manganese, Total, ICAP/MS	ug/l	50	S	2.5	2.4	ND	ND	ND	ND	22	19	**69**	**65**	**370**	**370**
Turbidity	NTU	5	S	0.25	0.39	0.32	0.29	0.56	0.51	0.54	0.83	1.3	3.3	3.8	1.8
Alkalinity	mg/l			160	160	160	150	120	120	140	130	140	140	250	240
Boron	mg/l	1	N	0.18	0.2	0.16	0.18	0.081	0.089	0.062	0.074	0.11	0.13	0.094	0.11
Bicarbonate as HCO3,calculated	mg/l			190	190	180	180	150	140	170	160	170	170	300	300
Calcium, Total, ICAP	mg/l			2.2	2.3	2.3	2.4	5.3	5.3	22	20	62	60	180	180
Carbonate as CO3, Calculated	mg/l			11	7.6	11	7.5	6.2	4.2	2.4	2.1	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			6.4	6.6	6.4	6.6	14	14	62	58	190	190	580	600
Chloride	mg/l	500	S	15	15	14	14	12	12	12	12	190	190	180	190
Fluoride	mg/l	2	P	0.63	0.64	0.6	0.61	0.64	0.65	0.39	0.4	0.23	0.23	0.26	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			0.14	-0.02	0.16	0.007	0.26	0.092	0.45	0.37	0.67	0.63	1.2	1.2
Magnesium, Total, ICAP	None			0.21	0.21	0.13	0.13	0.29	0.32	2.1	1.9	9.2	9.3	31	33
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	ND	ND	ND	ND	1.4	1.3	3.1	3.2	3.9	4.2
Sodium, Total, ICAP	mg/l			73	77	70	76	63	67	56	60	190	210	91	100
Sulfate	mg/l	500	S	ND	ND	ND	ND	14	14	31	30	220	220	270	280
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.2	4.2	3	3.6	1.6	1.8	0.72	0.97	1.2	1.4	1.2	1.3
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	2.3	2.3	6.9	5.9
General Physical Properties															
Apparent Color	ACU	15	S	**80**	**60**	**75**	**50**	**40**	**30**	**15**	**15**	5	3	5	3
Lab pH	Units			9	8.8	9	8.8	8.8	8.7	8.3	8.3	8.1	8.1	7.9	7.9
Odor	TON	3	S	2	2	2	2	1	1	1	1	1	1	1	2
pH of CaCO3 saturation(25C)	Units			8.8	8.8	8.8	8.8	8.6	8.6	7.9	7.9	7.4	7.4	6.7	6.7
pH of CaCO3 saturation(60C)	Units			8.4	8.4	8.4	8.4	8.1	8.1	7.4	7.5	7	7	6.3	6.3
Specific Conductance	umho/cm	1600	S	ND	ND	ND	ND	ND	ND	ND	ND	0.033	0.037	0.16	0.17
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	33	29	25	23	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	ND	1.7	1.4	8	7.4
Barium, Total, ICAP/MS	ug/l	1000	P	ND	2	ND	ND	ND	ND	8.8	7.5	51	45	230	220
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	1.3	ND
Hexavalent Chromium	ug/l			ND	0.02	ND	ND	ND	0.03	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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	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 2010-11

Constituents	Units	MCL	Type	Long Beach #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				04/18/11	09/14/11	04/18/11	09/14/11	04/18/11	09/14/11	04/18/11	09/14/11	04/18/11	09/14/11	04/18/11	09/14/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	410	420	260	260	230	230	340	340	**1100**	**1100**	**1400**	**1400**
Cation Sum	meq/l			6.8	6.9	4.4	4.5	3.6	4.2	5.4	5.7	17	18	21	20
Anion Sum	meq/l			7	6.8	4.6	4.5	3.8	3.7	5.5	5.6	17	18	21	21
Iron, Total, ICAP	mg/l	0.30	S	0.099	0.086	0.024	0.026	ND	ND	ND	ND	0.23	0.24	0.24	0.23
Manganese, Total, ICAP/MS	ug/l	50	S	15	14	16	15	6.4	7.7	27	31	**180**	**190**	**350**	**360**
Turbidity	NTU	5	S	2.2	0.16	0.17	0.4	0.18	0.14	0.45	0.29	1.3	1.3	1.7	1.3
Alkalinity	mg/l			320	300	200	190	150	140	150	150	320	300	320	310
Boron	mg/l	1	N	0.52	0.54	0.14	0.2	0.08	0.15	ND	0.098	0.22	0.3	0.29	0.34
Bicarbonate as HCO3,calculated	mg/l			380	370	240	230	180	180	180	180	390	360	390	380
Calcium, Total, ICAP	mg/l			7	6.9	15	15	12	14	46	48	180	190	240	230
Carbonate as CO3, Calculated	mg/l			4.3	3.4	2	ND	2.2	ND	ND	ND	ND	3.2	ND	3.2
Hardness (Total, as CaCO3)	mg/l			24	24	44	44	35	40	140	140	580	610	750	720
Chloride	mg/l	500	S	21	22	20	22	23	25	44	48	120	130	180	190
Fluoride	mg/l	2	P	0.62	0.63	0.43	0.44	0.54	0.54	0.28	0.29	0.15	0.16	0.27	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.22	0.12	0.22	0.1	0.16	0.091	0.61	0.69	1.1	1.5	1.3	1.6
Magnesium, Total, ICAP	None			1.5	1.5	1.7	1.7	1.1	1.3	5.3	5.6	28	30	38	37
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			2.5	2.4	1.8	1.7	1.2	1.3	2.9	3	5	5.3	6.3	6.1
Sodium, Total, ICAP	mg/l			140	150	79	82	66	77	59	63	120	120	130	130
Sulfate	mg/l	500	S	ND	ND	ND	ND	2.4	2.1	59	64	360	390	460	460
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.054	0.055	0.073	0.088	0.11	0.13
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			13	8.9	3.9	3.8	2.2	2.2	1.4	1.3	1.6	1.3	1.6	1.4
Carbon Dioxide	mg/l			3.6	4.2	3.1	3.8	ND	2	2.2	ND	15	4.3	12	4.7
General Physical Properties															
Apparent Color	ACU	15	S	**200**	**40**	**30**	**200**	**35**	**30**	**15**	3	5	5	5	3
Lab pH	Units			8.2	8.2	8.1	8	8.3	8.2	8.1	8.2	7.6	8.1	7.7	8.1
Odor	TON	3	S	**3**	**3**	2	2	**3**	2	**3**	**3**	2	2	**4**	2
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	6.5
pH of CaCO3 saturation(60C)	Units			7.6	7.6	7.4	7.5	7.7	7.6	7.1	7.1	6.1	6.2	6	6
Specific Conductance	umho/cm	1600	S	0.099	0.086	0.024	0.026	ND	ND	ND	ND	0.23	0.24	0.24	0.23
Metals															
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	ND	ND	ND	ND	1.2	1.2	5	4.8	6.7	6.1
Barium, Total, ICAP/MS	ug/l	1000	P	6.7	5.4	9.8	9.1	5.3	5.3	31	32	77	79	95	88
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	1.1	ND
Hexavalent Chromium	ug/l			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 Compounds															
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	3.5	3.4
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	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.8	12
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.096

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 2010-11

Constituents	Units	MCL	Type	Long Beach #6											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				04/07/11	08/30/11	04/07/11	08/30/11	04/07/11	08/30/11	04/07/11	08/30/11	04/07/11	08/30/11	04/07/11	08/30/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	680	700	530	510	240	230	230	250	200	200	270	280
Cation Sum	meq/l			11	12	8.2	8.8	3.5	3.9	4.1	3.9	3.2	3.3	4.8	4.6
Anion Sum	meq/l			12	11	8.9	8.2	3.8	3.7	3.8	3.8	3.2	3.1	4.6	4.5
Iron, Total, ICAP	mg/l	0.30	S	0.085	0.091	0.076	0.083	0.023	0.033	ND	0.037	ND	ND	0.088	0.068
Manganese, Total, ICAP/MS	ug/l	50	S	15	17	16	17	3.8	4.3	14	16	4.8	5.9	**94**	**82**
Turbidity	NTU	5	S	3.8	1.6	3.8	1	0.7	0.26	0.54	0.51	0.25	0.18	0.21	0.27
Alkalinity	mg/l			550	540	420	380	160	160	160	160	120	120	130	130
Boron	mg/l	1	N	**1.1**	**1.1**	0.77	0.76	0.23	0.25	0.23	0.23	0.077	0.095	ND	ND
Bicarbonate as HCO3,calculated	mg/l			670	660	510	470	200	190	190	190	140	140	160	160
Calcium, Total, ICAP	mg/l			7.8	8.1	6	5.8	4.7	5	6.6	5.8	12	12	48	47
Carbonate as CO3, Calculated	mg/l			13	10	8.9	8.1	6.1	5.5	5.6	5.1	2.7	2.3	2	ND
Hardness (Total, as CaCO3)	mg/l			26	27	19	19	13	14	18	16	33	33	140	140
Chloride	mg/l	500	S	17	19	18	18	16	16	17	17	19	19	59	57
Fluoride	mg/l	2	P	0.7	0.7	0.7	0.67	0.62	0.64	0.64	0.66	0.56	0.58	0.2	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			0.75	0.66	0.47	0.42	0.2	0.19	0.31	0.22	0.25	0.18	0.73	0.56
Magnesium, Total, ICAP	None			1.7	1.7	1.1	1	0.24	0.26	0.37	0.35	0.81	0.82	5.7	5.1
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			1.7	ND	1.2	ND	ND	ND	ND	ND	1.1	1.1	2.5	2.2
Sodium, Total, ICAP	mg/l			240	260	180	190	75	83	85	83	59	59	43	41
Sulfate	mg/l	500	S	0.73	ND	ND	ND	ND	ND	3.9	2.5	9.5	9.6	15	15
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			22	22	17	16	4.6	5.1	4.3	5.2	2.2	2.5	0.73	0.79
Carbon Dioxide	mg/l			3.6	4.4	3.1	2.9	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties															
Apparent Color	ACU	15	S	**250**	**300**	**200**	**150**	**150**	**100**	**150**	**130**	**40**	**50**	5	ND
Lab pH	Units			8.5	8.4	8.4	8.4	8.7	8.6	8.7	8.6	8.5	8.4	8.3	8.1
Odor	TON	3	S	**17**	2	**17**	**4**	2	**3**	2	1	2	2	2	2
pH of CaCO3 saturation(25C)	Units			7.7	7.7	8	8	8.5	8.4	8.3	8.4	8.2	8.2	7.6	7.6
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7.5	7.6	8	8	7.9	7.9	7.8	7.8	7.1	7.1
Specific Conductance	umho/cm	1600	S	0.085	0.091	0.076	0.083	0.023	0.033	ND	0.037	ND	ND	0.088	0.068
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	20	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	1.2	ND	ND	ND	ND	ND	ND	ND	3.3	2.4
Barium, Total, ICAP/MS	ug/l	1000	P	6.7	7	8	7.5	3.4	3.5	7.5	7.2	2.9	3.2	18	18
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	ug/l			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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	2.5	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 2010-11

Constituents	Units	MCL	Type	Los Angeles #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				05/24/11	09/28/11	05/24/11	09/28/11	05/24/11	09/28/11	05/24/11	09/28/11	05/24/11	09/28/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	340	340	350	350	350	350	640	620	630	650
Cation Sum	meq/l			5.3	6	5.5	6.4	5.3	6.5	10	10	9.4	11
Anion Sum	meq/l			5.4	5.9	5.4	6	5.8	6	9.6	10	9.4	10
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	0.17	0.19	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	45	38	**58**	**58**	13	13	ND	ND	ND	ND
Turbidity	NTU	5	S	0.071	0.079	0.86	0.99	0.1	0.14	0.22	0.37	0.21	0.16
Alkalinity	mg/l			170	180	160	180	180	180	190	210	180	210
Boron	mg/l	1	N	0.15	0.15	0.14	0.15	0.14	0.16	0.18	0.19	0.18	0.19
Bicarbonate as HCO3,calculated	mg/l			210	220	190	220	220	220	240	260	220	260
Calcium, Total, ICAP	mg/l			50	58	55	64	53	64	110	110	99	110
Carbonate as CO3, Calculated	mg/l			ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			170	200	190	220	190	230	370	400	350	400
Chloride	mg/l	500	S	21	24	20	22	21	22	72	74	73	78
Fluoride	mg/l	2	P	0.29	0.29	0.46	0.45	0.4	0.39	0.41	0.4	0.42	0.41
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.73	0.82	0.46	0.72	0.49	0.71	0.69	0.93	0.65	1
Magnesium, Total, ICAP	None			11	13	13	16	13	16	27	29	25	29
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	**13**	**12**	**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			3.7	4.1	3.1	3.6	2.9	3.5	4.3	4.4	4	4.5
Sodium, Total, ICAP	mg/l			40	45	35	41	35	42	54	58	51	58
Sulfate	mg/l	500	S	69	78	78	84	79	84	130	140	130	130
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	**13**	**12**	**14**	**15**
Total Organic Carbon	mg/l			0.46	0.62	ND	0.39	ND	0.36	0.47	0.61	0.43	0.58
Carbon Dioxide	mg/l			2.3	2.5	4.3	3.5	4.8	3.5	7	5.1	6.5	4.2
General Physical Properties													
Apparent Color	ACU	15	S	5	ND	5	ND	ND	ND	10	5	**15**	**15**
Lab pH	Units			8.2	8.2	7.9	8	7.9	8	7.7	7.9	7.8	8
Odor	TON	3	S	ND	ND	1	1	ND	ND	ND	1	ND	1
pH of CaCO3 saturation(25C)	Units			7.4	7.3	7.4	7.3	7.4	7.3	7.1	7	7.1	7
pH of CaCO3 saturation(60C)	Units			7	6.9	7	6.8	6.9	6.8	6.6	6.5	6.7	6.5
Specific Conductance	umho/cm	1600	S	550	570	570	570	570	570	1000	990	1000	1000
Metals													
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	1000	P	27	29	46	47	66	69	150	150	150	150
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	1.2	ND	1	ND	1.3	ND	**420**	**380**	**610**	**640**
Hexavalent Chromium	ug/l			ND	ND	ND	ND	0.21	0.21	410	360	620	640
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 Compounds													
Trichloroethylene (TCE)	ug/l	5	P	0.8	**8**	ND	ND	ND	ND	**45**	**44**	**45**	**46**
Tetrachloroethylene (PCE)	ug/l	5	P	ND	2.4	ND	ND	ND	ND	2.7	2.7	2.6	2.9
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	0.54	0.59	0.52	0.6
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	**0.84**	**0.82**	**1**	**1.1**
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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	ND	4.6	4.5	4.8	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 2010-11

Constituents	Units	MCL	Type	Los Angeles #2		
				Zone 2	Zone 3	Zone 4
				06/01/11	06/01/11	06/01/11
General Minerals						
Total Dissolved Solid (TDS)	mg/l	1000	S	**1200**	**1200**	**1200**
Cation Sum	meq/l			18	19	20
Anion Sum	meq/l			19	19	21
Iron, Total, ICAP	mg/l	0.30	S	0.19	**1.2**	**1.8**
Manganese, Total, ICAP/MS	ug/l	50	S	**350**	**170**	**130**
Turbidity	NTU	5	S	3.8	**13**	1.7
Alkalinity	mg/l			310	320	340
Boron	mg/l	1	N	0.23	0.23	0.28
Bicarbonate as HCO3,calculated	mg/l			380	390	420
Calcium, Total, ICAP	mg/l			190	210	210
Carbonate as CO3, Calculated	mg/l			2.3	2.5	2.4
Hardness (Total, as CaCO3)	mg/l			690	730	750
Chloride	mg/l	500	S	220	260	330
Fluoride	mg/l	2	P	0.21	0.3	0.32
Hydroxide as OH, Calculated	mg/l			ND	ND	ND
Langelier Index - 25 degree	None			1.4	1.5	1.4
Magnesium, Total, ICAP	None			51	52	54
Mercury	ug/l	2	P	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND
Potassium, Total, ICAP	mg/l			8.7	6.6	7.2
Sodium, Total, ICAP	mg/l			90	94	110
Sulfate	mg/l	500	S	310	260	240
Surfactants	mg/l	0.5	S	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND
Total Organic Carbon	mg/l			0.58	0.74	0.98
Carbon Dioxide	mg/l			6.9	6.4	7.6
General Physical Properties						
Apparent Color	ACU	15	S	5	**15**	10
Lab pH	Units			8	8	8
Odor	TON	3	S	1	2	1
pH of CaCO3 saturation(25C)	Units			6.6	6.5	6.5
pH of CaCO3 saturation(60C)	Units			6.1	6.1	6.1
Specific Conductance	umho/cm	1600	S	**1700**	**1800**	**2000**
Metals						
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.2	1.3	1.4
Barium, Total, ICAP/MS	ug/l	1000	P	67	160	210
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.7	1.6	2.1
Hexavalent Chromium	ug/l			ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND
Volatile Organic Compounds						
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND
Ethylbenzene	ug/l	300	N	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND
MTBE	ug/l	13	P	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 2010-11

Constituents	Units	MCL	Type	Los Angeles #3					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				07/28/11	07/28/11	07/28/11	07/28/11	07/28/11	07/28/11
General Minerals									
Total Dissolved Solid (TDS)	mg/l	1000	S	390	360	360	400	550	710
Cation Sum	meq/l			6.1	5.8	6	6.7	9	11
Anion Sum	meq/l			6.4	5.8	6	6.7	9	11
Iron, Total, ICAP	mg/l	0.30	S	ND	0.033	ND	0.042	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	19	**56**	47	**62**	ND	7.6
Turbidity	NTU	5	S	0.29	0.41	2	0.37	0.63	0.56
Alkalinity	mg/l			240	180	190	190	210	230
Boron	mg/l	1	N	0.34	0.15	0.15	0.16	0.19	0.21
Bicarbonate as HCO3,calculated	mg/l			290	220	230	240	260	280
Calcium, Total, ICAP	mg/l			14	44	50	66	80	120
Carbonate as CO3, Calculated	mg/l			3.8	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			56	160	180	230	290	420
Chloride	mg/l	500	S	38	23	21	40	57	110
Fluoride	mg/l	2	P	0.33	0.36	0.47	0.42	0.34	0.36
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.47	0.66	0.58	0.73	0.76	0.99
Magnesium, Total, ICAP	None			5.2	12	13	16	21	29
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	9	6
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.9	3.5	3.9	4	4.6	4.5
Sodium, Total, ICAP	mg/l			110	59	54	45	73	70
Sulfate	mg/l	500	S	23	75	77	78	120	160
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	9	6
Total Organic Carbon	mg/l			2	0.56	0.39	ND	0.43	0.38
Carbon Dioxide	mg/l			2.4	2.7	4	4	5.4	5.5
General Physical Properties									
Apparent Color	ACU	15	S	**25**	5	3	ND	3	ND
Lab pH	Units			8.3	8.1	8	8	7.9	7.9
Odor	TON	3	S	1	1	1	ND	1	ND
pH of CaCO3 saturation(25C)	Units			7.8	7.5	7.4	7.3	7.1	6.9
pH of CaCO3 saturation(60C)	Units			7.4	7	6.9	6.8	6.7	6.5
Specific Conductance	umho/cm	1600	S	630	570	580	650	870	1100
Metals									
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	1.3	1.3
Barium, Total, ICAP/MS	ug/l	1000	P	7.4	16	39	66	68	100
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	5.5	5.4
Hexavalent Chromium	ug/l			ND	ND	ND	ND	1.3	5.2
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	11
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 Compounds									
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	0.53	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	N	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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	1.3	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 2010-11

Constituents	Units	MCL	Type	Montebello #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				05/03/11	09/27/11	05/03/11	09/27/11	05/03/11	09/27/11	05/03/11	09/27/11	05/03/11	09/27/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	**2100**	**2200**	850	850	510	520	510	540	500	450
Cation Sum	meq/l			38	35	15	15	8.2	8.5	8.5	8.8	7.7	7.6
Anion Sum	meq/l			37	38	15	14	8.3	8.4	8.6	8.8	7.7	7.6
Iron, Total, ICAP	mg/l	0.30	S	0.17	0.15	0.2	0.19	0.035	0.04	0.028	0.06	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	7.4	9	27	29	**96**	**100**	**59**	**64**	ND	ND
Turbidity	NTU	5	S	0.64	1.4	0.26	0.47	3.5	0.98	0.2	0.32	0.26	0.52
Alkalinity	mg/l			910	900	580	560	190	180	190	190	180	170
Boron	mg/l	1	N	**6.6**	**6.1**	**2.3**	**2.1**	0.12	0.11	0.11	0.11	0.21	0.21
Bicarbonate as HCO3,calculated	mg/l			1100	1100	700	680	230	220	230	230	220	200
Calcium, Total, ICAP	mg/l			14	13	18	17	98	100	100	110	74	72
Carbonate as CO3, Calculated	mg/l			12	13	5.5	6	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			61	56	78	74	310	330	330	340	250	240
Chloride	mg/l	500	S	**660**	**700**	120	120	61	63	64	67	65	70
Fluoride	mg/l	2	P	0.47	0.47	0.32	0.32	0.16	0.16	0.19	0.19	0.38	0.38
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.96	0.96	0.75	0.75	0.79	0.94	0.8	0.95	0.42	0.47
Magnesium, Total, ICAP	None			6.5	5.9	7.8	7.4	17	17	17	18	15	14
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	3	2.8
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			8.6	7.6	5.8	5.3	3.6	3.7	3.7	3.6	3.4	3.2
Sodium, Total, ICAP	mg/l			840	780	310	300	42	43	42	44	61	62
Sulfate	mg/l	500	S	ND	ND	ND	ND	140	140	140	150	97	98
Surfactants	mg/l	0.5	S	ND	0.055	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	3	2.8
Total Organic Carbon	mg/l			30	36	19	21	0.65	0.73	0.73	0.74	0.45	0.48
Carbon Dioxide	mg/l			11	9.8	9.6	8.4	4.8	3.4	5.3	3.8	8.1	6
General Physical Properties													
Apparent Color	ACU	15	S	**180**	**400**	**150**	**150**	5	ND	ND	3	ND	ND
Lab pH	Units			8.2	8.3	8.1	8.1	7.9	8	7.9	8	7.7	7.7
Odor	TON	3	S	**4**	**40**	**40**	**3**	1	**3**	1	2	1	2
pH of CaCO3 saturation(25C)	Units			7.3	7.3	7.3	7.4	7.1	7.1	7.1	7	7.2	7.3
pH of CaCO3 saturation(60C)	Units			6.8	6.8	6.9	6.9	6.7	6.6	6.6	6.6	6.8	6.8
Specific Conductance	umho/cm	1600	S	**3300**	**3500**	1300	1400	740	800	770	820	700	740
Metals													
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	2.9	2.7	ND	ND	ND	ND	ND	ND	1.6	1.6
Barium, Total, ICAP/MS	ug/l	1000	P	37	36	23	23	37	40	84	91	52	53
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	1.9	2	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	ug/l			ND	0.05	ND	0.04	ND	ND	ND	ND	ND	0.06
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	16	18	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 Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	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 2010-11

Constituents	Units	MCL	Type	Norwalk #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				05/26/11	09/30/11	05/26/11	09/30/11	05/26/11	09/30/11	05/26/11	09/30/11	05/26/11	09/30/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	520	510	320	310	250	230	210	200	460	440
Cation Sum	meq/l			8.5	8.6	4.2	5.1	5.2	3.9	3.4	3.5	8	7.4
Anion Sum	meq/l			8.2	8	5.1	5	4.1	3.8	3.4	3.3	8.2	7.2
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	ND	ND	0.026	0.028	0.17	0.11
Manganese, Total, ICAP/MS	ug/l	50	S	2.4	ND	17	5.9	5.6	16	44	41	**150**	**140**
Turbidity	NTU	5	S	0.17	0.33	0.25	0.51	0.24	0.25	0.46	2.5	**17**	**26**
Alkalinity	mg/l			270	260	170	170	120	110	130	120	200	190
Boron	mg/l	1	N	0.37	0.4	ND	0.2	0.2	0.053	ND	0.054	0.08	0.083
Bicarbonate as HCO3,calculated	mg/l			320	310	210	200	150	140	160	150	240	230
Calcium, Total, ICAP	mg/l			13	14	26	8.9	9.2	24	27	28	71	66
Carbonate as CO3, Calculated	mg/l			3.1	2.2	4.2	3	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			63	64	74	27	28	69	89	93	250	230
Chloride	mg/l	500	S	65	65	60	58	54	45	22	20	140	120
Fluoride	mg/l	2	P	0.47	0.49	0.58	0.59	0.29	0.32	0.3	0.31	0.26	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.36	0.22	0.78	0.16	-0.072	0.26	0.34	0.3	0.75	0.72
Magnesium, Total, ICAP	None			7.4	7.3	2.2	1.2	1.3	2	5.4	5.7	17	16
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	2.2	1.3	1.3	2	1.7	1.7	3.6	3.4
Sodium, Total, ICAP	mg/l			160	170	61	100	110	58	36	37	67	63
Sulfate	mg/l	500	S	50	51	ND	ND	9.3	10	8.5	9.3	5.6	5.4
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.24	0.17
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.3	2.3	2.7	2.8	0.41	0.5	0.43	0.35	1.6	1.5
Carbon Dioxide	mg/l			3.6	4.7	ND	ND	ND	ND	ND	ND	4.5	4
General Physical Properties													
Apparent Color	ACU	15	S	**20**	**20**	**35**	**35**	3	ND	ND	3	5	10
Lab pH	Units			8.2	8	8.5	8.4	8.2	8.2	8.2	8.1	8	8
Odor	TON	3	S	**100**	**200**	1	**3**	1	1	ND	**3**	**40**	**3**
pH of CaCO3 saturation(25C)	Units			7.8	7.8	7.7	8.2	8.3	7.9	7.8	7.8	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7.4	7.4	7.3	7.7	7.9	7.5	7.4	7.4	6.8	6.8
Specific Conductance	umho/cm	1600	S	840	830	520	510	420	390	340	330	800	750
Metals													
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	ND	ND	4.7	**15**	**16**	**12**	**11**
Barium, Total, ICAP/MS	ug/l	1000	P	15	13	81	6.3	6.1	82	110	110	340	300
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	2.5	1.7
Hexavalent Chromium	ug/l			ND	0.04	ND	0.02	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 Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	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 2010-11

Constituents	Units	MCL	Type	Norwalk #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				04/20/11	09/12/11	04/20/11	09/12/11	04/20/11	09/12/11	04/20/11	09/12/11	04/20/11	09/12/11	04/20/11	09/12/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	430	450	270	330	250	250	340	360	460	480	480	500
Cation Sum	meq/l			7.2	7	4.6	4.8	4	4.3	5.6	5.6	7.4	7.6	7.8	7.9
Anion Sum	meq/l			7.4	6.8	4.8	4.7	4.2	4.1	5.5	5.4	7.4	7.5	7.8	7.7
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	13	7.8	12	12	23	24	ND	ND	15	40	2.9	ND
Turbidity	NTU	5	S	0.12	0.28	0.12	0.39	0.23	0.16	0.096	0.17	0.19	0.53	0.22	0.12
Alkalinity	mg/l			180	190	180	180	150	150	170	160	160	170	180	180
Boron	mg/l	1	N	0.14	0.27	0.17	0.24	ND	ND	ND	0.059	0.061	0.18	0.13	0.2
Bicarbonate as HCO3,calculated	mg/l			220	230	220	210	190	180	200	200	190	200	220	220
Calcium, Total, ICAP	mg/l			57	24	12	12	42	43	65	65	82	65	77	78
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			190	81	38	39	130	130	210	210	270	220	260	260
Chloride	mg/l	500	S	71	66	31	32	13	13	24	23	68	72	61	62
Fluoride	mg/l	2	P	0.32	0.35	0.48	0.44	0.2	0.2	0.28	0.29	0.23	0.27	0.38	0.34
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.41	0.23	0.1	0.034	0.41	0.47	0.48	0.58	0.49	0.65	0.39	0.55
Magnesium, Total, ICAP	None			12	4.8	2.3	2.3	5.1	5.3	11	11	17	13	16	16
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	1.2	1.2	2.6	2	2.3	2.2
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			3.7	4.4	2.3	2.5	2.5	2.8	3.3	3.4	3.9	4.4	3.9	4
Sodium, Total, ICAP	mg/l			76	120	87	91	34	36	30	30	42	71	57	59
Sulfate	mg/l	500	S	85	54	12	11	36	34	69	67	100	94	110	110
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	1.2	1.2	2.6	2	2.3	2.2
Total Organic Carbon	mg/l			1.3	1.6	1.3	1.3	0.35	0.42	ND	ND	0.43	0.78	0.45	0.5
Carbon Dioxide	mg/l			6.2	4.7	2.6	3	3.3	2.8	5.2	4.1	5.9	3.6	8.8	6.1
General Physical Properties															
Apparent Color	ACU	15	S	5	10	**20**	**20**	3	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.8	7.9	8.1	8.1	8	8	7.8	7.9	7.7	8	7.6	7.8
Odor	TON	3	S	1	1	1	1	2	2	ND	1	ND	2	ND	1
pH of CaCO3 saturation(25C)	Units			7.3	7.7	8	8	7.6	7.5	7.3	7.3	7.2	7.3	7.2	7.2
pH of CaCO3 saturation(60C)	Units			6.9	7.2	7.6	7.6	7.1	7.1	6.9	6.9	6.8	6.9	6.8	6.8
Specific Conductance	umho/cm	1600	S	740	690	460	460	400	400	540	530	750	750	780	760
Metals															
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	2.7	3.8	ND	ND	ND	ND	1.9	2	2.1	4	1.4	1.6
Barium, Total, ICAP/MS	ug/l	1000	P	66	55	8.9	8.9	29	29	150	140	110	81	51	50
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	3.1	3.2	1.1	ND	ND	1
Hexavalent Chromium	ug/l			ND	ND	ND	ND	ND	ND	3.2	3.2	1.1	0.6	0.66	0.57
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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	1.5	2.5	1.1	0.93	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 2010-11

Constituents	Units	MCL	Type	Pico #1						
				Zone 1	Zone 2		Zone 3		Zone 4	
				09/23/11	05/05/11	09/23/11	05/05/11	09/23/11	05/05/11	09/23/11
General Minerals										
Total Dissolved Solid (TDS)	mg/l	1000	S	360	330	350	430	610	620	610
Cation Sum	meq/l			6	5.1	5.5	6.7	9	9	10
Anion Sum	meq/l			6.2	5.3	5.4	7.1	9.5	9.3	9
Iron, Total, ICAP	mg/l	0.30	S	0.26	0.26	0.29	**0.31**	**0.39**	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	46	22	25	13	18	ND	ND
Turbidity	NTU	5	S	**11**	1.7	2	3.6	1.2	0.14	0.067
Alkalinity	mg/l			310	170	160	170	170	170	170
Boron	mg/l	1	N	0.6	0.077	0.065	0.14	0.22	0.22	0.23
Bicarbonate as HCO3,calculated	mg/l			370	200	200	210	210	200	210
Calcium, Total, ICAP	mg/l			9.1	63	68	71	82	90	100
Carbonate as CO3, Calculated	mg/l			2.5	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			36	200	220	240	280	300	350
Chloride	mg/l	500	S	3	19	20	44	93	110	110
Fluoride	mg/l	2	P	0.26	0.28	0.27	0.26	0.23	0.3	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.1	0.58	0.44	0.48	0.16	0.57	0.46
Magnesium, Total, ICAP	None			3.4	12	12	15	18	18	20
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	1.7	1.6
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.7	2.7	2.9	3.6	4.7	4.5	5.2
Sodium, Total, ICAP	mg/l			120	21	23	41	77	67	75
Sulfate	mg/l	500	S	1.4	68	73	110	170	140	150
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	1.7	1.6
Total Organic Carbon	mg/l			2.8	ND	ND	0.31	0.53	0.62	0.54
Carbon Dioxide	mg/l			5.9	4	5.9	6.3	15	6	9.6
General Physical Properties										
Apparent Color	ACU	15	S	**30**	5	10	5	3	ND	ND
Lab pH	Units			8	7.9	7.7	7.7	7.4	7.7	7.6
Odor	TON	3	S	**3**	1	1	1	1	ND	1
pH of CaCO3 saturation(25C)	Units			7.9	7.3	7.3	7.3	7.2	7.2	7.1
pH of CaCO3 saturation(60C)	Units			7.5	6.9	6.9	6.8	6.8	6.7	6.6
Specific Conductance	umho/cm	1600	S	590	460	530	610	930	840	970
Metals										
Aluminum, Total, ICAP/MS	ug/l	1000	P	160	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	6.5	ND	ND	ND	ND	2.7	2.8
Barium, Total, ICAP/MS	ug/l	1000	P	18	78	85	48	62	55	60
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	1.1	1.4
Hexavalent Chromium	ug/l			ND	ND	ND	ND	ND	0.23	0.32
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds										
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND
Fluorotrichloromethane-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	N	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	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 2010-11

Constituents	Units	MCL	Type	Pico #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				05/18/11	09/27/11	05/18/11	09/27/11	05/18/11	09/27/11	05/18/11	09/27/11	05/18/11	09/27/11	05/18/11	09/27/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	560	560	610	640	530	560	520	530	480	510	290	470
Cation Sum	meq/l			8.9	9.2	9.9	9.9	8.7	9.1	8.1	7.8	7.6	7.6	4.8	7.3
Anion Sum	meq/l			8.7	9.1	9.6	10	8.6	8.9	8.2	8.1	7.5	7.8	4.9	7.3
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	ND	ND	2.3	ND	ND	5	ND	ND	27	26	ND	ND
Turbidity	NTU	5	S	0.22	0.61	0.31	0.24	0.89	0.86	0.4	0.14	0.12	0.066	1.3	0.38
Alkalinity	mg/l			200	210	220	220	190	190	140	140	130	130	100	120
Boron	mg/l	1	N	ND	0.057	0.13	0.14	0.13	0.16	0.22	0.22	0.22	0.22	0.093	0.17
Bicarbonate as HCO3,calculated	mg/l			250	260	270	270	230	240	170	160	160	160	130	140
Calcium, Total, ICAP	mg/l			120	120	120	120	100	100	69	66	57	58	30	58
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			380	400	410	410	330	350	240	220	210	210	120	220
Chloride	mg/l	500	S	52	54	75	82	73	76	98	98	89	92	47	84
Fluoride	mg/l	2	P	0.24	0.24	0.28	0.27	0.3	0.31	0.33	0.33	0.43	0.39	0.37	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			0.97	0.88	0.94	0.79	0.77	0.67	0.29	0.22	0.079	0.053	-0.14	-0.21
Magnesium, Total, ICAP	None			22	22	25	25	20	21	15	14	16	16	9.7	19
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	3.3	2.6	2.7	2.9	3	2.7	3.1	3	3	1.5	0.6
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			4.1	3.9	4	4	4.2	4.4	4	3.9	4.4	4.2	5.4	7
Sodium, Total, ICAP	mg/l			26	26	37	38	45	48	75	74	76	76	54	63
Sulfate	mg/l	500	S	140	150	140	150	120	130	120	110	100	110	66	120
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	3.1	3.3	2.6	2.7	2.9	3	2.7	3.1	3	3	1.5	0.6
Total Organic Carbon	mg/l			0.3	ND	0.42	0.39	0.34	0.36	0.63	0.63	0.78	0.92	1	1.2
Carbon Dioxide	mg/l			4.5	6.4	5.9	8.3	5.2	7.2	5.9	6.3	6.9	7.7	4	11
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND
Lab pH	Units			8	7.8	7.9	7.7	7.9	7.7	7.7	7.6	7.6	7.5	7.7	7.3
Odor	TON	3	S	ND	2	ND	1	1	ND	ND	1	ND	ND	2	ND
pH of CaCO3 saturation(25C)	Units			7	6.9	6.9	6.9	7.1	7	7.4	7.4	7.5	7.5	7.9	7.5
pH of CaCO3 saturation(60C)	Units			6.5	6.5	6.5	6.5	6.6	6.6	6.9	7	7	7	7.4	7.1
Specific Conductance	umho/cm	1600	S	780	840	890	940	800	840	770	810	720	780	470	730
Metals															
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	1.5	2.8	2.1	1.8	1.6	2.7	2.6	1.3	1.1	**16**	**10**
Barium, Total, ICAP/MS	ug/l	1000	P	170	180	120	110	98	98	59	58	75	76	75	140
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	2.3	2	4.3	1.4	2	1.6	1.2	1.1	1.2	ND	1.1	1
Hexavalent Chromium	ug/l			1.6	1.6	0.79	0.79	1.2	1.1	0.09	0.21	0.08	0.09	0.34	0.27
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 Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	0.67	0.71	1.8	1.7	3.5	3.1	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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	2.2	1.7	ND	0.55	0.8	0.85	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 2010-11

Constituents	Units	MCL	Type	Rio Hondo #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				04/28/11	09/28/11	04/28/11	09/28/11	04/28/11	09/28/11	04/28/11	09/28/11	04/28/11	09/28/11	04/28/11	09/28/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	270	260	490	450	490	480	420	400	290	300	260	190
Cation Sum	meq/l			4.5	4.4	7.4	7.2	8	7.9	6.7	6.4	4.8	4.6	4.1	3.3
Anion Sum	meq/l			4.4	4.5	7.4	7.5	8	8	6.6	6.5	4.7	4.7	4	3.3
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	0.072	0.074	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	33	39	33	35	ND	ND	ND	ND	ND	ND	ND	ND
Turbidity	NTU	5	S	0.42	0.98	1.5	0.67	0.56	0.18	1.2	0.27	1.1	2.6	0.64	0.4
Alkalinity	mg/l			150	150	170	170	190	180	130	130	100	95	81	78
Boron	mg/l	1	N	0.068	0.069	0.055	0.055	0.16	0.16	0.19	0.18	0.15	0.14	0.097	0.087
Bicarbonate as HCO3,calculated	mg/l			180	180	210	210	230	220	160	160	130	120	99	96
Calcium, Total, ICAP	mg/l			40	40	95	92	89	87	60	57	40	39	33	25
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			130	130	310	300	290	280	200	190	140	130	120	92
Chloride	mg/l	500	S	17	18	47	50	64	67	71	68	42	46	39	28
Fluoride	mg/l	2	P	0.26	0.26	0.21	0.21	0.3	0.3	0.37	0.36	0.36	0.35	0.31	0.34
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	0.6	0.85	0.98	0.9	0.97	0.53	0.59	0.029	0.12	-0.31	-0.22
Magnesium, Total, ICAP	None			8.4	8.2	17	17	17	16	12	11	9	8.6	9.3	7
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	1.9	2.1	2.2	1.8	1.7	1.4	0.99
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			2.8	2.8	3.5	3.4	3.9	3.8	3.8	3.6	3.1	3	3.2	2.8
Sodium, Total, ICAP	mg/l			40	39	25	25	49	48	59	57	45	44	36	32
Sulfate	mg/l	500	S	46	48	120	130	110	110	89	88	65	67	58	40
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	1.8	1.9	2.1	2.2	1.8	1.7	1.4	0.99
Total Organic Carbon	mg/l			0.33	0.3	ND	ND	0.34	0.36	0.39	0.4	0.32	0.33	0.4	0.41
Carbon Dioxide	mg/l			ND	ND	3.4	2.5	3.4	2.8	2.6	2.1	3.5	2.3	4	2.3
General Physical Properties															
Apparent Color	ACU	15	S	5	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.2	8.2	8	8.1	8	8.1	8	8.1	7.8	7.9	7.6	7.8
Odor	TON	3	S	1	1	1	1	1	1	ND	1	ND	ND	ND	1
pH of CaCO3 saturation(25C)	Units			7.6	7.6	7.2	7.2	7.1	7.2	7.5	7.5	7.7	7.8	7.9	8.1
pH of CaCO3 saturation(60C)	Units			7.1	7.2	6.7	6.7	6.7	6.7	7	7	7.3	7.3	7.5	7.6
Specific Conductance	umho/cm	1600	S	400	420	700	690	770	760	680	640	480	480	400	340
Metals															
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	ND	ND	2.1	2.1	2.6	2.5	1.8	1.8	1.1	1
Barium, Total, ICAP/MS	ug/l	1000	P	22	22	54	52	130	130	54	52	45	46	72	54
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	ug/l			ND	ND	ND	ND	0.55	0.52	0.25	0.30	0.46	0.51	0.24	0.26
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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	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 2010-11

Constituents	Units	MCL	Type	Seal Beach #1													
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				05/12/11	09/21/11	05/12/11	09/21/11	05/12/11	09/21/11	05/12/11	09/21/11	05/24/11	09/21/11	05/12/11	09/21/11	05/12/11	09/21/11
General Minerals																	
Total Dissolved Solid (TDS)	mg/l	1000	S	310	320	230	240	210	210	270	290	220	200	520	500	**1700**	**2200**
Cation Sum	meq/l			5	4.6	3.5	3.7	3.3	3.4	4.2	4.3	3.3	3.5	8.2	7.6	27	27
Anion Sum	meq/l			4.9	4.7	3.8	3.6	3.6	3.4	4.4	4.3	3.7	3.4	8.4	7.7	29	29
Iron, Total, ICAP	mg/l	0.30	S	0.045	0.046	0.026	0.024	0.022	ND	0.04	0.042	ND	ND	ND	ND	0.055	0.1
Manganese, Total, ICAP/MS	ug/l	50	S	7.7	9.2	3.5	4.3	2.4	2.6	7.6	9	7	7.7	**93**	**94**	ND	**640**
Turbidity	NTU	5	S	0.46	0.94	0.8	1	1.1	1.2	1.3	1.9	4.6	**10**	0.35	0.17	0.13	0.53
Alkalinity	mg/l			220	210	160	160	160	150	190	190	120	120	120	120	180	180
Boron	mg/l	1	N	0.24	0.22	0.14	0.14	0.19	0.18	0.24	0.23	0.083	0.068	0.14	0.13	0.16	0.12
Bicarbonate as HCO3,calculated	mg/l			260	260	200	190	190	180	230	230	150	150	150	140	210	220
Calcium, Total, ICAP	mg/l			4.7	4.6	3.1	3.6	2.7	3.2	5.2	5.5	8.9	9.8	68	62	260	260
Carbonate as CO3, Calculated	mg/l			5	4.1	6	4.6	5.8	4.6	2.4	2.8	3.4	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			15	14	9.2	11	8.9	9.6	16	17	26	28	220	200	880	880
Chloride	mg/l	500	S	18	17	16	15	15	14	20	19	20	13	89	84	**760**	**760**
Fluoride	mg/l	2	P	0.43	0.42	0.53	0.51	0.59	0.57	0.79	0.78	0.55	0.5	0.35	0.34	0.38	0.37
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.1	-0.95	0.0068	-0.9	-0.055	-0.094	-0.15	-0.069	0.23	-0.071	0.79	0.56	1.3	1.2
Magnesium, Total, ICAP	None			0.86	0.66	0.38	0.44	0.49	0.43	0.68	0.72	0.82	0.85	13	12	58	57
Mercury	ug/l	2	P	ND	ND	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	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			1.1	ND	ND	ND	ND	ND	1	ND	1.2	1.2	2.9	2.6	7.5	6.8
Sodium, Total, ICAP	mg/l			110	100	76	80	72	74	89	92	64	68	85	79	220	220
Sulfate	mg/l	500	S	ND	ND	1	1	ND	ND	1	ND	31	29	160	140	180	160
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			7.8	14	4.4	3.8	3.7	4.1	6.1	8.6	1.3	1.3	1.6	1.7	1.4	0.74
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	2.1	3.3	4.3
General Physical Properties																	
Apparent Color	ACU	15	S	**300**	**200**	**100**	**75**	**100**	**100**	**150**	**100**	**15**	**20**	5	ND	5	ND
Lab pH	Units			8.5	8.4	8.7	8.6	8.7	8.6	8.2	8.3	8.6	8.2	8.2	8	8	7.9
Odor	TON	3	S	2	2	1	2	1	1	1	2	1	1	2	1	**3**	2
pH of CaCO3 saturation(25C)	Units			8.4	9.3	8.7	9.5	8.7	8.7	8.4	8.4	8.3	8.3	7.4	7.5	6.7	6.7
pH of CaCO3 saturation(60C)	Units			7.9	8.9	8.2	9	8.3	8.2	7.9	7.9	7.9	7.8	7	7	6.3	6.2
Specific Conductance	umho/cm	1600	S	450	450	340	350	320	340	400	410	350	340	820	770	**3000**	**2800**
Metals																	
Aluminum, Total, ICAP/MS	ug/l	1000	P	33	33	41	38	33	31	24	26	30	21	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	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	ND	2.9	2	2.9	1.8	ND	6
Barium, Total, ICAP/MS	ug/l	1000	P	7.3	6.8	3.4	3.6	3.9	3.6	5	5.2	12	13	79	89	ND	140
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	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	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	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	1.4	ND	2.1	ND	ND	4.8
Hexavalent Chromium	ug/l			ND	0.038	ND	0.029	ND	0.026	ND	0.048	0.1	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	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	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	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	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	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																	
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	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	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	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	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	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	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	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	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	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	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	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	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	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	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	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	ND	ND
Ethylbenzene	ug/l	300	N	ND	ND	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	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	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 2010-11

Constituents	Units	MCL	Type	South Gate #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				05/19/11	09/29/11	05/19/11	09/29/11	05/19/11	09/29/11	05/19/11	09/29/11	05/19/11	09/29/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	300	300	410	390	420	410	470	430	570	550
Cation Sum	meq/l			5.1	5.3	6.7	6.8	6.8	7	6.8	7.5	9.4	9.6
Anion Sum	meq/l			5.1	5	6.6	6.6	6.6	6.9	7.2	7.3	9.4	9.3
Iron, Total, ICAP	mg/l	0.30	S	0.03	0.039	ND	ND	ND	ND	ND	ND	0.08	0.074
Manganese, Total, ICAP/MS	ug/l	50	S	45	44	ND	ND	ND	ND	ND	ND	**120**	**120**
Turbidity	NTU	5	S	0.11	0.24	0.32	0.52	0.71	1.1	0.84	1.5	0.46	0.66
Alkalinity	mg/l			170	160	140	140	150	150	160	150	200	190
Boron	mg/l	1	N	0.11	0.12	0.15	0.16	0.12	0.12	0.16	0.17	0.14	0.14
Bicarbonate as HCO3,calculated	mg/l			200	190	170	170	180	180	190	190	240	230
Calcium, Total, ICAP	mg/l			49	51	70	71	73	77	69	78	95	99
Carbonate as CO3, Calculated	mg/l			2.6	2	ND	ND	2	ND	ND	ND	ND	2.1
Hardness (Total, as CaCO3)	mg/l			150	160	230	230	250	260	230	260	350	350
Chloride	mg/l	500	S	21	22	52	54	48	49	60	62	110	100
Fluoride	mg/l	2	P	0.31	0.31	0.3	0.31	0.38	0.37	0.38	0.38	0.41	0.4
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.84	0.75	0.8	0.71	0.91	0.84	0.83	0.8	0.99	1.1
Magnesium, Total, ICAP	None			7.9	8.1	13	13	16	16	14	15	26	26
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	2.3	2.4	2.1	2.2	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	3.4	3.2	3	2.9	3	3.2	3.1	3
Sodium, Total, ICAP	mg/l			45	46	47	47	40	40	48	52	55	55
Sulfate	mg/l	500	S	54	55	100	100	100	110	110	110	110	120
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	2.1	2.2	2.3	2.4	2.1	2.2	ND	ND
Total Organic Carbon	mg/l			0.3	ND	ND	1.3	ND	ND	ND	0.31	0.67	0.65
Carbon Dioxide	mg/l			ND	2	ND	2.3	ND	2.3	2.2	2.6	3.3	2.7
General Physical Properties													
Apparent Color	ACU	15	S	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.3	8.2	8.2	8.1	8.2	8.1	8.2	8.1	8.1	8.1
Odor	TON	3	S	1	1	1	1	1	2	2	1	1	1
pH of CaCO3 saturation(25C)	Units			7.4	7.4	7.4	7.4	7.3	7.3	7.3	7.3	7.1	7.1
pH of CaCO3 saturation(60C)	Units			7	7	6.9	6.9	6.9	6.8	6.9	6.8	6.6	6.6
Specific Conductance	umho/cm	1600	S	440	490	600	640	590	660	650	700	850	910
Metals													
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	2.2	2.7	2.7	2.6	2.6	2	2	2.3	2.3
Barium, Total, ICAP/MS	ug/l	1000	P	130	120	89	87	150	140	70	68	230	220
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	1.3	1.5	1.0	1.3	ND	ND
Hexavalent Chromium	ug/l			ND	ND	0.14	0.12	0.96	1.0	0.56	0.54	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 Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.6	0.73	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.69	0.65	3.3	3.7	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	0.82	0.76	2.1	2.4	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 2010-11

Constituents	Units	MCL	Type	Whittier #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				05/02/11	09/12/11	05/02/11	09/12/11	05/02/11	09/12/11	05/02/11	09/12/11	05/02/11	09/12/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	**2800**	**2800**	**2600**	**2600**	**1800**	**1900**	720	720	700	740
Cation Sum	meq/l			40	41	38	39	27	28	12	12	11	12
Anion Sum	meq/l			41	42	39	40	28	28	12	11	11	11
Iron, Total, ICAP	mg/l	0.30	S	**0.58**	**0.6**	**0.44**	**0.47**	**0.31**	**0.31**	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	**53**	**57**	**85**	**82**	**71**	**75**	25	26	4.9	4.4
Turbidity	NTU	5	S	3.9	3.2	3.8	3.3	2.1	2.2	0.25	0.12	0.4	0.5
Alkalinity	mg/l			270	270	290	290	290	290	260	260	240	230
Boron	mg/l	1	N	0.85	0.9	0.92	0.97	0.61	0.63	0.2	0.21	0.16	0.17
Bicarbonate as HCO3,calculated	mg/l			330	320	360	350	360	360	320	310	290	280
Calcium, Total, ICAP	mg/l			190	200	190	200	160	160	80	83	80	84
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			1000	1100	960	1000	760	790	350	360	360	380
Chloride	mg/l	500	S	280	270	240	230	190	180	78	74	82	78
Fluoride	mg/l	2	P	0.27	0.26	0.29	0.28	0.5	0.47	0.18	0.18	0.32	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.99	0.98	0.95	1	0.94	0.99	0.49	0.58	0.44	0.54
Magnesium, Total, ICAP	None			130	140	120	130	89	94	35	38	39	41
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	5	5.1
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			12	12	10	10	7.4	7.3	4.3	4.3	3.7	3.7
Sodium, Total, ICAP	mg/l			440	440	420	420	270	270	110	110	88	92
Sulfate	mg/l	500	S	**1300**	**1400**	**1300**	**1300**	**780**	**820**	190	180	170	170
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	4	4	5	5.1
Total Organic Carbon	mg/l			2.7	1.8	2.2	2.3	1.4	1.2	0.34	ND	0.3	ND
Carbon Dioxide	mg/l			12	13	16	13	14	12	15	13	14	12
General Physical Properties													
Apparent Color	ACU	15	S	**15**	**15**	**15**	**15**	10	10	ND	ND	ND	ND
Lab pH	Units			7.6	7.6	7.6	7.6	7.6	7.7	7.5	7.6	7.5	7.6
Odor	TON	3	S	1	1	ND	ND	1	1	1	1	1	ND
pH of CaCO3 saturation(25C)	Units			6.6	6.6	6.6	6.6	6.7	6.7	7	7	7.1	7.1
pH of CaCO3 saturation(60C)	Units			6.2	6.2	6.2	6.2	6.2	6.2	6.6	6.6	6.6	6.6
Specific Conductance	umho/cm	1600	S	**3500**	**3400**	**3400**	**3200**	**2300**	**2400**	1100	1100	1100	1000
Metals													
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	1.1	ND	1	ND	ND	1.4	1.5	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	17	17	17	16	21	20	31	32	27	27
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	1.2	ND	1.1	ND	1	ND	ND	3.7	3.6
Hexavalent Chromium	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	3.2	3.2
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	12	14	15	17
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 Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	ND	ND	1.5	1.9	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 2010-11

Constituents	Units	MCL	Type	Whittier #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				04/20/11	09/12/11	04/20/11	09/12/11	04/20/11	09/12/11	04/20/11	09/12/11	04/20/11	09/12/11	04/20/11	09/12/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	830	920	220	250	730	800	**1500**	**1700**	800	660	960	970
Cation Sum	meq/l			13	15	3.9	4.2	12	13	24	27	13	11	15	16
Anion Sum	meq/l			14	14	4	3.9	12	12	24	27	13	11	14	15
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	37	37	39	40	37	40	**160**	**170**	ND	ND	ND	ND
Turbidity	NTU	5	S	0.13	1.1	0.098	0.3	0.1	0.32	0.12	0.25	1.5	0.3	0.12	1.2
Alkalinity	mg/l			230	240	170	170	200	200	320	380	250	210	280	340
Boron	mg/l	1	N	0.62	0.67	0.23	0.27	0.23	0.25	0.65	0.8	0.17	0.19	0.32	0.36
Bicarbonate as HCO3,calculated	mg/l			270	290	210	200	250	250	390	460	300	260	350	420
Calcium, Total, ICAP	mg/l			70	90	23	24	83	89	120	130	140	120	140	150
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			270	340	75	80	350	380	600	680	470	400	510	530
Chloride	mg/l	500	S	250	230	11	9.7	130	120	200	220	140	110	100	99
Fluoride	mg/l	2	P	0.31	0.3	0.29	0.28	0.28	0.28	0.45	0.46	0.24	0.28	0.3	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.55	0.58	0.17	0.12	0.69	0.71	0.81	0.88	0.91	0.8	0.84	0.95
Magnesium, Total, ICAP	None			23	28	4.4	4.6	35	37	75	85	29	24	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	0.67	0.64	2.7	2.6	8.3	4.4	7.1	6.6
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			4.3	4.5	2.3	2.6	3.9	4.2	4	4.3	4.8	4.7	4.5	4.8
Sodium, Total, ICAP	mg/l			180	190	55	59	110	120	270	300	76	76	110	120
Sulfate	mg/l	500	S	120	160	15	14	220	220	**550**	**640**	190	150	260	240
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	0.67	0.64	2.7	2.6	8.3	4.4	7.1	6.6
Total Organic Carbon	mg/l			0.8	0.85	0.48	0.54	0.4	0.47	0.53	0.55	0.39	0.37	0.49	0.54
Carbon Dioxide	mg/l			8.8	12	3.9	4.5	5.9	6.4	17	22	9.2	7.2	15	17
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	5	5	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.7	7.6	7.9	7.9	7.8	7.8	7.6	7.5	7.7	7.8	7.6	7.6
Odor	TON	3	S	2	2	1	1	ND	2	ND	1	ND	1	1	2
pH of CaCO3 saturation(25C)	Units			7.2	7	7.8	7.8	7.1	7.1	6.8	6.7	6.8	7	6.7	6.6
pH of CaCO3 saturation(60C)	Units			6.7	6.6	7.3	7.3	6.7	6.6	6.3	6.2	6.4	6.5	6.3	6.2
Specific Conductance	umho/cm	1600	S	1500	1500	370	380	1200	1200	**2100**	**2400**	1300	1000	1400	1400
Metals															
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	1.3	1.2	ND	ND	1.7	1.8	1.2	1.3	1.3	1.5	1.4	1.7
Barium, Total, ICAP/MS	ug/l	1000	P	22	23	22	21	48	49	12	13	96	77	31	32
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	1.6	ND	ND	3.3	3.8	ND	1.7	3.4	3.1	4.2	4.9
Hexavalent Chromium	ug/l			ND	ND	ND	ND	3.3	3.1	0.72	0.28	ND	2.4	4.5	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	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	5	6.7	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 Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	1.1	2	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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	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
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	1.2	2.4	ND	1.7	5.1	2.6	1.5	2.1

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 2010-11

Constituents	Units	MCL	Type	Whittier Narrows #1								
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
				09/14/11	09/14/11	09/14/11	09/14/11	09/14/11	09/14/11	09/14/11	09/14/11	09/14/11
General Minerals												
Total Dissolved Solid (TDS)	mg/l	1000	S	**1500**	220	480	550	400	500	610	640	620
Cation Sum	meq/l			21	3.5	7.2	8.6	6.4	8.1	9.8	10	9.8
Anion Sum	meq/l			21	3.4	7.3	8.4	6.5	8	9.5	10	9.7
Iron, Total, ICAP	mg/l	0.30	S	**10**	0.038	ND	0.024	ND	ND	0.039	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	**690**	16	ND	6.8	ND	6.3	20	18	16
Turbidity	NTU	5	S	**32**	2.6	0.2	0.32	0.36	0.22	0.18	0.15	0.2
Alkalinity	mg/l			89	110	140	150	140	130	160	160	160
Boron	mg/l	1	N	**1.2**	0.16	0.061	0.081	0.085	0.23	0.28	0.29	0.27
Bicarbonate as HCO3,calculated	mg/l			110	130	170	180	160	160	190	200	200
Calcium, Total, ICAP	mg/l			67	11	98	110	82	71	84	87	80
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			220	30	290	340	260	240	270	280	270
Chloride	mg/l	500	S	**680**	36	73	93	65	98	110	140	120
Fluoride	mg/l	2	P	0.8	0.4	0.23	0.24	0.24	0.22	0.24	0.24	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			-0.33	-0.34	0.73	0.93	0.78	0.7	0.88	0.83	0.8
Magnesium, Total, ICAP	None			14	0.48	9.8	14	12	15	16	16	17
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	1.4	0.82	ND	1.9	3.2	3
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	0.41	0.32	ND
Potassium, Total, ICAP	mg/l			3.9	1.7	2.9	4.5	4.1	5.3	5.6	5.7	5.7
Sodium, Total, ICAP	mg/l			370	65	32	36	28	72	96	100	99
Sulfate	mg/l	500	S	ND	8.9	110	130	90	130	140	150	140
Surfactants	mg/l	0.5	S	0.072	0.056	0.12	0.072	ND	ND	0.07	0.1	0.081
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	1.3	1.4	0.82	ND	2.3	3.5	3
Total Organic Carbon	mg/l			6.6	0.59	0.45	0.64	0.46	0.99	1.1	1.2	1.5
Carbon Dioxide	mg/l			9.9	2.6	3	2.7	2.1	2.1	2.4	2.9	2.8
General Physical Properties												
Apparent Color	ACU	15	S	**200**	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.2	7.9	8	8	8.1	8.1	8.1	8	8
Odor	TON	3	S	**4**	**4**	1	1	1	2	**3**	**3**	2
pH of CaCO3 saturation(25C)	Units			7.6	8.3	7.2	7.1	7.3	7.4	7.2	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7.1	7.8	6.8	6.7	6.9	7	6.8	6.8	6.8
Specific Conductance	umho/cm	1600	S	**2300**	340	700	820	630	800	940	1000	960
Metals												
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	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	8.2	1.6	1.2	1.8	1.5	1.7	2	1.8	1.5
Barium, Total, ICAP/MS	ug/l	1000	P	530	25	200	200	190	140	120	83	65
Beryllium, Total, ICAP/MS	ug/l	4	P	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
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	2.1	2.5
Chromium, Total, ICAP/MS	ug/l	50	P	1.4	ND	3	1.8	1.6	1.3	1.8	1.5	1.4
Hexavalent Chromium	ug/l			ND	ND	1.7	0.34	0.51	ND	ND	ND	ND
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	6.3	5.1	ND	27	8.2	37	13
Selenium, Total, ICAP/MS	ug/l	50	P	24	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
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	27	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds												
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	0.51	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	0.52	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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	N	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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 2010-11

Constituents	Units	MCL	Type	Willowbrook #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				04/27/11	09/29/11	04/27/11	09/29/11	04/27/11	09/29/11	04/27/11	09/29/11
General Minerals											
Total Dissolved Solid (TDS)	mg/l	1000	S	340	340	310	310	330	340	330	340
Cation Sum	meq/l			5.8	6.4	5.3	5.4	5.6	6.1	5.6	5.9
Anion Sum	meq/l			6.1	5.9	5.4	5.2	5.8	5.7	5.8	5.7
Iron, Total, ICAP	mg/l	0.30	S	0.064	0.067	ND	ND	0.081	0.089	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	49	46	**50**	48	31	31	**95**	**90**
Turbidity	NTU	5	S	0.9	0.72	0.091	0.14	0.44	0.35	2	**5.4**
Alkalinity	mg/l			260	260	180	160	180	170	190	180
Boron	mg/l	1	N	0.2	0.23	0.11	0.12	0.11	0.13	0.12	0.13
Bicarbonate as HCO3,calculated	mg/l			310	310	210	200	220	210	230	210
Calcium, Total, ICAP	mg/l			35	35	53	55	57	61	57	59
Carbonate as CO3, Calculated	mg/l			2.3	3.7	ND	2.4	ND	ND	2.2	ND
Hardness (Total, as CaCO3)	mg/l			120	120	170	180	190	210	180	190
Chloride	mg/l	500	S	16	16	20	21	21	22	25	26
Fluoride	mg/l	2	P	0.26	0.26	0.29	0.3	0.4	0.41	0.37	0.37
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.64	0.86	0.74	0.85	0.69	0.83	0.83	0.8
Magnesium, Total, ICAP	None			7.5	7.8	9.8	10	12	13	10	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			4.9	5.3	2.5	2.6	3.4	3.5	3	3
Sodium, Total, ICAP	mg/l			77	88	40	41	39	42	43	45
Sulfate	mg/l	500	S	23	14	61	62	74	80	64	67
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.2	2.6	0.32	0.41	ND	ND	ND	ND
Carbon Dioxide	mg/l			4.6	2.8	2.6	ND	3.4	2.3	2.5	2.5
General Physical Properties											
Apparent Color	ACU	15	S	**25**	**20**	ND	ND	3	ND	ND	3
Lab pH	Units			8.1	8.3	8.1	8.2	8	8.2	8.2	8.1
Odor	TON	3	S	2	2	2	1	2	1	2	1
pH of CaCO3 saturation(25C)	Units			7.4	7.4	7.4	7.4	7.3	7.3	7.3	7.3
pH of CaCO3 saturation(60C)	Units			7	7	6.9	7	6.9	6.9	6.9	6.9
Specific Conductance	umho/cm	1600	S	580	570	520	510	560	550	550	550
Metals											
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	5.1	4.4	ND	ND	3.1	2.9	5	4.8
Barium, Total, ICAP/MS	ug/l	1000	P	43	38	54	50	80	74	140	140
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	ug/l			ND	0.21	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 Compounds											
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
Dichlorodifluoromethane	ug/l	1000	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
Ethylbenzene	ug/l	300	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Carson #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				04/05/11	08/26/11	04/05/11	08/26/11	04/05/11	08/26/11	04/05/11	08/26/11
General Minerals											
Total Dissolved Solid (TDS)	mg/l	1000	S	190	200	230	230	290	310	360	370
Cation Sum	meq/l			3.4	3.6	4	4.1	5.1	5.1	6.3	6.4
Anion Sum	meq/l			3.5	3.4	4.1	4	5.2	5.2	6.3	6.3
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	0.023	0.021	ND	ND	0.069	0.066
Manganese, Total, ICAP/MS	ug/l	50	S	22	21	15	14	29	30	**95**	**93**
Turbidity	NTU	5	S	0.61	1	0.21	0.65	0.069	0.097	0.39	0.5
Alkalinity	mg/l			150	140	170	170	170	160	180	180
Boron	mg/l	1	N	0.086	0.095	0.094	0.1	0.096	0.1	0.11	0.12
Bicarbonate as HCO3,calculated	mg/l			180	170	210	210	200	200	220	220
Calcium, Total, ICAP	mg/l			20	21	32	32	43	42	52	53
Carbonate as CO3, Calculated	mg/l			2.1	ND	2.2	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			66	69	110	110	160	160	190	190
Chloride	mg/l	500	S	20	20	21	21	22	26	42	42
Fluoride	mg/l	2	P	0.24	0.24	0.2	0.2	0.28	0.29	0.38	0.39
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.36	0.22	0.59	0.54	0.63	0.28	0.54	0.52
Magnesium, Total, ICAP	None			4	4.2	6.9	7	12	12	15	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			2.7	2.7	2.4	2.4	2.8	2.8	3.5	3.6
Sodium, Total, ICAP	mg/l			47	49	41	42	44	43	55	56
Sulfate	mg/l	500	S	ND	ND	ND	ND	61	61	70	70
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.77	0.86	0.45	0.47	0.34	0.43	0.38	0.44
Carbon Dioxide	mg/l			ND	2.2	2.1	2.3	2.4	5	4.4	4.6
General Physical Properties											
Apparent Color	ACU	15	S	10	5	5	3	3	3	ND	ND
Lab pH	Units			8.3	8.1	8.2	8.2	8.1	7.8	7.9	7.9
Odor	TON	3	S	1	2	2	1	ND	2	**3**	2
pH of CaCO3 saturation(25C)	Units			7.9	7.9	7.6	7.6	7.5	7.5	7.4	7.4
pH of CaCO3 saturation(60C)	Units			7.4	7.4	7.2	7.2	7.1	7.1	6.9	6.9
Specific Conductance	umho/cm	1600	S	340	340	390	390	500	520	630	620
Metals											
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	1000	P	16	16	37	36	66	66	180	190
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	ug/l			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 Compounds											
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Carson #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				03/29/11	09/19/11	03/29/11	09/19/11	03/29/11	09/19/11	03/29/11	09/19/11	03/29/11	09/19/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	220	240	250	260	280	280	230	240	260	270
Cation Sum	meq/l			3.8	3.9	4.5	4.7	4.8	5	4.4	4.6	4.7	4.8
Anion Sum	meq/l			4	3.8	4.6	4.5	4.9	4.9	4.3	4.3	4.6	4.6
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	ND	ND	0.022	ND	ND	ND	0.062	0.063
Manganese, Total, ICAP/MS	ug/l	50	S	2.3	2	7.1	6.5	17	14	9.6	8.5	**50**	48
Turbidity	NTU	5	S	0.13	4.8	0.11	0.18	0.071	0.4	0.23	0.19	3.4	0.27
Alkalinity	mg/l			170	160	200	190	180	180	190	180	180	180
Boron	mg/l	1	N	0.13	0.13	0.13	0.12	0.12	0.12	0.1	0.11	0.1	0.1
Bicarbonate as HCO3,calculated	mg/l			200	200	240	230	220	220	220	220	220	220
Calcium, Total, ICAP	mg/l			2.5	2.6	11	11	30	30	32	34	42	43
Carbonate as CO3, Calculated	mg/l			10	3.9	5.5	2.7	3.1	ND	2.4	ND	2.1	ND
Hardness (Total, as CaCO3)	mg/l			8	8.1	42	43	120	120	130	130	140	150
Chloride	mg/l	500	S	19	19	21	22	22	23	22	22	21	21
Fluoride	mg/l	2	P	0.3	0.33	0.25	0.26	0.25	0.27	0.22	0.23	0.27	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.14	-0.26	0.51	0.21	0.71	0.52	0.64	0.53	0.68	0.56
Magnesium, Total, ICAP	None			0.41	0.42	3.7	3.8	10	10	11	12	9.6	9.7
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	1.8	4	4	4.5	4.5	3.9	4	3.3	3.3
Sodium, Total, ICAP	mg/l			83	86	81	85	55	59	40	41	40	40
Sulfate	mg/l	500	S	ND	ND	1	1	30	32	ND	ND	19	20
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.8	1.9	1	1.1	0.57	0.64	0.52	0.49	0.32	0.42
Carbon Dioxide	mg/l			ND	ND	ND	2.1	ND	2.5	2.2	2.9	2.5	3.2
General Physical Properties													
Apparent Color	ACU	15	S	**25**	**30**	**20**	**20**	5	5	3	3	3	ND
Lab pH	Units			8.9	8.5	8.6	8.2	8.3	8.1	8.2	8.1	8.2	8
Odor	TON	3	S	1	1	1	**3**	1	1	1	1	1	2
pH of CaCO3 saturation(25C)	Units			8.7	8.7	8	8	7.6	7.6	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	7.1	7.1	7	7
Specific Conductance	umho/cm	1600	S	370	380	430	430	470	480	410	410	440	440
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	20	20	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	1000	P	ND	ND	6	5.8	14	14	16	16	22	22
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	1.2	ND	2.4	ND	1.8	ND	ND	ND	1	ND
Hexavalent Chromium	ug/l			ND	0.021	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 Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	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
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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Carson #3											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				06/08/11	09/19/11	06/08/11	09/19/11	06/08/11	09/19/11	06/08/11	09/19/11	06/08/11	09/19/11	06/08/11	09/19/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	510	480	240	230	280	250	250	240	240	240	370	340
Cation Sum	meq/l			8.3	7.7	4	4.1	4.7	4.3	4.2	4.4	4.1	4.4	6.3	5.8
Anion Sum	meq/l			8	7.6	4	4	4.7	4.3	4.1	4.1	4.1	4.2	5.9	5.6
Iron, Total, ICAP	mg/l	0.30	S	0.062	0.056	ND	ND	0.02	ND	ND	ND	ND	ND	0.033	0.037
Manganese, Total, ICAP/MS	ug/l	50	S	20	19	18	16	16	17	23	22	22	20	30	30
Turbidity	NTU	5	S	1.4	0.78	0.95	0.33	2.5	0.57	0.79	0.37	0.46	1.2	3.5	2.6
Alkalinity	mg/l			360	350	150	150	180	170	170	170	170	180	180	180
Boron	mg/l	1	N	0.66	0.67	0.11	0.097	0.12	0.1	0.1	0.089	0.11	0.1	0.14	0.13
Bicarbonate as HCO3,calculated	mg/l			440	430	190	190	220	210	210	210	210	220	220	220
Calcium, Total, ICAP	mg/l			8.3	7.8	18	19	14	15	19	22	30	32	42	42
Carbonate as CO3, Calculated	mg/l			5	4.6	ND	ND	2.3	ND	2	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			31	29	61	64	47	49	69	79	110	120	150	150
Chloride	mg/l	500	S	17	13	22	21	26	23	23	22	22	22	27	23
Fluoride	mg/l	2	P	0.6	0.57	0.26	0.24	0.36	0.33	0.33	0.29	0.27	0.25	0.43	0.41
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.36	0.3	0.29	0.23	0.25	0.17	0.32	0.33	0.51	0.51	0.6	0.6
Magnesium, Total, ICAP	None			2.5	2.3	3.7	3.9	2.9	2.9	5.3	6	8	8.8	11	11
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			3.4	3	3.2	3.3	3.6	3.5	3.9	4.1	2.9	3.1	3.9	3.8
Sodium, Total, ICAP	mg/l			170	160	63	63	85	75	62	62	42	46	73	64
Sulfate	mg/l	500	S	16	4	17	15	15	6	5	3	1	ND	70	60
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			15	14	1.4	1.2	3	2	1.3	1.1	0.56	0.52	1.2	0.78
Carbon Dioxide	mg/l			4.1	4.3	ND	2.3	2.3	2.6	2.2	2.6	2.5	2.8	3.1	3.1
General Physical Properties															
Apparent Color	ACU	15	S	**130**	**100**	5	10	**15**	**15**	5	5	3	3	ND	3
Lab pH	Units			8.2	8.2	8.2	8.1	8.2	8.1	8.2	8.1	8.1	8.1	8.1	8.1
Odor	TON	3	S	**17**	**4**	2	1	**3**	1	1	2	1	1	**4**	1
pH of CaCO3 saturation(25C)	Units			7.9	7.9	7.9	7.9	8	8	7.9	7.8	7.6	7.6	7.5	7.5
pH of CaCO3 saturation(60C)	Units			7.4	7.5	7.5	7.4	7.5	7.5	7.4	7.3	7.2	7.2	7	7
Specific Conductance	umho/cm	1600	S	770	710	400	400	460	420	410	400	400	400	580	540
Metals															
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	ND	ND	ND	ND	ND	ND	ND	ND	1.2	1.4
Barium, Total, ICAP/MS	ug/l	1000	P	8.4	7	15	15	14	12	15	15	29	28	54	51
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	ug/l			0.04	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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	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
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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Chandler #3			
				Zone 1		Zone 2	
				04/28/11	09/22/11	04/28/11	09/22/11
General Minerals							
Total Dissolved Solid (TDS)	mg/l	1000	S	620	640	**1200**	**1100**
Cation Sum	meq/l			11	11	20	19
Anion Sum	meq/l			11	11	19	19
Iron, Total, ICAP	mg/l	0.30	S	0.19	0.21	ND	0.076
Manganese, Total, ICAP/MS	ug/l	50	S	**77**	**83**	9.3	14
Turbidity	NTU	5	S	1.3	**9.4**	4.4	**6.4**
Alkalinity	mg/l			360	350	470	430
Boron	mg/l	1	N	0.22	0.23	0.46	0.47
Bicarbonate as HCO3,calculated	mg/l			440	430	570	520
Calcium, Total, ICAP	mg/l			77	77	180	170
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			290	290	660	620
Chloride	mg/l	500	S	120	130	210	220
Fluoride	mg/l	2	P	0.26	0.26	0.19	0.19
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND
Langelier Index - 25 degree	None			0.86	0.84	1.2	1.1
Magnesium, Total, ICAP	None			23	23	49	48
Mercury	ug/l	2	P	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	**18**	**19**
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			3.7	3.6	3.8	3.6
Sodium, Total, ICAP	mg/l			130	130	150	140
Sulfate	mg/l	500	S	16	18	120	120
Surfactants	mg/l	0.5	S	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	**18**	**19**
Total Organic Carbon	mg/l			1.2	1.3	0.86	0.93
Carbon Dioxide	mg/l			12	12	23	22
General Physical Properties							
Apparent Color	ACU	15	S	5	**15**	ND	3
Lab pH	Units			7.8	7.8	7.6	7.6
Odor	TON	3	S	1	2	**3**	1
pH of CaCO3 saturation(25C)	Units			6.9	6.9	6.4	6.5
pH of CaCO3 saturation(60C)	Units			6.5	6.5	6	6
Specific Conductance	umho/cm	1600	S	1100	1100	**1800**	**1800**
Metals							
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	78
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	3.5	2.7	3.1	3.4
Barium, Total, ICAP/MS	ug/l	1000	P	37	46	130	130
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.7	1.8	5.7	6.5
Hexavalent Chromium	ug/l			ND	ND	4	3.2
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	40	73
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	6.7	8.4
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 Compounds							
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	3.9	4.5

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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Gardena #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				04/14/11	08/29/11	04/14/11	08/29/11	04/14/11	08/29/11	04/14/11	08/29/11
General Minerals											
Total Dissolved Solid (TDS)	mg/l	1000	S	350	330	330	330	340	330	**3400**	**3300**
Cation Sum	meq/l			5.8	5.8	5.6	5.8	5.5	5.7	38	40
Anion Sum	meq/l			6.2	6	5.6	5.6	5.5	5.4	44	41
Iron, Total, ICAP	mg/l	0.30	S	0.26	0.21	ND	0.022	0.033	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	**69**	**58**	**59**	**51**	40	39	ND	ND
Turbidity	NTU	5	S	**8.2**	1.1	1.7	**25**	2.2	**8.3**	**7.6**	**9.9**
Alkalinity	mg/l			280	280	180	180	170	170	190	190
Boron	mg/l	1	N	0.3	0.35	0.086	0.13	0.078	0.12	0.094	0.14
Bicarbonate as HCO3,calculated	mg/l			350	340	220	220	210	210	230	230
Calcium, Total, ICAP	mg/l			19	17	54	56	55	56	440	450
Carbonate as CO3, Calculated	mg/l			3.1	2.7	ND	ND	2.8	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			79	74	190	190	180	190	1600	1700
Chloride	mg/l	500	S	18	17	29	34	23	23	**1300**	**1200**
Fluoride	mg/l	2	P	0.19	0.19	0.39	0.4	0.36	0.37	0.14	0.14
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.51	0.42	0.76	0.57	0.92	0.6	0.93	-1.9
Magnesium, Total, ICAP	None			7.8	7.4	13	13	11	11	130	130
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	**23**	**19**
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			9.5	9.8	3.5	3.6	3.1	3.3	7.6	7.6
Sodium, Total, ICAP	mg/l			92	95	40	42	41	44	140	140
Sulfate	mg/l	500	S	ND	ND	52	45	66	67	44	41
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	**23**	**19**
Total Organic Carbon	mg/l			2.5	2.7	ND	0.36	ND	0.43	ND	0.33
Carbon Dioxide	mg/l			4.1	4.4	2.7	4.4	ND	3.5	16	13
General Physical Properties											
Apparent Color	ACU	15	S	**30**	**30**	ND	6	3	3	5	5
Lab pH	Units			8.1	8.1	8.1	7.9	8.3	8	7.4	7.5
Odor	TON	3	S	**3**	ND	1	2	1	1	ND	1
pH of CaCO3 saturation(25C)	Units			7.6	7.7	7.4	7.4	7.4	7.4	6.4	9.4
pH of CaCO3 saturation(60C)	Units			7.2	7.2	6.9	6.9	6.9	6.9	6	8.9
Specific Conductance	umho/cm	1600	S	570	580	540	540	510	530	**4200**	**4200**
Metals											
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	**200**	**130**	ND	ND	ND	ND	6.4	3.7
Barium, Total, ICAP/MS	ug/l	1000	P	19	17	60	62	29	29	560	540
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	10	11
Hexavalent Chromium	ug/l			ND	ND	ND	ND	ND	ND	6.3	6.9
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	6.9	7.1
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	50
Volatile Organic Compounds											
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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	ND	ND	10	11

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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Gardena #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				04/05/11	08/28/11	04/05/11	08/28/11	04/05/11	08/28/11	04/05/11	08/28/11	04/05/11	08/28/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	320	350	290	330	280	320	220	230	280	280
Cation Sum	meq/l			5.9	6	5.2	5.5	5.1	5.2	4.1	4.1	5.1	5.2
Anion Sum	meq/l			6.1	6	5.8	5.3	5	5.1	4.1	4	5.2	5.1
Iron, Total, ICAP	mg/l	0.30	S	0.025	0.026	0.04	0.038	0.054	0.049	0.038	0.043	0.045	0.04
Manganese, Total, ICAP/MS	ug/l	50	S	24	24	33	34	**50**	45	45	46	**61**	**60**
Turbidity	NTU	5	S	0.43	0.38	0.091	0.099	0.17	0.095	0.26	1.2	0.3	**7.7**
Alkalinity	mg/l			290	280	270	180	170	180	170	170	190	190
Boron	mg/l	1	N	0.3	0.32	0.15	0.16	0.12	0.13	0.083	0.097	0.11	0.12
Bicarbonate as HCO3,calculated	mg/l			350	340	330	220	210	220	210	210	240	230
Calcium, Total, ICAP	mg/l			16	16	37	37	46	47	30	30	47	48
Carbonate as CO3, Calculated	mg/l			4.5	3.7	4.3	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			66	66	140	140	160	170	110	110	160	160
Chloride	mg/l	500	S	13	13	13	21	23	23	21	21	39	39
Fluoride	mg/l	2	P	0.24	0.24	0.24	0.27	0.38	0.39	0.27	0.28	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			0.6	0.52	0.94	0.49	0.56	0.59	0.43	0.45	0.67	0.7
Magnesium, Total, ICAP	None			6.3	6.3	12	12	12	12	9	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	5.7	5.8	3.6	3.7	3.1	3.2	2.9	3
Sodium, Total, ICAP	mg/l			100	100	53	58	41	41	40	40	42	43
Sulfate	mg/l	500	S	ND	ND	ND	54	44	43	ND	ND	8	7
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.2	3.4	0.5	0.6	0.43	0.42	0.54	0.65	ND	0.41
Carbon Dioxide	mg/l			2.8	3.3	2.7	3.3	3.2	3.4	3	2.7	3.3	3.1
General Physical Properties													
Apparent Color	ACU	15	S	**35**	**25**	5	3	3	ND	5	ND	3	ND
Lab pH	Units			8.3	8.2	8.3	8	8	8	8.1	8.1	8.1	8.1
Odor	TON	3	S	**3**	1	1	2	**3**	2	1	1	**3**	2
pH of CaCO3 saturation(25C)	Units			7.7	7.7	7.4	7.5	7.5	7.4	7.6	7.6	7.4	7.4
pH of CaCO3 saturation(60C)	Units			7.3	7.3	6.9	7.1	7	7	7.2	7.2	7	6.9
Specific Conductance	umho/cm	1600	S	580	570	580	540	510	490	390	390	500	500
Metals													
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	1000	P	20	20	19	19	23	21	47	45	82	85
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	1.6	ND	1	ND	ND	ND	ND
Hexavalent Chromium	ug/l			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	15
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 Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	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
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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Hawthorne #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				05/11/11	09/25/11	05/11/11	09/25/11	05/11/11	09/25/11	05/11/11	09/25/11	05/11/11	09/25/11	05/11/11	09/25/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	890	890	810	840	620	640	440	460	880	**1000**	**1500**	**1600**
Cation Sum	meq/l			15	14	14	14	12	11	8.2	8.4	15	14	27	26
Anion Sum	meq/l			16	15	14	14	12	11	8.2	8.3	16	15	28	26
Iron, Total, ICAP	mg/l	0.30	S	0.14	0.14	0.14	0.14	0.2	0.19	0.022	0.026	0.029	0.022	0.045	0.061
Manganese, Total, ICAP/MS	ug/l	50	S	13	14	**52**	**58**	**67**	**66**	37	36	**180**	**150**	**470**	**510**
Turbidity	NTU	5	S	0.18	1.2	0.21	0.93	1.6	0.81	0.96	0.65	0.57	0.36	2.9	3.4
Alkalinity	mg/l			720	700	660	650	520	510	340	340	210	200	330	310
Boron	mg/l	1	N	**1.3**	**1.3**	**1**	0.99	0.69	0.68	0.39	0.37	0.16	0.13	0.32	0.3
Bicarbonate as HCO3,calculated	mg/l			870	840	790	790	630	620	410	410	260	250	400	380
Calcium, Total, ICAP	mg/l			15	14	12	12	38	37	38	38	130	120	220	210
Carbonate as CO3, Calculated	mg/l			10	7.4	15	8.8	8.7	7.2	5.7	4.5	4.2	2.9	3	3
Hardness (Total, as CaCO3)	mg/l			92	87	67	66	200	190	170	170	510	470	830	790
Chloride	mg/l	500	S	46	46	40	39	44	43	51	54	350	330	490	480
Fluoride	mg/l	2	P	0.096	0.12	0.22	0.25	0.2	0.23	0.36	0.37	0.27	0.32	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			0.93	0.77	1	0.77	1.3	1.2	1.1	0.97	1.5	1.3	1.6	1.5
Magnesium, Total, ICAP	None			13	12	8.8	8.6	25	24	18	18	46	42	67	63
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			21	19	14	13	15	14	9.8	9.9	7.7	6.9	7	6.5
Sodium, Total, ICAP	mg/l			300	280	290	280	170	170	110	110	110	97	240	230
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	75	65	350	310
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.073	0.067
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			14	14	14	15	6.3	6.8	2.6	2.9	0.97	1.1	1.6	1.8
Carbon Dioxide	mg/l			8	10	4.5	7.6	4.8	5.6	3.1	4	ND	2.3	5.7	5.2
General Physical Properties															
Apparent Color	ACU	15	S	**150**	**150**	**200**	**200**	**50**	**50**	**20**	**25**	5	ND	3	ND
Lab pH	Units			8.3	8.1	8.5	8.2	8.3	8.2	8.3	8.2	8.4	8.2	8.1	8.1
Odor	TON	3	S	2	**3**	1	**3**	2	2	1	2	1	**3**	**17**	2
pH of CaCO3 saturation(25C)	Units			7.3	7.4	7.4	7.5	7.1	7.1	7.3	7.2	6.9	7	6.5	6.5
pH of CaCO3 saturation(60C)	Units			6.9	6.9	7	7	6.6	6.6	6.8	6.8	6.5	6.5	6	6.1
Specific Conductance	umho/cm	1600	S	1400	1400	1300	1300	1000	1000	760	770	1500	1400	**2600**	**2500**
Metals															
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	ND	ND	ND	ND	ND	ND	1.9	ND	3.1	3.5
Barium, Total, ICAP/MS	ug/l	1000	P	33	31	26	26	38	37	35	35	140	120	44	48
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	1.3	1.7	1.5	ND	1.6	ND	2.9	3.2	2.4	2.5
Hexavalent Chromium	ug/l			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 Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	0.51	ND	**24**	**18**
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	0.8	0.61
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.71	0.67
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	5.1	3.9
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-Freon11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.1
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	0.71
Isopropylbenzene	ug/l	770	N	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	1.2	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
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND
Benzene	ug/l	1	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	2	1.9
Perchlorate	ug/l	6	P	ND	ND	ND	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 3.2
WEST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Inglewood #1							
				Zone 1		Zone 3		Zone 4		Zone 5	
				05/20/11	09/14/11	05/20/11	09/14/11	05/20/11	09/14/11	05/20/11	09/14/11
General Minerals											
Total Dissolved Solid (TDS)	mg/l	1000	S	**3100**	**3500**	**1200**	**1300**	790	960	**1300**	**1400**
Cation Sum	meq/l			50	57	22	21	13	14	21	22
Anion Sum	meq/l			53	59	21	22	14	14	21	22
Iron, Total, ICAP	mg/l	0.30	S	2.1	3.7	0.51	0.49	0.35	0.38	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	20	32	**380**	**380**	**220**	**220**	4.3	4.7
Turbidity	NTU	5	S	2.8	**5.7**	2.4	3.4	2.1	2.5	0.21	0.93
Alkalinity	mg/l			1100	1200	330	320	240	230	300	290
Boron	mg/l	1	N	**6**	**7.1**	0.45	0.43	0.19	0.2	0.25	0.25
Bicarbonate as HCO3,calculated	mg/l			1300	1500	400	400	290	280	360	350
Calcium, Total, ICAP	mg/l			150	130	150	150	100	110	180	190
Carbonate as CO3, Calculated	mg/l			6.9	10	3.9	ND	ND	ND	ND	4
Hardness (Total, as CaCO3)	mg/l			590	510	630	620	450	470	710	740
Chloride	mg/l	500	S	**1100**	**1200**	410	420	260	260	390	390
Fluoride	mg/l	2	P	0.29	0.3	0.46	0.45	0.39	0.39	0.23	0.22
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.7	1.9	1.5	1.1	0.94	0.72	1	1.6
Magnesium, Total, ICAP	None			55	48	62	60	45	47	66	68
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	9	**10**
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			21	28	8.5	7.5	9.3	9.5	8.7	8.6
Sodium, Total, ICAP	mg/l			870	1000	200	190	97	100	150	150
Sulfate	mg/l	500	S	44	7	140	150	99	110	180	200
Surfactants	mg/l	0.5	S	0.061	0.074	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	9	**10**
Total Organic Carbon	mg/l			7.9	66	1.3	1.3	0.69	0.65	0.82	0.82
Carbon Dioxide	mg/l			28	22	4.3	11	5.8	10	13	3.3
General Physical Properties											
Apparent Color	ACU	15	S	**200**	**250**	**15**	**15**	**15**	10	ND	ND
Lab pH	Units			7.9	8	8.2	7.8	7.9	7.7	7.7	8.2
Odor	TON	3	S	**8**	**4**	1	1	ND	ND	ND	1
pH of CaCO3 saturation(25C)	Units			6.2	6.2	6.7	6.7	7	6.9	6.6	6.6
pH of CaCO3 saturation(60C)	Units			5.7	5.7	6.2	6.2	6.5	6.5	6.2	6.2
Specific Conductance	umho/cm	1600	S	**5000**	**5700**	**2000**	**2100**	1300	1400	**2000**	**2000**
Metals											
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	1.5	2	1.1	1.4	1.6	2.1
Barium, Total, ICAP/MS	ug/l	1000	P	320	420	49	51	120	120	240	240
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	2.8	3.7	1.6	2.4	2	3.6
Hexavalent Chromium	ug/l			ND	ND	ND	ND	ND	ND	0.12	0.096
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	36	42	5.6	9.3	ND	ND	8.8	9.7
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 Compounds											
Trichloroethylene (TCE)	ug/l	5	P	0.91	0.9	ND	ND	ND	ND	0.96	0.82
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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	ND	ND	ND	2.6

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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Lomita #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				04/07/11	08/30/11	04/07/11	08/30/11	04/07/11	08/30/11	04/07/11	08/30/11	04/07/11	08/30/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	**1900**	**2500**	**1200**	**1200**	900	**1000**	710	920	**1500**	**1900**
Cation Sum	meq/l			29	30	19	19	16	17	16	15	26	26
Anion Sum	meq/l			30	30	18	19	15	17	12	14	25	26
Iron, Total, ICAP	mg/l	0.30	S	0.17	0.19	ND	ND	ND	0.022	0.03	0.032	0.14	0.14
Manganese, Total, ICAP/MS	ug/l	50	S	**500**	**520**	**220**	**240**	**140**	**180**	**160**	**160**	**350**	**370**
Turbidity	NTU	5	S	0.88	0.91	3.5	1.6	1.1	0.64	1.6	0.62	0.7	0.64
Alkalinity	mg/l			280	280	270	260	320	320	260	260	280	280
Boron	mg/l	1	N	0.71	0.65	0.44	0.43	0.39	0.39	0.43	0.42	0.53	0.51
Bicarbonate as HCO3,calculated	mg/l			340	340	320	320	390	390	310	310	340	340
Calcium, Total, ICAP	mg/l			250	260	150	150	110	120	110	110	210	220
Carbonate as CO3, Calculated	mg/l			2.8	ND	ND	2.5	ND	2.6	2.1	2.2	2.4	2
Hardness (Total, as CaCO3)	mg/l			930	940	530	530	400	430	420	390	780	780
Chloride	mg/l	500	S	**860**	**860**	440	470	300	350	240	310	**670**	**710**
Fluoride	mg/l	2	P	0.081	0.08	0.14	0.14	0.14	0.13	0.2	0.19	0.084	0.085
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.6	1.4	1.1	1.3	1.1	1.2	1.1	1.1	1.5	1.4
Magnesium, Total, ICAP	None			72	69	41	41	31	34	32	30	59	59
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	0	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			18	16	13	13	11	11	11	10	16	15
Sodium, Total, ICAP	mg/l			240	260	190	190	190	190	170	160	240	240
Sulfate	mg/l	500	S	12	17	29	28	24	28	14	16	30	32
Surfactants	mg/l	0.5	S	ND	0.058	ND	ND	ND	ND	ND	ND	ND	0.051
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	0	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.93	1.1	1	1.3	2.6	2.7	2.2	2.2	0.77	2.8
Carbon Dioxide	mg/l			4.4	6.1	7	4.4	8.3	6.2	4.9	4.8	5.1	6
General Physical Properties													
Apparent Color	ACU	15	S	10	5	**20**	10	**25**	**15**	**30**	**20**	10	5
Lab pH	Units			8.1	8	7.9	8.1	7.9	8	8	8	8	8
Odor	TON	3	S	**8**	2	**8**	**3**	**8**	2	2	2	**8**	**3**
pH of CaCO3 saturation(25C)	Units			6.5	6.5	6.8	6.8	6.8	6.8	6.9	6.9	6.6	6.6
pH of CaCO3 saturation(60C)	Units			6.1	6	6.3	6.3	6.4	6.3	6.4	6.5	6.1	6.1
Specific Conductance	umho/cm	1600	S	**3200**	**3100**	**2000**	**2000**	**1600**	**1700**	1300	1500	**2700**	**2700**
Metals													
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	3.6	2.4	2.1	1.5	1.7	1.5	1.5	1.1	2.8	2
Barium, Total, ICAP/MS	ug/l	1000	P	130	140	82	86	60	70	64	61	120	120
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	2.6	1.6	1.6	1.4	ND	1.2	1.2	1.2	2.1	1.7
Hexavalent Chromium	ug/l			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	12	15	6.3	7.5	ND	5.5	ND	ND	9.3	11
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 Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	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
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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Long Beach #3									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				04/06/11	08/22/11	04/06/11	08/22/11	04/06/11	08/22/11	04/06/11	08/22/11	04/06/11	08/22/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	450	460	220	240	230	240	**1700**	**2400**	**2000**	**2600**
Cation Sum	meq/l			8.3	7.7	3.8	4	4	4.2	26	28	32	31
Anion Sum	meq/l			8.2	8	3.8	3.8	4.1	4	25	30	32	33
Iron, Total, ICAP	mg/l	0.30	S	0.055	0.044	ND	ND	0.025	0.027	0.17	0.2	0.3	0.3
Manganese, Total, ICAP/MS	ug/l	50	S	12	13	8.2	7.4	11	10	**250**	**290**	**400**	**410**
Turbidity	NTU	5	S	0.54	2.4	0.078	0.25	0.16	0.18	0.79	1	1.6	1.8
Alkalinity	mg/l			380	370	140	140	160	150	130	120	140	140
Boron	mg/l	1	N	0.39	0.37	0.12	0.13	0.13	0.14	0.1	0.12	0.1	0.11
Bicarbonate as HCO3,calculated	mg/l			470	450	170	160	190	190	150	150	170	170
Calcium, Total, ICAP	mg/l			12	11	17	18	20	21	290	330	390	390
Carbonate as CO3, Calculated	mg/l			7.3	7.7	2.8	2.6	2.2	2.1	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			45	42	55	56	64	67	1000	1200	1300	1300
Chloride	mg/l	500	S	18	18	20	21	32	33	**770**	**920**	**970**	**1000**
Fluoride	mg/l	2	P	0.5	0.49	0.35	0.35	0.29	0.29	0.15	0.14	0.14	0.14
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.68	0.67	0.42	0.4	0.38	0.38	0.95	1.1	1.1	1.2
Magnesium, Total, ICAP	None			3.7	3.5	3	3	3.5	3.6	74	85	88	89
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			3.7	3.4	2.1	2.1	2.4	2.5	12	13	9.9	9.9
Sodium, Total, ICAP	mg/l			170	160	61	64	61	64	110	120	110	110
Sulfate	mg/l	500	S	ND	ND	24	25	ND	ND	65	66	69	70
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			7.6	7.8	1.2	1.4	2.4	2.6	0.6	0.75	0.63	0.76
Carbon Dioxide	mg/l			3.2	2.8	ND	ND	ND	ND	4.5	3.2	5.1	3.9
General Physical Properties													
Apparent Color	ACU	15	S	**80**	**60**	**15**	**20**	**20**	**25**	5	5	10	10
Lab pH	Units			8.4	8.4	8.4	8.4	8.2	8.2	7.7	7.9	7.7	7.8
Odor	TON	3	S	**3**	2	2	1	1	1	**8**	1	**4**	1
pH of CaCO3 saturation(25C)	Units			7.7	7.7	8	8	7.9	7.8	6.8	6.8	6.6	6.6
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7.5	7.5	7.4	7.4	6.3	6.3	6.2	6.2
Specific Conductance	umho/cm	1600	S	740	740	370	380	390	400	**2800**	**3100**	**3400**	**3400**
Metals													
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	3.2	2.8	4.3	3.2
Barium, Total, ICAP/MS	ug/l	1000	P	8.9	8.8	16	14	8.2	7.5	97	110	180	200
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	5.3	2.7	6.1	2.5
Hexavalent Chromium	ug/l			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	9.1	12	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 Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	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
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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Long Beach #8					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				08/08/11	08/09/11	08/09/11	08/08/11	08/09/11	08/08/11
General Minerals									
Total Dissolved Solid (TDS)	mg/l	1000	S	680	600	900	**1300**	**1000**	**1200**
Cation Sum	meq/l			11	9.4	14	23	18	18
Anion Sum	meq/l			11	10	15	24	18	19
Iron, Total, ICAP	mg/l	0.30	S	0.15	0.16	0.18	0.19	1.6	0.98
Manganese, Total, ICAP/MS	ug/l	50	S	19	26	31	22	**130**	**540**
Turbidity	NTU	5	S	0.77	0.63	0.64	0.39	**20**	**12**
Alkalinity	mg/l			530	460	620	390	300	200
Boron	mg/l	1	N	**1.1**	0.71	**1.2**	**1**	0.55	0.2
Bicarbonate as HCO3,calculated	mg/l			640	550	750	470	360	250
Calcium, Total, ICAP	mg/l			7.4	8.6	10	47	60	110
Carbonate as CO3, Calculated	mg/l			12	7.5	11	3.7	2.3	ND
Hardness (Total, as CaCO3)	mg/l			27	34	46	260	260	450
Chloride	mg/l	500	S	21	33	86	**570**	430	**500**
Fluoride	mg/l	2	P	0.8	0.8	0.57	0.22	0.18	0.42
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.69	0.55	0.8	0.98	0.89	0.73
Magnesium, Total, ICAP	None			2.1	3	5	34	27	41
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			1.8	3.6	6.8	12	9.5	6.6
Sodium, Total, ICAP	mg/l			240	200	300	400	280	200
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	23
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			20	23	36	22	16	2
Carbon Dioxide	mg/l			3.7	4.4	5.4	6.4	6	7.6
General Physical Properties									
Apparent Color	ACU	15	S	**400**	**100**	**200**	**75**	**50**	**15**
Lab pH	Units			8.4	8.3	8.4	8.1	8	7.7
Odor	TON	3	S	**4**	**4**	**3**	**3**	**4**	**8**
pH of CaCO3 saturation(25C)	Units			7.8	7.8	7.6	7.1	7.1	7
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7.1	6.6	6.7	6.6
Specific Conductance	umho/cm	1600	S	1000	940	1400	**2400**	**1800**	**1900**
Metals									
Aluminum, Total, ICAP/MS	ug/l	1000	P	20	ND	ND	ND	740	25
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	1.2	ND	1.4	6.6
Barium, Total, ICAP/MS	ug/l	1000	P	9.6	8.9	14	24	37	76
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	3.2	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	1.2	1.4	ND	1.7	1.1
Hexavalent Chromium	ug/l			ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	0.74	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	17	12	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 Compounds									
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Manhattan Beach #1			
				Zone 3	Zone 5	Zone 6	Zone 7
				06/15/11	06/15/11	06/15/11	06/15/11
General Minerals							
Total Dissolved Solid (TDS)	mg/l	1000	S	**1400**	**26000**	**9900**	730
Cation Sum	meq/l			23	380	130	12
Anion Sum	meq/l			22	400	140	11
Iron, Total, ICAP	mg/l	0.30	S	0.22	4.4	1.3	0.15
Manganese, Total, ICAP/MS	ug/l	50	S	37	**460**	**800**	41
Turbidity	NTU	5	S	4.3	**40**	**13**	**6.3**
Alkalinity	mg/l			910	140	170	160
Boron	mg/l	1	N	**3.5**	ND	ND	0.2
Bicarbonate as HCO3,calculated	mg/l			1100	160	210	190
Calcium, Total, ICAP	mg/l			17	1800	950	48
Carbonate as CO3, Calculated	mg/l			13	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			90	8700	3600	180
Chloride	mg/l	500	S	130	**13000**	**4400**	150
Fluoride	mg/l	2	P	0.39	0.09	0.17	0.43
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND
Langelier Index - 25 degree	None			1.1	1.5	1.6	0.6
Magnesium, Total, ICAP	None			12	1000	290	14
Mercury	ug/l	2	P	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	8	2
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND
Potassium, Total, ICAP	mg/l			25	110	41	7.1
Sodium, Total, ICAP	mg/l			470	4600	1300	190
Sulfate	mg/l	500	S	29	**1500**	**580**	170
Surfactants	mg/l	0.5	S	0.078	0.076	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	8	2
Total Organic Carbon	mg/l			47	2.4	0.78	3.3
Carbon Dioxide	mg/l			9.7	9.3	5.9	2.6
General Physical Properties							
Apparent Color	ACU	15	S	**300**	**50**	**15**	**20**
Lab pH	Units			8.3	7.5	7.8	8.1
Odor	TON	3	S	**40**	**3**	**3**	**4**
pH of CaCO3 saturation(25C)	Units			7.2	6	6.1	7.5
pH of CaCO3 saturation(60C)	Units			6.7	5.5	5.7	7
Specific Conductance	umho/cm	1600	S	**2100**	**33000**	**12000**	1200
Metals							
Aluminum, Total, ICAP/MS	ug/l	1000	P	30	ND	ND	210
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.6	**35**	**12**	**11**
Barium, Total, ICAP/MS	ug/l	1000	P	73	200	230	13
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.7	4.9	3.4	ND
Hexavalent Chromium	ug/l			0.04	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	25	20	ND
Selenium, Total, ICAP/MS	ug/l	50	P	7.3	**76**	25	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 Compounds							
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND
MTBE	ug/l	13	P	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	PM-3 Madrid							
				Zone 1		Zone 2		Zone 3		Zone 4	
				04/04/11	08/24/11	04/04/11	08/24/11	04/04/11	08/24/11	04/04/11	08/24/11
General Minerals											
Total Dissolved Solid (TDS)	mg/l	1000	S	380	410	310	470	720	700	**1100**	**1000**
Cation Sum	meq/l			6.8	7.2	5.7	7.8	10	11	15	16
Anion Sum	meq/l			7.1	7	5.9	7.6	10	11	16	16
Iron, Total, ICAP	mg/l	0.30	S	0.048	0.051	0.13	0.15	0.1	0.098	0.33	0.38
Manganese, Total, ICAP/MS	ug/l	50	S	26	27	42	**51**	**54**	**53**	**330**	**390**
Turbidity	NTU	5	S	0.8	1.6	0.37	0.51	1.5	1.2	3.3	2.9
Alkalinity	mg/l			320	310	200	190	200	190	200	200
Boron	mg/l	1	N	0.34	0.36	0.11	0.13	0.2	0.21	0.4	0.41
Bicarbonate as HCO3,calculated	mg/l			390	380	240	230	240	240	250	250
Calcium, Total, ICAP	mg/l			12	12	44	66	85	90	110	130
Carbonate as CO3, Calculated	mg/l			7.7	4.6	2.9	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			69	72	170	240	320	330	440	490
Chloride	mg/l	500	S	23	23	70	140	230	240	370	370
Fluoride	mg/l	2	P	0.3	0.28	0.37	0.3	0.33	0.3	0.31	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.7	0.5	0.85	0.63	0.91	0.73	0.88	0.78
Magnesium, Total, ICAP	None			9.5	9.8	14	19	25	25	36	39
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			12	13	3.3	4	5.2	5.2	6.5	6.8
Sodium, Total, ICAP	mg/l			120	120	53	65	89	90	140	140
Sulfate	mg/l	500	S	ND	ND	ND	ND	2	1	58	61
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.1	3.3	0.56	0.65	0.72	0.86	0.94	0.99
Carbon Dioxide	mg/l			2.1	3.4	2.1	4.8	3.6	5.5	5.4	7.8
General Physical Properties											
Apparent Color	ACU	15	S	**20**	**30**	5	5	3	ND	10	10
Lab pH	Units			8.5	8.3	8.3	7.9	8	7.8	7.9	7.7
Odor	TON	3	S	2	2	1	2	2	1	**3**	2
pH of CaCO3 saturation(25C)	Units			7.8	7.8	7.4	7.3	7.1	7.1	7	6.9
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7	6.8	6.7	6.7	6.5	6.5
Specific Conductance	umho/cm	1600	S	660	660	600	800	1100	1100	**1600**	**1700**
Metals											
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	5.3	5.4
Barium, Total, ICAP/MS	ug/l	1000	P	21	20	20	25	62	58	81	84
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	1	2.4	1.6	3.1	2.1
Hexavalent Chromium	ug/l			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 Compounds											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.96	1.3
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	2.6	2.4	**16**	**18**
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	0.71	0.71	1.4	1.7
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	1.2	1.1
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	PM-4 Mariner							
				Zone 1		Zone 2		Zone 3		Zone 4	
				04/17/11	08/28/11	04/17/11	08/28/11	04/17/11	08/28/11	04/17/11	08/28/11
General Minerals											
Total Dissolved Solid (TDS)	mg/l	1000	S	350	340	**16000**	**15000**	690	710	640	650
Cation Sum	meq/l			5.8	5.9	200	180	11	11	10	10
Anion Sum	meq/l			6.1	5.8	220	210	11	11	10	10
Iron, Total, ICAP	mg/l	0.30	S	0.069	0.066	0.22	0.21	0.029	0.023	0.16	0.15
Manganese, Total, ICAP/MS	ug/l	50	S	31	32	**960**	**950**	32	32	**76**	**77**
Turbidity	NTU	5	S	0.17	0.1	1.8	1.4	0.72	0.42	0.53	0.39
Alkalinity	mg/l			260	250	160	160	230	210	200	190
Boron	mg/l	1	N	0.11	0.17	0.2	0.23	0.19	0.26	0.19	0.24
Bicarbonate as HCO3,calculated	mg/l			320	300	190	190	280	260	240	230
Calcium, Total, ICAP	mg/l			27	27	1400	1500	41	38	72	71
Carbonate as CO3, Calculated	mg/l			2.9	2.3	ND	ND	2.6	2.4	ND	ND
Hardness (Total, as CaCO3)	mg/l			120	120	5400	4600	150	140	260	260
Chloride	mg/l	500	S	28	27	**6900**	**6600**	120	120	120	120
Fluoride	mg/l	2	P	0.34	0.35	0.092	0.092	0.63	0.77	0.27	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.63	0.53	1.5	1.4	0.77	0.7	0.83	0.81
Magnesium, Total, ICAP	None			12	12	440	460	11	10	20	19
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			6.7	7	60	58	6.5	6.1	6.3	6.1
Sodium, Total, ICAP	mg/l			77	78	2100	2200	180	180	110	110
Sulfate	mg/l	500	S	ND	ND	**830**	**800**	170	160	150	150
Surfactants	mg/l	0.5	S	ND	ND	0.12	0.064	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.6	1.8	1.1	1.4	1.6	1.7	1	1.1
Carbon Dioxide	mg/l			3.8	4.4	9.2	10	3.1	3	3.6	3.4
General Physical Properties											
Apparent Color	ACU	15	S	**15**	10	5	5	**20**	**15**	5	5
Lab pH	Units			8.1	8	7.5	7.5	8.2	8.2	8	8
Odor	TON	3	S	1	1	1	1	1	2	1	2
pH of CaCO3 saturation(25C)	Units			7.5	7.5	6	6.1	7.4	7.4	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7.1	7.1	5.6	5.6	6.9	7	6.8	6.8
Specific Conductance	umho/cm	1600	S	560	560	**20000**	**19000**	1100	1100	1000	1000
Metals											
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	**27**	**23**	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	21	20	220	220	79	74	48	48
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	1.2	1.2	ND	1.2	ND
Hexavalent Chromium	ug/l			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	14	10	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	43	40	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 Compounds											
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	PM-5 Columbia Park											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				03/28/11	09/01/11	03/28/11	09/01/11	03/28/11	09/01/11	03/28/11	09/01/11	03/28/11	09/01/11	03/28/11	09/01/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	**1000**	**1000**	**1100**	**1200**	510	550	370	390	**4100**	**3300**	800	800
Cation Sum	meq/l			16	16	19	19	9.1	9.2	6.7	6.8	50	50	13	13
Anion Sum	meq/l			17	17	19	19	9.2	9.1	6.7	6.6	53	52	14	13
Iron, Total, ICAP	mg/l	0.30	S	0.16	0.15	0.3	0.31	0.05	0.054	0.022	0.026	0.12	0.12	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	**68**	**65**	41	42	37	37	19	20	**450**	**390**	**130**	**130**
Turbidity	NTU	5	S	0.47	1.3	2.3	4.5	0.58	0.93	0.73	0.9	1	0.73	**7.5**	1.1
Alkalinity	mg/l			700	690	920	900	420	410	290	280	170	170	230	210
Boron	mg/l	1	N	**2.5**	**2.5**	**1.9**	**1.9**	0.35	0.37	0.19	0.2	0.22	0.24	0.19	0.2
Bicarbonate as HCO3,calculated	mg/l			850	840	1100	1100	510	500	350	340	210	200	280	260
Calcium, Total, ICAP	mg/l			13	13	8.1	8	13	13	23	25	440	420	99	100
Carbonate as CO3, Calculated	mg/l			8.1	11	13	15	7.3	4.2	3.5	2.2	ND	2.3	2.1	2
Hardness (Total, as CaCO3)	mg/l			58	58	42	43	63	63	110	110	1500	1500	350	350
Chloride	mg/l	500	S	110	98	17	16	31	33	31	34	**1500**	**1500**	180	170
Fluoride	mg/l	2	P	0.64	0.64	0.31	0.32	0.27	0.27	0.31	0.32	0.13	0.13	0.3	0.32
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.76	0.88	0.77	0.82	0.72	0.48	0.65	0.48	1.2	1.7	1.1	1
Magnesium, Total, ICAP	None			6.2	6.2	5.3	5.6	7.2	7.2	12	12	110	100	24	24
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	0	ND	ND	ND	ND	ND	ND	ND	1	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			13	13	10	10	14	15	10	11	17	16	6.3	6.3
Sodium, Total, ICAP	mg/l			340	340	400	420	170	170	100	99	430	470	140	140
Sulfate	mg/l	500	S	ND	1	2	1	1	ND	1	ND	310	340	190	180
Surfactants	mg/l	0.5	S	0.068	0.067	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	0	ND	ND	ND	ND	ND	ND	ND	1	ND	ND	ND
Total Organic Carbon	mg/l			38	41	36	39	6.3	6.6	2.7	2.6	0.61	0.78	1.1	1.2
Carbon Dioxide	mg/l			9.5	7	10	8.6	3.8	6.3	3.8	5.8	6.5	ND	3.8	3.5
General Physical Properties															
Apparent Color	ACU	15	S	**200**	**250**	**750**	**800**	**50**	**40**	**20**	**20**	5	ND	5	ND
Lab pH	Units			8.2	8.3	8.3	8.3	8.3	8.1	8.2	8	7.7	8.2	8.1	8.1
Odor	TON	3	S	1	2	2	2	1	1	1	1	1	1	ND	1
pH of CaCO3 saturation(25C)	Units			7.4	7.4	7.5	7.5	7.6	7.6	7.5	7.5	6.5	6.5	7	7
pH of CaCO3 saturation(60C)	Units			7	7	7	7	7.2	7.2	7.1	7.1	6	6	6.6	6.6
Specific Conductance	umho/cm	1600	S	**1600**	1500	**1700**	**1600**	860	840	630	620	**5200**	**5100**	1300	1300
Metals															
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	1.8	4.7	4.8	1.8	1.8	1.5	ND	5.8	5.1	1.6	1
Barium, Total, ICAP/MS	ug/l	1000	P	87	92	25	26	25	25	15	16	190	170	160	160
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	ND	1	2.7	2.9	ND	ND	ND	ND	5.6	ND	1.6	ND
Hexavalent Chromium	ug/l			ND	ND	ND	0.033	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	6.3	5.6	ND	ND	ND	ND	ND	ND	6.4	7.8	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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	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
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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	PM-6 Madrona Marsh											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				03/30/11	09/07/11	03/30/11	09/07/11	03/30/11	09/07/11	03/30/11	09/07/11	03/30/11	09/07/11	03/30/11	09/07/11
General Minerals															
Total Dissolved Solid (TDS)	mg/l	1000	S	**1600**	**1500**	**4900**	**4700**	**14000**	**16000**	370	350	**4600**	**4100**	910	850
Cation Sum	meq/l			27	26	70	69	180	180	6.5	6.2	55	52	15	15
Anion Sum	meq/l			29	26	73	75	180	73	6.5	6.2	60	56	15	15
Iron, Total, ICAP	mg/l	0.30	S	0.05	0.045	0.12	0.11	0.17	0.2	0.054	0.053	1.3	1.2	0.25	0.25
Manganese, Total, ICAP/MS	ug/l	50	S	**55**	38	**190**	**200**	**310**	**330**	**79**	**82**	**1000**	**920**	**200**	**190**
Turbidity	NTU	5	S	**13**	**5.8**	1.3	0.35	**16**	**28**	0.95	0.11	**8.5**	**9.2**	1.1	1.1
Alkalinity	mg/l			490	480	130	130	140	170	250	240	190	170	200	200
Boron	mg/l	1	N	0.76	0.79	0.55	0.52	0.26	ND	0.24	0.25	0.21	0.22	0.17	0.17
Bicarbonate as HCO3,calculated	mg/l			600	590	160	160	170	210	300	290	230	200	250	240
Calcium, Total, ICAP	mg/l			94	92	180	170	1000	1000	18	17	470	410	120	110
Carbonate as CO3, Calculated	mg/l			4.5	5	ND	ND	ND	ND	3.8	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			550	530	810	760	5700	5700	91	88	1800	1500	430	420
Chloride	mg/l	500	S	**680**	**580**	**2500**	**2600**	**6100**	**2400**	52	51	**1800**	**1600**	290	300
Fluoride	mg/l	2	P	0.44	0.45	0.076	0.075	0.089	0.063	0.5	0.49	0.12	0.1	0.21	0.2
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.4	1.4	0.87	0.9	1.8	1.9	0.58	0.24	1.1	1.1	1	0.8
Magnesium, Total, ICAP	None			75	74	89	84	770	760	11	11	140	120	34	34
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			15	14	47	43	100	88	6.1	5.5	21	19	7.4	7
Sodium, Total, ICAP	mg/l			360	350	1200	1200	1400	1400	100	99	460	480	140	140
Sulfate	mg/l	500	S	4	10	ND	ND	81	50	ND	ND	240	370	130	120
Surfactants	mg/l	0.5	S	ND	ND	ND	0.051	0.059	0.069	ND	ND	ND	0.078	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			6.8	8.4	0.99	1.3	1.2	2	2.2	2.4	1.1	1.2	1.4	1.4
Carbon Dioxide	mg/l			8.3	7.5	3.8	3.2	2.6	3.5	2.5	5	13	8.6	4	6.1
General Physical Properties															
Apparent Color	ACU	15	S	**200**	**200**	10	10	**100**	**50**	**20**	**25**	**20**	**15**	10	10
Lab pH	Units			8.1	8.1	7.9	7.9	8	8	8.3	8	7.5	7.6	8	7.8
Odor	TON	3	S	**3**	**3**	1	1	**100**	**200**	1	2	1	1	1	1
pH of CaCO3 saturation(25C)	Units			6.7	6.7	7	7	6.2	6.1	7.7	7.7	6.4	6.5	7	7
pH of CaCO3 saturation(60C)	Units			6.2	6.3	6.5	6.6	5.8	5.7	7.3	7.3	6	6.1	6.5	6.6
Specific Conductance	umho/cm	1600	S	**2900**	**2800**	**7900**	**7600**	**18000**	**18000**	620	620	**5800**	**5600**	1500	**1600**
Metals															
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	1.8	8	8.2	**20**	**22**	ND	ND	7.4	7.1	3.1	2.7
Barium, Total, ICAP/MS	ug/l	1000	P	250	260	480	470	**2500**	**2400**	19	20	190	180	31	30
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	1.2	1.1	11	1.4	18	9.3	1.1	ND	7.4	4.1	3.3	1.1
Hexavalent Chromium	ug/l			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	9.8	8.4	12	16	**69**	**150**	ND	ND	8.1	8.8	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 Compounds															
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 (Trichloromethane)	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-Freon11	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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	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
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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Westchester #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				04/14/11	09/09/11	04/14/11	09/09/11	04/14/11	09/09/11	04/14/11	09/09/11	04/14/11	09/09/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	**1000**	**1000**	750	730	610	610	590	590	560	550
Cation Sum	meq/l			17	18	13	13	11	11	10	11	9.6	10
Anion Sum	meq/l			17	17	13	13	11	11	10	10	9.5	9.1
Iron, Total, ICAP	mg/l	0.30	S	0.22	0.23	0.13	0.13	0.2	0.21	0.13	0.14	0.28	0.3
Manganese, Total, ICAP/MS	ug/l	50	S	**100**	**94**	**56**	**52**	**130**	**130**	**120**	**120**	**160**	**160**
Turbidity	NTU	5	S	3	**5.4**	2.3	0.95	0.2	0.21	0.27	0.21	0.78	0.55
Alkalinity	mg/l			680	690	560	540	460	450	350	350	310	280
Boron	mg/l	1	N	**1.3**	**1.5**	0.84	0.86	0.43	0.48	0.19	0.25	0.18	0.23
Bicarbonate as HCO3,calculated	mg/l			830	840	670	660	560	550	430	420	370	340
Calcium, Total, ICAP	mg/l			54	53	30	30	45	47	71	74	67	69
Carbonate as CO3, Calculated	mg/l			5.9	8.9	7.9	5.6	10	5.1	3.2	4.6	2.6	3
Hardness (Total, as CaCO3)	mg/l			230	230	150	150	200	210	300	310	280	280
Chloride	mg/l	500	S	100	94	67	64	61	62	61	64	63	66
Fluoride	mg/l	2	P	0.26	0.26	0.26	0.24	0.25	0.23	0.26	0.24	0.31	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.2	1.4	1.1	0.98	1.4	1.1	1.1	1.3	0.98	1
Magnesium, Total, ICAP	None			24	24	18	18	22	22	29	31	27	28
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			13	14	15	15	12	13	9.2	9.8	7.2	7.5
Sodium, Total, ICAP	mg/l			280	310	220	230	150	150	96	100	89	95
Sulfate	mg/l	500	S	30	26	ND	ND	ND	1	71	74	78	81
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			25	24	8.5	8.8	3.8	4	1.7	1.8	1.3	1.4
Carbon Dioxide	mg/l			13	8.5	6.1	8.3	3.3	6.3	6.2	4.2	5.7	4.1
General Physical Properties													
Apparent Color	ACU	15	S	**250**	**350**	**15**	**50**	**35**	**35**	**15**	**15**	**15**	10
Lab pH	Units			8	8.2	8.3	8.1	8.4	8.2	8.1	8.2	8	8.1
Odor	TON	3	S	**3**	1	**3**	1	1	ND	1	1	2	ND
pH of CaCO3 saturation(25C)	Units			6.8	6.8	7.1	7.1	7	7	7	6.9	7.1	7.1
pH of CaCO3 saturation(60C)	Units			6.4	6.3	6.7	6.7	6.6	6.6	6.5	6.5	6.6	6.6
Specific Conductance	umho/cm	1600	S	**1600**	**1600**	1300	1200	990	1000	990	960	930	900
Metals													
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	1.1	ND	ND	ND	ND	1.1	ND	ND	1	1
Barium, Total, ICAP/MS	ug/l	1000	P	88	83	130	120	73	70	77	70	65	60
Beryllium, Total, ICAP/MS	ug/l	4	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
Chromium, Total, ICAP/MS	ug/l	50	P	1.6	1.6	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	ug/l			ND	0.07	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 Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	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
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	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 BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Wilmington #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				02/23/11	08/16/11	02/23/11	08/16/11	02/23/11	08/16/11	02/23/11	08/16/11	02/23/11	08/16/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	690	710	**2000**	**2300**	**1900**	**2000**	**1000**	930	**1000**	980
Cation Sum	meq/l			10	10	29	30	29	28	17	15	17	15
Anion Sum	meq/l			11	10	32	31	31	28	18	15	17	15
Iron, Total, ICAP	mg/l	0.30	S	ND	ND	0.059	0.059	ND	ND	ND	ND	0.25	0.088
Manganese, Total, ICAP/MS	ug/l	50	S	23	24	30	30	8.2	7.7	13	11	**87**	**60**
Turbidity	NTU	5	S	0.13	0.05	0.38	0.24	0.1	0.14	0.093	0.083	**5.3**	2.9
Alkalinity	mg/l			150	150	150	150	140	140	150	140	180	150
Boron	mg/l	1	N	0.22	0.22	0.21	0.2	0.25	0.24	0.24	0.23	0.21	0.19
Bicarbonate as HCO3,calculated	mg/l			180	180	180	180	170	170	180	170	220	180
Calcium, Total, ICAP	mg/l			61	60	240	240	180	180	79	62	130	110
Carbonate as CO3, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			240	230	830	860	660	650	320	250	500	440
Chloride	mg/l	500	S	280	270	**930**	**880**	**940**	**820**	370	270	330	270
Fluoride	mg/l	2	P	0.13	0.14	0.057	0.059	0.076	0.079	0.12	0.13	0.12	0.13
Hydroxide as OH, Calculated	mg/l				ND		ND		ND		ND		ND
Langelier Index - 25 degree	None			0.49	0.72	0.69	1	0.53	0.85	0.49	0.66	0.59	0.85
Magnesium, Total, ICAP	None			20	20	59	61	49	48	29	23	43	38
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	9.7	9.9	9.2	8.7	6.8	5.9	7.4	6.7
Sodium, Total, ICAP	mg/l			120	130	290	300	360	330	250	220	150	130
Sulfate	mg/l	500	S	ND	ND	130	130	89	100	220	210	200	200
Surfactants	mg/l	0.5	S	0.43	0.4	**0.5**	0.49	0.39	0.38	0.15	0.083	0.45	0.26
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.2	3.7	1.7	2.1	2	2.5	2.1	2.2	3.6	2.9
Carbon Dioxide	mg/l				2.2		4.4		44		2.4		3.3
General Physical Properties													
Apparent Color	ACU	15	S	5	5	5	5	**15**	10	5	5	10	3
Lab pH	Units			7.9	8.1	7.5	7.8	7.5	7.8	7.8	8.1	7.6	8
Odor	TON	3	S	**200**	**8**	**200**	**3**	**200**	**8**	**67**	**3**	1	**4**
pH of CaCO3 saturation(25C)	Units			7.4	7.4	6.8	6.8	6.9	7	7.3	7.4	7	7.1
pH of CaCO3 saturation(60C)	Units			7	7	6.4	6.4	6.5	6.5	6.8	7	6.6	6.7
Specific Conductance	umho/cm	1600	S	1200	1200	**3300**	**3200**	**3300**	**3000**	**1900**	**1600**	**1700**	1500
Metals													
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	3.1	ND	2.4	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	11	11	17	19	25	24	32	28	120	96
Beryllium, Total, ICAP/MS	ug/l	4	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	25	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	2.7	ND	2.7	ND	ND	ND	ND
Hexavalent Chromium	ug/l				ND		ND		ND		ND		ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	4.5	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	8.3	ND	6.3	ND	ND	22	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	8.6	ND	14	ND	15	ND	ND	ND	5.3	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	480	ND	ND
Volatile Organic Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	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
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	2.3	4.1
Perchlorate	ug/l	6	P	ND	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 3.2
WEST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2010-11

Constituents	Units	MCL	Type	Wilmington #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				03/01/11	08/23/11	03/01/11	08/23/11	03/01/11	08/23/11	03/01/11	08/23/11	03/01/11	08/23/11
General Minerals													
Total Dissolved Solid (TDS)	mg/l	1000	S	500	530	**1500**	**1500**	390	460	810	820	**4900**	**4800**
Cation Sum	meq/l			8.9	8.5	24	24	7	7.9	15	14	84	84
Anion Sum	meq/l			8.8	8.6	26	26	7.4	7.8	14	14	87	85
Iron, Total, ICAP	mg/l	0.30	S	0.079	0.074	0.063	0.062	ND	0.024	ND	ND	ND	ND
Manganese, Total, ICAP/MS	ug/l	50	S	3.1	3.7	9.9	11	9.7	10	8.2	9.3	**70**	**54**
Turbidity	NTU	5	S	1	0.35	0.92	0.35	0.13	0.076	4.5	0.57	0.51	0.13
Alkalinity	mg/l			370	350	500	490	160	160	280	270	180	170
Boron	mg/l	1	N	0.65	0.64	**1.7**	**1.8**	0.16	0.17	0.63	0.62	0.53	0.58
Bicarbonate as HCO3,calculated	mg/l			450	420	610	590	190	200	340	330	210	210
Calcium, Total, ICAP	mg/l			3.2	3	30	29	28	33	35	33	290	290
Carbonate as CO3, Calculated	mg/l			8.4	11	2.8	7.6	ND	2.2	ND	3.2	ND	ND
Hardness (Total, as CaCO3)	mg/l			18	17	160	160	110	130	150	140	1300	1300
Chloride	mg/l	500	S	46	55	**550**	**570**	150	160	300	290	**2700**	**2600**
Fluoride	mg/l	2	P	0.98	0.93	0.36	0.37	0.23	0.21	0.73	0.69	0.19	0.19
Hydroxide as OH, Calculated	mg/l				ND		ND		ND		ND		ND
Langelier Index - 25 degree	None			0.17	0.26	0.66	1.1	0.3	0.6	0.57	0.77	0.85	1.5
Magnesium, Total, ICAP	None			2.4	2.3	22	22	11	12	16	15	130	140
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	4.9	12	12	5.3	5.6	7.1	6.5	22	20
Sodium, Total, ICAP	mg/l			190	180	480	480	110	120	260	240	1300	1300
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	6	1	390	400
Surfactants	mg/l	0.5	S	ND	ND	0.055	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			12	9.4	19	20	2.2	2.6	7	10	1.2	1.5
Carbon Dioxide	mg/l				ND		4.9		ND		3.6		2.5
General Physical Properties													
Apparent Color	ACU	15	S	**200**	**250**	**100**	**150**	**15**	**15**	**15**	**75**	**100**	**15**
Lab pH	Units			8.5	8.6	7.9	8.3	8	8.2	7.9	8.2	7.5	8.1
Odor	TON	3	S	**4**	2	**4**	1	2	1	**40**	**16**	2	2
pH of CaCO3 saturation(25C)	Units			8.3	8.3	7.2	7.2	7.7	7.6	7.4	7.4	6.6	6.7
pH of CaCO3 saturation(60C)	Units			7.8	7.9	6.7	6.8	7.3	7.2	6.9	7	6.2	6.2
Specific Conductance	umho/cm	1600	S	850	840	**2700**	**2600**	820	840	**1600**	1400	**8900**	**8600**
Metals													
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	1.2	ND	ND	ND	ND	4.3	5.2
Barium, Total, ICAP/MS	ug/l	1000	P	4	4.3	48	50	13	12	27	26	73	56
Beryllium, Total, ICAP/MS	ug/l	4	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	4.5	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.3	1.7	ND	ND	ND	ND	ND	ND	ND	6.8
Hexavalent Chromium	ug/l				0.021		0.027		ND		0.065		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	10	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	16	13	ND	ND	5.5	ND	34	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 Compounds													
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
Dichlorodifluoromethane	ug/l	1000	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
Ethyl benzene	ug/l	300	P	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
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	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	Regulatory Limit	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]	LACSD Pomona WRP [G]	LACSD San Jose Creek East WRP [G]	LACSD San Jose Creek West WRP [G]	LACSD Whittier Narrows WRP [G]	Stormwater [H]
			2010	2010	2010	2010	2010	2010	2010-2011	2010-2011	2010-2011	2010-2011	2010-2011
Arsenic	µg/L	MCL = 10	2.2 / 3.2	2.7	4.0	ND	0.36	ND	0.295	0.347	0.592	0.722	ND
Chloride	mg/L	SMCL = 500	71 [I] / 68 [I]	89 [I]	67 [I]	64 [J]	152 [K]	51.2 [L]	127	138	115	109	46.2
Iron	µg/L	SMCL = 300	ND / ND	120	ND	ND	10.2	ND	29	66	51	25	2,422
Manganese	µg/L	SMCL = 50	ND / ND	ND	ND	ND	4.4	ND	6.17	23.5	25.4	9.38	NA
Nitrate (as N)	mg/L	MCL = 10	ND / 0.6	ND	0.6	0.6 [J]	0.91	1.29 [L]	6.58	4.46	9.47	6.46	1.76
Perchlorate	µg/L	MCL = 6	ND / ND	1.2	ND	ND	ND	ND	NA	NA	NA	NA	NA
Tetrachloroethylene (PCE)	µg/L	MCL = 5	ND / ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA
Trichloroethylene (TCE)	µg/L	MCL = 5	ND / ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA
Total Dissolved Solids (TDS)	mg/L	SMCL = 1,000	401 [I] / 292 [I]	592 [I]	282 [I]	356 [J]	426 [K]	291 [L]	546	601	539	558	54
Total Organic Carbon (TOC)	mg/L	None	2.1 / 1.5	2.75 [I]	2.23 [I]	0.21	0.53	0.44	6.43	5.88	5.00	5.41	10.8
Alkalinity	mg/L	None	85 [I] / 86 [I]	125 [I]	83 [I]	56.5	NA	NA	167	166	142	158	68
Boron	µg/L	NL = 1,000	120 / 210	130	210	200 [J]	548 [K]	214 [L]	250	300	330	250	NA
Chromium, Total	µg/L	MCL = 50	ND / ND	ND	ND	0.5	0.56	ND	0.83	0.74	0.83	1.0	ND
Chromium VI	µg/L	None	0.08 / 0.52	ND	0.50	NA	NA	NA	0.02	0.008	0.01	0.04	ND
Copper, Total	µg/L	SMCL = 1,000	ND / ND	ND	ND	1.9	1.2	ND	5.47	3.00	5.69	5	ND
1,4-Dioxane	ug/L	NL = 1	NA	NA	NA	ND	0.1	ND	1.0	1.7	1.7	1.5	NA
Hardness	mg/L	None	178 [I] / 117 [I]	283 [I]	118 [I]	33.8	130	2.7	202	214	185	192	130
Lead, Total	µg/L	AL = 15	ND / ND	ND	ND	ND	0.16	ND	0.37	0.14	ND	0.32	4.7
Methyl tertiary butyl ether (MTBE)	µg/L	MCL = 5	ND / ND	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND
Nitrite (as N)	mg/L	MCL = 1	ND / ND	ND	NA	ND [J]	ND	0.044 [L]	0.327	0.026	0.009	0.13	ND
n-Nitrosodimethylamne (NDMA)	ng/L	NL = 10	ND / 3	NA	NA	11.1	28	4.9	91	186	195	59	ND
pH	pH Units	None	7.9 / 8.2	8.2	7.8	7.6	7.8	8.12	7.3	7.0	7.0	7.3	6.65
Selenium	µg/L	MCL = 50	ND / ND	ND	ND	ND	1.6	ND	ND	ND	ND	ND	ND
Specific Conductance	µS/cm	SMCL = 1,600	693 [I] / 526 [I]	975 [I]	509 [I]	63.4	593	134	NA	NA	NA	NA	414
Sulfate	mg/L	SMCL = 500	135 [I] / 56 [I]	226 [I]	53 [I]	103 [J]	34 [K]	86 [L]	60.2	91.9	75.4	89.6	65.3
Turbidity	NTU	SMCL = 5	0.05 [I] / 0.03 [I]	1.37 [I]	0.90 [I]	0.05	0.05	0.07	0.65	0.63	0.61	0.59	9.22

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 October 2010 through February 2011 (4 storm events total)
I = Average concentration for Water Year October 2010 through September 2011
J = Average concentration in blended water (treatment plant effluent and treated Colorado River/State Project water), which is delivered to the West Coast Basin Barrier
K = Average concentration in blended water (treatment plant effluent and treated Colorado River/State Project water), which is delivered to the Dominguez Gap Barrier
L = 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
mg/L = milligrams per liter
µg/L = micrograms per liter
NTU = Nephelometric Turbidity Units
µS/cm = microSiemen per centimeter or micromho per centimeter (µmho/cm)
MCL = Maximum Contaminant Level
SMCL = Secondary Maximum Contaminant Level
AL = Action Level
NL = Notification Level
WRP = Water Reclamation Plant

Sources of Data:

2010 Water Quality Report to MWD Member Agencies (Metropolitan Water District of Southern California, March 2010)
Table D, Monthly Analyses of the District Water Supplies (Metropolitan Water District of Southern California, October 2010 - September 2011)
October 2010 - September 2011 Annual Monitoring Report, Montebello Forebay Groundwater Recharge (County Sanitation Districts of Los Angeles County [LACSD], December 2011)
2010 Annual Report, West Coast Basin Barrier Project, Edward C. Little Water Recycling Facility (West Basin Municipal Water District [West Basin MWD], March 2011)
2010 - 2011 Annual Stormwater Monitoring Final Report, Los Angeles County (Los Angeles County Department of Public Works [LACDPW], August 2011)
2010 Annual Summary Report, Harbor Water Recycling/Dominguez Gap Barrier Project (Los Angeles Department of Water and Power [LADWP], March 2011)
2010 Annual Monitoring Report, Alamitos Barrier Recycled Water Project, Leo J. Vander Lans Water Treatment Facility (Water Replenishment District of Southern California [WRD], April 2011)

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 #1	2, 3, 4, 5, 6	1		
Bell Gardens #1	1, 2, 3, 4, 5, 6			
Cerritos #1	4, 5, 6	1, 2, 3		
Cerritos #2	1, 2, 3, 4, 5, 6			
Commerce #1	3, 4, 5, 6		1	2
Compton #1	2, 3, 4, 5	1		
Compton #2	2, 3, 4, 5	1		
Downey #1	1, 2, 3, 4, 5, 6			
Huntington Park #1	1, 2, 3, 4			
Inglewood #2		1, 2, 3		
Lakewood #1	2, 3, 4, 5, 6	1		
La Mirada #1	4, 5	1, 2, 3		
Long Beach #1	4	1, 2, 3, 5		6
Long Beach #2	4, 5, 6	1, 2, 3		
Long Beach #6	6	1, 2, 3, 4, 5		
Los Angeles #1	1, 2, 3, 4, 5			
Los Angeles #2	2, 3, 4			
Los Angeles #3	2, 3, 4, 5, 6	1		
Montebello #1	3, 4, 5	2		1
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			
Seal Beach #1	6	1, 2, 3, 4, 5		7
South Gate #1	1, 2, 3, 4, 5			
Willowbrook #1	2, 3, 4	1		
Whittier #1	3, 4, 5		1, 2	
Whittier #2	1, 3, 4, 5, 6	2		
Whittier Narrows #1	3, 4, 5, 6, 7, 8, 9	2	1	
WEST COAST BASIN				
Carson #1	3, 4	1, 2		
Carson #2	1, 2, 3, 4, 5			
Carson #3	5, 6	1, 2, 3, 4		
Chandler #3				
Gardena #1	2, 3	1	4	
Gardena #2	2, 3, 4, 5	1		
Hawthorne #1	5, 6	1, 2, 3, 4		
Inglewood #1	3, 4, 5			1
Lomita #1	2, 3, 4, 5			1
Long Beach #3		1, 2, 3	4, 5	
Long Beach #8		1, 2, 3	6	4, 5
Manhattan Beach #1		3	5,6	7
PM-3 Madrid	3, 4	1, 2		
PM-4 Mariner	4	1	2	3
PM-5 Columbia Park	6	1, 2, 3, 4	5	
PM-6 Madrona Marsh	6	2, 4	3, 5	1
Westchester #1		1, 2, 3, 4, 5		
Wilmington #1			1, 2, 3, 4, 5	
Wilmington #2		1	2, 3, 4, 5	

FIGURES

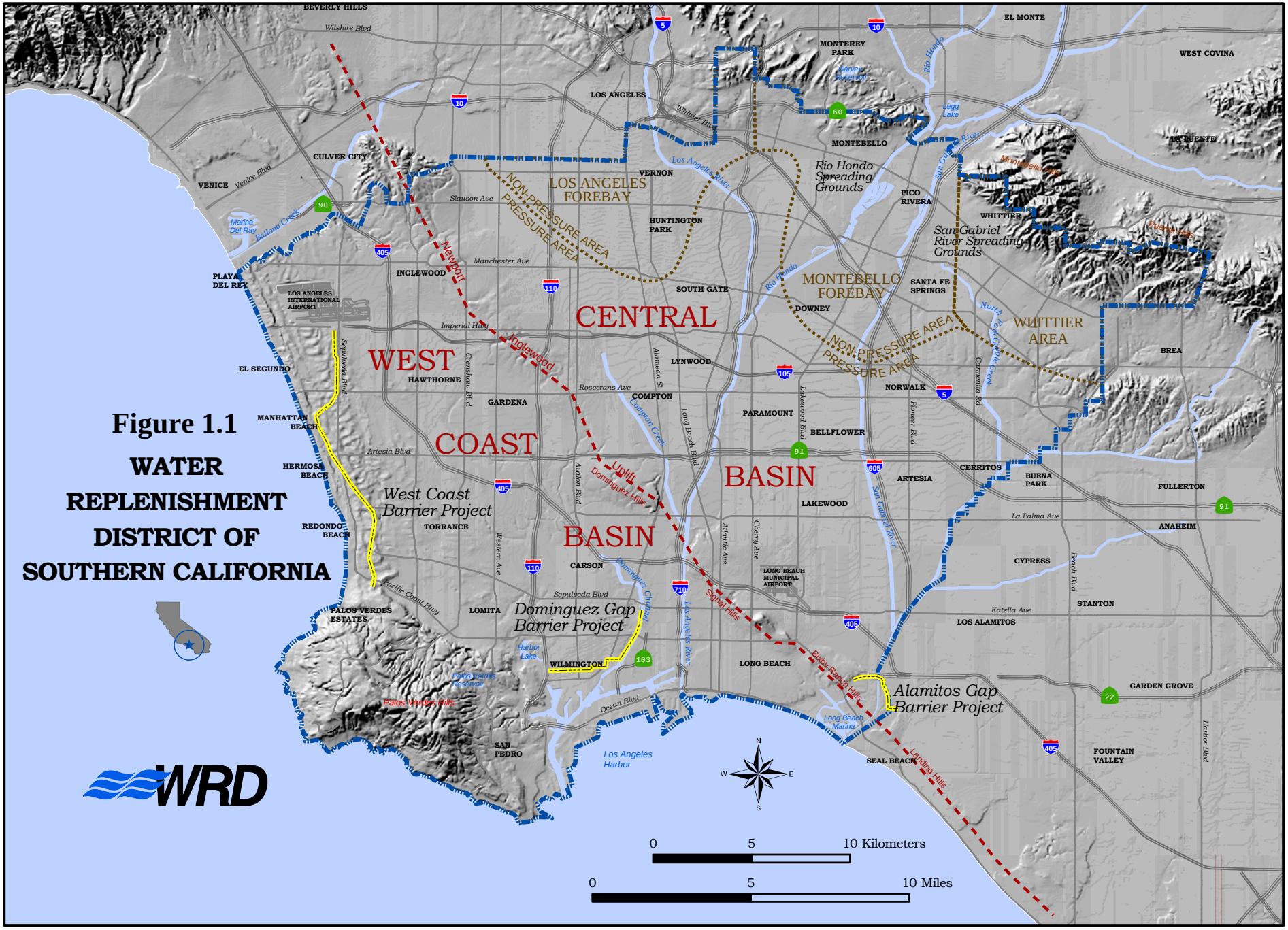
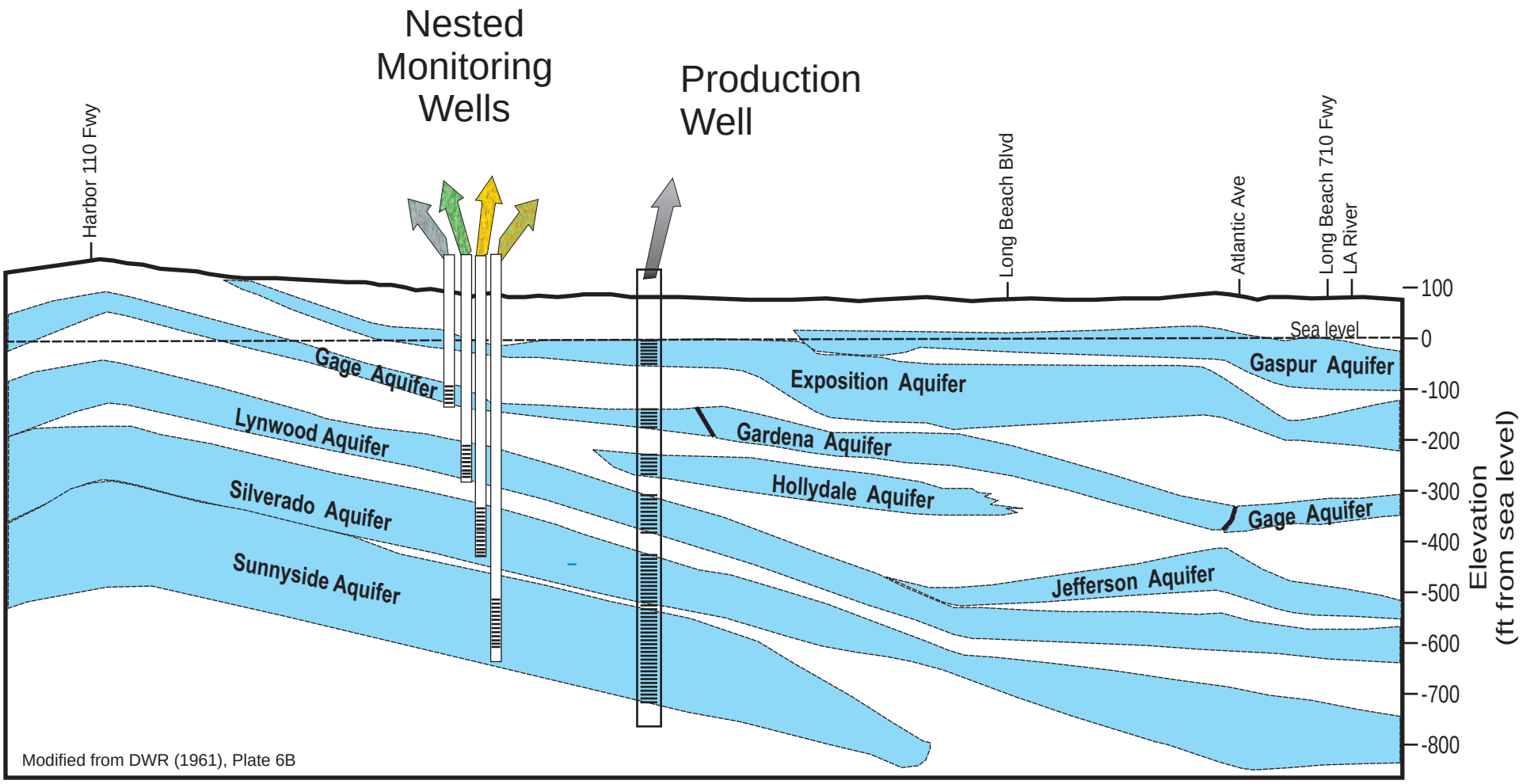


Figure 1.1
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
WRD
CENTRAL BASIN
WEST COAST BASIN
COASTAL
LOS ANGELES FOREBAY
MONTEBELLO FOREBAY
WHITTIER AREA
NON-PRESSURE AREA
PRESSURE AREA
Rio Hondo Spreading Grounds
San Gabriel River Spreading Grounds
West Coast Barrier Project
Dominguez Gap Barrier Project
Alamitos Gap Barrier Project
Newport-Inglewood Uplift
Dominguez Hills
Signal Hills
Palos Verdes Hills
Bixby Ranch Hills
Landing Hills
BEVERLY HILLS
CULVER CITY
VENICE
PLAYA DEL REY
LOS ANGELES INTERNATIONAL AIRPORT
EL SEGUNDO
MANHATTAN BEACH
HERMOSA BEACH
REDONDO BEACH
TORRANCE
PALOS VERDES ESTATES
LOMITA
SAN PEDRO
INGLEWOOD
HAWTHORNE
GARDENA
LOS ANGELES
VERNON
HUNTINGTON PARK
SOUTH GATE
LYNWOOD
COMPTON
CARSON
WILMINGTON
LONG BEACH
LONG BEACH MUNICIPAL AIRPORT
LAKEWOOD
PARAMOUNT
BELLFLOWER
DOWNEY
NORWALK
SANTA FE SPRINGS
PICO RIVERA
MONTEBELLO
WHITTIER
MONTEREY PARK
EL MONTE
WEST COVINA
LA PUENTE
BREA
ARTESIA
CERRITOS
BUENA PARK
FULLERTON
ANAHEIM
CYPRESS
LOS ALAMITOS
STANTON
GARDEN GROVE
FOUNTAIN VALLEY
SEAL BEACH
Los Angeles Harbor
Long Beach Marina
Harbor Lake
Los Angeles River
San Gabriel River
Rio Hondo
Compton Creek
Carmenita Rd
Lakewood Blvd
Pioneer Blvd
Long Beach Blvd
Alameda St
Crenshaw Blvd
Western Ave
Atlantic Ave
Cherry Ave
Beach Blvd
Harbor Blvd
Wilshire Blvd
Venice Blvd
Slauson Ave
Manchester Ave
Imperial Hwy
Rosecrans Ave
Sepulveda Blvd
Artesia Blvd
La Palma Ave
Katella Ave
Ocean Blvd
Pacific Coast Hwy
Whittier Blvd
Marina Del Rey
Ballona Creek
Harbor Lake
Palos Verdes Reservoir
Eagle Rock
Montebello Hills
Puente Hills
Carver Reservoir
Egg Lake
0 5 10 Kilometers
0 5 10 Miles
N
S
E
W

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.

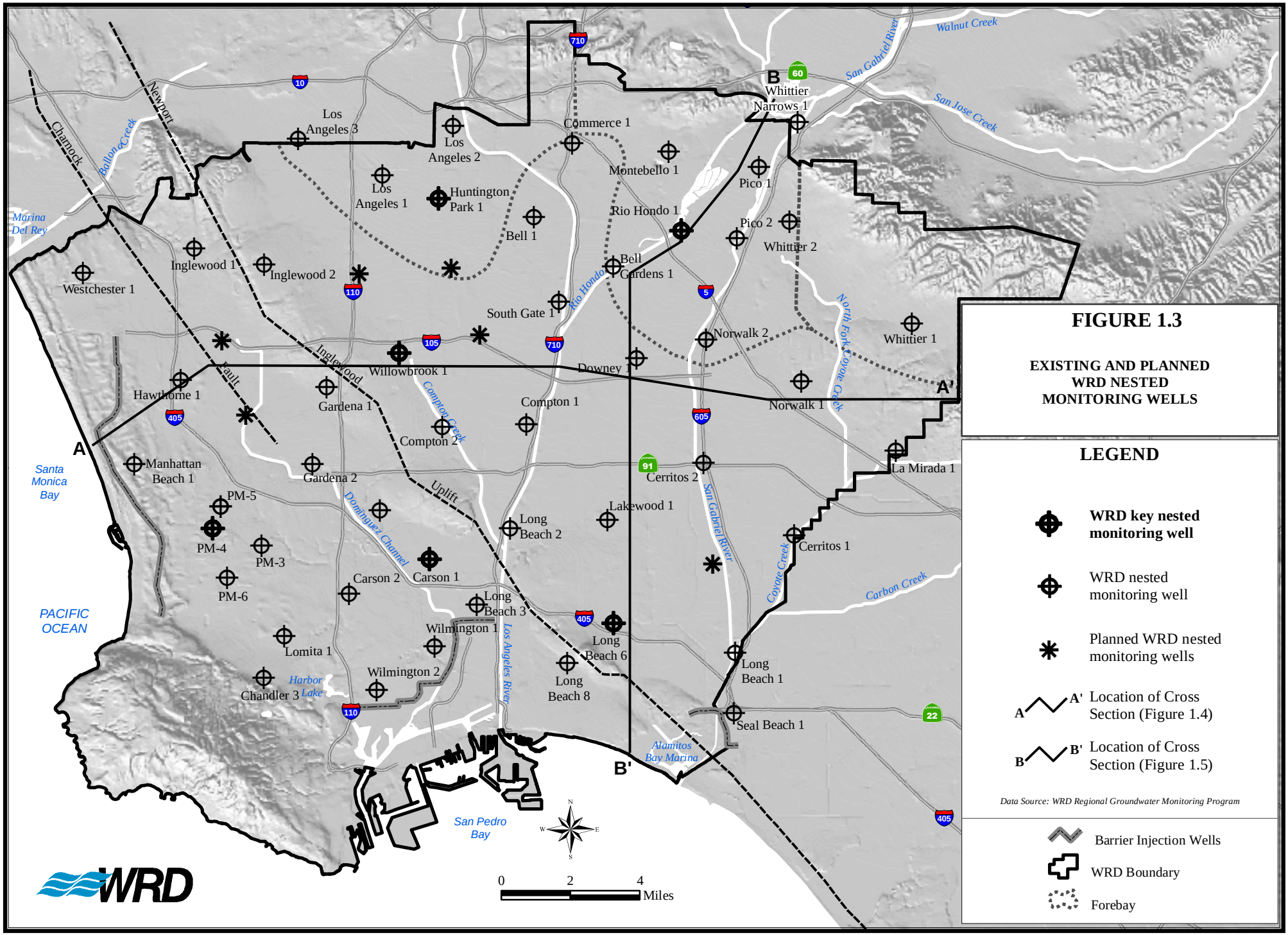
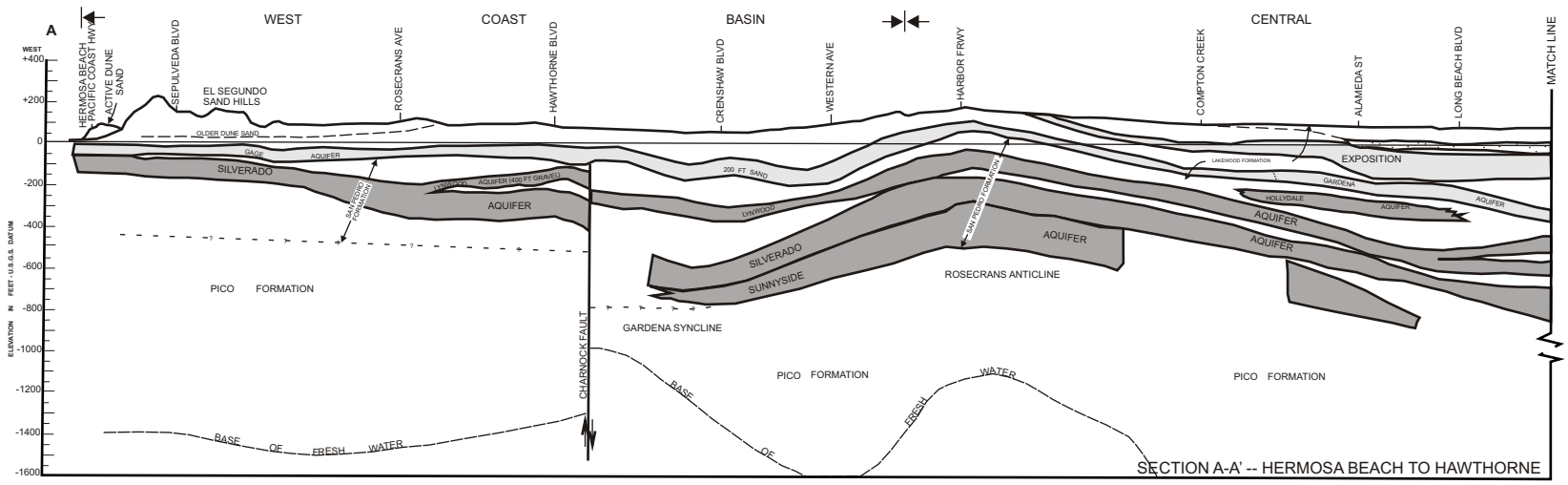
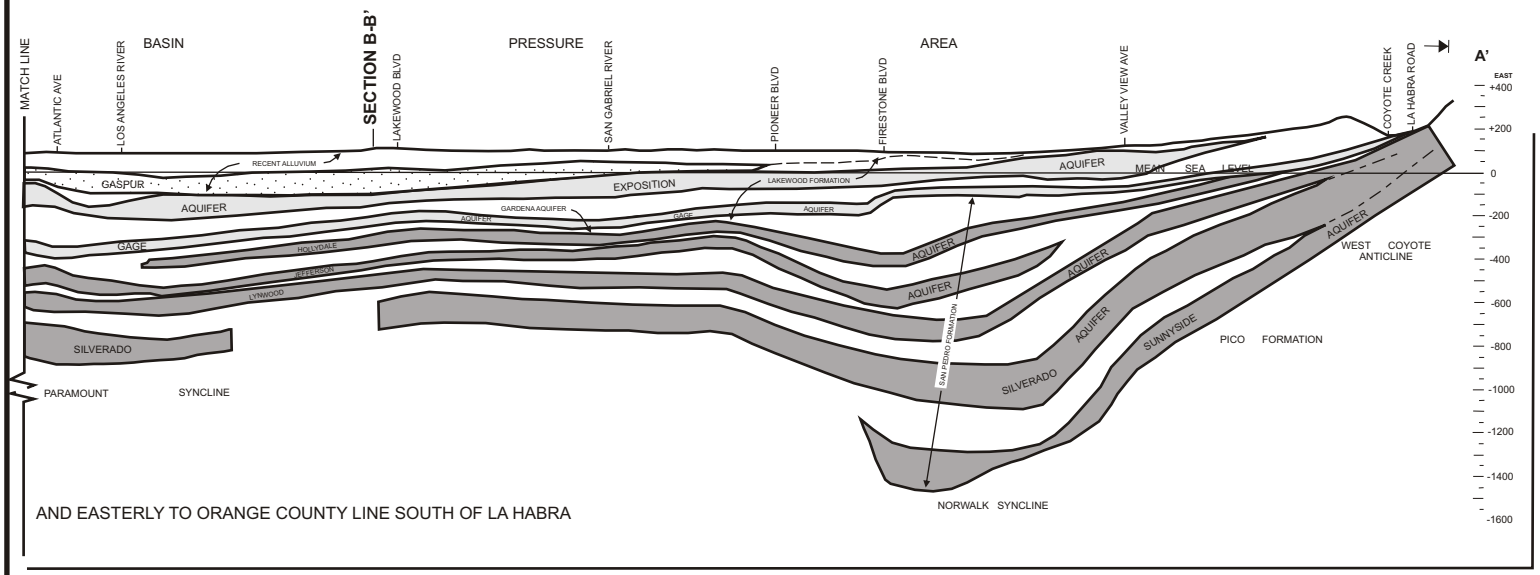


FIGURE 1.3
EXISTING AND PLANNED WRD NESTED MONITORING WELLS
LEGEND
WRD key nested monitoring well
WRD nested monitoring well
Planned WRD nested monitoring wells
A A' Location of Cross Section (Figure 1.4)
B B' Location of Cross Section (Figure 1.5)
Data Source: WRD Regional Groundwater Monitoring Program
Barrier Injection Wells
WRD Boundary
Forebay
Los Angeles 3
Los Angeles 2
Los Angeles 1
Commerce 1
Montebello 1
Huntington Park 1
Bell 1
Rio Hondo 1
Pico 1
Pico 2
Whittier 2
Whittier Narrows 1
Bell Gardens 1
Inglewood 1
Inglewood 2
Westchester 1
South Gate 1
Norwalk 2
Whittier 1
Willowbrook 1
Downey 1
Norwalk 1
Hawthorne 1
Gardena 1
Compton 1
Compton 2
La Mirada 1
Manhattan Beach 1
Gardena 2
Cerritos 2
Lakewood 1
PM-5
PM-4
PM-3
PM-6
Long Beach 2
Cerritos 1
Carson 2
Carson 1
Long Beach 3
Wilmington 1
Long Beach 6
Lomita 1
Wilmington 2
Long Beach 8
Long Beach 1
Chandler 3
Seal Beach 1
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
Alamitos Bay Marina
San Pedro Bay
Marina Del Rey
Ballona Creek
Chamock
Newport
Inglewood
Fault
Uplift
Dominguez Channel
Compton Creek
Rio Hondo
North Fork Rio Hondo
San Gabriel River
Walnut Creek
San Jose Creek
Coyote Creek
Carbon Creek
Los Angeles River
A
A'
B
B'
0 2 4 Miles
WRD



SECTION A-A' -- HERMOSA BEACH TO HAWTHORNE



AND EASTERLY TO ORANGE COUNTY LINE SOUTH OF LA HABRA

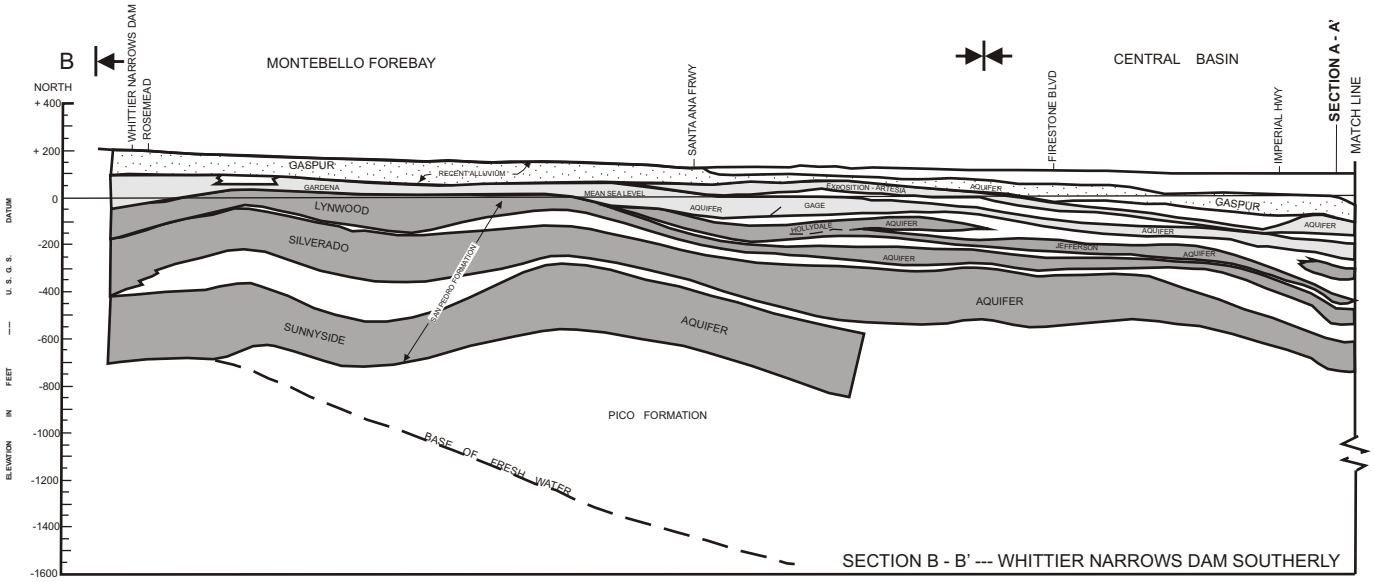
LEGEND

- 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'

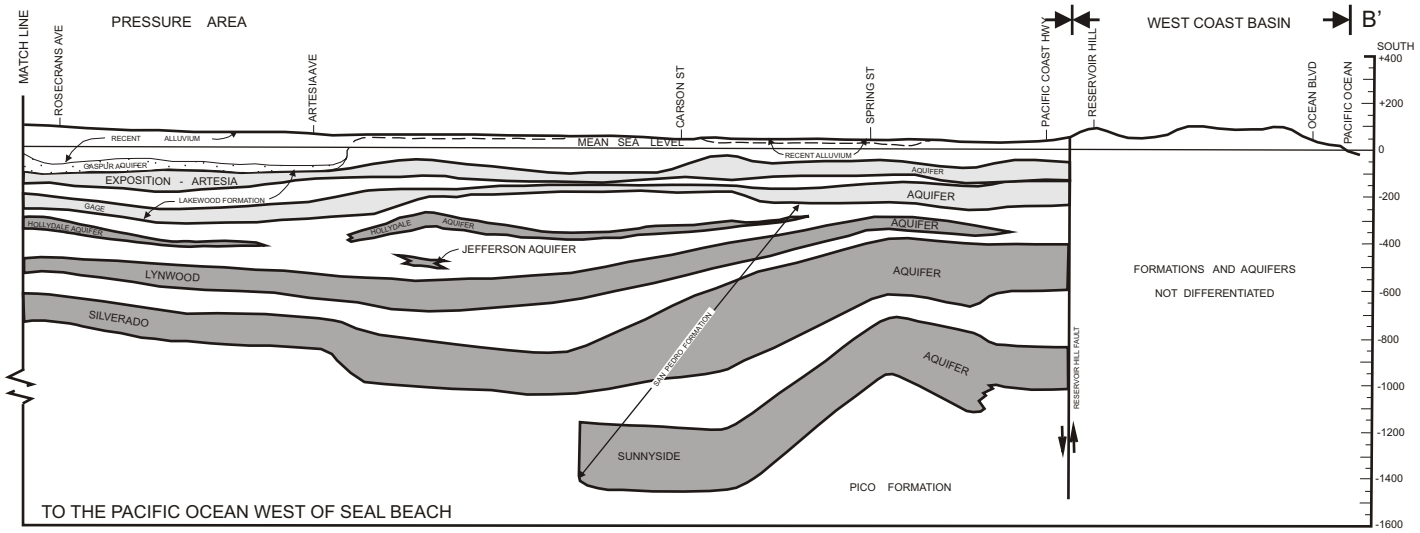
Adapted from
CDWR Bull. 104 App. B

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

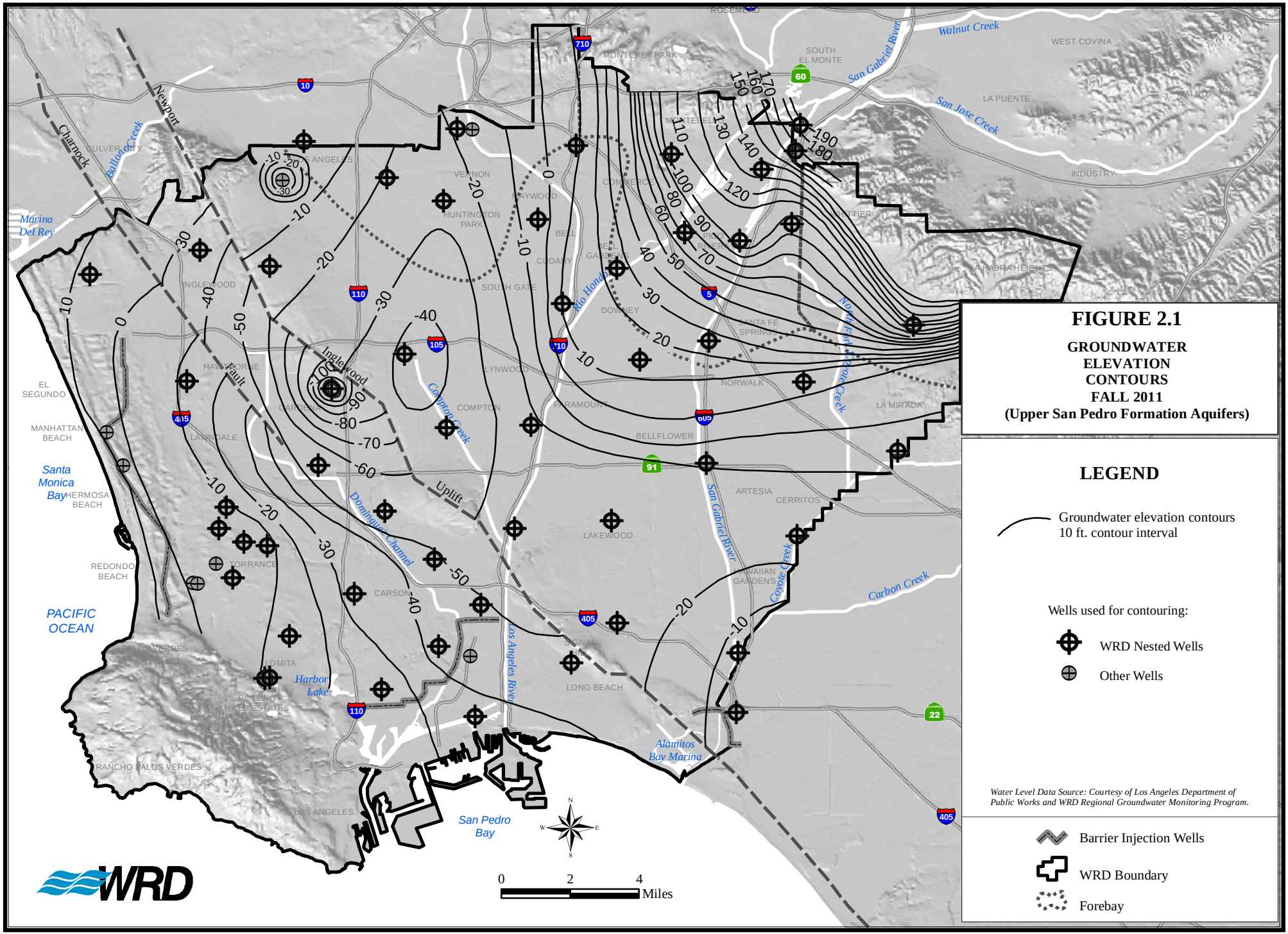


FIGURE 2.1
GROUNDWATER ELEVATION CONTOURS FALL 2011
(Upper San Pedro Formation Aquifers)
LEGEND
Groundwater elevation contours
10 ft. contour interval
Wells used for contouring:
WRD Nested Wells
Other Wells
Water Level Data Source: Courtesy of Los Angeles Department of Public Works and WRD Regional Groundwater Monitoring Program.
Barrier Injection Wells
WRD Boundary
Forebay
0 2 4 Miles
WRD
Newport
Charnock
Ballona Creek
Marina Del Rey
Santa Monica Bay
PACIFIC OCEAN
San Pedro Bay
Harbor Lake
Inglewood Fault
Uplift
Dominguez Channel
Compton Creek
Rio Hondo
Los Angeles River
San Gabriel River
Coyote Creek
Carbon Creek
Alamitos Bay Marina
Walnut Creek
San Jose Creek
Norwalk Freeway Drainage Channel
MARINA DEL REY
PLAYA VISTA
CULVER CITY
LOS ANGELES
VENICE
HUNTINGTON PARK
VERNON
MONTEREY PARK
ROSEMEAD
SOUTH EL MONTE
WEST COVINA
LA PUENTE
WALNUT
INDUSTRY
WHITTIER
LA HABRA HEIGHTS
INGLEWOOD
HAWTHORNE
LENNOX
SOUTH GATE
BELL
BELL GARDENS
CUDAHY
MAYWOOD
COMMERCE
MONTEBELLO
PICO RIVERA
SANTA FE SPRINGS
DOWNEY
NORWALK
LA MIRADA
EL SEGUNDO
MANHATTAN BEACH
LAWNDALE
GARDENA
COMPTON
LYNWOOD
PARAMOUNT
BELLFLOWER
ARTESIA
CERRITOS
LAKEWOOD
HERMOSA BEACH
REDONDO BEACH
TORRANCE
CARSON
HAWAIIAN GARDENS
SIGNAL HILL
LONG BEACH
PALOS VERDES ESTATES
LOMITA
ROLLING HILLS ESTATES
RANCHO PALOS VERDES
LOS ANGELES
-10
-20
-30
-40
-50
-60
-70
-80
-90
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190

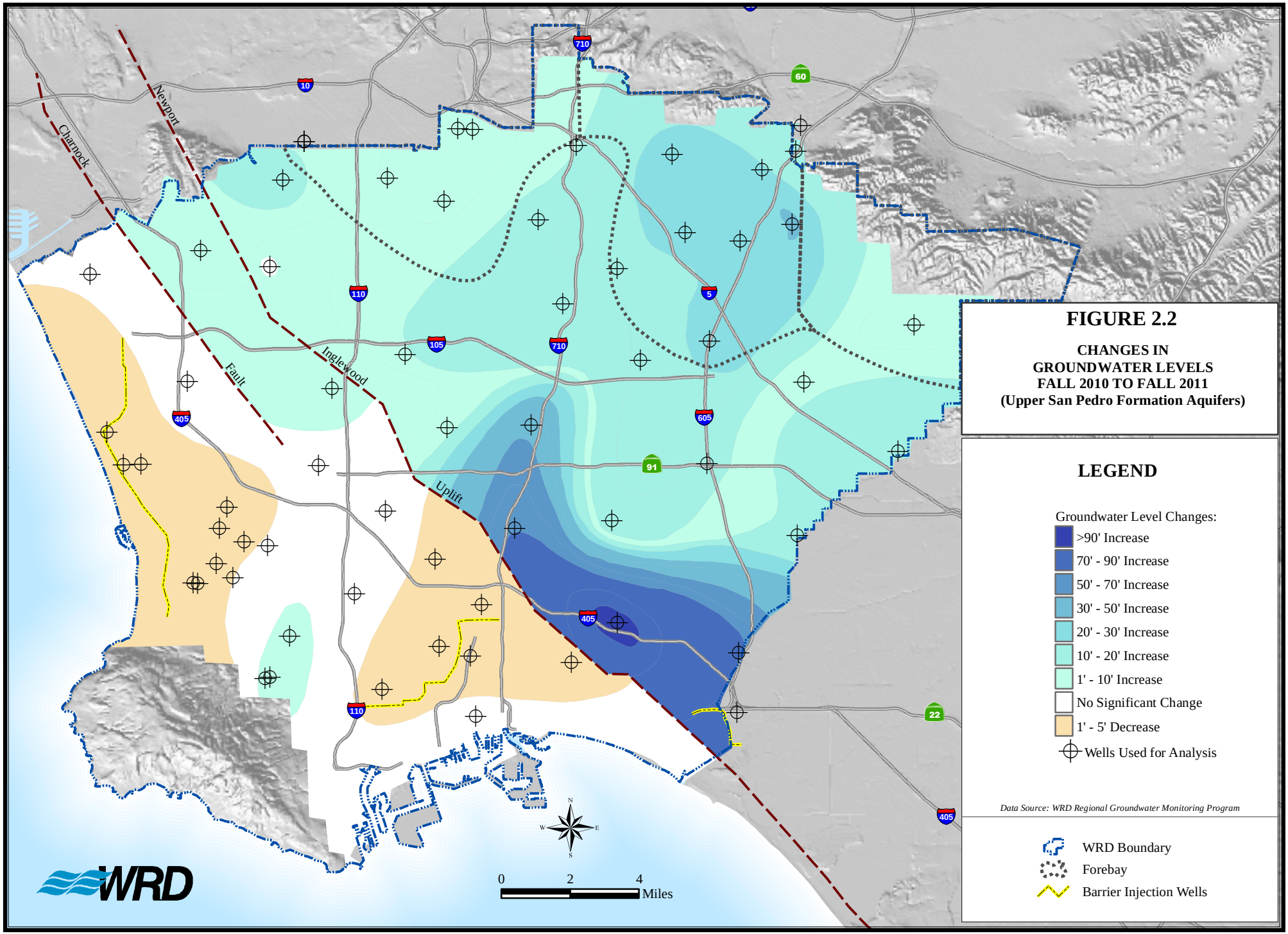

Newport
Charnock
Fault
Inglewood
Uplift
10
710
60
110
5
105
710
405
605
91
405
110
22
405
N
W
E
S
0
2
4
Miles
WRD
FIGURE 2.2
CHANGES IN
GROUNDWATER LEVELS
FALL 2010 TO FALL 2011
(Upper San Pedro Formation Aquifers)
LEGEND
Groundwater Level Changes:
>90' Increase
70' - 90' Increase
50' - 70' Increase
30' - 50' Increase
20' - 30' Increase
10' - 20' Increase
1' - 10' Increase
No Significant Change
1' - 5' Decrease
Wells Used for Analysis
Data Source: WRD Regional Groundwater Monitoring Program
WRD Boundary
Forebay
Barrier Injection Wells

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

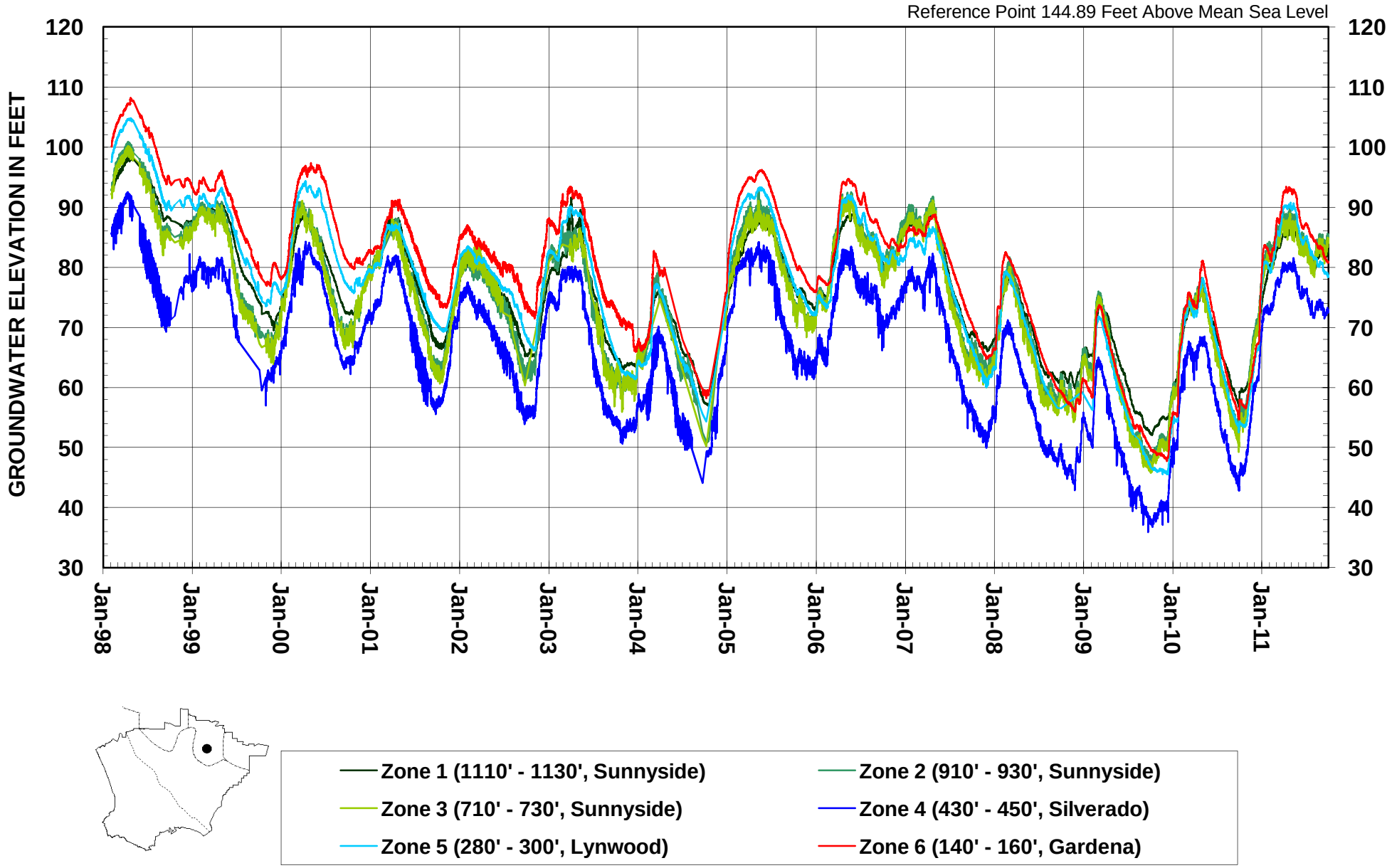
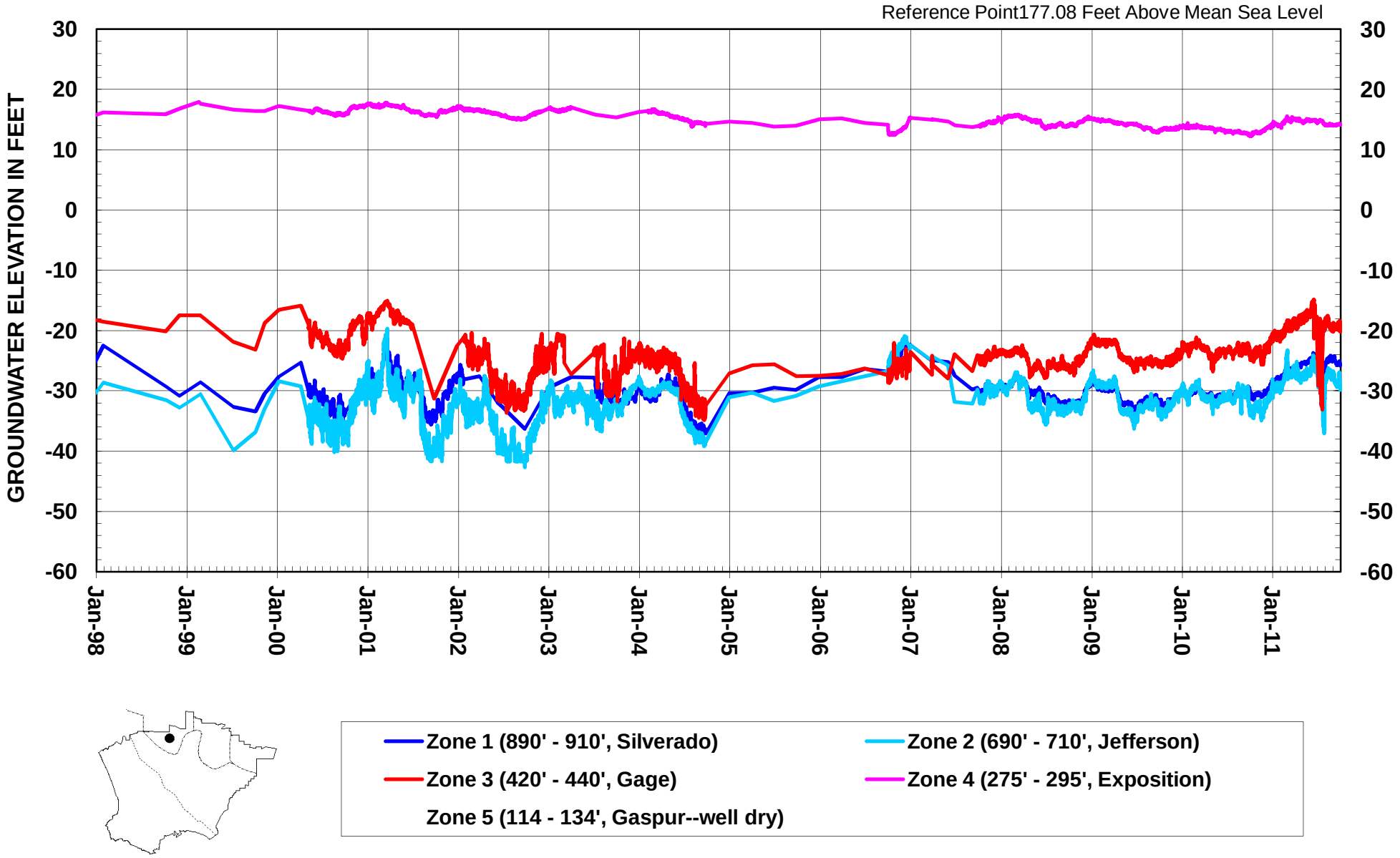


FIGURE 2.4
WATER LEVELS IN WRD KEY NESTED MONITORING WELL HUNTINGTON PARK #1



2/22/2012

FIGURE 2.5
WATER LEVELS IN WRD KEY NESTED MONITORING WELL WILLOWBROOK #1

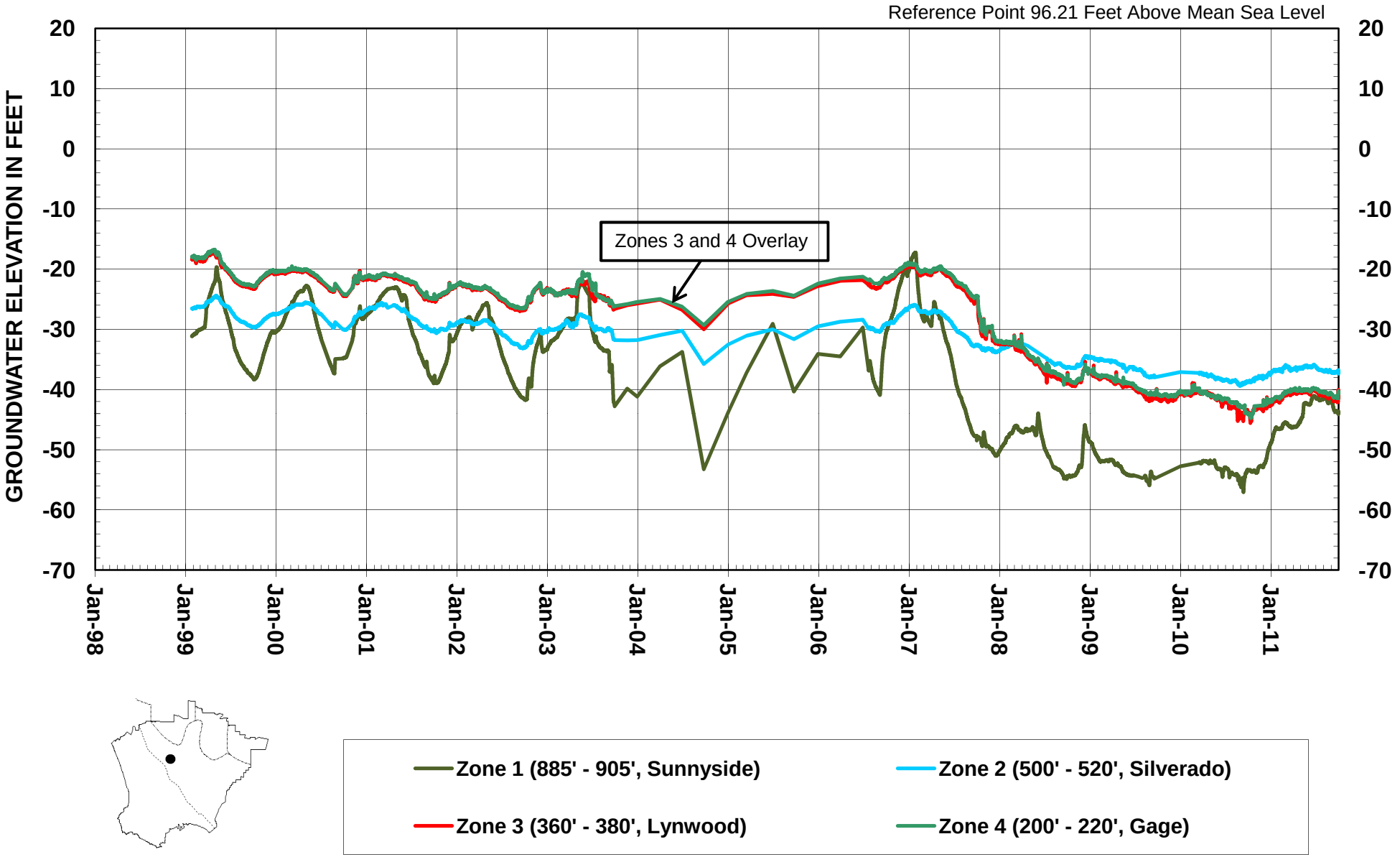


FIGURE 2.6
WATER LEVELS IN WRD KEY NESTED MONITORING WELL LONG BEACH #6

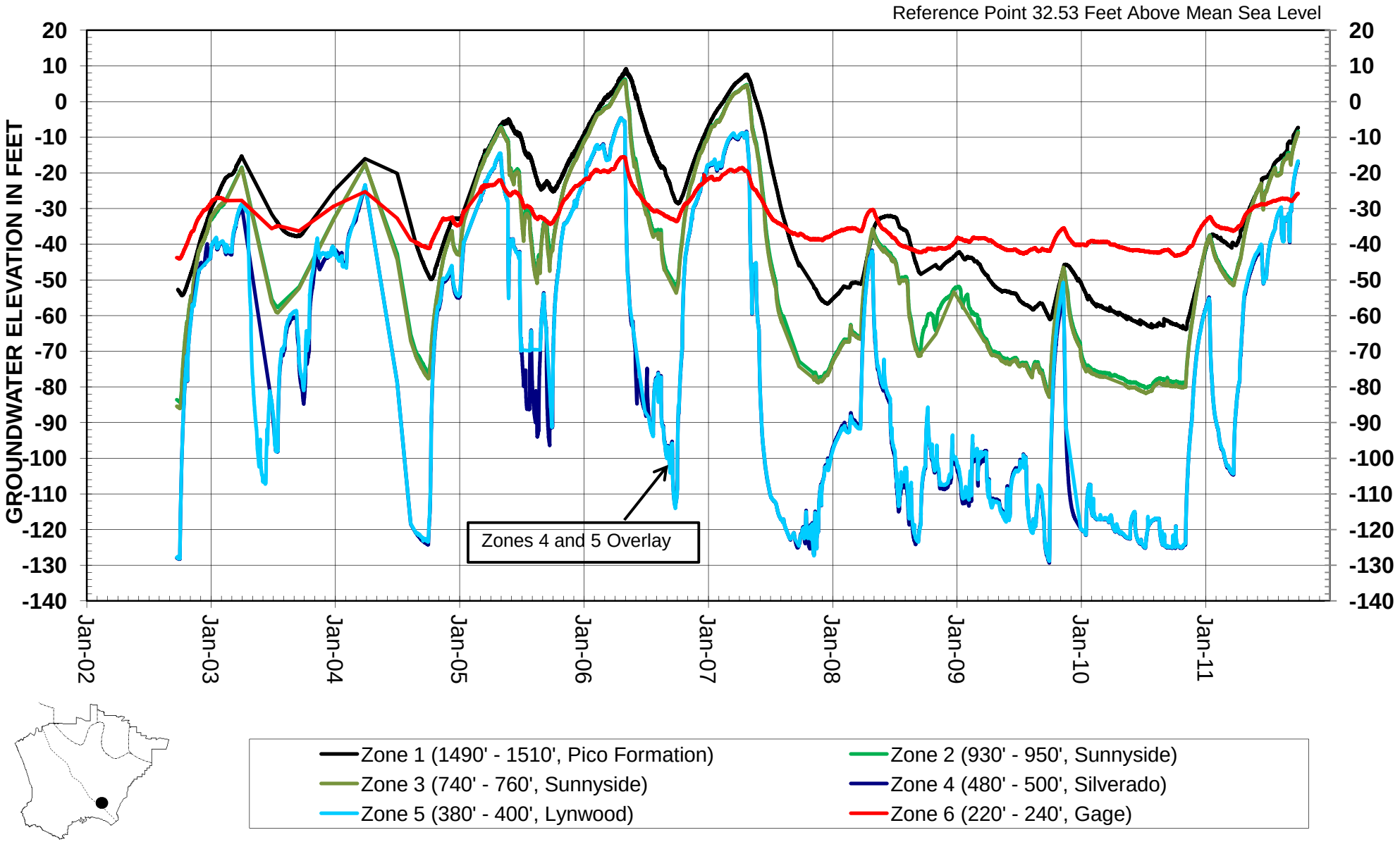


FIGURE 2.7
WATER LEVELS IN WRD KEY NESTED MONITORING WELL PM-4 MARINER

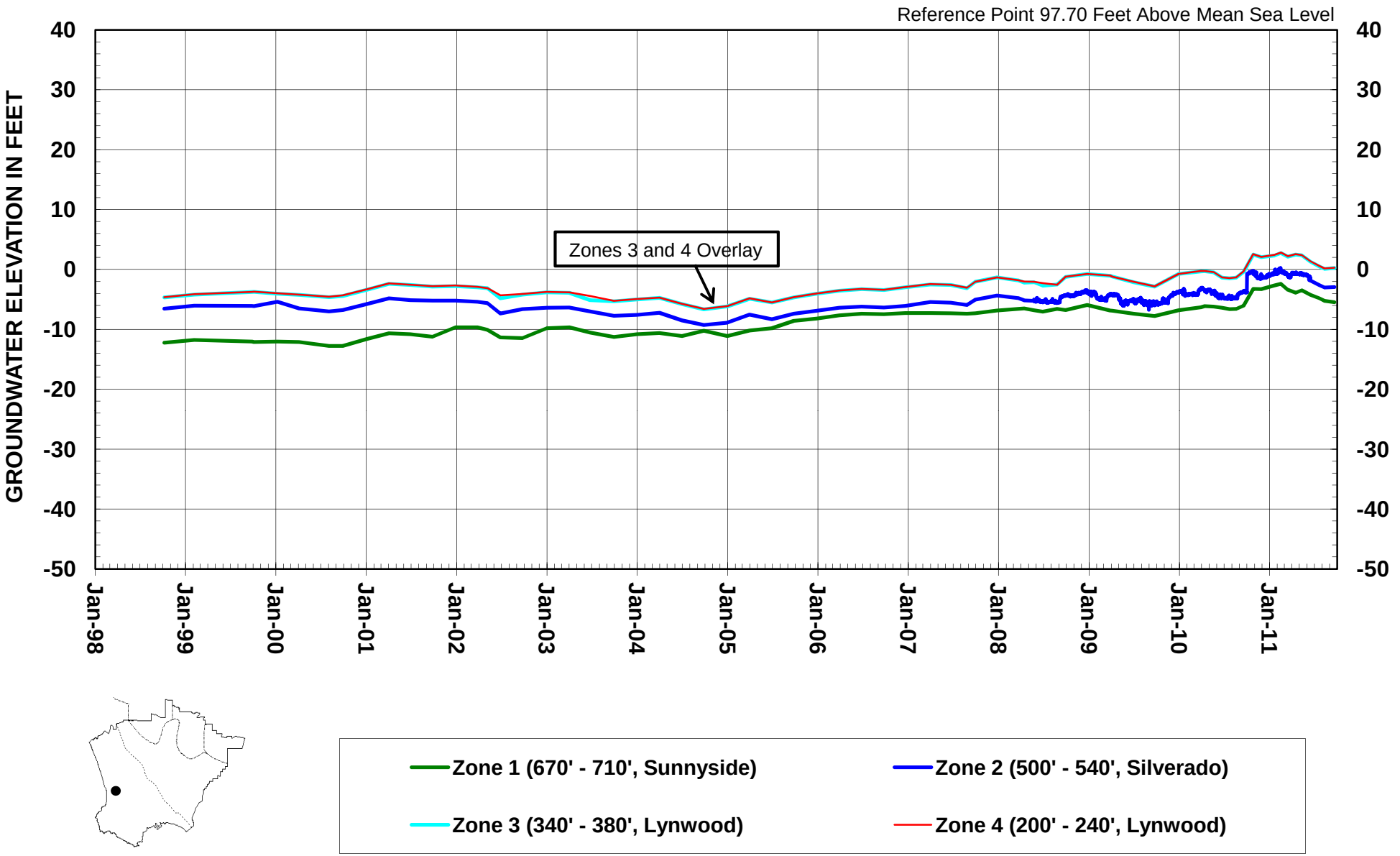
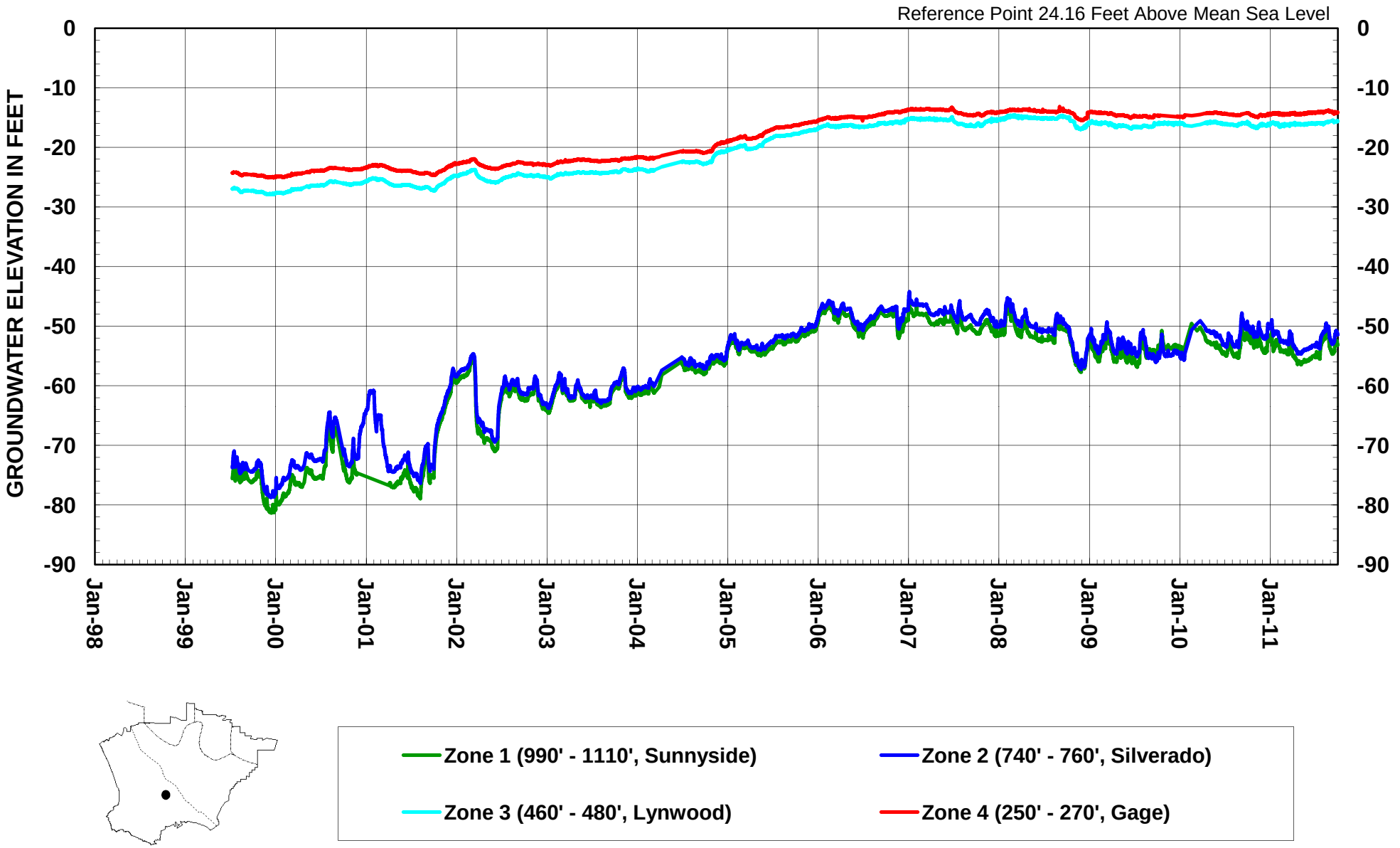


FIGURE 2.8
WATER LEVELS IN WRD KEY NESTED MONITORING WELL CARSON #1



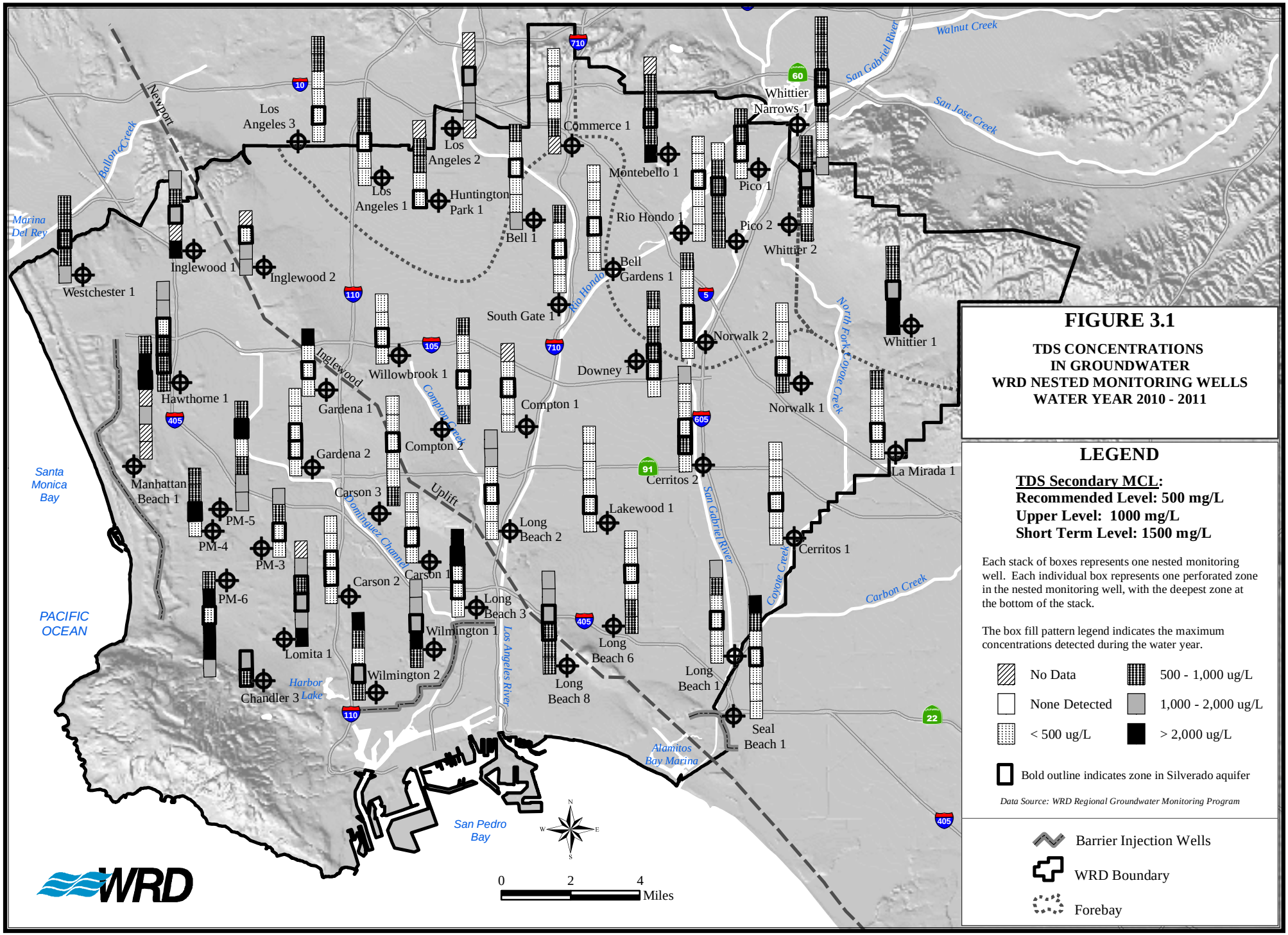


FIGURE 3.1

TDS CONCENTRATIONS IN GROUNDWATER WRD NESTED MONITORING WELLS WATER YEAR 2010 - 2011

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
- None Detected
- < 500 ug/L
- 500 - 1,000 ug/L
- 1,000 - 2,000 ug/L
- > 2,000 ug/L

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

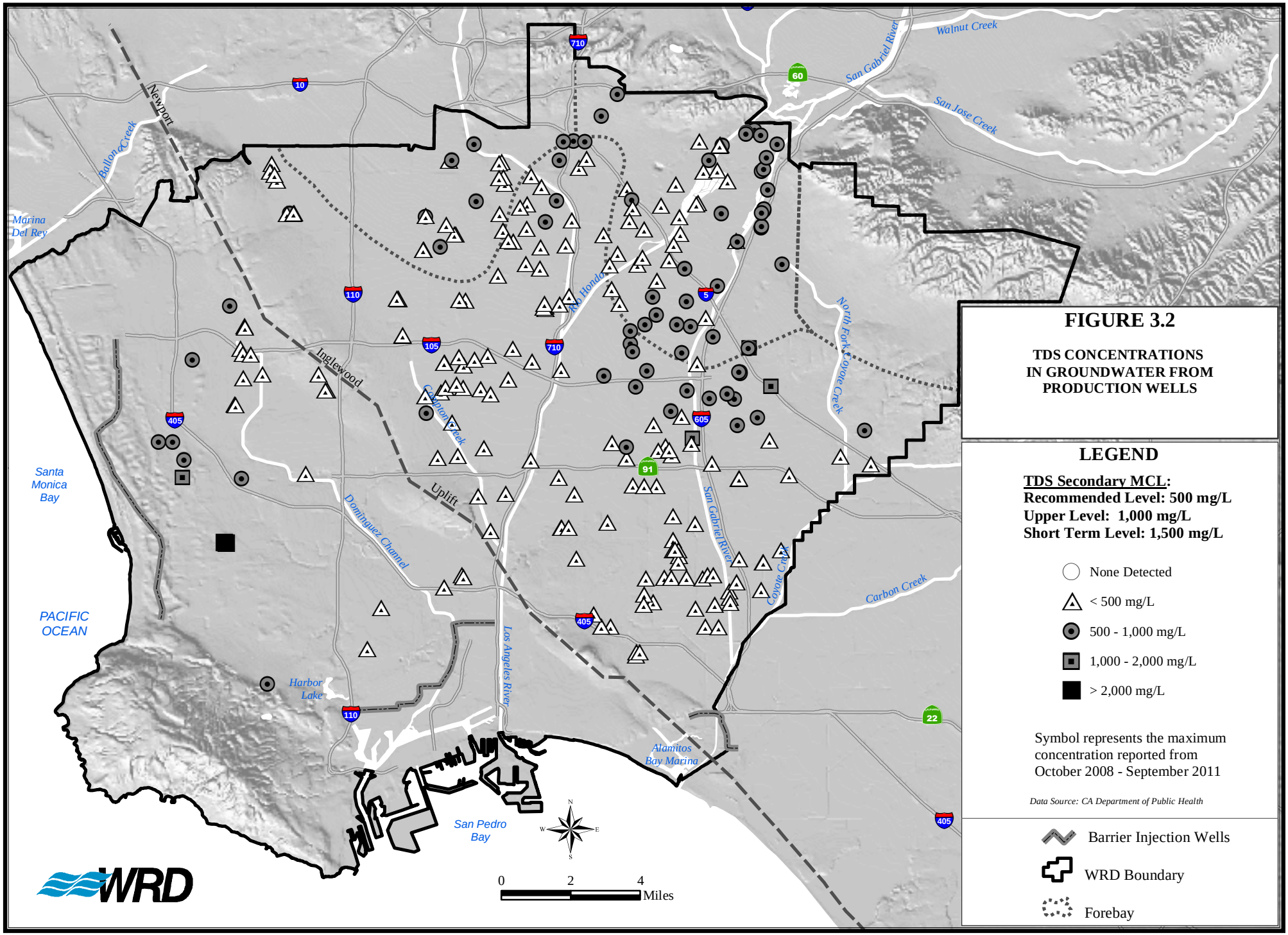

Walnut Creek
San Gabriel River
San Jose Creek
Newport
Ballon Creek
Marina Del Rey
Inglewood
Rio Hondo
North Fork Coyote Creek
Compton Creek
Santa Monica Bay
Dominguez Channel
Uplift
San Gabriel River
Coyote Creek
Carbon Creek
PACIFIC OCEAN
Harbor Lake
Los Angeles River
Alamitos Bay Marina
San Pedro Bay
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: 1,000 mg/L
Short Term Level: 1,500 mg/L
None Detected
< 500 mg/L
500 - 1,000 mg/L
1,000 - 2,000 mg/L
> 2,000 mg/L
Symbol represents the maximum concentration reported from October 2008 - September 2011
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay

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

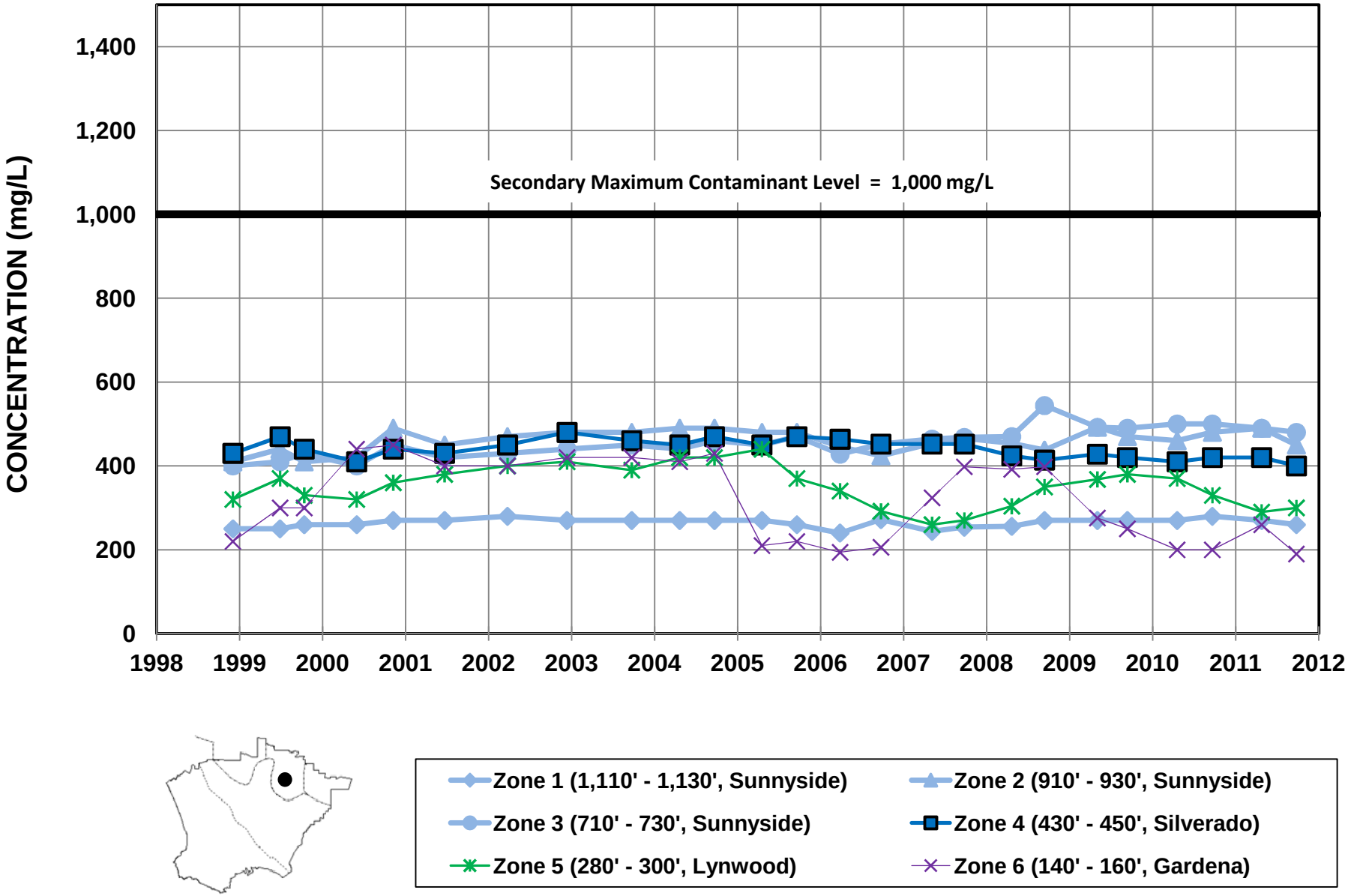


FIGURE 3.4
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL HUNTINGTON PARK #1

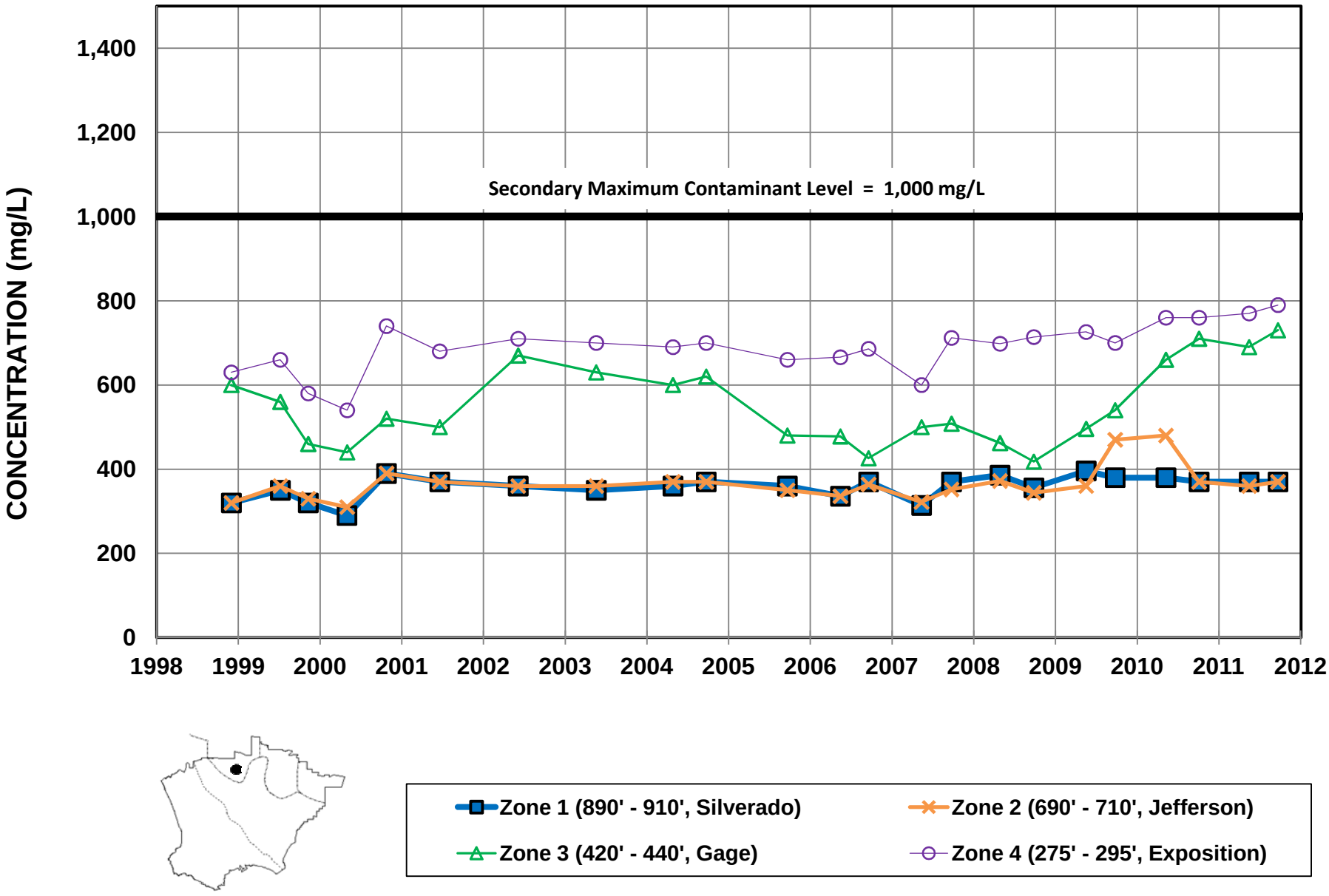


FIGURE 3.5
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL WILLOWBROOK #1

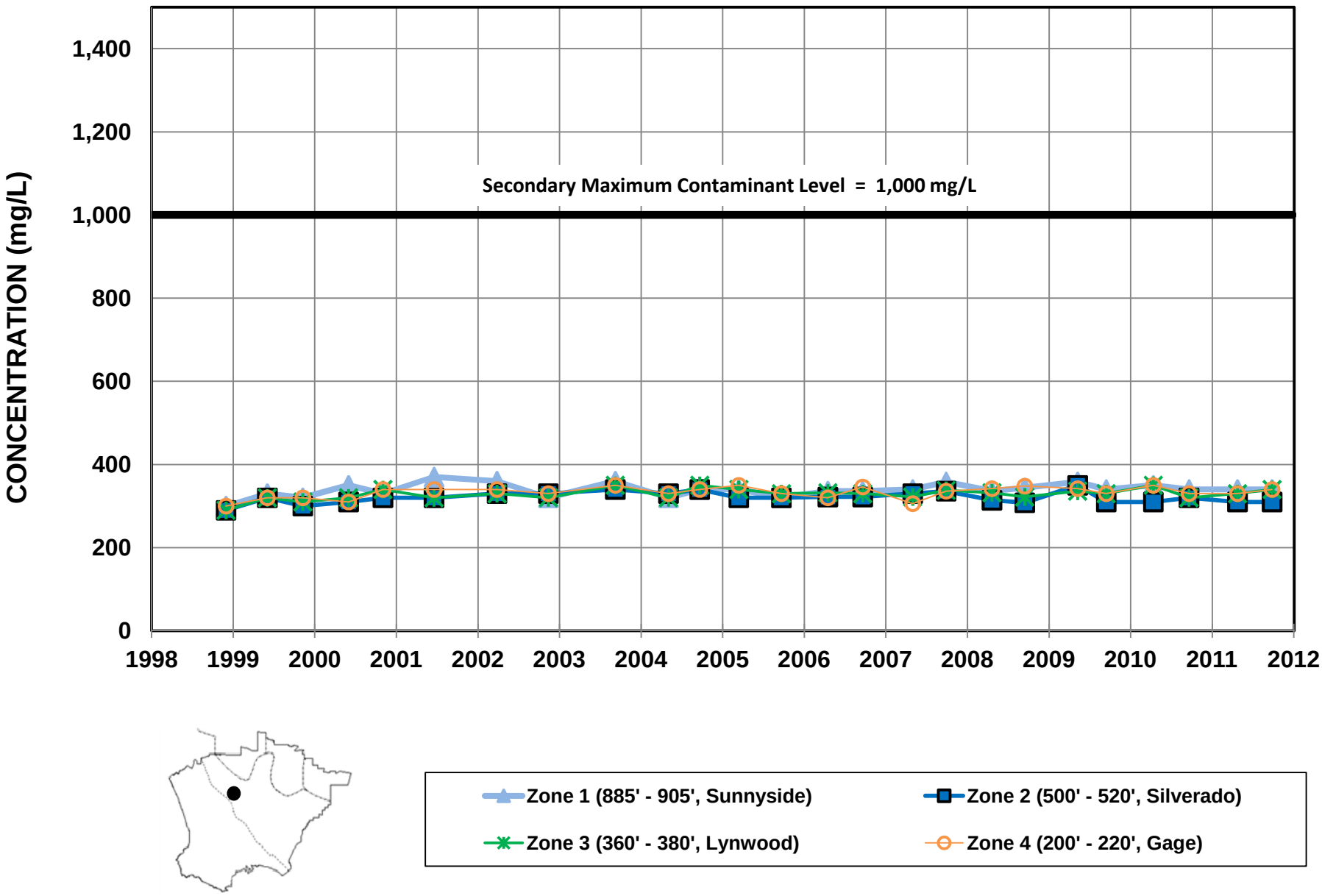


FIGURE 3.6
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL LONG BEACH #6

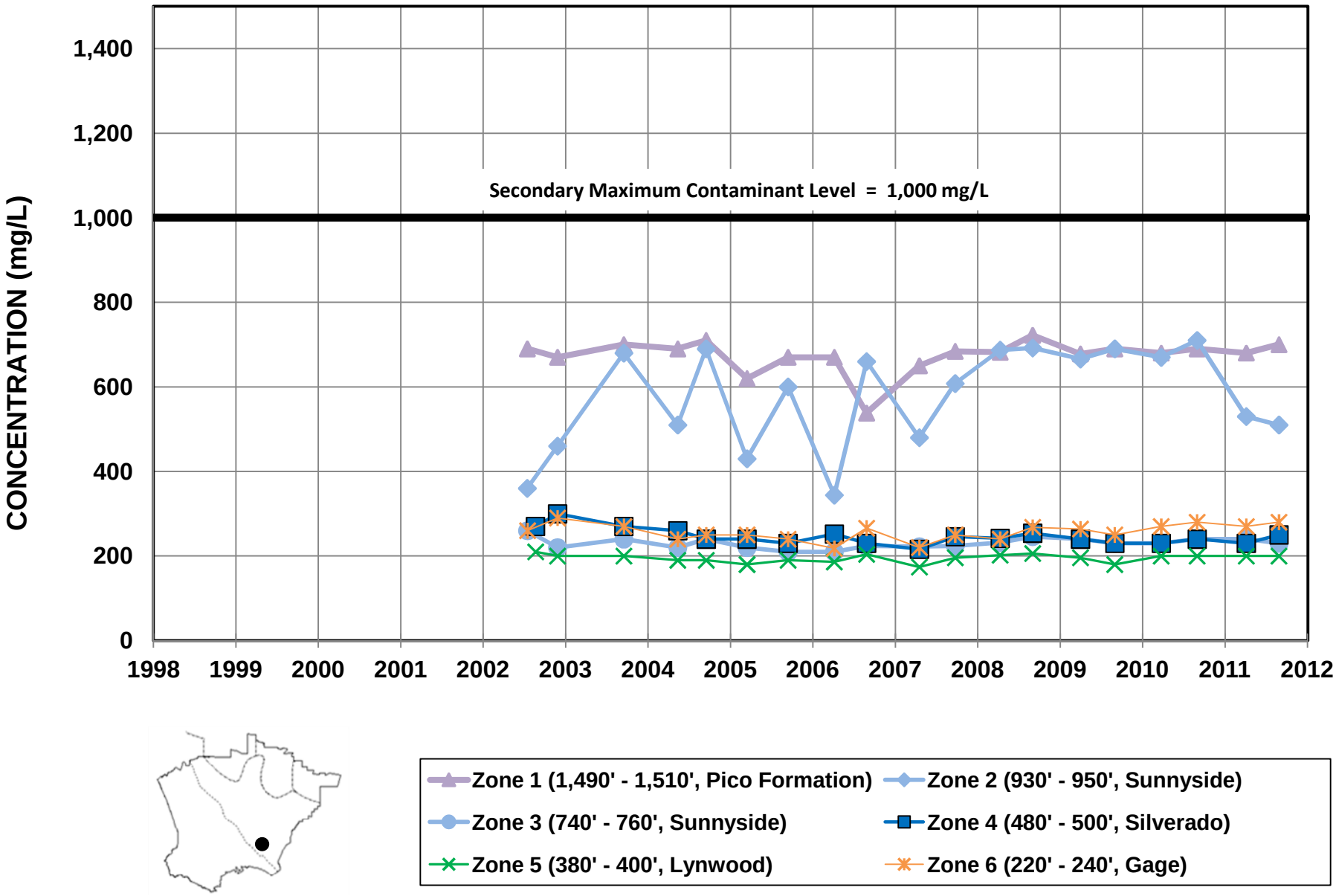


FIGURE 3.7
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL PM-4 MARINER

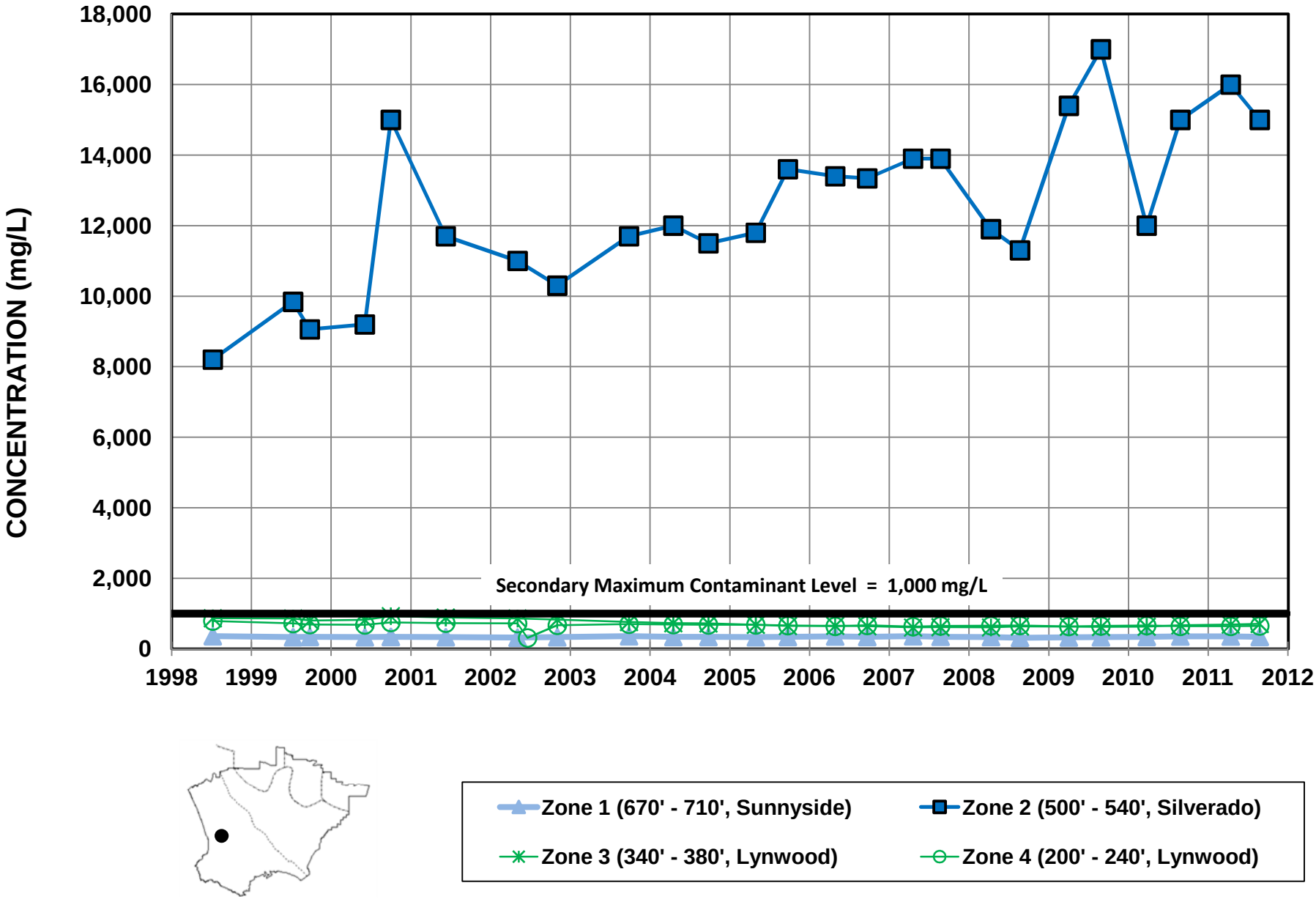
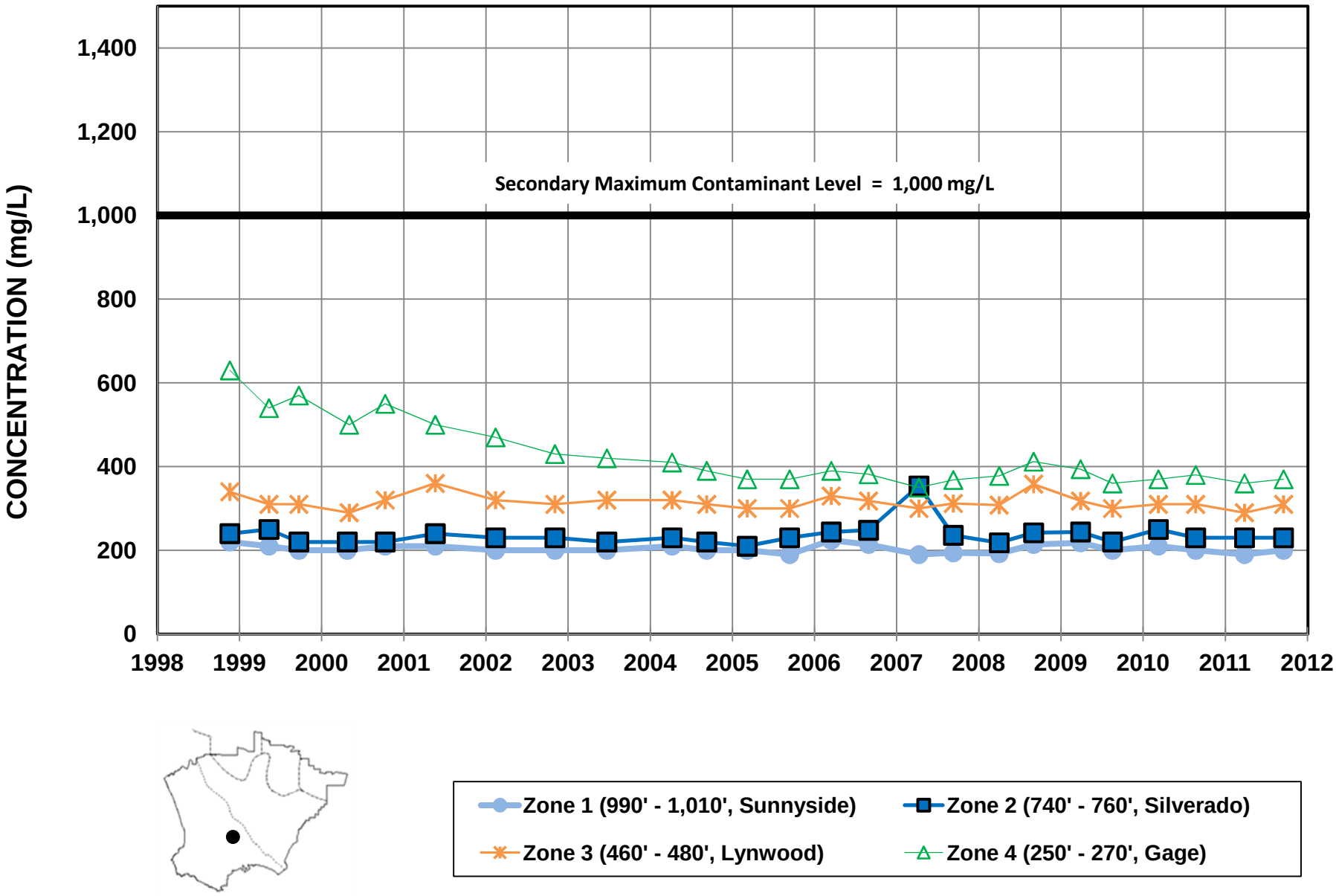
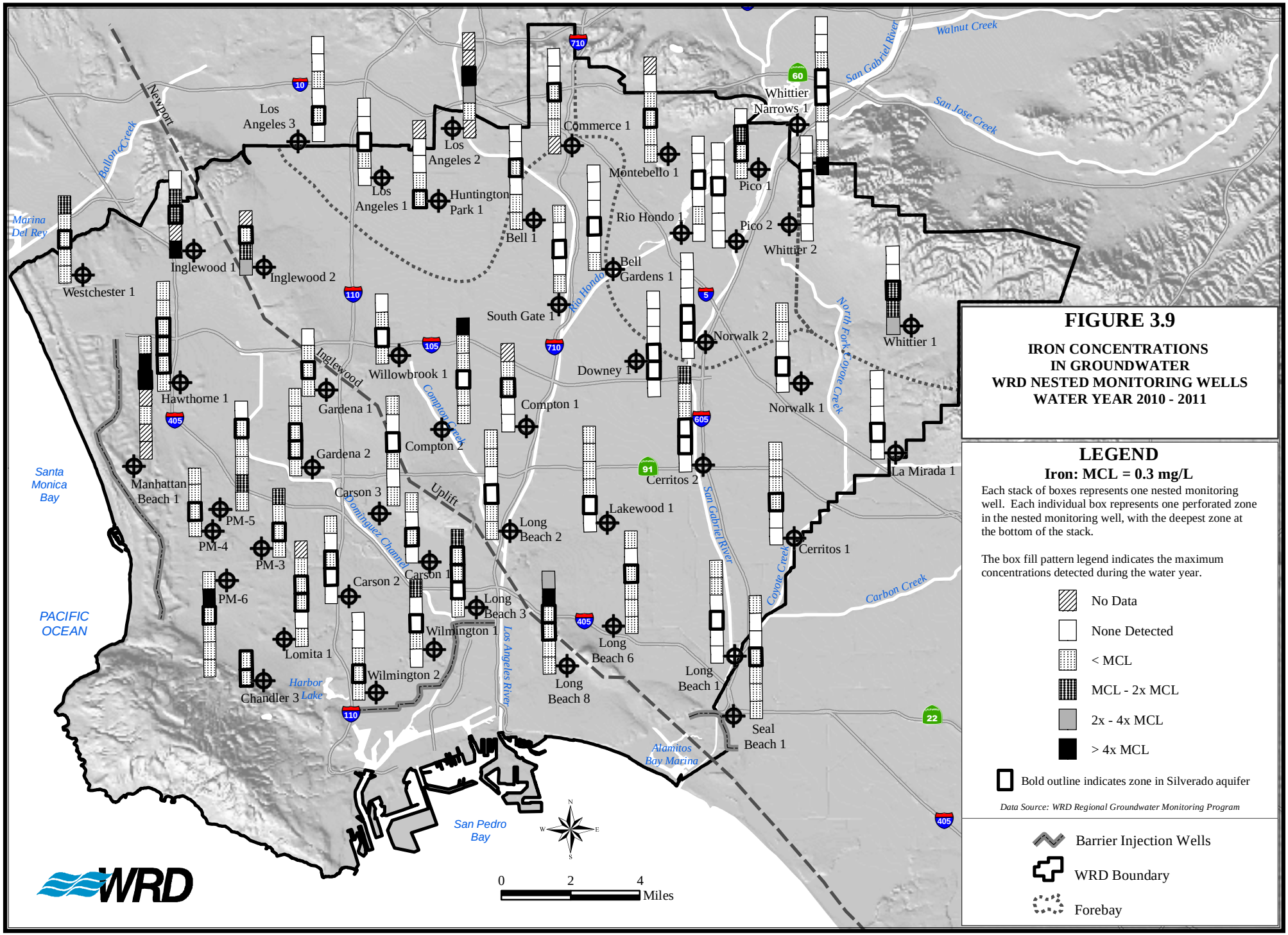


FIGURE 3.8
TDS CONCENTRATIONS IN WRD KEY NESTED MONITORING WELL CARSON #1




Los Angeles 3
Los Angeles 2
Los Angeles 1
Huntington Park 1
Commerce 1
Montebello 1
Whittier Narrows 1
Pico 1
Pico 2
Whittier 2
Whittier 1
Rio Hondo 1
Bell 1
Bell Gardens 1
South Gate 1
Norwalk 2
Norwalk 1
Downey 1
Compton 1
Compton 2
Willowbrook 1
Gardena 1
Gardena 2
Inglewood 1
Inglewood 2
Westchester 1
Hawthorne 1
Manhattan Beach 1
Carson 3
Carson 2
Carson 1
Cerritos 2
Cerritos 1
La Mirada 1
Lakewood 1
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Long Beach 1
Seal Beach 1
Wilmington 1
Wilmington 2
Lomita 1
Chandler 3
PM-3
PM-4
PM-5
PM-6
Marina Del Rey
Ballona Creek
Newport
Inglewood
Willowbrook
Compton Creek
Rio Hondo
Dominguez Channel
Uplift
Los Angeles River
San Gabriel River
Coyote Creek
North Fork Coyote Creek
Walnut Creek
San Jose Creek
Carbon Creek
Harbor Lake
Alamitos Bay Marina
Santa Monica Bay
PACIFIC OCEAN
San Pedro Bay
0 2 4 Miles
FIGURE 3.9
IRON CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2010 - 2011
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 - 4x MCL
> 4x MCL
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Barrier Injection Wells
WRD Boundary
Forebay
WRD

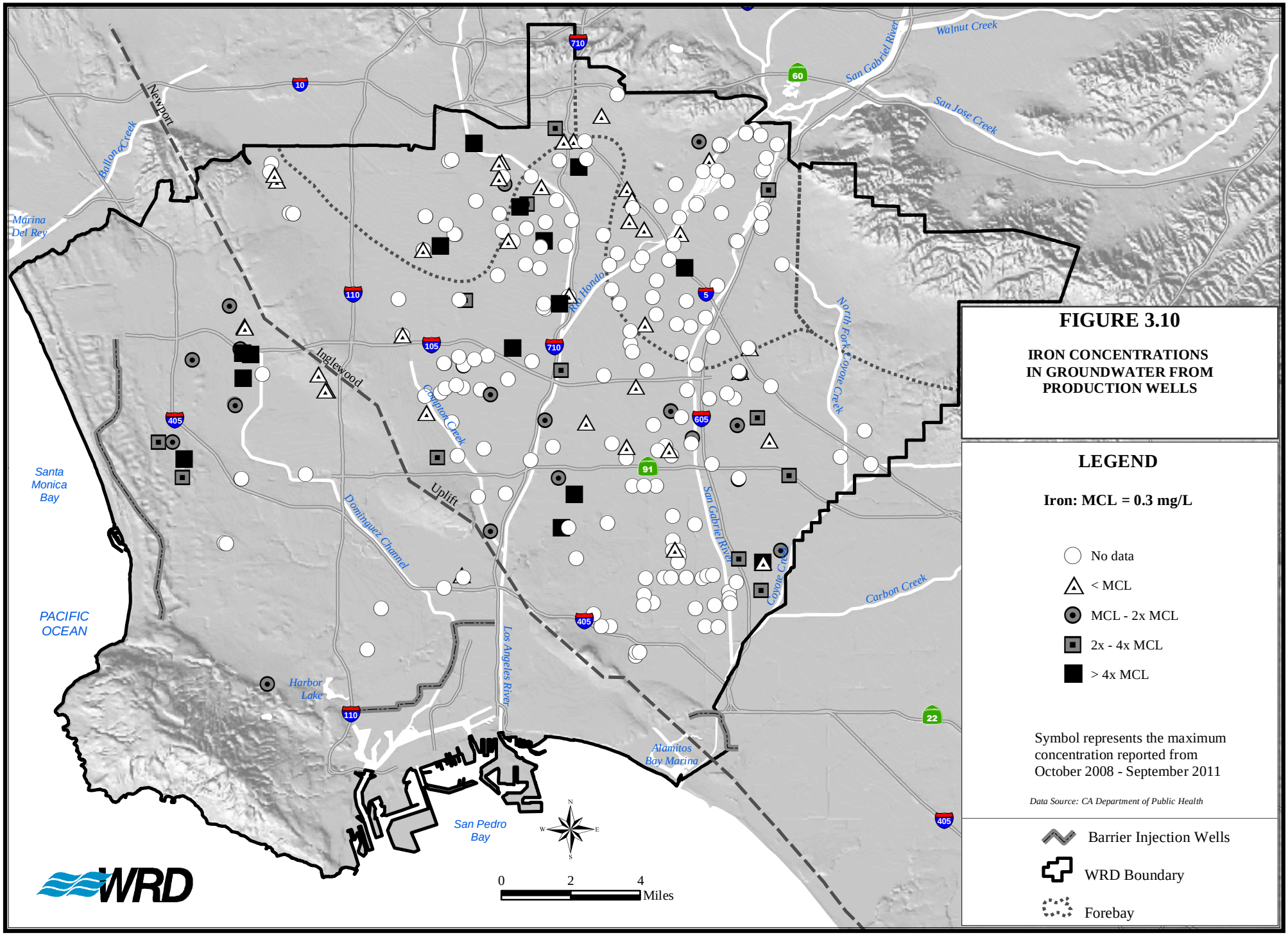


FIGURE 3.10
IRON CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Iron: MCL = 0.3 mg/L
No data
< MCL
MCL - 2x MCL
2x - 4x MCL
> 4x MCL
Symbol represents the maximum concentration reported from October 2008 - September 2011
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Walnut Creek
San Gabriel River
San Jose Creek
Ballon Creek
Newport
Marina Del Rey
Rio Hondo
North Fork Coyote Creek
Inglewood
Compton Creek
Santa Monica Bay
Uplift
Dominguez Channel
San Gabriel River
Coyote Creek
Carbon Creek
PACIFIC OCEAN
Harbor Lake
Los Angeles River
Alamitos Bay Marina
San Pedro Bay
0 2 4 Miles
WRD

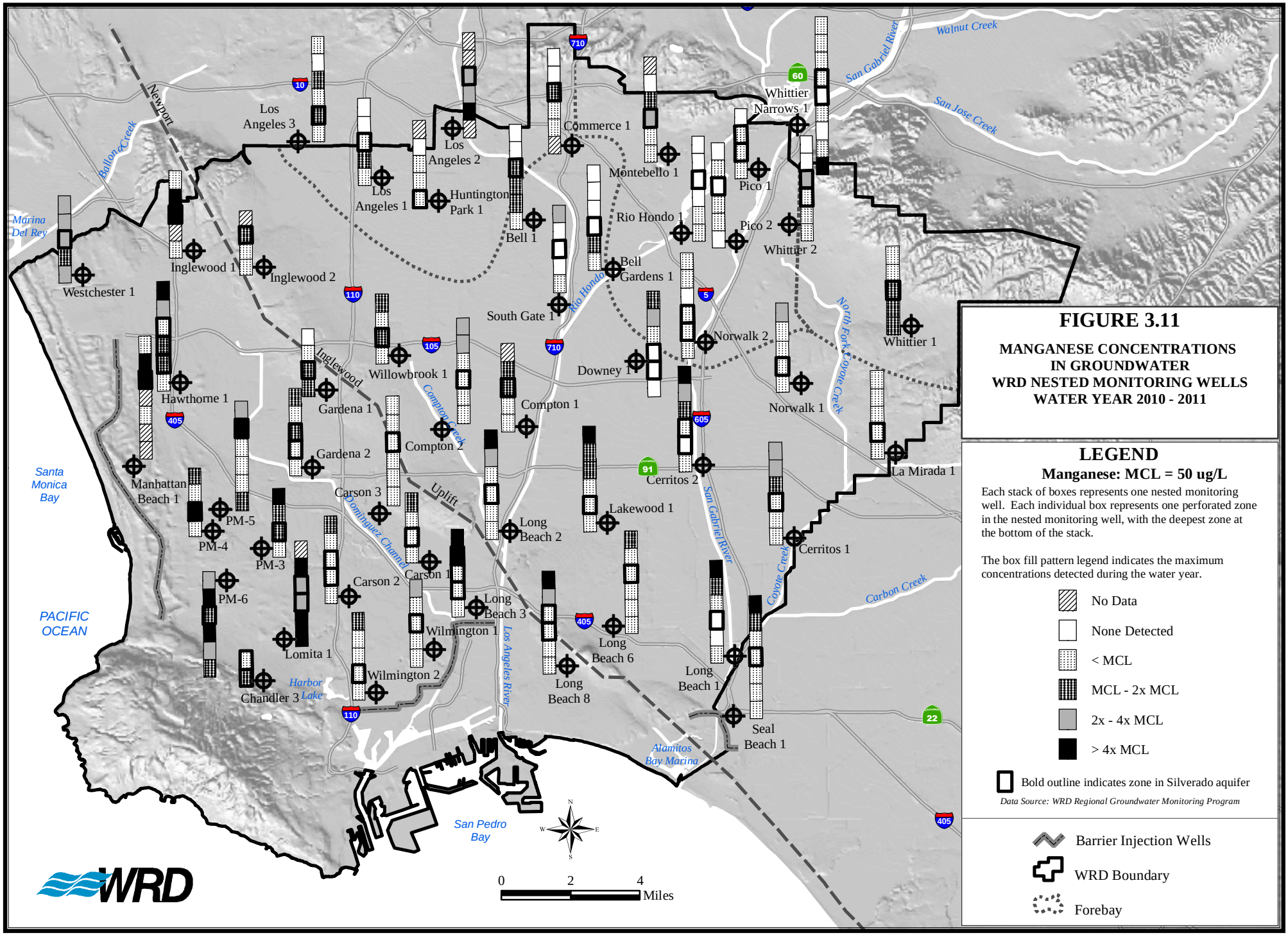


FIGURE 3.11

MANGANESE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2010 - 2011

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 - 4x MCL
- > 4x MCL

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

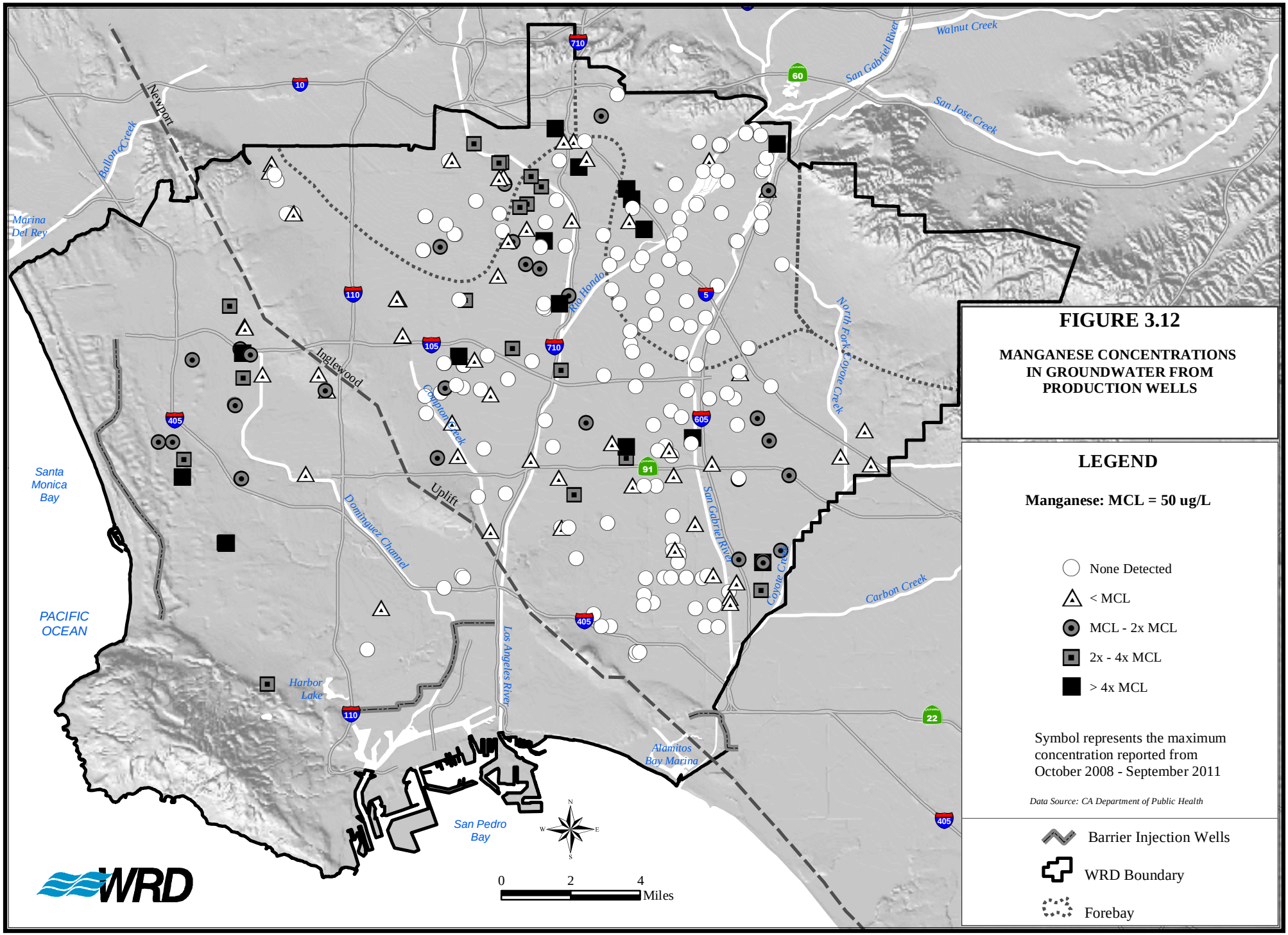


FIGURE 3.12
MANGANESE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Manganese: MCL = 50 ug/L
None Detected
< MCL
MCL - 2x MCL
2x - 4x MCL
> 4x MCL
Symbol represents the maximum concentration reported from October 2008 - September 2011
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Marina Del Rey
Ballona Creek
Newport
Inglewood
Rio Hondo
San Gabriel River
Walnut Creek
San Jose Creek
North Fork Coyote Creek
Compton Creek
Uplift
Dominguez Channel
Los Angeles River
Coyote Creek
Carbon Creek
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
Alamitos Bay Marina
San Pedro Bay
0 2 4 Miles
WRD

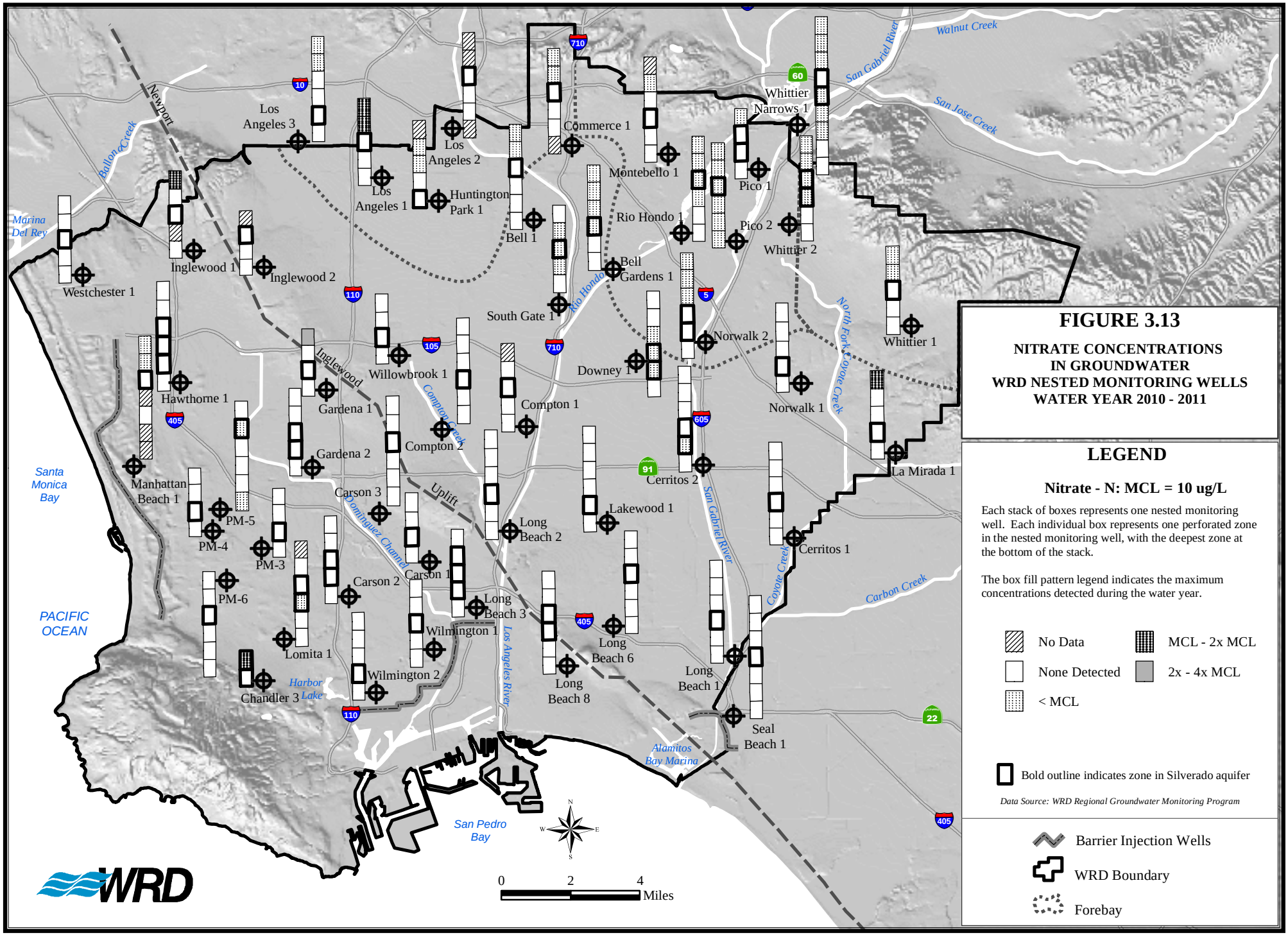


FIGURE 3.13

NITRATE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2010 - 2011

LEGEND

Nitrate - N: 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 - 4x MCL

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

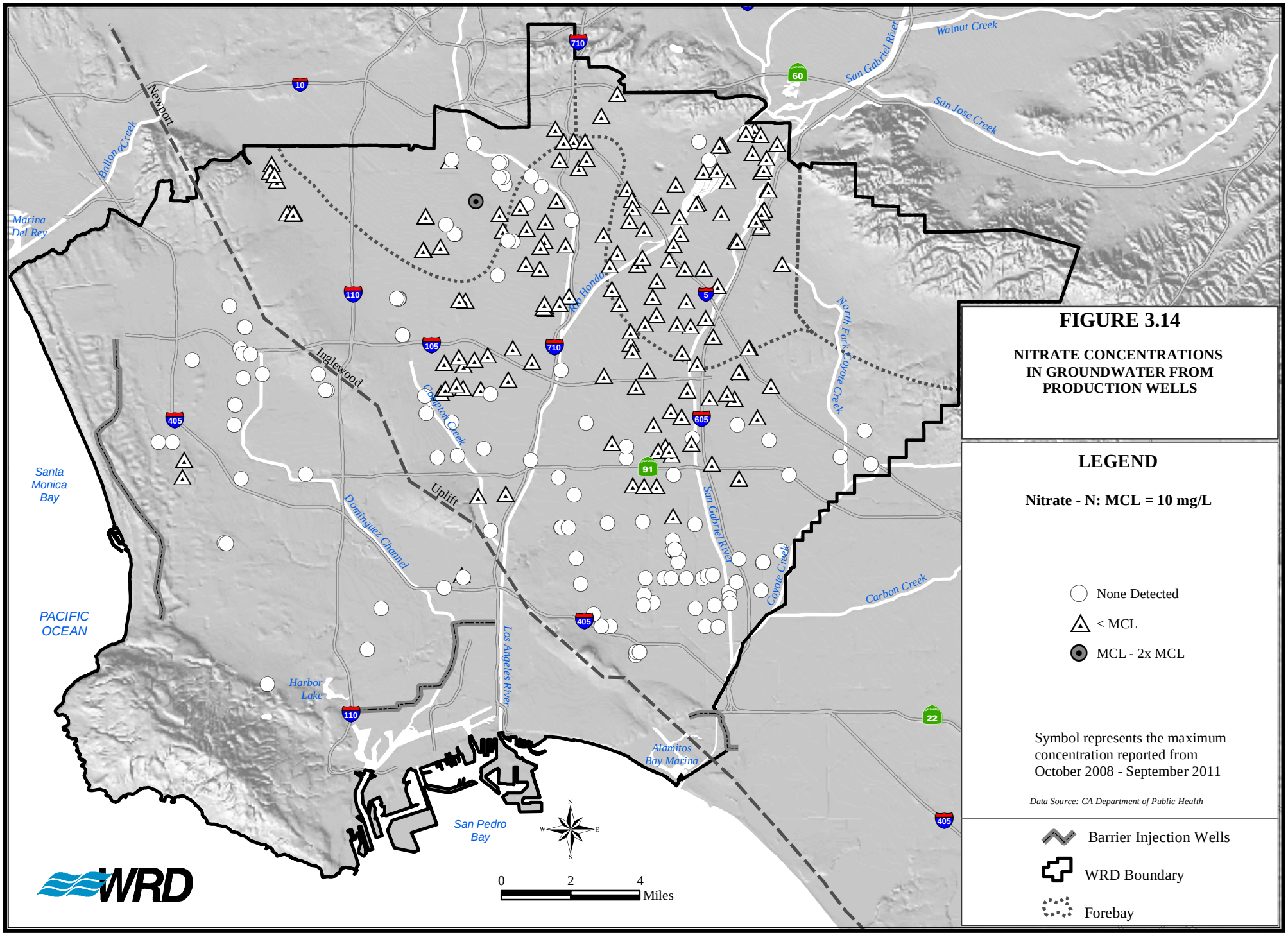


FIGURE 3.14
NITRATE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Nitrate - N: MCL = 10 mg/L
None Detected
< MCL
MCL - 2x MCL
Symbol represents the maximum concentration reported from October 2008 - September 2011
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Walnut Creek
San Gabriel River
San Jose Creek
Newport
Ballon Creek
Marina Del Rey
Rio Hondo
North Fork Coyote Creek
Inglewood
Compton Creek
Uplift
Dominguez Channel
Santa Monica Bay
PACIFIC OCEAN
San Gabriel River
Coyote Creek
Carbon Creek
Los Angeles River
Harbor Lake
Alamitos Bay Marina
San Pedro Bay
0 2 4 Miles
WRD

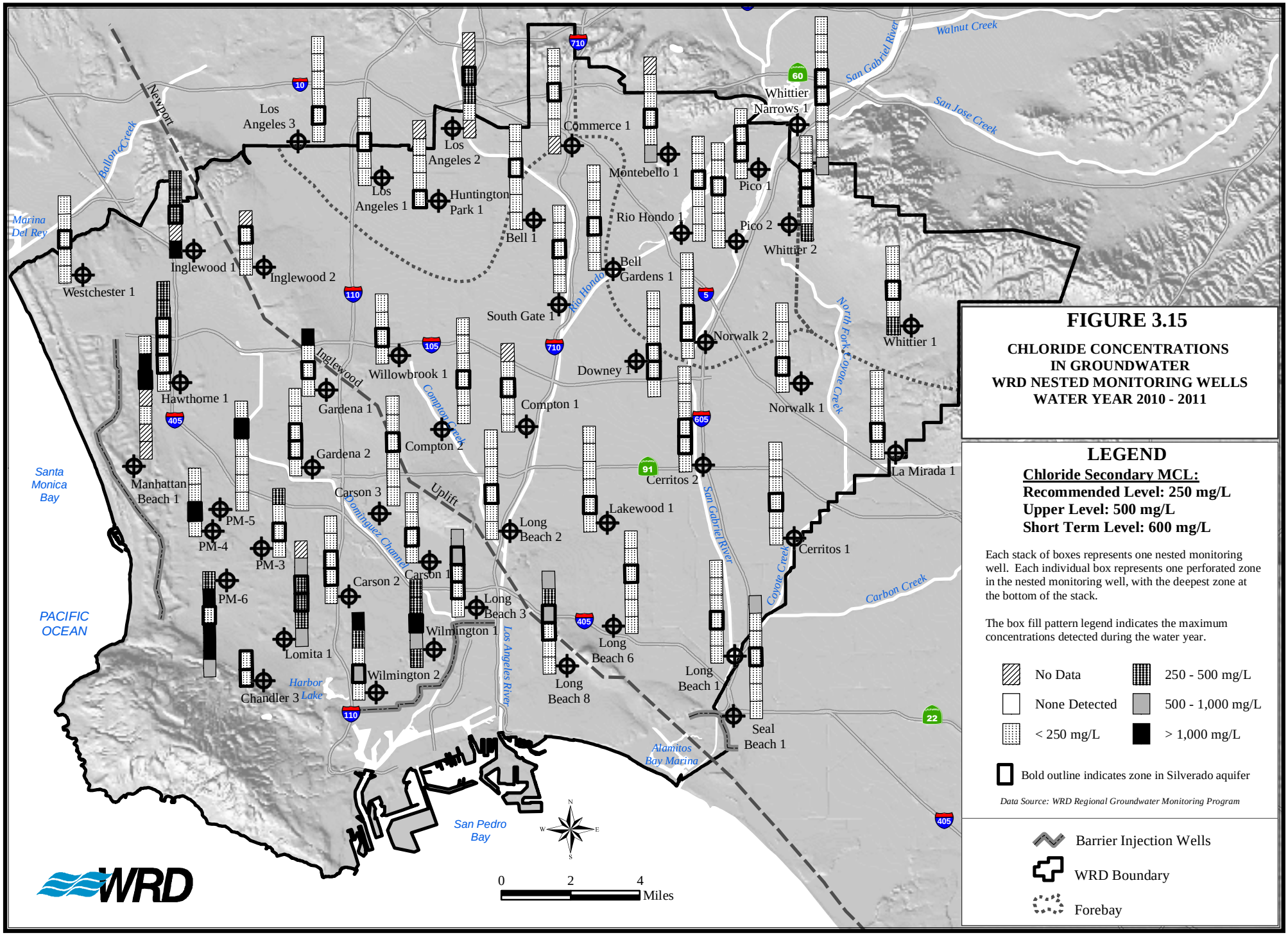


FIGURE 3.15

CHLORIDE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2010 - 2011

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
- None Detected
- < 250 mg/L
- 250 - 500 mg/L
- 500 - 1,000 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

WRD

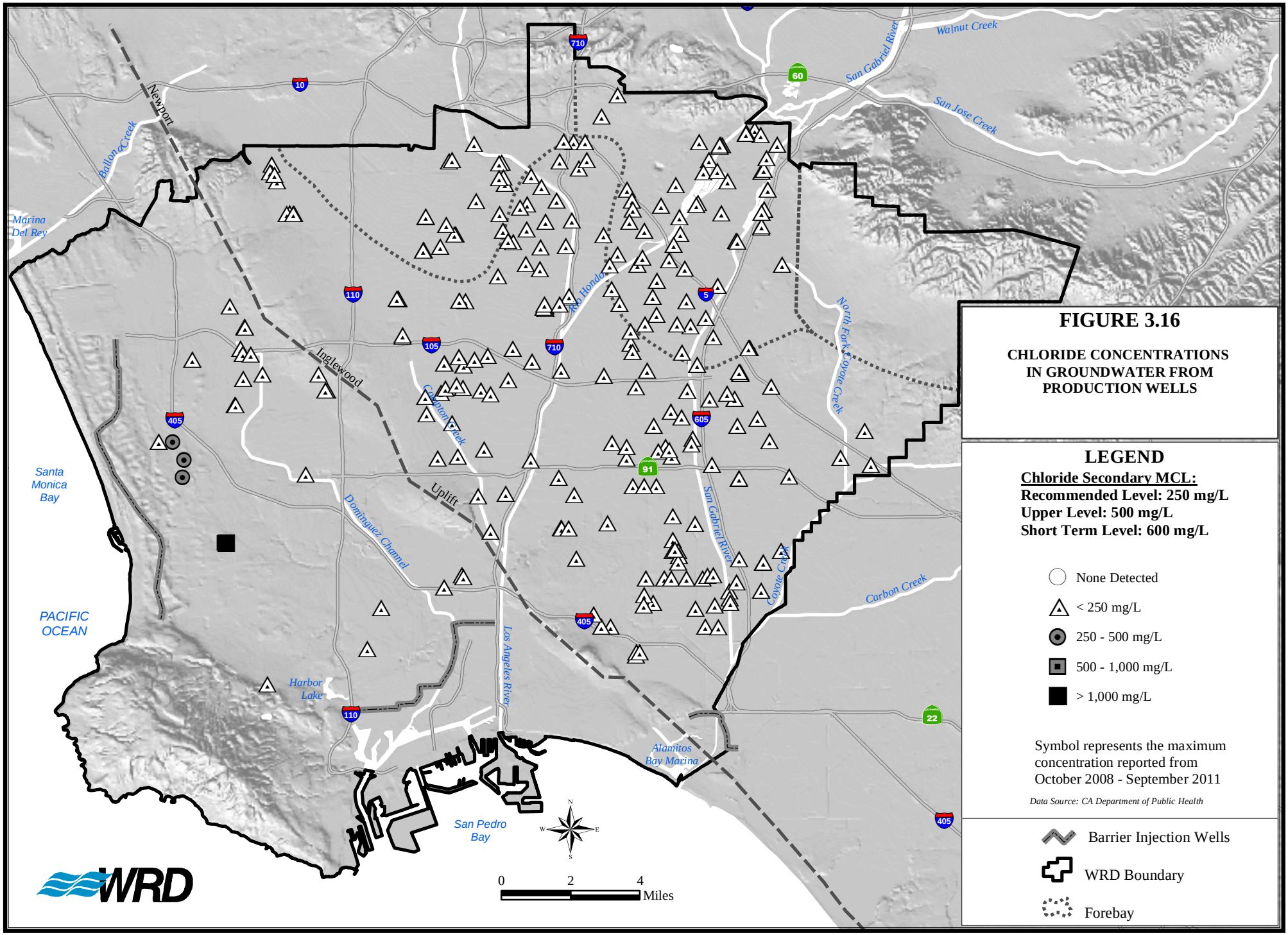


FIGURE 3.16
CHLORIDE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Chloride Secondary MCL:
Recommended Level: 250 mg/L
Upper Level: 500 mg/L
Short Term Level: 600 mg/L
None Detected
< 250 mg/L
250 - 500 mg/L
500 - 1,000 mg/L
> 1,000 mg/L
Symbol represents the maximum concentration reported from October 2008 - September 2011
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Newport
Ballon Creek
Marina Del Rey
Inglewood
Rio Hondo
Walnut Creek
San Gabriel River
San Jose Creek
North Fork Coyote Creek
Compton Creek
Uplift
Dominguez Channel
Los Angeles River
Coyote Creek
Carbon Creek
Harbor Lake
Alamitos Bay Marina
San Pedro Bay
Santa Monica Bay
PACIFIC OCEAN
0 2 4 Miles
WRD

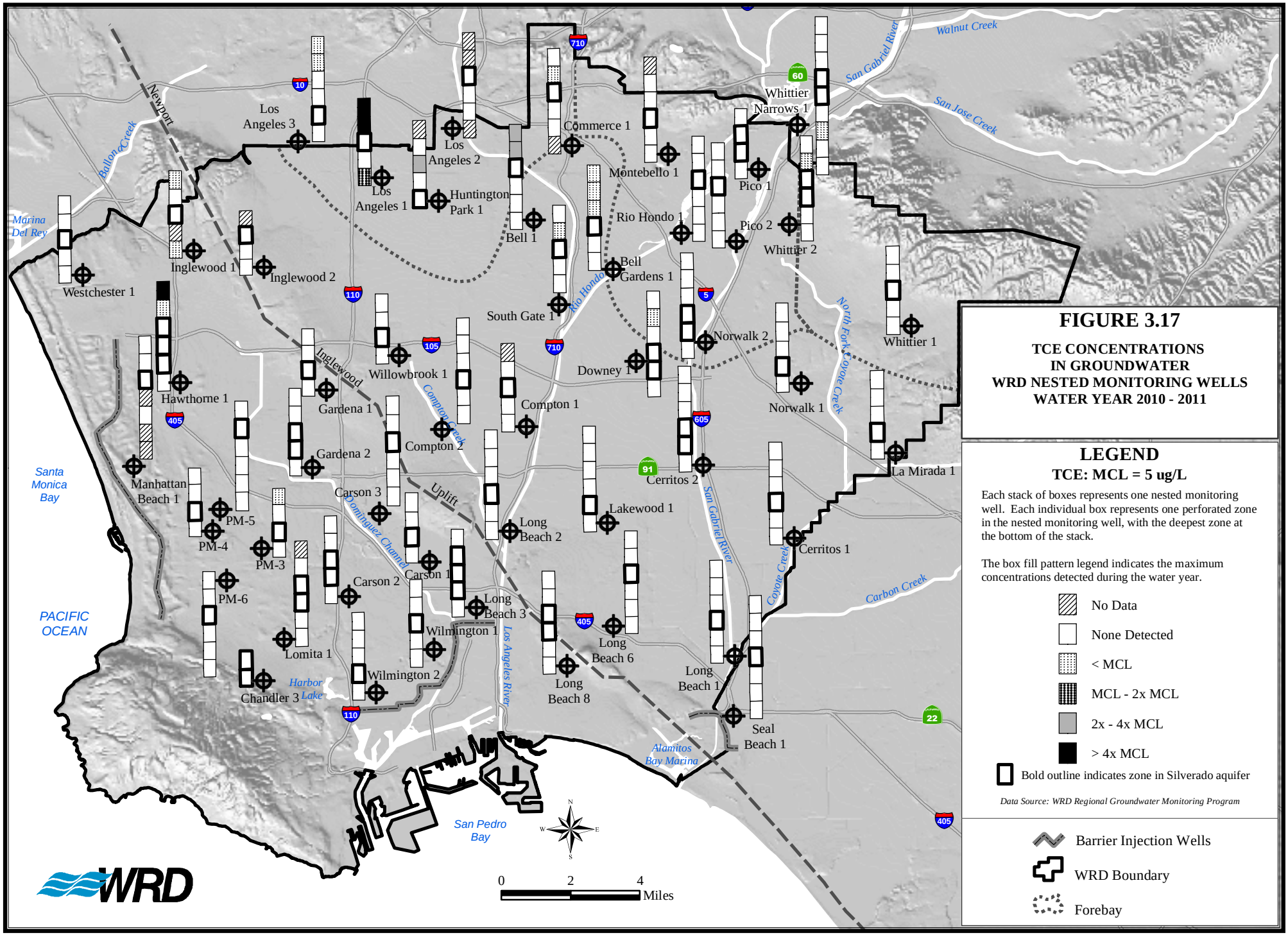


FIGURE 3.17

TCE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2010 - 2011

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 - 4x MCL
- > 4x MCL

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

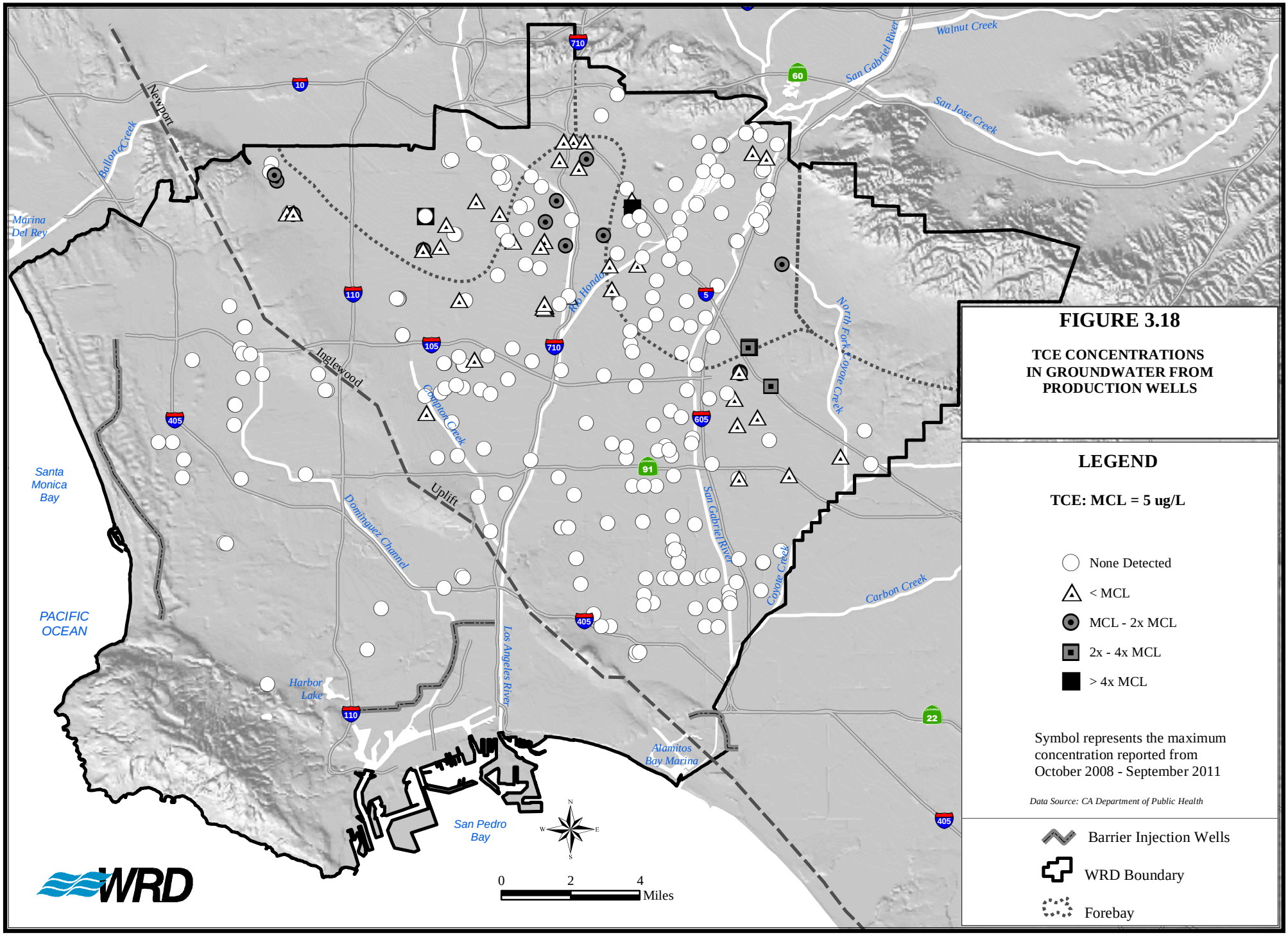


FIGURE 3.18

TCE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS

LEGEND

TCE: MCL = 5 ug/L

- None Detected
- < MCL
- MCL - 2x MCL
- 2x - 4x MCL
- > 4x MCL

Symbol represents the maximum concentration reported from October 2008 - September 2011

Data Source: CA Department of Public Health

- Barrier Injection Wells
- WRD Boundary
- Forebay

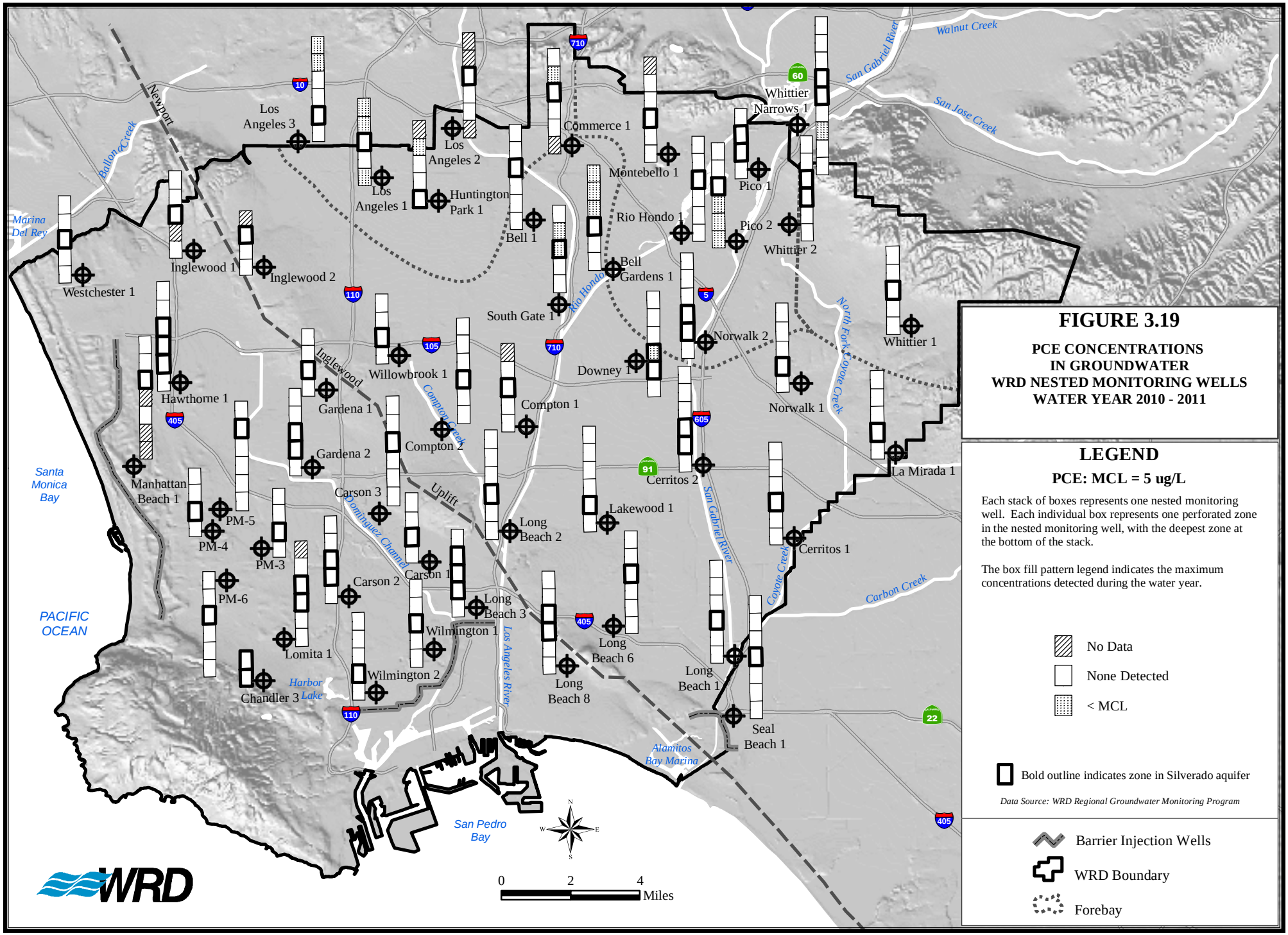


FIGURE 3.19

PCE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2010 - 2011

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

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

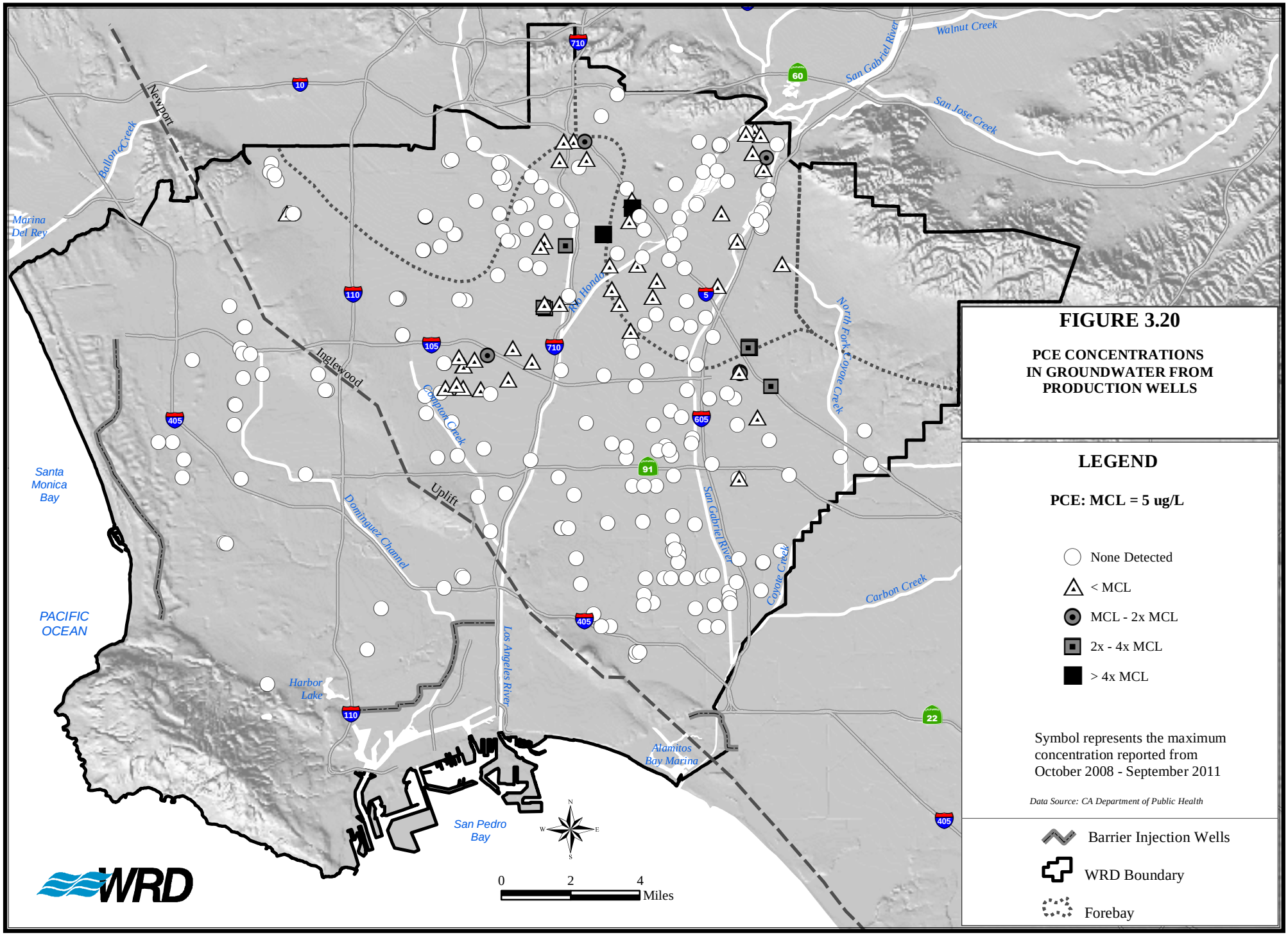


FIGURE 3.20
PCE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
PCE: MCL = 5 ug/L
None Detected
< MCL
MCL - 2x MCL
2x - 4x MCL
> 4x MCL
Symbol represents the maximum concentration reported from October 2008 - September 2011
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Walnut Creek
San Gabriel River
San Jose Creek
Newport
Ballon Creek
Marina Del Rey
Rio Hondo
North Fork Coyote Creek
Inglewood
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

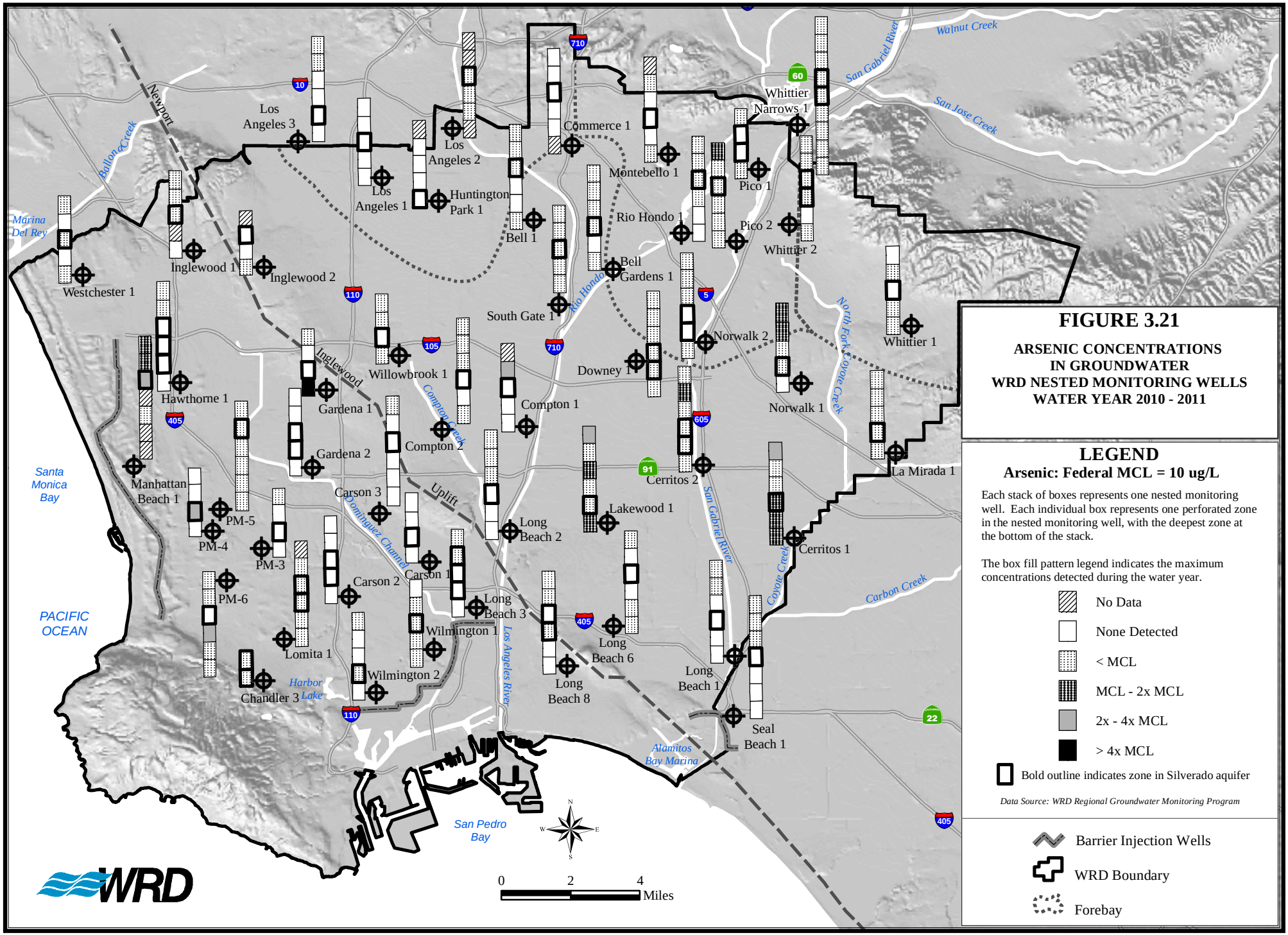


FIGURE 3.21

ARSENIC CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2010 - 2011

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 - 4x MCL
- > 4x MCL

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

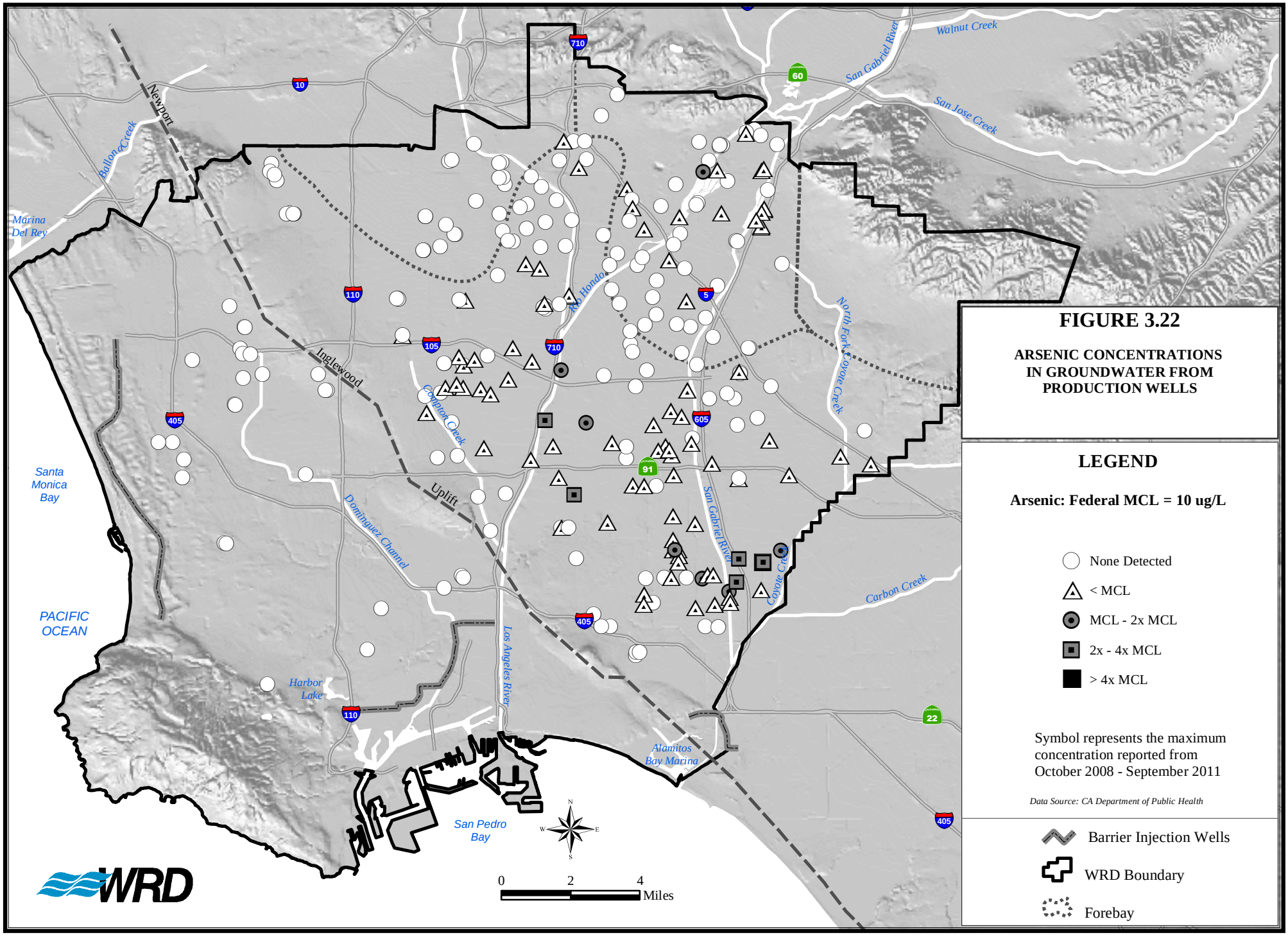


FIGURE 3.22
ARSENIC CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Arsenic: Federal MCL = 10 ug/L
None Detected
< MCL
MCL - 2x MCL
2x - 4x MCL
> 4x MCL
Symbol represents the maximum concentration reported from October 2008 - September 2011
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Newport
Ballon Creek
Marina Del Rey
Santa Monica Bay
PACIFIC OCEAN
Inglewood
Uplift
Dominguez Channel
Compton Creek
Rio Hondo
San Gabriel River
Walnut Creek
San Jose Creek
North Fork Coyote Creek
Coyote Creek
Carbon Creek
Los Angeles River
Harbor Lake
Alamitos Bay Marina
San Pedro Bay
0 2 4 Miles
WRD

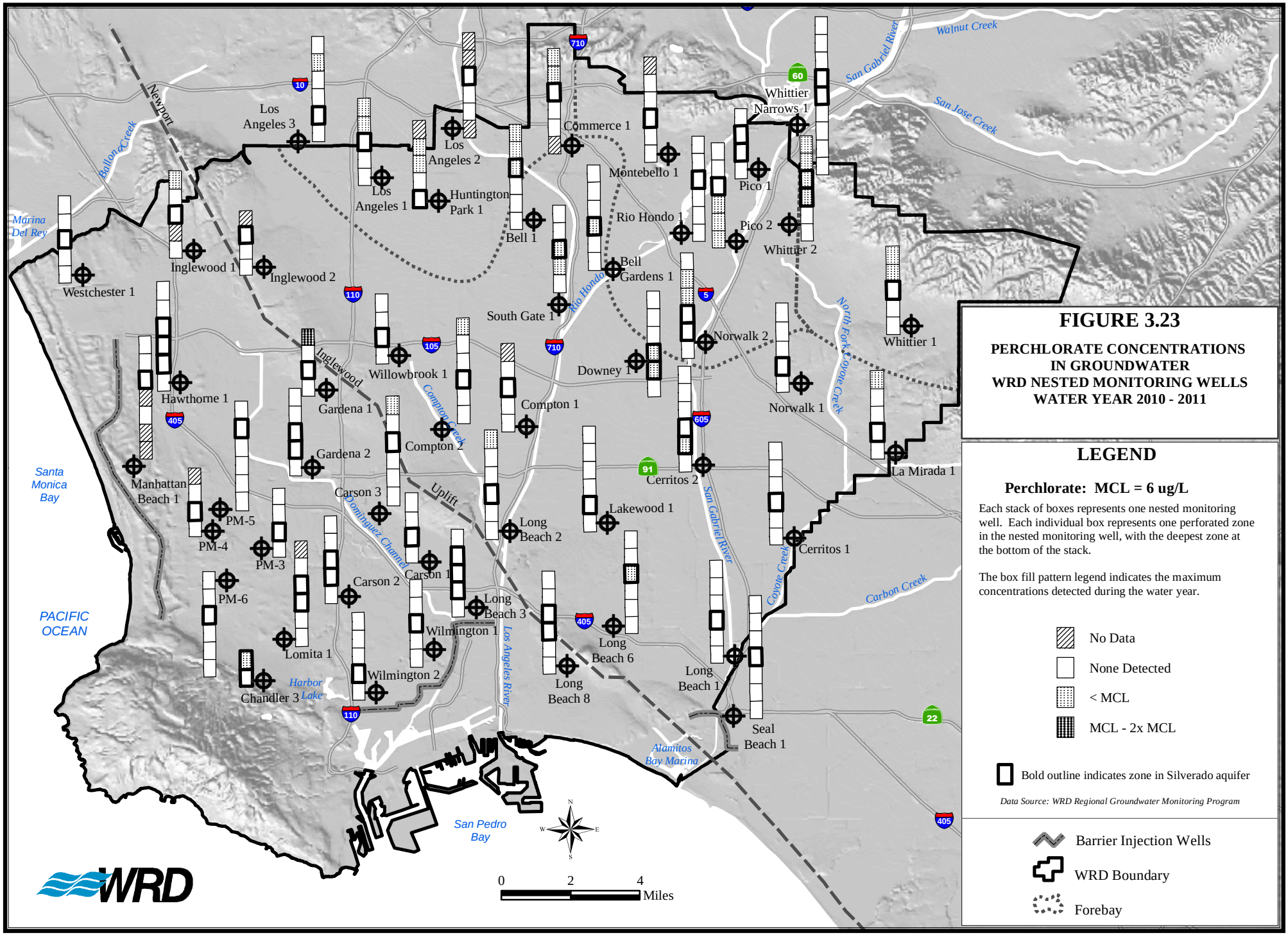


FIGURE 3.23

PERCHLORATE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2010 - 2011

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

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

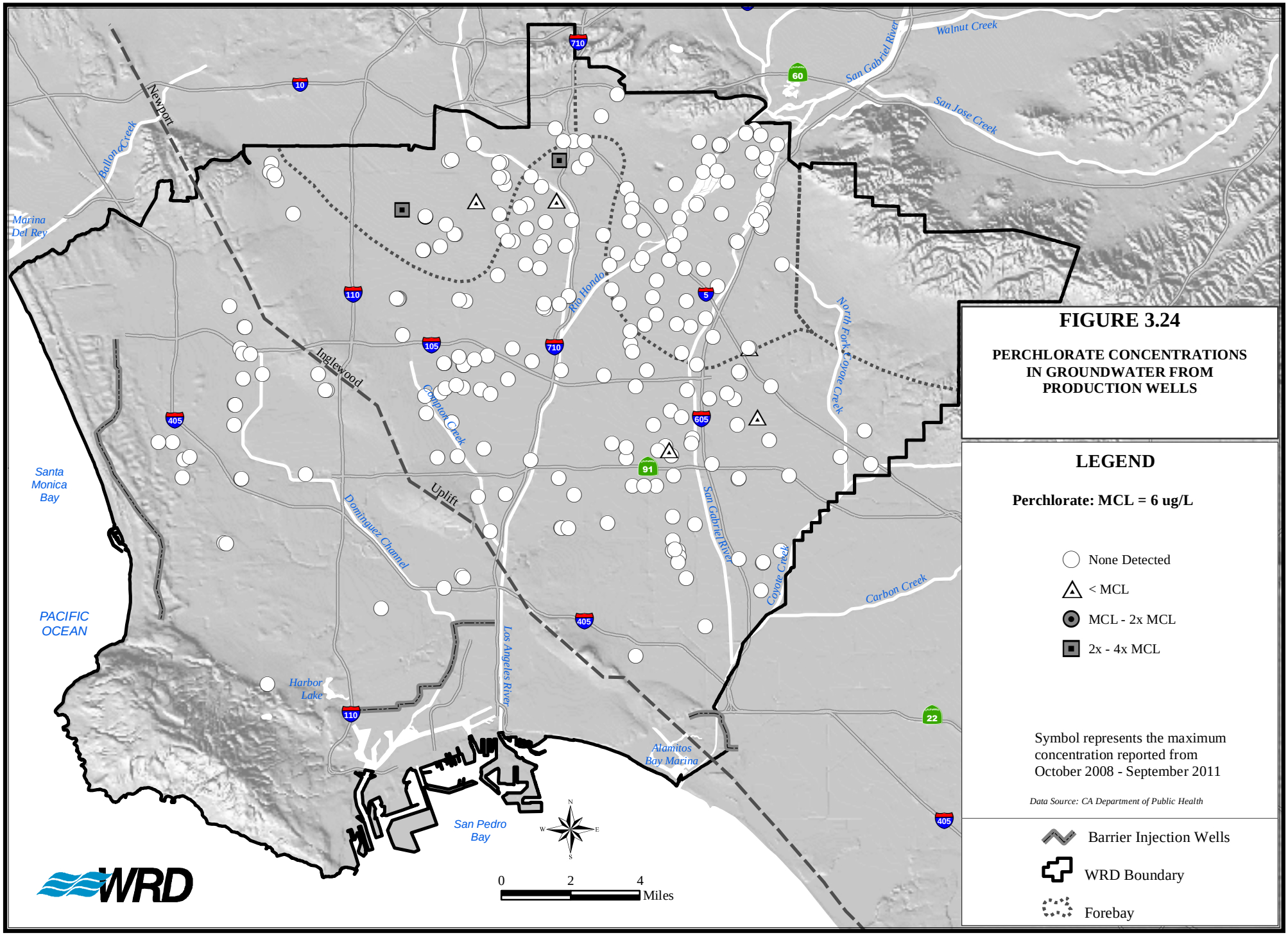


FIGURE 3.24
PERCHLORATE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Perchlorate: MCL = 6 ug/L
None Detected
< MCL
MCL - 2x MCL
2x - 4x MCL
Symbol represents the maximum concentration reported from October 2008 - September 2011
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Walnut Creek
San Gabriel River
San Jose Creek
Ballon Creek
Newport
Marina Del Rey
Rio Hondo
North Fork Coyote Creek
Inglewood
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

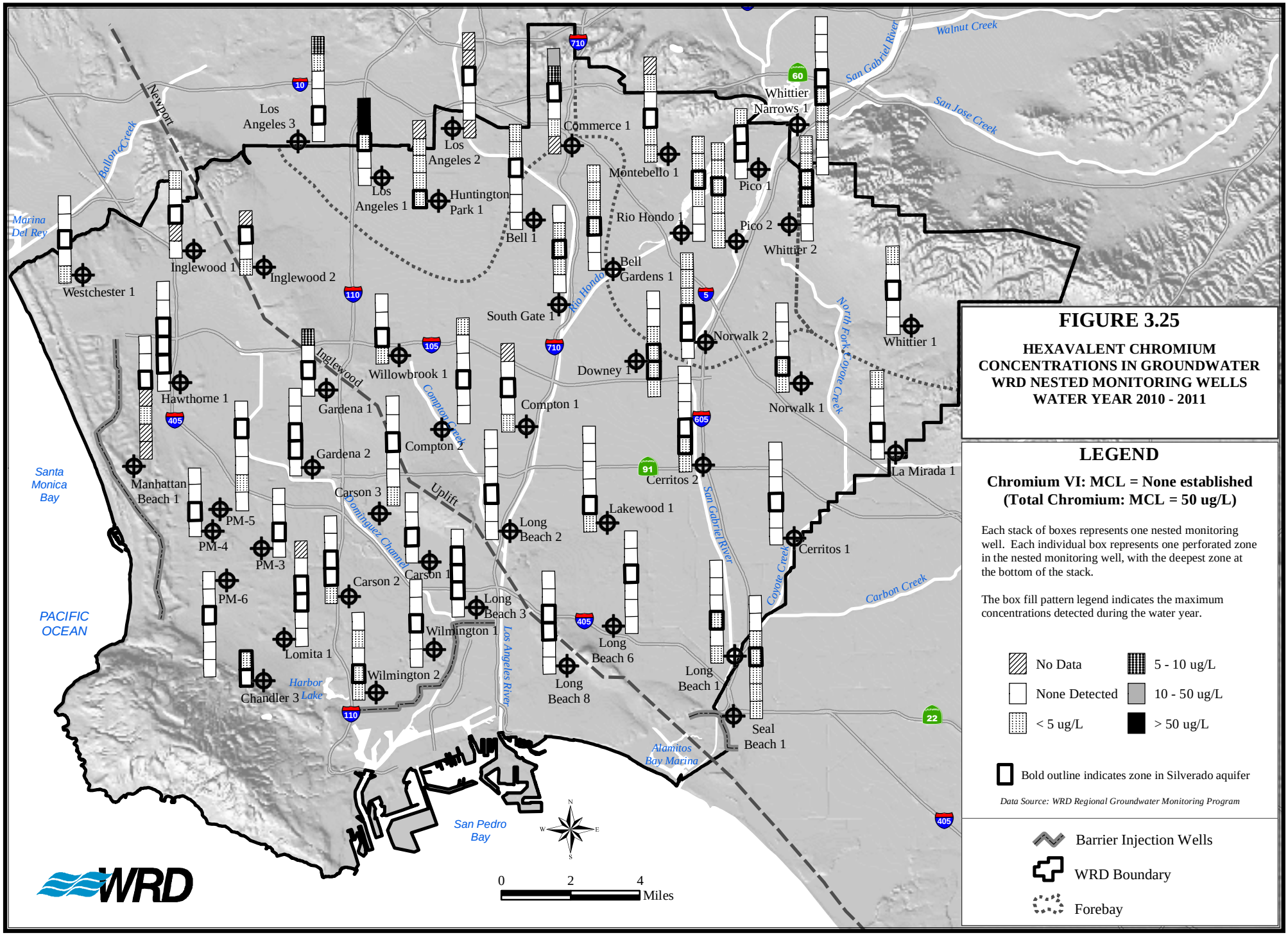


FIGURE 3.25

HEXAVALENT CHROMIUM CONCENTRATIONS IN GROUNDWATER WRD NESTED MONITORING WELLS WATER YEAR 2010 - 2011

LEGEND

Chromium VI: MCL = None established (Total Chromium: 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
- < 5 ug/L
- 5 - 10 ug/L
- 10 - 50 ug/L
- > 50 ug/L

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

- Barrier Injection Wells
- WRD Boundary
- Forebay

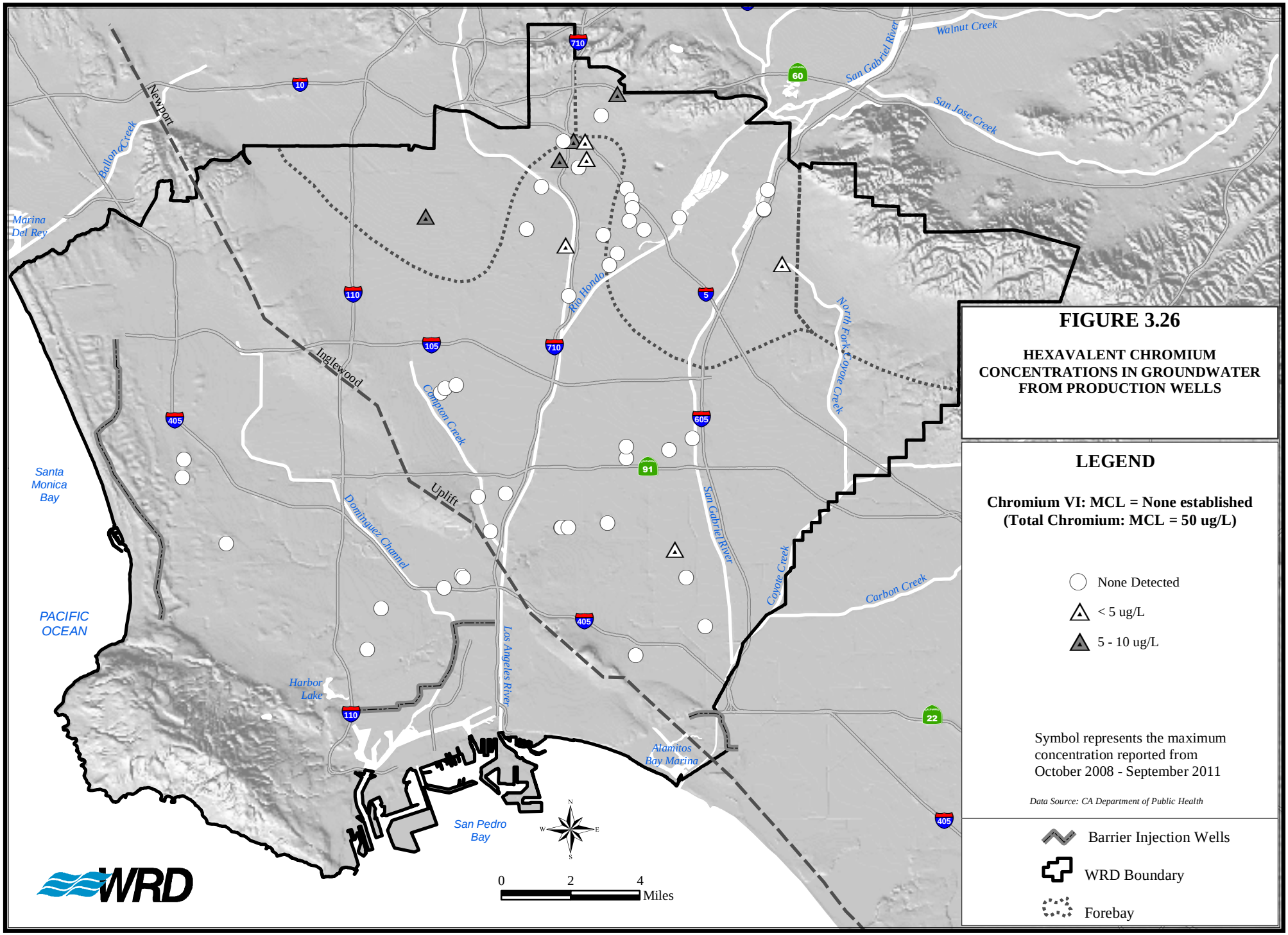


FIGURE 3.26
HEXAVALENT CHROMIUM CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Chromium VI: MCL = None established
(Total Chromium: MCL = 50 ug/L)
None Detected
< 5 ug/L
5 - 10 ug/L
Symbol represents the maximum concentration reported from October 2008 - September 2011
Data Source: CA Department of Public Health
Barrier Injection Wells
WRD Boundary
Forebay
Marina Del Rey
Ballona Creek
Newport
Inglewood
Uplift
Rio Hondo
Compton Creek
North Fork Coyote Creek
San Gabriel River
Walnut Creek
San Jose Creek
Coyote Creek
Carbon Creek
Dominguez Channel
Los Angeles River
Santa Monica Bay
PACIFIC OCEAN
Harbor Lake
Alamitos Bay Marina
San Pedro Bay
0 2 4 Miles
WRD

Mission:

"To provide, protect and preserve high-quality groundwater through innovative, cost-effective and environmentally sensitive basin management practices for the benefit of residents and businesses of the Central and West Coast Basins."

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Fax (562) 921-6101
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