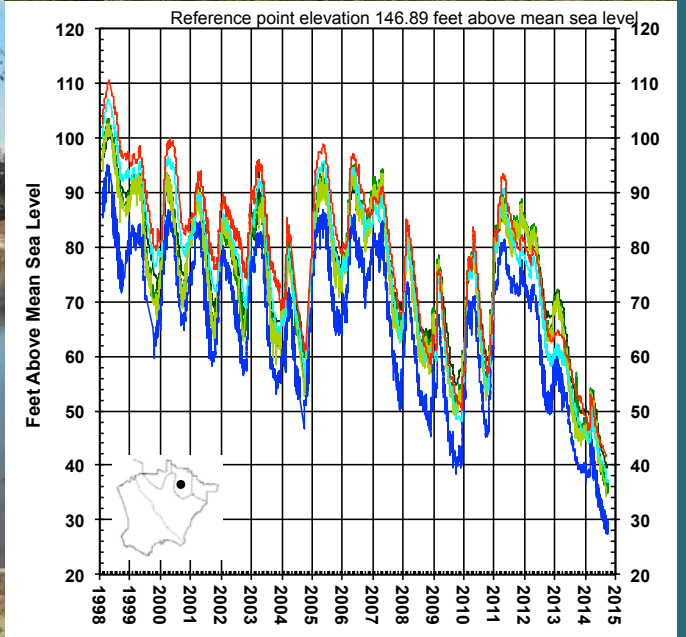
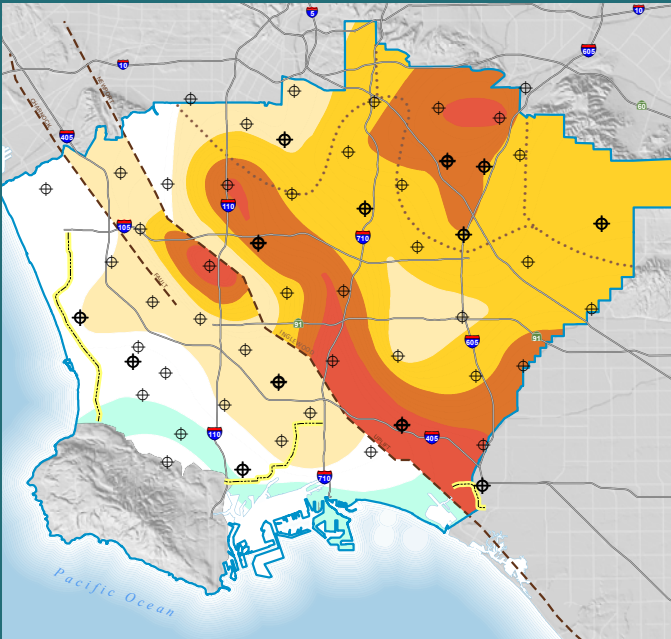


Water Replenishment District of Southern California



REGIONAL GROUNDWATER MONITORING REPORT WATER YEAR 2013-2014

Central and West Coast Basins
Los Angeles County, California



February 2015

Water Replenishment District Of Southern California

REGIONAL GROUNDWATER MONITORING REPORT CENTRAL BASIN AND WEST COAST BASIN LOS ANGELES COUNTY, CALIFORNIA WATER YEAR 2013-2014

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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 utilizing WRD's network of aquifer-specific monitoring wells and in-depth water quality analysis. The Regional Groundwater Monitoring Program (RGWMP) currently consists of a network of more than 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 those efforts, which presents information on groundwater levels and groundwater quality over the past water year which runs from October 1 through September 30 of each year. This current report is for water year 2013-14. Detailed information is presented in the body of the report with a summary below:

Groundwater Levels

Water levels did not change significantly over most of the coastal area of the West Coast Basin during water year 2013-14, they decreased up to 2 feet in the Carson/Dominguez Gap areas, and decreased over 20 feet in the Inglewood/Gardena area. On average, West Coast Basin water levels decreased just under 2 feet. Groundwater levels decreased over

most of the Central Basin during water year 2013-14. Water levels decreased up to 15 feet and on average about 11 feet in the unconfined Montebello Forebay, decreased on average about 6 feet across the unconfined Los Angeles Forebay. Groundwater levels in the Central Basin Pressure Area ranged from no change up to a 20 foot decrease during water year 2013-14 with an average decrease across the pressure area of 9 feet. The average decrease in the Whittier Area was around 7 feet. The average decrease across the entire WRD service area was calculated to be 4.12 feet. This general decrease was due to below normal precipitation and below normal replenishment water resulting in approximately 62,000 acre-feet (AF) of groundwater removed from storage from the CBWCB.

Groundwater Quality

Annually, WRD collects over 600 groundwater samples from its monitoring well network and analyzes them for over 100 water quality constituents to produce over 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 emerging water quality concerns can be identified and managed effectively.

The reporting of this monitoring and analysis include data tables, water quality maps, and trend graphs which are presented in Chapters 3 and 4 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 however, localized areas of marginal to poor water quality that go untapped or may require treatment prior to use. The source of the poor water quality in these areas can be from natural or human causes. 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 water quality maps and trend graphs to focus on 11 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, hexavalent chromium, and methane. TDS, where elevated, is typically present along with chloride as an indicator of historical

seawater intrusion or older marine sediments. The most prevalent water quality issue in the CBWCB is manganese, a naturally-occurring element that at elevated concentrations may impact the aesthetics of groundwater and can require treatment prior to delivery as drinking water. Elevated, naturally-occurring arsenic impacts a number of CBWCB wells. Trichloroethylene and tetrachloroethylene that can leak into groundwater from industrial and commercial facilities, have also impacted wells in the District and are closely monitored. Emerging contaminants of concern (COCs) including hexavalent chromium, arsenic, and perchlorate have relatively new drinking water standards and WRD has performed baseline screening and analysis of these COCs to assess the potential threat to CBWCB groundwater.

Consistent with WRD's mission to provide, protect, and preserve high quality groundwater, and as required by the State's Recycled Water Policy, a Salt and Nutrient Management Plan (SNMP) has been developed and a Basin Plan Amendment will be subsequently adopted to ensure the long-term viability of groundwater in the CBWCB. Through the RGWMP, 70 key WRD nested monitoring wells were selected to track salt and nutrient water quality trends throughout the District and in the most critical areas of the basins, including areas near water supply wells and groundwater recharge projects that utilize recycled water (i.e. the seawater intrusion barriers and the Montebello Forebay Spreading Grounds). Overall, the data show that salt and nutrient concentrations in groundwater are stable and in some locations improving due to past and current groundwater management practices. Based on the existing water quality of the CBWCB and the future groundwater quality as estimated and presented in the SNMP, existing and planned implementation measures appear adequate to manage salt and nutrient loading on a sustainable basis.

Upcoming Activities and Challenges Ahead

WRD remains committed to its statutory charge to protect and preserve groundwater resources in the CBWCB. To that end, WRD has completed a planned expansion of its groundwater monitoring well network and will continue to perform other projects and programs to meet this charge. One of the biggest challenges currently facing the District is

the rising cost and unreliability of imported water for groundwater replenishment. The District seeks to eliminate this reliance on imported water for replenishment and looks to expand local sources including storm water and recycled water. This initiative is our Water Independence Now (WIN) program which includes as a key component, the Groundwater Reliability Improvement Project (GRIP) designed to ensure reliable sources 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 potential 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 continue efforts under its Groundwater Contamination Prevention Program in order to minimize or eliminate threats to groundwater supplies. This includes continued administration of the Central and West Coast Basin Groundwater Contamination Forum, which consists of key stakeholders that are focused on expediting the investigation and cleanup of high-priority contaminated groundwater sites within the District. Currently, there is a list of 46 high-priority 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, the California Department of Water Resources (DWR) developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program. In October 2011, WRD was assigned as 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

AWTF	Advanced Water Treatment Facility
AWWA	American Water Works Association
BGS	Below Ground Surface
CASGEM	California Statewide Groundwater Elevation Monitoring
CEQA	California Environmental Quality Act
COC	Contaminant of Concern
CSDLAC	County Sanitation Districts of Los Angeles County
CBWCB	Central Basin and West Coast Basin
DDW	State Water Resources Control Board, Department of Drinking Water
DME	Designated Monitoring Entity
DWR	California Department of Water Resources
ESR	Engineering Survey and Report
GIS	Geographic Information System
GPS	Global Positioning System
GRIP	Groundwater Reliability Improvement Program
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	Milligram per Liter
µg/L	Microgram 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
Policy	Recycled Water Policy
RGWMP	Regional Groundwater Monitoring Program
RGWMR	Regional Groundwater Monitoring Report
RL	Response Level

GLOSSARY OF ACRONYMS (continued)

SMCL	Secondary Maximum Contaminant Level
SNMP	Salt and Nutrient Management Plan
SWRCB	State Water Resources Control Board
TCE	Trichloroethylene
TDS	Total Dissolved Solids
TIWRP	Terminal Island Water Reclamation Plant
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOC	Volatile Organic Compound
WBMWD	West Basin Municipal Water District
WIN	Water Independence Now
WQO	Water Quality Objective
WRD	Water Replenishment District of Southern California
WRF	Water Recycling Facility
WRP	Water Reclamation Plant

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 groundwater pumpers in the District, other interested stakeholders, and the public with the knowledge necessary for responsible water resources planning and management. Publication of this Regional Groundwater Monitoring Report (RGWMR) is just one of the efforts by WRD to fulfill its mission.

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 extractions 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 groundwater levels and groundwater quality in the CBWCB to ensure the

sustainability of this groundwater resource.

Prior to 1995, WRD relied heavily upon groundwater 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 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 for the RGWMRs 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 is 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 is a District map showing the locations of wells in the resultant WRD nested monitoring well network. Currently, WRD has over 300 wells at more than 50 locations. A listing and depth details for the WRD wells are presented in **Table 1.1**. WRD recently

completed a planned 8-year expansion of the nested monitoring well network which filled in data gaps and addressed several water quality issues. With this expansion complete, WRD is well positioned to comprehensively monitor groundwater conditions in the CBWCB.

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 for the monitoring of groundwater quality 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 basins and the names of water-bearing zones are 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**. These cross-sections are presented on **Figures 1.4** and **1.5**, respectively. These cross-sections are modified versions of cross-sections presented in Bulletin 104, 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 pumping can come from the Lynwood and Sunnyside aquifers as well.

1.3 GIS DEVELOPMENT AND IMPLEMENTATION

WRD uses a 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 website at <http://gis.wrd.org>. The website provides the public with access to much of the water level and water quality data contained in this report. The well information on the website can be accessed through interactive maps 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 2013-14, 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 2013-14. Section 3 presents water quality data for the WRD nested monitoring wells, basinwide production wells, and replenishment water. Section 4 summarizes salt and nutrient management in the CBWCB and presents water quality trends for TDS and chloride. Section 5 summarizes findings from the evaluation of data in this report. Section 6 describes future regional groundwater monitoring and related activities. Section 7 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 downloaded in PDF format from the WRD website 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 identify 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 manual groundwater level measurements collected from the District's nested monitoring wells during water year 2013-14. In order to capture the daily and seasonal variations in water levels, WRD has installed automatic data-logging equipment in most of the nested monitoring wells to collect water levels more frequently than practical for manual measurements. WRD also obtains water level data from cooperating entities such as area 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 were prepared for selected wells 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

A contour map showing the groundwater elevations measured across the CBWCB in the deeper, main producing aquifers is presented in **Figure 2.1**. The levels were measured at

the end of the water year during Fall 2014. 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.

In the West Coast Basin, water levels are highest along the West Coast Basin Seawater Intrusion Barrier, and decrease to the east where they are at their lowest elevation in the City of Gardena between the Charnock Fault and Newport-Inglewood Uplift, both of which are geologic structural features that partially restrict 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 decreased over most of the Central Basin during water year 2013-14. Water levels decreased up to 15 feet and on average about 11 feet in the unconfined Montebello Forebay, decreased on average about 6 feet across the unconfined Los Angeles Forebay. Groundwater levels in the Central Basin Pressure Area decreased up to 20 feet with an average decrease of 9 feet. The average decrease in the Whittier Area was around 7 feet.

Water levels did not change significantly over most of the coastal area of the West Coast Basin during water year 2013-14. However, water levels decreased up to 2 feet in the Carson and Dominguez Gap areas, and decreased over 20 feet in the Inglewood/Gardena area. On average decrease in groundwater levels over the entire West Coast Basin is estimated to be approximately 2 feet.

With groundwater levels decreasing in both the Central Basin and the West Coast Basin, GIS analysis calculated an average decrease in groundwater level over the entire WRD service area of 4.12 feet. Based on the groundwater level decrease, it is estimated (ESR, 2014) that 62,000 acre-feet of groundwater was removed from storage in the CBWCB over WY 2013-14.

2.3 GROUNDWATER LEVEL HYDROGRAPHS

WRD relies on 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 annual WRD Engineering Survey and Report (ESR). The ESR hydrographs illustrate the general history of groundwater conditions in the CBWCB and results show: 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 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 2.15** are historical hydrographs of 13 key WRD nested monitoring wells, including three in the Montebello Forebay, one in the Los Angeles Forebay, four in the Central Basin Pressure Area, one in the Whittier Area, and four in the West Coast Basin, respectively. These hydrographs illustrate there can be distinct groundwater elevation differences, up to 90 feet, between adjacent aquifers at a single 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 the zones that are in the main flow system and the zones that show the greatest depth and seasonal fluctuations in groundwater levels during the

water year. A discussion of **Figures 2.3 through 2.15** are presented 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. There are 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 to 1,130 feet below ground surface (BGS). Because this well is located 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. 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 decreased about 10 feet over the past water year and are near the lowest level recorded in the past 15 years.

Figure 2.4 is a hydrograph for WRD's Pico #2 key nested monitoring well, also located in the Montebello Forebay adjacent to the San Gabriel River and just south of the San Gabriel River Spreading Grounds. There are six individual wells (zones) that are screened in the following aquifers (from shallowest to deepest): Gaspur, Lynwood, Silverado, and Sunnyside (3 deepest zones), with depths ranging from 100 to 1,200 feet BGS. Groundwater elevations are lowest in Zones 1 and 2, both in the Sunnyside Aquifer, suggesting that the Sunnyside Aquifer is the most heavily pumped in this area. Water levels in Zones 1 and 2 decreased about 14 feet over the past water year and by about 23 feet over the past 14 years.

Figure 2.5 is a hydrograph for WRD's Norwalk #2 key nested monitoring well located in the Montebello Forebay, 3.5 miles south of the San Gabriel River Spreading Grounds. There are six individual wells (zones) that are screened in the following aquifers (from shallowest to deepest): Exposition, Gardena, Lynwood, Silverado, and Sunnyside

(2 deepest zones), with depths ranging from 236 to 1,480 feet BGS. Norwalk #2 is the third key well representing the Montebello Forebay and is at the southern margin of the Forebay where it transitions into the Central Basin Pressure Area. Unlike Rio Hondo #1 and Pico #2, water level responses are less pronounced in response to the seasonal discharge and recharge influences with seasonal swings of around 20 feet compared to the over 30-foot seasonal swings at Rio Hondo #1 and Pico #2. Groundwater elevations are deepest in Zone 3, the Silverado Aquifer, suggesting that this aquifer is the most heavily pumped in the area. Water levels in Zone 3 decreased about 10 feet over the past water year.

2.5 GROUNDWATER LEVELS IN THE LOS ANGELES FOREBAY

Figure 2.6 is the key 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. There are five individual wells (zones) that are screened in the following aquifers (from shallowest to deepest): Gaspar, Exposition, Gage, Jefferson, and Silverado, with depths ranging from 114 to 910 feet BGS. Only four of the zones are shown on the hydrograph because the shallowest well (screened from 114 to 134 feet BGS in the Gaspar Aquifer) is dry and perforated above the water table, and therefore no water elevations are shown on the graph. There is a large separation in water levels between Zone 4 and the three deeper 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 two zones, the Jefferson and Silverado Aquifers, are generally similar and decreased by about 6 feet over the past water year. Unlike recent decreases in Montebello Forebay, water levels in the Los Angeles Forebay have remained relatively stable over the past 15 years.

2.6 GROUNDWATER LEVELS IN THE CENTRAL BASIN PRESSURE AREA

Figure 2.7 is a hydrograph for WRD's South Gate #1 nested monitoring well, which is located in the north-central portion of the Central Basin Pressure Area, just outside the Montebello and Los Angeles Forebays. There are five individual wells (zones) that are

screened, from shallowest to deepest, in the Exposition, Lynwood, Silverado, and Sunnyside Aquifers; and the Pico Formation, with depths ranging from 220 to 1,460 feet BGS. Water levels in Zones 1 through 4 generally behave similarly in response to seasonal discharge and recharge. The upper zone has shallower water levels, shows little seasonal response and is isolated from the aquifers below by an aquitard, resulting in the observed hydraulic separation. South Gate #1 water levels decreased about 8 feet in the deeper aquifers over water year 2013-14, and have generally declined about 14 feet over the past 14 years.

Figure 2.8 is a hydrograph for WRD's Willowbrook #1 nested monitoring well, which is located in the Central Basin Pressure Area, about 7 miles down-gradient of the Montebello Forebay. There are four individual wells (zones) that are screened in the Gage, Lynwood, Silverado, and Sunnyside Aquifers, with depths ranging from 200 to 905 feet BGS. Zone 1 is screened in the deepest responding aquifer. The upper three zones have generally shallower water levels than Zone 1. Zones 3 and 4 track very closely. These trends suggest some hydraulic separation (aquitards) between Zones 1 and 2 and between Zones 2 and 3. Zones 3 and 4, have little hydraulic separation. Willowbrook #1 water levels decreased from 2 to 6 feet over water year 2013-14, and have generally declined 20 feet over the past 14 years.

In another region of the Central Basin Pressure Area, **Figure 2.9** is the historical water level hydrograph for key nested monitoring well Long Beach #6 located in the southern portion of the Central Basin Pressure Area. There are six individual wells (zones) that are screened in the following (from shallowest to deepest): Gage, Lynwood, Silverado, and Sunnyside (two zones) Aquifers, and Pico Formation with depths ranging from 220 to 1,510 feet BGS. Because this portion of the Central Basin Pressure Area has multiple confined aquifers separated by substantial aquitards, and experiences heavy local seasonal pumping cycles, water level fluctuations can be larger than in other areas. For example, water levels in Zones 4 and 5 the deepest responders which are screened in the Lynwood and Silverado Aquifers, have varied over 110 feet through seasonal cycles, 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 in the other zones also generally show some seasonal variation, with typical seasonal lows in the late summer and fall and highs in spring. When production wells in the area near the Long Beach #6 monitoring well pump groundwater year-round the large Fall water level rebound does not occur and groundwater levels can remain at the low levels seen during water year 2008-09. In contrast, between November 2010 and September 2011, the City of Long Beach did not pump groundwater for many of these months, which resulted in a nearly year-long rebound of groundwater levels. **Figure 2.9** shows the decrease that occurred in all zones of Long Beach #6 over the past water year with water levels in Zones 4 and 5 decreasing 8 to 10 feet from the previous water year.

Seal Beach #1 was added by WRD as a key nested monitoring well for the Central Basin Pressure Area due to its proximity inland of the Alamitos Gap Seawater Intrusion Barrier Recycled Water Project. It is a relatively new well location, constructed in 2010. The limited historical groundwater elevations for Seal Beach #1 are shown on **Figure 2.10**. There are seven individual wells (zones) that are screened in the following aquifers (from shallowest to deepest): Gaspar, Gage, Lynwood, Silverado, and Sunnyside (3 zones), with depths ranging from 60 to 1,365 feet BGS. Zone 4, screened in the Silverado aquifer, is the deepest responding unit at this Seal Beach #1 location. Zone 5 responds similarly to Zone 4, but draws down less during heavily pumped periods. Zones 1, 2, and 3 overlay on the hydrograph and have water levels approximately 10 or more feet above Zone 5 but show similar seasonal response. Zones 6 and 7 show a smaller seasonal response than the five lower zones, with groundwater elevations at or slightly below sea level, suggesting partial isolation from the lower aquifer systems. Groundwater levels in Zone 4 dropped 7 feet over water year 2013-14.

2.7 GROUNDWATER LEVELS IN THE WHITTIER AREA

The Whittier Area of the Central Basin extends from the Puente Hills south and southwest to the Santa Fe Springs-Coyote Hills uplift. The western boundary is an arbitrary line separating the Whittier Area from the Montebello Forebay and the eastern boundary is the Orange County line. **Figure 2.11** is a hydrograph from WRD's Whittier #1 nested

monitoring well located in the eastern part of the Whittier Area. It is screened in the following aquifers (from shallowest to deepest): Gage, Lynwood, Silverado, and Sunnyside (2 zones), with depths ranging from 200 to 1,200 feet BGS. Groundwater levels in the Whittier Area do not show a seasonal fluctuation typical of other areas of the Central Basin and especially the adjacent Montebello Forebay Area which suggests limited groundwater discharge and recharge. Zones 1 through 4 have similar groundwater elevations and track very closely over time while the Zone 5 groundwater elevation is over 80 feet higher suggesting substantial isolation by an aquitard(s). The Whittier #1 hydrograph indicates that groundwater levels in the Whittier Area have not changed significantly over the past 14 years.

2.8 GROUNDWATER LEVELS IN THE WEST COAST BASIN

Figure 2.12 is a hydrograph for WRD's PM-4 Mariner nested monitoring well, which is located in the City of Torrance, in the coastal area inland from the West Coast Basin Seawater Intrusion Barrier. There are four individual wells (zones) that are screened in the following aquifers (from shallowest to deepest): Lynwood (2 zones), Silverado, and Sunnyside, with depths ranging from 200 to 710 feet BGS. All four zones respond similarly to seasonal fluctuations. Water levels in Zone 1 (Sunnyside) are deepest, separated from Zone 2 (Silverado) which is several feet higher. Water levels in Zones 3 and 4 (Lynwood and Gage) are both about 2 feet above those in Zone 2. Water levels did not change significantly at PM-4 Mariner in water year 2013-14 and have increased 2 to 4 feet over the past 16 years.

Figure 2.13 is a hydrograph for WRD's Carson #1 nested monitoring well, which is located in the inland region of the West Coast Basin. There are four individual wells (zones) that are screened in the following aquifers (from shallowest to deepest): Gage, Lynwood, Silverado, and Sunnyside, with depths ranging from 250 to 1,110 feet BGS. Water levels in Zone 1 track very similar to Zone 2 throughout the year and are the deep responding aquifers at this location. Zone 3 tracks similar to Zone 4 and groundwater elevations currently differ by about 35 feet between the upper two and lower two zones, which

suggests 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 did not change significantly over this past water year and have generally increased 30 feet over the past 15 years. Water levels in Zones 3 and 4 both have been relatively stable over the past water year, but have generally increased 10 to 12 feet over the past 15 years.

Manhattan Beach #1 is a relatively new WRD nested monitoring well (constructed in 2011) and was designated as a key nested monitoring well for the West Coast Basin due to its proximity one half mile inland of the West Coast Basin Seawater Intrusion Barrier. **Figure 2.14** is a hydrograph for Manhattan Beach #1, which consists of seven individual wells (zones) that are screened in the following aquifers (from shallowest to deepest): Gage, Lynwood, Silverado (2 zones), Sunnyside, and Pico Formation (2 zones), with depths ranging from 180 to 1,990 feet BGS. Zone 3 is screened in the Sunnyside Aquifer is the deepest responding aquifer, with water levels up to 30 feet lower than Zones 1, 2, 4, and 5 which generally track together. Water levels in Zones 6 and 7 are six to eight feet above Zones 1, 2, 4, and 5. Seasonal fluctuations are not pronounced at the Manhattan Beach #1 location and groundwater levels did not change significantly over the past water year.

Figure 2.15 is a hydrograph for WRD's Wilmington #2 key nested monitoring well, which is located in the West Coast Basin, inland of the Dominguez Gap Seawater Intrusion Barrier. There are five individual wells (zones) that are screened, from shallowest to deepest, in the Gage, Lynwood (2 zones), Silverado, and Sunnyside Aquifers with depths ranging from 120 to 970 feet BGS. Water levels in Zones 1 through 4 are generally deeper and behave similarly in response to seasonal influences. The upper zone has shallower water levels, shows less seasonal response, and is isolated from the aquifers below by a pressure area aquitard resulting in the observed hydraulic separation. Wilmington #2 water levels increased about 1 foot in the deeper aquifers over water year 2013-14, and have generally increased about 20 feet over the past 15 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 nested monitoring wells, purveyors' production wells, and source waters used for CBWCB groundwater replenishment. The regional groundwater quality maps included herein depict constituents of interest to WRD and District stakeholders in the nested monitoring wells and production wells where water quality data is available.

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 Environmental Protection Agency State Water Resources Control Board, Division of Drinking Water (DDW) establishes after health effects, a risk assessment, detection capability, treatability, and economic feasibility are considered. A Secondary Maximum Contaminant Level (SMCL) is established for constituents that impact aesthetics of the water, such as taste, odor, and color, but 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 DDW based on preliminary reviews 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/or 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 of this report 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 State-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 2013-14. **Table 3.2** presents water quality analytical results from WRD nested monitoring wells in the West Coast Basin during water year 2013-14. Complementing the data from the nested monitoring well network, data for CBWCB production wells were obtained from the DDW based on results submitted over the past three years by purveyors for their DDW Title 22 drinking water compliance.

Water quality maps for nested monitoring wells and production wells are presented herein for eleven water quality constituents and emerging contaminants of concern (COCs). The eleven constituents include total dissolved solids (TDS), iron, manganese, nitrate, chloride, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, perchlorate, hexavalent chromium, and methane. The maps illustrate areal and vertical differences in water quality and compare the aquifer-specific water quality data from WRDs nested monitoring wells to the averaged water quality data collected from purveyors' production wells.

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 SMCL 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

level allowed for short-term use. WRD uses the 1,000 mg/L upper level SMCL for water quality comparisons and analyses.

WRD nested monitoring well data for water year 2013-14 indicate relatively low TDS concentrations for groundwater in the deeper, producing aquifers of the Central Basin (**Figure 3.1**). In the Central Basin, 29 out of 32 (91%) WRD nested monitoring wells screened in the Silverado Aquifer had TDS concentrations below the SMCL of 1,000 mg/L and 25 out of 32 (78%) were below 500 mg/L. In contrast, West Coast Basin nested monitoring well data show generally higher TDS concentrations with just 14 out of 21 (68%) nested wells screened in the Silverado Aquifer having TDS concentrations below 1,000 mg/L, and 9 out of 21 (43%) wells below 500 mg/L. Elevated TDS concentrations in the West Coast Basin were observed along the coast from Redondo Beach to Los Angeles International Airport (LAX), in the Inglewood area, and the Dominguez Gap area.

Figure 3.2 presents DDW water quality data for TDS in production wells across the CBWCB for the period spanning water years 2011-14. In the Central Basin, TDS was detected below the Upper Level SMCL in 233 out of 236 wells (99%) and 175 wells (74%) were below 500 mg/L.

Data from West Coast Basin production wells indicate that most drinking water wells had TDS concentrations below 1000 mg/L. TDS detected was below the Upper Level SMCL in 27 out of 31 production wells (87%). Nineteen production wells (61%) were below 500 mg/L. Production wells with higher levels of TDS are generally located near the coast within the West Coast Basin, while further inland production wells generally had lower TDS concentrations. The elevated TDS levels may be caused by seawater intrusion, connate brines, or possibly oil field brines.

3.1.2 Iron

Iron occurs naturally in groundwater. Sources for iron in the water supply are both natural and man-made. Iron is leached from sediments in subsurface aquifers and steel pipes used for construction of water wells and distribution systems. 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 SMCL for iron in drinking water is 0.3 mg/L. High concentrations of iron in water can stain plumbing fixtures and clothing, encrust well screens, clog 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 3.3** shows iron data in WRD nested monitoring well locations for water year 2013-14. In the Central Basin, iron was below the SMCL in Silverado zones in 29 out of the 32 (91%) nested well locations. In zones above or below the Silverado Aquifer, iron was detected above the SMCL in only 6 out of the 32 (19%) Central Basin nested well locations.

In the West Coast Basin, iron was detected below the SMCL in the Silverado zones in 19 out of 21 nested well locations (90%). Nine well locations had iron concentrations above the SMCL in zones above or below the Silverado Aquifer.

Figure 3.4 presents DDW water quality data for iron in production wells across the CBWCB for the period spanning water years 2011-14. In the Central Basin, 205 of 239 (86%) production wells have iron concentrations in groundwater below the SMCL. In the West Coast Basin, 23 production wells out of 31 (74%) have iron concentrations below the SMCL.

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. While manganese is considered an essential nutrient for human health at low levels, an SMCL of 50 micrograms per liter ($\mu\text{g/L}$) is established for manganese due to its undesirable aesthetic qualities.

Manganese concentrations in the WRD nested monitoring wells (**Figure 3.5**) exhibit widespread vertical and horizontal variations across the CBWCB. In the southern portion of the Central 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. Nine out of 32 (28%) nested monitoring well locations in the Central Basin had a zone with manganese concentrations exceeding the SMCL in the Silverado Aquifer. In the West Coast Basin, manganese was detected above the SMCL in the Silverado zones at 13 out of 21 (62%) nested well locations.

Figure 3.6 presents DDW water quality data for manganese in production wells across the CBWCB for the period spanning water years 2011-14. In the Central Basin, data show a number of wells having elevated manganese concentrations, but 194 out of 241 production wells (80%) had concentrations below the SMCL. The production wells with elevated manganese levels 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 SMCL or not detected at all. In the West Coast Basin, 16 out of 31 production wells (52%) had concentrations of manganese below the SMCL.

3.1.4 Chloride

Chloride at elevated levels causes water to taste salty and it is the characteristic constituent used to identify seawater intrusion. The recommended SMCL for chloride is 250 mg/L with an upper SMCL of 500 mg/L, and a short term SMCL of 600 mg/l. **Figure 3.7** presents water quality data for chloride in WRD nested monitoring wells in the CBWCB during water year 2013-14. In the Central Basin, all 32 nested monitoring well locations generally have low chloride concentrations. No Central Basin nested well screened in the Silverado Aquifer exceeded the upper level SMCL. In the West Coast Basin, chloride concentrations exceeded the upper SMCL limit in the Silverado zones in 4 of the 21 (19%) nested well locations, primarily in areas where seawater intrusion could be the source, or from sources yet to be identified. Numerous nested wells in the West Coast Basin show chloride impacts

above and below the Silverado Aquifer.

Figure 3.8 presents DDW water quality data for chloride in production wells in the CBWCB for the period spanning water years 2011-14. Chloride was not detected above the SMCL in any of the Central Basin production wells. In the West Coast Basin, two production wells, both located on the west side of the basin, had chloride concentrations above the upper SMCL.

3.1.5 Nitrate

MCLs were established by DDW for two forms of nitrogen in drinking water, nitrate and nitrite. Nitrate (measured as Nitrate) has an MCL of 45 mg/L, which corresponds to 10 mg/L of nitrate as nitrogen. Nitrite (measured as nitrogen) has an MCL of 1 mg/L. The combined total of the nitrate and nitrite, measured as total nitrogen, has an MCL of 10 mg/L. These constituents are regulated because they present possible acute health risks and can cause anoxia in infants. When consumed in excess of the MCLs, they reduce the uptake of oxygen causing shortness of breath, lethargy, and a bluish color.

Nitrate concentrations in groundwater are a concern because their presence indicates that a degree of contamination has occurred due to the degradation of organic matter. Native groundwater typically does not contain nitrate. It can be introduced into groundwater from agricultural practices such as fertilization of crops or lawns and leaching of animal wastes. Low concentrations of nitrogen compounds, including nitrate and nitrite, are present in treated recycled water below regulatory and permitted limits and may be a source of nitrate loading 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 nitrite are converted to nitrogen gas and hence, are returned to the atmosphere.

Figure 3.9 presents nitrate (as nitrogen) water quality data for nested monitoring wells in the CBWCB during water year 2013-14. In the Central Basin, nitrate does not exceed the

MCL in the Silverado zone of any nested monitoring well location. Nitrate detections above the MCL were limited to the shallowest zones at 2 of the 32 (6%) nested well locations. Nested monitoring wells in the immediate vicinity of the Montebello and Los Angeles Forebays typically contain nitrate in upper zones. Some wells downgradient from the Montebello Forebay have middle zones with nitrate detections below the MCL. Nested wells further downgradient from the forebays generally do not have detectable concentrations of nitrate. The detectable but relatively low concentrations of nitrate at and near the forebays may be due to the use of local water and/or recycled water for groundwater recharge at the spreading grounds. The generally widespread shallow occurrences of nitrate throughout the Central Basin may be attributed to local surface recharge impacted by historical agricultural activities.

In the West Coast Basin nested monitoring wells, nitrate was present above the MCL in the shallowest zones of 3 out of the 21 (14%) nested monitoring well locations. Nitrate does not exceed the MCL in a Silverado aquifer zone of any nested well. Similar to the Central Basin, shallow occurrences of nitrate in the West Coast Basin may be attributable to local surface recharge impacted by agricultural activities prior to extensive land development.

Figure 3.10 presents DDW water quality data for nitrate in production wells across the CBWCB for the period spanning water years 2011-14. One Central Basin production well, located in the Los Angeles Forebay, contained nitrate above the MCL. The nitrate MCL was not exceeded in any production well in the West Coast Basin during water years 2011-14.

3.1.6 Trichloroethylene (TCE)

TCE is a solvent used in metal degreasing, textile processing, and dry cleaning. In addition to multiple acute health effects, TCE is also classified as a probable human carcinogen. The 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 3.11**) was not detected in 23 out of 32 (72%) WRD nested monitoring well locations in the Central Basin. Of the 9 nested wells where TCE was detected in the Central Basin, four locations had TCE above the MCL. In the West Coast Basin, TCE detected was below the MCL in 18 out of 21 (86%) nested monitoring wells. Of the 3 nested wells where TCE was detected in the West Coast Basin, one location had TCE above the MCL. No CBWCB nested well had a detectable TCE concentration in a Silverado Aquifer zone.

Figure 3.12 presents DDW water quality data for TCE in production wells across the CBWCB for the period spanning water years 2011-14. In the Central Basin, TCE was not detected in 193 of 248 (78%) of the production wells that were tested in the Central Basin. Of the 55 production wells that had detectable TCE levels, 18 wells had concentrations 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 Forebays. In the West Coast Basin, TCE was not detected in any West Coast Basin production well during water years 2011-14.

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 MCL for PCE in drinking water is 5 µg/L. Like TCE, PCE is readily removed from water using common treatment processes.

During water year 2013-14, PCE (**Figure 3.13**) was not detected at 24 out of 32 (75%) nested well locations. PCE was not detected above the MCL at any nested well location in the Central Basin. One detection, below the MCL, was in a Silverado zone. PCE was not detected in any nested wells in the West Coast Basin during water year 2013-14.

Figure 3.14 presents DDW water quality data for PCE in production wells across the CBWCB for years 2011-14. In the Central Basin, PCE was not detected in 195 out of the 246 (79%) production wells that were tested. Of the 53 production wells that had detectable

PCE levels, 15 wells had concentrations above the MCL. Production wells with detectable PCE concentrations 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 West Coast Basin production wells.

3.1.8 Arsenic

Arsenic is an element that occurs naturally in the earth's crust and accordingly, there are natural sources of arsenic, including 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 United States Environmental Protection Agency (USEPA), and also causes other health effects, such as high blood pressure and diabetes. The DDW established an MCL of 10 µg/L for arsenic.

Figure 3.15 presents water quality data for arsenic in WRD nested monitoring wells during water year 2013-14. Arsenic concentrations greater than the MCL in the Central Basin were detected at 10 out of 32 (31%) nested well locations. Only one Central Basin well had an arsenic concentration that exceeded the MCL in a Silverado Aquifer zone. In the West Coast Basin, arsenic was detected above the MCL at 7 out of 21 (33%) nested monitoring well locations, three of the detections above the MCL were in a Silverado Aquifer zone.

Figure 3.16 presents DDW water quality data for arsenic in production wells across the CBWCB for the period spanning water years 2011-14. In the Central Basin 11 out of 234 (5%) production wells have arsenic concentrations above the MCL. Arsenic did not exceed the MCL in any of the West Coast Basin production wells.

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. Under certain conditions, perchlorate is also reported to occur naturally in groundwater (Trumpolt, 1995). 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 DDW established an MCL of 6 µg/L for perchlorate.

Figure 3.17 presents perchlorate water quality data for WRD nested monitoring wells during water year 2013-14. In the Central Basin, perchlorate was detected at 17 nested monitoring well locations; seven of these detections were in a Silverado Aquifer zone, all below the MCL. In the West Coast Basin, perchlorate was detected in five nested monitoring wells, with one nested well containing a concentration above the MCL. Perchlorate was not detected in the Silverado Aquifer zone of any nested monitoring well location in the West Coast Basin.

Figure 3.18 presents DDW water quality data for perchlorate in production wells across the CBWCB for the period spanning water years 2011-14. In the Central Basin, 16 out of 227 (6%) production wells had detectable perchlorate, with four production wells testing for perchlorate above the MCL. Perchlorate was not detected in any West Coast Basin production wells.

3.1.10 Hexavalent Chromium

Hexavalent chromium or chromium-6 and trivalent chromium or chromium-3 are two forms of the metal chromium found in groundwater. Together, these forms of chromium are designated “total chromium”. The MCL for total chromium is 50 µg/L. California recently established an MCL of 10 µg/L for hexavalent chromium. 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 to pose health risks. It has been known to increase cancer risk

when inhaled and recently shown to increase cancer risk if ingested.

Figure 3.19 shows hexavalent chromium concentrations in WRD nested monitoring wells in the CBWCB. In the Central Basin hexavalent chromium was detected in 23 out of 32 (81%) nested well locations. Only two nested well locations had hexavalent chromium above the MCL and neither were in a Silverado Aquifer zone. In the West Coast Basin, hexavalent chromium was not detected above the MCL at any nested well location. Hexavalent chromium was detected below the MCL at 10 out of 21 (48%) nested monitoring well locations.

Figure 3.20 shows hexavalent chromium in CBWCB production wells from limited sampling conducted during water years 2011-14. In the Central Basin, hexavalent chromium was not detected in 75 of the 86 (79%) production wells that were tested. Of the 11 Central Basin production wells that had detectable hexavalent chromium levels no Central Basin production well exceeded the MCL for hexavalent chromium. Hexavalent chromium was not detected in any of 23 production wells tested in the West Coast Basin.

3.1.11 Methane

A recent incident with high pressure methane being released from a groundwater production well, and growing interest on potential impacts from hydraulic fracturing and other enhanced petroleum recovery methods on local groundwater supplies, led WRD to sample nested groundwater monitoring wells for methane as a potential new COC. In general, methane is a colorless and odorless natural gas that can occur in rock, soil, and groundwater. It is produced naturally from the decay of organic matter. Methane is not considered toxic but can accumulate in enclosed places and displace oxygen and ignite (explode). It may also be an indicator of groundwater impact from nearby oil fields or oil field activities. The United States Geological Survey is currently conducting a study for the DDW to identify indicators, possibly including methane, of oil and gas impacts on groundwater resources.

Generally, methane levels in groundwater above 28 mg/L (or 28,000 µg/L) are considered

a concern because when the groundwater comes in contact with air, methane easily escapes. If this process occurs in a confined space, the methane could concentrate and ignite. Methane concentrations greater than 10 mg/L are considered a possible indication that concentrations may be increasing to dangerous levels. **Figure 3.21** shows methane concentrations in WRD nested monitoring wells during water year 2013-14. Methane greater than 28 mg/L was only found in groundwater from the deepest zone of one well in the far northeastern part of the Central Basin. Concentrations between 10 and 28 mg/L were found in generally middle and deeper zones at numerous nested monitoring well locations, more so in the West Coast Basin. Some methane, whether at trace concentrations or higher is nearly always present in CBWCB groundwater.

3.2 QUALITY OF REPLENISHMENT WATER

This section discusses water quality data for key water quality constituents in CBWCB replenishment water and local surface water. Although numerous constituents are monitored, the constituents discussed and 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. Except for methane, the key water quality parameters of this discussion are the same as those discussed for the WRD nested monitoring wells: TDS, iron, manganese, chloride, nitrate, TCE, PCE, arsenic, perchlorate, and hexavalent chromium. Monitoring of these constituents helps to understand the general chemical nature of the recharge source, and its suitability for replenishing the groundwater basins.

3.2.1 Quality of Imported Water

Surface water is imported by the Metropolitan Water District of Southern California (MWD) to the CBWCB from the Colorado River and from Northern California via the State Water Project for potable supply and for groundwater recharge in the CBWCB. Colorado River water deliveries have been suspended due to the presence of quagga mussels. Drought impacts have reduced delivery of State Water Project water. Currently, treated imported water and advanced treated recycled water are injected into the three seawater intrusion barriers. Treated imported water meets all drinking water standards and

thus, is suitable for direct injection. Average water quality data for treated imported water are presented in **Table 3.3**. Untreated imported water, when available, is used for recharge at the Montebello Forebay Spreading Grounds.

In 2013, the average TDS concentration of untreated Colorado River water was 576 mg/L and the average TDS concentration of untreated water from the State Water Project was 303 mg/L.

Average concentrations of nitrate were below detection limits in untreated Colorado River water and the average nitrate concentration in water from the untreated State Water Project was 1.0 mg/L. Recently and historically, both Colorado River and State Water Project nitrate concentrations have remained far below the MCL.

The average iron and manganese concentrations in untreated Colorado River water were below the detection limit. The average iron concentration in water from the State Water Project was below the detection limit and the manganese concentration was 23 µg/L, which is below the SMCL of 50 µg/L. Both Colorado River and State Water Project iron and manganese concentrations have recently and historically been below the SMCL.

The average chloride concentrations in water from the Colorado River and State Water Project have not changed significantly over the past several years. State Water Project and Colorado River chloride concentrations have historically been below the SMCL of 500 mg/L for chloride.

According to the Metropolitan Water District of Southern California (MWD), TCE, PCE, perchlorate, and hexavalent chromium have not been detected in water from the Colorado River or State Water Project during calendar year 2013.

3.2.2 Quality of Recycled Water

Recycled water is used for groundwater recharge in the CBWCB through spreading grounds percolation and seawater barrier injection. In the Montebello Forebay, tertiary-

treated recycled water from the County Sanitation Districts of Los Angeles County (CSDLAC) 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 to recharge underlying aquifers. The effluent from these WRPs is carefully controlled and monitored, as required by permits and other regulations, and typically shows little water quality variation over time. Average water quality data for the effluent from these WRPs is shown in **Table 3.3**. All constituents listed have remained stable over recent water years. Furthermore, TCE, PCE, perchlorate, and hexavalent chromium have either not been detected or have been detected well below their respective MCLs in recycled water from the four WRPs.

Currently, both treated imported water and advanced treated recycled water produced by the West Basin Municipal Water District (WBMWD) Edward C. Little Water Recycling Facility (WRF) are injected at the West Coast Basin Barrier to prevent the intrusion of seawater and replenish the groundwater basin. Treatment processes at the Edward C. Little WRF includes microfiltration, reverse osmosis, ultraviolet light, advanced oxidation with hydrogen peroxide, ozone, and chemical stabilization. The advanced treated recycled water complies with all drinking water standards and thus, is suitable for direct injection. The Edward C. Little WRF was recently expanded and it is expected that advanced treated recycled water will fully replace imported water for injection at the West Coast Basin Barrier. **Table 3.3** presents average water quality data for the advanced treated recycled water produced by the Edward C. Little WRF.

The Alamitos Gap Seawater Intrusion Barrier currently receives both treated imported water and advanced treated recycled water produced by WRD's Leo J. Vander Lans Advanced Water Treatment Facility (Vander Lans AWTF) for injection. The Vander Lans AWTF treats disinfected tertiary effluent from the CSDLAC Long Beach Water Reclamation Plant using microfiltration, reverse osmosis, and ultraviolet light. The advanced treated recycled water meets drinking water quality standards and other stringent regulations for direct injection into the aquifers. The Vander Lans AWTF is currently being expanded (and advanced oxidation through the use of peroxide will be added to the

treatment train) and it is expected that advanced treated recycled water will fully replace imported water for injection at the Alamitos Gap Seawater Intrusion Barrier in 2015. **Table 3.3** presents average water quality data for the advanced treated recycled water produced by the Vander Lans AWTF.

The City of Los Angeles Terminal Island Water Reclamation Plant/Advanced Water Treatment Facility (TIWRP) produces advanced treated recycled water using microfiltration, reverse osmosis, and disinfection with chlorine. This water meets drinking water quality standards and other stringent regulations for direct injection into aquifers. Currently treated imported water is blended with advanced treated recycled water from the TIWRP for injection at the Dominguez Gap Seawater Intrusion Barrier. The TIWRP will be expanded (and ozonation will be added to the treatment train) and it is anticipated that by water year 2018-19, advanced treated recycled water will fully replace imported water for injection. **Table 3.3** presents average water quality data for the advanced treated recycled water produced by the TIWRP.

3.2.3 Quality of Stormwater

Stormwater infiltrates the subsurface to varying degrees throughout the CBWCB. It is also intentionally diverted from the major storm channels and used for groundwater recharge along with imported and recycled water at the Montebello Forebay Spreading Grounds. Routine stormwater quality analyses are performed by LACDPW and other entities. Average stormwater quality data provided by LACDPW for water year 2013-14 are presented on **Table 3.3**. The average TDS, manganese, chloride, nitrate, TCE, PCE, arsenic, and perchlorate concentrations in stormwater are relatively low. Metals, including iron and lead, exceeded drinking water standards. However, due to the elevated turbidity of the stormwater samples, it is possible that sediment suspended in the samples were dissolved by the nitric acid used as a sampling preservative, and caused skewing of the data.

3.3 MINERAL CHARACTERISTICS OF GROUNDWATER IN THE CBWCB

Major minerals data obtained from the WRD nested monitoring wells were used to characterize groundwater of discrete vertical zones (**Table 3.4**). Research by the USGS led to 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 results that do not fall into one of the three major groups and are thus classified separately as Group D.

Groundwater from Group A likely represents recent recharge water containing a significant percentage of imported water. Group B represents older native groundwater replenished by natural local recharge. 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 within the Central Basin and inland of the West Coast Basin Seawater Intrusion Barrier. Group C groundwater 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 Groups A, B, or C and indicate 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

SALT AND NUTRIENTS IN GROUNDWATER

In February 2009, the State Water Resources Control Board (SWRCB) adopted Resolution No. 2009-0011, which established a statewide Recycled Water Policy (Policy). This Policy encourages increased use of recycled water and local stormwater for groundwater recharge across the State. It also requires local entities to develop a Salt and Nutrient Management Plan (SNMP) for each groundwater basin in California to monitor groundwater quality and any impact due to increased recycled water and stormwater recharge.

A SNMP Workplan was jointly prepared by the CBWCB stakeholders and approved by the Los Angeles Regional Water Quality Control Board (LARWQCB) in December 2011. The CBWCB stakeholders submitted a Draft SNMP to the LARWQCB for review in August 2014. A Final SNMP for the CBWCB is expected to be finalized in 2015. Additional information regarding the CBWCB SNMP can be found at <http://www.wrd.saltnutrient.com>.

The objective of the SNMP is to manage salts and nutrients from all sources "... on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses." Future groundwater quality and assimilative capacity were calculated based on predicted salt and nutrient loading through 2025 in the CBWCB. Accordingly, current and proposed projects through 2025 were identified and used to develop strategies to manage salt and nutrient loading. Ultimately, the SNMP will include the following:

- Stormwater and Recycled Water Use/Recharge Goals and Objectives,
- Characterization of the Hydrogeologic Conceptual Model/Water Quality,
- Estimation of Current and Future Salt and Nutrient Loading,
- A Basin-Wide Water Quality Monitoring Plan,
- Estimation of Salt and Nutrient Assimilative Capacity,
- An Anti-degradation Analysis,
- Implementation Measures to Manage Salt and Nutrient Loading, and
- California Environmental Quality Act (CEQA) Analysis of the SNMP.

The RGWMP was used to develop the SNMP monitoring program. The groundwater data evaluated in the annual RGWMRs provide an annual assessment of salt and nutrients in groundwater. In addition to the water quality maps generated and discussed in Section 3, historical trend graphs at key monitoring well locations, as described in the following sections, were used to assess salt and nutrient concentrations in groundwater.

4.1 SALT AND NUTRIENT MONITORING LOCATIONS

The RGWMP is a comprehensive program that was initiated in 1998 to monitor the health of the CBWCB. As discussed in the SNMP, TDS, chloride, and nitrate were identified as the most appropriate indicators of salt and nutrients in the CBWCB. These constituents, as well as other constituents of concern identified in the SNMP, are monitored in the WRD nested monitoring wells along with production wells located throughout the CBWCB.

As part of the SNMP monitoring program, 13 key monitoring well locations in the CBWCB were selected to evaluate past and current salt and nutrient concentrations in groundwater with respect to applicable water quality objectives (WQOs). As established in the Basin Plan, the WQO for TDS in the Central Basin and West Coast Basin is 700 mg/L and 800 mg/L, respectively; the WQO for chloride in the Central Basin and West Coast Basin is 150 mg/L and 250 mg/L, respectively; and the MCL/WQO in both basins for nitrate is 10 mg/L.

In accordance with the Recycled Water Policy, the 13 selected nested well locations are in the most critical areas of the basins, particularly their proximity to water supply wells and groundwater recharge projects that utilize recycled water, including the seawater intrusion barriers (Alamitos Gap Barrier, Dominguez Gap Barrier, and West Coast Basin Barrier) and the Montebello Forebay Spreading Grounds. There are three nested well locations in the Montebello Forebay, one in the Los Angeles Forebay, four in the Central Basin Pressure Area, one in the Whittier Area, and four in the West Coast Basin. Monitoring locations in the Montebello Forebay and Los Angeles Forebay target groundwater where connectivity with adjacent surface waters is possible.

The thirteen key nested well locations are shown on **Figure 1.3**. These locations include 70 individual monitoring zones, screened in specific CBWCB aquifers. The depths and aquifer designation for these key monitoring wells are provided in Table 1.1. WRD is the entity, designated by the SWRCB, responsible for collecting TDS, chloride, and nitrate samples (on a semi-annual basis) from these nested wells. As part of the SNMP monitoring program, WRD will be submitting these data to SWRCB's online GeoTracker database.

4.2 SALT AND NUTRIENT MONITORING RESULTS AND EVALUATION

Concentrations of salt and nutrients have been and continue to be closely monitored in all WRD nested monitoring wells and purveyors' production wells and results are discussed in **Section 3**. Concentrations of TDS (**Figure 3.1**), chloride (**Figure 3.7**), and nitrate (**Figure 3.9**) for all WRD nested wells sampled during water year 2013-14 are shown on maps and summarized along with other monitored constituents identified in **Tables 3.1** and **3.2**. TDS, chloride, and nitrate concentrations in production wells, sampled during water years 2011-14 are presented on maps (**Figures 3.2., 3.8, and 3.10** respectively). Trends for TDS and chloride concentrations at the 13 key well locations discussed in Section 4.1 are plotted on graphs and compared to SMCLs and WQOs (**Figures 4.1** through **4.13**). Nitrate generally has not been detected in the monitoring wells or has been detected significantly below the MCL/WQOs and thus, trend graphs were not prepared, but nitrate will continue to be monitored and reported in **Section 3** of the RGWMRs.

In the Montebello Forebay, TDS and chloride concentration trends for the key well locations Rio Hondo #1, Pico #2, and Norwalk #2 are presented on **Figures 4.1** through **4.3**, respectively. TDS and chloride concentrations have historically been and remain below the SMCLs and WQOs. Several middle zones at Rio Hondo #1 and Pico #2 show slight increasing trends for TDS and chloride, while concentrations in shallow zones fluctuate more and have decreased historically. Otherwise, trends do not indicate significant increasing salt concentrations in the Montebello Forebay.

In the Los Angeles Forebay, the key well is Huntington Park #1 (4 zones) and TDS and chloride concentration trend graphs are shown on **Figure 4.4**. The deeper two zones of

this well show stable trends for TDS and chloride below the SMCLs and WQOs. The upper two zones may indicate slight increases in TDS and chloride concentrations over the past four or five years, but are still below the SMCL. In the upper two zones chloride concentrations are below the WQO, but TDS concentrations exceed the WQO of 700 mg/L.

In the Central Basin Pressure Area, key wells include South Gate #1 (5 zones), Willowbrook #1 (4 zones), Long Beach #6 (6 zones), and Seal Beach #1 (7 zones) and TDS and chloride trends are shown on **Figures 4.5** through **4.8**, respectively. At South Gate #1, the four deeper zones show TDS and chloride concentrations at relatively consistent values below the SMCL and WQO. TDS and chloride concentrations in South Gate #1 Zone 5 have increased somewhat since initial sampling but are relatively stable and are generally below both the WQO and SMCL. At all 4 zones of Willowbrook #1 and the upper four zones at Long Beach #6, TDS and chloride concentrations are below the SMCL and WQO. In the two deepest zones of Long Beach #6, TDS is typically detected at the WQO of 700 mg/L, while chloride concentrations remain significantly below the SMCL and WQO. At Seal Beach #1, the deeper six zones are all below the TDS and chloride WQOs and SMCLs. Zone 7, the shallowest zone, indicates TDS and chloride concentrations above the WQOs and SMCLs, likely due to seawater intrusion.

For the Whittier Area, represented by key well Whittier #1 (5 zones), TDS and chloride trends are shown on **Figure 4.9**. TDS in zones 1 and 5 have been stable over the past 14 years, are below the MCL, and meet the WQO. TDS in zones 2,3, and 4 have historically exceeded the MCL and WQO, and generally show stable to slightly increasing trends. Chloride in zones 1 and 5 have been historically below the MCL and meet the WQO. Chloride in zones 2,3, and 4 have historically exceeded the MCL and WQO, and generally show stable trends.

In the West Coast Basin, key wells include PM-4 Mariner (4 zones), Carson #1 (4 zones), Manhattan Beach #1 (7 zones), and Wilmington #2 (5 zones). TDS and chloride trends are presented on **Figures 4.10** through **4.13**, respectively. At PM-4 Mariner Zones 1, 3, and 4 show TDS and chloride at relatively consistent concentrations below the SMCL and WQO. However at PM-4 Mariner Zone 2, TDS and chloride concentrations are well above the

SMCL and WQO and have steadily increased since monitoring began around 1997. This is attributed to historical seawater intrusion prior to the construction of West Coast Basin Seawater Barrier. At Carson #1, the three deeper zones show TDS and chloride concentrations relatively stable below the SMCL and WQO. TDS and chloride concentrations in Carson #1 Zone 4 are decreasing and below the SMCL and WQO. At Manhattan Beach #1, groundwater in this coastal area indicates impacts from seawater intrusion. While this well was only recently constructed and thus only sampled three times over the past two years, TDS in 5 of the 7 zones exceed the WQO and SMCL and four zones exceed the chloride WQO and SMCL. Additional sampling at Manhattan Beach #1 should allow for concentration trends to be more clearly identified. At Wilmington #2, TDS in Zones 1 and 3 have historically been below the WQO and SMCL, while Zone 2 has been consistently above the WQO and SMCL. TDS and chloride in Zone 4 were initially above the WQO and SMCL, but have steadily decreased since and are now below the WQO and SMCL, due to the implementation measures discussed in Section 4.3. TDS and chloride in Zone 5 are much higher than the WQO and SMCL; however, they have steadily decreased and are currently at concentrations less than 50% of those observed during the first years of sampling.

4.3 IMPLEMENTATION MEASURES TO MANAGE SALT AND NUTRIENT LOADING

As summarized in the previous section, overall TDS and chloride concentrations generally stable at most of the 13 key nested monitoring locations in the CBWCB. While a few individual zones show increasing trends, a comparable number show decreasing trends. Notably, TDS and chloride concentrations in the two shallowest zones at nested well location Rio Hondo #1 and the three shallowest zones at Pico #2, each of which is beneath and adjacent to the Montebello Forebay recharge basins, fluctuate somewhat but show decreasing trends since 1998. At the key well location in the Los Angeles Forebay, the shallow zones have variable TDS concentrations at and just above the WQO, but deeper zones do not show increasing TDS levels. In the Central Basin Pressure Area, TDS and chloride concentrations in the shallowest zone at key well location South Gate #1 are

increasing, however the four lower zones are stable. The loading caused by shallow zone increases are possibly due to localized surface infiltration rather than artificial replenishment. Key nested monitoring well locations near the coast, including PM-4 Mariner, Manhattan Beach #1, and Seal Beach #1, had zones that show increasing TDS and chloride concentration trends, that can be attributed to historical seawater intrusion. In the relatively isolated Whittier Area, historically high TDS and chloride in middle zones are stable and are not expected to fluctuate in response to anticipated management practices.

As discussed in the SNMP, TDS and chloride concentrations in the Central Basin are not expected to exceed WQOs in the future and current and proposed projects in the basin are not expected to increase salt and nutrient concentrations above the available assimilative capacity. Some of these projects in the Central Basin include the increased use of advanced treated recycled water for injection at the Alamitos Gap Seawater Intrusion Barrier and the increased use of recycled water at the Montebello Forebay Spreading Grounds through the implementation of the Groundwater Reliability Improvement Project (GRIP).

In the West Coast Basin, average TDS and chloride concentrations can exceed WQOs due to historical seawater intrusion. However, these concentrations are decreasing and are anticipated to achieve WQOs in the future due to implementation measures such as the increased use of advanced treated recycled water for injection at the West Coast Basin and Dominguez Gap Seawater Intrusion Barriers and the continued operation of the desalters.

Nitrate concentrations in the CBWCB remain low and are not expected to increase above the MCL/WQO in the future. Overall, the data show that salt and nutrient concentrations in groundwater are stable as a result of past and current groundwater management practices. Based on the existing water quality of the CBWCB and the future groundwater quality as estimated from the SNMP analysis, existing and planned implementation measures appear adequate to manage salt and nutrient loading on a sustainable basis.

SECTION 5

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 2013-14. 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 supplied by the MWD, tertiary-treated recycled water produced by the CSDLAC, and advanced treated recycled water produced by WBMWD, the City of Los Angeles, and WRD.
- Groundwater levels (heads) are monitored continuously in the CBWCB throughout the year. The WRD nested monitoring wells show clear, significant differences in groundwater elevations between the various aquifers. The water level differences in these nested wells reflect both hydrogeologic and pumping conditions in the CBWCB. Vertical head differences between 1 and 90 feet occur between zones above and within the producing aquifers. The greatest head differences between aquifers tend to occur in the southern area (Long Beach) of the Central Basin and the inland, eastern areas (Gardena and Carson) of the West Coast Basin, while the smallest differences occur in the recharge area of the Montebello Forebay, and the southern area (Torrance) of the West Coast Basin which has merged aquifers.
- Hydrographs and groundwater elevations measured in basinwide nested monitoring wells and key production wells indicate overall decreases across most of the Central Basin during water year 2013-14. Water levels decreased a maximum of 15 feet and on average 11 feet in the unconfined Montebello Forebay, and remained stable or decreased about 6 feet across the unconfined Los Angeles Forebay, decreased on average 9 feet across the Central Basin Pressure Area, and decreased around 7 feet in the Whittier Area. In the West Coast Basin, water levels did not change significantly over most of the coastal areas during water year 2013-14; there were decreases up to 2

feet in the Carson/Dominguez Gap areas, and decreases to a maximum of 20 feet in the Inglewood/Gardena areas. On average, West Coast Basin water levels decreased an average of 2 feet during water year 2013-14. The average decrease across the entire WRD service area was calculated at 4.12 feet and overall groundwater storage decreased by about 62,000 acre-feet.

- Based on data obtained from WRD nested monitoring wells during water year 2013-14, the water quality of key constituents in groundwater differs both vertically between aquifers and horizontally across the CBWCB.
- TDS concentrations in WRD nested monitoring wells and purveyor production wells located in the Central Basin are relatively low, while those in the West Coast Basin are elevated in certain portions, primarily the coastal areas 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.
- Iron generally is present at low levels in most WRD nested monitoring wells. In the Central Basin, concentrations were below the SMCL in the Silverado Aquifer at 29 of 32 (91%) nested well locations. In the West Coast Basin, iron concentrations were below the SMCL in the Silverado Aquifer at 19 of 21 (90%) nested well locations. Iron was detected below the SMCL in 205 of 239 (86%) production wells in the Central Basin and 23 out of 31 (74%) production wells in the West Coast Basin.
- Manganese is a naturally-occurring groundwater contaminant and negatively impacts a number of wells in the CBWCB. Manganese concentrations exceed the SMCL in the Silverado Aquifer at 9 out of 32 (28%) nested monitoring well locations in the Central Basin and at 13 out of 21 (62%) nested well locations in the West Coast Basin. Manganese concentrations were below the SMCL in 194 out of 241 (80%) production wells in the Central Basin and 16 out of 31 (52%) production wells sampled in the West Coast Basin.
- Chloride concentrations are reasonably low in Central Basin monitoring wells and production wells, and in wells within the inland areas of the West Coast Basin. Some coastal areas of the West Coast Basin are impacted by seawater intrusion and thus, have high chloride levels in groundwater.
- The MCL for nitrate is 10 mg/L. Nitrate concentrations in WRD nested monitoring

wells in the CBWCB are generally below the MCL. The few nested wells that have nitrate concentrations approaching or exceeding the MCL tend to be limited to the uppermost zone at a given location and are likely due to localized surface recharge. Nitrate concentrations above the MCL were not observed in the Silverado Aquifer of any nested monitoring well. DDW data indicates that one Central Basin production well had nitrate levels over the MCL. No West Coast Basin production wells contained nitrate at concentrations greater than the MCL.

- The MCL for TCE in drinking water is 5 µg/L. TCE was below the MCL in 28 out of 32 (88%) nested monitoring well locations in the Central Basin and 18 out of 21 (86%) nested well locations in the West Coast Basin. DDW data indicate that TCE was detected in 55 production wells in the Central Basin during the period spanning water years 2011-14, and 18 of the 55 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 at any nested monitoring well location in the Central Basin or West Coast Basin. DDW data indicate that PCE was detected in 53 production wells in the Central Basin during the period spanning water years 2011-14; 15 of the 53 detections exceed the MCL. PCE was not detected in any of the West Coast Basin production wells.
- The MCL for arsenic is 10 µg/L. Arsenic concentrations greater than the MCL were found at 10 out of 32 (31%) nested monitoring well locations in the Central Basin and 7 out of 21 (33%) nested well locations in the West Coast Basin. During the three year 2011-14 period, 11 out of 234 (5%) production wells 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. In the Central Basin, perchlorate was detected at 17 nested monitoring well locations at concentrations below the MCL; seven of the detections were in the Silverado zone. In the West Coast Basin, perchlorate was detected at 5 nested monitoring well locations, with perchlorate in one nested well above the MCL. Perchlorate was not detected in the Silverado zone of any nested monitoring well location in the West Coast Basin. In Central Basin production wells 16 out of 227 (7%) wells tested had detectable perchlorate in the Central Basin. Four

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

- Hexavalent chromium can occur naturally in groundwater and/or be introduced through industrial and commercial activities. It is an emerging contaminant of concern in groundwater and in 2014 the State of California established an MCL for hexavalent chromium of 10 µg/L. In anticipation of this new regulatory limit, WRD has collected and analyzed basinwide groundwater samples from its nested monitoring well network for hexavalent chromium over the past several water years. Hexavalent chromium was detected above the MCL in 2 out of 32 nested wells in the Central Basin. Hexavalent chromium was not detected above the MCL at any nested well in the West Coast Basin. Hexavalent chromium was not detected above the MCL in any Central Basin production well. Hexavalent chromium was not detected in any of the production wells tested in the West Coast Basin.
- The water quality of key constituents in untreated imported water recharged at the Montebello Forebay Spreading Grounds and treated imported water injected at the seawater barriers remains in compliance with regulatory limits. Average TDS, iron, manganese, chloride, nitrate, and arsenic concentrations in imported water used for recharge do not exceed their respective MCLs. Meanwhile, TCE, PCE, and perchlorate were not detected in the untreated imported water.
- The water quality of key constituents in recycled water used for recharge at the Montebello Forebay Spreading Grounds and injection at the seawater intrusion barriers remains in compliance to regulatory limits and is monitored regularly to ensure its safe use.
- Stormwater samples are collected and analyzed for various water quality parameters by the LACDPW and other entities in the CBWCB. Available data from LACDPW for water year 2013-14 show that average TDS and other constituent concentrations in stormwater are lower than most other sources of replenishment water and other constituent concentrations confirm that stormwater is a good replenishment source.
- A total of 70 WRD nested groundwater monitoring wells at 13 locations throughout the CBWCB were designated for salt and nutrient (specifically, TDS, chloride, and nitrate) sampling and reporting as part of the pending SNMP monitoring program.

Based on water quality maps and trend graphs that were evaluated in this report, overall TDS and chloride concentrations generally are not increasing at the 13 key nested monitoring locations. Nitrate concentrations remain below the MCL at all 13 monitoring locations. In the Central Basin, average TDS and chloride concentrations do not exceed WQOs. In the West Coast Basin, average TDS and chloride concentrations exceed WQOs locally due to historical seawater intrusion. However, these concentrations are decreasing and are anticipated to achieve WQOs in the future as a result of current groundwater management practices.

- 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 6

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 2013-14 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 developed the Water Independence Now (WIN) initiative, which includes increasing the safe use of recycled water for groundwater recharge and reducing reliance on imported water supplies.
- WRD will continue to maximize recycled water use at the West Coast Basin Seawater Intrusion Barrier and will promote maximum permitted recycled water injection at the Dominguez Gap and Alamitos Gap Seawater Intrusion Barriers. Extensive groundwater monitoring of these major recycled water projects will continue to be performed by WRD to comply with permit conditions and applicable regulatory requirements 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 continue to be recorded using automatic dataloggers to monitor groundwater elevation differences throughout the year. Conductivity sensors are being utilized at selected nested monitoring wells to track water quality changes and supplement the automated water level data. Telemetry technology is being implemented to send real-time water level data to WRD from several locations with a goal of real-time display of water levels on the WRD website.

- In 2014, WRD completed a planned expansion of its nested monitoring well network. The expansion addressed data gap areas and other groundwater management issues. WRD continually evaluates the need to fill data gaps in water level data, water quality data, and the hydrogeologic conceptual model with additional geologic data provided from drilling, construction, and monitoring of the nested wells.
- WRD will continue to sample groundwater from nested monitoring wells, and analyze the samples for general water quality constituents. In addition, the focus will continue on constituents of interest to WRD, the pumpers, and other stakeholders, such as TCE, PCE, manganese, arsenic, perchlorate, and hexavalent chromium. Emerging chemicals of concern to regulators considering new water quality standards and which have not been comprehensively monitored in the past could include, pesticides, n-nitrosodimethylamine (NDMA), 1,4-dioxane, pharmaceuticals and personal care products, oil and gas field indicators, and other emerging chemicals of concern.
- WRD 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 that include the Environmental Protection Agency, California Department of Toxic Substances Control, Los Angeles Regional Water Quality Control Board, California Department of Public Health, United States Geological Survey, and various cities and other water purveyors. Stakeholders meet regularly and share data on contaminated groundwater sites within the District. WRD acts as the meeting coordinator and data repository/distributor, helping stakeholders to characterize the extent of contamination to identify pathways for contaminants in shallow aquifers to reach deeper drinking water aquifers and develop optimal methods for remediating contaminated groundwater. With input from the Forum members, WRD has developed a list of high-priority contaminated groundwater sites within the District. The list currently includes 46 sites located throughout 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 ongoing regional perchlorate investigation in the Los Angeles Forebay, the Omega Chemical Superfund Site in the eastern portion of the Central Basin, 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.
- Consistent with WRD's mission to provide, protect, and preserve high quality groundwater and as required by the State's Recycled Water Policy, a Salt and Nutrient Management Plan (SNMP) has been developed by the CBWCB stakeholders and has been submitted to LARWQCB for adoption in 2015. A Basin Plan Amendment will precede adoption of the SNMP and once both are approved, the SNMP monitoring program will be implemented. Based on the existing water quality of the CBWCB and results from the SNMP analysis, salt and nutrient loading to groundwater has not been shown to be a concern and salt and nutrient concentrations overall in groundwater are either stable or improving due to past and current groundwater management practices. Existing and planned implementation measures are protective of groundwater quality and beneficial uses and the increased use of recycled water in the CBWCB is consistent with the goals of the Recycled Water Policy and necessary to ensure a sustainable water supply.
- 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 GIS capabilities to address current and potential water quality issues and groundwater replenishment in the CBWCB.

SECTION 7

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TABLES

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Page 1 of 7

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	270	250	270	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	1800	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

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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	Gaspar
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	Gaspar
Inglewood #1	1	100091	1400	1380	1400	Pico Formation
	2	100092	885	865	885	Pico Formation
	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
Inglewood #3	1	102138	1940	1900	1940	Pico Formation
	2	102139	1460	1440	1460	Pico Formation
	3	102140	1275	1255	1275	Pico Formation
	4	102141	910	890	910	Pico Formation
	5	102142	560	540	560	Silverado
	6	102143	390	370	390	Lynwood/Silverado
	7	102144	265	245	265	Gage/Lynwood
Lakewood #1	1	100024	1009	989	1009	Sunnyside
	2	100025	660	640	660	Silverado
	3	100026	470	450	470	Lynwood
	4	100027	300	280	300	Gage
	5	100028	160	140	160	Artesia
	6	100029	90	70	90	Bellflower
Lakewood #2	1	102151	2000	1960	2000	Sunnyside
	2	102152	1760	1740	1760	Sunnyside
	3	102153	1320	1300	1320	Sunnyside
	4	102154	1015	995	1015	Silverado
	5	102155	710	690	710	Lynwood
	6	102156	575	555	575	Jefferson
	7	102157	275	255	275	Gage
	8	102158	120	110	120	Artesia
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
Lawndale #1	1	102171	1400	1360	1400	Pico Formation
	2	102172	905	885	905	Pico Formation
	3	102173	635	615	635	Pico Formation
	4	102174	415	395	415	Silverado
	5	102175	310	290	310	Lynwood
	6	102176	190	170	190	Gardena
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

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

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Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
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
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	1570	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
Los Angeles #4	1	102131	1780	1740	1780	Pico Formation
	2	102132	1230	1190	1230	Pico Formation
	3	102133	740	720	740	Sunnyside
	4	102134	510	490	510	Silverado
	5	102135	375	355	375	Lynwood
	6	102136	255	235	255	Gage
Lynwood #1	1	102211	2900	2880	2900	Pico Formation
	2	102212	2450	2430	2450	Pico Formation
	3	102213	1670	1650	1670	Pico Formation
	4	102214	1465	1445	1465	Pico Formation
	5	102215	1220	1200	1220	Pico Formation
	6	102216	900	880	900	Sunnyside
	7	102217	660	640	660	Lynwood/Silverado
	8	102218	335	315	335	Gardena
	9	102219	180	160	180	Gaspur

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
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
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	605	555	595	Sunnyside
	2	100043	510	460	500	Silverado
	3	100044	290	240	280	Lynwood
	4	100045	210	160	200	Lynwood
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	720	670	710	Sunnyside
	2	100039	550	500	540	Silverado
	3	100040	390	340	380	Lynwood
	4	100041	250	200	240	Lynwood

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

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Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
PM-5 Columbia Park	1	102047	1480	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	1485	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
South Gate #2	1	102180	1760	1740	1760	Pico Formation
	2	102181	1430	1410	1430	Pico Formation
	3	102182	1082	1062	1082	Sunnyside
	4	102183	690	670	690	Silverado
	5	102184	430	410	430	Hollydale
	6	102185	225	205	225	Gaspur
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

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Page 7 of 7

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
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	810	749	769	Sunnyside
	2	100047	810	609.5	629	Sunnyside
	3	100048	810	462.5	482.5	Sunnyside
	4	100049	810	392.5	402	Silverado
	5	100050	810	334	343.5	Silverado
	6	100051	810	272.5	282.5	Lynwood
	7	100052	810	233.5	243	Jefferson
	8	100053	810	163	173	Gardena
	9	100054	810	95	104.5	Gaspur
Whittier Narrows #2	1	100055	720	659.3	678.4	Pico Formation
	2	100056	720	579.1	598.2	Pico Formation
	3	100057	720	469.0	488.2	Pico Formation
	4	100058	720	418.6	428.2	Pico Formation
	5	100059	720	328.7	338.3	Pico Formation
	6	100060	720	263.2	273.3	Not Interpreted
	7	100061	720	213.7	223.3	Not Interpreted
	8	100062	720	135.7	145.3	Not Interpreted
	9	100063	720	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 2013-2014

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
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			
12/23/2013	-18.42	-28.58	-14.86	-13.18	-7.71	15.28			
1/16/2014	-22.11	-35.10	-18.17	-16.35	-8.43	14.99			
3/12/2014	-24.01	-30.90	-17.09	-16.69	-9.62	15.13			
5/30/2014	-30.42	-38.10	-24.08	-25.80	-17.05	12.73			
6/24/2014	-32.92	-40.90	-25.70	-26.89	-18.48	11.64			
9/17/2014	-33.73	-40.77	-29.12	-27.73	-19.72	10.82			
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			
12/18/2013	1.37	0.82	1.51	7.89	12.12	10.81			
3/21/2014	0.31	-0.05	2.62	7.20	10.42	9.55			
5/27/2014	-4.42	-5.12	-2.36	2.45	5.30	5.13			
6/24/2014	-6.94	-7.86	-5.46	0.24	3.43	2.56			
9/16/2014	-11.50	-12.64	-10.72	-2.98	1.26	0.96			
Carson #1 Reference Point Elevation: 24.16									
Depth of Well	990-1010	740-760	460-480	250-270					
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage					
10/11/2013	-44.78	-43.39	-15.21	-13.78					
10/30/2013	-46.23	-44.79	-15.28	-13.84					
11/27/2013	-44.75	-43.51	-15.24	-13.79					
12/19/2013	-44.70	-43.47	-14.93	-13.56					
1/30/2014	-45.04	-43.68	-15.24	-13.60					
2/28/2014	-44.50	-43.20	-14.95	-13.54					
3/25/2014	-42.39	-41.58	-15.09	-13.70					
4/2/2014	-42.86	-41.79	-14.95	-13.61					
5/2/2014	-44.53	-43.68	-14.93	-13.54					
5/30/2014	-44.37	-43.31	-14.88	-13.49					
6/19/2014	-44.66	-43.71	-14.95	-13.52					
7/29/2014	-43.97	-43.00	-14.79	-13.46					
8/12/2014	-43.36	-42.64	-14.79	-13.45					
9/17/2014	-43.20	-42.36	-14.68	-13.39					
10/9/2014	-43.09	-42.16	-14.48	-13.20					
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				
12/19/2013	-34.98	-30.18	-29.91	-26.78	-24.53				
3/18/2014	-34.76	-30.03	-29.77	-26.64	-24.40				
3/27/2014	-34.77	-29.65	-29.39	-26.49	-24.33				
6/12/2014	-35.09	-30.68	-30.29	-27.04	-24.74				
9/18/2014	-34.89	-30.59	-30.29	-27.05	-24.75				
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			
12/20/2013	-34.80	-39.72	-42.52	-42.86	-42.85	-17.99			
3/18/2014	-34.49	-39.32	-42.22	-42.47	-42.50	-17.90			
4/12/2014	-34.42	-39.50	-42.12	-42.39	-42.33	-17.84			
6/12/2014	-34.39	-39.79	-42.74	-43.09	-43.10	-18.09			
9/15/2014	-34.59	-39.94	-42.52	-42.69	-42.79	-18.13			
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			
12/18/2013	-28.56	-30.12	-31.15	15.61	19.13	19.17			
3/13/2014	-36.26	-46.00	-31.92	15.88	19.23	19.35			
4/25/2014	-43.79	-50.11	-38.81	14.67	17.53	17.52			
6/19/2014	-55.31	-60.96	-52.81	11.43	15.77	15.79			
9/15/2014	-60.58	-66.28	-52.44	9.68	13.50	13.49			

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
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			
12/18/2013	-17.18	-25.76	-25.13	-3.27	21.63	29.38			
3/13/2014	-19.57	-29.49	-28.63	-4.52	21.28	29.22			
4/30/2014	-21.71	-35.50	-34.93	-8.72	20.07	28.52			
6/19/2014	-27.07	-43.54	-41.95	-14.22	18.04	27.34			
9/15/2014	-32.67	-46.75	-41.82	-14.58	17.08	26.37			
Chandler #3 Reference Point Elevation: 153.20									
Depth of Well	341-363	165-192							
Aquifer Name	Gage/Lyn/Sil	Gage/Lyn/Sil							
12/26/2013	-17.57	-17.48							
03/20/2014	-17.58	-17.12							
04/03/2014	-17.37	-17.09							
06/19/2014	-18.11	-17.62							
09/17/2014	-18.58	-18.08							
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	Expo/Gage			
12/20/2013	39.36	31.19	27.67	-2.51	3.27	40.31			
3/17/2014	38.56	30.50	27.00	-2.82	4.11	39.79			
4/17/2014	38.43	30.11	26.39	-4.72	1.34	39.43			
6/26/2014	37.29	26.21	22.10	-11.78	-7.34	37.84			
9/23/2014	35.12	23.44	19.23	-14.61	-9.05	36.79			
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				
10/2/2013	-63.74	-63.25	-31.77	-30.37	-15.1				
12/18/2013	-43.21	-43.08	-26.86	-24.97	-10.68				
1/28/2014	-61.08	-60.78	-25.96	-15.94	-10.89				
3/18/2014	-68.68	-68.33	-27.81	-24.20	-11.44				
4/7/2014	-69.52	-69.17	-26.91	-25.17					
6/19/2014	-71.37	-71.09	-32.89	-32.56	-20.43				
9/16/2014	-79.96	-79.68	-36.61	-35.02	-21.42				
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			
10/31/2013	-24.76	-49.42	-40.77	-40.00	-36.04	-29.63			
12/20/2013	-21.85	-45.52	-40.66	-39.39	-33.10	-27.93			
3/18/2014	-22.31	-48.25	-39.29	-38.31	-33.45	-27.81			
5/20/2014	-26.23	-52.62	-45.00	-43.91	-36.91	-26.12			
6/23/2014	-29.34	-54.84	-46.34	-45.14	-38.59	-31.84			
9/12/2014	-33.64	-58.81	-48.21	-46.79	-39.94	-33.39			
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	Silverado	Silverado	Hollydale	Gage	Gaspur			
12/16/2013	-7.74	-4.79	-1.49	3.72	31.74	36.21			
3/18/2014	-5.61	-3.77	-2.15	2.29	31.07	35.60			
4/30/2014	-7.63	-5.60	-5.35	-0.45	30.10	35.26			
6/11/2014	-11.97	-10.11	-10.03	-7.79	28.72	34.66			
9/16/2014	-20.37	-16.15	-13.59	-9.14	27.40	33.42			

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Gardena #1 Reference Point Elevation: 82.20									
Depth of Well	970-990	445-465	345-365	120-140					
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage					
12/15/2013	-54.87	-136.43	-97.18	-12.43					
3/15/2014	-55.18	-137.35	-97.80	-12.41					
6/15/2014	-56.33	-139.42	-99.84	-12.38					
9/15/2014	-56.92	-134.67	-97.59	-12.57					
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				
12/24/2013	-41.95	-56.17	-56.52	-23.70	-11.38				
3/24/2014	-41.77	-55.96	-56.29	-23.91	-11.60				
4/21/2014	-41.66	-55.40	-55.68	-24.07	-11.71				
6/24/2014	-42.01	-56.71	-57.06	-24.61	-11.91				
9/23/2014	-42.01	-55.99	-56.32	-24.48	-12.04				
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			
12/12/2013	-68.55	-17.40	-16.40	-16.22	-10.57	0.94			
3/13/2014	-66.21	-17.23	-16.21	-15.99	-10.48	0.86			
5/22/2014	-65.61	-17.84	-16.85	-16.64	-10.90	0.73			
6/18/2014	-65.85	-18.16	-17.09	-16.90	-11.06	0.71			
9/17/2014	-66.70	-18.29	-17.20	-17.02	-11.27	0.60			
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	Gaspar				
12/20/2013	-27.53	-26.84	-18.48	13.62	Dry				
3/11/2014	-28.83	-31.70	-19.64	13.37	Dry				
5/20/2014	-31.94	-37.26	-23.08	12.49	Dry				
6/20/2014	-33.41	-38.97	-23.81	12.20	Dry				
9/18/2014	-34.60	-38.74	-25.35	11.46	Dry				
Inglewood #1 Reference Point Elevation: 113.36									
Depth of Well	1380-1400	865-885	430-450	280-300	150-170				
Aquifer Name	Pico Formation	Pico Formation	Silverado	Lynwood	Gage				
12/4/2013	-30.57		-33.09	3.25	8.58				
12/6/2013	-30.57		-33.24	3.04	8.36				
12/12/2013	-31.04		-33.34	2.96	8.30				
3/14/2014	-30.55		-32.67	2.89	8.11				
4/29/2014	-30.73		-30.75	3.26	8.13				
6/18/2014	-32.01		-32.89	2.63	8.00				
9/12/2014	-31.36		-33.43	2.31	7.79				
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					
12/18/2013	-24.52	-17.03	-4.68	-1.29					
3/21/2014	-24.78	-17.13	-4.81	-1.28					
6/18/2014	-24.98	-17.17	-4.81	-1.35					
9/12/2014	-25.32	-17.17	-4.67	-1.22					
Inglewood #3 Reference Point Elevation: 72.20									
Depth of Well	1900-1940	1440-1460	1255-1275	890-910	540-560	370-390	245-265		
Aquifer Name	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Silverado	Lyn/Sil	Gage/Lyn		
12/20/2013	-27.11	-37.96	-57.51	-84.10	-74.35	-15.35	2.45		
3/17/2014	-26.90	-37.88	-58.44	-82.35	-72.60	-15.27	2.10		
5/22/2014	-27.66	-35.78	-58.58	-81.55	-71.85	-15.17	-3.87		
6/23/2014	-27.75	-37.78	-58.88	-81.57	-72.05	-15.43	1.80		
9/12/2014	-27.57	-37.65	-58.98	-81.35	-72.05	-15.15	1.82		

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
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			
12/15/2013	-65.36	-33.06	-29.54	-12.83	2.62	25.49			
3/15/2014	-NM-	-38.66	-35.25	-16.68	0.21	25.22			
4/24/2014	-157.69	-41.72	-42.47	-19.18	-2.01	24.82			
6/15/2014	-44.93	-40.96	-42.70	-23.02	-5.55	24.03			
9/16/2014	-166.92	-46.26	-50.74	-25.14	-6.93	23.30			
Lakewood #2 Reference Point Elevation: 40.64									
Depth of Well	1960-2000	1740-1760	1300-1320	995-1015	690-710	555-575	255-275	110-120	
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Jefferson	Gage	Artesia	
12/18/2013	-23.64	-28.94	-30.85	-35.29	-27.87	-13.79	22.18	19.67	
3/14/2014	-28.85	-42.61	-47.58	-55.67	-41.55	-18.59	19.19	21.89	
5/29/2014	-34.37	-44.51	-51.71	-63.25	-58.72	-31.44	16.98	20.02	
6/13/2014	-36.11	-45.16	-53.96	-66.01	-56.31	-32.66	16.34	19.36	
9/15/2014	-45.61	-52.21	-61.16	-71.81	-55.51	-32.26	15.24	17.19	
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				
12/18/2013	-18.47	-15.51	-28.55	-35.60	-10.21				
3/19/2014	-18.95	-17.30	-37.82	-46.32	-12.73				
3/19/2014	-18.95	-17.30	-37.82	-46.32	-12.73				
6/19/2014	-34.95	-29.38	-47.79	-64.52	-27.17				
9/11/2014	-41.85	-36.92	-52.01	-64.94	-29.91				
Lawndale #1 Reference Point Elevation: 48.93									
Depth of Well	1360-1400	895-905	615-635	395-415	290-310	170-190			
Aquifer Name	Pico Formation	Pico Formation	Pico Formation	Silverado	Lynwood	Gardena			
12/24/2013	-31.95	-58.48	-11.40	-11.29	-8.79	-3.19			
3/13/2014	-34.70	-60.91	-14.27	-14.08	-11.71	-8.82			
6/13/2014	-34.62	-62.02	-16.32	-15.97	-13.22	-9.89			
9/15/2014	-34.55	-61.49	-16.34	-15.94	-13.18	-6.46			
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			
12/12/2013	-28.98	-18.26	-17.08	-17.59	-16.05	-16.34			
3/18/2014	-27.91	-18.04	-16.73	-17.24	-16.15	-16.02			
6/23/2014	-28.29	-18.11	-16.75	-17.40	-15.79	-16.04			
9/17/2014	-27.63	-17.92	-16.59	-17.23	-15.80	-15.97			
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			
12/17/2013	-17.22	-18.42	-40.51	-23.34	-20.55	-6.78			
3/12/2014	-34.40	-37.42	-69.86	-36.21	-31.73	-7.42			
4/23/2014	-37.93	-41.03	-73.87	-35.50	-32.78	-11.43			
6/11/2014	-41.41	-44.42	-78.04	-41.34	-38.82	-17.46			
9/16/2014	-47.04	-49.73	-88.01	-47.10	-43.74	-18.47			
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	Gage	Gaspar			
12/19/2013	-50.65	-40.38	-37.17	-11.85	-0.75	1.55			
3/20/2014	-93.82	-46.21	-38.46	-12.12	-1.00	1.33			
5/1/2014	-93.98	-49.49	-42.77	-13.00	-2.38	1.12			
6/16/2014	-90.39	-51.47	-38.29	-13.96	-1.87	0.78			
9/15/2014	-102.66	-56.03	-43.45	-15.09	-2.26	0.67			

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
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				
12/23/2013	-35.23	-42.72	-42.72	-43.18	-2.23				
3/20/2014	-33.22	-41.33	-41.34	-41.83	-2.74				
3/27/2014	-32.41	-39.51	-39.47	-40.01	-2.60				
6/12/2014	-32.97	-41.83	-41.83	-42.31	-1.42				
9/15/2014	-32.30	-39.93	-39.89	-40.42	0.28				
Long Beach #4 Reference Point Elevation: 9.52									
Depth of Well	1200-1220	800-820							
Aquifer Name	Pico Formation	Sunnyside							
12/16/2013	-31.81	-13.63							
03/12/2014	-32.32	-14.72							
06/16/2014	-31.49	-13.55							
09/17/2014	-31.31	-12.93							
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			
12/11/2013	-29.09	-29.63	-29.69	-42.41	-42.38	-28.96			
12/11/2013	-29.09	-29.63	-29.69	-42.41	-42.38	-28.96			
3/18/2014	-48.70	-69.82	-71.26	-117.54	-117.52	-35.51			
4/23/2014	-53.36	-73.17	-74.41	-118.29	-118.35	-27.62			
6/12/2014	-57.34	-75.45	-76.67	-116.74	-116.76	-38.06			
9/16/2014	-62.25	-78.68	-79.96	-126.34	-126.30	-40.83			
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			
11/15/2013	-15.93	-31.81	-40.05	-38.19	-37.79	1.57			
12/16/2013	-16.02	-31.61	-39.15	-37.36	-37.01	1.49			
3/12/2014	-15.97	-31.54	-39.49	-37.62	-37.21	1.34			
6/16/2014	-15.71	-31.20	-39.39	-37.52	-37.08	1.40			
9/19/2014	-15.65	-30.97	-38.29	-36.46	-36.08	1.52			
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				
12/21/2013	-26.67	-21.69	-22.49	-23.52	-14.67				
3/13/2014	-28.03	-22.20	-22.96	-23.76	-14.41				
5/21/2014	-30.03	-23.53	-24.36	-26.26	-15.48				
6/24/2014	-31.49	-24.85	-25.59	-27.51	-16.16				
9/15/2014	-32.50	-26.12	-26.81	-28.48	-17.88				
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			
12/21/2013	46.79	-1.30	-1.76	-15.16	-22.71	Dry			
3/20/2014	46.92	-2.26	-2.74	-15.70	-23.20	Dry			
5/2/2014	-NM-	-2.30	-2.78	-16.08	-23.80				
6/20/2014	46.53	-3.12	-3.63	-16.97	-24.31	Dry			
9/18/2014	46.36	-3.60	-4.12	-18.04	-26.05	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			
12/21/2013	-14.97	-4.44	-9.39	-15.94	-12.41	8.31			
3/20/2014	-15.65	-4.54	-9.46	-15.12	-11.94	8.21			
6/3/2014	-17.19	-5.21	-10.41	-16.59	-12.76	8.12			
6/19/2014	-17.77	-5.53	-10.85	-17.00	-13.06	7.91			
9/18/2014	-19.42	-6.63	-12.16	-18.18	-14.12	7.47			

**TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2013-2014**

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Los Angeles #4 Reference Point Elevation: 141.00									
Depth of Well	1740-1780	1190-1210	720-740	490-510	355-375	235-255			
Aquifer Name	Pico Formation	Pico Formation	Sunnyside	Silverado	Lynwood	Gage			
12/21/2013	-18.15	-43.80	-35.50	-24.25	-22.40	-10.72			
3/28/2014	-24.02	-50.27	-42.25	-29.69	-27.81	-15.93			
5/28/2014	-25.33	-51.84	-45.16	-32.14	-30.00	-16.26			
6/24/2014	-26.60	-55.36	-47.23	-33.25	-31.00	-16.79			
9/18/2014	-29.33	-60.76	-50.15	-34.56	-32.43	-17.83			
Lynwood #1									
Depth of Well	2880-2900	2430-2450	1650-1670	1445-1465	1200-1220	880-900	640-660	315-335	160-180
Aquifer Name	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Sunnyside	Lynwood/Silve	Gardena	Gaspur
6/16/2014	-21.5	-40.5	-62.24	-55.45	-38.28	-33.97	-35.29	-27.5	42.52
9/23/2014	-25.88	-46.85	-67.60	-60.55	-42.12	-35.93	-36.63	-28.25	41.92
10/7/2014	-26.51	-47.34	-66.23	-59.13	-40.53	-33.13	-35.89	-28.29	42.52
Manhattan Beach #1 Reference Point Elevation: 129.12									
Depth of Well	1950-1990	1570-1590	1250-1270	865-885	640-660	320-340	180-200		
Aquifer Name	Pico Formation	Pico Formation	Sunnyside	Silverado	Silverado	Lynwood	Gage		
12/16/2013	-0.63	-2.86	-34.10	-5.44	-3.9	5.92	9.6		
3/20/2014	-0.52	-2.74	-33.86	-5.56	-3.91	5.78	9.28		
6/11/2014	-0.68	-2.63	-33.78	-5.93	-3.13	6.57	9.87		
9/16/2014	-0.50	-2.59	-33.82	-5.81	-3.38	6.38	10.02		
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			
12/23/2013	71.93	63.34	62.76	60.70	64.35	Dry			
3/24/2014	71.78	67.90	67.38	64.36	62.12	Dry			
4/17/2014	71.48	66.30	65.75	62.91	62.11	Dry			
6/24/2014	66.41	59.53	58.91	56.28	59.32	Dry			
9/22/2014	61.57	54.71	54.15	51.87	54.71	Dry			
Norwalk #1 Reference Point Elevation: 95.44									
Depth of Well	1400-1420	990-1010	720-740	430-450	220-240				
Aquifer Name	Sunnyside	Silverado	Lynwood	Jefferson	Gage				
12/18/2013	26.82	-14.28	6.63	-1.51	0.21				
3/14/2014	27.12	-16.24	6.40	-2.65	0.15				
5/23/2014	24.81	-21.10	2.80	-6.37	-2.80				
6/20/2014	23.12	-24.84	0.65	-7.90	-4.12				
7/15/2014	21.31	-26.56	-1.06	-9.38	-5.28				
9/15/2014	18.52	-30.70	-4.72	-10.89	-7.21				
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			
12/18/2013	7.97	8.10	2.68	3.99	11.76	20.10			
3/24/2014	7.18	7.29	0.52	3.72	10.41	18.81			
6/19/2014	2.49	2.57	-6.40	-3.30	3.90	14.12			
9/11/2014	-3.23	-2.87	-12.24	-9.86	1.37	11.88			
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					
12/15/2013	113.29	96.14	95.38	92.13					
3/15/2014	114.10	-NM-	97.73	94.91					
3/24/2014	115.85	85.67	84.55	93.61					
4/9/2014	117.63	86.34	83.18	94.12					
6/15/2014	113.62	100.94	92.06	91.33					
9/17/2014	104.07	73.59	85.98	82.69					

**TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2013-2014**

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Pico #2 Reference Point Elevation: 149.60									
Depth of Well	1180-1200	830-850	560-580	320-340	235-255	100-120			
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gaspar			
12/15/2013	50.99	50.55	55.52	73.81	74.10	80.44			
3/15/2014	56.25	54.40	60.07	72.67	72.31	76.86			
6/15/2014	47.93	45.61	52.92	71.21	71.57	79.91			
9/15/2014	40.60	40.22	48.77	68.06	67.65	74.00			
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					
12/12/2013	-12.01	-9.52	-9.46	-9.47					
3/13/2014	-11.59	-9.05	-8.95	-8.99					
4/2/2014	-11.72	-9.10	-9.14	-8.98					
6/23/2014	-11.85	-9.07	-8.92	-9.07					
9/16/2014	-12.21	-9.55	-9.44	-9.44					
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					
12/12/2013	-4.55	-2.26	0.95	1.01					
3/13/2014	-4.30	-2.65	0.50	0.58					
4/27/2014	-4.91	-1.95	1.31	1.35					
6/23/2014	-4.92	-2.61	0.62	0.71					
9/16/2014	-5.12	-2.54	0.68	0.75					
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			
10/23/2013	-35.33	-43.79	-11.78	-9.77	-3.41	-3.15			
12/12/2013	-35.13	-44.53	-9.88	-7.64	-2.20	-2.02			
3/17/2014	-34.74	-43.24	-9.32	-7.22	-2.25	-2.04			
5/13/2014	-34.67	-43.81	-11.28	-8.80	-2.56	-2.45			
6/23/2014	-34.53	-44.53	-11.23	-8.61	-2.43	-2.18			
9/15/2014	-34.59	-44.56	-11.44	-8.89	-2.49	-2.22			
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			
12/16/2013	-33.30	-11.37	-10.12	-3.07	-2.13	-1.67			
3/13/2014	-31.70	-11.05	-10.27	-2.97	-2.07	-1.39			
4/22/2014	-31.71	-1.92	-9.84	-2.72	-1.71	-1.26			
6/11/2014	-33.24	-11.00	-9.53	-2.87	-1.73	-1.25			
9/16/2014	-33.48	-11.25	-10.40	-2.94	-1.86	-1.37			
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			
12/20/2013	50.32	47.09	46.41	39.53	45.99	49.35			
3/14/2014	53.14	53.66	52.95	43.31	49.96	53.02			
4/8/2014	53.24	51.18	50.36	40.59	47.30	50.71			
5/16/2014	49.28	46.20	46.35	38.21	44.02	47.11			
6/25/2014	44.40	40.24	39.61	34.61	41.21	44.72			
9/9/2014	40.23	36.53	35.74	30.27	38.15	41.91			
9/17/2014	39.52	35.01	34.22	29.23	37.66	41.46			
Seal Beach #1 Reference Point Elevation: 9.51									
Depth of Well	1345-1365	1160-1180	1020-1040	775-795	605-625	215-235	60-70		
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gage	Gaspar		
12/16/2013	-17.92	-17.98	-17.98	-37.78	-26.75	-1.45	1.53		
3/12/2014	-32.41	-32.61	-32.54	-59.05	-37.63	-2.00	2.48		
6/11/2014	-39.41	-39.63	-39.51	-68.78	-44.76	-8.51	-0.34		
9/16/2014	-45.50	-45.69	-45.58	-79.01	-51.22	-10.28	-1.66		

**TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2013-2014**

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
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				
10/10/2013	-11.73	-8.93	-4.74	-5.05	39.23				
12/18/2013	-7.69	-4.83	0.75	-4.27	39.20				
3/17/2014	-7.87	-5.94	-2.17	-3.37	38.48				
6/3/2014	-11.93	-13.29	-8.85	-11.57	39.54				
6/24/2014	-15.86	-14.22	-11.02	-13.09	36.87				
9/29/2014	-18.89	-16.06	-11.58	-12.69	35.69				
South Gate #2 Reference Point Elevation: 121									
Depth of Well	1740-1760	1410-1430	1062-1082	670-690	410-430	205-225			
Aquifer Name	Pico Formation	Pico Formation	Sunnyside	Silverado	Hollydale	Gaspar			
6/12/2014	-36.12	-35.53	-27.66	-22.27	43.15	48.91			
9/23/2014	-37.12	-36.51	-29.90	-20.35	42.58	48.52			
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				
12/16/2013	-1.62	7.98	8.15	8.26	8.30				
3/27/2014	-2.04	7.51	7.81	7.86	7.97				
4/15/2014	-2.08	7.50	7.84	7.93	8.02				
6/23/2014	-2.48	7.47	7.77	7.82	7.92				
9/13/2014	-2.81	7.34	7.68	7.77	7.88				
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				
12/18/2013	118.22	118.28	110.10	108.07	198.19				
3/12/2014	117.06	117.11	108.98	106.96	198.24				
5/7/2014	116.39	116.42	108.49	106.49	198.03				
6/25/2014	115.57	115.63	107.47	105.44	197.51				
9/15/2014	114.35	114.41	105.88	103.72	197.15				
Whittier #2 Reference Point Elevation: 165.17									
Depth of Well	1370-1390	1090-1110	655-675	425-445	315-335	150-170			
Aquifer Name	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood	Gardena			
12/20/2013	74.65	76.35	63.29	65.26	91.37	101.21			
3/14/2014	74.84	75.74	67.12	66.12	89.11	98.88			
5/15/2014	75.28	76.02	63.99	62.36	85.35	98.77			
6/20/2014	73.15	73.80	59.78	58.89	87.63	97.64			
9/12/2014	69.25	69.62	54.97	55.22	86.97	96.97			
Willowbrook #1 Reference Point Elevation: 96.21									
Depth of Well	885-905	500-520	360-380	200-220					
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage					
12/18/2013	-55.68	-42.03	-42.15	-41.48					
3/13/2014	-58.29	-39.34	-41.45	-40.67					
4/9/2014	-58.38	-39.79	-42.13	-40.94					
6/20/2014	-68.11	-43.63	-48.77	-46.88					
9/17/2014	-71.70	-45.59	-50.73	-49.07					
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				
11/6/2013	-38.61	-39.14	-39.09	-13.22	-10.20				
12/20/2013	-37.97	-38.52	-38.46	-12.23	-9.29				
3/20/2014	-37.32	-37.92	-37.84	-13.34	-10.52				
5/13/2014	-37.15	-37.78	-37.44	-12.45	-9.53				
6/24/2014	-37.84	-38.29	-38.34	-12.69	-9.70				
9/15/2014	-35.84	-36.45	-36.49	-11.46	-8.38				

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2013-2014

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Wilmington #2 Reference Point Elevation: 29.78									
Depth of Well	950-970	755-775	540-560	390-410	120-140				
Aquifer Name	Sunnyside	Silverado	Lynwood	Lynwood	Gage				
12/20/2013	-29.40	-25.87	-21.73	-20.87	-6.03				
3/25/2014	-28.94	-25.45	-22.13	-21.27	-5.76				
5/6/2014	-29.20	-25.78	-21.94	-20.98	-5.54				
6/24/2014	-29.67	-26.04	-22.12	-21.02	-5.42				
9/15/2014	-28.64	-25.72	-21.46	-20.39	-5.10				
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	233.5-243	163-173	95-104.5
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood	Jefferson	Gardena	Gaspur
3/19/2014	170.95	171.57	173.55	176.92	177.74	178.90	178.78	178.76	180.25
9/17/2014	146.77	149.54	153.02	160.78	161.64	163.15	163.29	163.47	165.31
Whittier Narrows #2 Reference Point Elevation: 209.08									
Depth of Well	659-678	579-598	469-488	419-428	329-338	263-273	214-224	136-145	91-100
Aquifer Name	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Not Defined	Not Defined	Not Defined	Gardena
3/19/2014	-16.34	-16.36	-15.67	-8.26	93.84	144.08	144.84	144.46	155.9
9/18/2014	-18.4	-18.28	-17.7	-10.76	82.41	128.98	129.92	132.75	151.9

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Bell #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/30/2014	9/29/2014	5/30/2014	9/29/2014	5/30/2014	9/29/2014	5/30/2014	9/29/2014	5/30/2014	9/29/2014	5/30/2014	9/29/2014
General Minerals															
Alkalinity	mg/l			540	590	140	160	140	160	150	170	160	180	220	250
Anion Sum	meq/l			15	16	5.1	5.5	4.8	5.2	5.2	5.7	7.1	7.6	10	11
Bicarbonate as HCO3	mg/l			660	720	170	200	170	190	180	210	190	220	260	300
Boron	mg/l	1	N	1.6		0.13	0.13	0.12	0.13	0.14	0.15	0.13	0.14	0.15	0.16
Bromide	ug/l				1100		100		150		120		190		340
Calcium, Total	mg/l			19	18	50	52	45	46	56	58	74	77	120	120
Carbon Dioxide	mg/l			3.4	ND	ND	ND	ND	ND	ND	ND	2.5	ND	3.4	ND
Carbonate as CO3	mg/l			14	12	2.2	ND	ND	ND	ND	ND	ND	ND	2.1	ND
Cation Sum	meq/l			16	16	5.5	5.6	5.3	5.3	5.9	5.9	7.6	7.7	11	11
Chloride	mg/l	500	S	140	140	22	22	28	28	26	26	53	51	110	100
Fluoride	mg/l	2	P	0.41	0.41	0.23	0.23	0.4	0.39	0.42	0.42	0.37	0.39	0.36	0.36
Hardness (Total, as CaCO3)	mg/l			73	72	170	170	160	160	200	200	270	270	440	430
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				270		23		33		28		ND		ND
Iron, Total	mg/l	0.3	S	0.12	0.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.1	1	0.75	0.68	0.62	0.51	0.76	0.7	0.84	0.87	1.1	1.1
Magnesium, Total	mg/l			6.3	6.5	11	10	11	11	14	14	20	19	33	32
Manganese, Total	ug/l	50	S	46	47	75	80	49	52	71	72	ND	ND	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2	1.9	2.6	2.7
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			5.7	5.6	2.6	2.6	3.5	3.5	3.3	3.4	3	2.9	2.9	2.8
Sodium, Total	mg/l			340	340	48	48	47	47	42	42	51	51	59	58
Sulfate	mg/l	500	S	1.8	3	77	78	56	57	72	73	110	110	140	150
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	970	880	320	250	320	270	340	320	480	420	680	590
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2	1.9	2.6	2.7
Total Organic Carbon	mg/l			8.5	18	0.43	0.4	0.64	0.68	0.31	0.32	ND	ND	0.46	0.41
General Physical Properties															
Apparent Color	ACU	15	S	250	350	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
Lab pH	Units			8.5	8.4	8.3	8.1	8.2	8	8.2	8.1	8.1	8.1	8.1	8
Odor	TON	3	S	2	2	2	2	2	2	2	2	1	2	2	2
Specific Conductance	umho/cm	1600	S	1600	1500	540	540	520	510	570	560	750	740	1100	1100
Turbidity	NTU	5	S	0.34	0.32	0.087	0.094	0.075	0.065	0.13	0.16	0.2	0.19	2	3.3
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.4	1	ND	ND	ND	ND	1.6	1.1	4.3	3.7	2.8	1.7
Barium, Total	ug/l	1000	P	22	21	37	36	35	36	76	73	240	260	130	120
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.3	ND	ND	ND	ND	ND	ND	1.5	ND	3.9	2.8
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.024	ND	ND	ND	ND	ND	ND	ND	2.3	2	4.2	4.1
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	7.7	7.2	6.4	6
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.4	23	24
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			23000	13000	1.8	15	22	24	44	29	0.38	0.63	15	5.3
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	2	2	3.4	3.8

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Bell Gardens #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/27/2014	9/4/2014	5/27/2014	9/4/2014	5/27/2014	9/4/2014	5/27/2014	9/4/2014	5/27/2014	9/4/2014	5/27/2014	9/4/2014
General Minerals															
Alkalinity	mg/l			140	160	140	150	130	140	100	120	110	110	130	140
Anion Sum	meq/l			6.9	7	4.7	4.8	6.9	6.9	5.1	4.8	4.9	5	5.4	5.5
Bicarbonate as HCO3	mg/l			170	190	170	190	160	170	120	140	130	130	160	170
Boron	mg/l	1	N	0.05	0.051	0.12	0.12	0.16	0.15	0.14	0.14	0.15	0.14	0.14	0.13
Bromide	ug/l				120		130		140		250		93		140
Calcium, Total	mg/l			100	92	42	39	76	76	51	45	51	47	61	54
Carbon Dioxide	mg/l			ND	ND	ND	ND	2.6	ND	2	ND	2.7	ND	4.2	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			7.6	6.9	5.2	4.9	7.4	7.2	5.5	4.8	5.3	5.1	6.1	5.5
Chloride	mg/l	500	S	51	46	34	30	68	62	50	35	39	44	43	38
Fluoride	mg/l	2	P	0.2	0.2	0.29	0.29	0.31	0.31	0.4	0.23	0.23	0.41	0.34	0.34
Hardness (Total, as CaCO3)	mg/l			310	280	140	130	250	240	170	150	170	150	200	180
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				4		9		ND		ND		ND		ND
Iron, Total	mg/l	0.3	S	0.032	0.027	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1	0.96	0.6	0.61	0.68	0.65	0.37	0.14	0.32	0.43	0.34	0.34
Magnesium, Total	mg/l			14	13	8.3	7.6	14	13	9.8	9.1	10	8.8	12	11
Manganese, Total	ug/l	50	S	30	ND	41	41	ND	ND	ND	2.1	ND	ND	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	2.4	2.3	1.7	1.8	1.9	1.5	1.7	1.6
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.4	2.2	2.5	2.4	3.6	3.5	3.2	2.8	3	3.1	3.4	3.2
Sodium, Total	mg/l			30	28	54	52	53	52	47	40	43	45	46	42
Sulfate	mg/l	500	S	120	120	44	43	110	100	76	65	67	72	73	70
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	490	470	300	320	460	480	340	330	340	350	360	370
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	2.4	2.3	1.7	1.8	1.9	1.5	1.7	1.6
Total Organic Carbon	mg/l			0.32	0.34	0.38	0.39	0.43	0.46	0.34	0.53	ND	0.36	ND	0.3
General Physical Properties															
Apparent Color	ACU	15	S		ND	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.2	8.2	8.2	8.2	8	8	8	7.8	7.9	8.1	7.8	7.8
Odor	TON	3	S	1	2	1	2	ND	2	1	1	ND	1	ND	1
Specific Conductance	umho/cm	1600	S	720	720	510	510	740	740	560	520	530	550	590	590
Turbidity	NTU	5	S	0.069	0.15	0.062	0.12	0.16	0.095	0.16	0.053	0.077	0.1	0.2	0.088
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	3.3	ND	ND	1.4	3.6	4.3	3	1.3	1.1	2.7	2.5	2.8
Barium, Total	ug/l	1000	P	99	ND	65	70	120	130	46	55	50	43	53	51
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	0.27	0.27	0.44	0.59	0.58	0.44	0.54	0.54
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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	0.5
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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	1.6	1.6
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	1.2	1.2	ND	0.56	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			0.22	0.13	0.72	0.32	0.32	0.38	ND	0.3	0.26	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	0.56	ND	ND	0.59	0.64	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Cerritos #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/25/2014	9/2/2014	4/25/2014	9/2/2014	4/25/2014	9/2/2014	4/25/2014	9/2/2014	4/25/2014	9/2/2014	4/25/2014	9/2/2014
General Minerals															
Alkalinity	mg/l			140	150	140	140	150	150	160	150	160	160	160	170
Anion Sum	meq/l			4.3	4.4	3.8	3.8	4.7	4.6	4.6	4.4	4.1	4.1	4.1	4.1
Bicarbonate as HCO3	mg/l			170	180	170	180	180	180	190	180	190	200	200	200
Boron	mg/l	1	N	0.082	0.088	0.059	0.056	0.083	0.08	0.084	0.082	0.083	0.081	0.075	0.076
Bromide	ug/l			46	39	39	39	62	62	54	54	44	44	55	
Calcium, Total	mg/l			36	36	33	32	41	40	48	47	39	39	46	45
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	2	ND	2	ND	2.1	ND
Carbonate as CO3	mg/l			2.8	2.3	2.8	2.3	2.3	ND	2	ND	2	2	2	ND
Cation Sum	meq/l			4.8	4.8	4.3	4.1	5.2	5	5	4.9	4.6	4.6	4.6	4.6
Chloride	mg/l	500	S	15	14	11	10	19	16	14	13	10	9.4	9.8	9.2
Fluoride	mg/l	2	P	0.27	0.26	0.37	0.36	0.42	0.42	0.54	0.53	0.48	0.46	0.33	0.32
Hardness (Total, as CaCO3)	mg/l			110	110	100	100	130	120	160	160	140	140	150	150
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			11	18	18	18	30	30	17	17	10	10	9.3	
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	0.026	0.024	0.087	0.075	0.061	0.052	0.082	0.066
Langelier Index - 25 degree	None			0.74	0.69	0.68	0.59	0.72	0.64	0.75	0.69	0.68	0.65	0.77	0.59
Magnesium, Total	mg/l			4.8	4.8	5.2	4.9	6.2	6.3	11	11	9.4	9.4	8.9	9
Manganese, Total	ug/l	50	S	23	25	28	29	41	45	81	79	110	110	130	140
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.3	2.2	2.2	2	2.2	2	2.1	1.9	2.1	2	2.2	2.1
Sodium, Total	mg/l			59	59	50	47	58	58	39	38	42	42	36	35
Sulfate	mg/l	500	S	50	49	30	30	58	55	46	45	28	27	24	24
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	290	280	240	250	320	310	300	300	260	270	280	280
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	0.39	0.37	0.44	0.31	0.34	ND	0.31	0.35	0.37	0.36	0.4
General Physical Properties															
Apparent Color	ACU	15	S	3	ND	3	ND	ND	ND	5	ND	3	ND	5	ND
Lab pH	Units			8.4	8.3	8.4	8.3	8.3	8.2	8.2	8.2	8.2	8.2	8.2	8.1
Odor	TON	3	S	2	2	2	2	2	2	2	2	2	2	2	2
Specific Conductance	umho/cm	1600	S	470	470	410	410	510	500	480	480	440	440	440	440
Turbidity	NTU	5	S	0.093	0.074	0.17	0.11	0.083	0.087	0.23	0.22	0.14	0.13	0.21	0.19
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	15	16	12	12	22	22	5.8	6.9	9.9	10	38	37
Barium, Total	ug/l	1000	P	48	51	94	100	130	120	62	66	81	82	99	99
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			0.85	0.3	6.5	2.2	0.62	0.22	0.67	0.86	1.8	15	2.4	3.3
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Cerritos #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/30/2014	9/10/2014	4/30/2014	9/10/2014	4/30/2014	9/10/2014	4/30/2014	9/10/2014	4/30/2014	9/10/2014	4/30/2014	9/10/2014
General Minerals															
Alkalinity	mg/l			130	140	150	160	140	150	160	170	160	170	310	320
Anion Sum	meq/l			3.3	3.5	7.8	8	3.3	3.6	3.8	4	3.7	4	13	13
Bicarbonate as HCO3	mg/l			160	180	190	200	170	190	200	210	200	210	380	400
Boron	mg/l	1	N	0.054	ND	0.15	0.15	0.061	0.054	0.074	0.078	0.074	0.072	0.1	0.1
Bromide	ug/l			21	140	17	140	17	17	21	21	21	21	280	280
Calcium, Total	mg/l			42	42	90	84	45	45	53	50	51	48	170	160
Carbon Dioxide	mg/l			ND	ND	3.1	ND	ND	ND	2.1	ND	2.1	ND	9.9	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	2.2	ND	2	ND	2	ND	ND	ND
Cation Sum	meq/l			3.7	3.8	8.1	7.7	3.8	3.9	4.4	4.2	4.2	4	13	13
Chloride	mg/l	500	S	5.7	5.6	74	72	5.1	5	6	5.9	5.7	5.5	87	89
Fluoride	mg/l	2	P	0.3	0.29	0.38	0.38	0.32	0.31	0.43	0.42	0.37	0.36	0.37	0.37
Hardness (Total, as CaCO3)	mg/l			130	130	290	280	140	140	170	160	160	150	560	530
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			1.6	ND	ND	ND	4.8	5.3	5.2	5.2	5.2	5.2	18	18
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.03	0.027	0.082	0.077	0.29	0.27
Langelier Index - 25 degree	None			0.55	0.53	0.75	0.62	0.71	0.62	0.78	0.71	0.75	0.68	1.2	1.2
Magnesium, Total	mg/l			5.3	5.8	17	16	6	6.5	8.5	8.6	7.1	7.3	32	32
Manganese, Total	ug/l	50	S	7.3	7	ND	ND	35	36	85	88	100	110	400	430
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2.9	3	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.7	2.8	4.1	4	2.5	2.4	2.7	2.7	2.7	2.8	4.1	3.9
Sodium, Total	mg/l			25	25	49	47	24	23	22	21	22	21	54	50
Sulfate	mg/l	500	S	20	20	120	120	16	17	17	18	16	16	190	200
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	250	230	490	510	220	230	250	250	240	230	780	840
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	2.9	3	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	0.58	0.47	ND	ND	0.33	ND	0.33	ND	1.1	1
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	5
Lab pH	Units			8.2	8.1	8	7.8	8.3	8.1	8.2	8.1	8.2	8.1	7.8	7.8
Odor	TON	3	S	1	2	1	2	1	2	1	2	ND	2	ND	2
Specific Conductance	umho/cm	1600	S	350	350	820	810	360	360	400	400	400	400	1200	1200
Turbidity	NTU	5	S	0.1	0.091	0.19	0.072	0.52	0.38	0.18	0.12	0.19	0.21	2	2.3
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.5	2.6	2.4	2.7	3.2	3.6	7.9	8.8	19	19	4.6	5.8
Barium, Total	ug/l	1000	P	98	99	140	140	110	110	150	160	170	170	80	87
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.097	0.096	0.71	0.68	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	5.2	ND	ND	ND	ND	ND	ND	ND	ND	7.2
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			ND	ND	ND	ND	0.24	0.42	0.15	0.84	0.66	3.7	2.3	2.3
Perchlorate	ug/l	6	P	ND	ND	0.93	0.88	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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Commerce #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/17/2014	9/23/2014	4/17/2014	9/23/2014	4/17/2014	9/23/2014	4/17/2014	9/23/2014	4/17/2014	9/23/2014	4/17/2014	9/23/2014
General Minerals															
Alkalinity	mg/l			450	470	280	300	210	220	180	190	150	170	150	170
Anion Sum	meq/l			230	220	10	11	8.1	8.1	7.9	8.1	6.4	7.8	6.7	7.2
Bicarbonate as HCO3	mg/l			540	570	330	370	250	270	220	230	190	200	180	210
Boron	mg/l	1	N	6.5	6.7	0.61	0.62	0.23	0.22	0.25	0.26	0.13	0.19	0.12	0.13
Bromide	ug/l				47000		1100		570		370		470		280
Calcium, Total	mg/l			200	190	48	47	63	57	45	44	65	51	65	68
Carbon Dioxide	mg/l			5.6	ND	2.7	ND	2	ND	ND	ND	2	ND	ND	ND
Carbonate as CO3	mg/l			5.6	3.7	4.3	2.4	3.2	2.8	2.8	ND	2	ND	ND	ND
Cation Sum	meq/l			240	230	12	12	8.8	8.1	8.7	8.6	7	8	7.2	7.6
Chloride	mg/l	500	S	8000	7400	170	170	110	99	85	84	61	98	73	72
Fluoride	mg/l	2	P	0.19	0.19	0.42	0.41	0.4	0.4	0.52	0.54	0.4	0.46	0.47	0.43
Hardness (Total, as CaCO3)	mg/l			1200	1100	210	210	250	220	190	180	240	200	250	260
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				10000		350		190		83		30		ND
Iron, Total	mg/l	0.3	S	1.1	1.1	0.024	ND	0.046	0.029	0.16	0.13	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.8	1.6	1.1	0.84	1.1	0.89	0.87	0.65	0.84	0.6	0.82	0.74
Magnesium, Total	mg/l			160	160	22	22	22	20	18	18	20	18	21	23
Manganese, Total	ug/l	50	S	130	170	21	15	37	32	62	60	ND	5.2	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	4.1	4.1	7.2	7.7
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			47	47	6	5.9	3.4	3.3	3.5	3.4	2.1	2.5	1.9	2
Sodium, Total	mg/l			4800	4700	170	170	88	82	110	110	47	91	50	51
Sulfate	mg/l	500	S	ND	1.5	10	2.4	34	40	89	94	62	67	52	55
Surfactants	mg/l	0.5	S	0.13	0.097	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	14000	12000	630	640	490	440	480	470	410	450	420	430
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	4.1	4.1	7.2	7.7
Total Organic Carbon	mg/l			5.1	4.3	4.6	4.6	1	1.1	0.82	0.8	ND	0.52	0.3	ND
General Physical Properties															
Apparent Color	ACU	15	S	100	100	25	25	5	3	10	5	ND	ND	ND	ND
Lab pH	Units			8.2	8	8.3	8	8.3	8.2	8.3	8.1	8.2	8	8.2	8
Odor	TON	3	S	1	67	2	100	ND	1	1	2	ND	2	ND	2
Specific Conductance	umho/cm	1600	S	23000	22000	1100	1100	870	830	840	840	680	820	720	740
Turbidity	NTU	5	S	20	49	0.21	0.25	0.17	0.2	0.25	0.23	0.83	0.13	1.2	1.1
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	70	ND	ND	ND	ND	ND	ND	ND	ND	1	ND	ND
Barium, Total	ug/l	1000	P	630	860	64	64	100	91	220	210	67	56	58	65
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	4.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	14	ND	ND	1.6	ND	1.1	ND	1.2	7.7	7.6	9.8	11
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	8.6	7	10	11
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	370	150	ND	22	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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	1.3	0.79	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	0.87
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	5.9	3.5	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			12000	5900	12000	8500	960	100	25	19	5.4	5.7	2	0.15
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	2.5	2.4	3.2	3.4

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Compton #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/7/2014	9/10/2014	4/7/2014	9/10/2014	4/7/2014	9/10/2014	4/7/2014	9/10/2014
General Minerals											
Alkalinity	mg/l			130	140	130	140	140	150	150	160
Anion Sum	meq/l			3.6	3.9	4.4	4.5	4.8	5	5.2	5.4
Bicarbonate as HCO3	mg/l			160	180	160	170	180	180	180	200
Boron	mg/l	1	N	0.14	0.15	0.095	0.097	0.1	0.1	0.085	0.093
Bromide	ug/l				570		110		130		100
Calcium, Total	mg/l			21	22	39	37	48	46	56	59
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.6	2.3	2.6	2.2	2.3	ND	2.3	ND
Cation Sum	meq/l			4.1	4.2	4.7	4.5	5	4.8	5.2	5.5
Chloride	mg/l	500	S	17	16	22	21	24	24	21	20
Fluoride	mg/l	2	P	0.31	0.31	0.36	0.36	0.31	0.3	0.29	0.29
Hardness (Total, as CaCO3)	mg/l			60	63	110	100	160	150	160	170
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				36		29		38		28
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	0.021	0.064	0.063
Langelier Index - 25 degree	None			0.54	0.45	0.72	0.6	0.78	0.64	0.86	0.71
Magnesium, Total	mg/l			1.8	1.9	3.3	3.2	8.6	8.8	5.8	6.3
Manganese, Total	ug/l	50	S	11	10	16	16	52	54	87	83
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			1.6	1.4	1.6	1.6	2.5	2.5	2.2	2.5
Sodium, Total	mg/l			65	67	56	53	41	40	42	44
Sulfate	mg/l	500	S	22	26	56	56	57	60	73	76
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	260	260	290	290	340	320	350	350
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.8	2.4	0.83	0.78	0.65	0.6	0.34	ND
General Physical Properties											
Apparent Color	ACU	15	S	25	25	10	5	5	3	ND	ND
Lab pH	Units			8.4	8.3	8.4	8.3	8.3	8.2	8.3	8.1
Odor	TON	3	S	1	2	ND	2	1	2	1	2
Specific Conductance	umho/cm	1600	S	400	410	470	470	510	500	540	540
Turbidity	NTU	5	S	0.23	0.2	0.15	0.12	0.19	0.28	0.31	0.41
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	23	20
Barium, Total	ug/l	1000	P	9.9	8.8	12	12	64	62	150	150
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	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
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents											
Methane	ug/l			320	100	5.5	2.9	17	5.6	0.8	0.36
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Compton #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/20/2014	9/30/2014	5/20/2014	9/30/2014	5/20/2014	9/30/2014	5/20/2014	9/30/2014	5/20/2014	9/30/2014	5/20/2014	9/30/2014
General Minerals															
Alkalinity	mg/l			440	460	260	260	140	160	160	180	170	180	160	180
Anion Sum	meq/l			9.1	9.6	5.5	5.6	4.7	5	5.8	6	6.4	6.6	7.3	7.6
Bicarbonate as HCO3	mg/l			530	560	310	320	170	190	200	220	210	220	200	220
Boron	mg/l	1	N	0.7	0.7	0.18	0.19	0.1	0.1	0.12	0.12	0.11	0.12	ND	0.15
Bromide	ug/l				190		94		96		120		150		280
Calcium, Total	mg/l			12	12	28	29	45	48	68	67	65	69	80	79
Carbon Dioxide	mg/l			2.2	ND	2	ND	ND	ND	ND	ND	ND	ND	2.6	ND
Carbonate as CO3	mg/l			14	5.8	5.1	2.1	2.8	ND	2.6	ND	2.7	ND	ND	ND
Cation Sum	meq/l			10	10	6.3	6.6	5.1	5.2	6.4	6.2	6.4	6.6	7.9	7.6
Chloride	mg/l	500	S	13	14	13	13	20	19	30	28	39	37	67	64
Fluoride	mg/l	2	P	0.42	0.44	0.28	0.28	0.23	0.24	0.24	0.25	0.32	0.34	0.39	0.42
Hardness (Total, as CaCO3)	mg/l			39	39	92	96	140	150	220	220	220	230	280	270
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				53		26		23		24		29		ND
Iron, Total	mg/l	0.3	S	0.043	0.049	0.032	0.14	ND	ND	ND	0.022	ND	0.022	ND	0.042
Langelier Index - 25 degree	None			0.92	0.62	0.92	0.57	0.82	0.6	0.96	0.72	0.99	0.83	0.81	0.82
Magnesium, Total	mg/l			2.2	2.2	5.5	5.8	7.1	7.6	12	12	15	15	19	18
Manganese, Total	ug/l	50	S	11	11	27	30	31	32	41	42	110	110	19	16
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4	0.48
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3	3	4.2	4.6	2.6	2.5	2.6	2.5	3.9	3.8	3.9	3.7
Sodium, Total	mg/l			210	210	100	100	51	48	44	43	43	43	52	48
Sulfate	mg/l	500	S	0.71	ND	ND	ND	58	63	79	80	86	88	100	100
Surfactants	mg/l	0.5	S	ND	ND	ND	0.07	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	580	610	340	350	320	330	380	360	400	400	470	490
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4	0.48
Total Organic Carbon	mg/l			14	13	2.9	2.8	0.62	0.86	0.34	0.37	0.31	0.33	0.37	0.42
General Physical Properties															
Apparent Color	ACU	15	S	200	150	25	50	10	5	ND	ND	3	3	ND	ND
Lab pH	Units			8.6	8.2	8.4	8	8.4	8.1	8.3	8	8.3	8.1	8.1	8
Odor	TON	3	S	2	2	2	1	1	2		2	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	920	910	570	550	500	500	600	590	650	640	760	760
Turbidity	NTU	5	S	1.1	1.1	0.91	10	0.093	0.085	0.11	0.1	0.94	0.7	0.68	6
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	54
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	3.4	1.1	ND	ND	ND	ND	ND	1	ND	ND	3.8	3.9
Barium, Total	ug/l	1000	P	14	14	15	18	29	28	33	33	91	92	68	80
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.56	0.88
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.9	7.9
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			22000	12000	4300	2200	17	11	2.2	3.5	1.2	2.1	71	14
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Downey #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/30/2014	9/3/2014	4/30/2014	9/3/2014	4/30/2014	9/3/2014	4/30/2014	9/3/2014	4/30/2014	9/3/2014	4/30/2014	9/3/2014
General Minerals															
Alkalinity	mg/l			130	150	130	150	150	170	170	190	190	200	330	350
Anion Sum	meq/l			3.2	3.5	5.8	6	7.5	7.6	8.6	8.5	7	6.9	15	15
Bicarbonate as HCO3	mg/l			160	180	160	180	180	200	200	230	230	250	400	430
Boron	mg/l	1	N	0.06	0.053	0.062	0.061	0.098	0.095	0.19	0.17	0.09	0.084	0.23	0.22
Bromide	ug/l			17	17	95	95	130	130	180	180	130	130	390	390
Calcium, Total	mg/l			41	38	81	80	100	99	95	88	95	88	180	170
Carbon Dioxide	mg/l			ND	ND	2.6	ND	3.7	ND	5.2	ND	3.8	ND	16	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2
Cation Sum	meq/l			3.7	3.5	6.4	6.3	8.2	8	9.1	8.3	7.6	7	16	15
Chloride	mg/l	500	S	5.1	4.7	38	35	68	63	80	69	43	36	100	93
Fluoride	mg/l	2	P	0.34	0.32	0.31	0.29	0.36	0.35	0.41	0.39	0.42	0.42	0.34	0.33
Hardness (Total, as CaCO3)	mg/l			130	120	260	250	320	320	320	290	310	290	600	560
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			ND	ND	ND	ND	ND	ND	2.9	2.9	4.6	4.6	5.8	5.8
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.54	0.56	0.69	0.78	0.76	0.86	0.68	0.8	0.85	0.93	1.1	1.3
Magnesium, Total	mg/l			5.8	5.4	13	12	18	18	19	18	18	17	36	34
Manganese, Total	ug/l	50	S	ND	ND	ND	ND	ND	ND	2	2.4	110	110	90	100
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2	1.9	3.2	3.1	1.8	1.5	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.8	2.8	3.5	3.5	3.5	3.4	4.3	4	3.8	3.7	6	5.7
Sodium, Total	mg/l			26	25	27	27	34	34	61	54	28	26	88	82
Sulfate	mg/l	500	S	17	17	90	90	110	110	130	130	95	86	280	270
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	230	220	410	390	490	510	580	560	470	430	980	990
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	2	1.9	3.2	3.1	1.8	1.5	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	0.3	0.8	0.36	0.35	0.53	0.48	0.41	0.31	0.76	0.79
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	3	3	ND	ND
Lab pH	Units			8.2	8.2	8	8.1	7.9	8	7.8	8	8	8	7.6	7.9
Odor	TON	3	S	1	2	ND	2	ND	2	ND	2	ND	2	ND	2
Specific Conductance	umho/cm	1600	S	350	350	620	620	790	790	890	880	730	690	1500	1400
Turbidity	NTU	5	S	0.089	0.071	0.13	0.11	0.076	0.08	0.088	0.095	4	4.4	0.15	2.9
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	3.2	3.4	2.3	2.8	3	3.6	1.7	2.6	4.8	4.5	2.3	3.6
Barium, Total	ug/l	1000	P	92	97	160	160	130	130	84	86	230	220	71	74
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	3.2	2.8	1.4	1.2	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	3.8	3.6	1.8	1.9	1.2	1.2	0.33	0.32	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	5.4	5.4	ND	ND	ND	9.5
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	0.55	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.55	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			0.42	0.82	0.41	1.8	0.16	4.4	0.25	0.77	0.13	13	16	6.7
Perchlorate	ug/l	6	P	ND	ND	3.5	3.2	2.4	2.3	ND	0.52	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	HuntingtonPark #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				5/20/2014	9/15/2014	5/20/2014	9/15/2014	5/20/2014	9/15/2014	5/20/2014	9/15/2014
General Minerals											
Alkalinity	mg/l			160	170	160	180	220	170	340	360
Anion Sum	meq/l			5.9	6	5.8	6.1	10	6	13	13
Bicarbonate as HCO3	mg/l			200	210	190	210	270	210	410	440
Boron	mg/l	1	N	0.14	0.14	0.14	0.14	0.24	0.14	0.18	0.18
Bromide	ug/l				110		100		98		600
Calcium, Total	mg/l			63	64	64	63	120	64	150	160
Carbon Dioxide	mg/l			3.3	ND	2	ND	3.5	ND	6.7	ND
Carbonate as CO3	mg/l			ND	ND	2	ND	2.2	ND	2.7	ND
Cation Sum	meq/l			6.3	6.4	6.4	6.3	11	6.4	14	14
Chloride	mg/l	500	S	23	22	25	24	86	21	85	80
Fluoride	mg/l	2	P	0.49	0.52	0.42	0.43	0.34	0.49	0.35	0.36
Hardness (Total, as CaCO3)	mg/l			220	220	220	220	420	220	540	570
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				34		ND		32		30
Iron, Total	mg/l	0.3	S	0.27	0.29	ND	ND	ND	0.29	ND	ND
Langelier Index - 25 degree	None			0.69	0.52	0.81	0.6	1.2	0.51	1.4	1.2
Magnesium, Total	mg/l			16	16	16	16	30	16	39	41
Manganese, Total	ug/l	50	S	44	39	ND	ND	4.7	43	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	0.37	0.32	1.1	ND	4.3	4.3
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.4	3.2	3.4	3.3	4.4	3.4	4.9	5.1
Sodium, Total	mg/l			41	41	42	41	59	41	62	66
Sulfate	mg/l	500	S	92	92	90	89	170	91	170	170
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	1.1	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	390	380	370	390	690	400	820	800
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	0.37	0.32	1.1	ND	4.3	4.3
Total Organic Carbon	mg/l			0.32	ND	ND	ND	5.2	ND	0.71	0.56
General Physical Properties											
Apparent Color	ACU	15	S	10	10	ND	ND	3	10	ND	ND
Lab pH	Units			8	7.8	8.2	7.9	8.1	7.8	8	7.8
Odor	TON	3	S	ND	2	ND	1	2	1	1	4
Specific Conductance	umho/cm	1600	S	600	600	610	600	1000	600	1300	1300
Turbidity	NTU	5	S	1.8	2	0.24	0.13	0.44	1.8	0.094	0.065
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	1.2
Barium, Total	ug/l	1000	P	63	56	69	81	120	61	100	97
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	1.5	1.1
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	0.58	0.78	0.067	ND	1.1	1.5
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	9.5
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	5.3	7.4
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	1	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	6.5	ND	3.8	19
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	1.1	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	62	81
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.79	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	14	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents											
Methane	ug/l			0.64	ND	6.1	ND	4.2	ND	4.3	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	2.1	ND	2.6	3

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Lakewood #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/24/2014	8/28/2014	4/24/2014	8/28/2014	4/24/2014	8/28/2014	4/24/2014	8/28/2014	4/24/2014	8/28/2014	4/24/2014	8/28/2014
General Minerals															
Alkalinity	mg/l			86	92	120	130	140	140	150	160	160	170	170	170
Anion Sum	meq/l			2.6	2.8	2.9	3.2	3.3	3.4	4.3	4.3	3.8	4	6.9	6.8
Bicarbonate as HCO3	mg/l			100	110	150	160	170	170	180	190	200	210	210	210
Boron	mg/l	1	N	ND	0.05	ND	ND	0.059	0.065	0.071	0.069	0.076	0.081	0.073	0.074
Bromide	ug/l				110		26		49		210		260		600
Calcium, Total	mg/l			9.5	9.4	32	33	37	39	49	52	45	46	91	89
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	3.4	ND
Carbonate as CO3	mg/l			3.2	2.8	2.4	2.1	2.2	2.2	2.3	2.5	2	ND	ND	2.2
Cation Sum	meq/l			2.7	2.7	3.2	3.2	3.5	3.8	4.7	4.8	4.1	4.1	7.1	6.9
Chloride	mg/l	500	S	20	20	6.4	6.1	8.7	8.3	36	32	11	10	94	91
Fluoride	mg/l	2	P	0.45	0.45	0.28	0.28	0.32	0.32	0.31	0.32	0.5	0.49	0.22	0.22
Hardness (Total, as CaCO3)	mg/l			25	25	95	97	110	120	150	150	150	150	270	260
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				38		8.4		14		44		17		74
Iron, Total	mg/l	0.3	S	ND	ND	ND	0.026	ND	0.022	0.062	0.052	0.099	0.088	0.096	0.078
Langelier Index - 25 degree	None			0.26	0.13	0.58	0.6	0.67	0.67	0.78	0.82	0.7	0.67	0.89	1
Magnesium, Total	mg/l			0.35	0.34	3.6	3.6	4.8	4.9	6	5.8	8.6	8.3	9.6	9.2
Manganese, Total	ug/l	50	S	3.6	3.2	16	19	23	24	83	74	52	ND	230	260
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			ND	2.1	1.9	2.2	2.3	2.7	2.9	2.5	2.5	2.5	3.8	3.5
Sodium, Total	mg/l			51	51	30	29	28	31	39	39	24	24	38	37
Sulfate	mg/l	500	S	15	16	16	16	15	15	14	14	13	13	38	37
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.058	0.054	ND	ND	0.081	0.088
Total Dissolved Solid (TDS)	mg/l	1000	S	170	180	180	210	220	230	260	270	250	250	470	490
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.97	0.75	0.4	ND	0.41	ND	0.68	ND	0.39	ND	0.89	0.79
General Physical Properties															
Apparent Color	ACU	15	S	15	15	3	ND	3	ND	5	3	3	3	5	ND
Lab pH	Units			8.7	8.6	8.4	8.3	8.3	8.3	8.3	8.3	8.2	8.1	8	8.2
Odor	TON	3	S	ND	8	ND	2	ND	1	1	2	ND	2	ND	1
Specific Conductance	umho/cm	1600	S	300	290	320	320	360	360	470	460	410	400	770	760
Turbidity	NTU	5	S	2.1	1.5	0.85	0.62	2	0.95	0.22	0.9	0.25	0.35	0.38	0.35
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	12	13	5.3	7.2	ND	1.4	10	10	3.7	ND	28	29
Barium, Total	ug/l	1000	P	15	15	23	23	30	29	160	150	110	ND	270	280
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			30	5.4	1.5	ND	6.9	0.69	9.8	0.31	4.6	1.1	3.8	0.68
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Lakewood #2															
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7		Zone 8	
				5/29/2014	9/16/2014	5/29/2014	9/16/2014	5/29/2014	9/16/2014	5/29/2014	9/16/2014	5/29/2014	9/16/2014	5/29/2014	9/16/2014	5/29/2014	9/16/2014	5/29/2014	9/16/2014
General Minerals																			
Alkalinity	mg/l			88	98	120	130	120	130	160	170	150	180	170	180	160	170	180	190
Anion Sum	meq/l			3.2	3.4	2.8	3.1	2.8	3	4.5	4.8	3.6	4.2	3.8	4.1	3.6	3.8	4	4.1
Bicarbonate as HCO3	mg/l			110	120	140	160	140	150	190	210	190	210	210	220	190	200	220	230
Boron	mg/l	1	N	0.058	0.063	0.05	0.054	ND	ND	0.066	0.069	0.065	0.07	0.06	0.065	0.067	0.066	0.075	0.081
Bromide	ug/l			48	25	25	32	32	36	36	25	25	20	39	43	47	47	47	43
Calcium, Total	mg/l			10	10	23	23	25	26	61	62	50	30	32	33	52	53	44	47
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	3.1	ND	2	ND	ND	2.5	ND	2.9	ND	ND
Carbonate as CO3	mg/l			2.3	2.5	ND	ND	2.3	ND	ND	ND	2	2.7	2.7	2.3	ND	ND	ND	ND
Cation Sum	meq/l			3.6	3.6	3.2	3.2	3.1	3.2	5	5	4.4	4.8	4.4	4.4	4.1	4.1	4.6	4.7
Chloride	mg/l	500	S	13	13	5.5	5.3	5.7	5.5	13	12	5.7	6.5	5.5	5.3	5.5	5.3	6.5	6.3
Fluoride	mg/l	2	P	0.45	0.46	0.35	0.34	0.29	0.28	0.42	0.42	0.34	0.36	0.39	0.38	0.24	0.24	0.38	0.37
Hardness (Total, as CaCO3)	mg/l			27	26	71	71	73	75	190	190	140	88	100	100	140	150	140	140
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			29	10	13	13	13	13	8.4	8.4	6.5	6.5	8.9	32	32	32	32	32
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.63	0.8	0.026	0.027	0.057	0.065	0.035	0.051	0.051	0.051
Langelier Index - 25 degree	None			0.085	0.14	0.39	0.37	0.46	0.44	0.67	0.73	0.63	0.67	0.66	0.67	0.71	0.68	0.66	0.66
Magnesium, Total	mg/l			0.42	0.39	3.4	3.3	2.5	2.4	10	9.6	4.6	3.3	5.2	5.2	3.9	3.8	6.2	6.3
Manganese, Total	ug/l	50	S	5	11	10	11	15	16	8.8	8.1	69	62	83	88	98	95	130	130
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.47	0.46	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			1.1	1	2.3	2.2	1.7	1.8	3.3	3.1	2.4	2.6	2.6	2.5	2.4	2.4	2.7	2.8
Sodium, Total	mg/l			69	69	40	39	36	37	24	24	34	67	54	53	25	25	42	40
Sulfate	mg/l	500	S	50	53	14	14	11	11	43	42	16	24	12	11	15	15	7.2	7.4
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	220	230	190	200	170	190	290	300	260	330	250	280	240	240	260	280
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.47	0.46	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.72	0.63	0.47	0.4	0.65	0.68	ND	0.38	0.78	ND	1.2	1.2	0.39	0.31	0.83	0.65
General Physical Properties																			
Apparent Color	ACU	15	S	10	5	5	5	5	5	ND	ND	ND	ND	5	5	ND	ND	5	ND
Lab pH	Units			8.5	8.5	8.3	8.2	8.4	8.3	8	8.1	8.2	8.3	8.3	8.2	8.1	8.1	8.1	8.1
Odor	TON	3	S	2	2	1	2	1	2	ND	1	1	2	1	2	ND	2	ND	2
Specific Conductance	umho/cm	1600	S	370	370	310	310	300	300	480	480	380	430	410	410	390	390	430	430
Turbidity	NTU	5	S	0.33	0.26	0.21	0.13	0.27	0.17	0.76	0.56	39	230	0.24	0.55	0.2	0.66	0.26	0.13
Metals																			
Aluminum, Total	ug/l	1000	P	ND	30	ND	ND	ND	ND	ND	ND	30	1300	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	16	17	ND	ND	2.7	2.1	3.9	3.8	24	42	23	26	40	38	61	53
Barium, Total	ug/l	1000	P	12	24	6.2	5.9	9	10	99	100	110	78	44	44	140	130	82	87
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	0.81	0.82	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	1.5	1.7	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																			
1,1-Dichloroethane	ug/l	5	P	ND	ND	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	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	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	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	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	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	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	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	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	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	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	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	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	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents																			
Methane	ug/l			1.5	0.25	5.4	0.79												

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	La Mirada #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/19/2014	9/11/2014	3/19/2014	9/11/2014	3/19/2014	9/11/2014	3/19/2014	9/11/2014	3/19/2014	9/11/2014
General Minerals													
Alkalinity	mg/l			130	140	140	130	170	170	180	180	160	170
Anion Sum	meq/l			5.4	5.7	4.1	4.1	5.1	5.2	7	7.1	14	17
Bicarbonate as HCO3	mg/l			160	170	160	160	200	200	210	220	200	210
Boron	mg/l	1	N	0.13	0.14	0.093	0.094	0.13	0.14	0.12	0.12	0.14	0.15
Bromide	ug/l				81		44		62		190		980
Calcium, Total	mg/l			14	15	8.9	9.5	20	21	48	48	110	140
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.6	ND	3.3	2.1	2	2	ND	ND	ND	ND
Cation Sum	meq/l			5.5	5.9	4.1	4.3	5.2	5.5	7.2	7.4	14	17
Chloride	mg/l	500	S	25	25	14	15	18	17	52	48	270	340
Fluoride	mg/l	2	P	0.82	0.81	0.58	0.58	0.77	0.77	0.54	0.55	0.35	0.29
Hardness (Total, as CaCO3)	mg/l			48	52	28	30	78	83	200	200	440	560
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				28		9.3		25		43		ND
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.3	0.18	0.19	0.0012	0.39	0.34	0.58	0.62	0.63	0.89
Magnesium, Total	mg/l			3.2	3.5	1.3	1.5	6.8	7.5	19	20	40	51
Manganese, Total	ug/l	50	S	9.8	10	2.2	2.3	16	25	14	12	10	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.31	0.27	18	24
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2	2.1	1.6	1.6	2.4	2.4	2.9	2.8	3.9	4.5
Sodium, Total	mg/l			100	110	80	85	84	86	72	75	110	130
Sulfate	mg/l	500	S	92	99	46	50	57	61	93	97	99	110
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.06
Total Dissolved Solid (TDS)	mg/l	1000	S	360	370	260	270	320	320	420	430	920	1300
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.31	0.27	18	24
Total Organic Carbon	mg/l			0.41	0.34	ND	ND	0.57	0.47	0.3	0.3	0.5	0.49
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	5	3	ND	ND	ND	ND
Lab pH	Units			8.4	8.2	8.5	8.3	8.2	8.2	8	8	7.7	7.9
Odor	TON	3	S	ND	2	ND	2	ND	1	ND	2	ND	3
Specific Conductance	umho/cm	1600	S	590	590	430	420	530	520	720	710	1600	1800
Turbidity	NTU	5	S	0.075	0.083	0.12	0.14	0.14	0.13	0.1	0.07	0.15	0.19
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	5.7	6.9	7.3	8.4	7.2	12	3.1	4.7	ND	6.9
Barium, Total	ug/l	1000	P	48	52	22	25	36	59	44	43	100	140
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	1.2	2.7
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	1.4	2.1
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	6.3	ND	12	15
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			0.97	0.15	0.43	ND	1.4	0.3	0.31	ND	0.24	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	7.4	9.2

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Long Beach #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/23/2014	8/25/2014	4/23/2014	8/25/2014	4/23/2014	8/25/2014	4/23/2014	8/25/2014	4/23/2014	8/25/2014	4/23/2014	8/25/2014
General Minerals															
Alkalinity	mg/l			140	150	140	150	110	100	120	120	120	120	220	230
Anion Sum	meq/l			3.2	3.4	3.2	3.3	2.8	2.7	3.5	3.5	12	12	16	17
Bicarbonate as HCO3	mg/l			160	180	160	170	130	130	150	140	150	150	270	280
Boron	mg/l	1	N	0.18	0.18	0.17	0.17	0.077	0.08	0.052	0.056	0.12	0.13	0.093	0.1
Bromide	ug/l				87		86		45		42		480		570
Calcium, Total	mg/l			2.2	2.4	2.4	2.2	4.9	5.1	22	23	54	56	180	200
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.4	ND
Carbonate as CO3	mg/l			10	9.3	10	11	6.7	2.7	2.4	ND	ND	ND	ND	ND
Cation Sum	meq/l			3.8	3.4	3.7	3.4	2.9	3.1	3.5	3.7	12	12	16	18
Chloride	mg/l	500	S	15	14	14	14	12	11	12	12	180	170	210	200
Fluoride	mg/l	2	P	0.67	0.65	0.64	0.62	0.68	0.66	0.41	0.39	0.28	0.28	0.29	0.27
Hardness (Total, as CaCO3)	mg/l			6.4	6.5	6.6	6.3	13	14	63	66	170	170	580	640
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				21		21		7.9		5.2		11		62
Iron, Total	mg/l	0.3	S	0.042	0.023	ND	ND	ND	ND	ND	ND	0.031	0.031	0.16	0.17
Langelier Index - 25 degree	None			0.17	0.12	0.19	0.12	0.24	-0.12	0.5	0.41	0.68	0.61	1.2	1.2
Magnesium, Total	mg/l			0.21	0.13	0.14	0.19	0.25	0.26	2	2.1	8.2	8	32	34
Manganese, Total	ug/l	50	S	2.1	ND	ND	2.8	2.2	2.4	20	20	58	62	390	410
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			ND	ND	ND	ND	ND	ND	1.2	1.4	3	2.9	3.9	4.3
Sodium, Total	mg/l			84	76	82	75	61	64	51	54	190	200	99	110
Sulfate	mg/l	500	S	ND	ND	ND	ND	14	15	34	34	210	210	300	300
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.076
Total Dissolved Solid (TDS)	mg/l	1000	S	220	230	220	230	200	210	230	230	770	770	1000	1100
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.8	3	2.7	2.8	1.6	1.5	0.51	0.49	1.2	1.2	1.3	1.2
General Physical Properties															
Apparent Color	ACU	15	S	100	50	100	100	40	30	10	5	5	5	5	5
Lab pH	Units			9	8.9	9	9	8.9	8.5	8.4	8.3	8.2	8.1	8	7.9
Odor	TON	3	S	ND	2	1	2	ND	2	1	2	1	1	ND	2
Specific Conductance	umho/cm	1600	S	350	350	340	340	310	310	370	370	1300	1300	1600	1600
Turbidity	NTU	5	S	0.21	0.2	0.16	0.23	0.39	0.42	1.6	0.64	2	2.1	0.6	0.73
Metals															
Aluminum, Total	ug/l	1000	P	36	25	27	30	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	7.2	9.9
Barium, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	9.4	8.3	49	46	230	220
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.7
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			2800	560	2600	0.61	26	4.4	16	ND	2.5	0.42	13	0.15
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Long Beach #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/1/2014	9/18/2014	5/1/2014	9/18/2014	5/1/2014	9/18/2014	5/1/2014	9/18/2014	5/1/2014	9/18/2014	5/1/2014	9/18/2014
General Minerals															
Alkalinity	mg/l			270	300	170	190	130	140	140	140	270	290	270	300
Anion Sum	meq/l			6.1	6.6	4.1	4.3	3.4	3.5	5.5	5.7	17	18	20	20
Bicarbonate as HCO3	mg/l			330	360	210	230	160	170	160	170	330	350	320	360
Boron	mg/l	1	N	0.5	0.56	0.18	0.22	0.13	0.14	0.088	0.093	0.29	0.28	0.31	0.31
Bromide	ug/l				210		140		140		200		1400		1300
Calcium, Total	mg/l			6.8	7.1	15	15	11	12	48	50	190	200	220	220
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			8.5	4.7	3.4	2.4	3.3	2.2	2.1	ND	ND	2.9	ND	ND
Cation Sum	meq/l			6.9	7.1	4.6	4.6	3.5	3.7	5.7	5.8	18	18	20	20
Chloride	mg/l	500	S	21	21	20	20	24	23	51	51	140	140	170	160
Fluoride	mg/l	2	P	0.63	0.65	0.44	0.45	0.53	0.55	0.3	0.31	0.16	0.18	0.27	0.28
Hardness (Total, as CaCO3)	mg/l			23	24	45	44	32	34	140	150	600	620	700	690
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				560		41		49		49		34		39
Iron, Total	mg/l	0.3	S	0.13	0.18	0.025	0.033	ND	ND	ND	ND	0.25	0.24	0.23	0.22
Langelier Index - 25 degree	None			0.49	0.31	0.48	0.31	0.31	0.18	0.75	0.62	1.2	1.4	1.4	1.3
Magnesium, Total	mg/l			1.5	1.6	1.8	1.7	1	1.1	5.6	5.6	30	30	37	35
Manganese, Total	ug/l	50	S	15	16	15	17	6.2	6.8	27	27	200	190	360	360
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.4	2.4	1.6	1.8	1.1	1.1	2.8	2.8	5.1	5.4	6.1	5.9
Sodium, Total	mg/l			150	150	85	85	65	69	63	64	120	120	130	120
Sulfate	mg/l	500	S	ND	ND	ND	ND	0.65	ND	65	69	370	390	460	470
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.06	0.078	0.074	0.072	0.1	
Total Dissolved Solid (TDS)	mg/l	1000	S	410	430	270	290	250	240	350	370	1100	1100	1400	1300
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			7	16	3.6	1.7	2.1		1.4	1.3	1.3	1.2	1.5	1.3
General Physical Properties															
Apparent Color	ACU	15	S	400	500	40	40	30	30	10	3	10	10	5	5
Lab pH	Units			8.6	8.3	8.4	8.2	8.5	8.3	8.3	8.1	7.9	8.1	7.9	7.8
Odor	TON	3	S	1	2	1	2	1	2	1	2	1	1	2	2
Specific Conductance	umho/cm	1600	S	660	650	440	430	370	370	600	590	1700	1600	1900	1800
Turbidity	NTU	5	S	0.49	0.51	0.5	0.2	0.12	0.12	0.25	0.21	1.6	1.9	1.6	1.7
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.1	ND	ND	ND	ND	ND	1.2	1.4	5.7	4.2	8.3	8.4
Barium, Total	ug/l	1000	P	6.8	7.9	9.2	9.6	5.3	4.8	33	32	71	67	85	88
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	2.8	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	9.7	ND	12	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	9.1	ND	8.8	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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	6.8	9.8
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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	0.54	31	38
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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	0.61	0.86
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			3.7	5500	2.9	2900	33	170	13000	5.6	3900	0.48	550	6
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Long Beach #6											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/23/2014	9/25/2014	4/23/2014	9/25/2014	4/23/2014	9/25/2014	4/23/2014	9/25/2014	4/23/2014	9/25/2014	4/23/2014	9/25/2014
General Minerals															
Alkalinity	mg/l			480	530	430	420	140	160	130	140	100	120	120	130
Anion Sum	meq/l			10	11	9.1	9	3.3	3.7	3.3	3.5	2.8	3	4.2	4.4
Bicarbonate as HCO3	mg/l			580	640	520	510	170	190	160	170	120	140	140	160
Boron	mg/l	1	N	1.1	1.2	0.98	0.9	0.24	0.25	0.19	0.18	0.077	0.088	ND	ND
Bromide	ug/l				350		270		120		98		91		350
Calcium, Total	mg/l			7.6	8.2	7.2	6.5	4.9	5.3	5.9	5.9	11	12	43	48
Carbon Dioxide	mg/l			3	ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			12	8.3	13	8.3	7	4.9	6.6	4.4	3.1	ND	ND	ND
Cation Sum	meq/l			12	12	11	9.5	3.8	3.9	3.8	3.6	3.1	3.3	4.3	4.7
Chloride	mg/l	500	S	18	17	18	18	17	16	16	16	18	17	56	54
Fluoride	mg/l	2	P	0.74	0.72	0.7	0.7	0.65	0.64	0.66	0.66	0.56	0.51	0.25	0.23
Hardness (Total, as CaCO3)	mg/l			26	27	24	21	13	14	16	16	30	33	130	140
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				120		92		36		28		33		92
Iron, Total	mg/l	0.3	S	0.086	0.084	0.093	0.083	0.031	ND	0.029	0.023	ND	0.022	0.054	0.059
Langelier Index - 25 degree	None			0.69	0.57	0.7	0.43	0.31	0.13	0.36	0.13	0.34	0.12	0.54	0.38
Magnesium, Total	mg/l			1.6	1.7	1.4	1.2	0.24	0.25	0.34	0.34	0.76	0.83	4.8	5
Manganese, Total	ug/l	50	S	16	16	18	17	4	4.7	14	14	4.4	5.5	72	73
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			1.9	1.9	1.7	1.5	ND	ND	ND	ND	1	1.2	2.1	2.2
Sodium, Total	mg/l			260	260	240	210	81	83	81	75	56	59	39	42
Sulfate	mg/l	500	S	1.1	1.2	ND	ND	ND	ND	5.1	6.7	11	12	16	16
Surfactants	mg/l	0.5	S	0.053	ND	ND	ND	ND	ND	0.06	ND	0.072	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	680	670	600	540	230	210	240	200	220	180	290	230
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			22	20	18	16	4.2	4.4	3.6	3.6	1.7	1.6	0.72	0.6
General Physical Properties															
Apparent Color	ACU	15	S	350	250	300	300	200	150	100	75	40	25	3	ND
Lab pH	Units			8.5	8.3	8.6	8.4	8.8	8.6	8.8	8.6	8.6	8.3	8.2	8
Odor	TON	3	S	2	8	2	8	ND	2	1	2	1	1	1	2
Specific Conductance	umho/cm	1600	S	1100	1000	940	860	370	370	360	360	320	310	470	470
Turbidity	NTU	5	S	2.2	2.1	1.3	0.72	0.54	0.31	0.22	0.25	0.16	0.2	0.19	0.14
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	3.2	2.9	1.2	ND	ND	ND	ND	ND	ND	ND	2.2	3
Barium, Total	ug/l	1000	P	7.5	7.5	9.5	9	3.6	4.2	6.3	6.7	2.9	3.5	20	18
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			13000	13000	20000	12000	6900	4100	4400	2900	82	15	50	8.7
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Los Angeles #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/21/2014	9/15/2014	5/21/2014	9/15/2014	5/21/2014	9/15/2014	5/21/2014	9/15/2014	5/21/2014	9/15/2014
General Minerals													
Alkalinity	mg/l			160	170	160	180	160	180	180	200	190	210
Anion Sum	meq/l			5.4	5.8	5.5	6	5.6	6	9	9.2	9.9	10
Bicarbonate as HCO3	mg/l			190	210	190	210	190	220	220	250	230	260
Boron	mg/l	1	N	0.16	0.15	0.16	0.14	0.16	0.15	0.18	0.17	0.19	0.19
Bromide	ug/l				130		95		110		250		300
Calcium, Total	mg/l			55	58	61	62	59	61	98	100	110	110
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			3.1	ND	3.1	ND	3.1	ND	2.8	ND	3.8	ND
Cation Sum	meq/l			5.9	6.1	6.4	6.2	6.1	6.2	9.6	9.7	11	11
Chloride	mg/l	500	S	24	23	22	22	22	21	67	62	78	75
Fluoride	mg/l	2	P	0.3	0.3	0.47	0.48	0.4	0.41	0.42	0.44	0.42	0.42
Hardness (Total, as CaCO3)	mg/l			190	200	210	220	210	220	350	360	390	390
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				27		18		ND		4.7		ND
Iron, Total	mg/l	0.3	S	ND	ND	0.15	0.18	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1	0.69	1	0.51	0.97	0.53	1.2	0.74	1.4	0.8
Magnesium, Total	mg/l			13	13	15	15	15	16	26	27	29	29
Manganese, Total	ug/l	50	S	12	12	55	50	13	12	ND	ND	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	0.23	ND	ND	ND	ND	ND	11	9.8	14	14
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			4.1	4.1	4.2	3.4	3.4	3.3	4.5	4.2	4.6	4.5
Sodium, Total	mg/l			46	47	47	41	41	41	57	56	60	59
Sulfate	mg/l	500	S	75	78	82	86	84	85	130	130	140	140
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	360	370	360	340	370	360	580	540	650	670
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	0.23	ND	ND	ND	ND	ND	11	9.8	14	14
Total Organic Carbon	mg/l			0.45	0.43	ND	ND	ND	ND	0.39	0.37	0.43	0.42
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	5	ND	ND	ND	10	5	15	10
Lab pH	Units			8.4	8	8.4	7.8	8.4	7.9	8.3	7.8	8.4	7.8
Odor	TON	3	S	ND	1	ND	1	ND	1	ND	1	ND	1
Specific Conductance	umho/cm	1600	S	580	580	590	580	590	590	940	910	1000	1000
Turbidity	NTU	5	S	0.076	0.08	0.85	0.89	0.074	0.088	0.19	0.24	0.12	0.1
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	1.4	ND	ND	ND	1.3	ND	2.2	ND	2
Barium, Total	ug/l	1000	P	29	29	49	46	70	68	120	130	140	150
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	360	320	510	510
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.037	0.038	ND	ND	0.17	0.18	360	310	590	550
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	5.4	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	0.59	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
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	0.96	0.72	1.4	1.2
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	4	2.7	ND	ND	ND	ND	2.1	1.8	2.8	2.5
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	0.64	0.56
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	8.4	5.7	ND	ND	ND	ND	33	27	44	36
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			5	0.39	2.3	0.14	0.34	ND	0.25	ND	1.2	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	3	3.5	5.6	5.1

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Los Angeles #2							
				Zone 2		Zone 3		Zone 4		Zone 5	
				5/2/2014	9/18/2014	5/2/2014	9/18/2014	5/2/2014	9/18/2014	5/2/2014	9/18/2014
General Minerals											
Alkalinity	mg/l			280	300	280	310	300	330	260	300
Anion Sum	meq/l			18	18	18	18	20	20	21	22
Bicarbonate as HCO3	mg/l			340	370	350	380	370	400	320	360
Boron	mg/l	1	N	0.24	0.23	0.24	0.23	0.3	0.3	0.46	0.45
Bromide	ug/l				520		550		640		720
Calcium, Total	mg/l			200	200	210	200	220	210	210	210
Carbon Dioxide	mg/l			ND	ND	ND	9.9	15	ND	ND	ND
Carbonate as CO3	mg/l			2.2	2.4	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			19	18	20	19	21	21	23	23
Chloride	mg/l	500	S	220	210	260	250	330	310	170	160
Fluoride	mg/l	2	P	0.22	0.23	0.32	0.33	0.33	0.35	0.3	0.32
Hardness (Total, as CaCO3)	mg/l			720	710	740	700	780	750	800	790
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				100		72		89		52
Iron, Total	mg/l	0.3	S	0.18	0.16	1.3	1.2	1.8	1.8	10	3.4
Langelier Index - 25 degree	None			1.4	1.4	1.1	1.2	1.1	1.3	1	1.2
Magnesium, Total	mg/l			53	51	53	50	55	54	68	65
Manganese, Total	ug/l	50	S	320	350	160	170	120	130	1300	1100
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			9.5	9.2	6.9	6.8	7.9	7.8	13	11
Sodium, Total	mg/l			98	96	100	100	130	130	160	160
Sulfate	mg/l	500	S	290	300	250	260	240	240	540	560
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	1100	1100	1100	1100	1200	1200	1400	1400
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.68	0.48	0.71	0.59	0.82	0.69	4.4	3.1
General Physical Properties											
Apparent Color	ACU	15	S	5	ND	100	ND	15	25	200	50
Lab pH	Units			8	8	7.7	7.8	7.6	7.8	7.6	7.7
Odor	TON	3	S	2	1	2	2	2	2	40	4
Specific Conductance	umho/cm	1600	S	1800	1700	1800	1800	2000	2000	2000	2000
Turbidity	NTU	5	S	5.4	2.5	34	68	2.3	20	140	65
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	6200	1900
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	8.4
Arsenic, Total	ug/l	10	P	ND	4	ND	1.8	ND	2.6	15	6.7
Barium, Total	ug/l	1000	P	72	78	160	160	190	180	93	76
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	0.55
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	14	5.3
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	14	8.4
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	1.5
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	12	6.8
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	0.85	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	46	140
Volatile Organic Compounds											
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	0.74	0.77
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	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
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents											
Methane	ug/l			7.4	1.5	22	8.7	44	5.8	3.6	0.44
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Los Angeles #3											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				6/3/2014	9/10/2014	6/3/2014	9/10/2014	6/3/2014	9/10/2014	6/3/2014	9/10/2014	6/3/2014	9/10/2014	6/3/2014	9/10/2014
General Minerals															
Alkalinity	mg/l			220	240	150	170	160	180	170	190	180	200	220	240
Anion Sum	meq/l			5.9	6.2	5.3	5.6	5.4	5.8	6.2	6.6	8.3	8.7	12	12
Bicarbonate as HCO3	mg/l			260	290	190	210	190	220	210	230	220	240	260	290
Boron	mg/l	1	N	0.35	0.34	0.13	0.14	0.14	0.14	0.14	0.15	0.17	0.17	0.2	0.2
Bromide	ug/l				240		120		110		210		230		540
Calcium, Total	mg/l			16	14	57	54	61	60	64	65	91	84	140	130
Carbon Dioxide	mg/l			ND	ND	2	ND	2.5	4.5	2.7	ND	3.6	ND	4.3	ND
Carbonate as CO3	mg/l			4.2	3.8	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.5	6	6	5.6	6.2	6.2	6.3	6.6	8.9	8.3	13	12
Chloride	mg/l	500	S	37	36	23	22	22	21	40	39	55	54	120	120
Fluoride	mg/l	2	P	0.33	0.33	0.34	0.34	0.47	0.48	0.43	0.43	0.34	0.34	0.35	0.35
Hardness (Total, as CaCO3)	mg/l			64	57	200	190	210	210	220	230	320	300	480	460
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				61		32		32		46		ND		ND
Iron, Total	mg/l	0.3	S	ND	ND	0.025	0.031	ND	ND	0.036	0.052	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.56	0.44	0.75	0.6	0.69	0.55	0.75	0.67	0.83	0.68	1.1	0.96
Magnesium, Total	mg/l			5.8	5.4	14	14	14	15	15	16	23	22	33	33
Manganese, Total	ug/l	50	S	24	23	110	89	66	63	45	46	ND	ND	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	9.9	9.6	6.4	6.4
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			4.1	3.9	3.7	3.5	3.7	4	3.7	4.1	4.2	4	4.4	4.3
Sodium, Total	mg/l			120	110	43	40	43	42	42	44	55	51	65	62
Sulfate	mg/l	500	S	24	24	74	75	78	79	78	80	120	120	180	180
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	380	410	350	360	350	370	400	410	570	560	800	820
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	9.9	9.6	6.4	6.4
Total Organic Carbon	mg/l			1.8	1.7	0.32	ND	ND	ND	0.3	ND	0.45	0.43	0.41	0.38
General Physical Properties															
Apparent Color	ACU	15	S	15	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.4	8.3	8.2	8	8.1	7.9	8.1	7.9	8	7.8	8	7.8
Odor	TON	3	S	1	2	1	2	ND	2	ND	2	ND	2	ND	2
Specific Conductance	umho/cm	1600	S	640	640	570	560	590	580	660	660	880	870	1200	1200
Turbidity	NTU	5	S	0.12	0.31	0.4	0.2	0.2	0.13	0.21	0.22	0.15	0.15	0.51	0.36
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	1	1.5
Barium, Total	ug/l	1000	P	9.6	9.4	24	20	44	42	73	71	110	180	140	130
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	4.4	4.6
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	1.9	1.9	4.7	4.9
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	13
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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	4.3	4.6
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	0.85	0.8	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	0.98
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			7.6	5.7	3.9	2.9	0.2	0.8	12	8.2	ND	0.82	ND	0.64
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	1.9	1.6	2.4	1

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	Los Angeles #4											
			Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
			5/28/2014	9/10/2014	5/28/2014	9/10/2014	5/28/2014	9/10/2014	5/28/2014	9/10/2014	5/28/2014	9/10/2014	5/28/2014	9/10/2014
General Minerals														
Alkalinity	mg/l		1400	1500	390	440	150	160	150	170	150	170	180	270
Anion Sum	meq/l		28	31	8.1	9	5.3	5.4	5.3	5.6	5.3	5.6	7.1	9.5
Bicarbonate as HCO3	mg/l		1600	1800	480	530	190	200	190	210	180	210	220	320
Boron	mg/l	1 N	5.6	5.6	0.53	0.5	0.12	0.12	0.13	0.12	0.13	0.13	0.18	0.22
Bromide	ug/l			580		64		95		100		100		320
Calcium, Total	mg/l		12	12	18	16	56	54	56	55	53	50	61	73
Carbon Dioxide	mg/l		ND	ND	3.1	ND	ND	ND	2	ND	ND	ND	2.3	4.2
Carbonate as CO3	mg/l		33	29	7.8	5.4	2.5	ND	2	ND	2.3	2.2	2.3	2.6
Cation Sum	meq/l		32	33	9.3	9	5.7	5.7	5.9	5.8	6	5.6	8.2	9.8
Chloride	mg/l	500 S	31	29	7.9	7.8	20	19	20	20	21	20	40	46
Fluoride	mg/l	2 P	0.41	0.41	0.28	0.27	0.32	0.32	0.42	0.41	0.38	0.37	0.36	0.32
Hardness (Total, as CaCO3)	mg/l		33	57	75	70	190	180	190	190	180	170	210	260
Hydroxide as OH, Calculated	mg/l		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			33		13		24		35		25		6.8
Iron, Total	mg/l	0.3 S	0.75	0.76	0.14	0.12	ND	ND	ND	ND	0.027	0.04	ND	ND
Langelier Index - 25 degree	None		1.4	1.2	0.91	0.74	0.87	0.73	0.82	0.7	0.84	0.74	0.94	1.1
Magnesium, Total	mg/l		6.7	6.6	7.3	7.3	12	12	13	13	11	11	14	18
Manganese, Total	ug/l	50 S	37	41	51	50	35	33	58	56	42	46	74	73
Mercury	ug/l	2 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	4
Nitrite, as Nitrogen	mg/l	1 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l		13	13	11	10	2.9	3.1	3.6	3.7	3.9	3.6	5.4	5.8
Sodium, Total	mg/l		710	720	170	170	44	44	44	43	55	48	88	100
Sulfate	mg/l	500 S	5.1	4.1	1.8	1.6	77	77	76	78	78	80	100	120
Surfactants	mg/l	0.5 S	ND	ND	ND	ND	ND	ND	ND	0.14	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000 S	2100	2100	480	530	330	340	330	340	340	350	440	590
Total Nitrogen, Nitrate+Nitrite	mg/l	10 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	4
Total Organic Carbon	mg/l		150	120	6.6	6.5	ND	ND	ND	ND	0.5	0.39	0.42	0.4
General Physical Properties														
Apparent Color	ACU	15 S	1000	1200	100	100	3	ND	ND	ND	5	ND	5	ND
Lab pH	Units		8.5	8.4	8.4	8.2	8.3	8.1	8.2	8.1	8.3	8.2	8.2	8.1
Odor	TON	3 S	1	4	1	2	ND	2	ND	2	1	2	1	2
Specific Conductance	umho/cm	1600 S	2800	2800	870	870	550	540	560	560	570	560	740	950
Turbidity	NTU	5 S	0.65	0.69	21	8.9	0.09	0.36	0.082	0.093	0.41	0.35	2.4	2
Metals														
Aluminum, Total	ug/l	1000 P	20	37	25	25	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10 P	4	3.3	6.7	5.4	ND	ND	2	2.3	1.4	1.5	4.6	4.8
Barium, Total	ug/l	1000 P	39	39	31	32	14	15	42	49	44	44	49	52
Beryllium, Total	ug/l	4 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300 P	ND	2.4	ND	2	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50 P	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	1.9
Hexavalent Chromium (Cr VI)	ug/l	10 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	1.8
Lead, Total	ug/l	15 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	28
Silver, Total	ug/l	100 S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000 S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds														
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5 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
Carbon Tetrachloride	ug/l	0.5 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l		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
Di-Isopropyl Ether	ug/l		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5 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
Styrene	ug/l	100 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l		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
Toluene	ug/l	150 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80 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
Trichloroethylene (TCE)	ug/l	5 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents														
Methane	ug/l		9600	1100	7400	4900	8.6	4.4	76	48	3.8	1.6	44	23
Perchlorate	ug/l	6 P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.73

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Montebello #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/17/2014	9/22/2014	4/17/2014	9/22/2014	4/17/2014	9/22/2014	4/17/2014	9/22/2014	4/17/2014	9/22/2014
General Minerals													
Alkalinity	mg/l			800	850	520	560	170	180	160	170	160	190
Anion Sum	meq/l			35	37	14	15	8	8.2	7.9	7.9	7	7.7
Bicarbonate as HCO3	mg/l			970	1000	630	680	210	220	200	210	200	230
Boron	mg/l	1	N	6	6.2	2.2	2.3	0.18	0.15	0.11	0.14	0.2	0.2
Bromide	ug/l				4500		860		200		220		180
Calcium, Total	mg/l			13	14	15	16	95	95	95	84	72	73
Carbon Dioxide	mg/l			4	ND	2.6	ND	ND	ND	ND	2.2	4.1	ND
Carbonate as CO3	mg/l			25	16	16	8.8	2.7	ND	2.6	2.2	ND	ND
Cation Sum	meq/l			38	39	15	15	8.6	8.2	8.3	7.9	7.7	7.6
Chloride	mg/l	500	S	680	700	130	120	65	61	68	65	60	64
Fluoride	mg/l	2	P	0.48	0.48	0.48	0.35	0.19	0.17	0.28	0.32	0.41	0.4
Hardness (Total, as CaCO3)	mg/l			57	60	64	67	310	300	310	280	240	240
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				1100		210		37		35		ND
Iron, Total	mg/l	0.3	S	0.15	0.15	0.18	0.19	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.2	1.1	1.1	0.86	1.2	0.94	1.1	0.95	0.65	0.68
Magnesium, Total	mg/l			6	6.1	6.5	6.6	17	16	17	16	15	15
Manganese, Total	ug/l	50	S	14	11	46	28	83	80	44	16	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	3	3.4
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			8.4	8	5.5	5.4	3.7	3.6	3.6	3.4	3.2	3.2
Sodium, Total	mg/l			840	860	320	320	54	47	48	54	65	61
Sulfate	mg/l	500	S	ND	ND	ND	ND	130	130	130	120	87	92
Surfactants	mg/l	0.5	S	ND	0.051	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	2200	2200	900	910	510	530	530	530	450	490
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	3	3.4
Total Organic Carbon	mg/l			30	29	22	23	0.88	0.75	0.58	0.43	0.6	0.38
General Physical Properties													
Apparent Color	ACU	15	S	400	500	200	300	10	3	ND	ND	ND	ND
Lab pH	Units			8.6	8.4	8.6	8.3	8.3	8	8.3	8.2	7.9	7.9
Odor	TON	3	S	2	2	1	2	1	2	ND	2	1	1
Specific Conductance	umho/cm	1600	S	3700	3800	1400	1400	820	790	810	790	750	770
Turbidity	NTU	5	S	0.54	0.42	0.33	0.31	0.36	0.22	0.16	0.12	0.19	0.1
Metals													
Aluminum, Total	ug/l	1000	P	38	ND	39	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	1.2	ND	ND	ND	ND	2.2	1.4	1.6	1.5
Barium, Total	ug/l	1000	P	55	40	52	24	43	38	80	73	52	57
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.059	ND	ND	ND	ND	ND	ND	ND	0.21	0.31
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	10	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			14000	20000	16000	12000	340	21	48	1.7	23	0.38
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	0.52	0.86

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Norwalk #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/23/2014	9/3/2014	5/23/2014	9/3/2014	5/23/2014	9/3/2014	5/23/2014	9/3/2014	5/23/2014	9/3/2014
General Minerals													
Alkalinity	mg/l			230	260	150	170	110	130	120	130	170	190
Anion Sum	meq/l			7.8	8.1	4.7	4.9	4.2	4.4	3.2	3.4	7.4	7.3
Bicarbonate as HCO3	mg/l			280	310	180	200	140	160	140	150	210	230
Boron	mg/l	1	N	0.39	0.37	0.2	0.19	0.052	ND	0.05	ND	0.083	0.075
Bromide	ug/l				270		250		350		120		580
Calcium, Total	mg/l			13	14	8.8	9.1	26	30	28	29	70	70
Carbon Dioxide	mg/l			2.9	ND	ND	ND	ND	ND	ND	ND	4.3	ND
Carbonate as CO3	mg/l			2.9	4	3.7	3.3	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			8.8	8.4	5.2	5.2	4.4	4.7	3.5	3.6	7.8	7.8
Chloride	mg/l	500	S	63	58	58	54	59	61	24	23	130	120
Fluoride	mg/l	2	P	0.5	0.5	0.59	0.59	0.28	0.28	0.32	0.31	0.27	0.28
Hardness (Total, as CaCO3)	mg/l			60	63	27	28	74	86	92	96	240	240
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				77		89		100		23		100
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.03	ND	0.11	0.12
Langelier Index - 25 degree	None			0.3	0.47	0.22	0.26	0.39	0.078	0.38	0.32	0.63	0.72
Magnesium, Total	mg/l			6.8	6.8	1.2	1.2	2.3	2.6	5.4	5.8	16	16
Manganese, Total	ug/l	50	S	2.1	ND	6.5	5.8	19	21	36	39	140	140
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.8	2.5	1.4	1.2	2.2	2.3	1.8	1.9	3.6	3.5
Sodium, Total	mg/l			170	160	110	110	66	67	37	38	67	66
Sulfate	mg/l	500	S	63	62	ND	ND	8.1	6.1	8	8.5	6.2	5.8
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.19	0.21
Total Dissolved Solid (TDS)	mg/l	1000	S	510	510	310	310	250	300	220	210	470	460
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2	2	2.7	2.9	0.57	ND	0.48	0.45	1.7	1.6
General Physical Properties													
Apparent Color	ACU	15	S	20	15	35	30	ND	ND	15	3	15	ND
Lab pH	Units			8.2	8.3	8.5	8.4	8.3	7.8	8.2	8.1	7.9	8
Odor	TON	3	S	200	200	2	2	2	2	2	2	2	8
Specific Conductance	umho/cm	1600	S	850	860	520	530	460	520	350	360	830	800
Turbidity	NTU	5	S	0.14	0.14	0.17	0.47	0.67	0.3	11	4.8	28	26
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	1.8	ND	ND	5.7	7	17	18	13	14
Barium, Total	ug/l	1000	P	14	14	7.2	6.6	91	98	120	120	350	330
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	7.3	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	2.2	2
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			890	410	5000	3000	24	9.5	67	13	71	12
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Norwalk #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/7/2014	9/11/2014	5/7/2014	9/11/2014	5/7/2014	9/11/2014	5/7/2014	9/11/2014	5/7/2014	9/11/2014	5/7/2014	9/11/2014
General Minerals															
Alkalinity	mg/l			170	170	160	170	140	140	150	160	140	150	160	170
Anion Sum	meq/l			7	7.7	4.4	4.6	3.9	4	5.4	5.6	7.4	7.8	8	8.2
Bicarbonate as HCO3	mg/l			200	200	200	210	170	170	180	190	170	190	200	210
Boron	mg/l	1	N	0.22	0.21	0.23	0.23	ND	ND	0.056	ND	0.13	0.14	0.18	0.18
Bromide	ug/l				200		130		45		64		140		150
Calcium, Total	mg/l			51	68	12	11	42	41	66	65	80	79	81	78
Carbon Dioxide	mg/l			2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6	ND
Carbonate as CO3	mg/l			2	ND	4.1	2.7	2.8	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			7.4	7.9	4.8	4.8	4.2	4.1	5.7	5.7	7.5	7.6	8.2	8.1
Chloride	mg/l	500	S	71	74	30	30	13	13	26	26	72	73	76	74
Fluoride	mg/l	2	P	0.33	0.29	0.46	0.48	0.2	0.22	0.28	0.3	1.3	0.26	0.36	0.38
Hardness (Total, as CaCO3)	mg/l			170	230	39	38	130	120	210	210	270	270	280	270
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				39		45		8.8		ND		7.9		ND
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.78	0.76	0.4	0.26	0.75	0.62	0.85	0.77	0.85	0.82	0.82	0.71
Magnesium, Total	mg/l			11	15	2.3	2.5	5.3	5.2	12	12	17	17	18	18
Manganese, Total	ug/l	50	S	12	14	14	15	21	20	ND	ND	19	14	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	0.3	ND	ND	ND	ND	1.2	1.3	2.5	2.7	2.2	2.1
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.8	4.1	2.5	2.3	2.7	2.6	3.4	3.3	4.1	4	4.1	4
Sodium, Total	mg/l			88	71	91	92	37	36	31	31	46	47	61	61
Sulfate	mg/l	500	S	80	110	12	12	36	37	74	76	110	120	110	120
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	440	480	280	290	250	250	350	360	460	480	480	520
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	0.3	ND	ND	ND	ND	1.2	1.3	2.5	2.7	2.2	2.1
Total Organic Carbon	mg/l			1.2	0.79	1.2	1.1	0.42	0.35	0.3	ND	0.52	0.43	0.51	0.45
General Physical Properties															
Apparent Color	ACU	15	S	10	ND	20	15	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.2	8.1	8.5	8.3	8.4	8.2	8.2	8.1	8.2	8.1	8.1	7.9
Odor	TON	3	S	ND	2	1	2	1	2	ND	2	ND	2	ND	2
Specific Conductance	umho/cm	1600	S	740	780	470	470	410	400	560	560	760	770	830	810
Turbidity	NTU	5	S	0.11	0.27	0.12	0.16	0.092	0.25	0.1	0.063	0.068	0.12	0.083	0.17
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.6	3.8	ND	1.1	ND	ND	2.2	2.8	2.5	3.3	1.6	2.7
Barium, Total	ug/l	1000	P	49	65	9.7	10	29	29	150	140	76	74	54	54
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	2.7	3	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	3	3.2	0.94	0.82	0.72	0.73
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			3.9	0.84	7.3	1.5	5.6	1.1	ND	0.4	0.12	ND	ND	0.37
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	1.8	1.7	1.4	1.1	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Pico #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/9/2014	4/9/2014	9/29/2014	4/9/2014	9/29/2014	4/9/2014	9/29/2014	
General Minerals											
Alkalinity	mg/l			290	170	170	130	200	160	170	
Anion Sum	meq/l			5.9	6.1	6	4.8	9.2	9.3	9.6	
Bicarbonate as HCO3	mg/l			350	200	200	160	240	190	210	
Boron	mg/l	1	N	0.63	0.06	0.069	0.089	0.14	0.21	0.23	
Bromide	ug/l					74		180		180	
Calcium, Total	mg/l			9	75	76	54	120	95	94	
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	
Carbonate as CO3	mg/l			3.6	3.3	ND	3.3	ND	2.5	ND	
Cation Sum	meq/l			6.2	6.1	6.1	5.1	9.7	9.5	9.6	
Chloride	mg/l	500	S	2.9	29	25	22	79	110	100	
Fluoride	mg/l	2	P	0.26	0.26	0.25	0.29	0.35	0.3	0.34	
Hardness (Total, as CaCO3)	mg/l			37	240	250	180	390	320	310	
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	
Iodide	mg/l					4.6		13		3.4	
Iron, Total	mg/l	0.3	S	0.11	0.32	0.3	0.2	0.4	ND	ND	
Langelier Index - 25 degree	None			0.23	1.1	0.49	1	0.77	1.1	0.57	
Magnesium, Total	mg/l			3.5	14	14	12	21	19	18	
Manganese, Total	ug/l	50	S	36	26	23	11	16	ND	ND	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	1.9	1.8	
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	
Potassium, Total	mg/l			3.9	3.1	3	3.2	4.3	4.8	4.8	
Sodium, Total	mg/l			120	25	25	31	46	71	75	
Sulfate	mg/l	500	S	0.6	92	90	73	150	140	150	
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	
Total Dissolved Solid (TDS)	mg/l	1000	S	340	370	310	310	500	600	580	
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	1.9	1.8	
Total Organic Carbon	mg/l			2.6	ND	0.36	ND	0.53	0.58	0.59	
General Physical Properties											
Apparent Color	ACU	15	S	50	10	10	5	10	ND	ND	
Lab pH	Units			8.2	8.4	7.7	8.5	7.8	8.3	7.7	
Odor	TON	3	S	2	ND	2	ND	2	1	2	
Specific Conductance	umho/cm	1600	S	560	610	580	520	890	1000	970	
Turbidity	NTU	5	S	30	2.4	2.3	1.8	4.2	0.35	0.072	
Metals											
Aluminum, Total	ug/l	1000	P	26	ND	ND	ND	ND	ND	ND	
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	
Arsenic, Total	ug/l	10	P	5.6	ND	ND	ND	ND	3.1	3.1	
Barium, Total	ug/l	1000	P	17	100	92	31	69	61	58	
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	0.3	0.28	
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	0.64	ND	
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	
Volatile Organic Compounds											
1,1-Dichloroethane	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	
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	
Other Constituents											
Methane	ug/l			1000	0.28	0.95	ND	0.65	ND	0.4	
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Pico #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/19/2014	9/17/2014	5/19/2014	9/17/2014	5/19/2014	9/17/2014	5/19/2014	9/17/2014	5/19/2014	9/17/2014	5/19/2014	9/17/2014
General Minerals															
Alkalinity	mg/l			190	200	190	220	170	180	120	130	110	120	130	140
Anion Sum	meq/l			8.5	8.7	9.6	9.9	8.4	8.6	7.4	7.6	7.1	7.3	8.2	9.6
Bicarbonate as HCO3	mg/l			230	240	230	260	210	220	140	160	140	150	160	180
Boron	mg/l	1	N	0.065	0.057	0.15	0.15	0.15	0.15	0.23	0.21	0.2	0.19	0.26	0.28
Bromide	ug/l				280		210		860		130		120		25
Calcium, Total	mg/l			120	120	120	120	100	100	66	65	55	59	57	72
Carbon Dioxide	mg/l			ND	ND	ND	ND	3.4	ND	2.3	ND	3.6	ND	6.6	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			9	9	10	10	9	8.7	7.9	7.8	7.4	7.7	8.6	10
Chloride	mg/l	500	S	56	53	88	82	76	73	92	90	89	91	110	120
Fluoride	mg/l	2	P	0.25	0.24	0.28	0.27	0.32	0.31	0.34	0.34	0.41	0.41	0.34	0.32
Hardness (Total, as CaCO3)	mg/l			390	390	410	400	340	330	230	220	200	210	220	270
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				ND		ND		ND		ND		4		ND
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.022
Langelier Index - 25 degree	None			1	1.1	1	1	0.89	1	0.49	0.44	0.25	0.47	0.16	0.36
Magnesium, Total	mg/l			22	21	26	25	22	20	15	14	16	16	20	23
Manganese, Total	ug/l	50	S	ND	ND	3.1	2.6	ND	ND	ND	ND	29	33	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	3.2	3.1	2.5	2.4	3.1	3	3.3	3.9	3.7	4.4	5.3	5.6
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.9	3.8	4.2	4	4.4	4.1	3.9	3.9	4.5	4.5	8.6	9.1
Sodium, Total	mg/l			26	26	42	40	46	44	76	76	74	75	90	100
Sulfate	mg/l	500	S	140	140	150	150	120	130	110	100	95	94	100	140
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	530	520	580	630	510	540	460	490	470	470	530	640
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	3.2	3.1	2.5	2.4	3.1	3	3.3	3.9	3.7	4.4	5.3	5.6
Total Organic Carbon	mg/l			ND	0.42	0.45	0.46	0.38	0.37	0.56	0.58	0.72	0.68	0.84	0.99
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	5	10
Lab pH	Units			8.1	8.1	8	7.9	8	8.1	8	7.9	7.8	8	7.6	7.7
Odor	TON	3	S	ND	1	1	2	1	1	ND	2	1	1	1	2
Specific Conductance	umho/cm	1600	S	860	840	980	970	880	860	810	800	770	790	900	1000
Turbidity	NTU	5	S	0.12	0.21	0.1	0.3	0.35	0.51	0.3	0.51	0.12	0.15	2.7	12
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.1	1.9	3	4.1	1.5	2.2	2.1	3.1	ND	1.8	12	11
Barium, Total	ug/l	1000	P	130	140	110	110	84	94	53	55	70	80	150	180
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	1.2	1.3	0.66	0.72	1	1.1	0.33	0.49	0.099	0.18	0.44	0.36
Lead, Total	ug/l	15	P	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	0.69	0.82	1.2	1.2	3	2.8	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	0.87	0.66	ND	ND	3.9	3.1
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			ND	0.98	ND	ND	ND	0.19	ND	ND	ND	0.11	ND	ND
Perchlorate	ug/l	6	P	1.9	1.9	0.78	0.62	1.1	1	ND	ND	ND	ND	1	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Rio Hondo #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/8/2014	9/9/2014	4/8/2014	9/9/2014	4/8/2014	9/9/2014	4/8/2014	9/9/2014	4/8/2014	9/9/2014	4/8/2014	9/9/2014
General Minerals															
Alkalinity	mg/l			140	140	150	160	140	170	100	110	100	100	110	120
Anion Sum	mcq/l			4.4	4.3	6.9	7.2	6.9	7.4	5.5	5.7	4.8	5	5.9	6.2
Bicarbonate as HCO3	mg/l			170	170	190	200	170	200	130	140	130	130	130	150
Boron	mg/l	1	N	0.058	0.065	0.051	0.053	0.14	0.17	0.15	0.16	0.1	0.12	0.11	0.13
Bromide	ug/l				95		130		140		95		86		100
Calcium, Total	mg/l			38	42	84	97	79	87	46	49	38	45	49	55
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND
Cation Sum	mcq/l			4.3	4.7	6.7	7.4	7.2	7.9	5.4	5.7	4.6	5.2	5.8	6.2
Chloride	mg/l	500	S	18	18	47	46	64	61	57	56	47	49	71	69
Fluoride	mg/l	2	P	0.27	0.26	0.23	0.22	0.32	0.31	0.39	0.37	0.37	0.35	0.3	0.28
Hardness (Total, as CaCO3)	mg/l			130	140	280	310	260	280	150	160	130	150	180	190
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				28		4.8		ND		ND		ND		ND
Iron, Total	mg/l	0.3	S	ND	ND	0.068	0.077	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.53	0.56	0.68	0.79	1	0.73	0.62	0.22	0.54	0.11	0.71	0.11
Magnesium, Total	mg/l			8.2	8.6	16	17	15	16	9.6	9.6	8.7	9.7	14	14
Manganese, Total	ug/l	50	S	19	17	31	31	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	1.8	1.9	1.8	1.9	1.7	1.9	3.6	3.7
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.8	2.9	3.3	3.6	3.7	3.9	3.2	3.3	2.9	3.3	4	4.2
Sodium, Total	mg/l			38	41	24	26	45	49	51	54	43	48	48	51
Sulfate	mg/l	500	S	47	49	120	130	100	100	79	79	61	65	68	76
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.058	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	280	300	440	480	460	500	360	380	320	330	370	400
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	1.8	1.9	1.8	1.9	1.7	1.9	3.6	3.7
Total Organic Carbon	mg/l			0.5	0.39	0.44	0.36	0.5	0.48	0.47	0.41	0.4	0.41	0.49	0.39
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.2	8.2	7.9	8	8.3	7.9	8.3	7.8	8.3	7.8	8.3	7.6
Odor	TON	3	S	1	1	1	2	1	2	ND	2	1	2	ND	2
Specific Conductance	umho/cm	1600	S	440	440	710	700	760	750	620	600	530	540	650	660
Turbidity	NTU	5	S	0.7	0.25	0.26	0.29	0.06	0.067	0.062	0.063	0.58	1	0.22	0.29
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	1.4	ND	2.3	2	3.6	2.2	4.7	2	3.7	ND	3
Barium, Total	ug/l	1000	P	18	16	54	51	120	120	48	46	50	52	110	110
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	1	ND	1.8	ND	ND	ND	ND	ND	1.1	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	0.54	0.52	0.42	0.4	0.38	0.38	0.45	0.51
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.72	2.7	2.1
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			3.8	0.59	0.31	0.22	ND	0.1	ND	0.13	ND	0.16	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	0.6	ND	0.58	ND	ND	ND	0.65

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Seal Beach #1													
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				4/24/2014	8/27/2014	4/24/2014	8/27/2014	4/24/2014	8/27/2014	4/24/2014	8/27/2014	4/24/2014	8/27/2014	4/24/2014	8/27/2014	4/24/2014	8/27/2014
General Minerals																	
Alkalinity	mg/l			180	200	140	150	140	130	170	180	120	100	98	97	170	200
Anion Sum	meq/l			4.2	4.4	3.3	3.4	3.2	2.9	4.1	4.1	3.4	3.1	6.8	6.5	33	34
Bicarbonate as HCO3	mg/l			220	240	170	180	160	150	210	220	140	130	120	120	200	240
Boron	mg/l	1	N	0.25	0.24	0.15	0.13	0.2	0.19	0.25	0.24	0.075	0.058	0.13	0.12	0.13	0.15
Bromide	ug/l				160		100		91		140		51		180		3600
Calcium, Total	mg/l			4.6	4.5	3.6	3.5	3.5	3.5	5.6	5.4	6.7	8.8	60	54	310	290
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			9	6.2	11	9.3	10	4.9	6.8	2.3	2.9	2.7	ND	ND	ND	ND
Cation Sum	meq/l			4.8	4.5	3.8	3.6	3.6	3.4	4.6	4.2	3.4	3.3	7.2	6.4	32	32
Chloride	mg/l	500	S	17	16	15	14	14	13	19	18	14	15	80	76	880	880
Fluoride	mg/l	2	P	0.43	0.44	0.52	0.52	0.58	0.57	0.82	0.78	0.62	0.55	0.36	0.36	0.36	0.36
Hardness (Total, as CaCO3)	mg/l			14	13	11	10	10	9.8	18	16	23	27	200	180	1000	980
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				56		27		21		39		8.8		17		190
Iron, Total	mg/l	0.3	S	0.054	0.035	0.036	0.021	0.024	ND	0.042	0.026	ND	ND	ND	ND	0.18	0.2
Langelier Index - 25 degree	None			0.38	0.17	0.32	0.25	0.3	-0.024	0.33	-0.16	0.055	0.07	0.63	0.5	1.2	1.2
Magnesium, Total	mg/l			0.5	0.42	0.43	0.38	0.34	0.27	0.9	0.71	1.5	1.3	11	10	61	63
Manganese, Total	ug/l	50	S	14	7.2	4.4	4	4.4	2.6	13	11	10	9.2	90	76	730	770
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			ND	ND	ND	ND	ND	ND	1.2	ND	1.6	1.2	2.5	2.2	7	6.9
Sodium, Total	mg/l			100	98	82	77	77	74	98	89	67	63	72	66	260	280
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	1.9	ND	29	29	120	110	220	250	
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.055	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	290	300	220	f	210	220	260	270	220	210	440	440	2300	2600
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			7.3	6.6	3.6	3.4	3	3	5.5	4.8	1.4	0.83	1.5	1.3	0.57	0.48
General Physical Properties																	
Apparent Color	ACU	15	S	300	300	150	150	100	100	200	200	20	20	5	3	5	30
Lab pH	Units			8.8	8.6	9	8.9	9	8.7	8.7	8.2	8.5	8.5	8.2	8.2	7.8	7.8
Odor	TON	3	S	1	2	ND	8	1	2	1	2	ND	1	1	1	ND	2
Specific Conductance	umho/cm	1600	S	460	450	360	360	350	340	440	410	360	350	750	700	3400	3600
Turbidity	NTU	5	S	0.33	0.31	0.47	0.53	0.34	0.45	4.5	2.9	5	3.7	0.13	0.12	1.3	43
Metals																	
Aluminum, Total	ug/l	1000	P	34	33	37	30	29	33	20	23	24	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	3.1	2.7	ND	2.4	ND	5.7
Barium, Total	ug/l	1000	P	6.2	6.6	4	4	3.6	3.7	6.4	5.9	11	11	89	87	130	120
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	0.026	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.2	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.2	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																	
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	P	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents																	
Methane	ug/l			12000	6400	4900	2500	3400	3400	9100	7700	7.4	2	11	0.76	23	6.5
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	South Gate #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				6/3/2014	9/29/2014	6/3/2014	9/29/2014	6/3/2014	9/29/2014	6/3/2014	9/29/2014	6/3/2014	9/29/2014
General Minerals													
Alkalinity	mg/l			140	150	130	140	140	150	140	160	180	200
Anion Sum	meq/l			4.6	6.7	6.2	6.5	6.3	6.7	6.8	7.1	8.7	9.2
Bicarbonate as HCO3	mg/l			180	190	150	170	170	190	170	190	210	240
Boron	mg/l	1	N	0.11	0.12	0.14	0.14	0.12	0.11	0.17	0.16	0.14	0.13
Bromide	ug/l				120		110		120		140		410
Calcium, Total	mg/l			49	75	64	69	76	71	77	74	95	92
Carbon Dioxide	mg/l			ND	ND	2.5	ND	2.8	ND	2.8	ND	3.4	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.2	6.9	6.1	6.6	6.9	6.5	7.4	7.2	9.2	8.9
Chloride	mg/l	500	S	21	46	52	50	46	45	58	56	99	98
Fluoride	mg/l	2	P	0.32	0.4	0.32	0.34	0.38	0.37	0.38	0.4	0.42	0.41
Hardness (Total, as CaCO3)	mg/l			150	250	210	220	260	240	250	250	340	330
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				ND		1		ND		ND		120
Iron, Total	mg/l	0.3	S	0.03	ND	ND	ND	ND	ND	ND	ND	0.079	0.079
Langelier Index - 25 degree				None	0.72	0.72	0.56	0.62	0.71	0.68	0.64	0.68	0.87
Magnesium, Total	mg/l			7.9	16	12	13	16	15	15	15	25	24
Manganese, Total	ug/l	50	S	38	ND	ND	ND	ND	ND	ND	ND	110	110
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	2.1	2.1	2.1	2.2	2.1	1.7	1.8	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.3	2.8	3	3.1	2.7	2.7	3.1	3.2	2.9	2.7
Sodium, Total	mg/l			46	40	43	47	40	38	52	51	54	51
Sulfate	mg/l	500	S	52	100	98	99	100	100	100	100	110	120
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	280	380	420	320	430	380	460	400	560	550
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	2.1	2.1	2.1	2.2	2.1	1.7	1.8	ND	ND
Total Organic Carbon	mg/l			0.31	ND	0.37	0.43	0.32	0.61	0.4	0.42	0.66	0.72
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.2	8	8	8	8	8	8	8	8	8
Odor	TON	3	S	1	2	ND	1	1	2	ND	2	ND	1
Specific Conductance	umho/cm	1600	S	500	660	660	650	670	660	730	710	930	910
Turbidity	NTU	5	S	0.13	0.085	0.14	0.32	0.087	0.09	0.09	0.15	0.34	0.38
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.3	3.1	2.6	2.9	2.5	2.8	2.4	2	1.9	2.6
Barium, Total	ug/l	1000	P	120	150	87	84	140	140	76	62	210	210
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.84	0.069	0.061	0.89	0.84	0.5	0.5	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	0.59	ND	ND	0.55	ND	3.9	3.4	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	1.2	0.94	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			0.85	2.6	ND	7	ND	2	ND	3.8	1.8	7.8
Perchlorate	ug/l	6	P	ND	2.3	0.87	0.86	2.1	2.1	ND	0.52	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	South Gate 2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				6/12/2014	9/22/2014	6/12/2014	9/22/2014	6/12/2014	9/22/2014	6/12/2014	9/22/2014	6/12/2014	9/22/2014	6/12/2014	9/22/2014
General Minerals															
Alkalinity	mg/l			150	170	160	180	160	170	160	180	160	160	180	200
Anion Sum	meq/l			5.2	5.6	5.4	5.7	5.4	5.6	6.3	6.5	5.4	5.6	5.9	6.1
Bicarbonate as HCO3	mg/l			190	200	190	220	190	210	200	210	190	200	220	240
Boron	mg/l	1	N	0.12	0.13	0.13	0.12	0.12	0.12	0.14	0.14	0.13	0.13	0.14	0.14
Bromide	ug/l				100		91		100		150		100		110
Calcium, Total	mg/l			56	56	56	56	49	53	54	62	49	54	58	60
Carbon Dioxide	mg/l			2.5	ND	2.5	ND	2.5	ND	3.3	ND	2	ND	3.6	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	2	2	ND	ND
Cation Sum	meq/l			5.8	5.7	6.1	5.8	6	5.8	6.8	6.7	6	5.9	6.4	6.3
Chloride	mg/l	500	S	20	19	21	19	21	20	36	33	22	22	23	21
Fluoride	mg/l	2	P	0.42	0.44	0.41	0.42	0.38	0.39	0.46	0.46	0.44	0.45	0.51	0.51
Hardness (Total, as CaCO3)	mg/l			190	190	190	190	160	180	200	220	170	180	210	210
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				23		21		22		5.4		13		14
Iron, Total	mg/l	0.3	S	0.038	0.042	0.1	0.11	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.71	0.6	0.71	0.62	0.64	0.56	0.6	0.62	0.68	0.74	0.65	0.62
Magnesium, Total	mg/l			13	13	12	12	10	11	15	16	11	12	15	15
Manganese, Total	ug/l	50	S	55	51	30	ND	30	29	ND	24	83	74	100	120
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.34	0.35	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.5	3.4	3.5	3.5	3.1	2.9	4.2	3.8	3.6	3.4	3	2.8
Sodium, Total	mg/l			43	40	50	44	60	48	63	51	57	48	50	46
Sulfate	mg/l	500	S	76	79	78	77	78	74	96	94	81	80	79	75
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	330	360	340	360	350	360	340	410	350	350	370	390
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.34	0.35	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.72	0.45	1	0.44	0.97	0.56	1.5	0.52	1.2	0.44	1.3	0.62
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	8.1	8	8.1	8	8	7.9	8.2	8.2	8	7.9
Odor	TON	3	S	1	2	1	1	2	2	2	2	1	2	1	1
Specific Conductance	umho/cm	1600	S	560	540	580	560	580	550	660	640	580	560	620	600
Turbidity	NTU	5	S	0.11	0.11	0.6	0.27	1	0.17	0.2	0.11	0.19	0.076	0.1	0.087
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	2	2	ND	2.5	2	ND	2	4.3	3.3	1.4	2
Barium, Total	ug/l	1000	P	62	61	72	ND	68	87	70	61	43	61	57	64
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	0.02	ND	1	1.2	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			0.64	2	0.42	0.17	0.25	0.84	ND	0.35	ND	ND	ND	0.5
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Whittier # 1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/7/2014	9/5/2014	5/7/2014	9/5/2014	5/7/2014	9/5/2014	5/7/2014	9/5/2014	5/7/2014	9/5/2014
General Minerals													
Alkalinity	mg/l			230	260	260	280	260	280	230	240	200	220
Anion Sum	meq/l			40	42	38	40	28	29	11	11	10	11
Bicarbonate as HCO3	mg/l			280	310	320	340	320	340	280	300	250	280
Boron	mg/l	1	N	0.88	0.86	0.96	0.97	0.64	0.63	0.19	0.19	0.16	0.16
Bromide	ug/l				1200		1200		870		300		310
Calcium, Total	mg/l			190	190	180	190	160	180	78	80	79	79
Carbon Dioxide	mg/l			7.3	ND	8.3	ND	6.6	ND	7.3	ND	6.5	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			39	39	38	38	28	29	12	11	11	11
Chloride	mg/l	500	S	280	270	240	230	190	180	80	75	83	78
Fluoride	mg/l	2	P	0.27	0.28	0.3	0.3	0.46	0.48	0.19	0.2	0.31	0.31
Hardness (Total, as CaCO3)	mg/l			1000	970	940	970	800	850	340	340	360	350
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				230		200		160		100		ND
Iron, Total	mg/l	0.3	S	0.57	0.54	0.44	0.44	0.32	0.32	ND	ND	ND	ND
Langelier Index - 25 degree	None			1		1.1	1.1	1.2	1.1	0.72	0.68	0.68	0.58
Magnesium, Total	mg/l			130	120	120	120	97	97	36	34	40	38
Manganese, Total	ug/l	50	S	50	51	78	75	74	68	20	22	3.1	3.8
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	3.8	3.7	5.1	4.9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			11	10	10	9.7	7.3	7.5	4.1	4	3.5	3.4
Sodium, Total	mg/l			430	440	410	430	270	280	100	100	89	86
Sulfate	mg/l	500	S	1300	1400	1300	1300	820	850	180	180	170	180
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	2700	2800	2600	2700	1900	1900	720	740	710	700
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	3.8	3.7	5.1	4.9
Total Organic Carbon	mg/l			1.9	1.6	2.3	2	1.5	1.3	0.33	ND	0.3	ND
General Physical Properties													
Apparent Color	ACU	15	S	20	15	20	15	10	10	ND	ND	ND	ND
Lab pH	Units			7.8	7.7	7.8	7.8	7.9	7.8	7.8	7.7	7.8	7.7
Odor	TON	3	S	1	1	1	1	2	1	1	1	ND	1
Specific Conductance	umho/cm	1600	S	3500	3500	3300	3300	2500	2500	1100	1100	1100	1100
Turbidity	NTU	5	S	3.5	2.9	2.8	2.2	1.8	1.3	0.069	0.068	0.23	0.34
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.3	2.1	1.3	5.5	1.1	5.5	1.8	1.6	1.1	3.6
Barium, Total	ug/l	1000	P	16	18	16	16	21	21	32	32	27	25
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	2.4	ND	1.7	ND	ND	3	4
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	3.2	3.3
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	12	5.7	10	5	7.4	ND	18	18	22	18
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			5	0.83	3.7	0.28	5.7	0.88	1.1	ND	ND	0.12
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	1.4	1.4	2.5	2.5

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Whittier #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/15/2014	9/9/2014	5/15/2014	9/9/2014	5/15/2014	9/9/2014	5/15/2014	9/9/2014	5/15/2014	9/9/2014	5/15/2014	9/9/2014
General Minerals															
Alkalinity	mg/l			240	290	150	160	180	200	350	380	190	220	300	340
Anion Sum	meq/l			15	16	3.7	4	12	12	27	27	11	11	16	17
Bicarbonate as HCO3	mg/l			290	350	180	200	220	240	420	460	230	260	360	420
Boron	mg/l	1	N	0.6	0.55	0.26	0.25	0.25	0.24	0.92	0.84	0.19	0.19	0.36	0.36
Bromide	ug/l				970		88		610		970		360		290
Calcium, Total	mg/l			110	120	24	24	86	87	130	130	120	120	160	170
Carbon Dioxide	mg/l			6	ND	ND	ND	2.9	ND	5.5	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	2.3	2	ND	ND	3.4	ND	3	ND	3.7	ND
Cation Sum	meq/l			16	16	4.2	4.2	12	12	29	28	11	12	17	18
Chloride	mg/l	500	S	200	170	14	15	130	120	240	230	120	110	97	91
Fluoride	mg/l	2	P	0.3	0.29	0.31	0.31	0.3	0.3	0.48	0.48	0.25	0.27	0.24	0.3
Hardness (Total, as CaCO3)	mg/l			410	440	78	77	370	360	690	670	400	400	560	590
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				230		21		13		220		ND		ND
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.93	0.91	0.46	0.39	0.96	0.84	1.4	1	1.3	1	1.6	1.1
Magnesium, Total	mg/l			33	34	4.5	4.1	38	35	89	83	24	24	39	40
Manganese, Total	ug/l	50	S	28	26	40	43	40	50	160	150	ND	ND	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	0.64	0.64	2.3	2.3	4.8	4.9	6.6	7.1
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			4.3	4.3	2.4	2.4	4	4.1	4.3	4.3	4.5	4.6	4.6	5
Sodium, Total	mg/l			180	170	59	60	110	120	350	320	80	79	130	130
Sulfate	mg/l	500	S	210	280	14	13	220	230	630	640	160	170	300	340
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	980	1000	250	260	790	780	1800	1800	700	730	1000	1100
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	0.64	0.64	2.3	2.3	4.8	4.9	6.6	7.1
Total Organic Carbon	mg/l			0.76	0.81	0.46	0.49	0.38	0.38	0.43	0.46	0.36	0.42	0.47	0.56
General Physical Properties															
Apparent Color	ACU	15	S	3	ND	5	ND	3	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.9	7.7	8.3	8.2	8.1	8	8.1	7.7	8.3	8	8.2	7.7
Odor	TON	3	S	1	2	ND	2	ND	2	2	2	ND	1	1	2
Specific Conductance	umho/cm	1600	S	1600	1600	400	400	1200	1200	2600	2500	1100	1100	1500	1600
Turbidity	NTU	5	S	0.16	0.64	0.063	0.082	0.083	0.17	0.06	0.1	0.15	0.16	0.12	0.21
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	5.7	ND	1.3	1.7	4.1	ND	2.8	1.5	4.4	2	4
Barium, Total	ug/l	1000	P	25	28	24	24	50	48	14	13	79	75	35	34
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	3.2	2.5	ND	ND	2.3	1.8	4.3	3.8
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	3.1	3.1	0.032	0.026	2.1	2.1	4.3	4.1
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	9.2	8.8	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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	0.68	1
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	0.72	0.66	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			2300	1900	44	40	1.8	0.34	2.6	1.5	1.1	1.3	1.2	41
Perchlorate	ug/l	6	P	ND	ND	ND	ND	1.6	1.6	1.8	2.1	2.4	2.6	2.4	2.6

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Whittier Narrows #1																	
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7		Zone 8		Zone 9	
				3/19/2014	9/17/2014	3/19/2014	9/17/2014	3/19/2014	9/17/2014	3/19/2014	9/17/2014	3/19/2014	9/17/2014	3/19/2014	9/17/2014	3/19/2014	9/17/2014	3/19/2014	9/17/2014	3/19/2014	9/17/2014
General Minerals																					
Alkalinity	mg/l			92	110	140	150	120	160	160	170	180									
Anion Sum	meq/l			16	3.2	7.2	8.1	4.3	9.1	9.2	9.1	9.8									
Bicarbonate as HCO3	mg/l			110	130	160	180	150	200	190	210	220									
Boron	mg/l	1	N	1.1	0.15	0.07	0.11	0.054	0.24	0.26	0.25	0.24									
Bromide	ug/l			5500	210	170	200	68	37	33	160	170									
Calcium, Total	mg/l			57	11	100	110	55	93	84	84	80									
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND									
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND									
Cation Sum	meq/l			18	3.3	7.3	8.4	4.5	9.3	9.6	9.8	10									
Chloride	mg/l	500	S	520	26	75	92	28	100	100	100	110									
Fluoride	mg/l	2	P	0.78	0.41	0.25	0.26	0.3	0.27	0.28	0.29	0.39									
Hardness (Total, as CaCO3)	mg/l			190	29	290	330	170	290	270	270	280									
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND									
Iodide	mg/l			1300	39	ND	7.3	ND	12	7.6	9.2	11									
Iron, Total	mg/l	0.3	S	7.7	0.03	0.034	ND	ND	ND	0.029	ND	0.056									
Langelier Index - 25 degree	None			-0.34	-0.31	0.69	0.87	0.47	0.94	0.79	0.86	0.84									
Magnesium, Total	mg/l			12	0.42	9.8	13	9	14	14	15	20									
Manganese, Total	ug/l	50	S	570	15	ND	6.1	ND	60	42	15	51									
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Nitrate as Nitrogen	mg/l	10	P	ND	ND	1.3	1.5	0.83	2.1	2.8	4.2	2.3									
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	0.24	ND	ND	0.2									
Potassium, Total	mg/l			3.4	1.7	2.9	4.4	3.5	5.1	5.2	5.5	6.1									
Sodium, Total	mg/l			330	62	32	40	22	79	96	96	100									
Sulfate	mg/l	500	S	ND	12	110	120	50	130	140	120	140									
Surfactants	mg/l	0.5	S	0.056	ND	ND	ND	ND	0.053	0.053	0.06	ND									
Total Dissolved Solid (TDS)	mg/l	1000	S	1200	200	460	510	270	600	610	610	640									
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	1.3	1.5	0.83	2.3	2.8	4.2	2.5									
Total Organic Carbon	mg/l			5	0.39	0.44	0.82	ND	0.86	0.84	1.2	2.1									
General Physical Properties																					
Apparent Color	ACU	15	S	150	ND	ND	ND	ND	ND	ND	3	3									
Lab pH	Units			7.3	8	7.9	8	8	8.1	8	8.1	8									
Odor	TON	3	S	3	8	1	2	1	3	3	3	3									
Specific Conductance	umho/cm	1600	S	2000	340	740	830	440	950	960	960	1000									
Turbidity	NTU	5	S	93	0.4	0.47	0.37	0.39	0.3	0.52	0.32	0.91									
Metals																					
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Arsenic, Total	ug/l	10	P	8.4	ND	1.5	2.4	1.6	2.5	2.5	2.2	1.6									
Barium, Total	ug/l	1000	P	380	24	200	180	120	130	100	78	66									
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	3	3.6									
Chromium, Total	ug/l	50	P	ND	ND	1.9	ND	3.7	1.1	ND	ND	ND									
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	1.3	0.14	2.8	ND	ND	ND	ND									
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Nickel, Total	ug/l	100	P	ND	ND	ND	6.8	ND	33	6.3	16	72									
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Zinc, Total	ug/l	5000	S	ND	ND	30	ND	ND	39	50	32	25									
Volatile Organic Compounds																					
1,1-Dichloroethane	ug/l	5	P	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									
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Benzene	ug/l	1	P	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									
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Chloromethane	ug/l			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									
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND									
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND									
Freon 11	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									
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND									
Tetrachloroethylene (PCE)	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									
Total Trihalomethanes	ug/l	80	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									
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Other Constituents																					
Methane	ug/l			62000	19000	37	6.9	7.9	1.1	22	1.3	8.1	0.88	20	0.49	13	1.7	3	0.69	5.9	3.2
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 (A): Action Level (ND): Not Detected

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Willowbrook #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/9/2014	8/26/2014	4/9/2014	8/26/2014	4/9/2014	8/26/2014	4/9/2014	8/26/2014
General Minerals											
Alkalinity	mg/l			180	160	170	160	160	170	160	160
Anion Sum	meq/l			5.5	5.2	5.2	5	5.4	5.6	5.3	5.3
Bicarbonate as HCO3	mg/l			220	200	210	190	190	210	200	200
Boron	mg/l	1	N	0.12	0.13	0.1	0.11	0.11	0.12	0.11	0.12
Bromide	ug/l				94		110		100		120
Calcium, Total	mg/l			50	53	51	54	57	60	57	60
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			3.6	ND	3.4	ND	3.9	ND	5.2	ND
Cation Sum	meq/l			5.7	5.8	5.2	5.4	5.8	5.9	5.6	5.9
Chloride	mg/l	500	S	19	20	20	20	21	21	27	26
Fluoride	mg/l	2	P	0.34	0.35	0.3	0.32	0.41	0.42	0.38	0.39
Hardness (Total, as CaCO3)	mg/l			170	170	170	170	200	200	180	190
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				25		26		27		38
Iron, Total	mg/l	0.3	S	0.094	0.08	ND	ND	0.083	0.081	ND	ND
Langelier Index - 25 degree	None			1	0.65	1	0.65	1.1	0.58	1.2	0.63
Magnesium, Total	mg/l			11	10	9.7	9.7	13	12	10	10
Manganese, Total	ug/l	50	S	74	70	48	44	31	26	96	95
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.6	3.5	2.6	2.5	3.4	3.4	2.9	3
Sodium, Total	mg/l			50	51	41	42	40	41	44	46
Sulfate	mg/l	500	S	61	65	55	61	74	78	62	63
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	330	370	310	330	340	360	330	360
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.87	0.89	0.4	0.4	0.33	0.3	0.4	0.54
General Physical Properties											
Apparent Color	ACU	15	S	10	5	ND	ND	ND	ND	3	3
Lab pH	Units			8.4	8.1	8.4	8.1	8.5	7.9	8.6	8
Odor	TON	3	S	1	2	1	2	1	2	1	2
Specific Conductance	umho/cm	1600	S	560	550	530	520	580	570	580	570
Turbidity	NTU	5	S	0.24	0.26	0.067	0.11	0.28	0.26	4.7	4.9
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	14	12	ND	ND	3.6	3.7	5.8	5.6
Barium, Total	ug/l	1000	P	52	51	51	52	77	76	140	140
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	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
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents											
Methane	ug/l			340	77	22	5.5	1.4	0.32	20	5.6
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Carson #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/2/2014	9/26/2014	4/2/2014	9/26/2014	4/2/2014	9/26/2014	4/2/2014	9/26/2014
General Minerals											
Alkalinity	mg/l			130	140	150	170	150	160	160	180
Anion Sum	meq/l			3.2	3.4	3.6	4	4.9	5.2	6	6.2
Bicarbonate as HCO3	mg/l			160	170	180	200	180	200	200	220
Boron	mg/l	1	N	0.09	0.094	0.1	0.11	0.1	0.11	0.12	0.12
Bromide	ug/l				100		100		110		220
Calcium, Total	mg/l			20	21	33	33	44	47	51	53
Carbon Dioxide	mg/l			ND	2.2	ND	2.6	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.6	ND	2.9	ND	ND	ND	2	ND
Cation Sum	meq/l			3.5	3.6	4.2	4.1	5.4	5.6	6.3	6.5
Chloride	mg/l	500	S	20	20	21	20	23	21	44	42
Fluoride	mg/l	2	P	0.25	0.24	0.21	0.2	0.3	0.3	0.39	0.38
Hardness (Total, as CaCO3)	mg/l			67	69	110	110	160	170	190	190
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				26		26		34		74
Iron, Total	mg/l	0.3	S	ND	ND	0.024	0.021	ND	ND	0.076	0.073
Langelier Index - 25 degree	None			0.48	0.26	0.75	0.52	0.7	0.62	0.78	0.63
Magnesium, Total	None			4.1	4.1	7.1	6.8	13	13	15	15
Manganese, Total	ug/l	50	S	21	19	15	16	29	28	87	100
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.6	2.9	2.4	2.3	3	3	3.6	3.5
Sodium, Total	mg/l			49	49	43	43	46	48	57	58
Sulfate	mg/l	500	S	ND	ND	ND	ND	61	62	69	71
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	190	220	220	240	310	340	370	400
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.86	0.75	0.54	0.4	0.39	0.36	0.46	0.44
General Physical Properties											
Apparent Color	ACU	15	S	10	5	5	ND	ND	ND	3	ND
Lab pH	Units			8.4	8.1	8.4	8.1	8.2	8.1	8.2	8
Odor	TON	3	S	1	2	ND	2	ND	1	ND	1
Specific Conductance	umho/cm	1600	S	350	350	400	390	520	510	630	620
Turbidity	NTU	5	S	0.22	0.14	0.094	0.11	0.11	0.069	0.43	0.44
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	14	16	37	40	68	63	150	180
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	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
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents											
Methane	ug/l			15000	12000	7200	3500	22	4.4	14	3.5
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Carson #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/27/2014	8/28/2014	3/27/2014	8/28/2014	3/27/2014	8/28/2014	3/27/2014	8/28/2014	3/27/2014	8/28/2014
General Minerals													
Alkalinity	mg/l			140	160	170	190	170	160	170	180	160	170
Anion Sum	meq/l			3.3	3.7	4.1	4.4	4.2	4.1	4.1	4.3	4.2	4.5
Bicarbonate as HCO3	mg/l			170	190	210	230	200	200	200	220	190	210
Boron	mg/l	1	N	0.14	0.12	0.13	0.13	0.13	0.12	0.11	0.11	0.11	0.1
Bromide	ug/l			110	110	100	100	94	94	110	110	97	97
Calcium, Total	mg/l			4.8	4.8	10	9.7	24	22	35	33	41	40
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			7	6.2	5.4	4.7	3.3	3.3	3.3	2.8	2.5	2.7
Cation Sum	meq/l			3.9	3.6	4.6	4.6	4.6	4.3	4.6	4.3	4.6	4.5
Chloride	mg/l	500	S	19	18	22	20	22	21	24	22	21	21
Fluoride	mg/l	2	P	0.32	0.32	0.26	0.26	0.32	0.3	0.22	0.23	0.3	0.3
Hardness (Total, as CaCO3)	mg/l			15	15	39	38	93	85	140	130	140	140
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			40	40	35	35	35	35	34	34	31	31
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	0.052	0.049
Langelier Index - 25 degree	None			0.27	0.23	0.5	0.43	0.69	0.58	0.76	0.75	0.73	0.73
Magnesium, Total	None			0.82	0.82	3.5	3.4	8.1	7.4	12	11	9.5	8.8
Manganese, Total	ug/l	50	S	4	4.9	5.7	6	11	12	8.1	8.3	42	44
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2	1.8	3.9	3.9	4.2	3.9	3.8	3.7	3.1	3.1
Sodium, Total	mg/l			81	75	86	85	59	56	40	38	39	39
Sulfate	mg/l	500	S	ND	ND	0.61	ND	7.5	10	ND	ND	22	23
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	220	230	260	260	250	260	250	250	270	290
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2	1.6	1.1	0.99	0.81	0.79	0.52	0.55	0.39	0.41
General Physical Properties													
Apparent Color	ACU	15	S	35	30	15	15	10	10	5	ND	5	ND
Lab pH	Units			8.8	8.7	8.6	8.5	8.4	8.4	8.4	8.3	8.3	8.3
Odor	TON	3	S	1	2	1	2	2	2	1	2	ND	2
Specific Conductance	umho/cm	1600	S	380	380	440	440	440	440	440	430	460	450
Turbidity	NTU	5	S	0.64	0.14	0.1	0.11	0.09	0.088	0.45	0.12	0.17	0.24
Metals													
Aluminum, Total	ug/l	1000	P	20	29	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
Barium, Total	ug/l	1000	P	2.2	ND	5.5	5.2	12	12	17	16	23	23
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			14000	6300	440	77	70	ND	3100	1100	28	5.9
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Carson #3											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/12/2014	9/26/2014	5/12/2014	9/26/2014	5/12/2014	9/26/2014	5/12/2014	9/26/2014	5/12/2014	9/26/2014	5/12/2014	9/26/2014
General Minerals															
Alkalinity	mg/l			320	350	140	150	140	160	140	160	150	170	150	170
Anion Sum	meq/l			6.7	7.3	3.6	3.8	3.5	3.8	3.5	4	3.7	4	4.8	5.1
Bicarbonate as HCO3	mg/l			380	420	170	180	180	200	180	200	190	210	190	210
Boron	mg/l	1	N	0.57	0.7	0.1	0.1	0.11	0.11	0.088	0.1	0.1	0.11	0.12	0.13
Bromide	ug/l			340			110		110		100		99		96
Calcium, Total	mg/l			6.5	8.4	20	20	16	17	23	26	31	32	48	50
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			9.8	6.8	2.8	ND	2.3	2	2.9	2	3.1	2.2	3.1	2.2
Cation Sum	meq/l			6.5	7.9	4	4	3.9	4	4.1	4.2	4.3	4.3	5.4	5.5
Chloride	mg/l	500	S	12	11	20	20	21	20	21	21	21	20	21	20
Fluoride	mg/l	2	P	0.55	0.56	0.24	0.23	0.3	0.3	0.26	0.25	0.25	0.24	0.36	0.35
Hardness (Total, as CaCO3)	mg/l			24	31	66	66	52	55	83	92	110	120	170	170
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				97		28		27		27		26		23
Iron, Total	mg/l	0.3	S	0.042	0.046	ND	ND	ND	ND	ND	ND	ND	ND	0.032	0.025
Langelier Index - 25 degree	None			0.55	0.45	0.5	0.29	0.31	0.3	0.6	0.42	0.76	0.55	0.86	0.79
Magnesium, Total	None			1.8	2.4	3.8	3.8	3	3.1	6.3	6.7	8.4	8.6	12	12
Manganese, Total	ug/l	50	S	18	17	15	16	35	28	42	44	20	20	45	49
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.3	2.7	3.1	3	3.2	3.3	3.9	4	3	3.1	3.6	3.6
Sodium, Total	mg/l			140	160	59	59	63	66	53	53	44	43	43	43
Sulfate	mg/l	500	S	0.72	0.61	13	13	ND	1.1	0.52	3.9	ND	ND	52	53
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	450	470	220	240	230	250	220	230	230	250	300	330
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			14	12	0.96	0.82	1.3	1.1	0.68	0.84	0.52	0.51	0.37	ND
General Physical Properties															
Apparent Color	ACU	15	S	150	120	10	5	15	10	5	3	5	ND	3	ND
Lab pH	Units			8.6	8.4	8.4	8.2	8.3	8.2	8.4	8.2	8.4	8.2	8.4	8.2
Odor	TON	3	S	2	2	2	1	2	2	1	2	1	1	ND	2
Specific Conductance	umho/cm	1600	S	710	700	400	380	390	380	390	400	410	400	520	510
Turbidity	NTU	5	S	0.38	0.28	0.12	0.13	0.16	0.19	0.085	0.082	0.07	0.068	0.62	0.52
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.4
Barium, Total	ug/l	1000	P	7.9	7.7	16	16	18	16	20	20	29	30	58	60
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			20000	5600	33	9.1	4500	3900	18000	9700	11000	2700	39	4.6
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Chandler #3			
				Zone 1		Zone 2	
				4/3/2014	9/25/2014	4/3/2014	9/25/2014
General Minerals							
Alkalinity	mg/l			310	400	340	350
Anion Sum	meq/l			11	13	16	16
Bicarbonate as HCO3	mg/l			380	490	420	420
Boron	mg/l	1	N	0.2		0.4	0.36
Bromide	ug/l				740		680
Calcium, Total	mg/l			92	100	160	170
Carbon Dioxide	mg/l			ND	30	ND	43
Carbonate as CO3	mg/l			4.9	ND	3.4	ND
Cation Sum	meq/l			12	13	18	18
Chloride	mg/l	500	S	150	160	220	200
Fluoride	mg/l	2	P	0.25	0.24	0.21	0.2
Hardness (Total, as CaCO3)	mg/l			340	360	590	620
Hydroxide as OH, Calculated				ND	ND	ND	ND
Iodide	mg/l				94		ND
Iron, Total	mg/l	0.3	S	0.22	0.21	0.039	ND
Langelier Index - 25 degree	None			1.4	0.67	1.5	0.61
Magnesium, Total	None			26	28	46	47
Manganese, Total	ug/l	50	S	88	91	30	11
Mercury	ug/l	2	P	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	13	13
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND
Potassium, Total	mg/l			4	4	3.8	3.5
Sodium, Total	mg/l			130	130	140	140
Sulfate	mg/l	500	S	23	30	110	100
Surfactants	mg/l	0.5	S	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	680	620	1000	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	13	13
Total Organic Carbon	mg/l			1.3	1.1	0.85	0.74
General Physical Properties							
Apparent Color	ACU	15	S	10	5	20	3
Lab pH	Units			8.3		8.1	
Odor	TON	3	S	ND	1	ND	2
Specific Conductance	umho/cm	1600	S	1200	1600	1700	1200
Turbidity	NTU	5	S	3.6	0.1	36	4.8
Metals							
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	3.4	3.2	3.1	3.6
Barium, Total	ug/l	1000	P	38	38	110	110
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	3.1	1.6
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	0.37	1.8
Lead, Total	ug/l	15	P	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	130	110
Selenium, Total	ug/l	50	P	ND	ND	11	16
Silver, Total	ug/l	100	S	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND
Volatile Organic Compounds							
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND
Other Constituents							
Methane	ug/l			28	6.3	ND	4
Perchlorate	ug/l	6	P	ND	ND	4.5	4.3

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Gardena #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/3/2014	8/26/2014	4/3/2014	8/26/2014	4/3/2014	8/26/2014	4/3/2014	8/26/2014
General Minerals											
Alkalinity	mg/l			240	270	160	170	150	140	180	180
Anion Sum	meq/l			5.3	5.8	4.9	5	5.1	5	39	35
Bicarbonate as HCO3	mg/l			290	320	200	200	180	180	220	220
Boron	mg/l	1	N	0.36	0.33	0.13	0.13	0.12	0.12	0.14	0.13
Bromide	ug/l				130		200		130		2800
Calcium, Total	mg/l			16	15	54	54	56	56	430	380
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			7.5	3.3	3.3	ND	2.9	ND	ND	ND
Cation Sum	meq/l			6.3	5.8	5.7	5.6	5.7	5.7	39	35
Chloride	mg/l	500	S	18	17	30	29	24	22	1200	1000
Fluoride	mg/l	2	P	0.21	0.22	0.4	0.41	0.36	0.39	0.16	0.16
Hardness (Total, as CaCO3)	mg/l			71	67	180	180	180	180	1600	1400
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				36		54		28		ND
Iron, Total	mg/l	0.3	S	0.23	0.18	0.087	0.063	0.038	ND	0.029	ND
Langelier Index - 25 degree	None			0.78	0.49	0.94	0.54	0.97	0.72	1.4	0.78
Magnesium, Total	None			7.6	7.1	12	12	11	11	130	120
Manganese, Total	ug/l	50	S	48	44	55	52	35	37	2.4	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	21	20
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			11	10	3.7	3.5	3.4	3.3	7.9	7.2
Sodium, Total	mg/l			100	98	44	42	44	44	140	130
Sulfate	mg/l	500	S	ND	ND	36	39	67	69	46	50
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.074	0.1
Total Dissolved Solid (TDS)	mg/l	1000	S	350	370	310	350	330	350	2800	2800
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	21	20
Total Organic Carbon	mg/l			2.4	2.1	ND	0.51	ND	ND	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	30	30	5	3	5	5	5	ND
Lab pH	Units			8.6	8.2	8.4	7.9	8.4	8.2	7.9	7.3
Odor	TON	3	S	2	2	1	3	ND	2	1	2
Specific Conductance	umho/cm	1600	S	580	580	530	530	540	540	4200	3800
Turbidity	NTU	5	S	2.2	3.9	4.8	3.2	4.2	7.4	3.7	1.3
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	20	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	43	40	ND	ND	ND	ND	9.5	16
Barium, Total	ug/l	1000	P	16	16	53	50	29	29	500	480
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	2.6	2.5
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	8.7	7.2
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	6.7	7.1
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	0.89
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	23	14
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	20	15
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	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
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents											
Methane	ug/l			12000	3800	1000	300	4.7	3	5	2.1
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	11	8.5

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Gardena #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/21/2014	9/24/2014	4/21/2014	9/24/2014	4/21/2014	9/24/2014	4/21/2014	9/24/2014	4/21/2014	9/24/2014
General Minerals													
Alkalinity	mg/l			260	280	160	180	160	160	160	160	170	190
Anion Sum	meq/l			5.7	5.9	5	5.3	4.8	5	3.8	3.9	4.8	5
Bicarbonate as HCO3	mg/l			320	340	190	210	190	200	190	200	210	230
Boron	mg/l	1	N	0.31	0.33	0.16	0.14	0.13	0.12	0.094	0.092	0.12	0.12
Bromide	ug/l				120		100		100		100		140
Calcium, Total	mg/l			17	17	42	37	51	48	32	30	52	48
Carbon Dioxide	mg/l			2.1	ND	2	ND	2	ND	2	ND	ND	ND
Carbonate as CO3	mg/l			5.2	3.5	2	ND	2	2	2	ND	2.7	ND
Cation Sum	meq/l			6.4	6.5	5.9	5.1	5.6	5.3	4.4	4	5.6	5.2
Chloride	mg/l	500	S	13	13	22	22	22	22	21	21	40	39
Fluoride	mg/l	2	P	0.26	0.25	0.28	0.27	0.39	0.38	0.29	0.3	0.31	0.3
Hardness (Total, as CaCO3)	mg/l			69	70	160	140	180	170	120	110	180	160
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				33		23		22		26		26
Iron, Total	mg/l	0.3	S	0.024	0.028	0.032	0.033	0.042	0.041	0.054	0.052	0.051	0.039
Langelier Index - 25 degree	None			0.72	0.52	0.7	0.48	0.77	0.7	0.59	0.43	0.94	0.67
Magnesium, Total	None			6.4	6.7	13	12	12	12	9.4	8.6	11	10
Manganese, Total	ug/l	50	S	25	24	28	29	41	41	43	46	52	56
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			5.6	6	6.3	5.5	4	3.8	3.4	3.2	3.3	2.9
Sodium, Total	mg/l			110	110	59	51	45	42	44	40	47	43
Sulfate	mg/l	500	S	ND	ND	55	58	46	50	ND	ND	5.2	5.3
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	330	330	300	320	300	320	220	240	290	300
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.2	3	0.5	0.56	0.39	0.44	0.57	0.51	0.31	ND
General Physical Properties													
Apparent Color	ACU	15	S	30	30	5	3	5	ND	5	3	ND	3
Lab pH	Units			8.4	8.2	8.2	8	8.2	8.2	8.1	8.1	8.3	8.1
Odor	TON	3	S	1	2	1	2	1	2	1	2	1	4
Specific Conductance	umho/cm	1600	S	580	580	530	530	510	510	400	400	520	510
Turbidity	NTU	5	S	0.39	0.46	0.098	0.072	0.26	0.15	0.08	0.077	17	16
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	21	20	20	20	24	22	41	41	92	89
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	10	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			20000	20000	4.7	4.4	110	48	12000	1600	430	270
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Hawthorne #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/22/2014	9/17/2014	5/22/2014	9/17/2014	5/22/2014	9/17/2014	5/22/2014	9/17/2014	5/22/2014	9/17/2014	5/22/2014	9/17/2014
General Minerals															
Alkalinity	mg/l			610	680	570	640	450	470	260	290	170	180	270	300
Anion Sum	meq/l			14	15	13	14	10	11	6.7	7.1	12	11	23	23
Bicarbonate as HCO3	mg/l			740	820	690	770	540	570	320	350	200	220	330	370
Boron	mg/l	1	N	1.4	1.4	1.1	1.1	0.66	0.66	0.34	0.32	0.12	0.12	0.24	0.23
Bromide	ug/l			270		300		270		230		790		1200	
Calcium, Total	mg/l			16	16	14	14	37	38	36	35	120	110	200	200
Carbon Dioxide	mg/l			6.1	ND	4.5	ND	3.5	ND	2.6	ND	2.6	ND	6.8	ND
Carbonate as CO3	mg/l			9.6	11	11	12	8.8	7.4	4.1	ND	ND	ND	ND	2.4
Cation Sum	meq/l			15	16	14	15	11	12	7.7	7.4	13	12	24	23
Chloride	mg/l	500	S	46	44	41	41	44	44	48	47	300	260	450	420
Fluoride	mg/l	2	P	0.12	0.12	0.24	0.24	0.23	0.23	0.37	0.38	0.3	0.3	0.24	0.25
Hardness (Total, as CaCO3)	mg/l			98	98	74	76	190	200	160	150	460	430	730	740
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				92		120		83		54		57		140
Iron, Total	mg/l	0.3	S	0.16	0.16	0.15	0.14	0.18	0.17	0.063	0.03	ND	ND	0.1	0.12
Langelier Index - 25 degree	None			0.97	1	0.98	1	1.2	1.2	0.92	0.49	1	1	1.2	1.4
Magnesium, Total	None			14	14	9.4	10	24	26	17	16	39	37	57	58
Manganese, Total	ug/l	50	S	14	16	50	58	58	63	33	29	150	140	480	520
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			21	21	14	15	14	15	9.4	8.9	7.3	7.1	6.2	5.9
Sodium, Total	mg/l			300	320	280	300	170	180	98	94	83	78	200	190
Sulfate	mg/l	500	S	ND	ND	0.54	0.58	ND	ND	ND	ND	29	22	220	230
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.078	0.12
Total Dissolved Solid (TDS)	mg/l	1000	S	880	870	850	840	640	630	430	440	960	780	1400	1400
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			8.8	12	8.9	14	5.3	5.4	2.1	2	0.75	0.69	1.6	1.5
General Physical Properties															
Apparent Color	ACU	15	S	300	200	350	300	60	50	20	20	5	3	5	ND
Lab pH	Units			8.3	8.3	8.4	8.4	8.4	8.3	8.3	7.8	8.1	8.1	7.9	8
Odor	TON	3	S	1	2	1	3	ND	2	2	2	1	2	1	2
Specific Conductance	umho/cm	1600	S	1400	1400	1300	1300	1100	1000	710	700	1400	1300	2300	2300
Turbidity	NTU	5	S	0.24	0.19	0.21	3.3	0.17	0.13	0.14	0.29	0.16	0.16	0.9	0.87
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.7	ND	1.9	ND	ND	ND	1.2	1.5	ND	1.2	1.9	3.8
Barium, Total	ug/l	1000	P	33	32	26	28	35	39	28	28	120	110	50	55
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	1.5	1.5	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	0.052	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.7	5.2
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.65	0.8
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.81	0.89
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8	0.78
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8	9.2
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			7600	2200	8000	1900	7000	2500	18000	3100	220	52	14	3.5
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Inglewood #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/29/2014	9/29/2014	9/29/2014	4/29/2014	9/29/2014	4/29/2014	9/29/2014	4/29/2014	9/29/2014	
General Minerals													
Alkalinity	mg/l			1200	1400	370	290	330	210	230	280	320	
Anion Sum	meq/l			62	66	22	21	21	14	14	21	22	
Bicarbonate as HCO3	mg/l			1400	1600	450	350	400	260	280	340	390	
Boron	mg/l	1	N	9.2	9.6	0.44	0.41	0.44	0.18	0.2	0.22	0.25	
Bromide	ug/l				16000	1800		3900		1200		1600	
Calcium, Total	mg/l			62	74	170	150	150	100	110	180	190	
Carbon Dioxide	mg/l			29	ND	ND	11	ND	5.4	ND	28	ND	
Carbonate as CO3	mg/l			7.2	16	ND	ND	ND	ND	ND	ND	ND	
Cation Sum	meq/l			71	70	22	21	21	14	15	21	22	
Chloride	mg/l	500	S	1400	1400	370	420	400	260	260	380	370	
Fluoride	mg/l	2	P	0.31	0.32	0.25	0.44	0.49	0.4	0.4	0.22	0.24	
Hardness (Total, as CaCO3)	mg/l			310	350	690	620	620	440	480	720	770	
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iodide	mg/l				5300	200		1000		100		1.5	
Iron, Total	mg/l	0.3	S	2	2.3	ND	0.49	0.47	0.35	0.38	ND	ND	
Langelier Index - 25 degree	None			1.4	1.9	1	0.99	1.1	0.87	1	0.65	0.96	
Magnesium, Total	None			37	40	64	59	60	45	50	66	71	
Manganese, Total	ug/l	50	S	22	24	68	400	390	220	210	ND	ND	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nitrate as Nitrogen	mg/l	10	P	ND	ND	0.26	ND	ND	ND	ND	10	11	
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Potassium, Total	mg/l			34	33	10	8	7.9	9.4	10	8.5	9	
Sodium, Total	mg/l			1500	1400	180	200	190	100	100	140	150	
Sulfate	mg/l	500	S	7.5	1.2	210	140	150	94	100	190	200	
Surfactants	mg/l	0.5	S	0.13	0.062	ND	ND	ND	ND	ND	0.054	ND	
Total Dissolved Solid (TDS)	mg/l	1000	S	3900	3900	1300	1300	1200	780	810	1200	1400	
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	0.26	ND	ND	ND	ND	10	11	
Total Organic Carbon	mg/l			6.6	6	1.9	1.3	1.3	0.61	0.68	0.82	0.83	
General Physical Properties													
Apparent Color	ACU	15	S	300	250	5	15	15	10	10	ND	ND	
Lab pH	Units			7.9	8.2	7.6	7.7	7.8	7.9	8	7.3	7.5	
Odor	TON	3	S	2	4	2	1	2	ND	2	ND	2	
Specific Conductance	umho/cm	1600	S	6400	6800	2200	2200	2200	1500	1400	2200	2200	
Turbidity	NTU	5	S	1.4	1.9	0.42	3.8	4	2	2.1	0.067	0.076	
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Arsenic, Total	ug/l	10	P	1.6	ND	2.4	ND	1.7	ND	1.4	2.4	1.7	
Barium, Total	ug/l	1000	P	200	260	190	52	52	120	110	220	210	
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chromium, Total	ug/l	50	P	1.2	ND	ND	ND	ND	ND	ND	ND	ND	
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	0.18	0.21	
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	10	ND	
Selenium, Total	ug/l	50	P	22	52	7	12	12	ND	ND	21	11	
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	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	
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzene	ug/l	1	P	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	
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloromethane	ug/l			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	
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	
Freon 11	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	
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	
Tetrachloroethylene (PCE)	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	
Total Trihalomethanes	ug/l	80	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	
Trichloroethylene (TCE)	ug/l	5	P	0.55	0.52	0.62	ND	ND	ND	ND	0.67	0.71	
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Other Constituents													
Methane	ug/l			7400	5200	960	47	9.9	18	29	0.21	5.6	
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	2.6	2.9	

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Inglewood #3													
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				5/22/2014	9/28/2014	5/22/2014	9/28/2014	5/22/2014	9/28/2014	5/22/2014	9/28/2014	5/22/2014	9/28/2014	5/22/2014	9/28/2014	5/22/2014	9/28/2014
General Minerals																	
Alkalinity	mg/l			600	690	980	1100	490	540	720	790	370	430	180	190	210	240
Anion Sum	meq/l			44	44	21	23	10	11	15	16	10	11	7.7	7.7	16	17
Bicarbonate as HCO3	mg/l			730	830	1200	1300	590	660	870	970	450	520	220	240	260	290
Boron	mg/l	1	N	4.1	4.1	4.7	5.4	1.2	1.2	2.2	2.4	0.53	0.55	0.11	0.1	0.11	0.11
Bromide	ug/l				8500		1700		140		160		640		450		1300
Calcium, Total	mg/l			23	21	ND	11	6.1	5.8	17	17	57	54	70	65	160	170
Carbon Dioxide	mg/l			6	ND	7.8	ND	3	ND	7.2	ND	4.6	ND	2.9	ND	4.3	ND
Carbonate as CO3	mg/l			9.5	11	20	13	12	6.8	11	6.3	4.6	2.7	ND	ND	ND	ND
Cation Sum	meq/l			44	44	20	24	12	12	17	18	11	11	8.2	7.6	17	17
Chloride	mg/l	500	S	1100	1100	53	48	15	14	26	24	100	93	140	120	400	390
Fluoride	mg/l	2	P	0.49	0.49	0.53	0.52	0.24	0.26	0.22	0.23	0.25	0.26	0.33	0.34	0.38	0.41
Hardness (Total, as CaCO3)	mg/l			110	100	24	55	29	28	92	88	220	210	260	250	600	630
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				2700		420		46		52		170		36		78
Iron, Total	mg/l	0.3	S	0.19	0.17	0.56	0.55	0.15	0.13	0.39	0.4	0.044	0.043	ND	ND	0.1	0.14
Langelier Index - 25 degree	None			1.1	1.1	-0.3	0.89	0.62	0.33	1	0.76	1.2	0.88	0.87	0.62	1.2	1.1
Magnesium, Total	None			12	12	5.9	6.7	3.3	3.2	12	11	18	18	22	22	49	51
Manganese, Total	ug/l	50	S	60	44	24	24	21	19	39	37	52	48	110	100	350	300
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			19	18	ND	14	7.6	7.8	18	19	11	11	7.4	6.9	7.8	7
Sodium, Total	mg/l			960	960	450	530	260	250	350	360	150	160	61	56	100	94
Sulfate	mg/l	500	S	1.9	0.79	1.6	0.76	1.9	1.5	ND	ND	ND	ND	12	11	41	46
Surfactants	mg/l	0.5	S	0.078	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.54	0.47
Total Dissolved Solid (TDS)	mg/l	1000	S	2600	2600	1500	1500	710	620	1000	880	660	670	500	490	1300	990
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			5	5.6	71	68	7.2	6.7	27	30	2.8	6.7	0.94	4.8	3.6	3.7
General Physical Properties																	
Apparent Color	ACU	15	S	250	250	1500	1800	400	250	1000	1500	25	5	ND	ND	5	ND
Lab pH	Units			8.3	8.3	8.4	8.2	8.5	8.2	8.3	8	8.2	7.9	8.1	7.9	8	7.9
Odor	TON	3	S	2	2	2	3	2	2	ND	2	ND	2	1	1	40	8
Specific Conductance	umho/cm	1600	S	4700	4700	2200	2100	1100	1100	1600	1500	1100	1100	850	820	1800	1800
Turbidity	NTU	5	S	0.36	0.32	0.59	0.53	0.51	1.5	0.12	0.46	0.12	0.14	1.1	0.098	1.3	0.67
Metals																	
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	22	23	34	38	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	4.8	ND	2.2	ND	2.7	1.2	3.4	2.4	ND	ND	ND	1	2.8	2.2
Barium, Total	ug/l	1000	P	63	62	24	26	13	13	46	47	54	52	58	60	190	200
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	4.1	ND	2	ND	2.3	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	5.7	3.2	1.6	1.6	3	2.6	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	0.087	ND	0.035	0.028	0.042	0.028	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	13	26	ND	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																	
1,1-Dichloroethane	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	1.5	1.8
1,2-Dichloroethane	ug/l	0.5	P	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	41	53
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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	13
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.58	0.95
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents																	
Methane	ug/l			7900	7300	12000	3700	23000	9800	18000	12000	27000	18000	160	78	220	60
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14

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Constituents	Units	MCL	MCL Type	Lawndale #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				9/8/2014	9/8/2014	9/8/2014	9/8/2014	9/8/2014	9/8/2014
General Minerals									
Alkalinity	mg/l			460	600	250	190	180	250
Anion Sum	meq/l			9.6	13	6	6.5	6.5	24
Bicarbonate as HCO3	mg/l			550	730	300	240	220	300
Boron	mg/l	1	N	0.91	1.2	0.17	0.11	0.096	0.35
Bromide	ug/l			430	210	140	200	200	1400
Calcium, Total	mg/l			10	4.6	15	42	52	190
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			7.1	9.5	3.1	ND	ND	ND
Cation Sum	meq/l			10	14	5.6	6.3	6.6	23
Chloride	mg/l	500	S	16	28	26	56	54	560
Fluoride	mg/l	2	P	0.44	0.33	0.33	0.4	0.44	0.26
Hardness (Total, as CaCO3)	mg/l			40	26	75	170	200	700
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND
Iodide	mg/l			150	82	32	26	26	14
Iron, Total	mg/l	0.3	S	0.11	0.1	ND	0.048	0.029	ND
Langelier Index - 25 degree	None			0.6	0.4	0.42	0.67	0.69	0.95
Magnesium, Total	None			3.6	3.6	9.1	15	17	54
Manganese, Total	ug/l	50	S	16	34	28	60	70	200
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	2.6
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			6.1	9.3	8.6	5	5	8.5
Sodium, Total	mg/l			210	300	90	66	56	200
Sulfate	mg/l	500	S	2.2	ND	11	51	61	160
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	610	790	380	410	400	1600
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	2.6
Total Organic Carbon	mg/l			12	7.2	3.5	1.8	0.72	0.68
General Physical Properties									
Apparent Color	ACU	15	S	150	250	20	15	ND	ND
Lab pH	Units			8.3	8.3	8.2	8.1	8.1	7.6
Odor	TON	3	S	3	2	2	2	2	2
Specific Conductance	umho/cm	1600	S	950	1200	610	680	670	2500
Turbidity	NTU	5	S	0.88	0.68	0.33	0.64	0.18	0.21
Metals									
Aluminum, Total	ug/l	1000	P	46	57	ND	21	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.2	1.3	1.6	1.9	ND	4.6
Barium, Total	ug/l	1000	P	13	12	13	23	92	80
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	2.6	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	4.3	3.7	2.9	5.8
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	0.22
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	8.4
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	11
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	2.2
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	1.8
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND
Other Constituents									
Methane	ug/l			8600	2900	620	110	0.14	6.7
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	2.9

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Lomita #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/18/2014	9/25/2014	3/18/2014	9/25/2014	3/18/2014	9/25/2014	3/18/2014	9/25/2014	3/18/2014	9/25/2014
General Minerals													
Alkalinity	mg/l			240	270	230	270	320	350	280	310	260	290
Anion Sum	meq/l			27	28	20	23	16	17	15	16	27	27
Bicarbonate as HCO3	mg/l			300	330	280	330	400	430	340	380	320	350
Boron	mg/l	1	N	0.53	0.56	0.42	0.46	0.43	0.45	0.41	0.46	0.48	0.53
Bromide	ug/l				8700		6300		3200		3100		7700
Calcium, Total	mg/l			220	250	160	190	120	130	110	120	230	240
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	ND	2.1	2.6	2.8	7	2.5	2.1	ND
Cation Sum	meq/l			27	30	21	24	18	19	15	17	27	29
Chloride	mg/l	500	S	760	780	530	600	340	340	310	320	740	740
Fluoride	mg/l	2	P	0.12	0.1	0.16	0.14	0.15	0.14	0.2	0.2	0.096	0.087
Hardness (Total, as CaCO3)	mg/l			800	900	580	690	440	480	400	440	830	870
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				570		1300		570		630		1400
Iron, Total	mg/l	0.3	S	0.11	0.12	0.026	0.46	0.028	0.095	ND	0.21	0.16	0.16
Langelier Index - 25 degree	None			1.2	1.4	1.2	1.3	1.3	1.6	1.2	1.2	1.4	1.3
Magnesium, Total	None			60	67	45	52	34	37	31	33	62	65
Manganese, Total	ug/l	50	S	420	480	240	310	39	180	170	160	380	390
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			15	16	14	15	11	12	9.8	10	15	16
Sodium, Total	mg/l			240	260	200	220	190	200	160	180	240	250
Sulfate	mg/l	500	S	20	23	24	24	28	27	8.6	9.7	30	30
Surfactants	mg/l	0.5	S	0.11	0.06	ND	ND	ND	ND	ND	ND	0.077	0.07
Total Dissolved Solid (TDS)	mg/l	1000	S	1900	1900	1500	1400	1000	1000	890	910	1800	1800
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.1	0.84	1.4	0.96	3.6	3	3.2	2.8	0.91	0.73
General Physical Properties													
Apparent Color	ACU	15	S	5	5	15	10	20	25	20	25	5	5
Lab pH	Units			7.9	7.9	8	8	8	8	8.5	8	8	7.9
Odor	TON	3	S	2	2	1	2	ND	1	1	2	ND	1
Specific Conductance	umho/cm	1600	S	3000	3000	2300	2500	1800	1800	1400	1700	3000	3000
Turbidity	NTU	5	S	9.8	6.7	2.2	0.094	2.4	0.62	3.3	2	0.98	0.87
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	2.9	ND	1.9	1.6	1.7	1.8	1.8	ND	3.1
Barium, Total	ug/l	1000	P	120	150	86	120	49	77	74	71	120	140
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	8.8	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	25	28	13	17	ND	9.4	11	8.8	20	22
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			1700	190	2800	550	9500	7100	12000	5700	880	86
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Long Beach #3									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/27/2014	8/21/2014	3/27/2014	8/21/2014	3/27/2014	8/21/2014	3/27/2014	8/21/2014	3/27/2014	8/21/2014
General Minerals													
Alkalinity	mg/l			350	320	120	110	140	140	100	100	120	130
Anion Sum	meq/l			7.6	6.9	3.5	3.3	3.7	3.6	29	26	34	32
Bicarbonate as HCO3	mg/l			420	390	150	140	170	170	120	130	150	160
Boron	mg/l	1	N	0.36	0.39	0.12	0.12	0.12	0.12	0.11	0.1	0.11	0.11
Bromide	ug/l				220		110		230		7700		9800
Calcium, Total	mg/l			11	12	16	17	20	20	320	330	420	420
Carbon Dioxide	mg/l			ND	2	ND	ND	ND	ND	ND	3.4	ND	4.2
Carbonate as CO3	mg/l			8.6	8	3.1	2.3	2.8	2.2	ND	ND	ND	ND
Cation Sum	meq/l			7.8	8.5	3.9	3.7	4.1	4.2	29	29	34	35
Chloride	mg/l	500	S	18	16	20	18	33	30	910	820	1000	1000
Fluoride	mg/l	2	P	0.5	0.51	0.36	0.36	0.31	0.32	0.15	0.16	0.15	0.15
Hardness (Total, as CaCO3)	mg/l			41	45	52	42	64	65	1200	1200	1400	1400
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				70		31		71		2200		2700
Iron, Total	mg/l	0.3	S	0.039	0.055	ND	ND	0.025	ND	0.23	0.21	0.32	0.33
Langelier Index - 25 degree	None			0.75	0.72	0.44	0.36	0.43	0.41	0.99	1	1.2	1.2
Magnesium, Total	None			3.4	3.7	2.9	ND	3.5	3.6	88	84	94	97
Manganese, Total	ug/l	50	S	12	12	6.7	7.3	9.9	21	280	290	400	440
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.4	3.8	2.1	2.1	2.4	2.4	13	13	10	11
Sodium, Total	mg/l			160	170	63	65	63	65	120	120	120	130
Sulfate	mg/l	500	S	ND	ND	23	22	ND	ND	66	66	73	74
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.05	0.094	0.12	0.12
Total Dissolved Solid (TDS)	mg/l	1000	S	460	440	230	220	240	210	2000	2200	2300	2600
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			7.4	6.4	1.2	1.1	2.4	2.2	0.63	0.65	0.67	0.62
General Physical Properties													
Apparent Color	ACU	15	S	60	100	15	15	20	20	10	5	10	10
Lab pH	Units			8.5	8.5	8.5	8.4	8.4	8.3	7.8	7.8	7.9	7.8
Odor	TON	3	S	1	2	1	2	1	2	4	2	2	2
Specific Conductance	umho/cm	1600	S	760	760	380	380	410	410	3200	3100	3700	3700
Turbidity	NTU	5	S	0.76	1.7	0.13	0.1	0.14	0.22	1.4	1.2	2.5	2.2
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	11	4.2	23
Barium, Total	ug/l	1000	P	11	9.3	13	16	7.2	16	110	110	180	210
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	2	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	7.9	ND	9	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	29	30	31	32
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			20000	6900	11	4.9	3300	2100	160	8	81	90
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Long Beach #8				
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
				9/19/2014	9/19/2014	9/19/2014	8/20/2014	9/19/2014
General Minerals								
Alkalinity	mg/l			470	440	560	370	250
Anion Sum	meq/l			10	9.8	14	22	16
Bicarbonate as HCO3	mg/l			570	540	680	450	300
Boron	mg/l	1	N	1.3	0.81	1.3	1	0.63
Bromide	ug/l			340	420	690	4300	3200
Calcium, Total	mg/l			7.9	9.4	10	47	65
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			9.3	5.6	11	2.9	ND
Cation Sum	meq/l			12	10	14	22	19
Chloride	mg/l	500	S	20	34	83	530	400
Fluoride	mg/l	2	P	0.86	0.87	0.61	0.24	0.21
Hardness (Total, as CaCO3)	mg/l			29	37	46	250	280
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND
Iodide	mg/l			190	270	120	1400	1500
Iron, Total	mg/l	0.3	S	0.2	0.16	0.2	0.24	0.22
Langelier Index - 25 degree	None			0.64	0.43	0.75	0.93	0.88
Magnesium, Total	None			2.2	3.4	5	32	29
Manganese, Total	ug/l	50	S	19	24	26	34	60
Mercury	ug/l	2	P	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2	3.9	6.7	11	9.8
Sodium, Total	mg/l			260	220	300	390	300
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	710	610	910	1200	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			25	19	31	18	13
General Physical Properties								
Apparent Color	ACU	15	S	750	250	500	100	50
Lab pH	Units			8.4	8.2	8.4	8	8
Odor	TON	3	S	2	2	8	3	2
Specific Conductance	umho/cm	1600	S	1000	930	1400	2500	1900
Turbidity	NTU	5	S	0.5	0.72	0.7	6	6.4
Metals								
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	26
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.5	ND	1.2	4.7	ND
Barium, Total	ug/l	1000	P	10	8.8	14	25	22
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	2.7	2.4	ND	ND	ND
Chromium, Total	ug/l	50	P	1.1	1	1.4	3.8	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	0.024	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	22	8
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND
Volatile Organic Compounds								
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND
Other Constituents								
Methane	ug/l			20000	11000	15000		17000
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Manhattan Beach #1						
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
				9/24/2014	9/24/2014	9/24/2014	9/24/2014	9/24/2014	9/24/2014	9/24/2014
General Minerals										
Alkalinity	mg/l			570	430	880	470	130	160	130
Anion Sum	meq/l			120	46	21	10	380	130	9.8
Bicarbonate as HCO3	mg/l			690	530	1100	580	150	190	150
Boron	mg/l	1	N	15	6.8	3.9	0.42	ND	ND	0.18
Bromide	ug/l			27000	9500	2300	320	43000	14000	320
Calcium, Total	mg/l			50	34	17	28	1900	930	51
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			5.6	5.4	18	6	ND	ND	ND
Cation Sum	meq/l			130	49	22	11	380	120	9.7
Chloride	mg/l	500	S	3900	1300	120	35	12000	4200	120
Fluoride	mg/l	2	P	0.87	0.64	0.36	0.2	0.086	0.15	0.3
Hardness (Total, as CaCO3)	mg/l			270	140	92	120	8700	3400	180
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			7000	2700	910	120	220	38	50
Iron, Total	mg/l	0.3	S	0.56	0.19	0.23	0.088	4.8	1.7	ND
Langelier Index - 25 degree	None			1.2	1	1.2	0.96	1.5	1.6	0.39
Magnesium, Total	None			36	14	12	11	970	260	14
Manganese, Total	ug/l	50	S	71	60	54	76	1100	1400	68
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	2.1
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			18	17	28	11	110	36	5.1
Sodium, Total	mg/l			2800	1000	440	200	4700	1200	130
Sulfate	mg/l	500	S	ND	ND	1.6	ND	1700	580	180
Surfactants	mg/l	0.5	S	0.16	0.06	0.054	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	7000	2700	1200	580	23000	8600	630
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	2.1
Total Organic Carbon	mg/l			4.2	28	44	4.6	1.2	0.37	0.76
General Physical Properties										
Apparent Color	ACU	15	S	120	100	300	40	50	50	25
Lab pH	Units			8.1	8.2	8.4	8.2	7.5	7.8	7.9
Odor	TON	3	S	8	8	4	2	2	2	2
Specific Conductance	umho/cm	1600	S	13000	5000	2000	1000	33000	13000	1000
Turbidity	NTU	5	S	0.36	0.49	0.65	0.39	35	22	16
Metals										
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	3.9
Barium, Total	ug/l	1000	P	760	210	98	48	230	280	30
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	2.6	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	82	33	ND	ND	150	53	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds										
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND
Other Constituents										
Methane	ug/l			350	12000	4000	10000	13	42	3.3
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	1.4

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	PM-3 Madrid							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/2/2014	8/22/2014	4/2/2014	8/22/2014	4/2/2014	8/22/2014	4/2/2014	8/22/2014
General Minerals											
Alkalinity	mg/l			280	270	170	190	180	160	200	190
Anion Sum	meq/l			6.2	6.1	9	9.8	9.7	9.5	16	15
Bicarbonate as HCO3	mg/l			330	330	210	230	220	200	240	230
Boron	mg/l	1	N	0.35	0.35	0.15	0.17	0.2	0.21	0.41	0.41
Bromide	ug/l				130		1100		1500		1900
Calcium, Total	mg/l			12	12	81	89	84	87	130	140
Carbon Dioxide	mg/l			ND	ND	ND	3	ND	2.6	ND	3.8
Carbonate as CO3	mg/l			6.8	6.8	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			7.5	7.1	9.6	10	10	10	17	17
Chloride	mg/l	500	S	24	23	200	210	220	220	360	340
Fluoride	mg/l	2	P	0.31	0.32	0.31	0.31	0.34	0.34	0.31	0.3
Hardness (Total, as CaCO3)	mg/l			71	69	300	330	310	320	490	520
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				38		130		210		200
Iron, Total	mg/l	0.3	S	0.054	0.044	0.16	0.19	0.1	0.099	0.4	0.31
Langelier Index - 25 degree	None			0.65	0.68	0.83	0.99	0.93	0.93	1	1.1
Magnesium, Total	None			9.9	9.6	25	27	24	26	40	41
Manganese, Total	ug/l	50	S	25	22	59	63	53	50	360	350
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			13	13	4.8	5.3	5.2	5.3	7.3	7.6
Sodium, Total	mg/l			130	120	78	84	89	92	150	160
Sulfate	mg/l	500	S	ND	ND	ND	ND	0.86	0.69	76	87
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	400	390	560	710	620	700	970	1100
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.1	2.8	0.69	0.71	0.76	0.7	1.2	1.2
General Physical Properties											
Apparent Color	ACU	15	S	40	35	5	10	5	5	10	10
Lab pH	Units			8.5	8.5	8	8.1	8.1	8.1	8	8
Odor	TON	3	S	ND	2	1	ND	1	ND	1	ND
Specific Conductance	umho/cm	1600	S	670	670	1000	1100	1100	1100	1700	1800
Turbidity	NTU	5	S	0.35	0.35	0.56	0.67	0.95	1.1	3.3	3.2
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	2.6	ND	2.1	3.6	9.4
Barium, Total	ug/l	1000	P	22	21	38	40	58	59	86	95
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	5.1	ND	6
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.69	1.1
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	2	2	13	21
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	0.67	0.71	3.3	3.7
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	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
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	1.5	1.5
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents											
Methane	ug/l			6600	8600	780	1400	340	370	140	110
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	PM-4 Mariner							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/27/2014	9/7/2014	4/27/2014	9/7/2014	4/27/2014	9/7/2014	4/27/2014	9/7/2014
General Minerals											
Alkalinity	mg/l			240	250	140	150	150	160	170	190
Anion Sum	meq/l			5.5	5.7	200	200	10	10	9.7	9.9
Bicarbonate as HCO3	mg/l			280	300	170	180	180	190	210	230
Boron	mg/l	1	N	0.15	0.15	ND	ND	0.23	0.25	0.22	0.23
Bromide	ug/l			160			23000		270		390
Calcium, Total	mg/l			26	26	1400	1400	65	65	68	69
Carbon Dioxide	mg/l			ND	ND	5.6	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			4.6	3.9	ND	ND	2.9	ND	2.7	ND
Cation Sum	meq/l			5.8	5.6	200	200	11	10	10	9.9
Chloride	mg/l	500	S	27	26	6400	6500	110	100	120	110
Fluoride	mg/l	2	P	0.35	0.35	0.11	0.11	0.45	0.43	0.27	0.27
Hardness (Total, as CaCO3)	mg/l			110	110	5300	5300	240	240	240	250
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				64		86		23		67
Iron, Total	mg/l	0.3	S	0.06	0.056	0.23	0.23	0.026	0.024	0.14	0.13
Langelier Index - 25 degree	None			0.82	0.71	1.7	1.5	0.99	0.82	1	0.89
Magnesium, Total	None			11	11	450	450	18	18	18	19
Manganese, Total	ug/l	50	S	29	29	1000	1000	47	47	81	71
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			6.8	6.7	52	52	6.5	6.2	6	6
Sodium, Total	mg/l			78	73	2100	2100	130	120	110	110
Sulfate	mg/l	500	S	ND	ND	810	830	200	190	140	140
Surfactants	mg/l	0.5	S	ND	ND	0.17	0.22	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	340	340	13000	16000	670	670	620	630
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.6		0.75		1.2	1.2	1	0.96
General Physical Properties											
Apparent Color	ACU	15	S	15	10	5	5	10	5	10	5
Lab pH	Units			8.4	8.3	7.7	7.5	8.4	8.2	8.3	8.1
Odor	TON	3	S	ND	2	ND	2	1	2	ND	2
Specific Conductance	umho/cm	1600	S	580	570	19000	19000	1100	1100	1000	1000
Turbidity	NTU	5	S	0.087	0.088	0.77	1.7	0.44	0.48	0.3	0.7
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	2.7	ND	10	ND	1.9	ND	4.6
Barium, Total	ug/l	1000	P	20	21	230	220	100	100	52	50
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	5.3	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	2.7	ND	2.4	ND	ND	ND	2.1
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	34	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	70	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	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
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents											
Methane	ug/l			180	28	13	2.3	3.4	0.51	2.9	0.14
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	PM-5 Columbia Park											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/13/2014	9/2/2014	5/13/2014	9/2/2014	5/13/2014	9/2/2014	5/13/2014	9/2/2014	5/13/2014	9/2/2014	5/13/2014	9/2/2014
General Minerals															
Alkalinity	mg/l			610	680	800	800	370	360	260	260	150	150	200	190
Anion Sum	meq/l			15	16	16	16	8.3	7.9	6.2	6.1	43	40	12	11
Bicarbonate as HCO3	mg/l			740	820	980	970	450	430	320	320	180	190	240	230
Boron	mg/l	1	N	2.6	2.6	1.7	1.8	0.37	0.36	0.19	0.19	0.2	0.19	0.2	0.18
Bromide	ug/l				1600		210		260		180		3700		760
Calcium, Total	mg/l			13	13	7.1	7	14	13	26	26	380	360	95	90
Carbon Dioxide	mg/l			6.1	ND	6.4	ND	2.9	ND	2.6	ND	4.7	ND	2.5	ND
Carbonate as CO3	mg/l			9.6	11	16	12	7.3	7	4.1	4.1	ND	ND	2.5	2.4
Cation Sum	meq/l			17	16	18	18	9.3	8.8	7	7	43	42	13	12
Chloride	mg/l	500	S	94	86	14	13	30	27	32	30	1100	1000	160	150
Fluoride	mg/l	2	P	0.61	0.62	0.32	0.33	0.27	0.28	0.32	0.33	0.15	0.15	0.34	0.34
Hardness (Total, as CaCO3)	mg/l			58	58	39	38	65	62	120	120	1300	1300	330	310
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				80		70		120		44		38		81
Iron, Total	mg/l	0.3	S	0.16	0.54	0.28	0.31	0.055	0.053	0.022	0.029	0.11	0.12	ND	ND
Langelier Index - 25 degree	None			0.85	0.86	0.78	0.67	0.78	0.75	0.77	0.75	1.2	1.1	1.1	1.1
Magnesium, Total	None			6.2	6.1	5.1	5	7.4	7.1	13	13	97	92	23	21
Manganese, Total	ug/l	50	S	39	49	26	32	28	35	21	23	320	320	120	120
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			13	13	9.7	9.4	15	14	11	11	13	13	6.1	5.8
Sodium, Total	mg/l			350	330	390	380	180	160	99	100	370	380	140	130
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	380	370	180	170
Surfactants	mg/l	0.5	S	ND	0.051	ND	ND	ND	ND	ND	ND	0.078	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	1000	1000	1100	1100	540	530	400	390	3400	3000	790	780
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			44	35	31	26	5.8	6.8	2.7	3	0.7	0.88	1	1.2
General Physical Properties															
Apparent Color	ACU	15	S	400	350	800	750	100	75	20	15	5	3	5	ND
Lab pH	Units			8.3	8.3	8.4	8.3	8.4	8.4	8.3	8.3	7.8	7.7	8.2	8.2
Odor	TON	3	S	2	3	1	2	1	2	2	2	ND	2	ND	1
Specific Conductance	umho/cm	1600	S	1600	1600	1700	1700	860	860	650	650	4300	4200	1300	1300
Turbidity	NTU	5	S	0.56	0.77	0.48	1.4	0.41	0.24	0.18	0.12	0.57	0.51	0.11	0.083
Metals															
Aluminum, Total	ug/l	1000	P	ND	150	ND	59	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.3	ND	3.8	3.8	1.3	ND	ND	ND	ND	25	ND	5.6
Barium, Total	ug/l	1000	P	91	93	22	23	24	25	20	21	140	140	150	150
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	2.2	ND	ND	ND	ND	2.5	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	2.2	3	ND	ND	ND	ND	ND	2.2	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	0.036	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	8.1	8.6	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	12	15	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			10000	4000	15000	2600	9500	2400	2500	740	26	7.5	58	6.6
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	PM-6 Madrona Marsh											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/22/2014	9/23/2014	4/22/2014	9/23/2014	4/22/2014	9/23/2014	4/22/2014	9/23/2014	4/22/2014	9/23/2014	4/22/2014	9/23/2014
General Minerals															
Alkalinity	mg/l			380	420	110	130	140	160	210	240	140	160	160	170
Anion Sum	meq/l			54	46	78	76	190	180	5.7	6.3	52	51	12	12
Bicarbonate as HCO3	mg/l			460	520	140	150	180	190	250	290	170	200	190	200
Boron	mg/l	1	N	0.73	0.75	0.52	0.53	ND	ND	0.25	0.25	0.3	0.33	0.18	0.18
Bromide	ug/l				5000		9600		24000		250		4600		540
Calcium, Total	mg/l			250	220	200	200	1100	1200	19	19	350	310	97	92
Carbon Dioxide	mg/l			9.5	ND	3.6	ND	3.7	ND	2.6	ND	5.6	ND	3.1	ND
Carbonate as CO3	mg/l			2.4	4.2	ND	ND	ND	ND	2.6	3	ND	ND	ND	ND
Cation Sum	meq/l			57	50	76	74	200	210	6.8	6.7	54	51	13	13
Chloride	mg/l	500	S	1600	1300	2700	2600	6800	6300	53	53	1400	1400	220	210
Fluoride	mg/l	2	P	0.44	0.42	0.1	0.08	0.12	0.1	0.55	0.53	0.16	0.14	0.27	0.25
Hardness (Total, as CaCO3)	mg/l			1400	1200	910	900	6100	6600	97	97	1300	1200	360	340
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				170		500		250		65		80		94
Iron, Total	mg/l	0.3	S	0.1	0.14	0.13	0.12	ND	0.21	0.088	0.064	0.93	0.87	0.28	0.26
Langelier Index - 25 degree	None			1.6	1.7	0.84	1.1	1.7	2.2	0.45	0.51	1	1.2	0.82	0.88
Magnesium, Total	None			190	160	100	98	820	870	12	12	110	100	28	27
Manganese, Total	ug/l	50	S	38	29	200	120	190	170	90	71	740	570	120	190
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			33	27	44	48	100	97	5.8	5.7	21	22	6.7	6.4
Sodium, Total	mg/l			640	560	1300	1200	1700	1700	110	110	640	600	140	130
Sulfate	mg/l	500	S	11	7.1	ND	ND	32	57	ND	ND	410	430	120	120
Surfactants	mg/l	0.5	S	0.075	ND	0.093	ND	0.2	0.054	ND	ND	0.088	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	3300	2600	4700	4500	12000	14000	370	350	3000	3200	730	730
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			8	9.4	0.99	0.91	0.9	0.73	2.2	2.2	1.1	0.99	1.3	1.2
General Physical Properties															
Apparent Color	ACU	15	S	300	500	10	10	100	25	20	20	20	40	10	10
Lab pH	Units			7.9	8.1	7.8	8.1	7.9	8.2	8.2	8.2	7.7	7.9	8	8
Odor	TON	3	S	2	8	1	2	40	200	1	2	ND	1	1	2
Specific Conductance	umho/cm	1600	S	5600	4900	8000	8100	18000	18000	620	620	5400	5200	1300	1200
Turbidity	NTU	5	S	2.4	11	0.33	1.1	18	1.7	0.1	0.12	7.8	9	1	0.82
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	6.1	ND	ND	ND	39	19	ND	ND	2.2	ND	1.7	3.8
Barium, Total	ug/l	1000	P	770	680	520	310	2800	3100	28	22	160	140	22	36
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	2	4.3	ND	ND	2.8	4.6	ND	ND	ND	20	ND	ND
Chromium, Total	ug/l	50	P	1.5	ND	1	ND	ND	1.1	1.8	1.4	1.2	ND	1	1.4
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	16	31	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	5	14	9.2	ND	20	64	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents															
Methane	ug/l			16000	3300	13000	1300	16000	12000	13000	8400	74	30	48	24
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Westchester #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/15/2014	8/19/2014	4/15/2014	8/19/2014	4/15/2014	8/19/2014	4/15/2014	8/19/2014	4/15/2014	8/19/2014
General Minerals													
Alkalinity	mg/l			380	380	530	460	410	410	310	310	270	260
Anion Sum	meq/l			11	11	12	11	10	10	9.5	9.5	9	8.7
Bicarbonate as HCO3	mg/l			470	470	650	560	500	500	380	380	330	320
Boron	mg/l	1	N	0.46	0.48	0.86	0.76	0.44	0.44	0.25	0.23	0.22	0.22
Bromide	ug/l				430		460		400		340		320
Calcium, Total	mg/l			73	70	32	30	47	50	74	74	68	69
Carbon Dioxide	mg/l			ND	6.1	6.7	5.8	ND	5.2	ND	5	4.3	5.2
Carbonate as CO3	mg/l			4.8	3.8	6.7	5.8	6.5	5.1	3.1	3.1	2.7	2.1
Cation Sum	meq/l			12	12	13	12	11	11	11	11	9.8	10
Chloride	mg/l	500	S	70	69	67	64	61	58	62	60	67	61
Fluoride	mg/l	2	P	0.26	0.27	0.26	0.27	0.25	0.26	0.26	0.27	0.32	0.33
Hardness (Total, as CaCO3)	mg/l			310	290	160	140	210	220	310	310	280	280
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l				110		120		100		80		70
Iron, Total	mg/l	0.3	S	0.16	0.17	0.13	0.12	0.21	0.22	0.13	0.14	0.31	0.32
Langelier Index - 25 degree	None			1.3	1.2	1.1	1	1.2	1.2	1.1	1.1	1	0.92
Magnesium, Total	None			31	28	19	17	22	23	30	30	27	27
Manganese, Total	ug/l	50	S	110	130	44	48	120	120	110	96	150	150
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			10	9.6	16	14	12	12	9.5	9.4	7.4	7.5
Sodium, Total	mg/l			130	130	220	210	140	150	100	100	94	95
Sulfate	mg/l	500	S	62	60	ND	ND	4.4	5.1	74	76	81	79
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	650	700	670	740	590	610	580	590	550	550
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			5.7	6	7.7	7.1	3.7	3.3	1.7	1.7	1.5	1.4
General Physical Properties													
Apparent Color	ACU	15	S	100	100	100	75	25	30	15	10	15	15
Lab pH	Units			8.2	8.1	8.2	8.2	8.3	8.2	8.1	8.1	8.1	8
Odor	TON	3	S	2	2	2	2	1	3	1	2	2	2
Specific Conductance	umho/cm	1600	S	1100	1100	1200	1200	1000	1000	990	980	920	920
Turbidity	NTU	5	S	1.2	1.4	0.18	0.2	0.31	0.32	0.36	0.27	0.79	0.84
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	1.1	ND	1.8	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	89	92	120	120	72	63	73	62	65	64
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	2.5	ND	2.2	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			3000	3900	5900	6600	240	170	15	13	10	9.5
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Wilmington #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/13/2014	8/18/2014	5/13/2014	8/18/2014	5/13/2014	8/18/2014	5/13/2014	8/18/2014	5/13/2014	8/18/2014
General Minerals													
Alkalinity	mg/l			130	140	140	140	140	170	130	140	140	140
Anion Sum	meq/l			10	10	30	29	28	34	15	16	14	14
Bicarbonate as HCO3	mg/l			160	180	160	180	170	210	150	170	170	160
Boron	mg/l	1	N	0.25	0.23	0.21	0.2	0.25	0.24	0.23	0.22	0.21	0.19
Bromide	ug/l			2700	2200	3500	3500	3700	4700	1000	1100	1200	1100
Calcium, Total	mg/l			64	62	220	220	200	240	81	84	110	110
Carbon Dioxide	mg/l			2.6	2.8	6.6	7.2	5.6	7.9	3.1	4	4.4	3.8
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			11	11	30	30	27	32	16	16	15	15
Chloride	mg/l	500	S	280	270	870	810	820	1000	300	320	290	280
Fluoride	mg/l	2	P	0.14	0.13	0.069	0.059	0.084	0.07	0.13	0.12	0.14	0.14
Hardness (Total, as CaCO3)	mg/l			250	240	790	780	740	860	320	340	430	430
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			710	770	290	320	570	600	42	41	84	110
Iron, Total	mg/l	0.3	S	ND	ND	0.047	0.055	ND	ND	ND	ND	0.045	0.041
Langelier Index - 25 degree	None			0.58	0.61	0.72	0.74	0.77	0.89	0.53	0.55	0.64	0.66
Magnesium, Total	None			22	21	58	57	58	64	30	31	38	37
Manganese, Total	ug/l	50	S	24	23	25	25	7.9	11	13	12	48	38
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			8.7	8.2	10	10	8.7	9.3	6.5	6.6	7.1	7
Sodium, Total	mg/l			140	130	320	330	280	340	210	210	140	140
Sulfate	mg/l	500	S	0.59	ND	140	140	89	71	190	190	160	160
Surfactants	mg/l	0.5	S	0.4	0.4	0.44	0.42	0.25	0.32	0.1	0.18	0.37	0.52
Total Dissolved Solid (TDS)	mg/l	1000	S	690	660	2000	2000	1800	2300	980	990	880	870
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3	2.9	1.6	1.5	1.7	1.2	2	1.9	3.4	3.2
General Physical Properties													
Apparent Color	ACU	15	S	5	10	5	10	10	10	5	10	5	10
Lab pH	Units						7.7		7.7		7.9		7.9
Odor	TON	3	S	17	67	4	100	200	200	4	17	67	100
Specific Conductance	umho/cm	1600	S	1200	1200	3200	3200	3000	3900	1600	1700	1500	1500
Turbidity	NTU	5	S	0.12	0.1	0.22	0.23	0.094	0.096	0.13	0.18	1.4	4.1
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	6	ND	17	ND	4.4	ND	7.8	ND	6.1
Barium, Total	ug/l	1000	P	13	11	16	16	21	32	31	30	85	77
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.3	ND	2.6	ND	ND	ND	1.6	ND	1.8
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	0.02	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	7	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	7.1	11	11	16	12	6.4	ND	5.2	ND	37
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			7.1	7.9	15	17	13	9.8	ND	ND	3.8	4.3
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	23	29
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			2400	1600	29	22	160	640	7	35	200	140
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 (A): Action Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2013-14
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Constituents	Units	MCL	MCL Type	Wilmington #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/6/2014	8/19/2014	5/6/2014	8/19/2014	5/6/2014	8/19/2014	5/6/2014	8/19/2014	5/6/2014	8/19/2014
General Minerals													
Alkalinity	mg/l			300	300	440	460	140	160	250	260	160	150
Anion Sum	meq/l			9.1	9.2	25	24	9.4	9.8	11	11	75	71
Bicarbonate as HCO3	mg/l			360	370	530	560	180	190	310	310	190	190
Boron	mg/l	1	N	0.63	0.58	1.8	1.7	0.16	0.17	0.6	0.62	0.55	0.51
Bromide	ug/l			570	590	4200	4300	1500	1600	1300	1300	7700	7500
Calcium, Total	mg/l			3.8	3.7	29	29	46	50	24	24	250	240
Carbon Dioxide	mg/l			ND	ND	8.7	8.4	3	3.9	5.1	5.3	7.8	7.6
Carbonate as CO3	mg/l			7.4	9.4	3.4	4	ND	ND	2	ND	ND	ND
Cation Sum	meq/l			10	10	26	26	9.6	10	12	12	76	74
Chloride	mg/l	500	S	110	110	580	540	230	240	210	190	2300	2100
Fluoride	mg/l	2	P	0.84	0.85	0.43	0.46	0.18	0.18	0.75	0.77	0.2	0.2
Hardness (Total, as CaCO3)	mg/l			21	21	160	160	180	200	100	100	1100	1000
Hydroxide as OH, Calculated				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			110	140	1200	1400	500	550	390	360	54	63
Iron, Total	mg/l	0.3	S	0.054	0.057	0.057	0.065	0.034	0.053	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.24	0.28	0.79	0.8	0.45	0.44	0.42	0.4	0.8	0.82
Magnesium, Total	None			2.9	2.8	21	21	17	19	11	11	120	110
Manganese, Total	ug/l	50	S	3.2	3.3	9.5	11	13	12	7.4	7.7	48	49
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			5.9	5.6	12	12	6.5	6.8	5.7	5.9	19	19
Sodium, Total	mg/l			230	220	510	510	130	140	220	220	1200	1200
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	3.1	2.5	360	360
Surfactants	mg/l	0.5	S	ND	ND	0.051	0.058	ND	ND	ND	ND	0.079	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	580	590	1500	1500	570	620	700	660	4500	4500
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			6.8	6.4	7.7	18	2.1	2.1	7.3	7.2	1.3	1.3
General Physical Properties													
Apparent Color	ACU	15	S	250	200	150	150	15	15	20	120	15	15
Lab pH	Units												
Odor	TON	3	S	2	3	2	4	ND	8	2	2	4	
Specific Conductance	umho/cm	1600	S	990	990	2700	2700	1100	1100	1200	1200	7800	7600
Turbidity	NTU	5	S	0.24	0.25	0.29	0.28	0.085	0.074	0.26	0.78	0.2	0.25
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.2	1.2	1.1	1.8	2	ND	1.8	ND	ND	51
Barium, Total	ug/l	1000	P	4	4.1	44	45	17	18	19	19	54	62
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	7.8	ND	ND
Chromium, Total	ug/l	50	P	ND	1.3	ND	1.2	ND	ND	ND	ND	1.2	6.3
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.021	ND	0.039	ND	ND	ND	0.077	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	0.7	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.7
Selenium, Total	ug/l	50	P	ND	ND	ND	6.3	ND	ND	ND	ND	27	54
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	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
1,2-Dichloroethane	ug/l	0.5	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
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			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
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	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
Methylene Chloride	ug/l	5	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
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			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
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	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
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other Constituents													
Methane	ug/l			22000	7900	18000	20000	15000	17000	25000	24000	60	21
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 (A): Action Level (ND): Not Detected

TABLE 3.3
QUALITY OF REPLENISHMENT WATER

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Constituent	Units	Regulatory Limit	IMPORTED WATER			RECYCLED WATER							LOCAL WATER
			Treated Blend of Colorado River & State Water Project ^A	Untreated Colorado River ^B	Untreated State Water Project ^C	WBMWD ELWRF ^D	LADWP TIWRP ^E	WRD LVL AWTF ^F	SDLAC Pomona WRP ^G	SDLAC San Jose Creek East WRP ^G	SDLAC San Jose Creek West WRP ^G	SDLAC Whittier Narrows WRP ^G	Stormwater ^H
			2013	2013	2013	2013	2013	2013	2013-2014	2013-2014	2013-2014	2013-2014	2013-2014
Arsenic	µg/L	MCL = 10	2.0 / ND	2.2	2.3	ND	ND	ND	0.863	1.36	1.11	1.13	1.63
Chloride	mg/L	SMCL = 500	87 ¹ / 84 ¹	82 ¹	87 ¹	45 ^J	109 ^K	52.0 ^L	138	146	111	114	58
Hexavalent Chromium	µg/L	MCL = 10	ND / ND	ND	ND	NA	ND	NA	0.01	0.06	0.19	0.10	ND
Iron	µg/L	SMCL = 300	ND / ND	ND	ND	ND	18.3	ND	31.1	49	33	29.3	2,438
Manganese	µg/L	SMCL = 50	ND / ND	ND	23	0.17	ND	ND	5.39	6.48	4.13	1.91	NA
Nitrate (as N)	mg/L	MCL = 10	0.4 / 0.5	ND	1.0	0.4 ^J	1.32 ^K	1.15 ^L	6.93	4.96	7.23	7.17	2.50
Perchlorate	µg/L	MCL = 6	ND / ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
Tetrachloroethylene (PCE)	µg/L	MCL = 5	ND / ND	ND	ND	ND	ND	ND	0.14	ND	ND	ND	NA
Trichloroethylene (TCE)	µg/L	MCL = 5	ND / ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Total Dissolved Solids (TDS)	mg/L	SMCL = 1,000	585 ¹ / 317 ¹	576 ¹	303 ¹	297 ^J	296 ^K	308 ^L	584	650	550	589	363
Alkalinity	mg/L	None	120 ¹ / 87 ¹	131 ¹	78 ¹	NA	NA	NA	172	170	165	164	77
Boron	µg/L	NL = 1,000	140 / 160	120	220	200 ^J	623 ^K	180 ^L	250	280	331	260	NA
Chromium, Total	µg/L	MCL = 50	ND / ND	ND	ND	0.79	3.38	ND	1.0	0.89	1.1	1.1	5.56
Copper, Total	µg/L	SMCL = 1,000	ND / ND	ND	ND	2.0	1.6	ND	4.3	3.84	6.08	3.79	17.7
1,4-Dioxane	ug/L	NL = 1	NA	NA	NA	ND	ND	ND	1.1	0.90	0.82	0.84	NA
Hardness	mg/L	None	279 ¹ / 116 ¹	281 ¹	103 ¹	NA	NA	8.6	223	227	206	209	169
Lead, Total	µg/L	AL = 15	ND / ND	ND	ND	0.04	ND	ND	0.37	0.31	0.17	0.02	6.5
Methyl tertiary butyl ether (MTBE)	µg/L	MCL = 5	ND / ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND
Nitrite (as N)	mg/L	MCL = 1	ND / ND	ND	ND	0.09 ^J	ND ^K	0.03 ^L	0.21	0.056	0.039	0.069	0.14
n-Nitrosodimethylamine (NDMA)	ng/L	NL = 10	ND / 3	NA	NA	2.2	6.8	5.4	71	397	350	18	ND
pH	pH Units	None	8.1 / 8.3	8.2	8.3	7.8	8.0 ^K	8.1	7.3	7.1	7.2	7.4	7.1
Selenium	µg/L	MCL = 50	ND / ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.78
Specific Conductance	µS/cm	SMCL = 1,600	965 ¹ / 578 ¹	943 ¹	560 ¹	67.7	456	160.2	NA	NA	NA	NA	540
Sulfate	mg/L	SMCL = 500	225 ¹ / 57 ¹	219 ¹	50 ¹	85 ^J	19.6 ^K	94.5 ^L	82.9	127	96.7	116	81.0
Total Organic Carbon (TOC)	mg/L	None	2.5 / 1.9	2.97 ¹	2.42 ¹	0.31	0.21	ND	6.76	6.27	5.13	5.46	16.3
Turbidity	NTU	SMCL = 5	0.04 ¹ / 0.04 ¹	1.24 ¹	0.74 ¹	0.02	0.1	0.09	0.49	0.59	0.67	0.37	12.88

See footnotes on following page.

TABLE 3.3 QUALITY OF REPLENISHMENT WATER

Page 2 of 2

Notes:

- A = Used at the seawater intrusion barriers: generally, Diemer Plant effluent / Jensen Plant effluent
- B = Used at the Montebello Forebay spreading grounds (Lake Mathews)
- C = Used at the Montebello Forebay spreading grounds (Silverwood Lake)
- D = Effluent of Edward C. Little Water Recycling Facility (ELWRF) before blending with treated water from Colorado River/State Water Project; used at the West Coast Basin Seawater Intrusion Barrier
- E = Effluent of Terminal Island Water Reclamation Plant/Advanced Water Treatment Facilities (TIWRP) before blending with treated water from Colorado River/State Water Project; used at the Dominguez Gap Seawater Intrusion Barrier
- F = Effluent of Leo J. Vander Lans Advanced Water Treatment Facility (LVL AWTF) before blending with treated water from Colorado River/State Water Project; used at the Alamitos Gap Seawater Intrusion Barrier
- G = Effluent of water reclamation plants (WRPs); used at the Montebello Forebay spreading grounds
- H = Average of water samples collected from LACDPW San Gabriel River Monitoring Station S14 from November 2013 through April 2014 (3 storm events total)
- I = Average concentration for Water Year October 2013 through September 2014
- J = Average concentration in blended water (treatment plant effluent & treated water from Colorado River/State Water Project), which is delivered to the West Coast Basin Seawater Intrusion Barrier
- K = Average concentration in blended water (treatment plant effluent & treated water from Colorado River/State Water Project), which is delivered to the Dominguez Gap Seawater Intrusion Barrier
- L = Average concentration in blended water (treatment plant effluent & treated water from Colorado River/State Water Project); directly used at the Alamitos Gap Seawater Intrusion Barrier

NA = Not Available/Analyzed

ND = Not Detected

NS = Not sampled due to plant shutdown

mg/L = milligrams per liter

µg/L = micrograms per liter

µS/cm = microSiemen per centimeter

NTU = Nephelometric Turbidity Units

MCL = Maximum Contaminant Level

SMCL = Secondary Maximum Contaminant Level

AL = Action Level

NL = Notification Level

WRP = Water Reclamation Plant

LACDPW = Los Angeles County Department of Public Works

LADWP = Los Angeles Department of Water and Power

MWD = Metropolitan Water District of Southern California

SDLAC = County Sanitation Districts of Los Angeles County

WBMWD = West Basin Municipal Water District

WRD = Water Replenishment District of Southern California

Sources of Data:

2013 Water Quality Report to MWD Member Agencies (Metropolitan Water District of Southern California, March 2014)

Table D, Monthly Analyses of the District Water Supplies (Metropolitan Water District of Southern California, October 2013 - September 2014)

October 2013 - September 2014 Annual Monitoring Report, Montebello Forebay Groundwater Recharge (County Sanitation Districts of Los Angeles County [SDLAC], December 15, 2014)

Annual West Coast Basin Barrier Project Monitoring Report for 2013, Edward C. Little Water Recycling Facility (West Basin Municipal Water District [WBMWD], March 26, 2013)

2013 - 2014 Annual Stormwater Monitoring Final Report, Los Angeles County (Los Angeles County Department of Public Works [LACDPW], December 15, 2014)

Annual Monitoring Report - January-December 2013, Harbor Water Recycling/Dominguez Gap Barrier Project (Los Angeles Department of Water and Power [LADWP], February 28, 2013)

2013 Annual Summary Report, Alamitos Barrier Recycled Water Project, Leo J. Vander Lans Water Treatment Facility (Water Replenishment District of Southern California [WRD], April 9, 2014)

**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		
Lakewood #2		1, 2, 3, 4, 5, 6, 7, 8		
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		
Los Angeles #4	3, 4, 5, 6	1, 2		
Lynwood #1	3, 4, 5, 6, 7, 8, 9	1, 2		
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	2	1		
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
Inglewood #3		1, 2, 3, 4, 5	6, 7	
Lawndale #1	4, 5	1, 2, 3		6
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

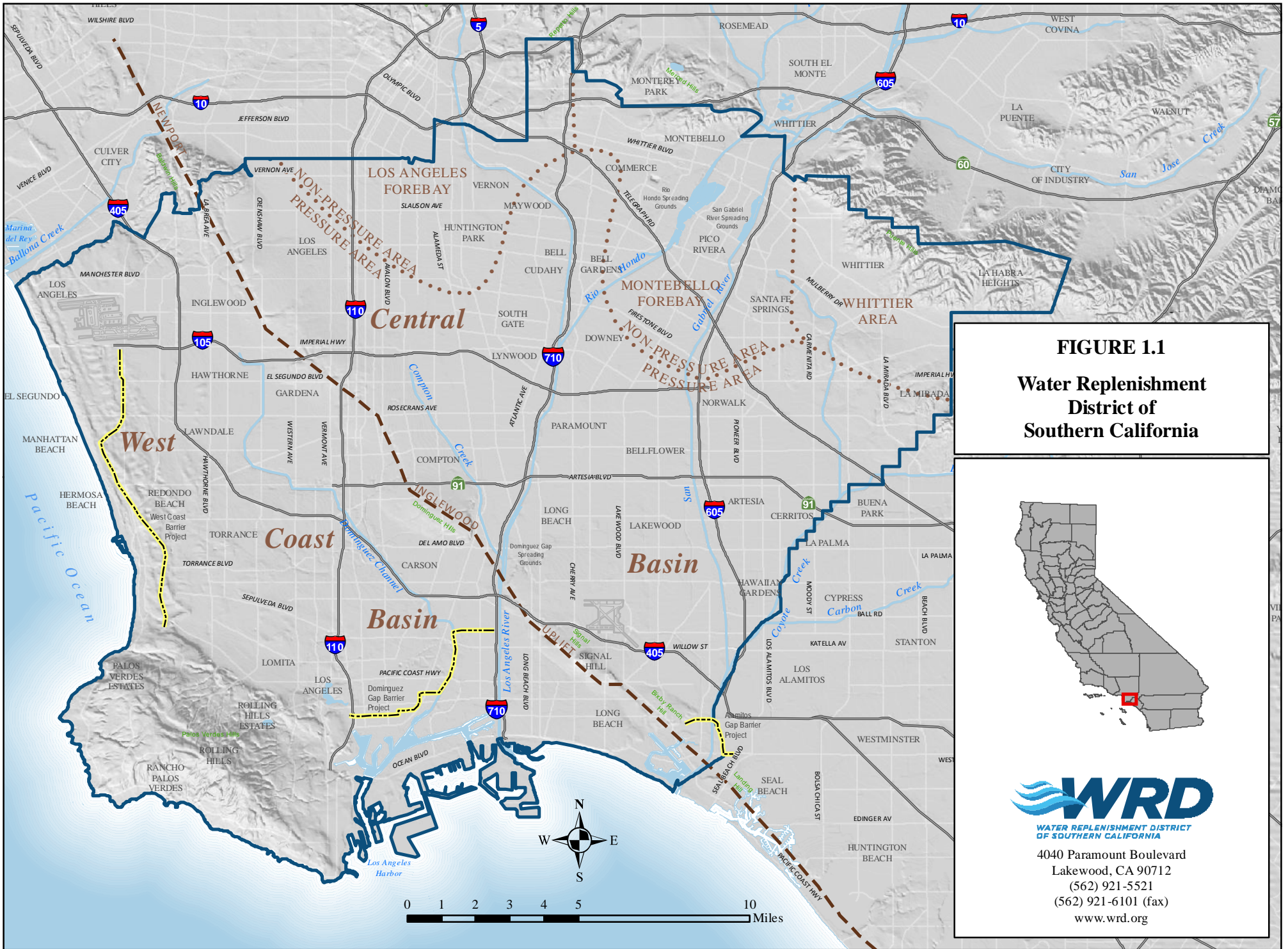
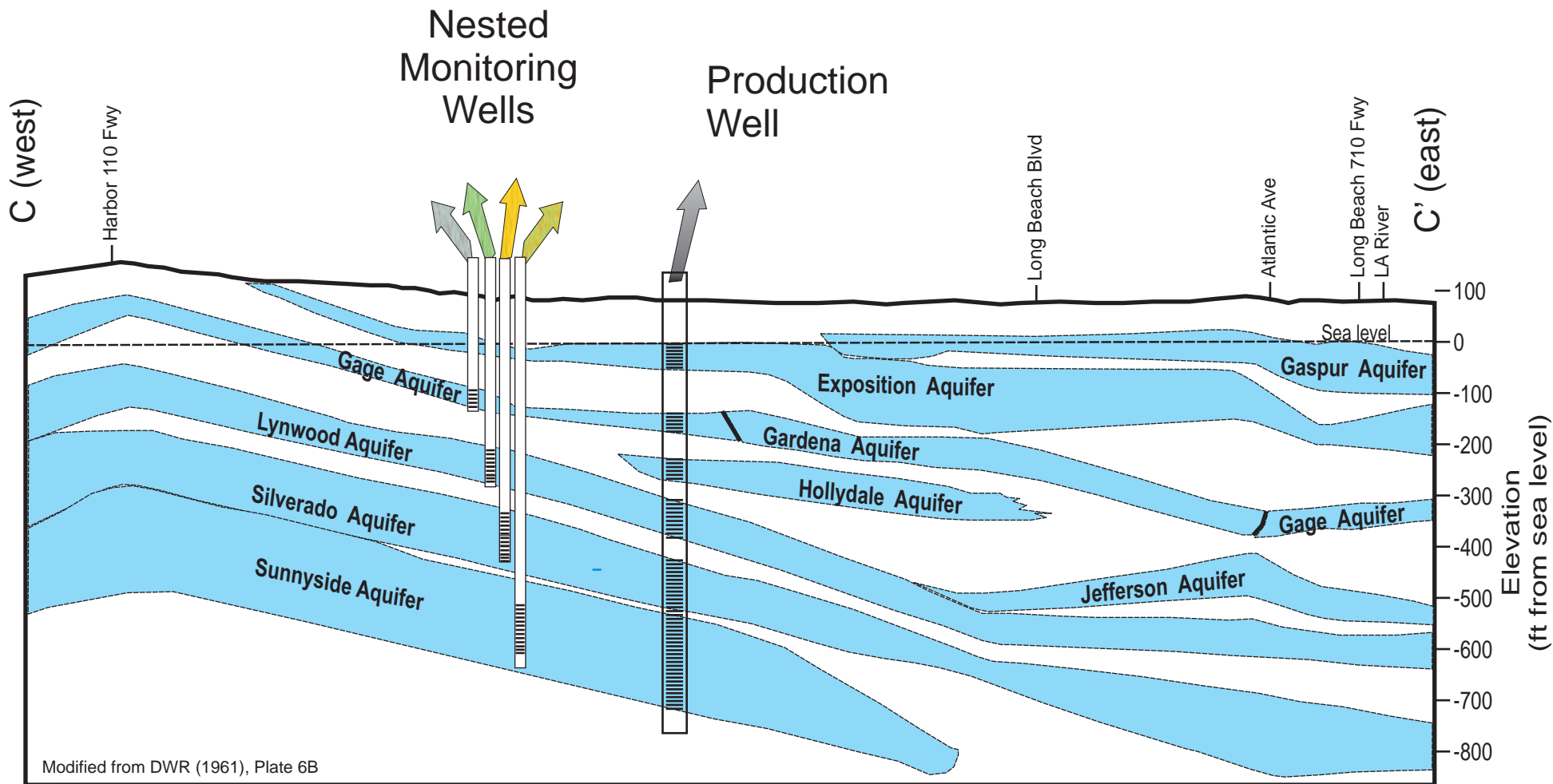


FIGURE 1.1
Water Replenishment
District of
Southern California



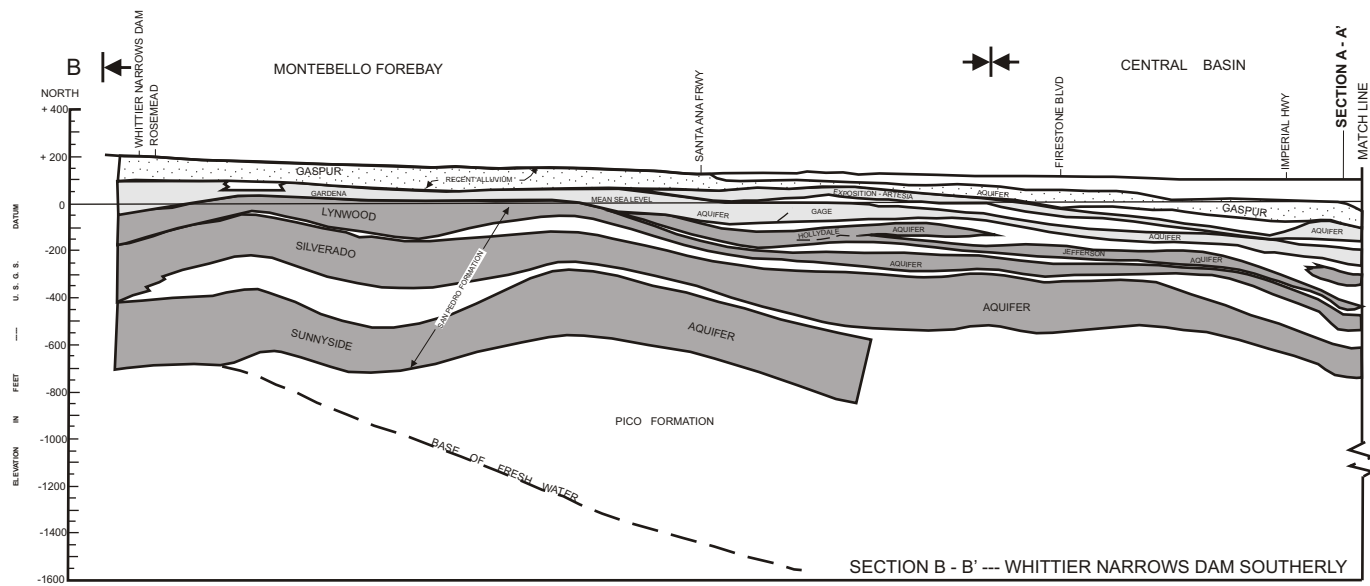
4040 Paramount Boulevard
 Lakewood, CA 90712
 (562) 921-5521
 (562) 921-6101 (fax)
 www.wrd.org

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







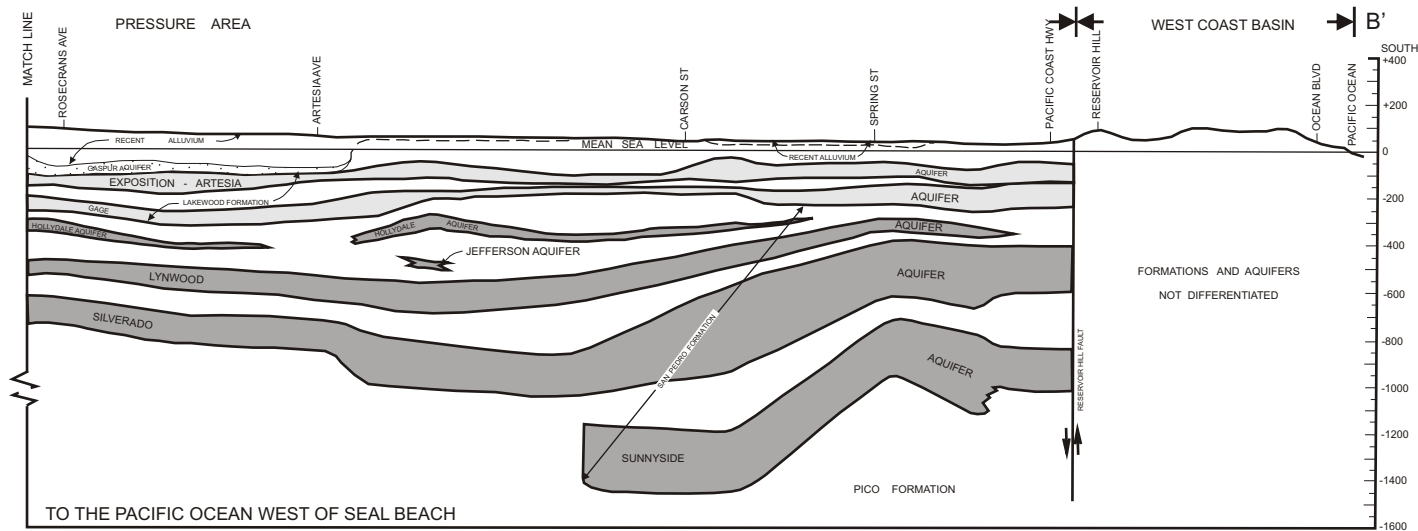
Modified from DWR (1961), Plate 6B

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.



LEGEND

-  AQUICLIDES 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 BB'

Adapted from
CDWR Bull. 104 App. B

FIGURE 1.5

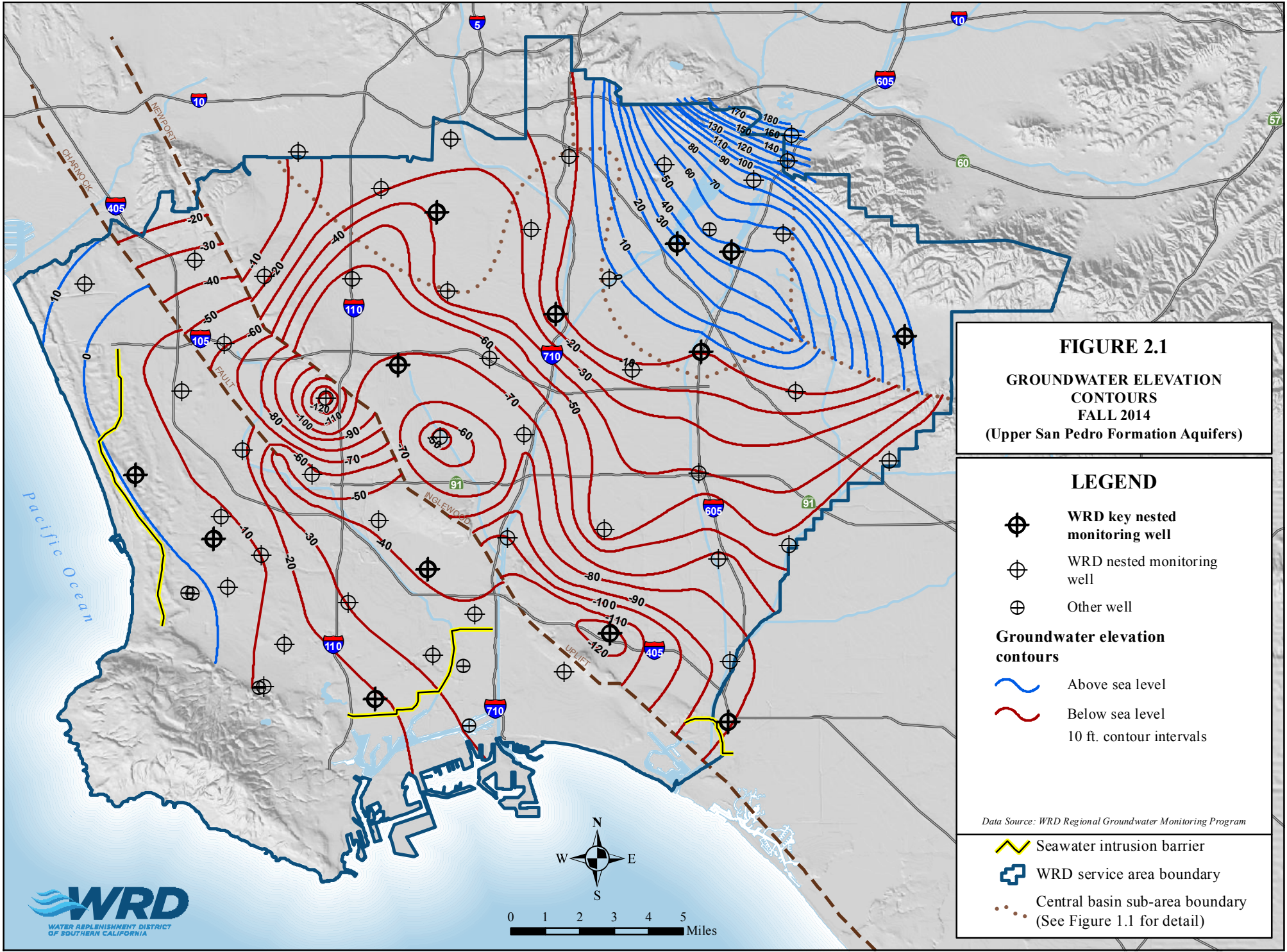


FIGURE 2.1
GROUNDWATER ELEVATION
CONTOURS
FALL 2014
(Upper San Pedro Formation Aquifers)

LEGEND

- WRD key nested monitoring well
- WRD nested monitoring well
- Other well

Groundwater elevation contours

- Above sea level
- Below sea level

10 ft. contour intervals

Data Source: WRD Regional Groundwater Monitoring Program

- Seawater intrusion barrier
- WRD service area boundary
- Central basin sub-area boundary (See Figure 1.1 for detail)

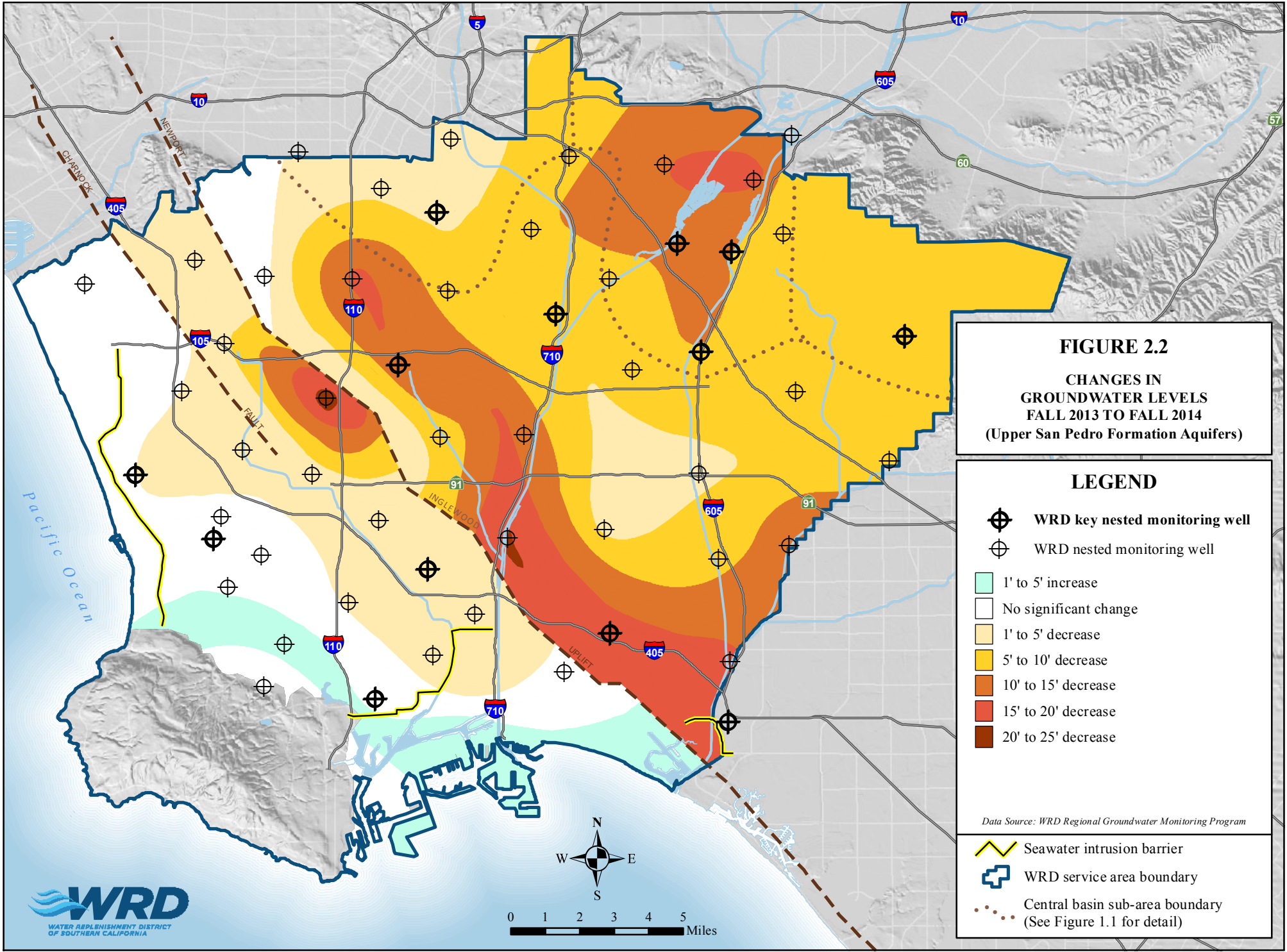


FIGURE 2.2
CHANGES IN
GROUNDWATER LEVELS
FALL 2013 TO FALL 2014
(Upper San Pedro Formation Aquifers)

LEGEND

- WRD key nested monitoring well
- WRD nested monitoring well
- 1' to 5' increase
- No significant change
- 1' to 5' decrease
- 5' to 10' decrease
- 10' to 15' decrease
- 15' to 20' decrease
- 20' to 25' decrease

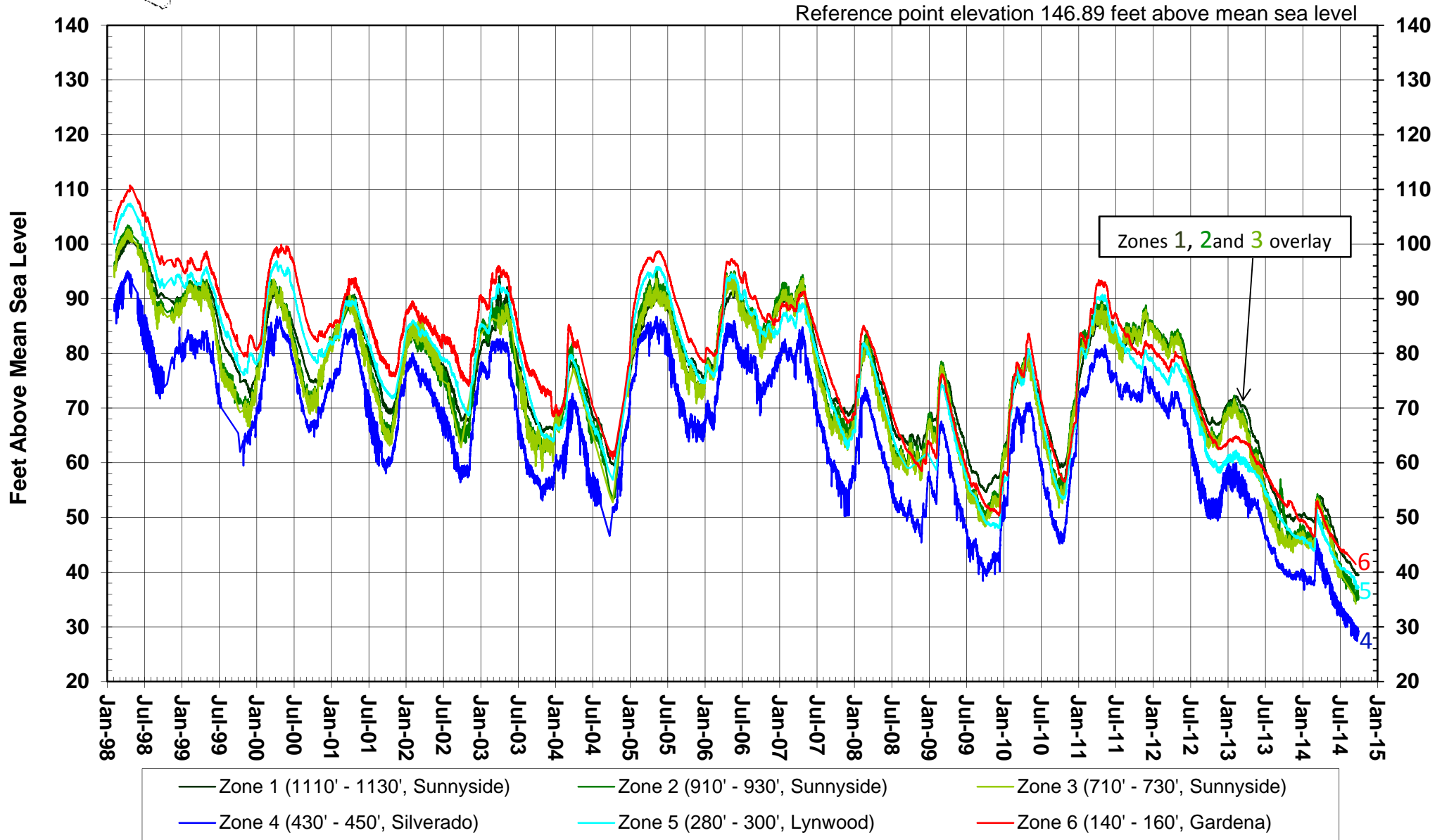
Data Source: WRD Regional Groundwater Monitoring Program

- Seawater intrusion barrier
- WRD service area boundary
- Central basin sub-area boundary (See Figure 1.1 for detail)





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



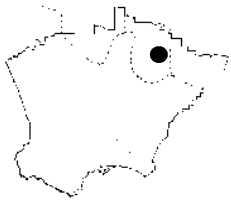
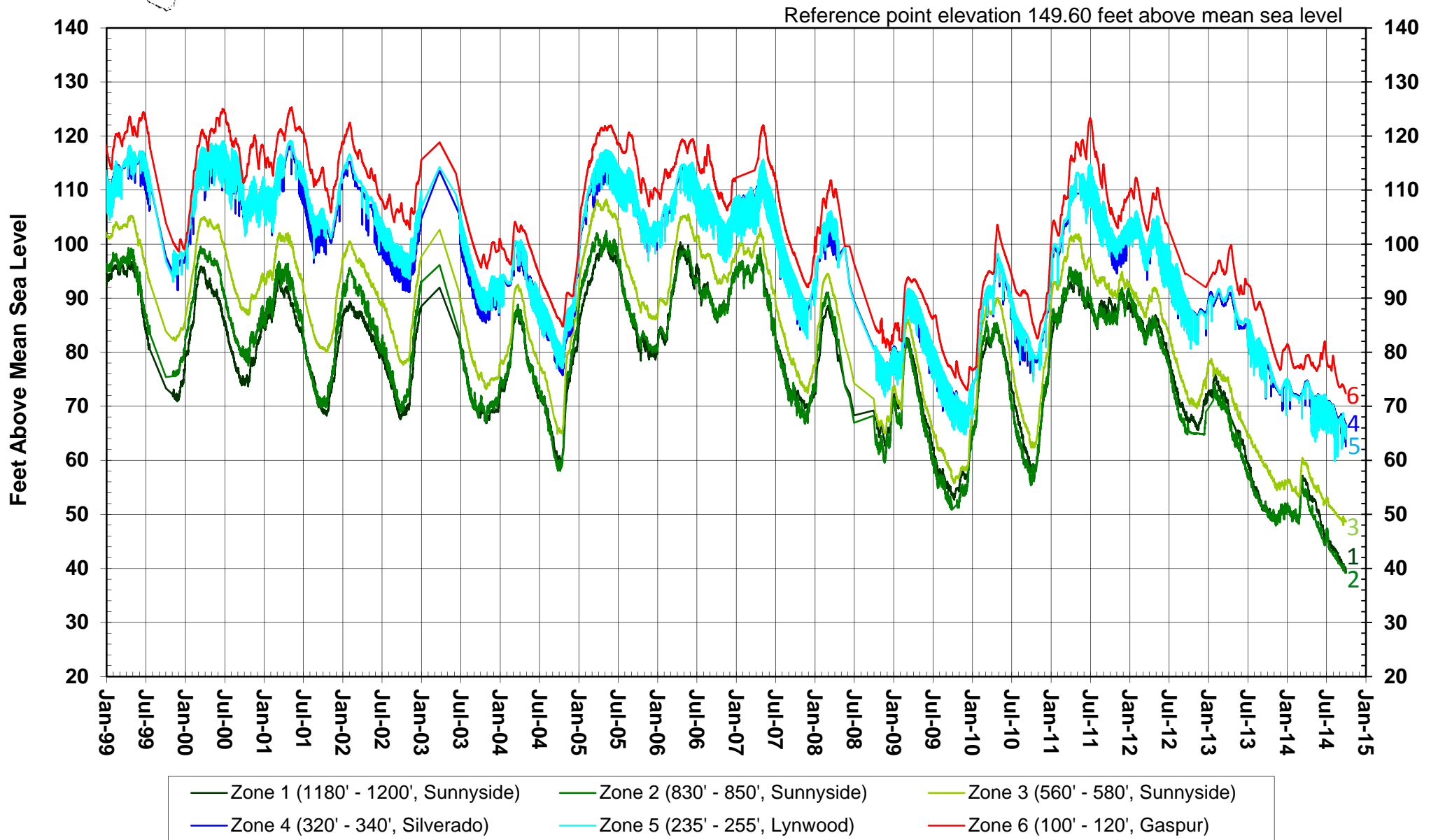


FIGURE 2.4
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL PICO #2



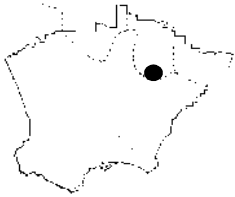
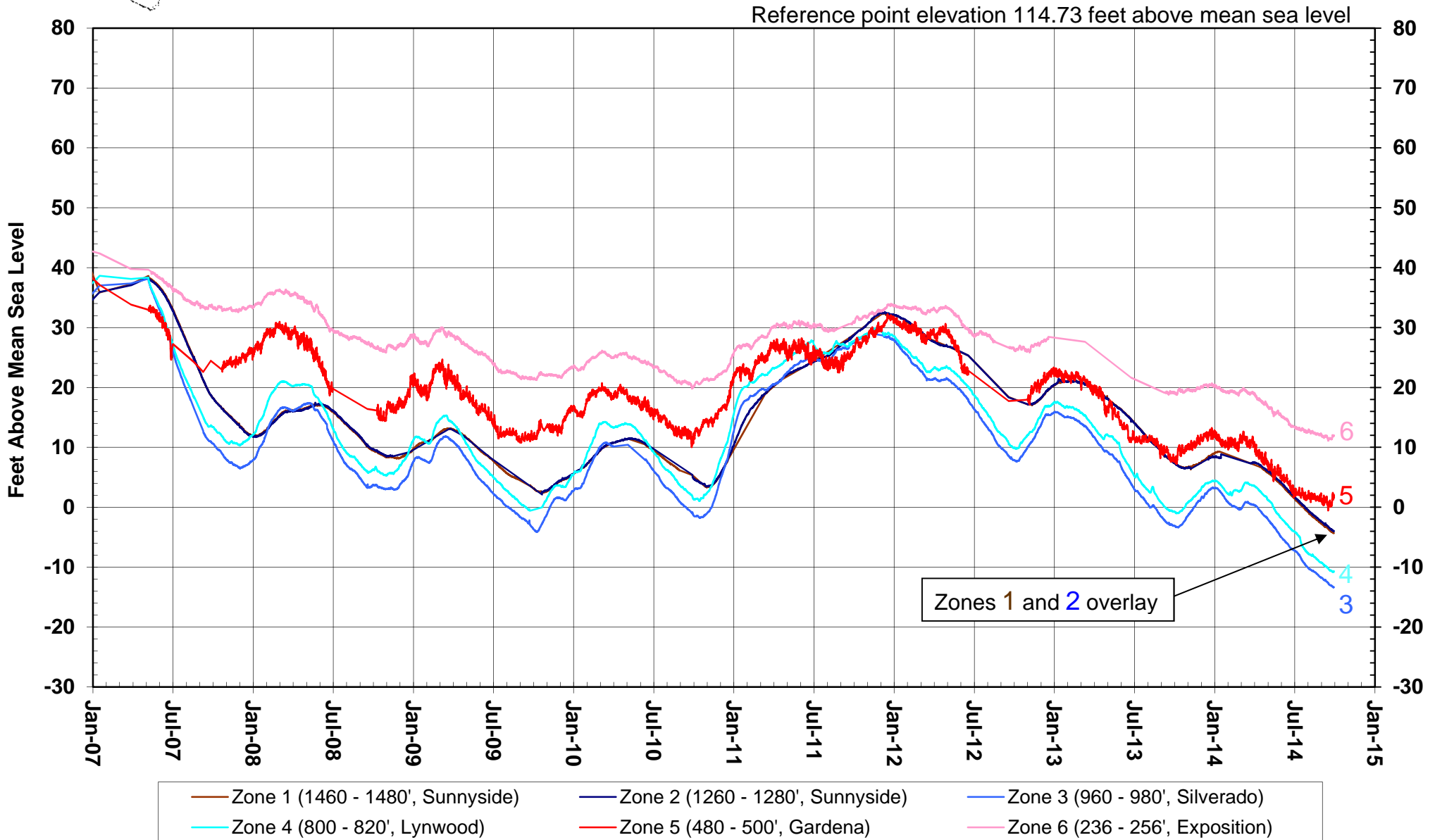


FIGURE 2.5
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL NORWALK #2



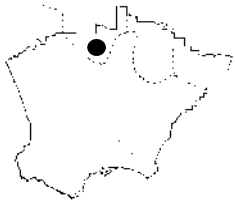
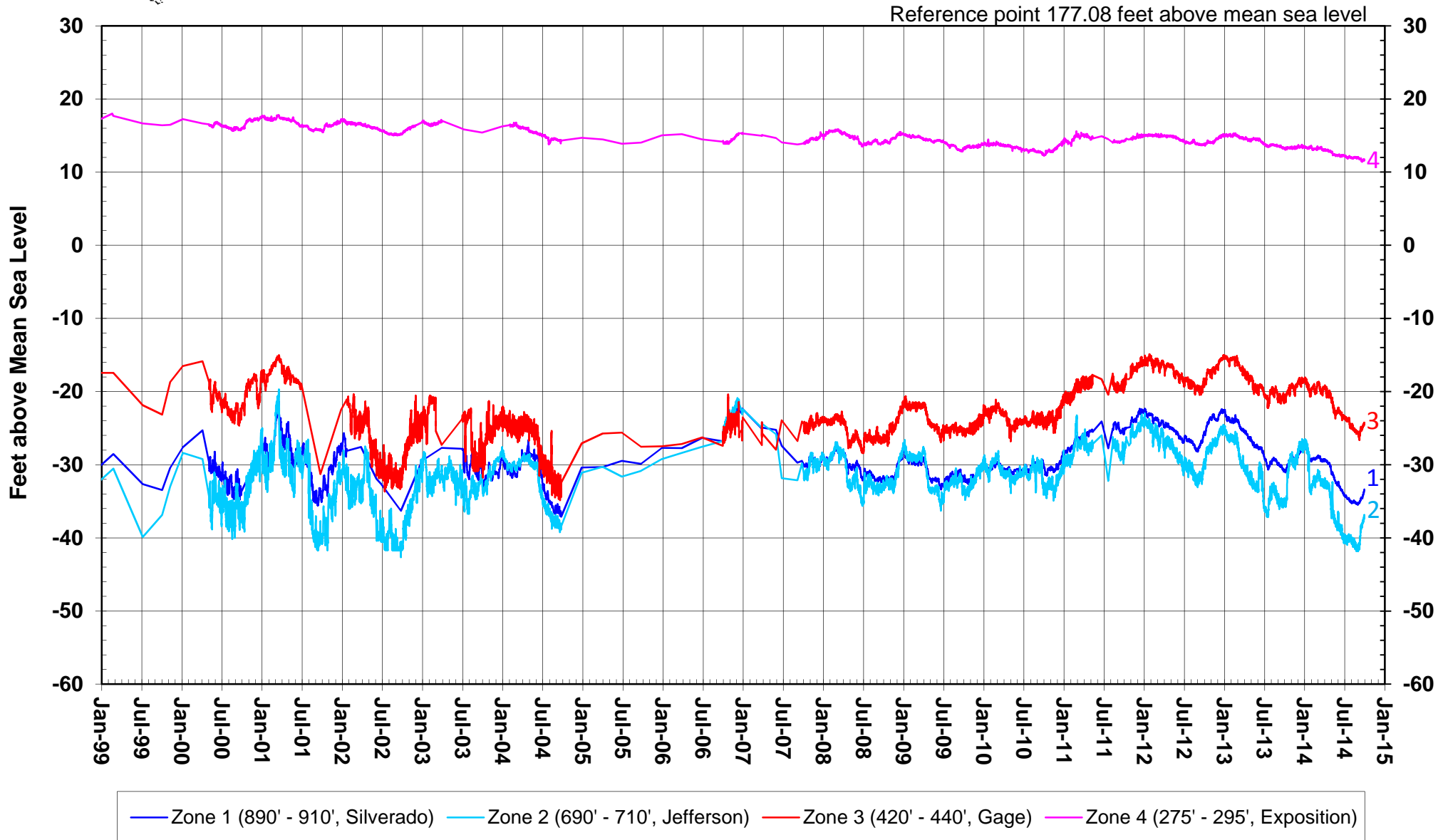


FIGURE 2.6
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL HUNTINGTON PARK #1



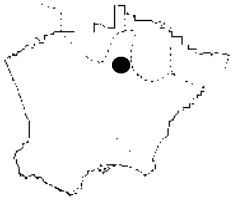
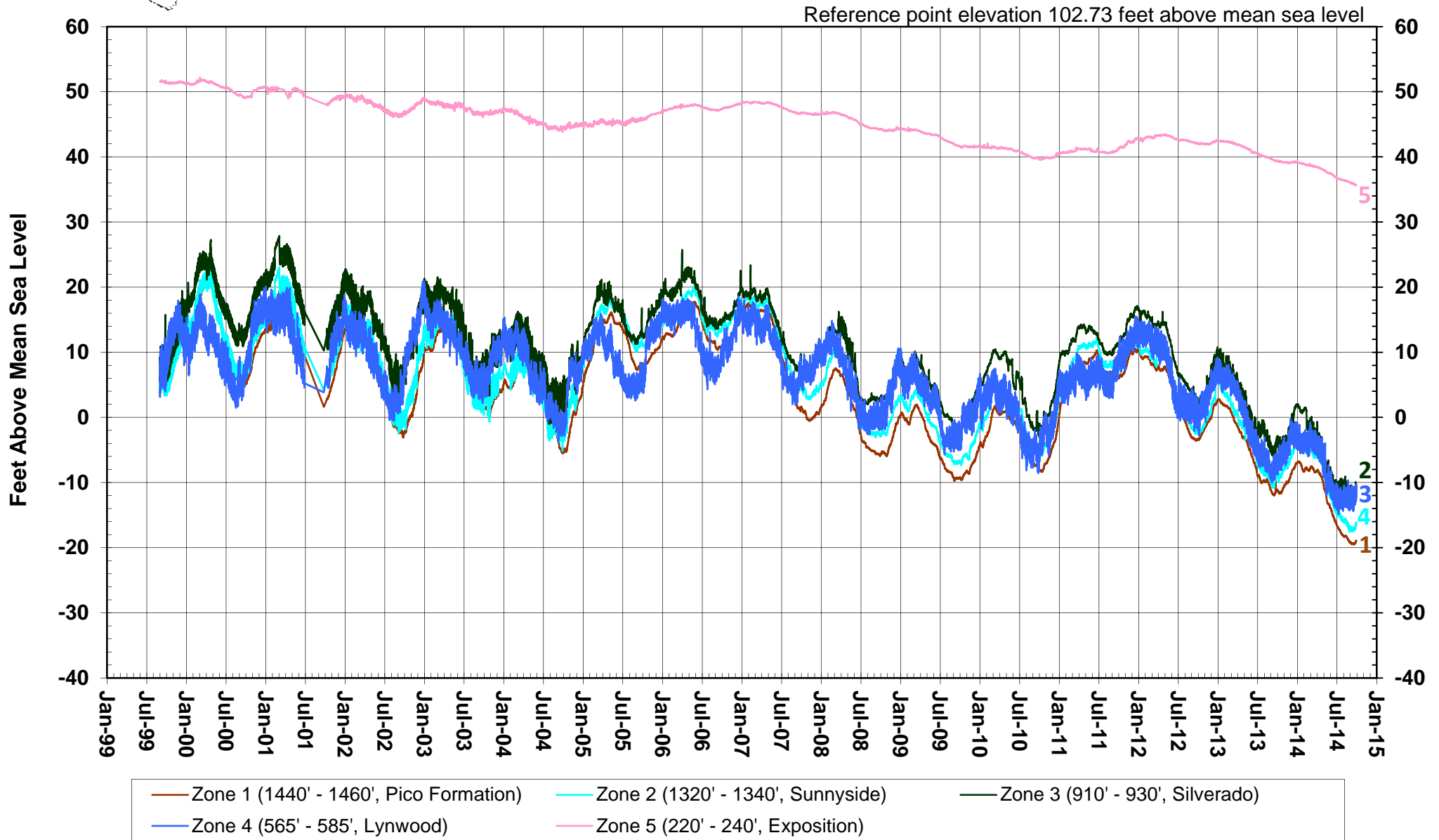


FIGURE 2.7
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL SOUTH GATE #1



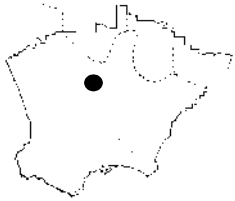
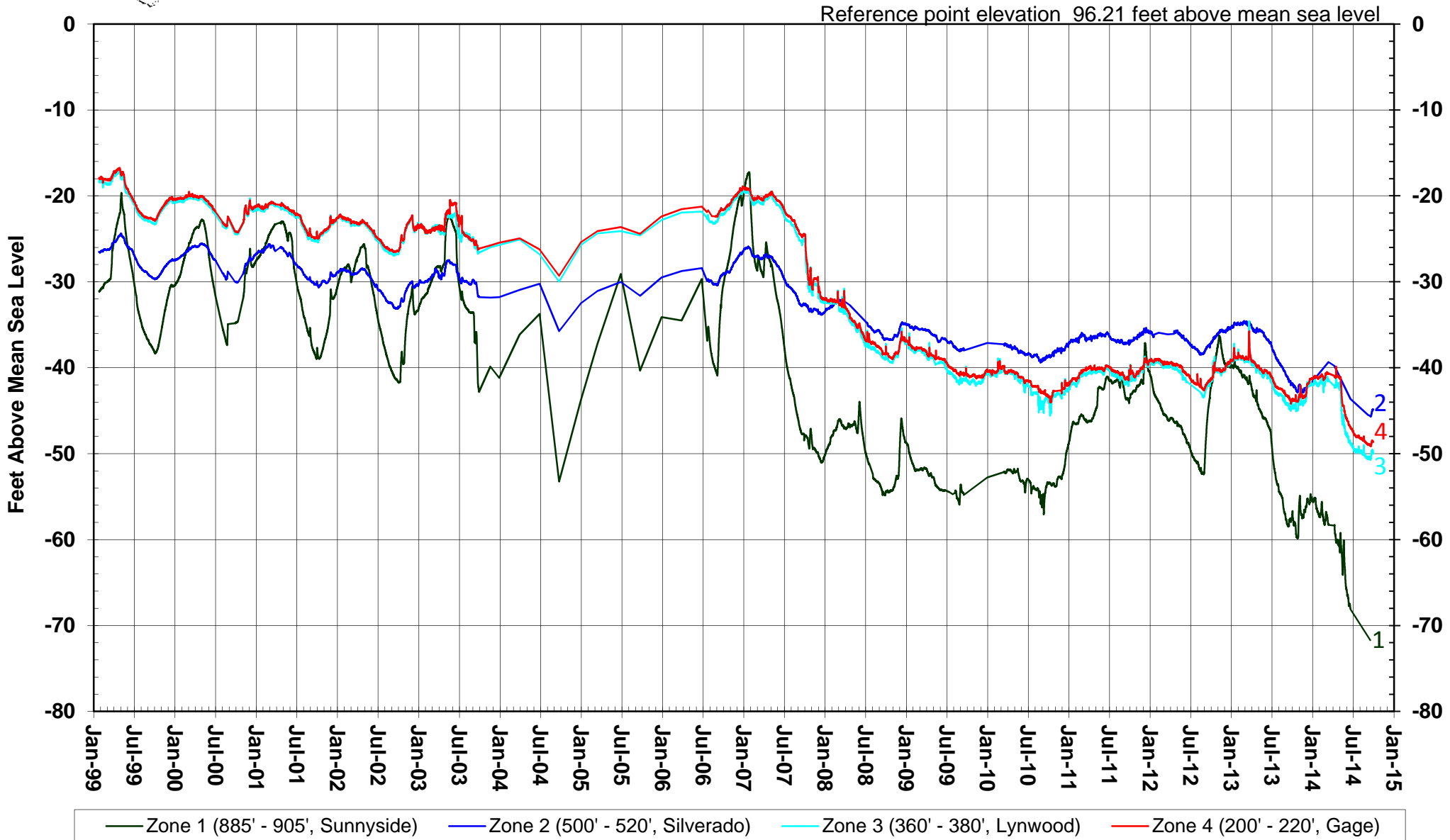


FIGURE 2.8
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL WILLOWBROOK #1



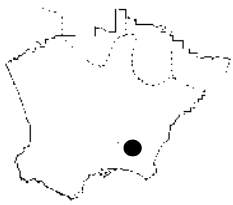


FIGURE 2.9
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL LONG BEACH #6

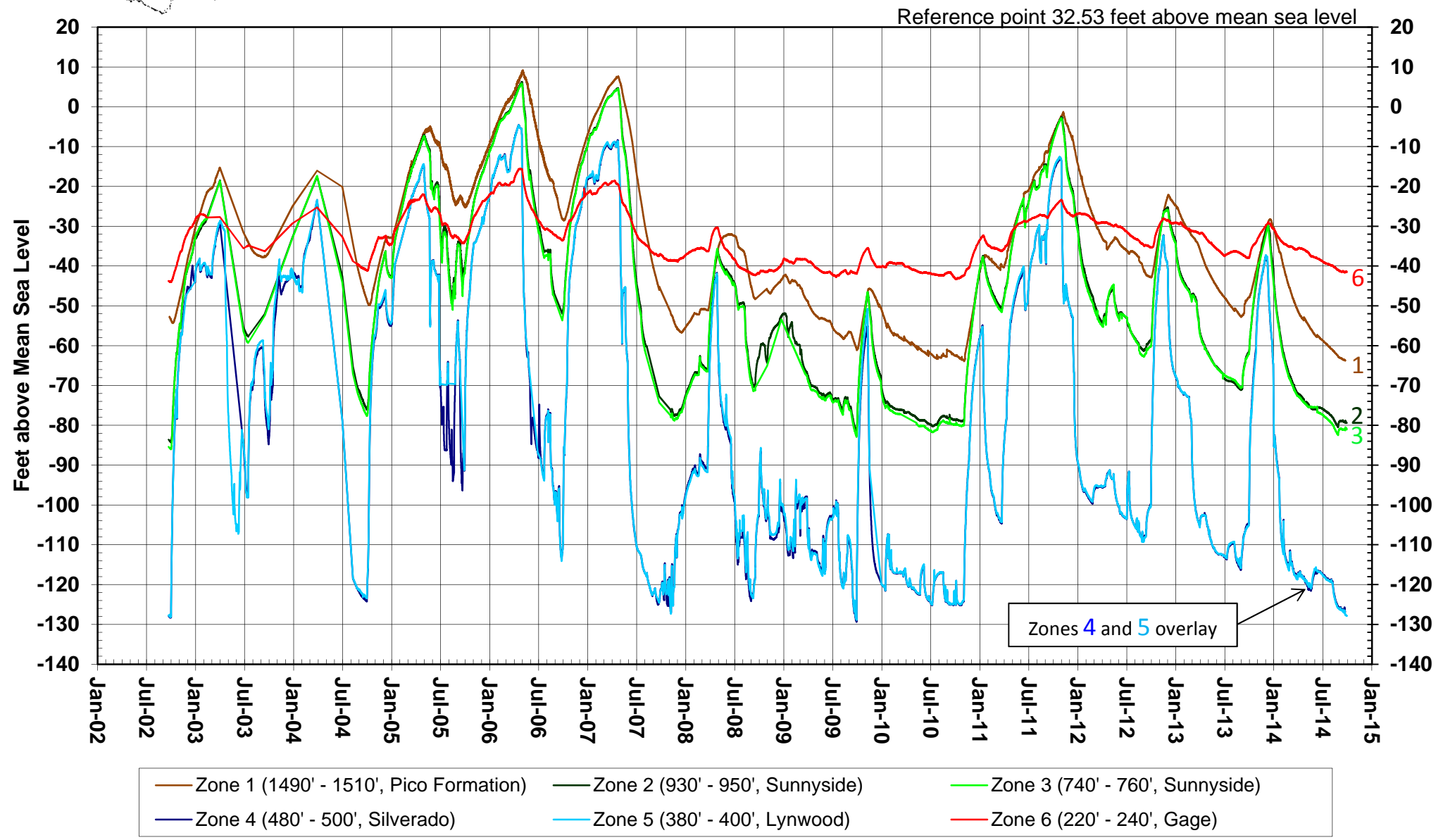
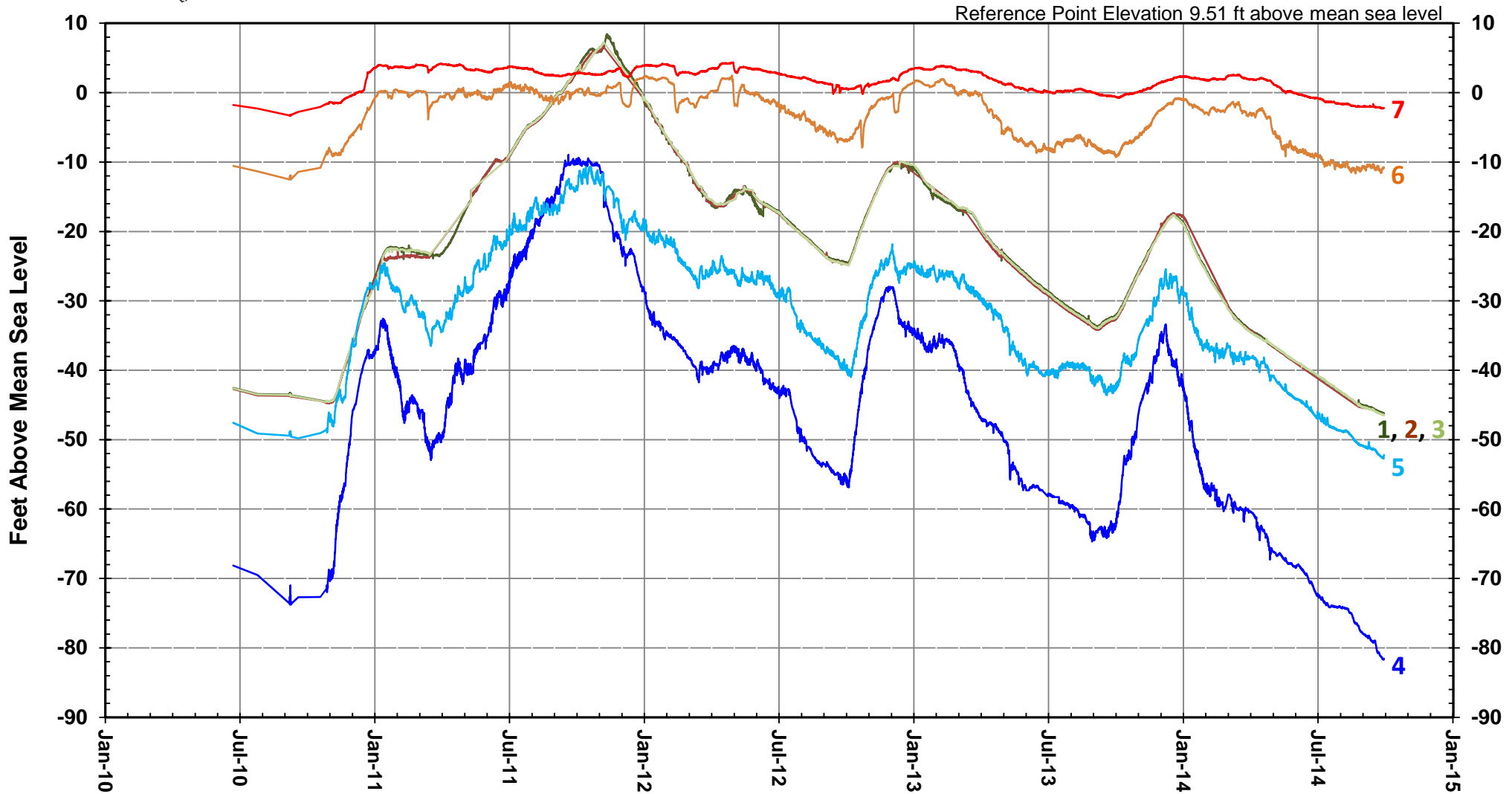




FIGURE 2.10
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL SEAL BEACH #1



- | | | | |
|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------|
| Zone 1 (1345' - 1365', Sunnyside) | Zone 2 (1160' - 1180', Sunnyside) | Zone 3 (1020' - 1040', Sunnyside) | Zone 4 (775' - 795', Silverado) |
| Zone 5 (605' - 625', Lynwood) | Zone 6 (215' - 235', Gage) | Zone 7 (60' - 70', Gaspur) | |

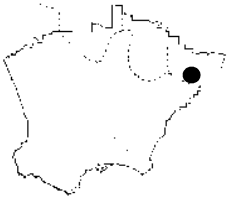
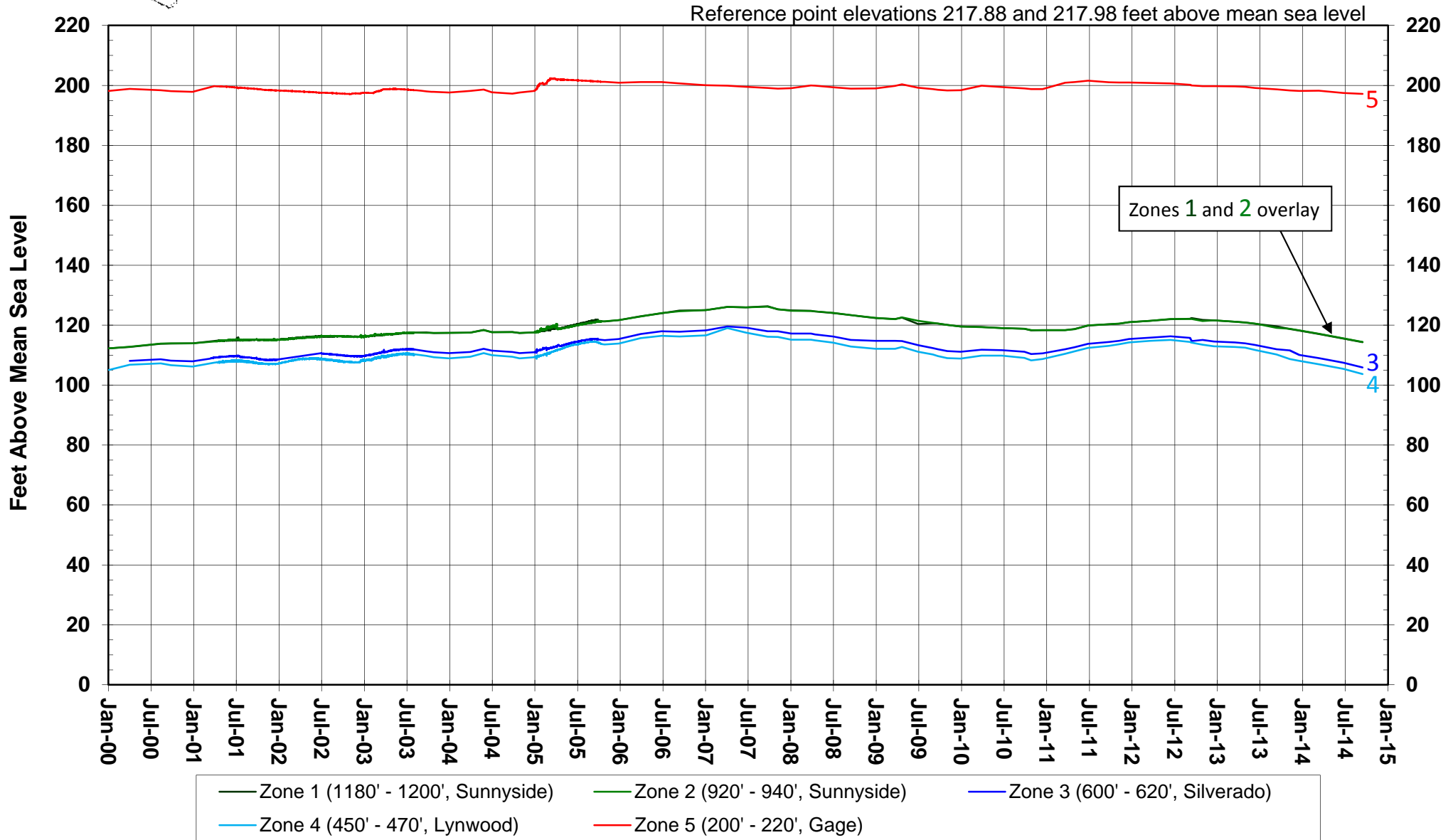


FIGURE 2.11
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL WHITTIER #1



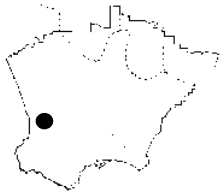
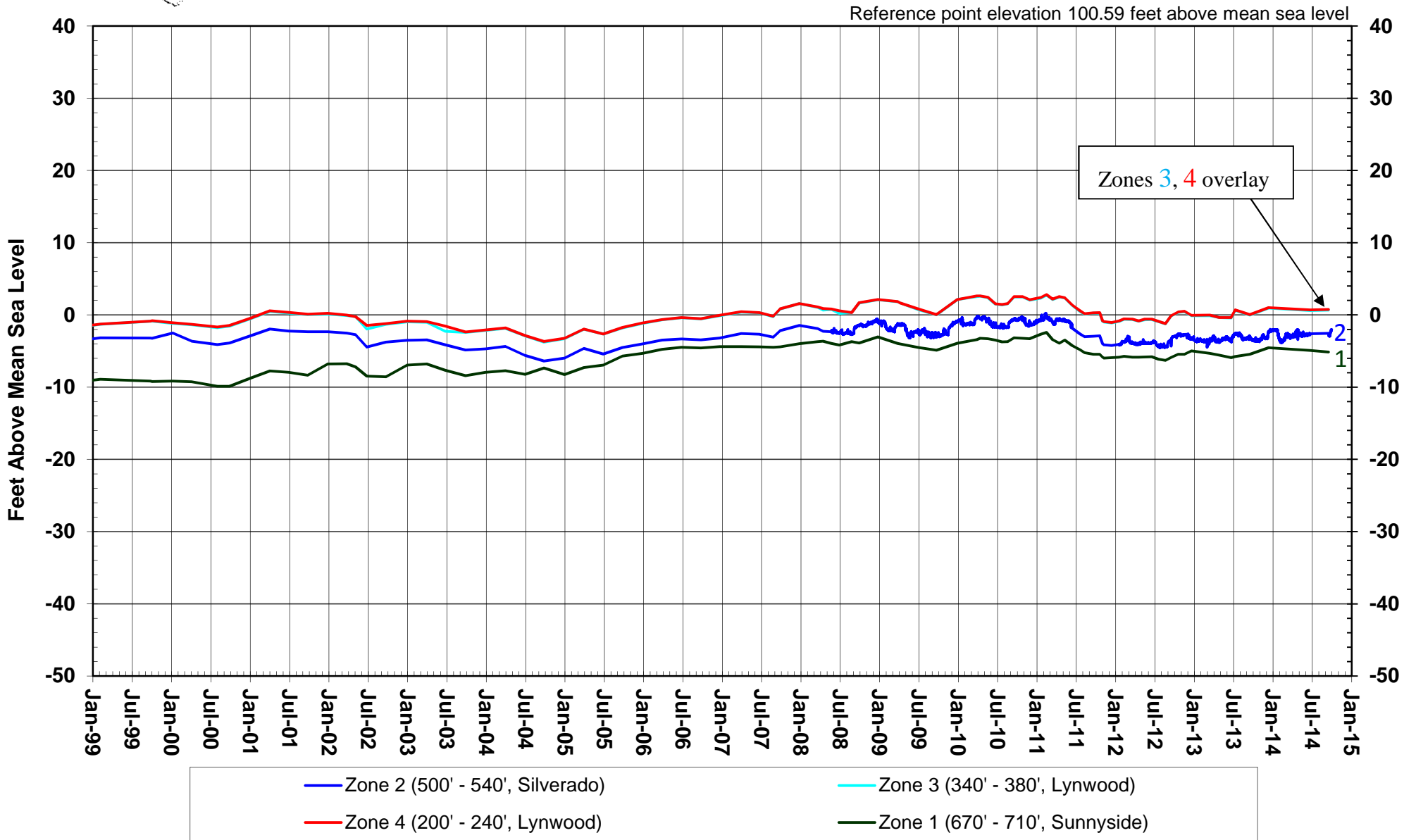


FIGURE 2.12
WATER LEVELS IN WRD NESTED
MONITORING WELL PM-4 MARINER



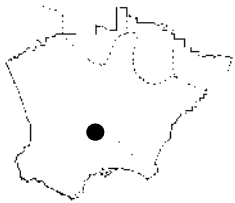


FIGURE 2.13
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL CARSON #1

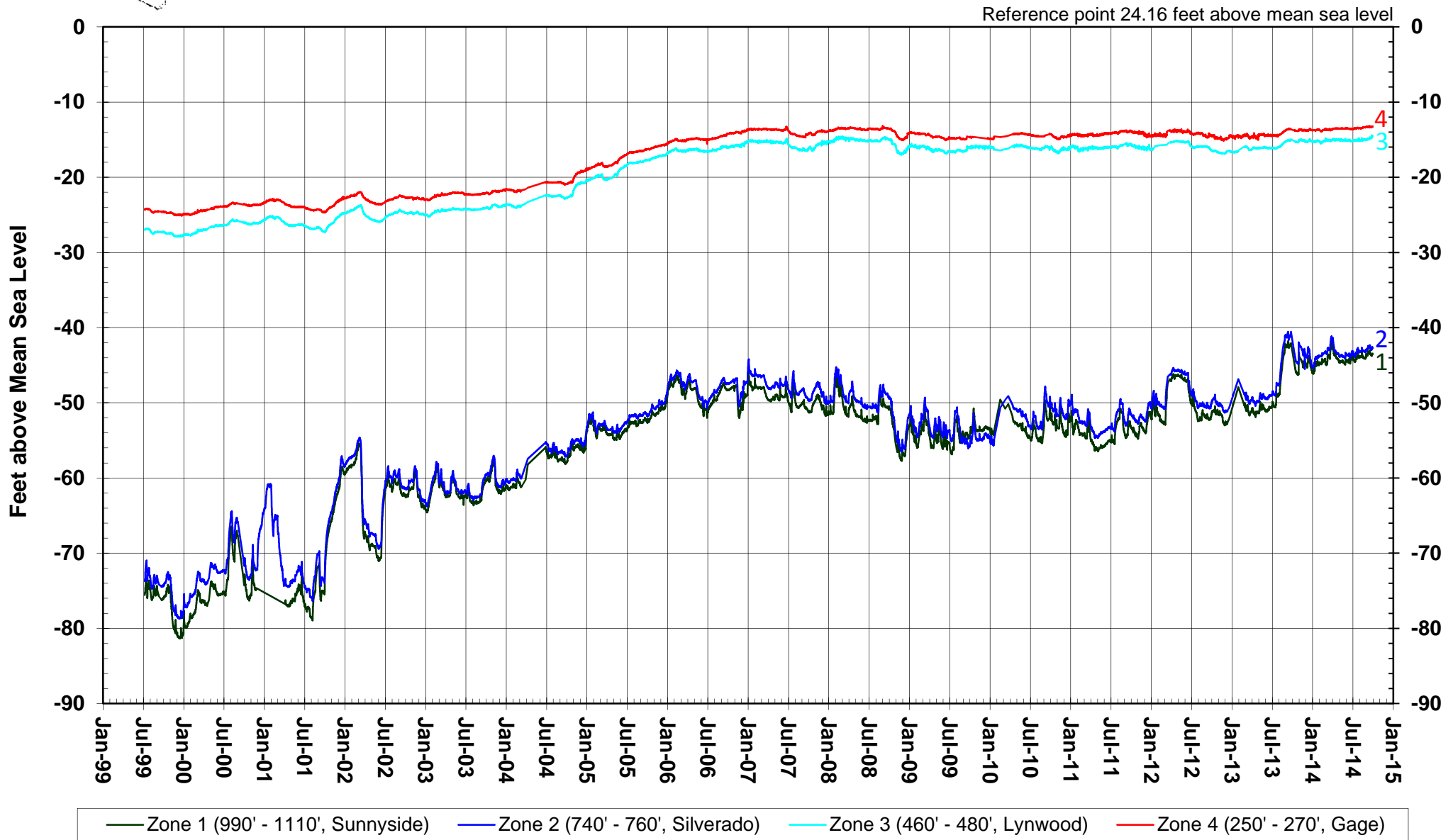




FIGURE 2.14
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL MANHATTAN BEACH #1

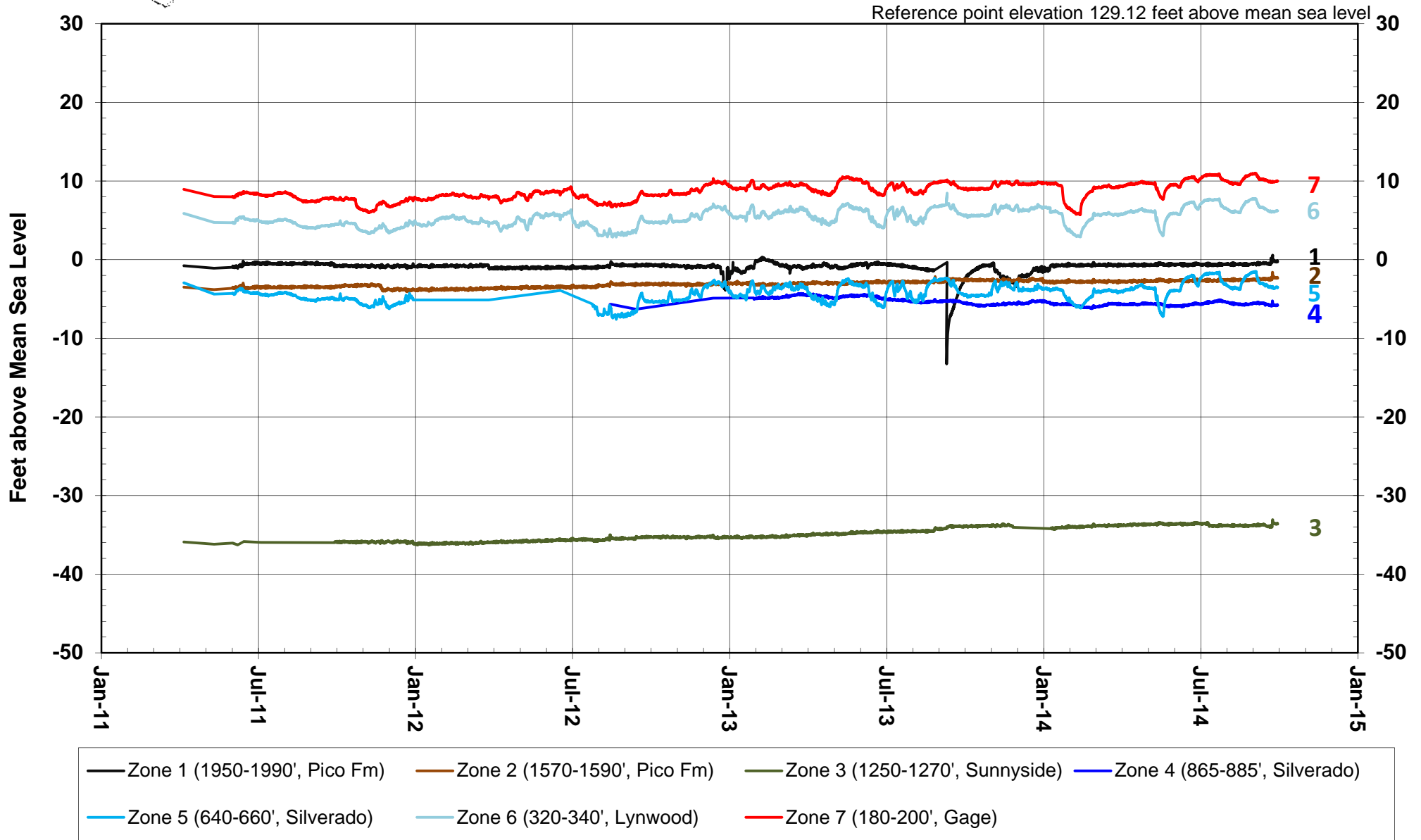
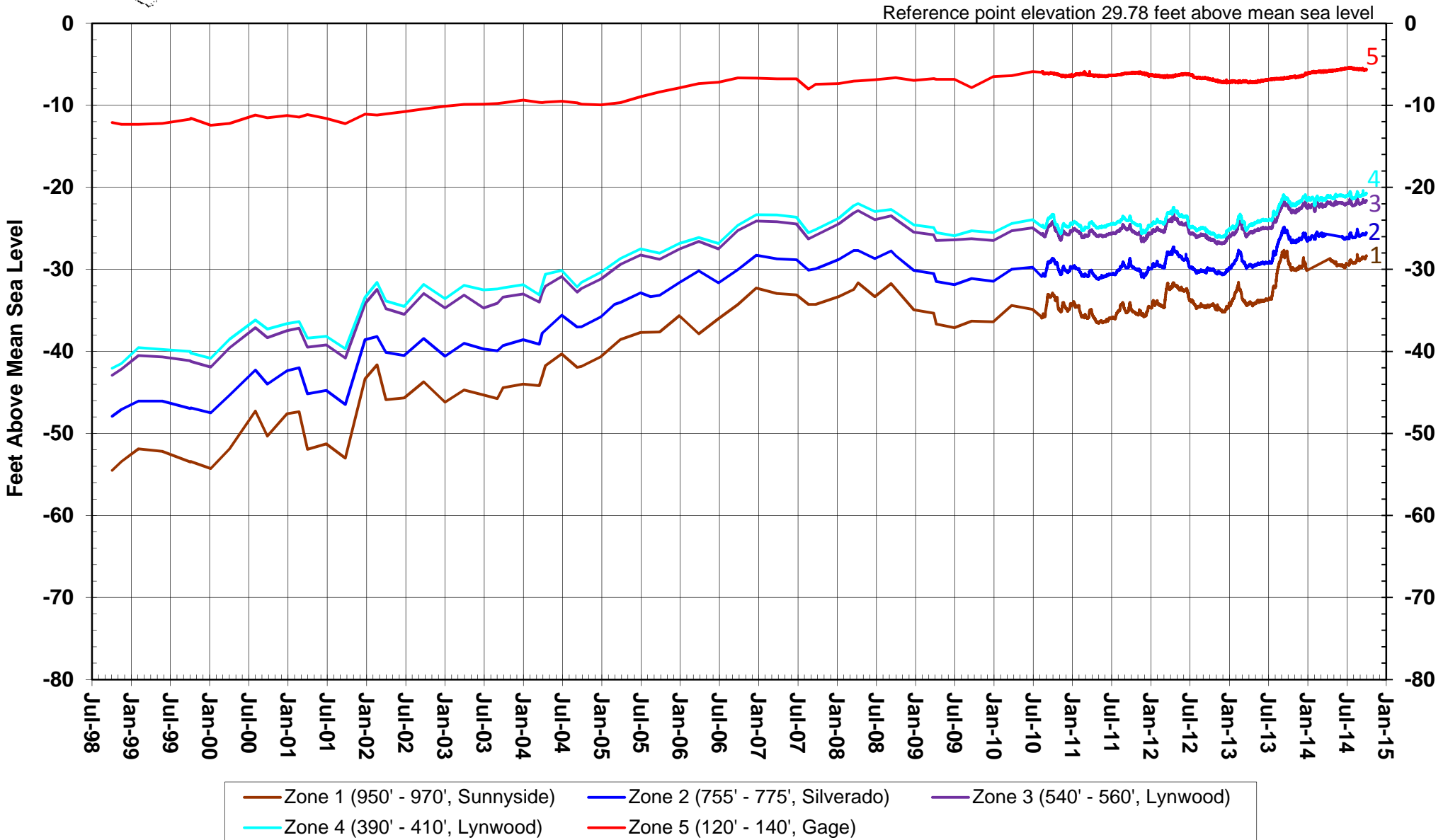




FIGURE 2.15
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL WILMINGTON #2



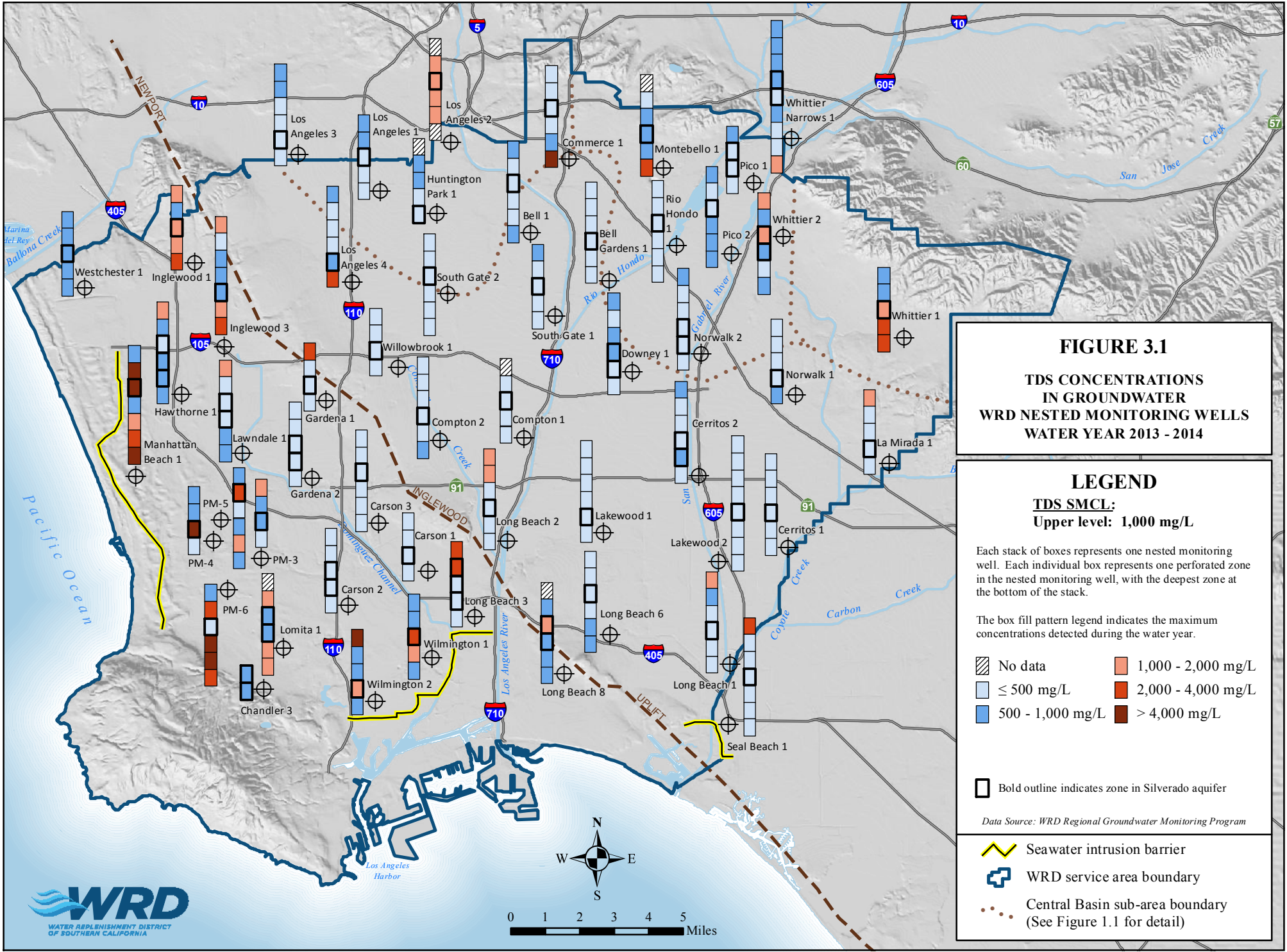


FIGURE 3.1
TDS CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2013 - 2014

LEGEND

TDS SMCL:
Upper level: 1,000 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		1,000 - 2,000 mg/L
	≤ 500 mg/L		2,000 - 4,000 mg/L
	500 - 1,000 mg/L		> 4,000 mg/L

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

Seawater intrusion barrier

WRD service area boundary

Central Basin sub-area boundary
 (See Figure 1.1 for detail)



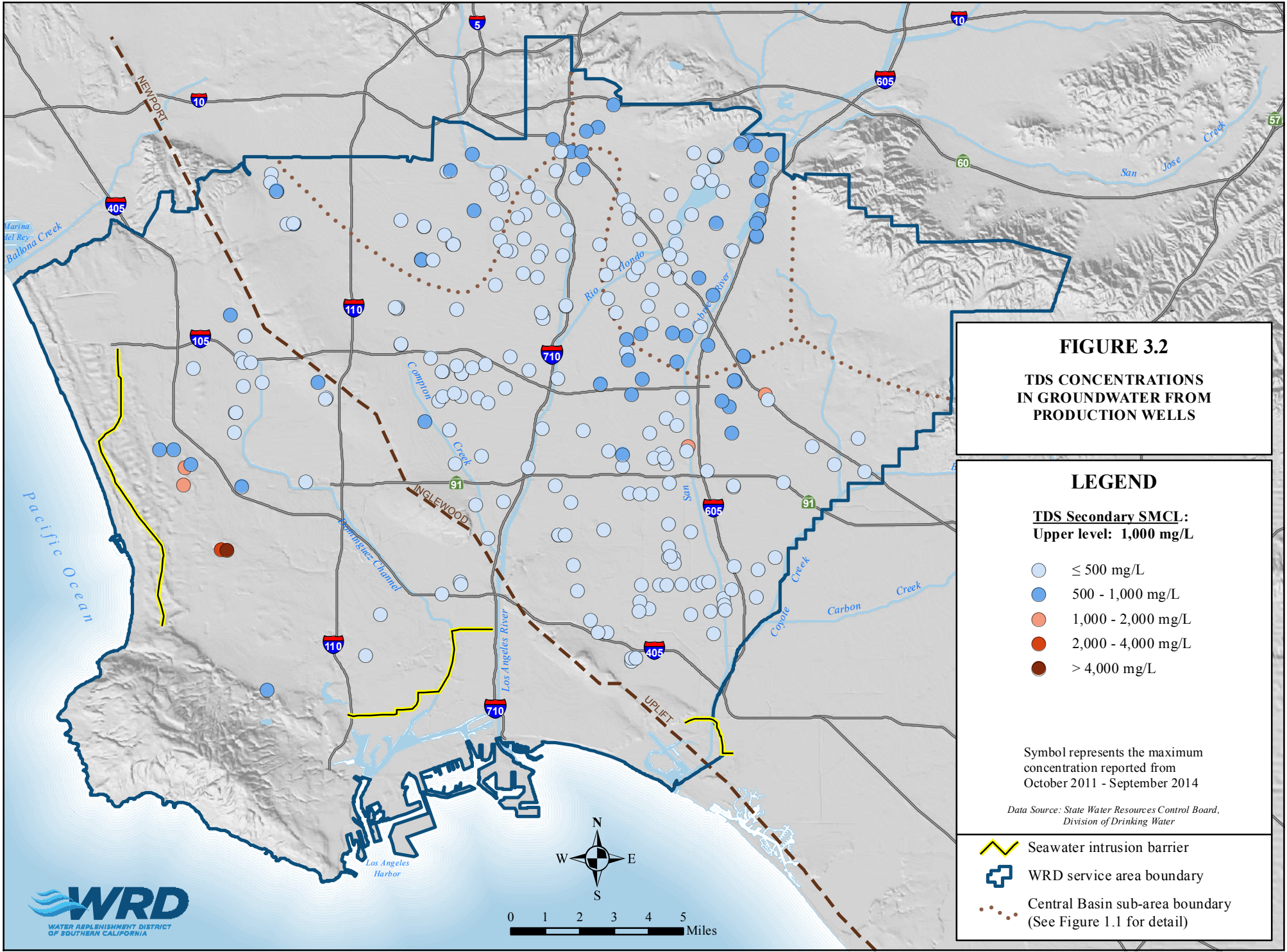


FIGURE 3.2
TDS CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

TDS Secondary SMCL:
Upper level: 1,000 mg/L

- ≤ 500 mg/L
- 500 - 1,000 mg/L
- 1,000 - 2,000 mg/L
- 2,000 - 4,000 mg/L
- > 4,000 mg/L

Symbol represents the maximum concentration reported from October 2011 - September 2014

Data Source: State Water Resources Control Board, Division of Drinking Water

- Seawater intrusion barrier
- WRD service area boundary
- Central Basin sub-area boundary (See Figure 1.1 for detail)

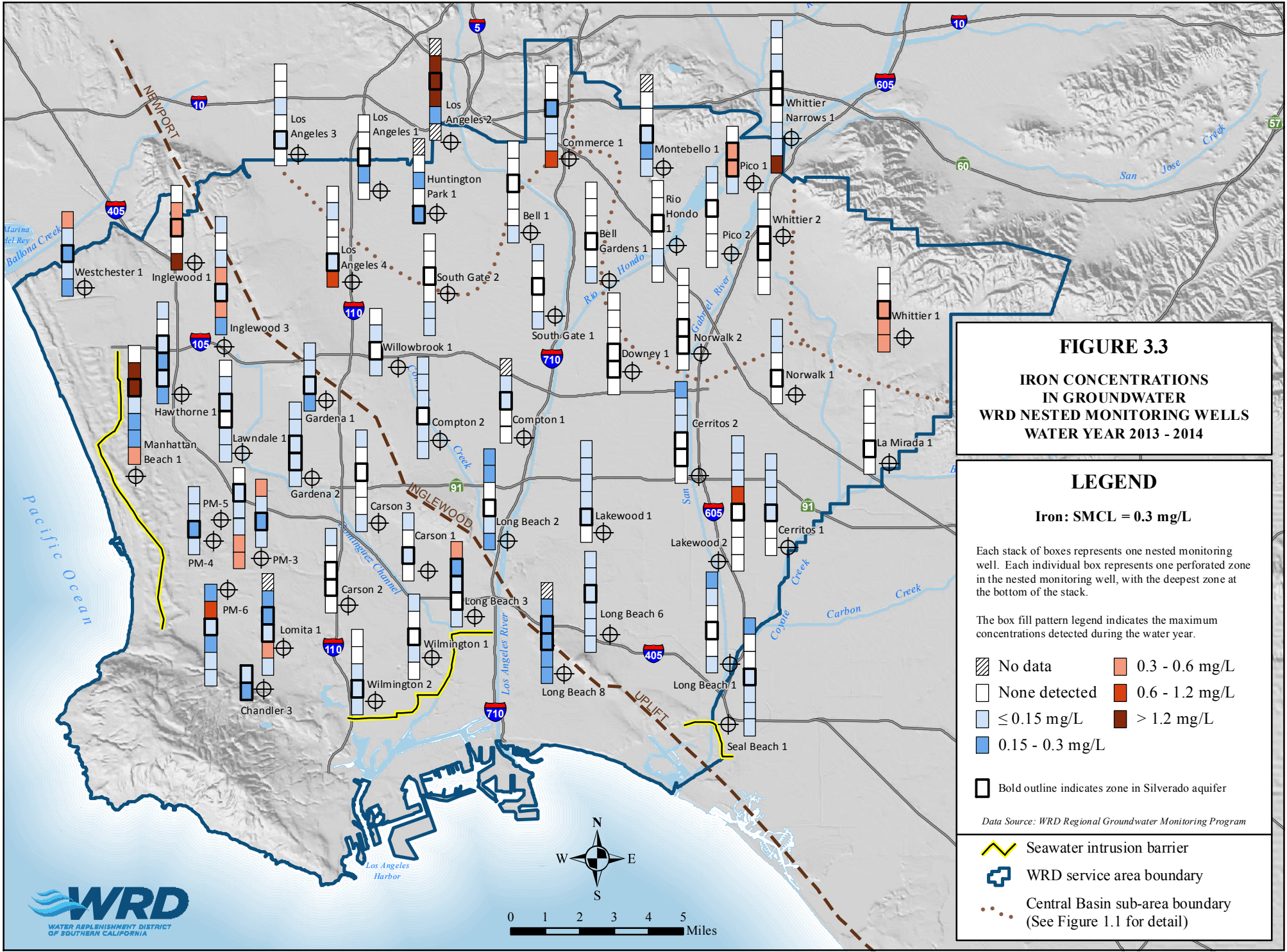


FIGURE 3.3
IRON CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2013 - 2014

LEGEND

Iron: SMCL = 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		0.3 - 0.6 mg/L
	None detected		0.6 - 1.2 mg/L
	≤ 0.15 mg/L		> 1.2 mg/L
	0.15 - 0.3 mg/L		

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

Seawater intrusion barrier

WRD service area boundary

Central Basin sub-area boundary (See Figure 1.1 for detail)

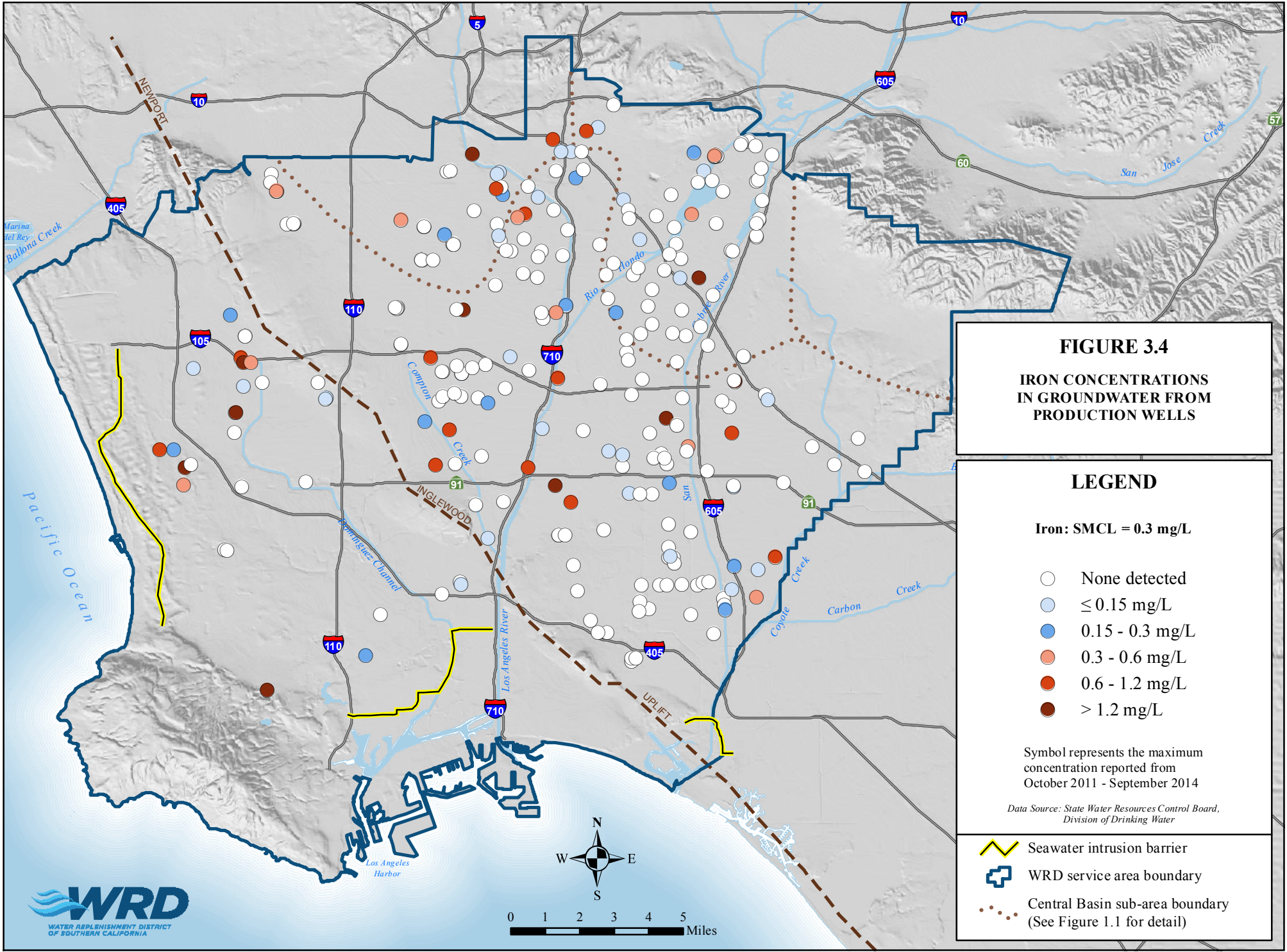


FIGURE 3.4
IRON CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

Iron: SMCL = 0.3 mg/L

- None detected
- ≤ 0.15 mg/L
- 0.15 - 0.3 mg/L
- 0.3 - 0.6 mg/L
- 0.6 - 1.2 mg/L
- > 1.2 mg/L

Symbol represents the maximum concentration reported from October 2011 - September 2014

Data Source: State Water Resources Control Board, Division of Drinking Water

- Seawater intrusion barrier
- WRD service area boundary
- Central Basin sub-area boundary (See Figure 1.1 for detail)



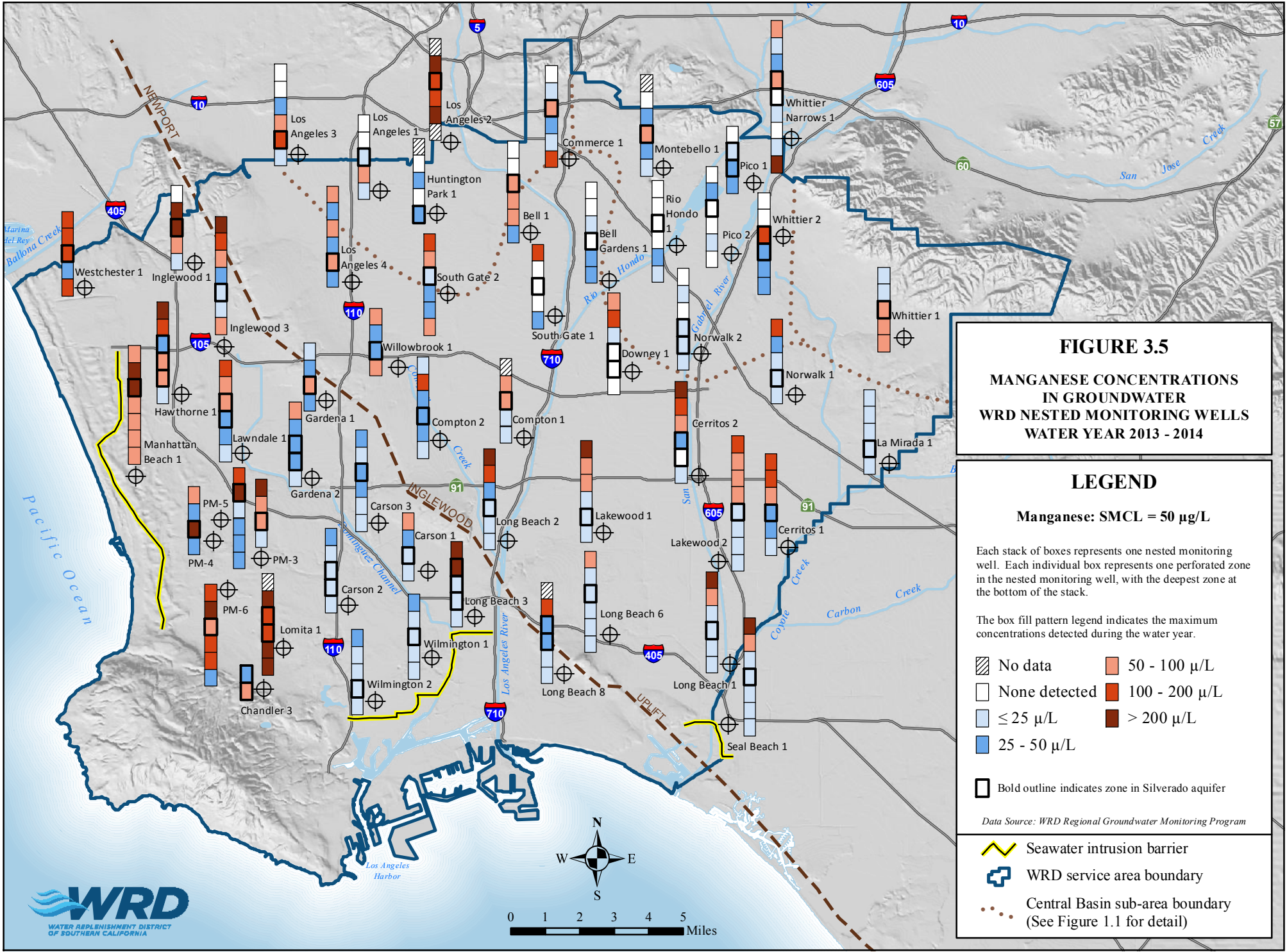


FIGURE 3.5
MANGANESE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2013 - 2014

LEGEND

Manganese: SMCL = 50 µg/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		50 - 100 µ/L
	None detected		100 - 200 µ/L
	≤ 25 µ/L		> 200 µ/L
	25 - 50 µ/L		

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

Seawater intrusion barrier

WRD service area boundary

Central Basin sub-area boundary
 (See Figure 1.1 for detail)

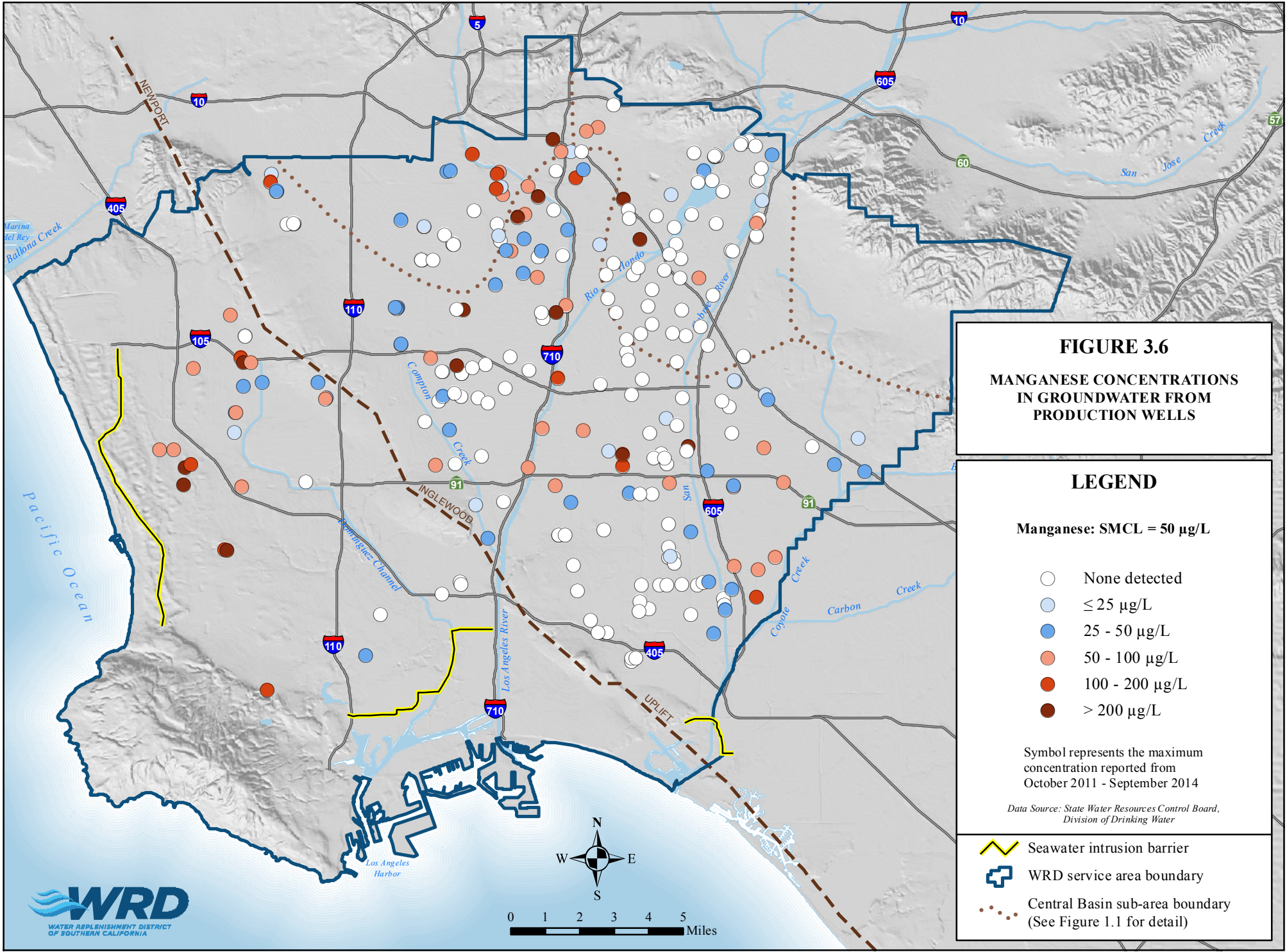


FIGURE 3.6
MANGANESE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

Manganese: SMCL = 50 µg/L

- None detected
- ≤ 25 µg/L
- 25 - 50 µg/L
- 50 - 100 µg/L
- 100 - 200 µg/L
- > 200 µg/L

Symbol represents the maximum concentration reported from October 2011 - September 2014

Data Source: State Water Resources Control Board, Division of Drinking Water

- ▬ Seawater intrusion barrier
- ▬ WRD service area boundary
- ⋯ Central Basin sub-area boundary (See Figure 1.1 for detail)



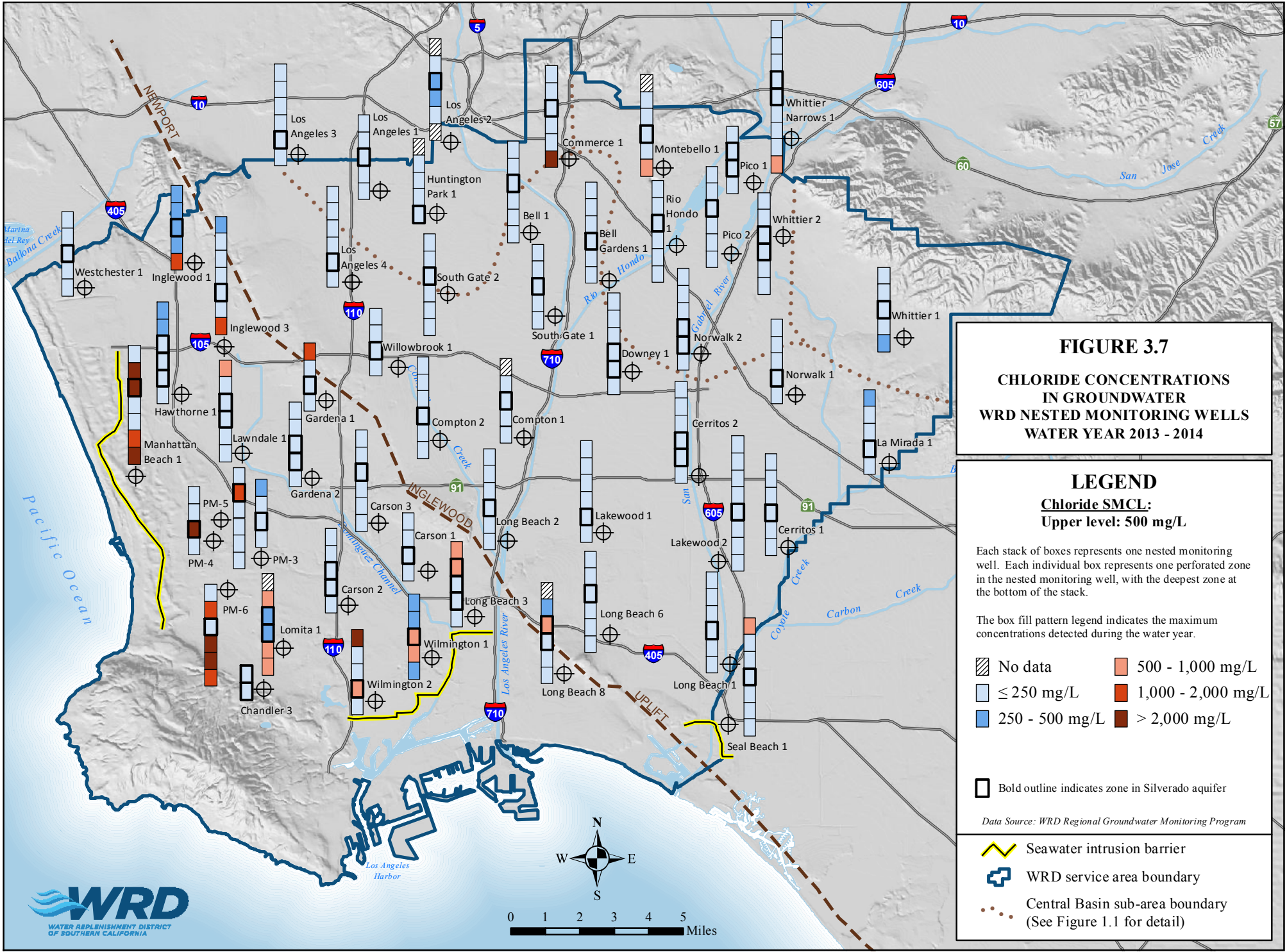


FIGURE 3.7
CHLORIDE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2013 - 2014

LEGEND

Chloride SMCL:
Upper level: 500 mg/L

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

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

	No data		500 - 1,000 mg/L
	≤ 250 mg/L		1,000 - 2,000 mg/L
	250 - 500 mg/L		> 2,000 mg/L

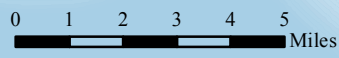
Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

Seawater intrusion barrier

WRD service area boundary

Central Basin sub-area boundary (See Figure 1.1 for detail)



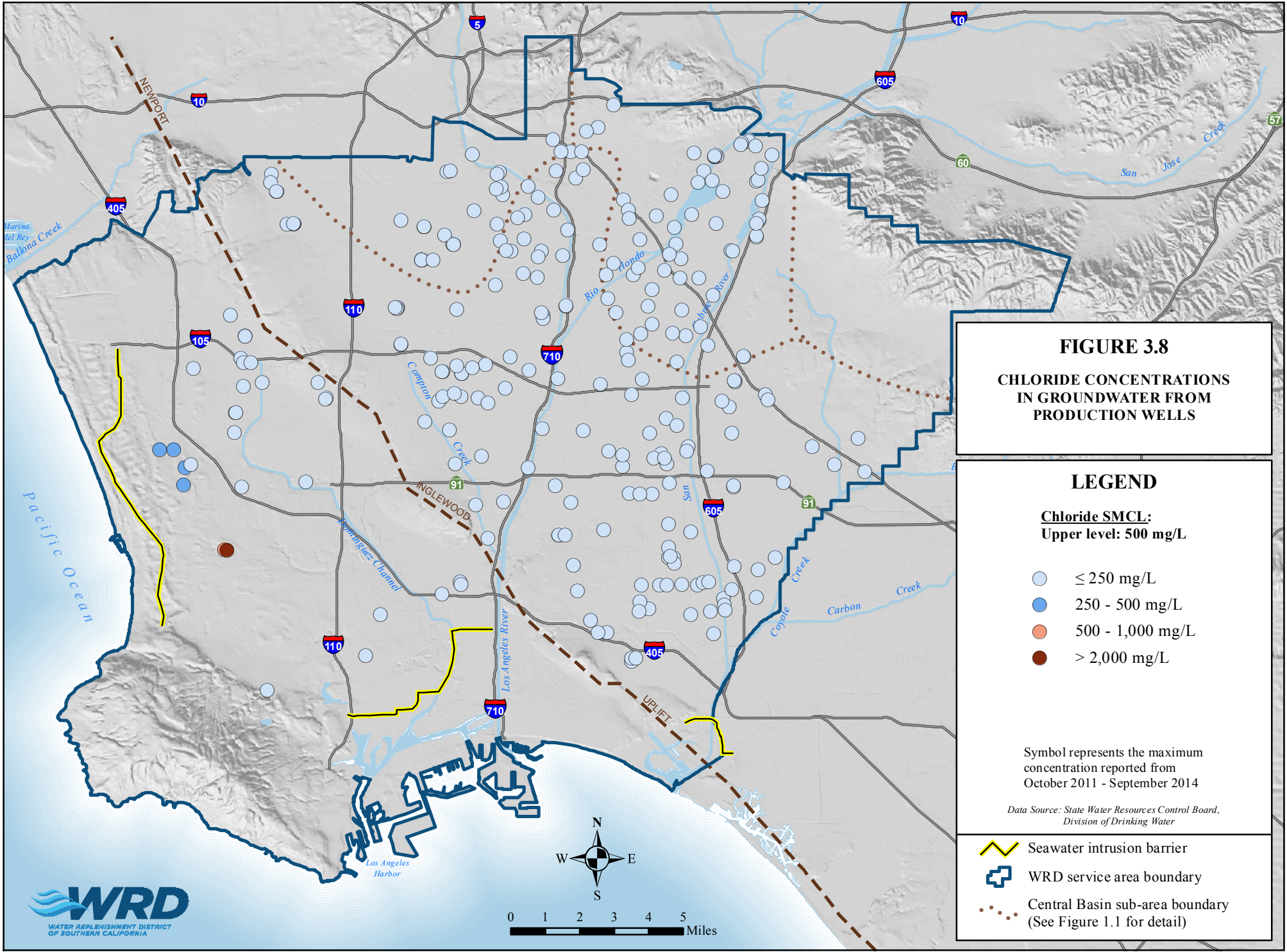


FIGURE 3.8
CHLORIDE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

Chloride SMCL:
 Upper level: 500 mg/L

- ≤ 250 mg/L
- 250 - 500 mg/L
- 500 - 1,000 mg/L
- > 2,000 mg/L

Symbol represents the maximum concentration reported from October 2011 - September 2014

Data Source: State Water Resources Control Board, Division of Drinking Water

- Seawater intrusion barrier
- WRD service area boundary
- Central Basin sub-area boundary (See Figure 1.1 for detail)

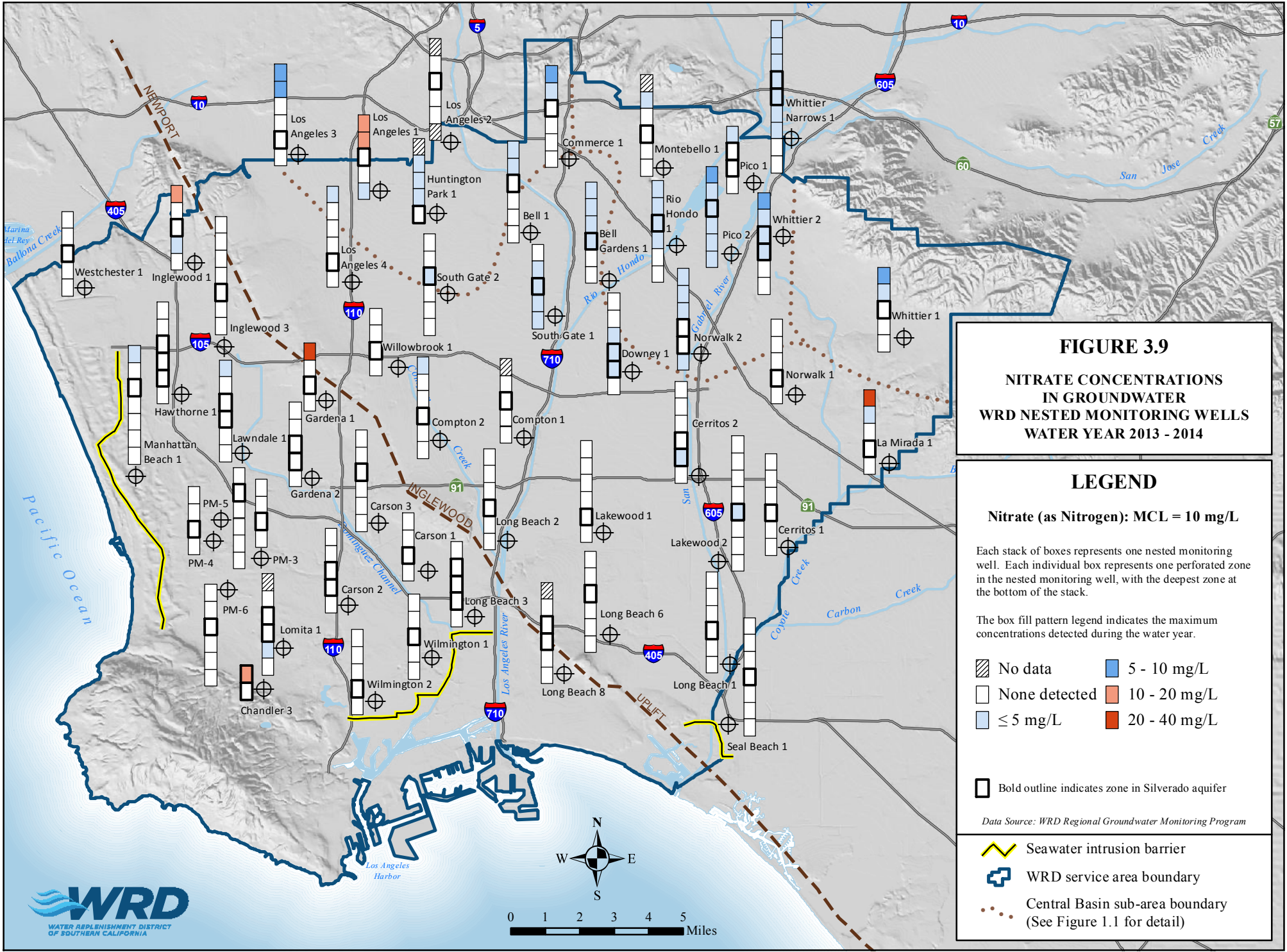


FIGURE 3.9
NITRATE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2013 - 2014

LEGEND

Nitrate (as Nitrogen): MCL = 10 mg/L

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

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

	No data		5 - 10 mg/L
	None detected		10 - 20 mg/L
	≤ 5 mg/L		20 - 40 mg/L

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

Seawater intrusion barrier

WRD service area boundary

Central Basin sub-area boundary (See Figure 1.1 for detail)

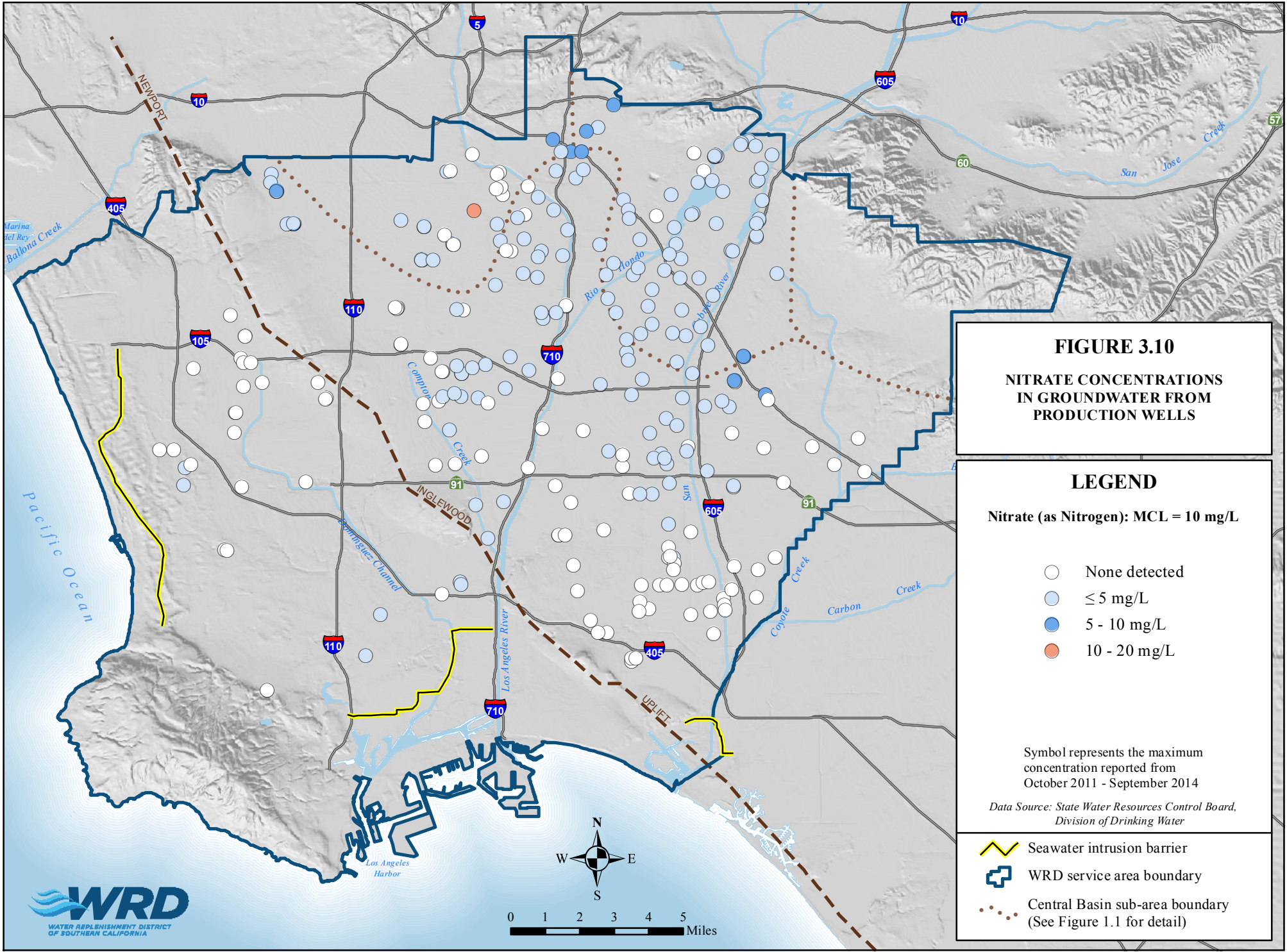


FIGURE 3.10
NITRATE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

Nitrate (as Nitrogen): MCL = 10 mg/L

- None detected
- ≤ 5 mg/L
- 5 - 10 mg/L
- 10 - 20 mg/L

Symbol represents the maximum concentration reported from October 2011 - September 2014

Data Source: State Water Resources Control Board, Division of Drinking Water

- Seawater intrusion barrier
- WRD service area boundary
- Central Basin sub-area boundary (See Figure 1.1 for detail)

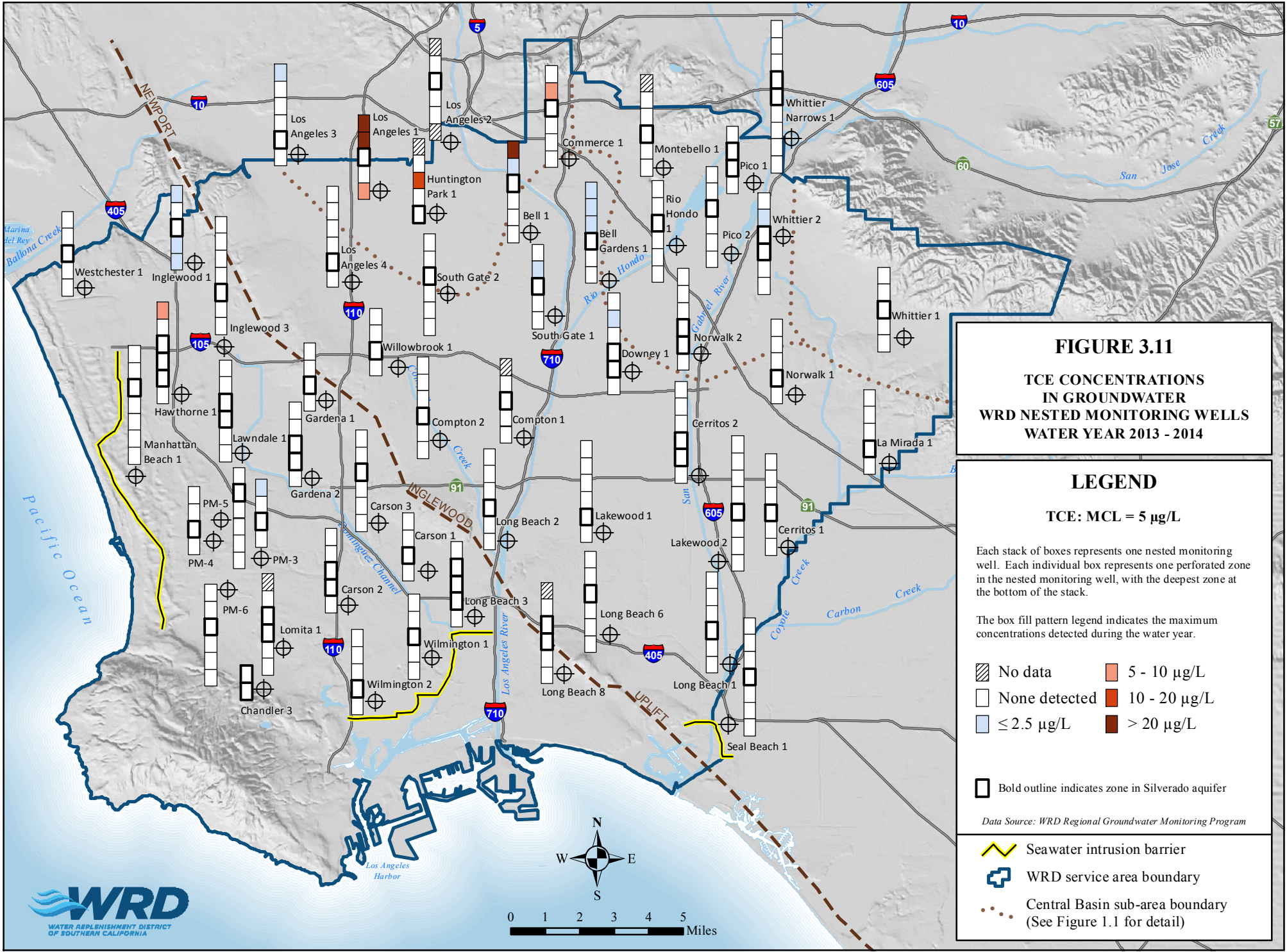


FIGURE 3.11
TCE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2013 - 2014

LEGEND

TCE: MCL = 5 µg/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		5 - 10 µg/L
	None detected		10 - 20 µg/L
	≤ 2.5 µg/L		> 20 µg/L

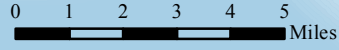
Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

Seawater intrusion barrier

WRD service area boundary

Central Basin sub-area boundary (See Figure 1.1 for detail)



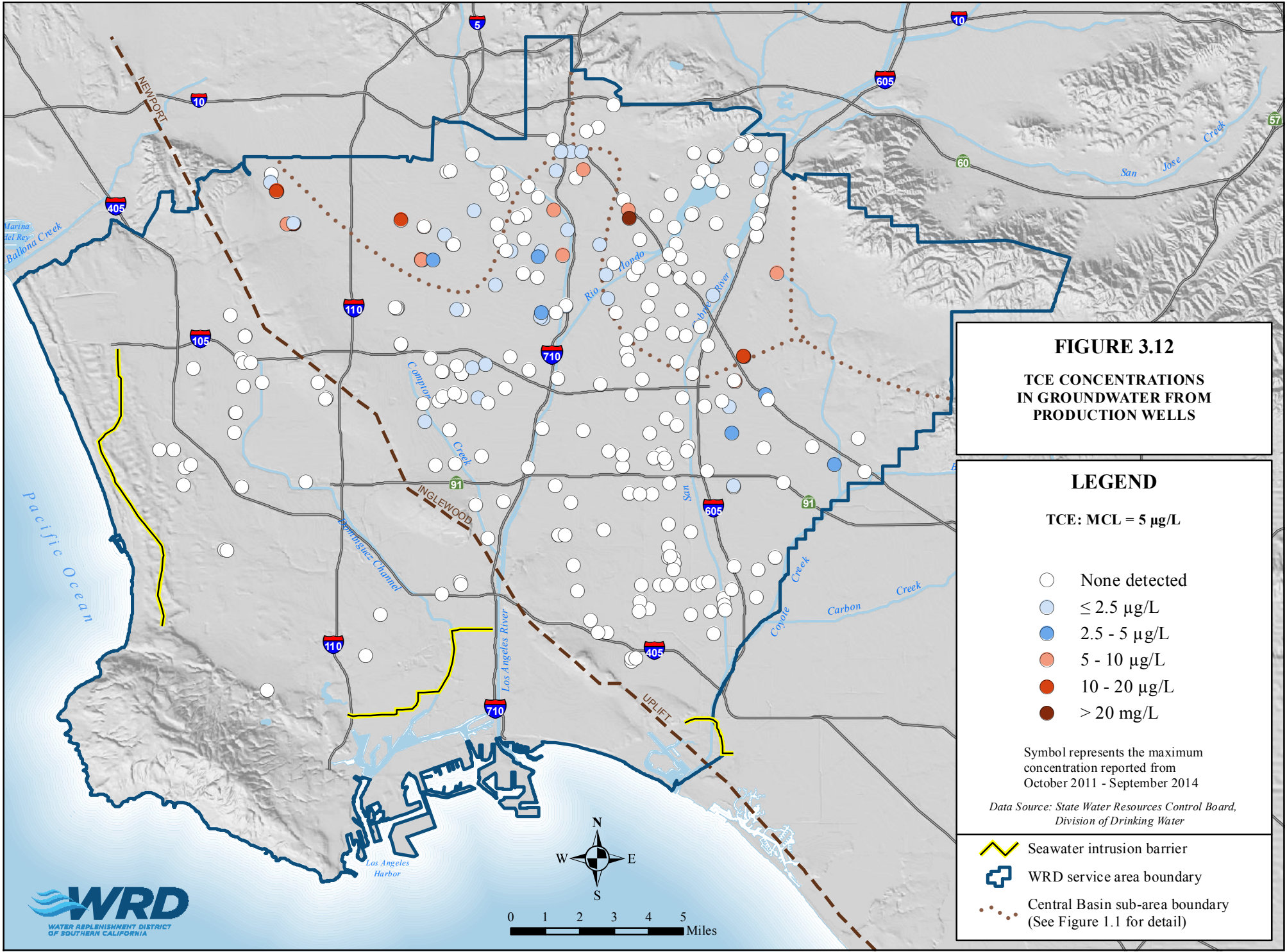


FIGURE 3.12
TCE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

TCE: MCL = 5 µg/L

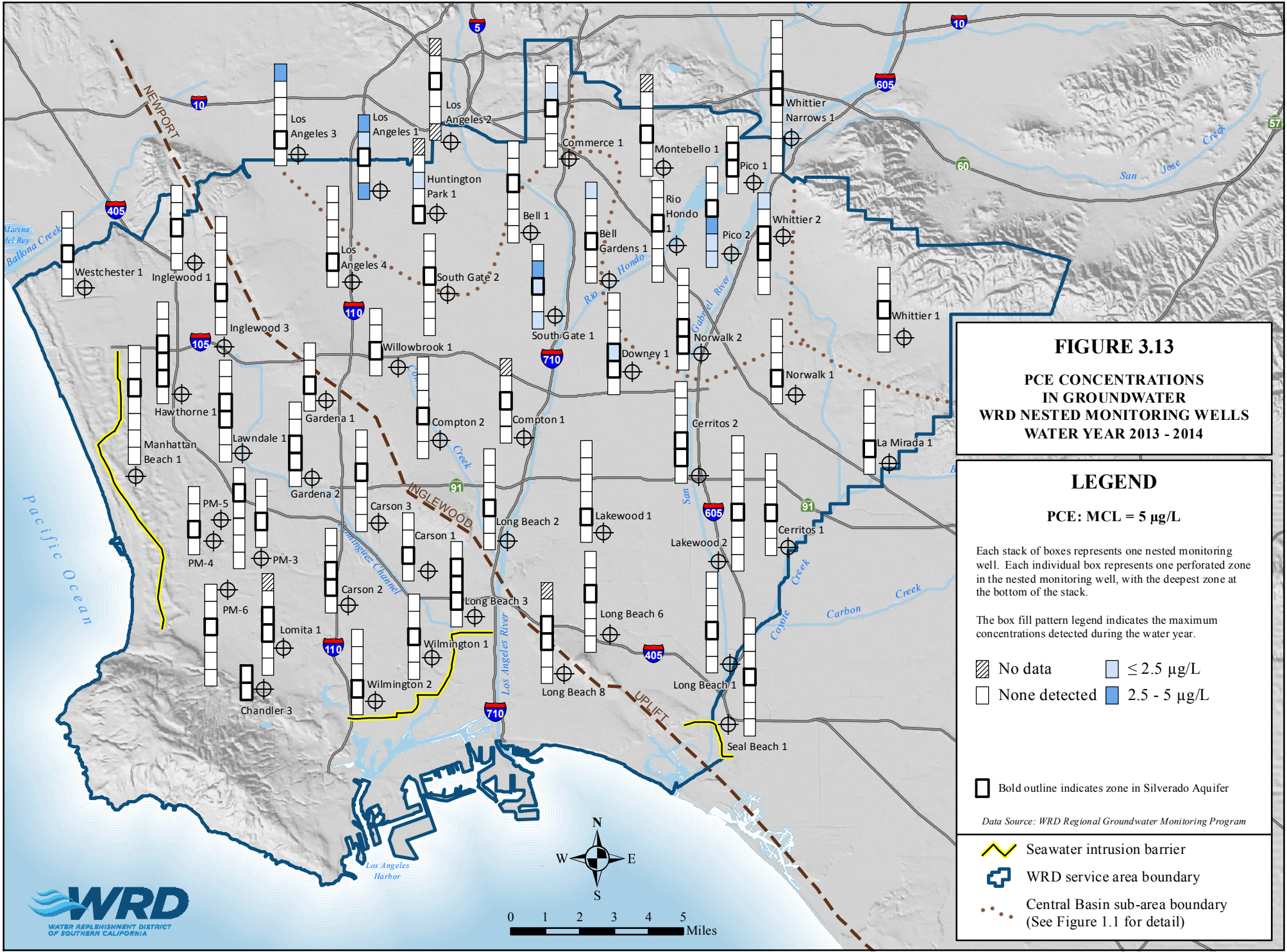
- None detected
- ≤ 2.5 µg/L
- 2.5 - 5 µg/L
- 5 - 10 µg/L
- 10 - 20 µg/L
- > 20 mg/L

Symbol represents the maximum concentration reported from October 2011 - September 2014

Data Source: State Water Resources Control Board, Division of Drinking Water

- Seawater intrusion barrier
- WRD service area boundary
- ... Central Basin sub-area boundary (See Figure 1.1 for detail)





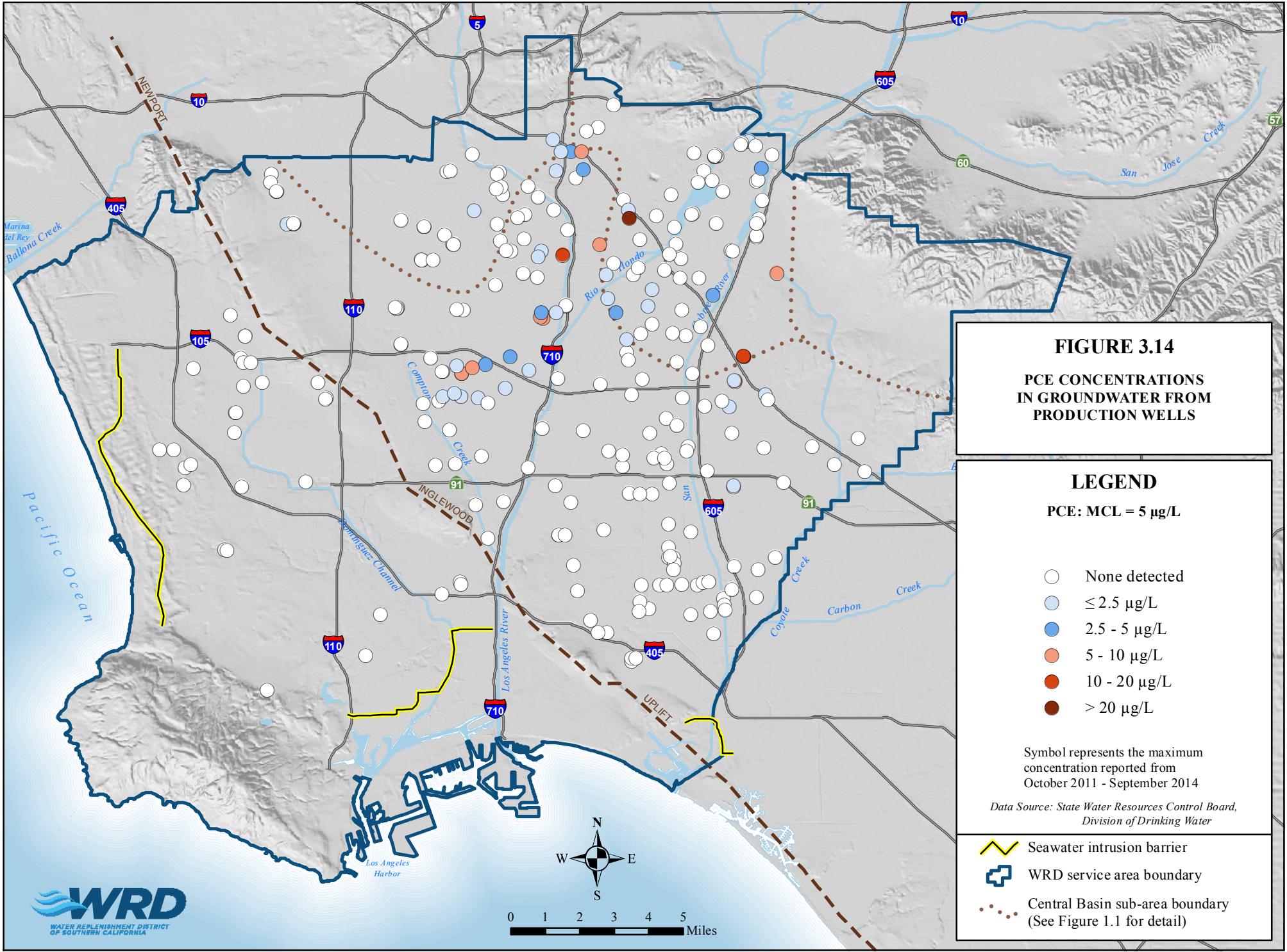


FIGURE 3.14
PCE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

PCE: MCL = 5 µg/L

- None detected
- ≤ 2.5 µg/L
- 2.5 - 5 µg/L
- 5 - 10 µg/L
- 10 - 20 µg/L
- > 20 µg/L

Symbol represents the maximum concentration reported from October 2011 - September 2014

Data Source: State Water Resources Control Board, Division of Drinking Water

- Seawater intrusion barrier
- WRD service area boundary
- Central Basin sub-area boundary (See Figure 1.1 for detail)



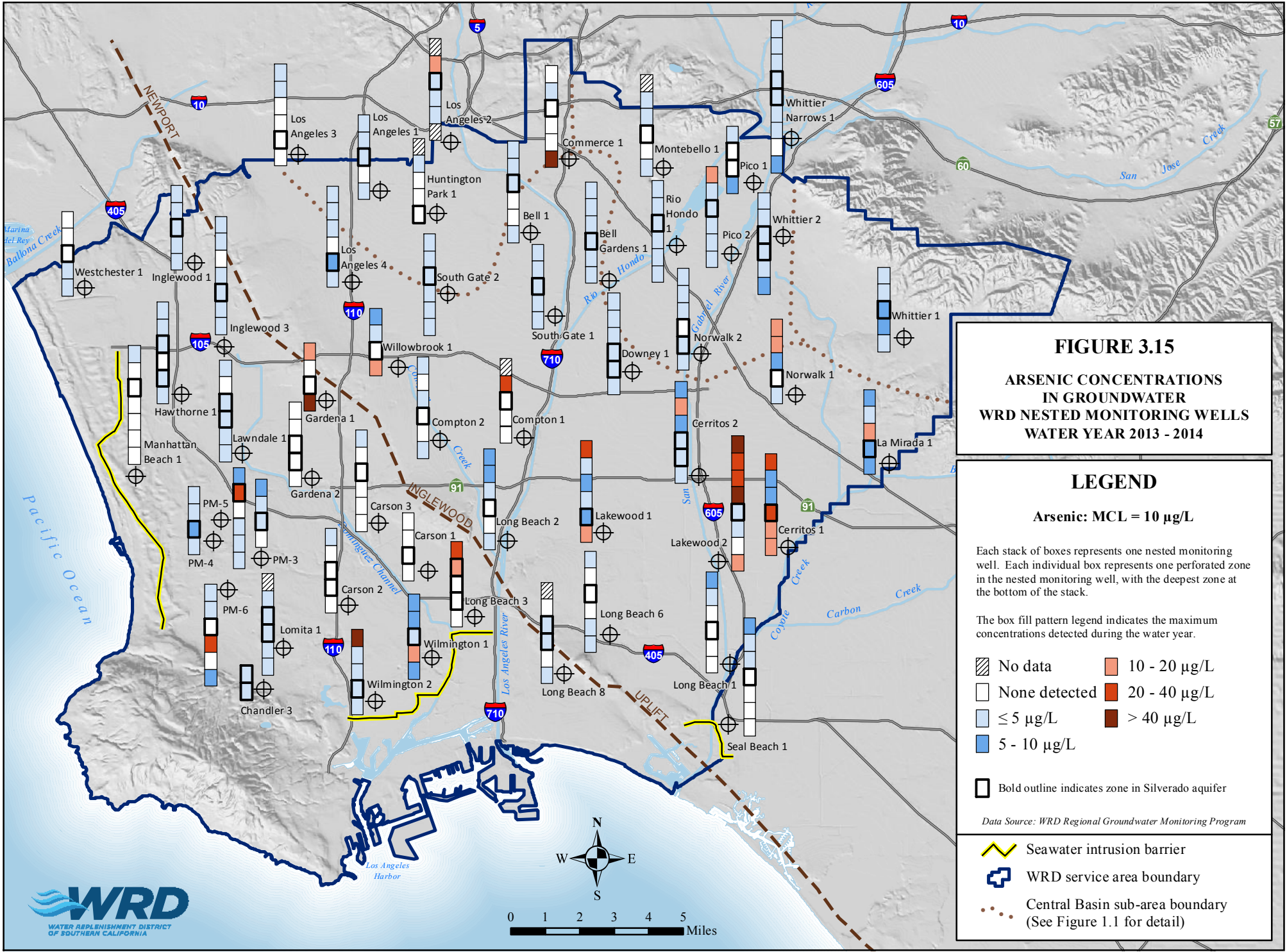


FIGURE 3.15
ARSENIC CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2013 - 2014

LEGEND

Arsenic: MCL = 10 µg/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		10 - 20 µg/L
	None detected		20 - 40 µg/L
	≤ 5 µg/L		> 40 µg/L
	5 - 10 µg/L		

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

Seawater intrusion barrier

WRD service area boundary

Central Basin sub-area boundary (See Figure 1.1 for detail)

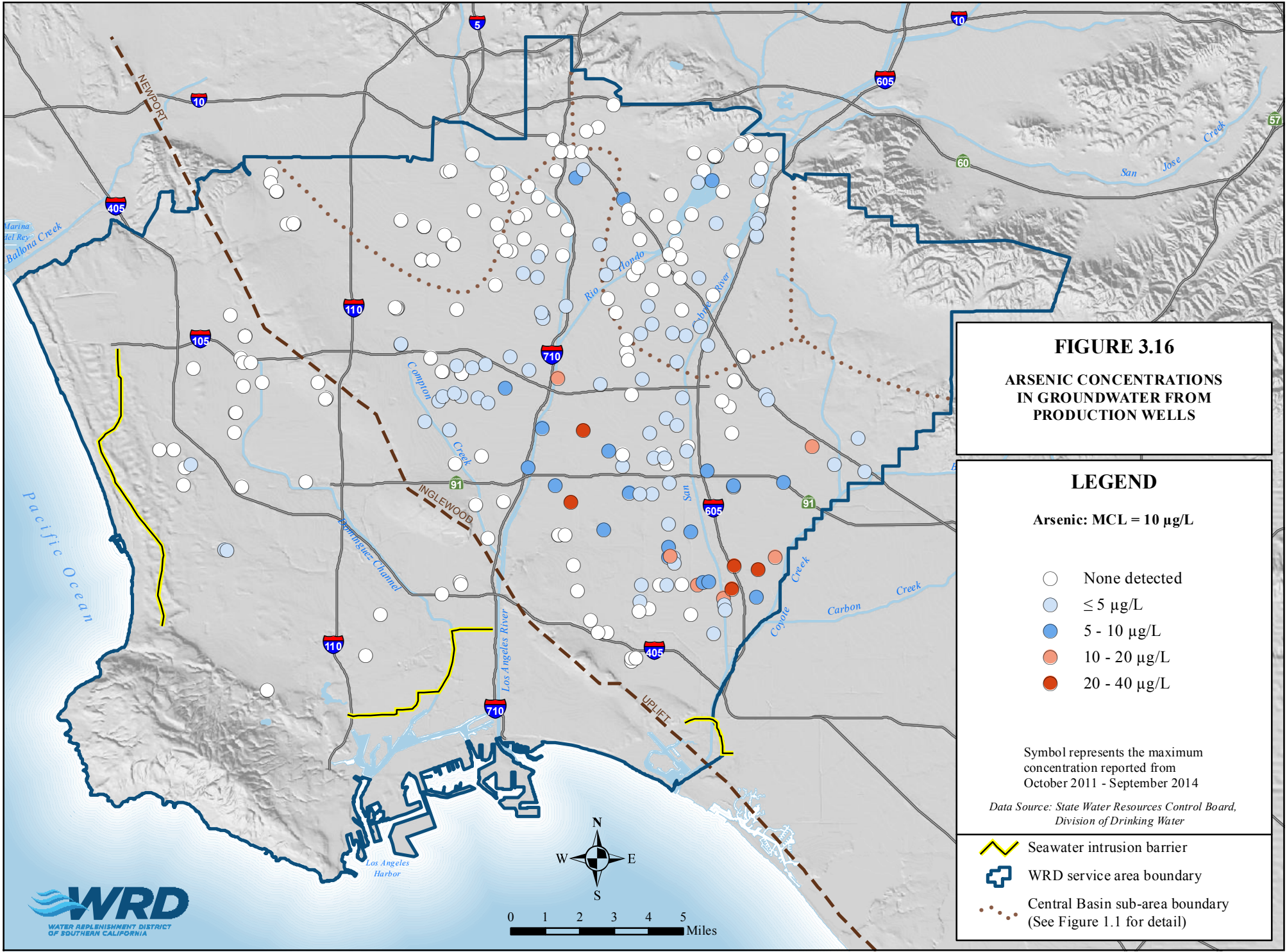


FIGURE 3.16
ARSENIC CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

Arsenic: MCL = 10 µg/L

- None detected
- ≤ 5 µg/L
- 5 - 10 µg/L
- 10 - 20 µg/L
- 20 - 40 µg/L

Symbol represents the maximum concentration reported from October 2011 - September 2014

Data Source: State Water Resources Control Board, Division of Drinking Water

- ▬ Seawater intrusion barrier
- ▬ WRD service area boundary
- ⋯ Central Basin sub-area boundary (See Figure 1.1 for detail)

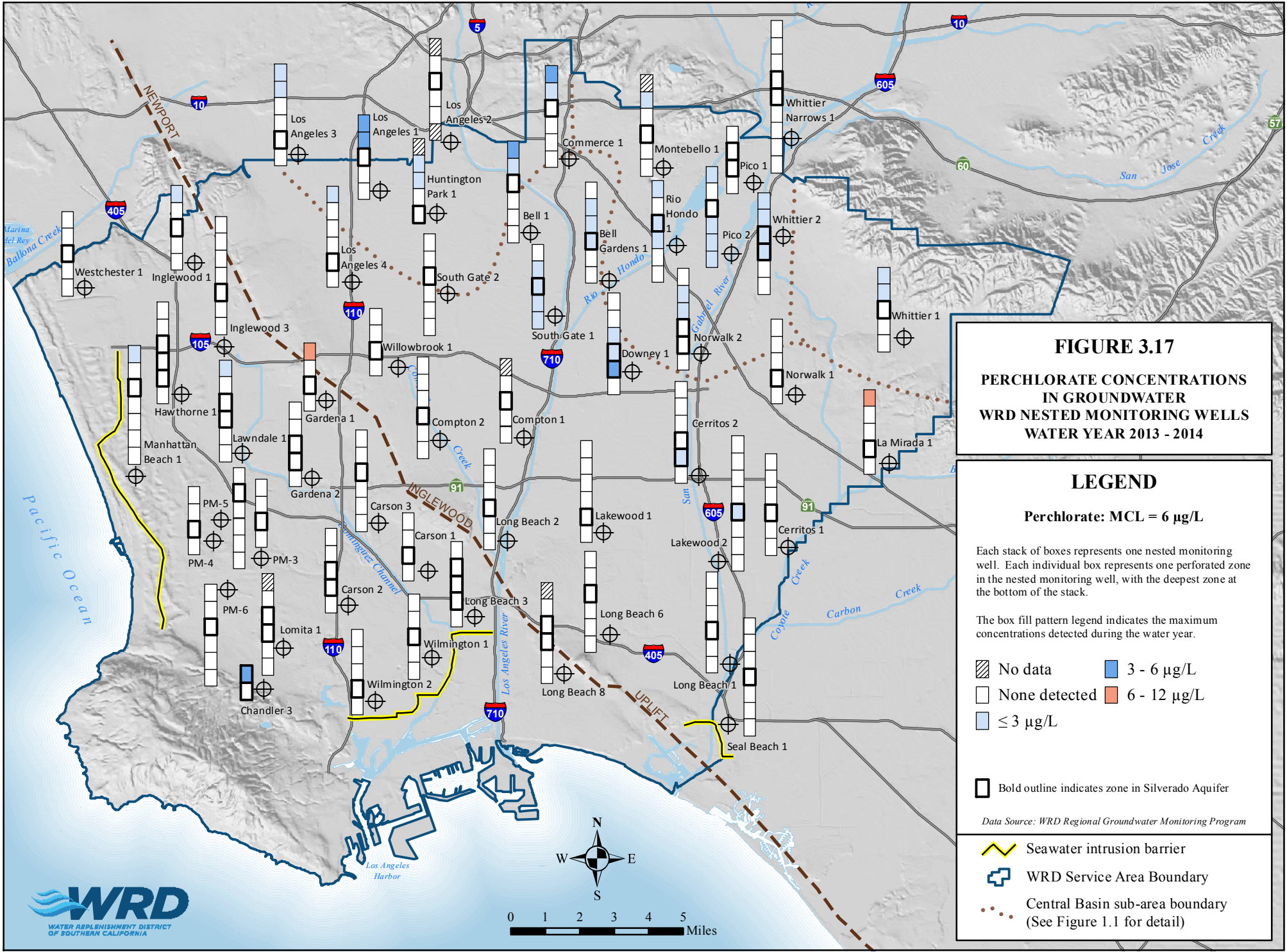


FIGURE 3.17
PERCHLORATE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2013 - 2014

LEGEND

Perchlorate: MCL = 6 µg/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		3 - 6 µg/L
	None detected		6 - 12 µg/L
	≤ 3 µg/L		

Bold outline indicates zone in Silverado Aquifer

Data Source: WRD Regional Groundwater Monitoring Program

Seawater intrusion barrier

WRD Service Area Boundary

Central Basin sub-area boundary (See Figure 1.1 for detail)



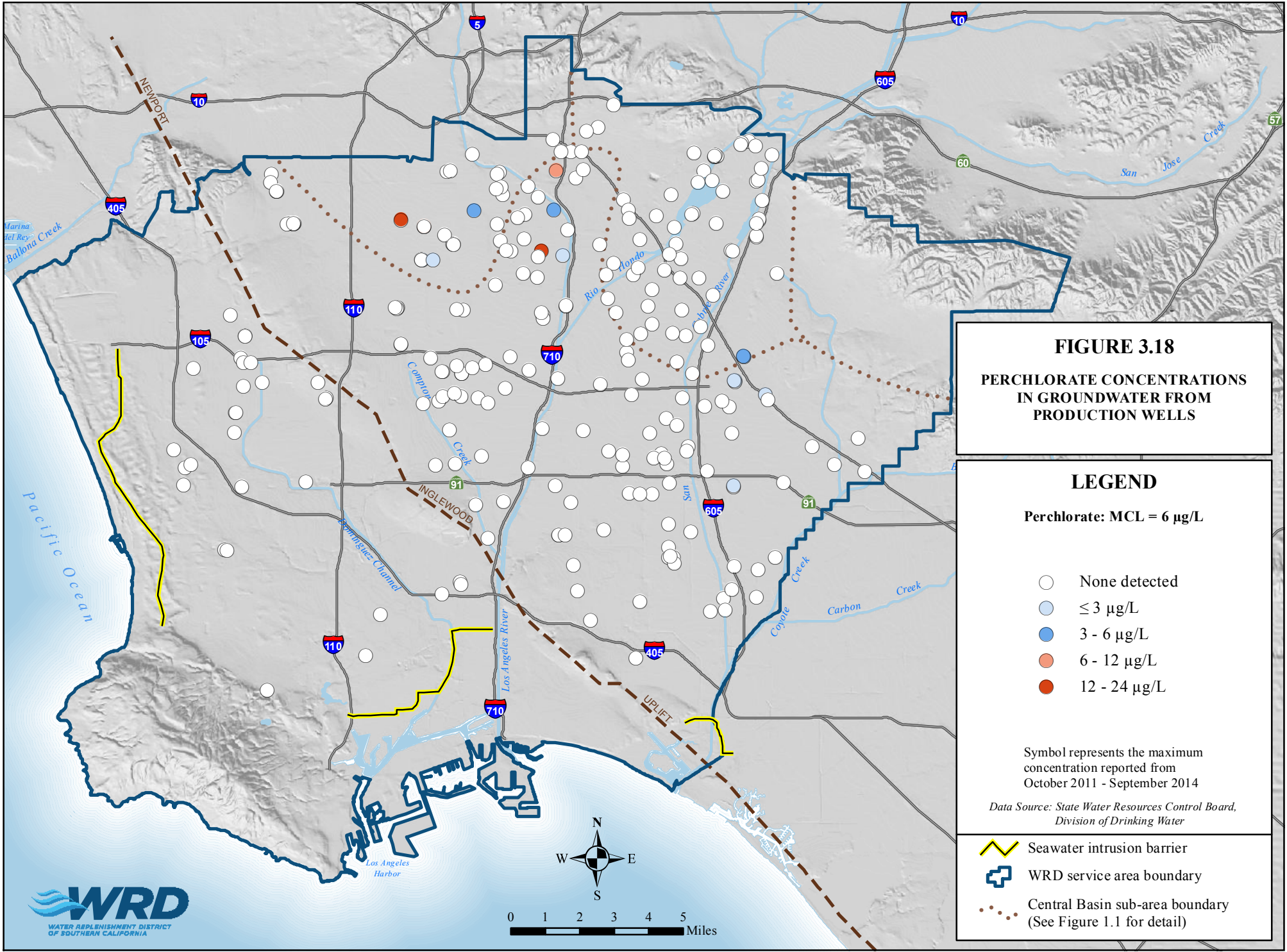


FIGURE 3.18
PERCHLORATE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

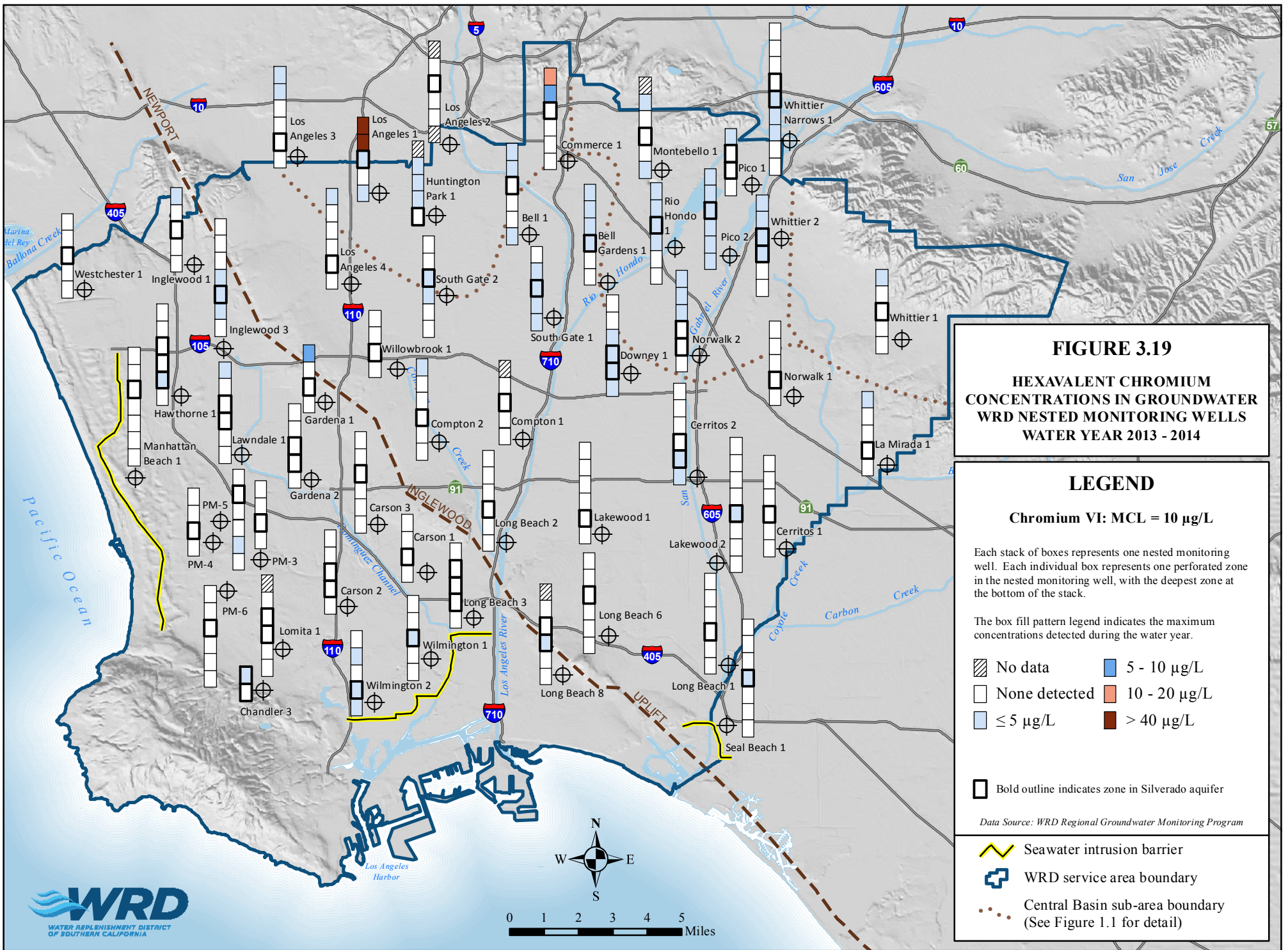
Perchlorate: MCL = 6 µg/L

- None detected
- ≤ 3 µg/L
- 3 - 6 µg/L
- 6 - 12 µg/L
- 12 - 24 µg/L

Symbol represents the maximum concentration reported from October 2011 - September 2014

Data Source: State Water Resources Control Board, Division of Drinking Water

- Seawater intrusion barrier
- WRD service area boundary
- Central Basin sub-area boundary (See Figure 1.1 for detail)



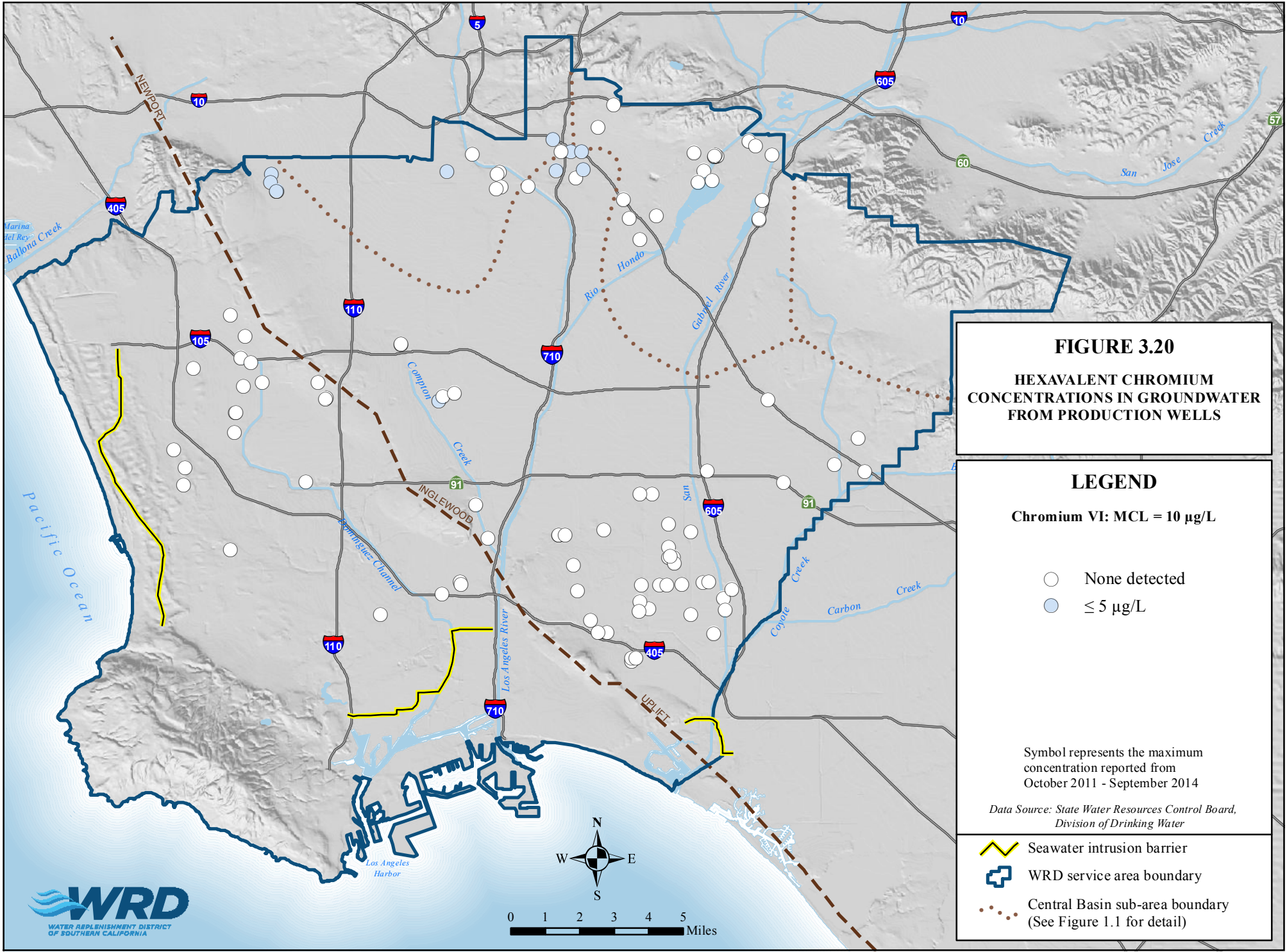


FIGURE 3.20
HEXAVALENT CHROMIUM
CONCENTRATIONS IN GROUNDWATER
FROM PRODUCTION WELLS

LEGEND

Chromium VI: MCL = 10 µg/L

- None detected
- ≤ 5 µg/L

Symbol represents the maximum concentration reported from October 2011 - September 2014

Data Source: State Water Resources Control Board, Division of Drinking Water

- Seawater intrusion barrier
- WRD service area boundary
- Central Basin sub-area boundary (See Figure 1.1 for detail)

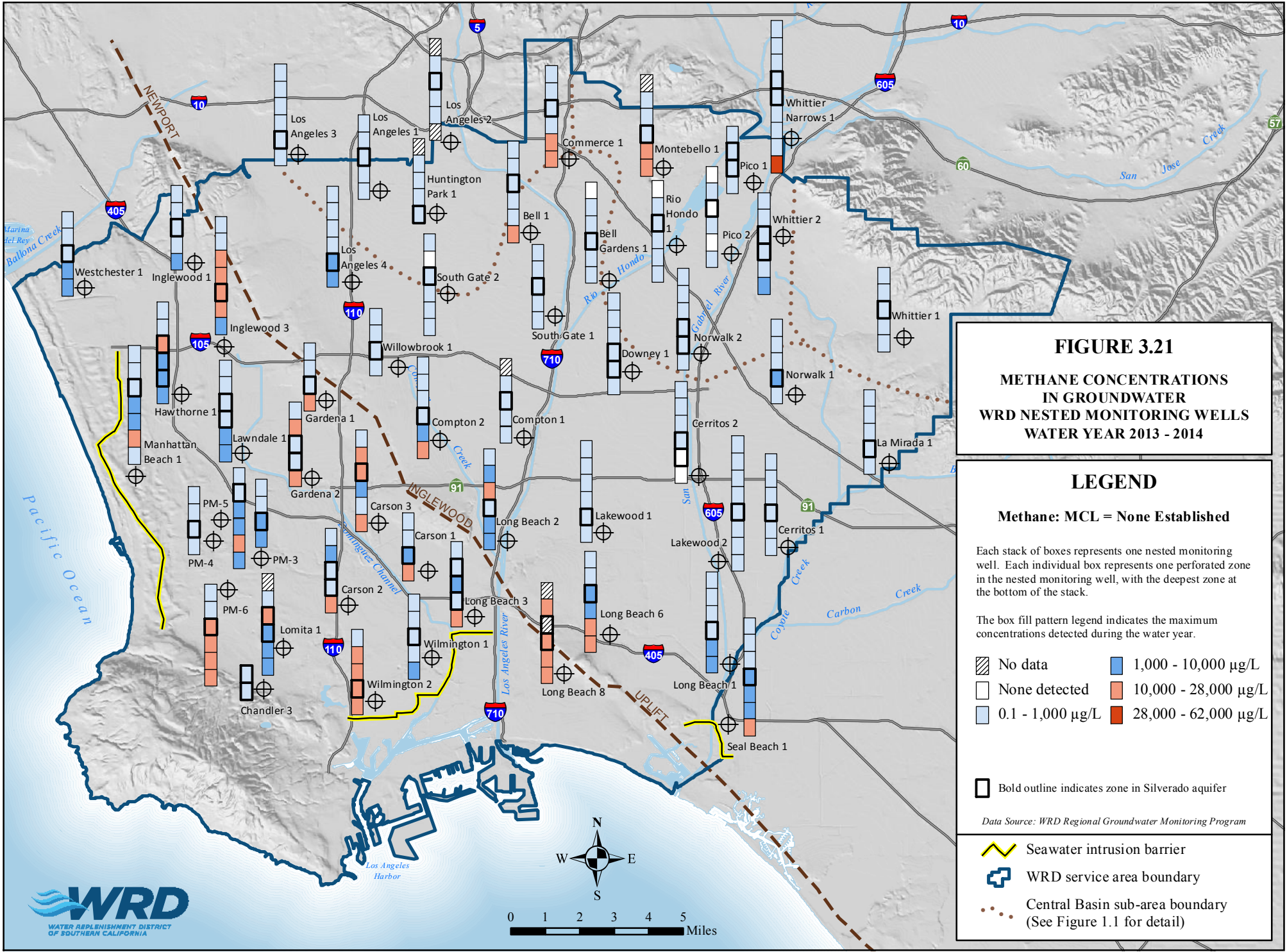


FIGURE 3.21
METHANE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2013 - 2014

LEGEND

Methane: MCL = None Established

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

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

	No data		1,000 - 10,000 µg/L
	None detected		10,000 - 28,000 µg/L
	0.1 - 1,000 µg/L		28,000 - 62,000 µg/L

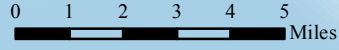
Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

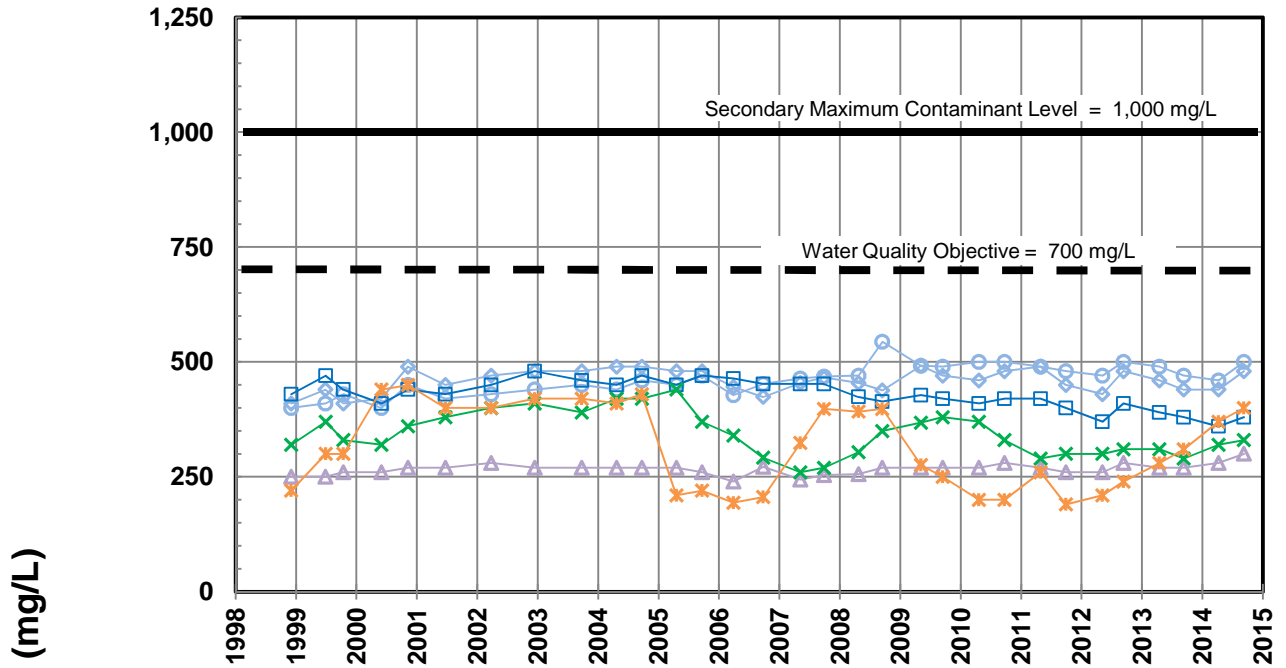
Seawater intrusion barrier

WRD service area boundary

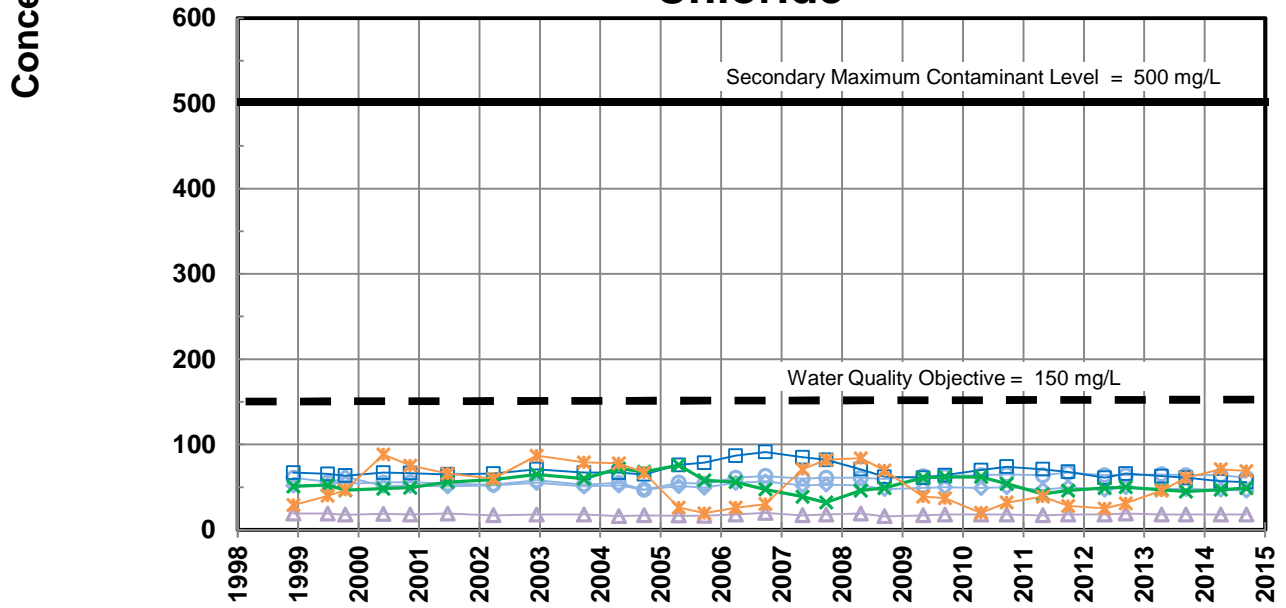
Central Basin sub-area boundary (See Figure 1.1 for detail)



Total Dissolved Solids



Chloride

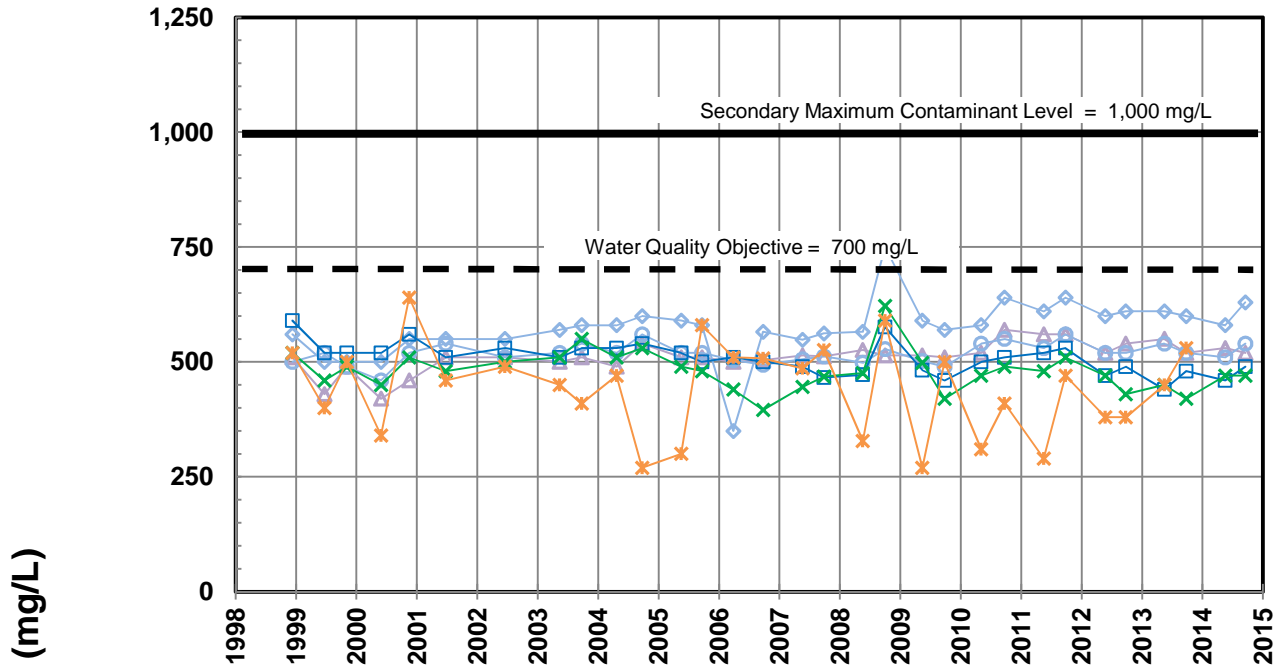


- ▲ Zone 1 (1110'-1130', Sunnyside)
- ◆ Zone 2 (910'-930', Sunnyside)
- Zone 3 (710'-730', Sunnyside)
- Zone 4 (430'-450', Silverado)
- ✕ Zone 5 (280'-300', Lynwood)
- ✦ Zone 6 (140'-160', Gardena)

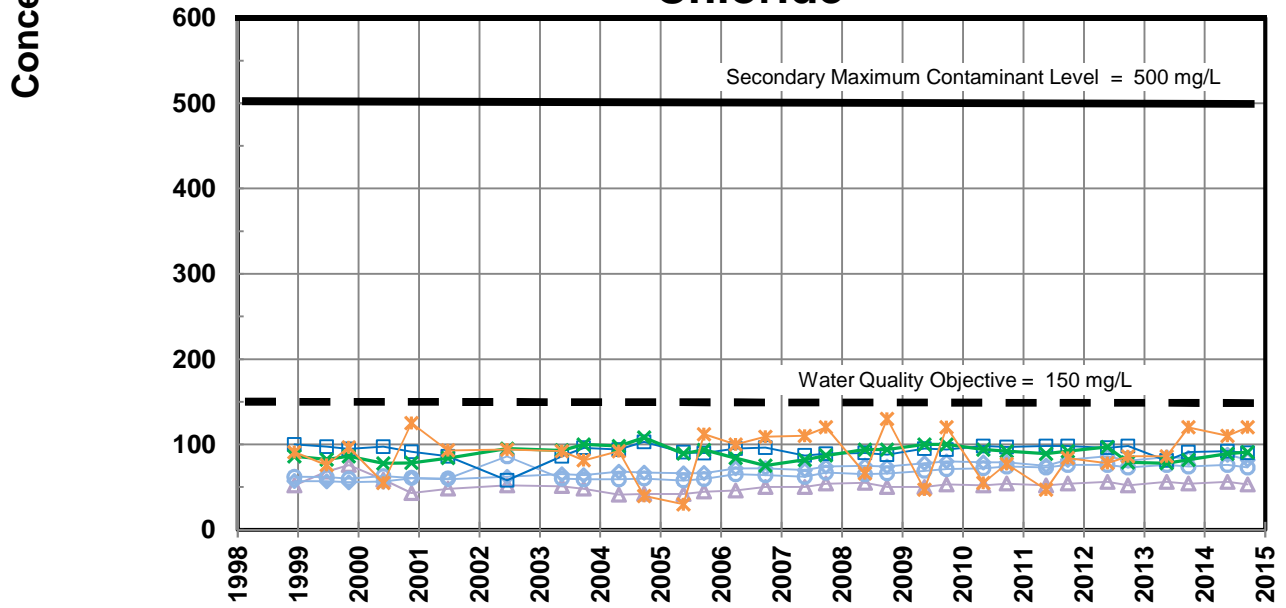
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL RIO HONDO #1**

FIGURE 4.1

Total Dissolved Solids



Chloride

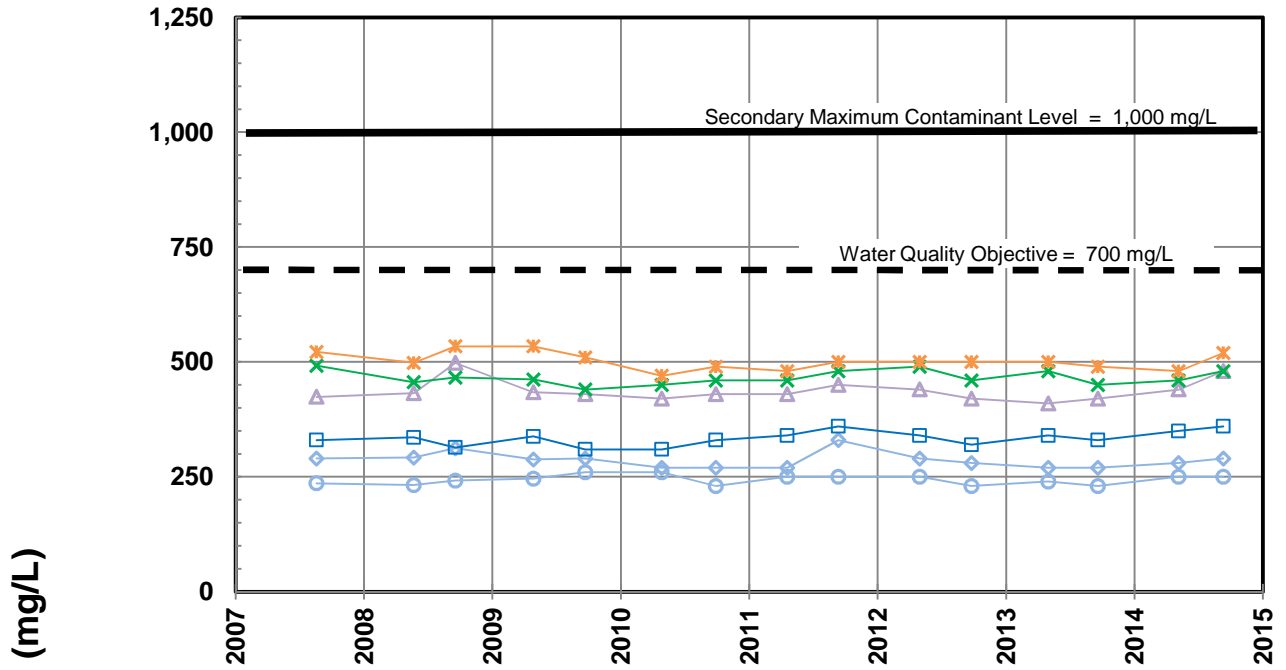


- Zone 1 (1180'-1200', Sunnyside)
- Zone 2 (830'-850', Sunnyside)
- Zone 3 (560'-580', Sunnyside)
- Zone 4 (320'-340', Silverado)
- Zone 5 (235'-255', Lynwood)
- Zone 6 (100'-120', Gaspar)

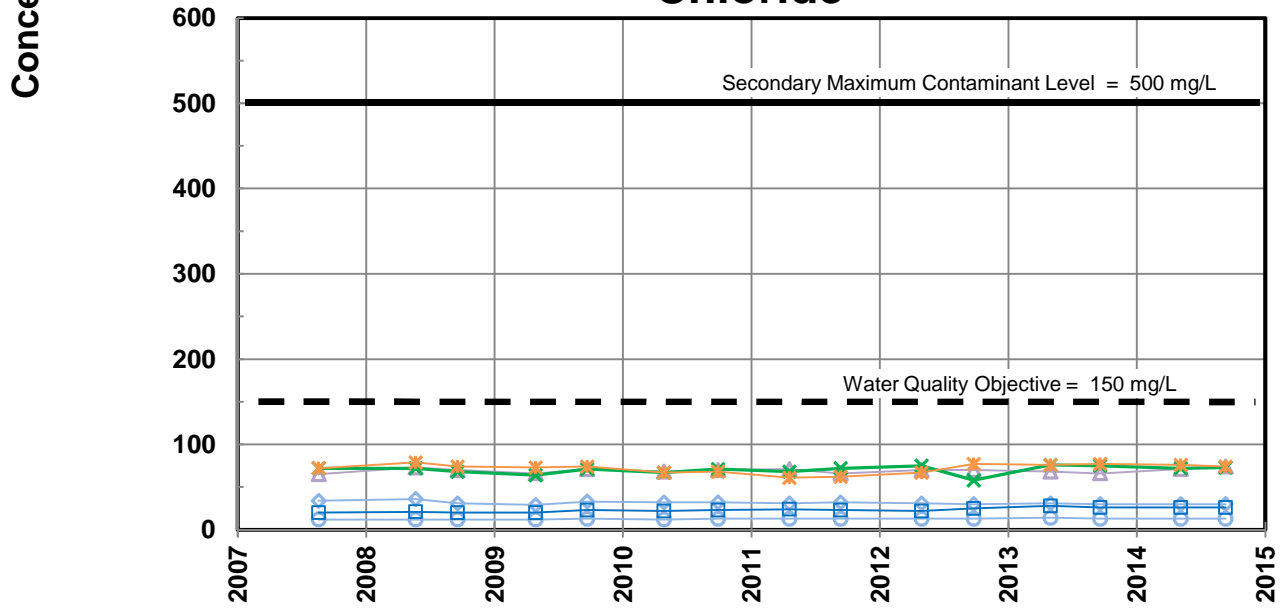
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL PICO #2**

FIGURE 4.2

Total Dissolved Solids



Chloride

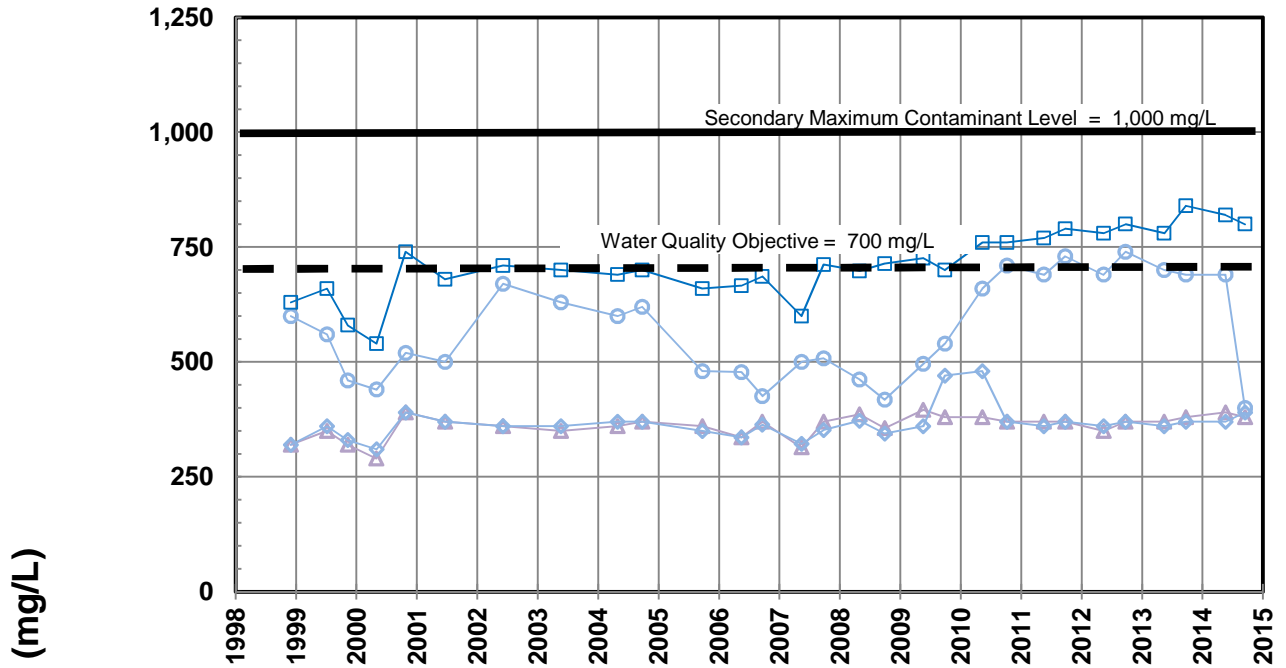


- Zone 1 (1460'-1480', Sunnyside)
- Zone 2 (1260'-1280', Sunnyside)
- Zone 3 (960'-980', Silverado)
- Zone 4 (800'-820', Lynwood)
- Zone 5 (480'-500', Gardena)
- Zone 6 (236'-256', Exposition)

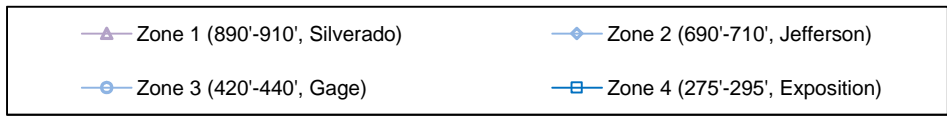
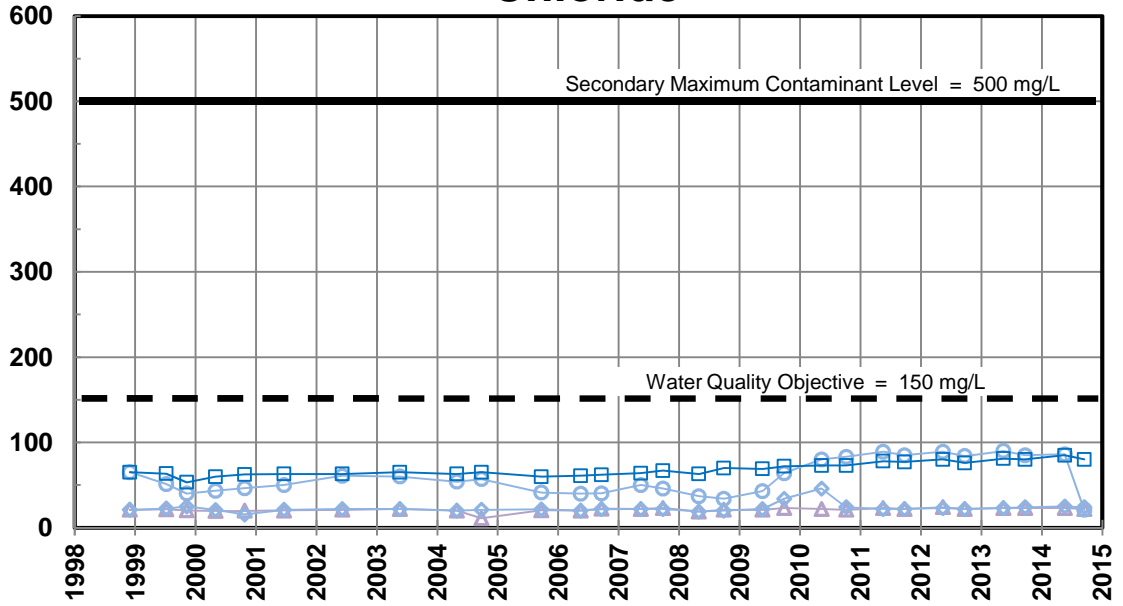
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL NORWALK #2**

FIGURE 4.3

Total Dissolved Solids



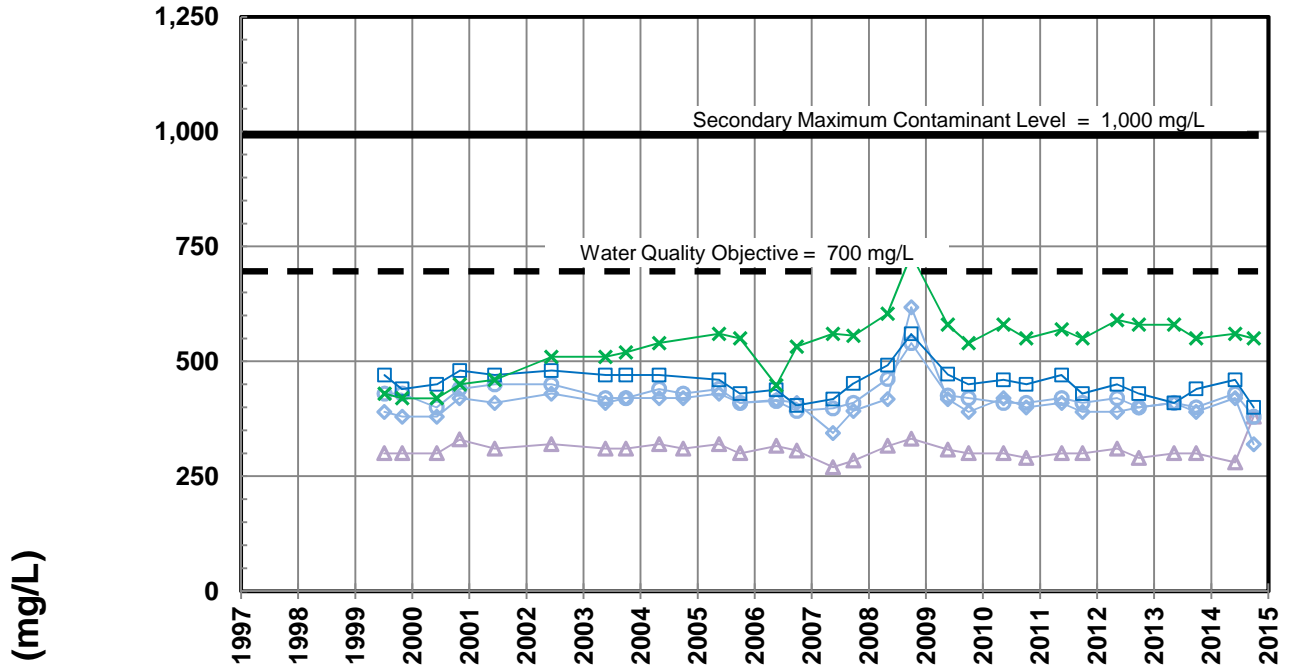
Chloride



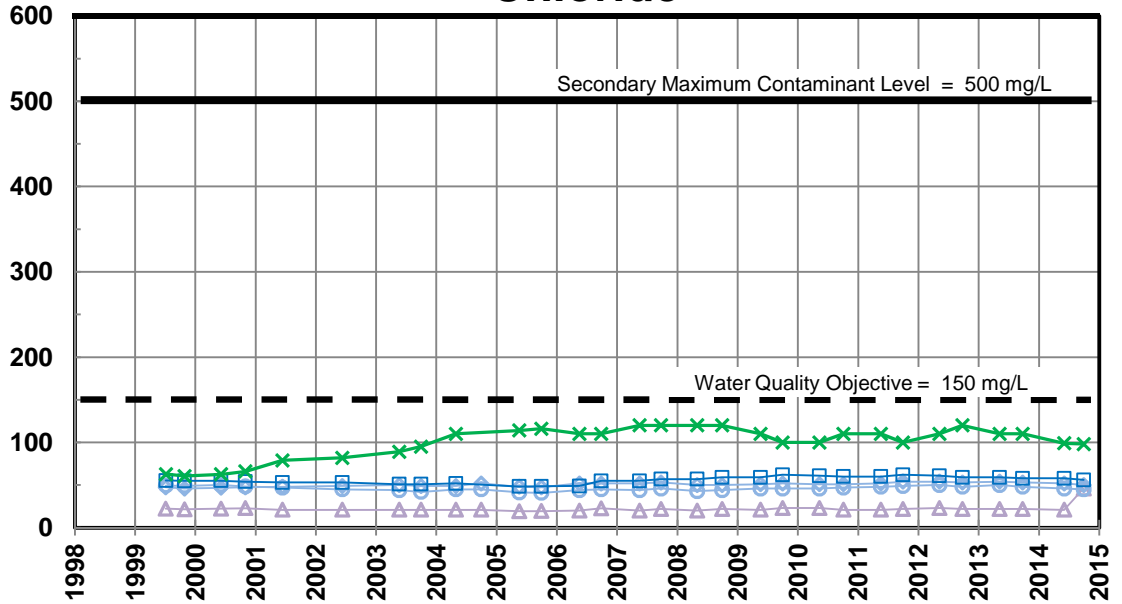
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL HUNTINGTON PARK #1**

FIGURE 4.4

Total Dissolved Solids



Chloride

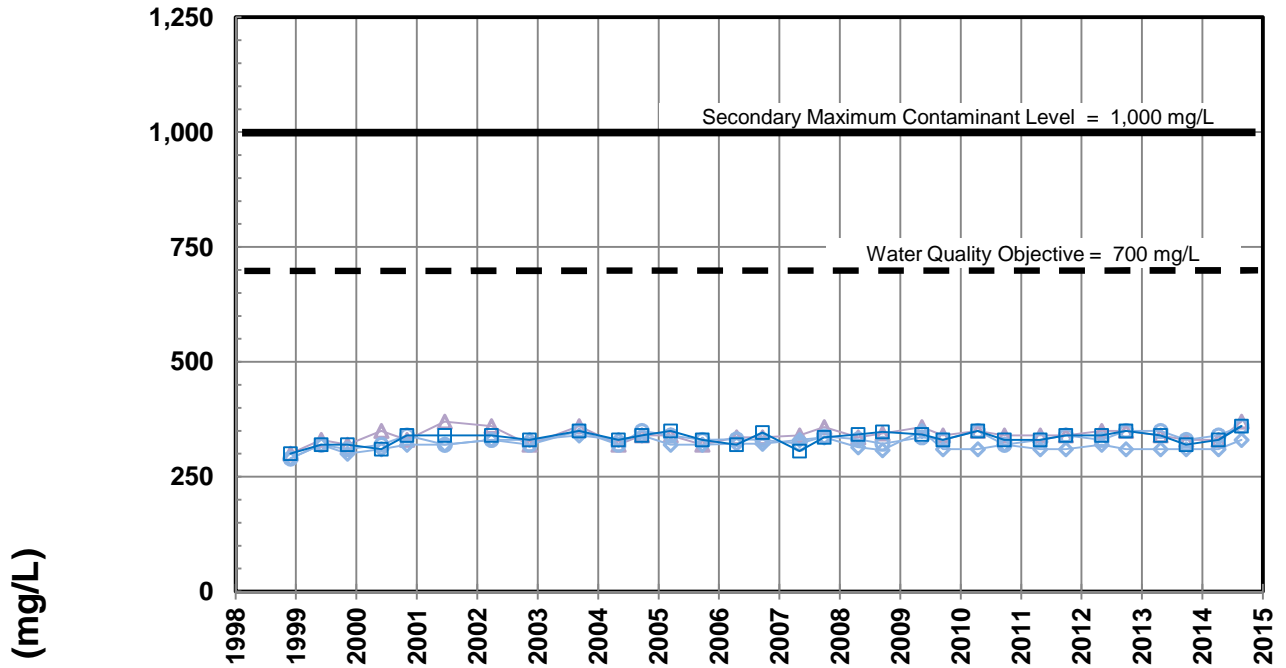


- △— Zone 1 (1440'-1460', Pico Formation)
- ◇— Zone 2 (1320'-1340', Sunnyside)
- Zone 3 (910'-930', Silverado)
- Zone 4 (565'-585', Lynwood)
- ×— Zone 5 (220'-240', Exposition)

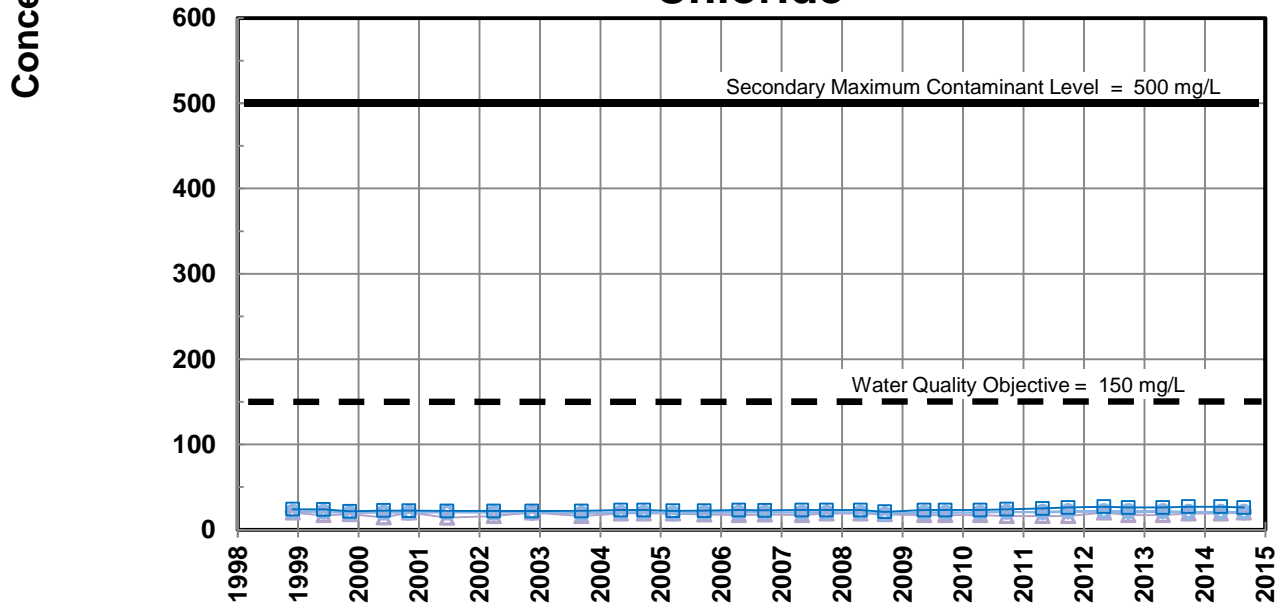
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL SOUTH GATE #1**

FIGURE 4.5

Total Dissolved Solids



Chloride

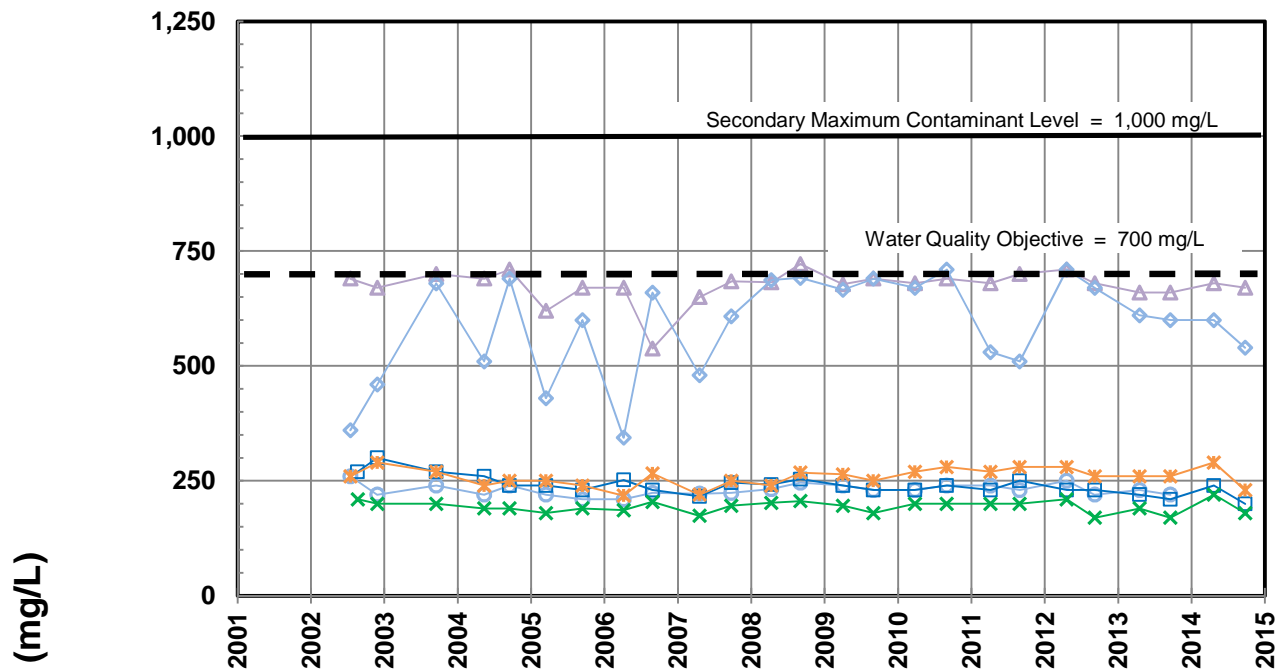


- ▲— Zone 1 (885'-905', Sunnyside)
- ◆— Zone 2 (500'-520', Silverado)
- Zone 3 (360'-380', Lynwood)
- Zone 4 (200'-220', Gage)

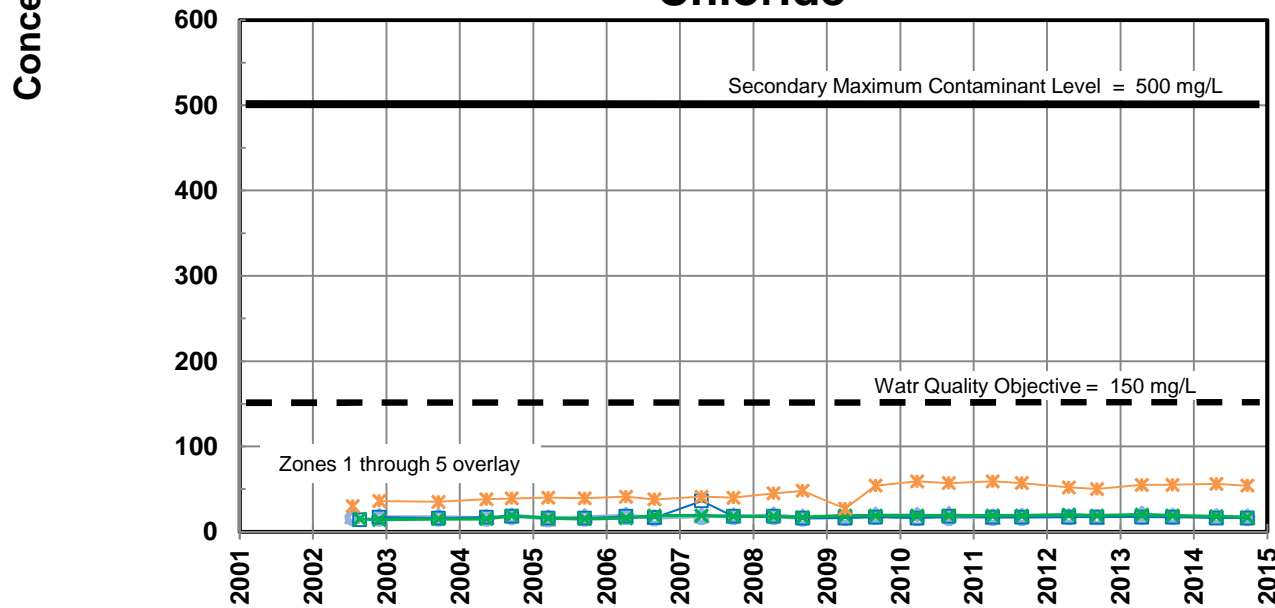
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL WILLOWBROOK#1**

FIGURE 4.6

Total Dissolved Solids



Chloride

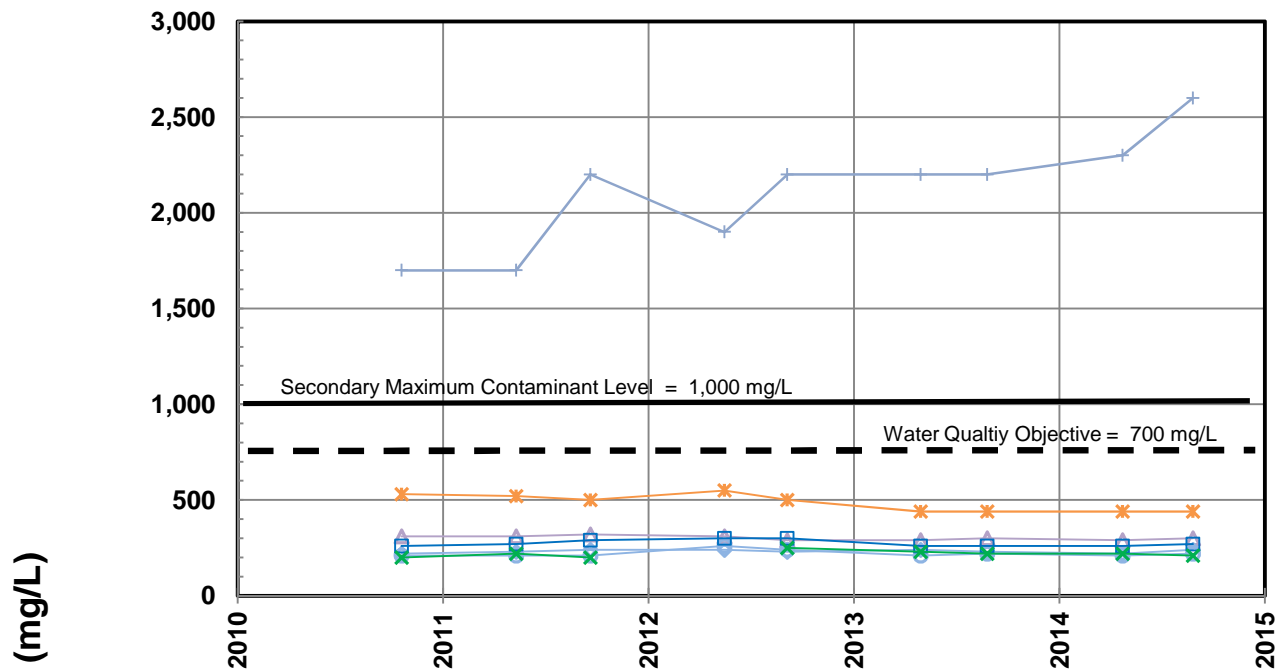


- ▲— Zone 1 (1490'-1510', Pico Formation)
- ◆— Zone 2 (930'-950', Sunnyside)
- ◻— Zone 3 (740'-760', Sunnyside)
- ◻— Zone 4 (480'-500', Silverado)
- ×— Zone 5 (380'-400', Lynwood)
- ★— Zone 6 (220'-240', Gage)

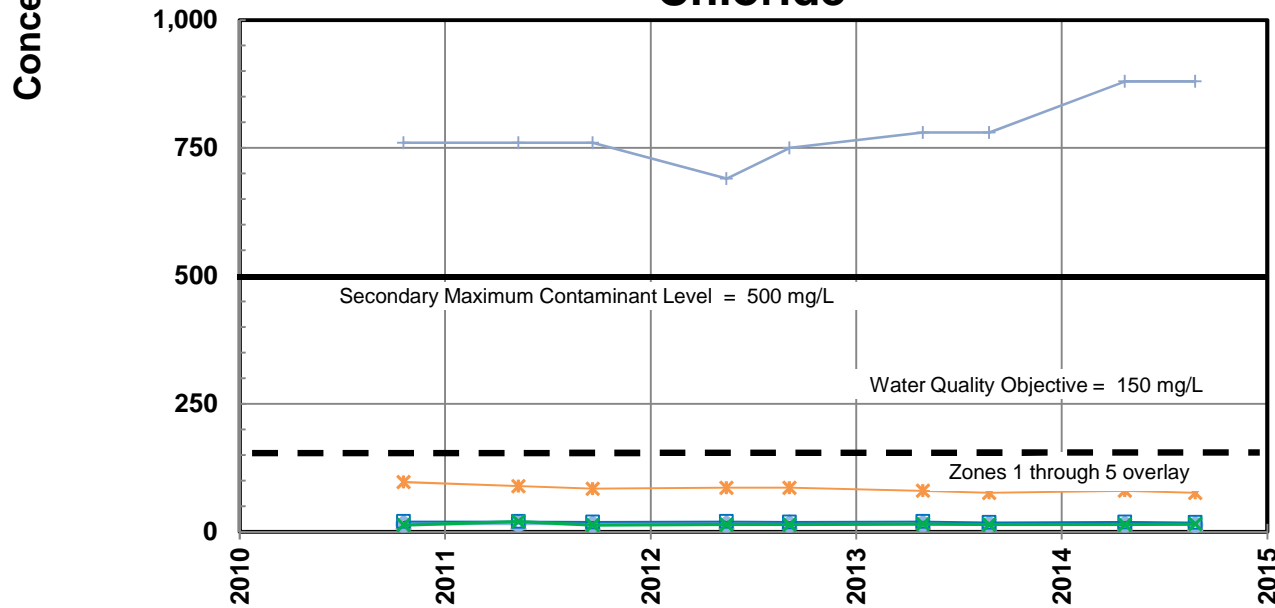
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL LONG BEACH #6**

FIGURE 4.7

Total Dissolved Solids



Chloride

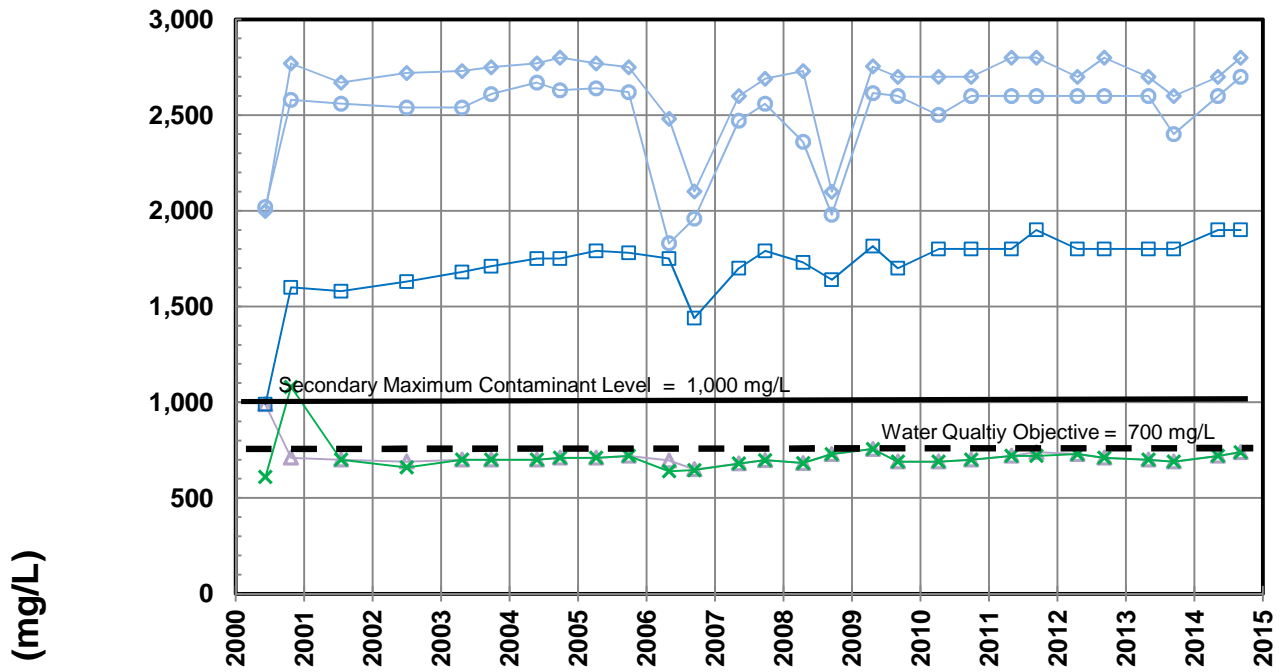


- | | |
|---|--|
| <ul style="list-style-type: none"> ▲ Zone 1 (1345'-1365', Sunnyside) ○ Zone 3 (1020'-1040', Sunnyside) ✖ Zone 5 (605'-625', Lynwood) ◆ Zone 7 (60'-70', Gaspur) | <ul style="list-style-type: none"> ◇ Zone 2 (1160'-1180', Sunnyside) □ Zone 4 (775'-795', Silverado) ✱ Zone 6 (215'-235', Gage) |
|---|--|

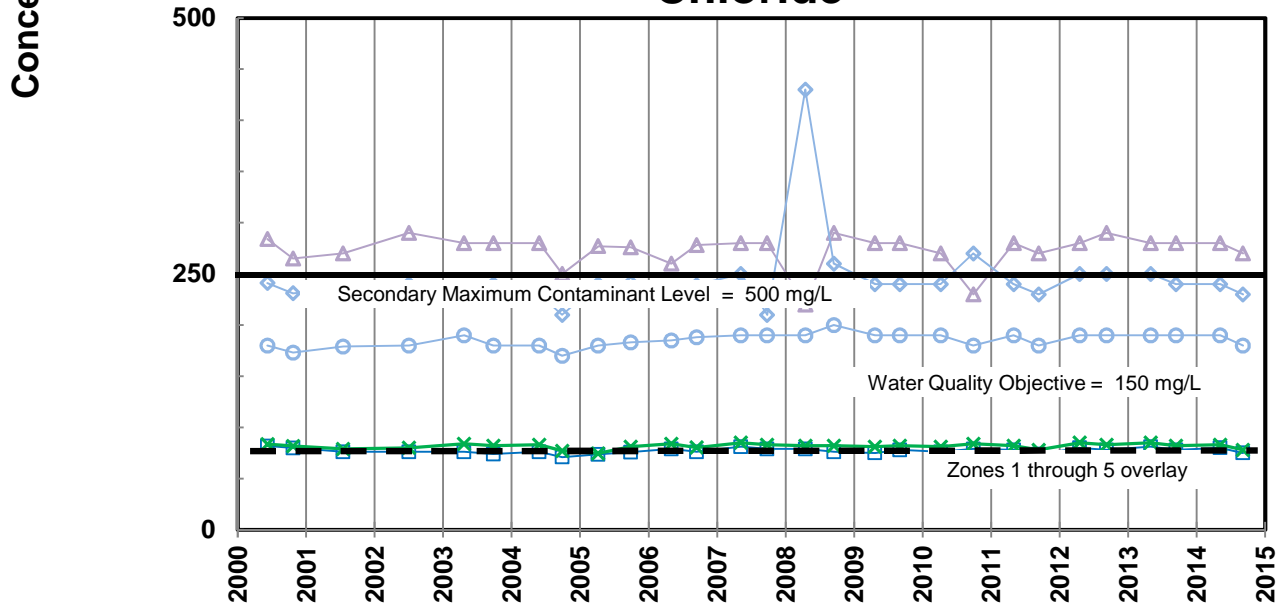
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL SEAL BEACH #1**

FIGURE 4.8

Total Dissolved Solids



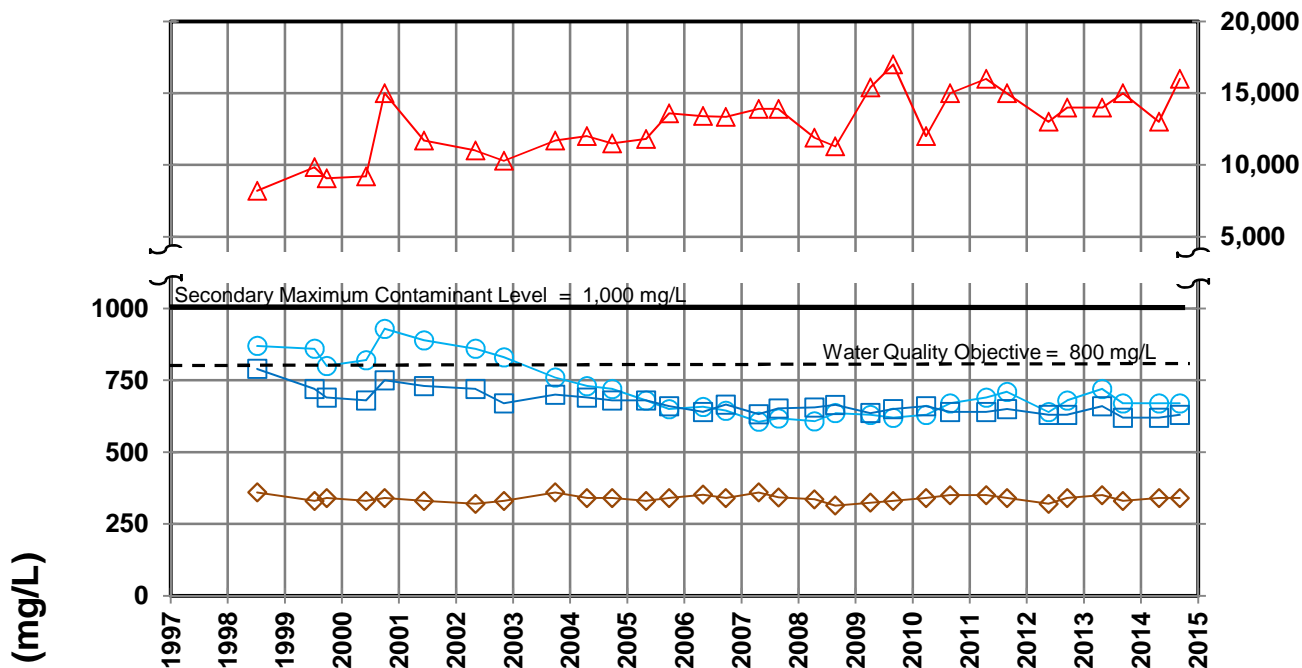
Chloride



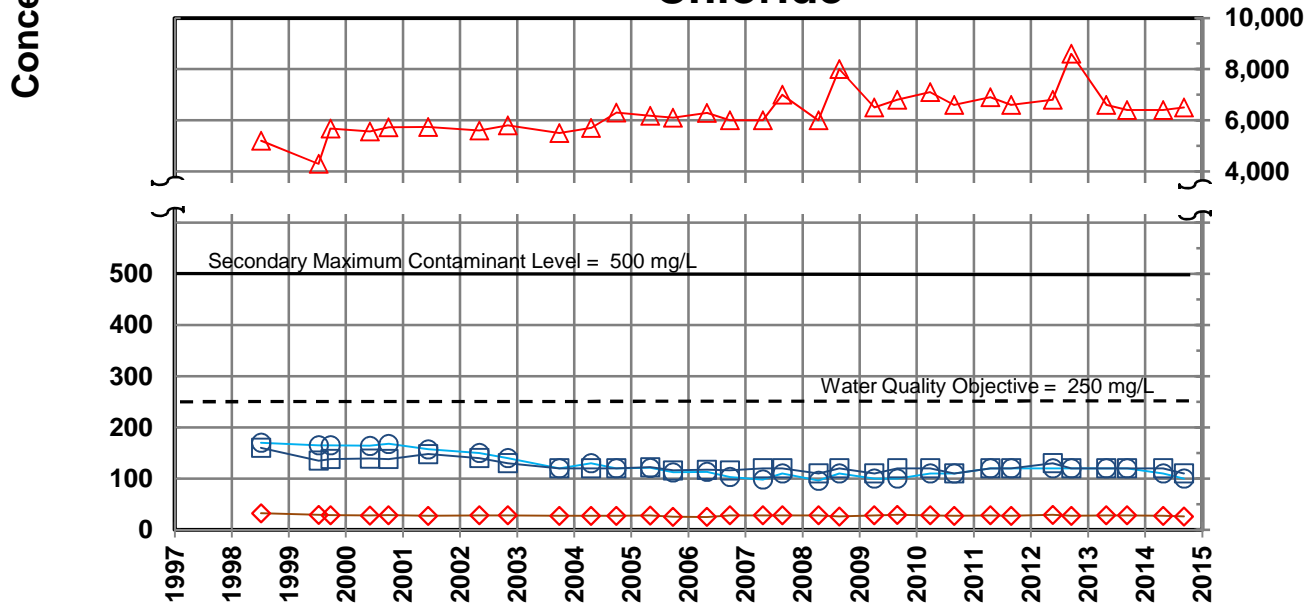
- ▲— Zone 1 (1180'-1200', Sunnyside)
- ◇— Zone 2 (920'-940', Sunnyside)
- Zone 3 (770'-790', Silverado)
- Zone 4 (450'-470', Lynwood)
- ×— Zone 5 (200'-220', Gage)

**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL WHITTIER #1**

Total Dissolved Solids



Chloride

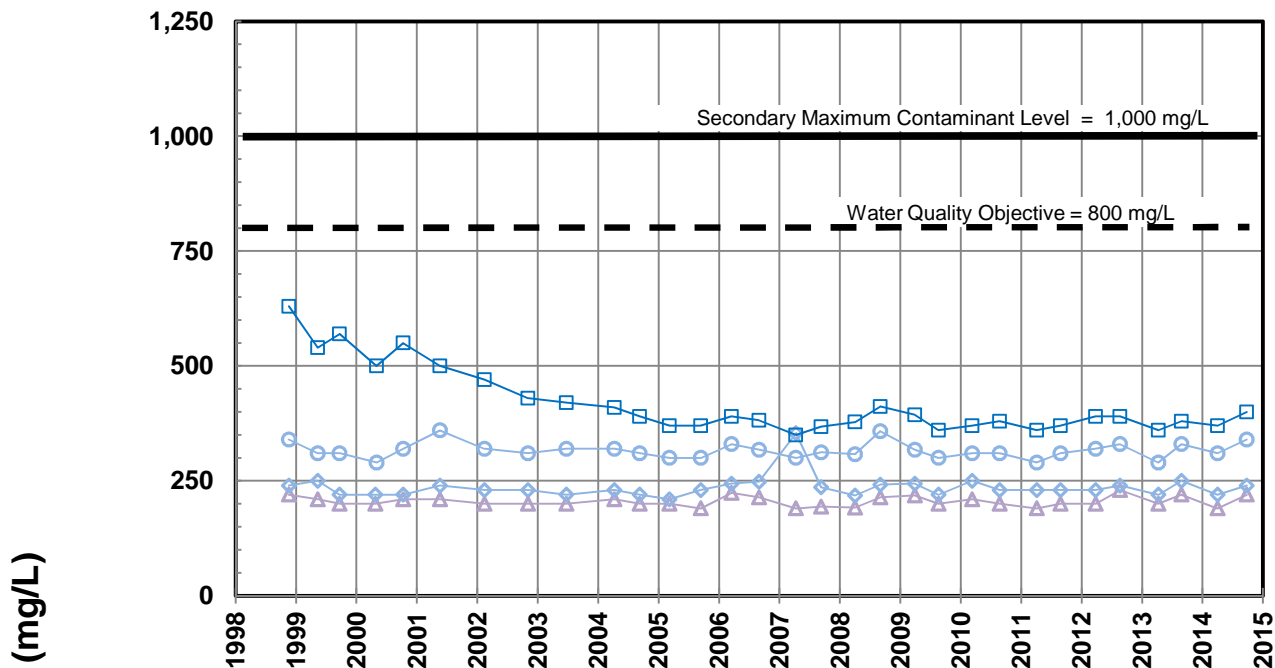


- ◆ Zone 1 (670'-710', Sunnyside)
- ◆ Zone 3 (340'-380', Lynwood)
- Zone 4 (200'-240', Lynwood)
- ▲ Zone 2 (500'-540', Silverado)

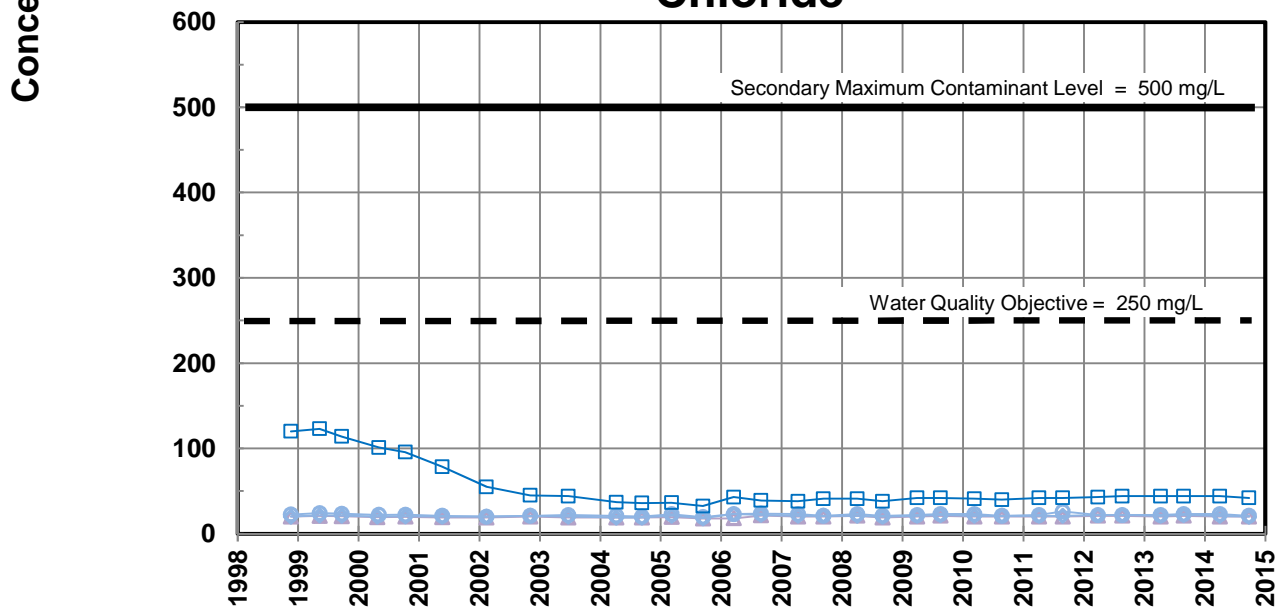
WATER QUALITY CONCENTRATIONS IN WRD KEY MONITORING WELL PM-4 MARINER

FIGURE 4.10

Total Dissolved Solids



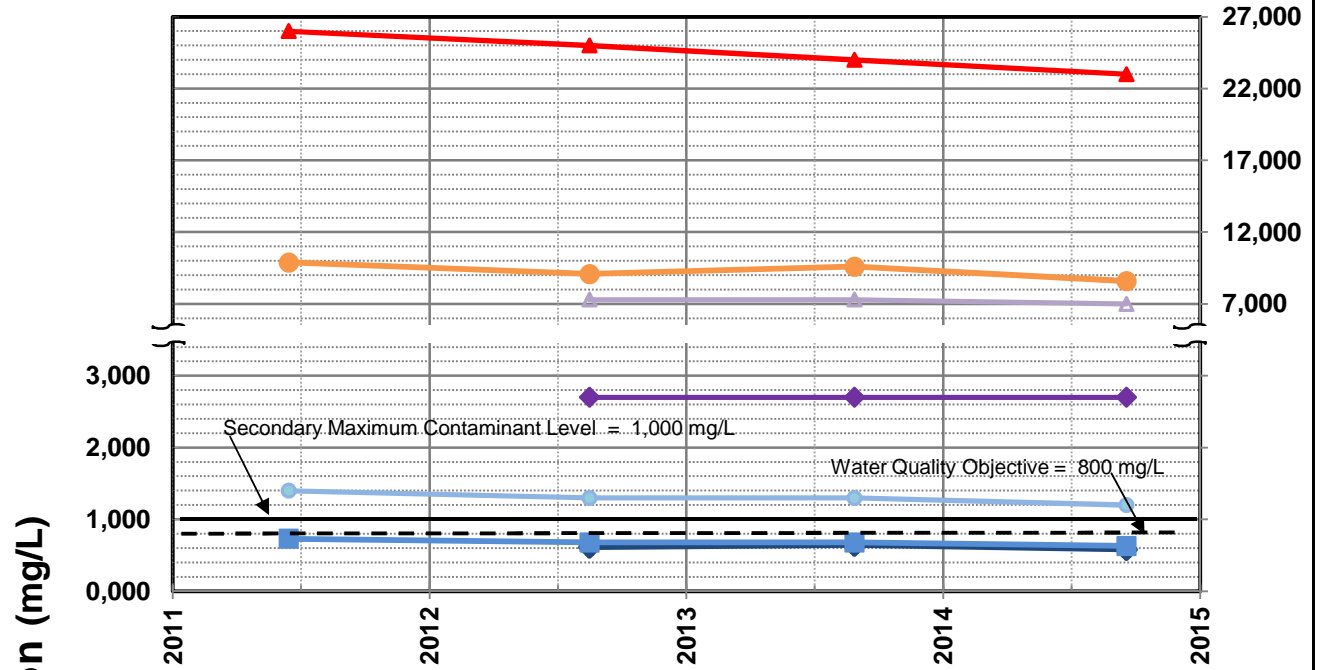
Chloride



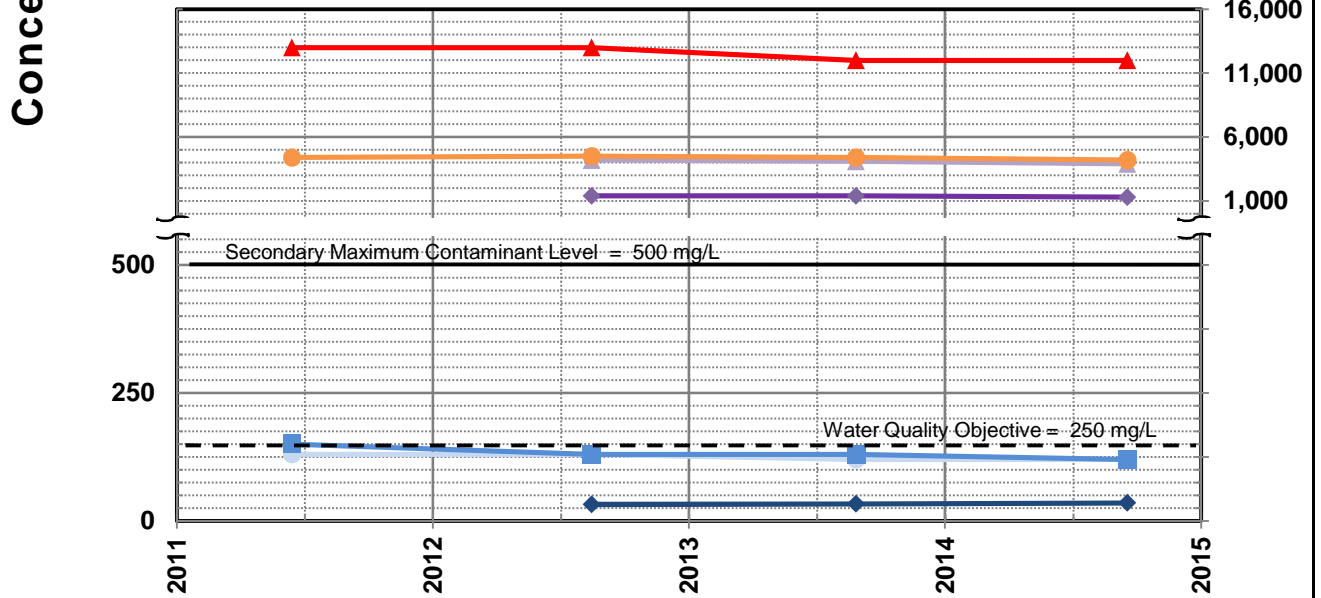
WATER QUALITY CONCENTRATIONS IN WRD KEY MONITORING WELL CARSON #1

FIGURE 4.11

Total Dissolved Solids



Chloride

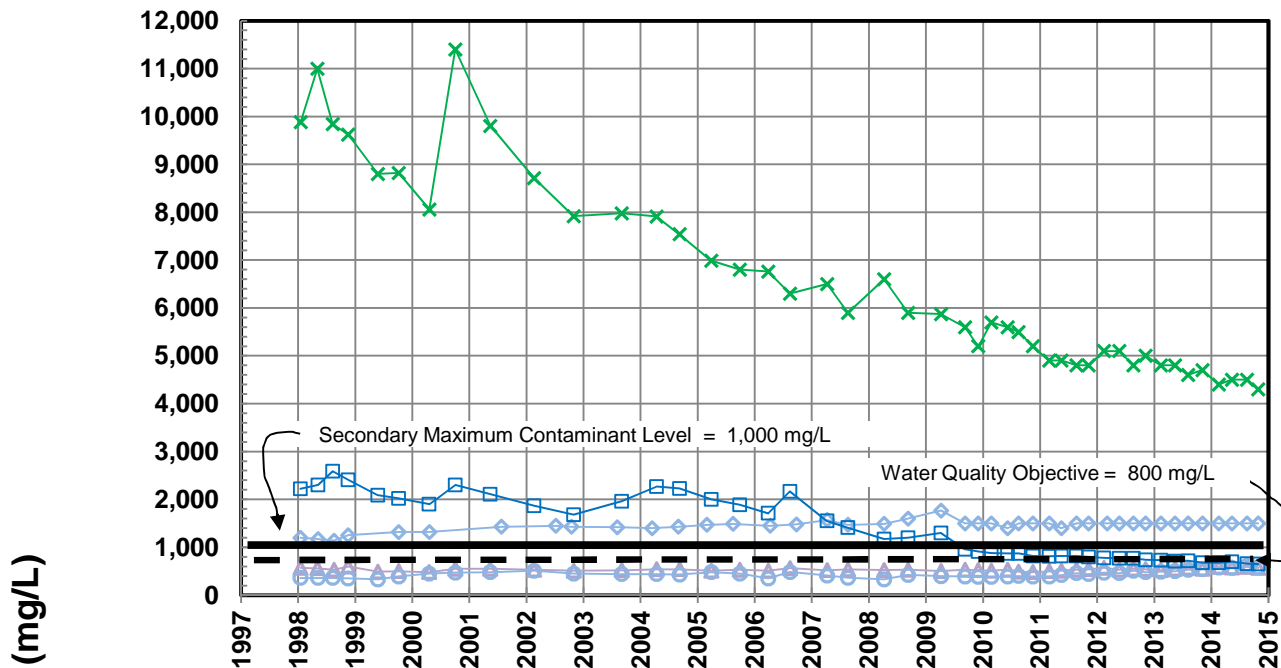


- Zone 3 (1250'-1270', Sunnyside)
- Zone 4 (865'-885', Silverado)
- Zone 7 (180'-200', Gage)
- ▲— Zone 1 (1950'-1990', Pico Formation)
- ▲— Zone 5 (640'-660', Silverado)
- ◆— Zone 2 (1570'-1590', Pico Formation)
- Zone 6 (320'-340', Lynwood)

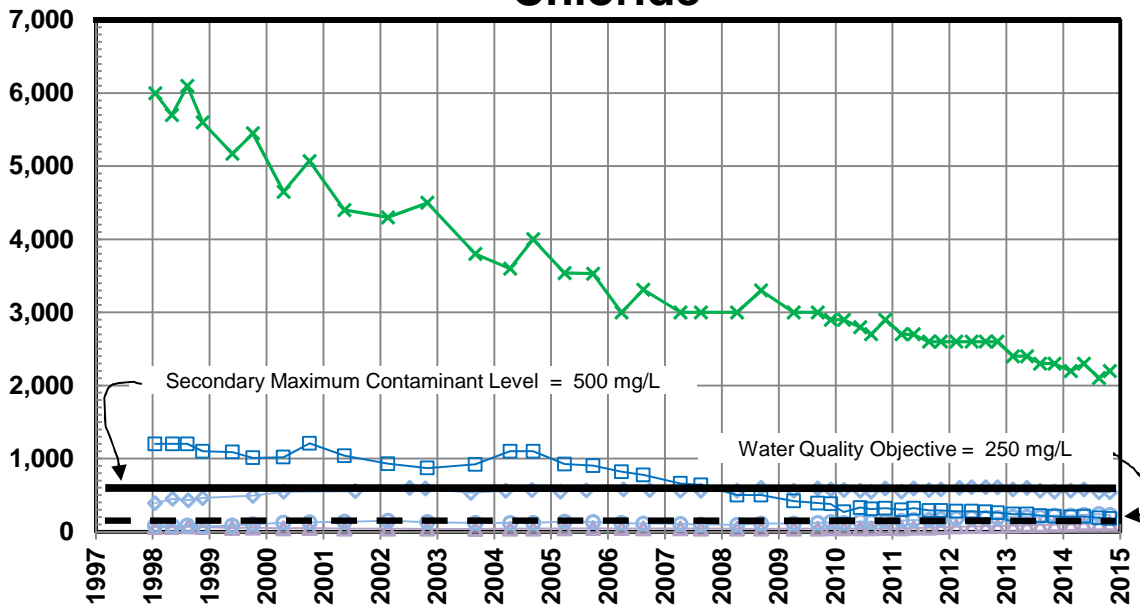
WATER QUALITY CONCENTRATIONS IN WRD KEY MONITORING WELL MANHATTAN BEACH #1

FIGURE 4.12

Total Dissolved Solids



Chloride



- ▲— Zone 1 (950'-970', Sunnyside)
- ◇— Zone 2 (755'-775', Silverado)
- Zone 3 (540'-560', Lynwood)
- Zone 4 (390'-410', Lynwood)
- x— Zone 5 (120'-140', Gage)

**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL WILMINGTON #2**

FIGURE 4.13

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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