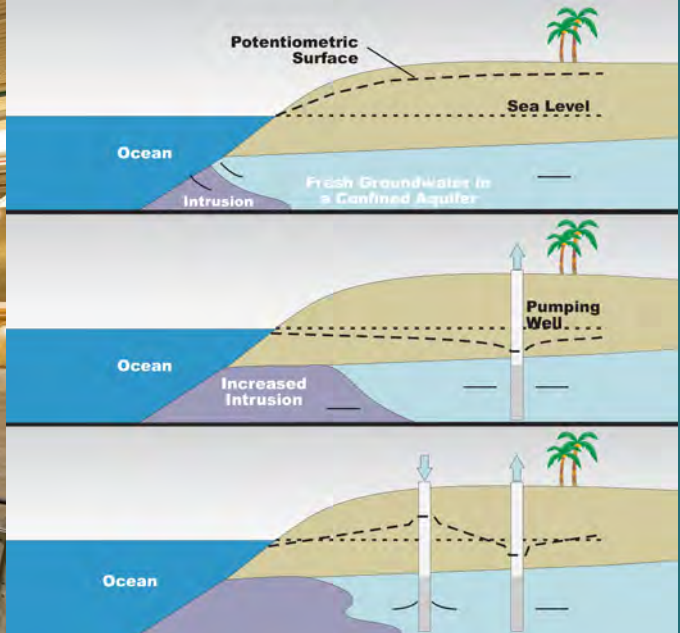
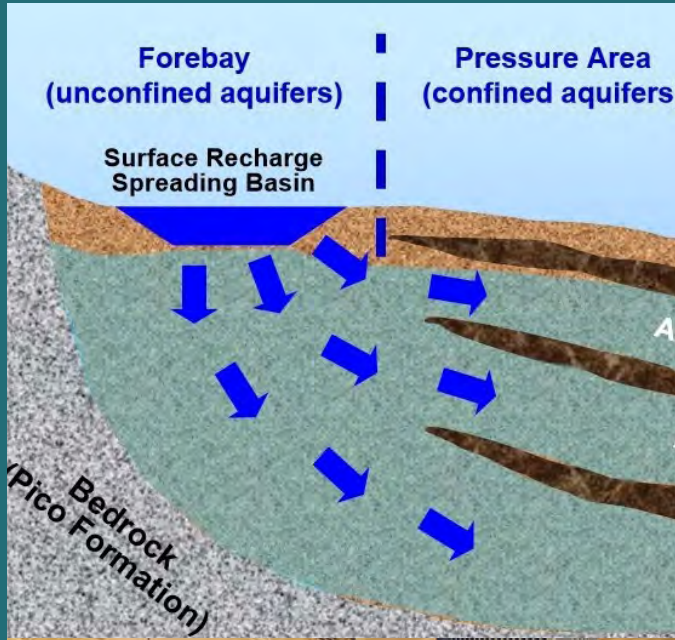


Water Replenishment District of Southern California



REGIONAL GROUNDWATER MONITORING REPORT WATER YEAR 2014-2015

Central and West Coast Basins
Los Angeles County, California

February 2016



Water Replenishment District Of Southern California

REGIONAL GROUNDWATER MONITORING REPORT CENTRAL BASIN AND WEST COAST BASIN LOS ANGELES COUNTY, CALIFORNIA WY 2014-2015

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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 320 monitoring wells at 54 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 (WY) which runs from October 1 through September 30 of each year. This current report is for WY 2014-15. Detailed information is presented in the body of the report with a summary below:

Groundwater Levels

Because of the fourth year of drought, WY 2014-15 saw a net loss of groundwater from storage, all of which occurred in the Montebello Forebay due to the lack of stormwater available there for capture in the recharge facilities. Groundwater levels in the Montebello Forebay fell nearly 4 feet during the year. However, over the rest of the WRD service area,

groundwater levels actually rose due to a large reduction in pumping for several reasons, including an In-Lieu program with the City of Long Beach, strong water conservation efforts due to the drought, short term water quality problems with some purveyor's systems, and a temporary tightening of the lease market reducing available rights. The reduction in pumping caused a rebound in groundwater levels over much of the WRD service area despite the lack of rainfall. District wide, groundwater levels rose nearly 4.5 feet, although in the Montebello Forebay region water levels fell nearly 4 feet. Overall groundwater storage loss from the District was 12,700 AF, although 18,400 AF was lost in the Montebello Forebay and the remainder was a storage gain to net a 12,700 AF loss.

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, new and emerging water quality concerns can be identified and managed effectively.

The reporting of this monitoring and analysis include data tables, maps, and trend graphs which are presented in 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 anthropogenic 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 10 key water quality constituents to represent overall groundwater quality in the basins, including total dissolved solids (TDS), iron, manganese, chloride, nitrate, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, perchlorate, and hexavalent chromium. TDS, where elevated, is typically present along with chloride as an indicator of historical seawater

intrusion or groundwater from 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. TCE and PCE that can leak into groundwater from industrial and commercial facilities, have also impacted wells in the District and are closely monitored. Chemicals of emerging concern (CECs) including hexavalent chromium and perchlorate have relatively new drinking water standards and WRD has performed baseline screening and analysis of these CECs 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 was subsequently adopted to ensure the long-term viability of groundwater in the CBWCB. Through the RGWMP, 13 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 which can be attributed 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 including as a key component, the Groundwater Reliability Improvement Project (GRIP) designed to ensure reliable sources of high quality replenishment water for 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 groundwater system and for use as a planning tool. WRD will continue to be proactively involved in the oversight of contaminated sites that threaten the CBWCB and will 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 including continued administration of the CBWCB Groundwater Contamination Forum, consisting of key stakeholders focused on expediting the investigation and cleanup of high-priority contaminated groundwater sites. Currently, there is a list of 49 high-priority sites across the CBWCB.

On November 4, 2009, the State Legislature amended the Water Code with SBx7-6, mandating a statewide program to track seasonal and long-term trends in groundwater elevations in California's groundwater basins. The California Department of Water Resources (DWR) developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program to address the Water Code amendment. 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 is available on 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 RGWMR.

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GLOSSARY OF ACRONYMS

AWTF	Advanced Water Treatment Facility
AWWA	American Water Works Association
AF	Acre-Feet
BGS	Below Ground Surface
CASGEM	California Statewide Groundwater Elevation Monitoring
CEC	Chemical of Emerging Concern
CEQA	California Environmental Quality Act
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
NL	Notification Level
OEHHA	Office of Environmental Health Hazard Assessment
PCE	Tetrachloroethylene or Perchloroethylene
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
WY	Water Year

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 (WY), which occurs from October 1 to the following September 30. During WY 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 320 wells at 54 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 WYs 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 RGWMP was designed to serve as an expanded, more representative basinwide monitoring program for the CBWCB. This RGWMP 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 aquifers. 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, typically thought of as 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 data 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 Esri 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 WY 2014-15, and discusses the status of the RGWMP. Section 1 provides an overview of WRD and its RGWMP. Section 2 discusses groundwater levels for WY 2014-15. 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 in separate sections 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>.

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SECTION 2

GROUNDWATER LEVELS

Groundwater levels are a direct indication of the amount of groundwater in the basins. Tracking groundwater levels identify 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, pathways for seawater intrusion, and to demonstrate 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 WY 2014-15. 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 aid in analysis and 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 in the Fall of 2015 is presented in **Figure 2.1**. 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 WY are illustrated in **Figure 2.2**, which is a groundwater level change map. Groundwater levels increased over most of the Central Basin during WY 2014-15. Water levels decreased about 4 feet on average in the unconfined Montebello Forebay, and increased on average about 3 feet across the unconfined Los Angeles Forebay. Groundwater levels in the Central Basin Pressure Area increased up to 12 feet with an average increase of about 7 feet. Water levels in the Whittier Area decreased about 1 foot.

Water levels did not change significantly over most of the coastal area of the West Coast Basin during WY 2014-15. However, water levels decreased up to 6 feet in the Carson and Dominguez Gap areas, and increased over 20 feet in the Inglewood/Gardena area. On average increase in groundwater levels over the entire West Coast Basin is estimated to be approximately 3 feet.

District wide, groundwater levels rose nearly 4.5 feet, although in the Montebello Forebay region water levels fell nearly 4 feet. Overall groundwater storage loss from the District was 12,700 AF, although 18,400 AF was lost in the Montebello Forebay and the remainder was a storage gain to net at a 12,700 AF loss.

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; 3) Water levels increased through the 1970s and 1980s in response to reduced pumping, artificial replenishment by WRD, and seawater barrier construction and injection; and 4) Over the past 4 years, water levels have decreased substantially in the Montebello Forebay and over the rest of the Central Basin.

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

WY. A discussion of the hydrographs shown on **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 4 feet over the past WY and are near the lowest level recorded in the past 16 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 8 feet over the past WY and by about 40 feet over the past 15 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. The water level in Zone 3 increased about 4 feet over the past WY.

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 increased by about 3 feet over the past WY. Unlike recent decreases in Montebello Forebay, water levels in the Los Angeles Forebay have remained relatively stable over the past 16 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 increased about 3 feet in the deeper aquifers over WY 2014-15, and have generally declined about 16 feet over the past 15 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 increased about 8 feet over WY 2014-15, and have generally declined 22 feet over the past 15 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, rise and fall over 120 feet through typical seasonal cycles, from highs near sea level to lows greater than 120 feet below sea level. Water levels in the other zones also generally show significant seasonal variation. **Figure 2.9** shows some increase

in all zones of Long Beach #6 over the past WY with water levels in Zones 4 and 5 increasing 10 feet from the previous WY.

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): Gaspur, 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 increased about 16 feet over WY 2014-15 after dropping the previous four years.

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 15 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 WY 2014-15 and have increased about 5 feet over the past 17 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 both have decreased about 3 feet over the past WY, but have generally increased 30 feet over the past 16 years.

Manhattan Beach #1 is a newer 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 and 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 WY, however water levels in zone 3 which is the deepest responding aquifer have increased about 3 feet over the past 4 years.

Figure 2.15 is a hydrograph for WRD's Wilmington #2 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, and shows less seasonal change suggesting hydraulic separation from the lower 4 zones. Wilmington #2 water levels decreased about 5 feet in the deeper aquifers over WY 2014-15, but have generally increased about 20 feet over the past 16 years.

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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. 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 WY 2014-15. **Table 3.2** presents water quality analytical results from WRD nested monitoring wells in the West Coast Basin during WY 2014-15. 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 ten water quality constituents. The ten constituents include total dissolved solids (TDS), iron, manganese, chloride, nitrate, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, perchlorate, and hexavalent chromium. 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 WY 2014-15 indicate relatively low TDS concentrations for groundwater in the deeper, producing aquifers of the Central Basin (**Figure 3.1**). In the Central Basin, 30 out of 33 (91%) WRD nested monitoring wells screened in the Silverado Aquifer had TDS concentrations below the SMCL of 1,000 mg/L and 21 out of 33 (64%) were below 500 mg/L. In contrast, West Coast Basin nested monitoring well data show generally higher TDS concentrations with just 13 out of 21 (57%) nested wells screened in the Silverado Aquifer having TDS concentrations below 1,000 mg/L, and 6 out of 21 (29%) 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 WYs 2012-15. In the Central Basin, TDS was detected below the Upper Level SMCL in all 233 production wells and 175 (75%) were below 500 mg/L.

West Coast Basin production well data indicate that most drinking water wells had TDS concentrations below 1000 mg/L. TDS detected was below the Upper Level SMCL in 25 out of 29 production wells (86%). 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 its 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 WY 2014-15. In the Central Basin, iron was below the SMCL in Silverado zones in 30 out of the 33 (91%) nested well locations. In zones above or below the Silverado Aquifer, iron was detected above the SMCL in only 6 out of the 33 (18%) 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%). Ten 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 WYs 2012-15. In the Central Basin, 210 of 236 (89%) production wells have iron concentrations in groundwater below the SMCL. In the West Coast Basin, 24 production wells out of 31 (77%) 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 33 (27%) 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 WYs 2012-15. In the Central Basin, data show a number of wells having elevated manganese concentrations, but 199 out of 238 production wells (83%) 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, 15 out of 31 production wells (48%) 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 WY 2014-15. In the Central Basin, all 33 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 7 of the 21 (33%) 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 WYs 2012-15. 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 also 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 are returned to the atmosphere.

Figure 3.9 presents nitrate (as nitrogen) water quality data for nested monitoring wells in the CBWCB during WY 2014-15. 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 33 (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 WYs 2012-15. 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 WYs 2012-15.

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 24 out of 33 (73%) WRD nested monitoring well locations in the Central Basin. Of the 9 nested wells where TCE was detected in the Central Basin, three locations had TCE above the MCL. In the West Coast Basin, detectable TCE

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 WYs 2012-15. In the Central Basin, TCE was not detected in 190 of 244 (78%) of the production wells that were tested. Of the 54 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 WYs 2012-15.

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 WY 2014-15, PCE (**Figure 3.13**) was not detected at 21 out of 33 (64%) nested well locations. PCE was not detected above the MCL at any nested well location in the Central Basin. Two detections, below the MCL, were in a Silverado zone. PCE was not detected in any nested wells in the West Coast Basin during WY 2014-15.

Figure 3.14 presents DDW water quality data for PCE in production wells across the CBWCB for WYs 2012-15. In the Central Basin, PCE was not detected in 189 out of the 243 (78%) production wells that were tested. Of the 54 production wells that had detectable PCE levels, 14 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 WY 2014-15. Arsenic concentrations greater than the MCL in the Central Basin were detected at 9 out of 33 (27%) 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 4 out of 21 (19%) nested monitoring well locations, one of the detections above the MCL was 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 WYs 2012-15. In the Central Basin 10 out of 231 (4%) 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 WY 2014-15. In the Central Basin, perchlorate was detected at 19 out of 33 (58%) 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 5 out of 21 (24%) 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 WYs 2012-15. 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 25 out of 33 (76%) 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 sampling conducted during WYs 2012-15. 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 the 23 production wells tested in the West Coast Basin.

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. 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 however 18,515 AF were received for replenishment in 2014-15. 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. Untreated imported water, when available, is used for recharge at the Montebello Forebay Spreading Grounds. Average water quality data for treated imported water are presented in **Table 3.3**

In 2014, the average TDS concentration of untreated Colorado River water was 620 mg/L and the average TDS concentration of untreated water from the State Water Project was 331 mg/L. Only State Water Project water was received for recharge in the Montebello Forebay spreading grounds in WY 2014-15.

Average concentrations of nitrate (as nitrogen) were below detection limits in untreated Colorado River water and the average nitrate concentration in water from the untreated State Water Project was 0.8 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 and State Water Project water were below the detection limit. 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 MWD, TCE, PCE, perchlorate, and hexavalent chromium have not been detected in water from the Colorado River or State Water Project during calendar year 2014.

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 WYs. 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 was expanded

(added advanced oxidation through the use of peroxide to the treatment train) to allow additional capacity and fully replace imported water for injection at the Alamitos Gap Seawater Intrusion Barrier. The expansion was completed in 2014. However, due to a new operational condition placed shortly before completion of the Vander Lans AWTF by LACDPW, which owns and operates the Barrier, minor volumes of imported water (i.e. diluent water) will continue to be used for blending with the advanced treated recycled water for injection at the Barrier until further notice. **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 WY 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 WY 2014-15 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 plausible 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 WY 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.

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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. The Final SNMP for the CBWCB was finalized in July 2015. Additional information regarding the CBWCB SNMP can be found at <http://www.wrd.org/saltnutrient>.

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. The SNMP included 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

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 13 key nested well locations are shown in bold 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 WY 2014-15 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 WYs 2012-15 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. 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 4 and 5 have been stable over the past 14 years, are below the MCL, and meet the WQO. TDS in zones 1, 2, and 3 have historically exceeded the MCL and WQO, and generally show stable to slightly increasing trends. Chloride in zones 4 and 5 have been historically below the MCL and meet the WQO. Chloride in zones 1, 2, and 3 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 (2011) and thus only sampled five 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, generally fluctuate within the same concentration range 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 desalter wells located in Torrance.

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 WY 2014-15. 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 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 increases and decreases across the Central Basin during WY 2014-15. Groundwater levels in the Montebello Forebay fell nearly 4 feet during the year. However, over the rest of the WRD service area, groundwater levels actually rose due to a large reduction in pumping for several reasons, including an In-Lieu program with the City of Long Beach, strong water conservation efforts due to the drought, short term water quality problems with some purveyor's systems, and a temporary tightening of the lease market reducing available rights. The reduction in

pumping caused a rebound in groundwater levels over much of the WRD service area despite the lack of rainfall. District wide, groundwater levels rose nearly 4.5 feet, although in the Montebello Forebay region water levels fell nearly 4 feet.

- Overall groundwater storage loss from the District was 12,700 AF, although 18,400 AF was lost in the Montebello Forebay and the remainder was a storage gain to net at a 12,700 AF loss.
- Based on data obtained from WRD nested monitoring wells during WY 2014-15, the water quality of key constituents in groundwater varies significantly 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 33 nested well locations. In the West Coast Basin, iron concentrations were below the SMCL in the Silverado Aquifer at 19 of 21 nested well locations. Iron was detected below the SMCL in 205 of 239 production wells in the Central Basin and 23 out of 31 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 33 nested monitoring well locations in the Central Basin and at 13 out of 21 nested well locations in the West Coast Basin. Manganese concentrations were below the SMCL in 194 out of 241 production wells in the Central Basin and 16 out of 31 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 33 nested monitoring well locations in the Central Basin and 18 out of 21 nested well locations in the West Coast Basin. DDW data indicate that TCE was detected in 54 production wells in the Central Basin during the period spanning WYs 2012-15, and 18 of the 54 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 54 production wells in the Central Basin during the period spanning WYs 2012-15; 14 of the 54 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 33 nested monitoring well locations in the Central Basin and 7 out of 21 nested well locations in the West Coast Basin. During the three year 2012-15 period, 11 out of 234 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 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 a CEC 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 WYs. Hexavalent chromium was detected above the MCL in 2 out of 33 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 or West Coast Basin production well.
- 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 complies with 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 WY 2014-15 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 13 WRD nested groundwater monitoring wells across the CBWCB were designated for salt and nutrient (specifically, TDS, chloride, and nitrate) sampling and reporting as part of the 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 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.

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SECTION 6

FUTURE ACTIVITIES

WRD will continue to update and augment its RGWMP 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 WY 2015-16 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 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.
- 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. Several new wells are planned to fill data gaps in 2016.

- 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. As regulators consider new water quality standards for CECs which have not been comprehensively monitored in the past, WRDs nested monitoring well network is well positioned to screen for emerging CECs in groundwater which may include, pesticides, n-nitrosodimethylamine (NDMA), 1,4-dioxane, pharmaceuticals and personal care products, oil and gas field indicators, and other CECs.
- 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 CBWCB Groundwater Contamination Forum with key stakeholders that include the USEPA, California Department of Toxic Substances Control, LARWQCB, DDW, USGS, 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 49 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 impacted groundwater (both naturally occurring and anthropogenic), especially by PCE and TCE in the CBWCB. The WRD Safe Drinking Program now includes special assistance for water systems located in disadvantaged communities within the Districts service area. This new extension is the Safe Drinking Water Disadvantaged Communities (DAC) outreach program.
- Consistent with WRD's mission to provide, protect, and preserve high quality groundwater and as required by the State's Recycled Water Policy, a SNMP was adopted by the SWRCB in July 2015, a Basin Plan Amendment was adopted and the SNMP monitoring program is now 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 assigned as the Designated Monitoring Entity 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.

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SECTION 7
REFERENCES

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

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

California Department of Water Resources (DWR), *Bulletin No. 104: Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix B—Safe Yield Determinations*, 1962.

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

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

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

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

Trumpolt, Clayton, W.; Crain, Michael; Cullison, Geoffrey D.; Flanagan, Susan J. P.; Siegel, Lenny; Lathrop, Stephen: *Perchlorate: Sources, Uses, and Occurrence in the Environment*, Remediation, Wiley Periodicals, Inc., 2005.

Water Replenishment District of Southern California (WRD), *Engineering Survey and Report*, 2014.

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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	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

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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	Exposition
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

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	610	629	Sunnyside
	3	100048	810	463	482.5	Sunnyside
	4	100049	810	393	402	Silverado
	5	100050	810	334	343.5	Silverado
	6	100051	810	273	282.5	Lynwood
	7	100052	810	234	243	Jefferson
	8	100053	810	163	173	Gardena
	9	100054	810	95	104.5	Gaspur
Whittier Narrows #2	1	100055	720	659	678.4	Pico Formation
	2	100056	720	579	598.2	Pico Formation
	3	100057	720	469	488.2	Pico Formation
	4	100058	720	419	428.2	Pico Formation
	5	100059	720	329	338.3	Pico Formation
	6	100060	720	263	273.3	Not Interpreted
	7	100061	720	214	223.3	Not Interpreted
	8	100062	720	136	145.3	Not Interpreted
	9	100063	720	91	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 2014-2015

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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			
12/16/2014	-31.13	-41.83	-25.28	-21.86	-14.94	12.47			
3/16/2015	-31.37	-39.63	-22.88	-21.34	-14.04	12.70			
5/21/2015	-34.98	-42.26	-22.19	-21.76	-13.92	12.98			
6/22/2015	-36.94	-41.91	-23.40	-21.28	-14.53	12.65			
9/15/2015	-34.36	-44.74	-25.81	-25.86	-18.26	9.94			
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			
12/16/2014	-11.17	-10.41	-7.52	-0.29	4.65	4.87			
3/16/2015	-5.94	-5.13	-2.67	2.38	5.64	4.70			
4/30/2015	-4.50	-3.00	-0.45	3.34	6.71	6.66			
6/22/2015	-6.76	-5.96	-2.79	2.74	6.81	5.94			
7/6/2015	-7.57	-6.77	-3.80	1.89	6.23	4.74			
9/11/2015	-11.39	-11.38	-8.84	-2.93	1.23	0.79			
Carson #1 Reference Point Elevation: 24.16									
Depth of Well	990-1010	740-760	460-480	250-270					
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage					
10/9/2014	-43.09	-42.16	-14.48	-13.20					
11/12/2014	-41.38	-40.72	-14.24	-13.01					
12/11/2014	-41.33	-40.56	-14.67	-13.35					
2/3/2015	-43.30	-43.18	-14.37	-13.07					
2/20/2015	-45.07	-44.08	-14.50	-13.14					
3/17/2015	-44.14	-43.15	-14.54	-13.18					
3/26/2015	-43.60	-42.64	-14.59	-13.23					
4/21/2015	-43.37	-42.53	-14.77	-13.36					
5/18/2015	-46.02	-45.61	-15.20	-13.74					
6/18/2015	-46.07	-45.27	-15.45	-13.99					
7/22/2015	-48.53	-47.56	-15.28	-13.85					
8/18/2015	-48.41	-47.33	-15.33	-13.87					
9/8/2015	-49.41	-48.36	-15.31	-13.82					
9/15/2015	-49.95	-48.76	-15.61	-14.06					
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				
12/19/2014	-33.59	-29.20	-28.92	-25.89	-23.73				
3/13/2015	-34.93	-30.29	-30.01	-26.79	-24.53				
4/16/2015	-34.86	-30.36	-30.04	-26.90	-24.64				
6/16/2015	-36.06	-30.28	-29.97	-26.97	-24.88				
6/22/2015	-35.57	-29.72	-29.43	-26.54	-24.49				
8/28/2015	-35.30	-29.63	-29.36	-26.63	-24.75				
9/15/2015	-35.65	-30.24	-29.94	-27.15	-25.17				
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			
12/15/2014	-34.39	-39.17	-41.36	-40.92	-40.89	-17.70			
3/12/2015	-34.01	-39.61	-41.81	-42.16	-42.13	-17.63			
4/21/2015	-33.99	-39.66	-41.69	-41.87	-41.76	-17.49			
6/15/2015	-33.90	-40.42	-41.64	-41.00	-40.42	-17.88			
9/14/2015	-33.99	-38.46	-37.82	-38.63	-37.76	-17.35			
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			
12/23/2014	-36.62	-42.10	-31.32	13.22	16.36	16.41			
3/16/2015	-25.60	-31.65	-27.92	15.21	17.63	17.66			
4/7/2015	-28.98	-33.15	-27.72	14.02	17.25	17.26			
5/11/2015	-33.31	-41.99	-33.50	13.21	17.23	17.27			
6/9/2015	-36.91	-57.72	-37.10	13.61	16.49	16.52			
7/6/2015	-43.08	-51.38	-39.61	12.41	15.49	15.49			
9/23/2015	-43.54	-52.61	-38.30	11.84	14.99	14.97			

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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			
12/23/2014	-25.84	-32.62	-29.45	-6.92	18.42	26.53			
3/16/2015	-15.40	-25.28	-27.99	-5.70	19.08	26.92			
4/13/2015	-13.94	-25.46	-28.52	-6.50	18.73	26.76			
6/9/2015	-17.12	-32.31	-31.28	-8.01	18.16	26.26			
9/22/2015	-24.51	-40.37	-36.48	-11.41	16.54	25.16			
Chandler #3 Reference Point Elevation: 153.20									
Depth of Well	341-363	165-192							
Aquifer Name	Gage/Lynw/Sil	Gage/Lynw/Silv							
12/11/2014	-17.00	-16.96							
3/18/2015	-17.40	-17.19							
4/16/2015	-16.83	-16.69							
4/30/2015	-17.18	-17.06							
6/18/2015	-17.50	-17.19							
9/15/2015	-17.41	-17.22							
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	Gage			
12/30/2014	33.94	23.86	20.20	-10.57	-7.41	36.58			
3/20/2015	31.63	23.18	19.03	-12.96	-8.11	35.85			
4/15/2015	31.58	22.77	18.78	-11.71	-7.14	35.88			
6/22/2015	31.32	21.11	16.93	-13.85	-8.51	35.20			
9/15/2015	32.49	20.16	16.02	-9.84	-7.61	34.31			
Compton #1 Reference Point Elevation: 67.17									
Depth of Well	1370-1390	1150-1170	800-820	460-480	305-325				
Aquifer Name	Sunnyside	Sunnyside	Silverado	Hollydale	Gage				
12/15/2014	-70.23	-69.99	-31.25	-28.56	-14.75				
3/11/2015	-42.77	-42.66	-26.77	-27.02	-14.07				
4/28/2015	-37.94	-37.79	-25.28	-25.28	-13.89				
6/26/2015	-62.34	-62.08	-26.73	-15.59	-10.66				
9/3/2015	-71.23	-70.86	-31.24	-32.57	-18.75				
9/14/2015	-72.03	-71.75	-31.76	-33.62	-19.15				
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			
12/15/2014	-36.37	-56.71	-47.28	-45.95	-37.93	-32.24			
3/18/2015	-30.13	-47.16	-44.34	-43.37	-38.14	-32.55			
4/28/2015	-25.77	-47.07	-47.43	-46.21	-36.80	-31.25			
6/26/2015	-23.99	-50.84	-47.94	-46.37	-36.64	-30.45			
9/14/2015	-28.99	-54.40	-46.79	-46.07	-39.16	-33.10			
Downey #1 Reference Point Elevation: 97.21									
Depth of Well	1170-1190	940-960	580-600	370-390	250-270	90-110			
Aquifer Name	Sunnyside	Silverado	Silverado	Holly/Jeff	Gage	Gaspur			
12/18/2014	-18.04	-12.60	-6.39	-1.99	27.58	32.33			
3/11/2015	-11.19	-7.65	-3.95	-1.16	27.09	31.70			
4/16/2015	-6.31	-4.66	-3.67	-1.67	26.95	30.49			
6/18/2015	-7.99	-5.54	-4.20	-0.08	26.61	31.01			
9/2/2015	-14.21	-11.24	-10.62	-5.63	25.15	30.34			
9/11/2015	-14.99	-11.90	-11.47	-7.94	24.90	30.22			
Gardena #1 Reference Point Elevation: 82.20									
Depth of Well	970-990	445-465	345-365	120-140					
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage					
12/15/2014	-56.67	-135.70	-94.95	-12.51					
3/15/2015	-54.35	-135.92	-96.51	-12.23					
6/23/2015	-54.83	-73.68	-68.62	-12.10					
9/15/2015	-48.47	-60.12	-55.91	-11.40					

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
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				
12/10/2014	-41.54	-54.06	-54.41	-23.51	-11.50				
3/9/2015	-40.96	-53.97	-54.36	-22.16	-10.66				
4/27/2015	-41.31	-53.82	-54.16	-22.22	-10.59				
6/23/2015	-41.54	-41.98	-41.85	-20.09	-11.13				
9/18/2015	-38.16	-38.08	-37.92	-18.33	-10.43				
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			
12/11/2014	-60.44	-15.13	-14.19	-14.03	-9.42	0.67			
3/23/2015	-52.25	-14.24	-13.09	-12.91	-8.86	0.56			
4/7/2015	-52.61	-14.63	-13.71	-13.54	-8.86	0.65			
4/22/2015	-52.24	-14.60	-13.71	-14.48	-8.75	0.80			
6/17/2015	-48.98	-12.27	-11.65	-11.52	-7.60	0.70			
9/9/2015	-41.51	-10.52	-9.96	-9.83	-6.20	1.24			
9/15/2015	-41.31	-10.44	-9.84	-9.70	-6.14	1.25			
Huntington Park #1 Reference Point Elevation: 177.08									
Depth of Well	890-910	690-710	420-440	275-295	114-134				
Aquifer Name	Silverado	Jefferson	Gage	Exposition	Gaspur				
12/23/2014	-31.14	-33.65	-22.25	12.45	Dry				
3/17/2015	-29.91	-32.71	-21.25	13.22	Dry				
5/20/2015	-29.81	-32.73	-21.36	10.38	Dry				
6/16/2015	-30.25	-33.10	-21.34	13.47	Dry				
9/21/2015	-31.43	-34.32	-23.04	11.85	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				
12/11/2014	-32.77	-44.87	-31.08	2.42	7.64				
3/18/2015	-32.71	-42.82	-27.25	2.63	7.46				
4/9/2015	-32.44	2.94	-27.11	2.68	7.51				
6/17/2015	-32.67	-45.86	-25.97	2.56	7.24				
9/15/2015	-32.51	-44.47	-22.79	2.98	7.30				
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					
12/22/2014	-26.01	-17.40	-4.53	-1.10					
3/18/2015	-26.25	-17.35	-4.54	-1.00					
6/17/2015	-26.26	-17.47	-4.62	-1.07					
9/14/2015	-26.30	-17.51	-4.48	-0.97					
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	Lynw/Silv	Gage/Lynw		
12/22/2014	-28.16	-37.83	-58.27	-58.23	-56.84	-13.34	1.93		
3/18/2015	-28.46	-37.62	-55.81	-54.17	-53.27	-12.48	2.22		
4/29/2015	-37.55	-37.55	-28.56	-51.86	-50.67	-11.98	2.38		
6/17/2015	-29.21	-37.37	-54.57	-49.50	-47.60	-10.72	2.30		
9/15/2015	-29.31	-37.13	-50.80	-42.09	-40.97	-8.86	2.97		
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			
12/15/2014	-104.47	-39.25	-40.32	-18.63	-2.75	23.06			
3/15/2015	-14.50	-30.77	-28.96	-14.18	-0.66	23.11			
6/15/2015	0.64	-32.07	-31.18	-15.15	-1.35	22.95			
9/15/2015	-57.82	-34.37	-35.58	-21.54	-5.53	22.32			
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	
12/23/2014	-43.82	-38.82	-38.86	-44.17	-27.51	-15.57	16.71	19.45	
3/16/2015	-23.64	-25.31	-26.01	-34.32	-24.05	-11.30	18.14	20.68	
5/19/2015	-24.08	-32.26	-40.67	-53.58	-42.78	-22.48	17.33	20.02	
6/9/2015	-24.51	-35.78	-45.48	-57.42	-44.69	-23.60	16.92	19.74	
9/20/2015	-35.04	-42.40	-52.28	-64.64	-44.64	-26.08	15.53	18.39	

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
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				
12/23/2014	-38.20	-32.40	-31.19	-35.40	-15.72				
3/16/2015	-20.65	-16.66	-22.30	-27.88	-7.24				
4/9/2015	-19.50	-15.58	-22.24	-30.95	-8.88				
6/11/2015	-22.00	-16.68	-28.51	-42.37	-14.87				
9/18/2015	-31.45	-25.69	-29.79	-40.41	-16.19				
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			
12/10/2014	-34.36	-58.99	-14.74	-14.20	-11.72	-5.63			
3/20/2015	-34.02	-57.52	-12.02	-11.54	-9.62	-7.97			
4/21/2015	-34.03	-57.94	-11.48	-11.16	-9.18	-7.65			
6/17/2015	-34.07	-46.11	-9.95	-9.41	-7.87	-5.16			
9/15/2015	-33.39	-38.22	-8.67	-8.23	-6.91	-7.70			
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			
12/11/2014	-25.71	-16.31	-13.65	-14.31	-12.98	-13.04			
3/17/2015	-25.85	-16.42	-13.57	-14.26	-12.92	-12.95			
3/30/2015	-25.75	-17.18	-13.82	-14.42	-14.42	-12.96			
6/15/2015	-26.44	-16.96	-13.98	-16.03	-13.25	-13.19			
9/17/2015	-25.35	-17.38	-14.13	-16.12	-13.73	-13.18			
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			
12/19/2014	-45.89	-47.84	-68.44	-34.32	-28.55	-9.19			
3/10/2015	-25.35	-26.34	-35.43	-21.18	-14.70	-5.78			
3/27/2015	-22.06	-22.02	-32.66	-21.44	-18.83	-7.19			
6/11/2015	-28.17	-30.49	-60.29	-34.45	-33.45	-13.17			
9/16/2015	-42.27	-45.14	-74.77	-40.18	-38.28	-15.39			
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			
10/21/2014	-104.59	-56.20	-42.93	-15.56	-2.82	0.02			
12/23/2014	-73.41	-47.13	-38.55	-13.64	-2.03	0.27			
3/13/2015	-42.09	-43.65	-37.13	-12.89	-1.83	0.34			
4/23/2015	-34.36	-40.93	-36.14	-36.09	-1.89	0.34			
6/22/2015	-80.01	-49.07	-40.67	-13.08	-1.94	0.25			
9/14/2015	-94.19	-50.57	-40.08	-14.51	-2.76	-0.31			
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				
12/18/2014	-32.03	-38.63	-38.59	-38.99	-1.71				
3/10/2015	-31.86	-42.27	-42.29	-42.72	-0.50				
4/6/2015	-31.93	-42.34	-42.23	-42.74	-0.44				
4/10/2015	-31.98	-42.24	-42.22	-42.69	-0.74				
6/11/2015	-32.68	-44.50	-44.55	-45.03	-4.47				
9/23/2015	-34.03	-46.24	-46.23	-46.75	-4.95				
9/29/2015	-34.05	-45.38	-45.32	-44.76	-4.79				
Long Beach #4 Reference Point Elevation: 9.52									
Depth of Well	1200-1220	800-820							
Aquifer Name	Pico Formation	Sunnyside							
12/18/2014	-30.28	-10.54							
3/19/2015	-31.88	-11.93							
6/18/2015	-31.59	-12.27							
9/21/2015	-33.02	-13.35							

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
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			
11/25/2014	-65.43	-81.10	-82.36	-126.47	-126.45	-41.37			
11/26/2014	-65.39	-81.06	-82.33	-126.35	-126.34	-41.29			
12/23/2014	-59.87	-64.17	-64.20	-75.72	-75.72	-36.25			
2/10/2015	-44.32	-44.02	-44.04	-53.14	-53.14	-31.98			
3/20/2015	-34.90	-33.95	-33.82	-38.14	-38.11	-29.80			
3/24/2015	-33.91	-32.91	-32.81	-36.93	-36.89	-29.58			
3/25/2015	-33.69	-32.79	-32.46	-36.45	-36.49	-29.46			
5/11/2015	-29.41	-42.92	-43.84	-64.72	-64.65	-31.97			
6/22/2015	-38.52	-59.45	-60.87	-97.89	-97.65	-34.05			
7/30/2015	-44.88	-65.32	-66.67	-101.08	-101.07	-35.91			
9/14/2015	-55.30	-75.09	-76.40	-117.45	-117.41	-37.86			
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			
12/18/2014	-15.36	-30.31	-36.29	-34.77	-34.41	1.42			
3/12/2015	-14.97	-29.60	-39.84	-37.96	-37.56	1.79			
6/11/2015	-15.10	-30.43	-42.65	-40.22	-39.84	1.31			
9/24/2015	-14.98	-31.65	-44.27	-41.75	-41.41	0.94			
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				
12/18/2014	-33.89	-25.57	-25.78	-25.88	-16.04				
3/17/2015	-32.31	-24.40	-24.71	-24.74	-15.84				
5/29/2015	-33.00	-24.31	-24.88	-25.75	-15.91				
6/16/2015	-33.06	-24.50	-24.87	-25.77	-16.09				
9/16/2015	-31.20	-24.94	-25.37	-26.58	-17.09				
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			
12/19/2014	46.42	-4.61	-5.23	-18.97	-26.74	Dry			
3/17/2015	46.52	-4.63	-5.13	-18.81	-26.31	Dry			
4/22/2015	46.44	-4.84	-5.34	-18.84	-26.58	Dry			
6/16/2015	46.28	-6.50	-7.07	-19.57	-26.47	Dry			
7/29/2015	46.04	-6.32	-5.85	-19.33	-26.57	Dry			
9/14/2015	45.94	-5.71	-6.16	-19.09	-26.63	Dry			
Los Angeles #3 Reference Point Elevation: 145.71									
Depth of Well	1210-1230	875-895	705-725	550-570	330-350	190-210			
Aquifer Name	Sunnyside	Silverado	Lynwood	Hollydale	Gage	Exposition			
12/19/2014	-20.45	-7.21	-11.19	-15.45	-12.62	7.29			
3/19/2015	-19.52	-5.66	-10.41	-14.79	-11.56	7.49			
4/15/2015	-19.27	-5.51	-10.09	-14.77	-11.25	7.59			
5/14/2015	-19.35	-5.59	-10.33	-16.41	-12.13	7.53			
6/25/2015	-19.89	-5.95	-10.89	-16.48	-12.44	7.45			
9/14/2015	-18.79	-6.64	-11.84	-16.57	-12.74	7.31			
Los Angeles #4 Reference Point Elevation: 136.04									
Depth of Well	1740-1780	1190-1230	720-740	490-510	355-375	235-255			
Aquifer Name	Pico Formation	Pico Formation	Sunnyside	Silverado	Lynwood	Gage			
12/18/2014	-30.95	-53.71	-43.12	-30.88	-30.02	-17.37			
2/27/2015	-30.04	-50.38	-40.31	-29.42	-28.55	-16.75			
3/17/2015	-29.26	-49.25	-39.67	-28.89	-27.99	-16.58			
4/7/2015	-28.86	-48.48	-39.35	-28.70	-27.79	-16.56			
5/18/2015	-19.98	-46.87	-38.71	-29.28	-29.01	-17.76			
6/30/2015	-28.56	-48.51	-40.82	-29.74	-28.26	-16.86			
9/14/2015	-28.76	-51.61	-42.81	-30.14	-28.66	-17.28			

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2014-2015

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Lynwood #1 Reference Point Elevation: 89									
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	Lynw/Silv	Gardena	Gaspar
10/7/2014	-27.24	-48.07	-67.39	-60.29	-41.69	-34.29	-37.05	-29.02	40.67
12/15/2014	-28.95	-48.84	-61.85	-55.48	-37.68	-30.96	-31.55	-21.85	40.71
3/11/2015	-26.64	-35.64	-44.01	-40.06	-29.94	-27.65	-28.56	-20.51	40.45
5/27/2015	-23.60	-31.51	-48.07	-42.60	-29.57	-26.20	-27.97	-19.11	40.24
6/26/2015	-23.65	-35.36	-54.04	-47.92	-33.08	-27.21	-27.68	-20.81	40.11
9/21/2015	-26.01	-43.13	-61.36	-54.68	-36.59	-31.18	-31.57	-24.55	39.53
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		
12/10/2014	-0.23	-2.33	-33.58	-5.52	-2.77	7.06	10.50		
3/18/2015	-0.38	-2.46	-33.63	-4.23	-4.13	5.50	9.17		
6/16/2015	-0.19	-2.31	-33.26	-3.74	-4.68	4.98	7.88		
6/18/2015	-0.23	-2.29	-33.20	-3.64	-4.67	4.66	7.66		
9/16/2015	-0.10	-2.24	-32.76	-1.74	-3.39	6.02	9.27		
Montebello #1 Reference Point Elevation: 192.60									
Depth of Well	900-960	690-710	500-520	370-390	210-230	90-110			
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Gage	Exposition			
12/29/2014	60.84	56.96	56.51	53.85	51.15	Dry			
3/11/2015	56.62	47.75	47.06	45.36	50.00	Dry			
4/20/2015	54.24	45.22	44.60	43.29	48.78	Dry			
6/23/2015	52.21	43.42	42.84	41.59	46.56	Dry			
9/18/2015	48.05	38.69	38.15	37.07	43.48	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				
12/23/2014	14.04	-31.16	-4.37	-7.60	-5.63				
3/17/2015	17.79	-17.00	3.04	-4.20	-3.35				
4/23/2015	18.72	-12.84	6.05	-3.92	-2.99				
4/24/2015	19.03	-12.78	6.06	-3.92	-2.97				
6/11/2015	20.21	-14.90	5.56	-5.66	-3.89				
9/16/2015	16.59	-24.92	-1.29	-8.79	-5.79				
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			
12/16/2014	-6.53	-6.40	-12.33	-11.90	6.33	13.90			
3/11/2015	-0.69	-0.53	-2.64	-0.60	8.98	14.84			
4/27/2015	2.06	2.19	2.03	4.41	10.42	16.37			
6/16/2015	2.23	2.41	-1.81	1.15	7.43	15.28			
9/16/2015	-3.18	-3.04	-10.29	-7.14	2.54	11.64			
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					
12/22/2014	98.16	84.80	82.80	80.46					
3/15/2015	107.36	94.87	94.26	92.25					
6/15/2015	108.02	93.81	92.86	91.12					
9/13/2015	98.61	83.08	82.21	79.00					
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			
12/15/2014	42.29	45.85	50.07	68.82	69.99	75.72			
3/15/2015	43.52	43.91	51.67	75.56	76.78	84.79			
6/15/2015	42.59	44.39	51.17	69.48	72.60	82.26			
9/13/2015	34.54	35.51	44.06	62.13	66.19	72.18			
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					
12/11/2014	-11.63	-9.15	-9.06	-9.06					
3/20/2015	-11.12	-8.60	-8.48	-8.40					
4/13/2015	-11.05	-8.54	-8.53	-8.52					
6/16/2015	-11.73	-9.32	-9.19	-9.18					
9/16/2015	-11.47	-9.19	-9.08	-9.07					

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2014-2015

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
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					
12/29/2014	-3.91	-1.25	1.98	2.04					
3/12/2015	-3.40	-1.81	1.36	1.40					
4/12/2015	-3.23	-1.61	1.88	1.92					
5/18/2015	-4.19	-1.91	1.31	1.37					
6/17/2015	-4.76	-3.03	0.21	0.27					
9/16/2015	-4.16	-3.00	0.30	0.38					
PM-5 Columbia Park Reference Point Elevation: 76.72									
Depth of Well	1360-1380	940-960	770-790	580-600	320-340	140-160			
Aquifer Name	Pico Formation	Pico Formation	Sunnyside	Sunnyside	Silverado	Gage			
12/11/2014	-34.48	-43.34	-10.43	-7.97	-1.31	-1.10			
3/20/2015	-34.20	-42.66	-8.33	-6.63	-1.59	-1.34			
4/7/2015	-34.19	-42.74	-8.18	-6.35	-1.09	-0.98			
6/15/2015	-34.07	-41.88	-9.87	-8.22	-2.68	-2.47			
8/18/2015	-34.08	-34.62	-9.19	-7.67	-1.81	-1.65			
9/16/2015	-33.89	-33.69	-9.22	-7.67	-1.92	-1.71			
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			
12/11/2014	-32.23	-10.71	-10.04	-2.39	-1.28	-0.80			
3/18/2015	-32.62	-10.67	-9.74	-2.27	-1.07	-0.64			
3/24/2015	-32.57	-10.72	-9.72	-2.15	-1.11	-0.54			
6/15/2015	-33.28	-11.36	-10.48	-3.02	-1.86	-1.40			
9/16/2015	-30.26	-10.96	-10.40	-2.88	-1.85	-1.34			
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			
12/11/2014	40.01	37.68	36.97	31.67	37.69	41.21			
3/11/2015	41.33	38.39	37.72	33.64	40.14	43.83			
4/15/2015	39.22	37.28	36.64	32.85	40.29	44.73			
6/16/2015	37.66	35.12	34.53	30.40	38.91	43.10			
9/14/2015	31.60	28.30	27.67	25.25	33.83	37.95			
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		
12/29/2014	-43.11	-43.32	-43.20	-56.68	-36.10	-1.16	1.65		
3/12/2015	-25.97	-26.20	-26.05	-35.19	-23.82	-1.67	1.53		
5/11/2015	-21.56	-21.73	-21.51	-44.74	-30.71	-5.72	-0.01		
6/11/2015	-27.09	-27.22	-27.17	-53.72	-34.94	-6.57	-0.23		
9/17/2015	-40.38	-40.56	-40.40	-64.83	-40.12	-7.40	-0.84		
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				
12/18/2014	-15.08	-11.92	-6.83	-4.33	35.54				
3/20/2015	-11.05	-9.74	-3.60	-8.91	35.00				
5/13/2015	-8.96	-6.76	-2.71	-5.89	34.78				
6/29/2015	-10.83	-8.21	-1.90	-6.49	34.47				
9/15/2015	-15.82	-13.32	-8.29	-12.01	33.47				
South Gate #2 Reference Point Elevation: 120.29									
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			
12/15/2014	-32.68	-32.25	-27.02	-16.42	41.84	47.61			
3/19/2015	-29.96	-29.46	-24.14	-13.45	41.79	47.33			
5/6/2015	-29.24	-28.60	-24.54	-12.61	41.65	47.24			
7/1/2015	-30.13	-29.33	-24.03	-11.92	41.51	47.06			
9/15/2015	-32.46	-32.19	-27.43	-19.81	41.07	46.87			
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				
12/22/2014	-2.60	7.22	7.60	7.68	7.82				
3/20/2015	-2.41	7.07	7.37	7.46	7.61				
4/2/2015	-2.33	7.14	7.50	7.60	7.73				
6/17/2015	-2.37	6.89	7.24	7.31	7.47				
9/15/2015	-1.53	6.96	7.25	7.28	7.36				

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2014-2015

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
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				
12/11/2014	112.92	112.96	104.12	101.86	197.01				
3/17/2015	111.46	111.47	102.86	100.70	197.07				
5/5/2015	110.86	110.81	102.28	100.35	196.82				
6/18/2015	110.23	110.27	101.96	99.96	196.54				
9/17/2015	109.19	109.21	100.80	98.80	195.94				
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			
12/16/2014	65.93	66.73	56.71	62.17	87.75	96.52			
3/17/2015	68.01	68.38	55.59	57.40	91.88	99.82			
5/12/2015	67.42	67.86	59.63	61.67	92.11	101.27			
6/18/2015	66.72	67.09	56.87	58.15	89.24	99.46			
9/18/2015	62.01	62.58	49.56	51.93	80.81	92.90			
Whittier Narrows #1 Reference Point Elevation: 214.96									
Depth of Well	749-769	610-629	463-483	393-402	334-344	273-283	234-243	163-173	95-105
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood	Jefferson	Gardena	Gaspar
3/26/2015	157.07	160.46	164.71	174.10	176.21	176.87	176.94	177.03	180.48
9/16/2015	154.07	155.73	158.24	164.03	165.06	166.43	166.71	166.78	170.29
Whittier Narrows #2 Reference Point Elevation: 209.08									
Depth of Well	659-678	579-598	469-488	419-428	328-338	263-273	214-223	136-145	91-100
Aquifer Name	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Not Defined	Not Defined	Not Defined	Gardena
3/27/2015	-17.82	-17.66	-17.26	-9.81	92.15	154.59	155.90	156.38	160.08
9/17/2015	-19.97	-19.67	-19.30	-12.37	79.96	127.29	129.27	132.06	152.99
Willowbrook #1 Reference Point Elevation: 96.21									
Depth of Well	885-905	500-520	360-380	200-220					
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage					
12/23/2014	-58.34	-43.05	-48.61	-47.11					
3/10/2015	-52.47	-41.64	-40.68	-40.73					
4/1/2015	-53.52	-41.74	-40.49	-40.20					
6/23/2015	-56.04	-41.94	-39.17	-38.34					
9/4/2015	-61.38	-42.73	-39.96	-38.96					
9/18/2015	-59.74	-42.27	-39.21	-38.74					
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				
12/19/2014	-35.24	-35.84	-35.82	-11.47	-8.58				
3/12/2015	-39.33	-39.89	-39.89	-11.72	-8.58				
5/13/2015	-39.94	-40.55	-40.41	-12.77	-9.68				
6/15/2015	-39.26	-39.80	-39.76	-14.27	-11.15				
8/5/2015	-44.44	-44.96	-44.96	-13.82	-10.51				
9/15/2015	-45.08	-45.64	-45.78	-14.18	-10.87				
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				
12/11/2014	-27.44	-24.31	-20.50	-19.64	-5.07				
3/12/2015	-30.21	-26.80	-21.77	-20.72	-5.00				
6/9/2015	-32.48	-27.76	-23.35	-22.28	-5.04				
6/16/2015	-30.58	-27.15	-23.44	-22.65	-5.27				
9/15/2015	-33.52	-27.59	-24.12	-22.82	-5.70				

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Bell #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/21/15	9/3/15	5/21/15	9/3/15	5/21/15	9/3/15	5/21/15	9/3/15	5/21/15	9/3/15	5/21/15	9/3/15
General Minerals															
Alkalinity	mg/l			580	590	160	160	150	160	170	170	170	180	240	250
Anion Sum	meq/l			16	16	5.4	5.5	5.1	5.1	5.7	5.7	7.4	7.7	11	12
Bicarbonate as HCO3	mg/l			700	720	190	190	190	190	200	210	210	220	300	300
Boron	mg/l	1	N	1.5	1.8	0.13	0.14	0.13	0.13	0.14	0.15	0.14	0.14	0.15	0.16
Bromide	ug/l			1100	1100	110	100	160	150	120	120	180	180	360	350
Calcium, Total	mg/l			19	21	50	49	44	44	55	54	73	74	100	120
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			9.1	15	2	2.5	ND	2	ND	2.2	ND	ND	ND	ND
Cation Sum	meq/l			16	17	5.4	5.4	5.1	5.1	5.6	5.5	7.3	7.4	9.9	11
Chloride	mg/l	500	S	140	150	22	22	29	29	27	26	51	54	110	110
Fluoride	mg/l	2	P	0.42	0.41	0.23	0.24	0.41	0.4	0.33	0.44	0.37	0.32	0.36	0.36
Hardness (Total, as CaCO3)	mg/l			74	82	170	160	150	160	190	190	260	260	360	430
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			240	7.4	30	20	32	29	34	26	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.1	0.1	0.021	ND	ND	ND	ND	0.02	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.98	1.2	0.68	0.82	0.56	0.71	0.68	0.8	0.75	0.89	0.97	1.1
Magnesium, Total	None			6.5	7.2	10	10	10	11	13	13	18	19	28	32
Manganese, Total	ug/l	50	S	37	37	76	78	52	52	70	70	2.1	ND	16	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	7.5	8.7	12	12
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	1.7	2	2.7	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			5.2	5.4	2.4	2.3	3.3	3.2	3.1	2.9	2.6	2.7	2.7	2.6
Sodium, Total	mg/l			330	340	46	46	45	45	40	39	48	48	53	57
Sulfate	mg/l	500	S	3.9	2	78	79	57	57	73	74	110	120	150	150
Surfactants	mg/l	0.5	S	ND	0.054	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	950	970	340	340	320	320	370	360	460	480	670	700
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	1.7	2	2.7	2.7
Total Organic Carbon	mg/l			17	20	0.59	0.47	0.52	0.55	ND	0.31	ND	0.33	0.47	0.42
General Physical Properties															
Apparent Color	ACU	15	S	250	250	ND	5	3	ND	ND	ND	ND	ND	5	5
Lab pH	Units			8.3	8.5	8.2	8.3	8.1	8.2	8.1	8.2	8	8.1	7.9	8
Odor	TON	3	S	2	40	2	1	1	2	1	1	1	2	ND	2
Specific Conductance	umho/cm	1600	S	1500	1500	540	530	510	510	560	560	730	740	1100	1100
Turbidity	NTU	5	S	0.32	0.33	0.1	0.11	0.07	0.089	0.1	0.14	0.18	0.17	8.9	2.4
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	3.5	3	1.1	1.3
Barium, Total	ug/l	1000	P	22	22	36	38	36	38	69	79	220	250	110	140
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	1.1	ND	ND	ND	ND	ND	ND	1.4	2	3.4	4.2
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.041	ND	ND	ND	ND	ND	ND	1.4	2.2	4.2	4.3
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	9.1	6	6.3	6.2
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	0.55	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	1.2	1.5	34	29
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	1.8	2.2	3.3	3.8

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Bell Gardens #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/30/15	9/14/15	4/30/15	9/14/15	4/30/15	9/14/15	4/30/15	9/14/15	4/30/15	9/14/15	4/30/15	9/14/15
General Minerals															
Alkalinity	mg/l			160	160	160	160	140	140	110	110	120	120	140	140
Anion Sum	meq/l			7.4	7.3	5.1	5	7.3	7.3	5.2	5.2	5.1	5.1	5.7	5.7
Bicarbonate as HCO3	mg/l			200	190	190	190	170	170	130	130	150	140	170	170
Boron	mg/l	1	N	0.054	0.057	0.12	0.13	0.17	0.17	0.14	0.15	0.15	0.16	0.14	0.15
Bromide	ug/l			120	120	130	120	140	140	87	85	240	230	140	130
Calcium, Total	mg/l			94	97	40	41	73	75	46	48	47	49	53	58
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.6	2	3.9	2.5	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			7.2	7.4	5	5.2	7	7.3	5	5.2	5	5.3	5.4	5.9
Chloride	mg/l	500	S	51	51	34	34	69	70	46	46	39	39	41	41
Fluoride	mg/l	2	P	0.18	0.2	0.26	0.29	0.3	0.32	0.37	0.41	0.22	0.24	0.32	0.33
Hardness (Total, as CaCO3)	mg/l			290	300	130	140	240	240	150	160	160	160	170	190
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			8.9	5.2	13	12	1.1	1.3	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.035	0.038	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.1	0.98	0.9	0.72	0.79	0.51	0.49	0.17	0.4	0.051	0.59	0.29
Magnesium, Total	None			14	14	8	8.3	13	13	8.7	9.2	9.6	10	10	12
Manganese, Total	ug/l	50	S	30	24	38	37	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 NO3)	mg/l	45	P	ND	ND	ND	ND	11	11	6.8	6.6	8.5	8.3	7.4	7.2
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	2.4	2.4	1.5	1.5	1.9	1.9	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			2.1	2.4	2.4	2.7	3.3	3.9	2.9	3.4	2.7	3.2	3	3.6
Sodium, Total	mg/l			30	31	52	55	51	54	44	47	41	44	41	46
Sulfate	mg/l	500	S	130	130	45	45	110	110	76	78	70	71	73	74
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	460	450	300	290	450	460	340	330	310	320	350	350
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	2.4	2.4	1.5	1.5	1.9	1.9	1.7	1.6
Total Organic Carbon	mg/l			0.32	0.35	0.4	0.43	0.5	0.49	0.33	0.36	0.31	0.33	0.33	ND
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.3	8.2	8.5	8.3	8.1	7.8	8.2	7.8	8	7.6	8.1	7.7
Odor	TON	3	S	1	1	1	2	ND	1	ND	1	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	700	700	500	500	720	720	520	520	520	520	560	560
Turbidity	NTU	5	S	0.13	0.17	0.091	0.18	0.083	0.11	0.089	0.21	0.08	0.3	0.21	0.31
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	3.5	2.5	ND	ND	2.7	2	2.4	ND	1	ND	1.9	ND
Barium, Total	ug/l	1000	P	92	84	63	63	110	110	42	42	45	46	48	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	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	0.26	0.26	0.47	0.47	0.62	0.61	0.56	0.55
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	5.4	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	1.6	1.8
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	1.1	0.99	0.5	0.53
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	0.54	ND	ND	ND	0.55	0.51	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Cerritos #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/7/15	9/10/15	4/7/15	9/10/15	4/7/15	9/10/15	4/7/15	9/10/15	4/7/15	9/10/15	4/7/15	9/10/15
General Minerals															
Alkalinity	mg/l			160	160	160	160	170	160	180	170	180	170	190	180
Anion Sum	meq/l			4.8	4.7	4.2	4.1	5.2	5.2	5	4.9	4.5	4.4	4.6	4.5
Bicarbonate as HCO3	mg/l			200	190	200	190	200	200	220	210	220	210	230	220
Boron	mg/l	1	N	0.082	0.086	0.055	0.058	0.082	0.097	0.081	0.09	0.081	0.087	0.082	0.08
Bromide	ug/l			44	46	34	35	61	64	46	48	38	36	53	55
Calcium, Total	mg/l			35	34	31	32	40	42	47	47	38	37	46	45
Carbon Dioxide	mg/l			ND	ND	ND	ND	2.1	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			3.3	3.1	2.6	2.5	2	2	ND	ND	ND	2.2	3.8	2.3
Cation Sum	meq/l			4.7	4.7	4.1	4.3	5.1	5.3	5	5	4.5	4.5	4.7	4.7
Chloride	mg/l	500	S	15	15	11	11	19	19	15	15	10	10	10	10
Fluoride	mg/l	2	P	0.27	0.28	0.35	0.36	0.39	0.38	0.52	0.52	0.46	0.47	0.32	0.33
Hardness (Total, as CaCO3)	mg/l			110	100	98	100	120	130	160	160	130	130	150	150
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			15	10	23	16	42	26	32	19	19	12	100	100
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	0.022	0.03	0.083	0.092	0.057	0.062	0.076	0.08
Langelier Index - 25 degree	None			0.77	0.75	0.68	0.65	0.72	0.71	0.64	0.68	0.56	0.6	1	0.7
Magnesium, Total	None			4.8	4.8	5.1	5.4	6.2	6.5	11	11	9.4	9.6	9.4	9.4
Manganese, Total	ug/l	50	S	26	25	30	28	45	43	80	85	110	120	140	140
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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	2	2.1	2.2	2	1.9	1.8	2	1.9	1.9	2	2
Sodium, Total	mg/l			58	59	48	50	59	61	38	40	41	42	36	37
Sulfate	mg/l	500	S	52	52	29	30	60	63	48	48	29	30	25	26
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	300	260	270	230	300	320	280	290	260	260	260	260
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	ND	0.32	0.35	ND	0.39	ND	0.3	ND	0.39	0.35	0.37
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	5	ND	ND	ND	ND	ND	5	ND	5
Lab pH	Units			8.4	8.4	8.3	8.3	8.2	8.2	8.1	8.1	8.1	8.2	8.4	8.2
Odor	TON	3	S	2	1	ND	1	2	ND	1	1	1	1	2	ND
Specific Conductance	umho/cm	1600	S	470	470	410	400	510	520	480	480	440	440	440	440
Turbidity	NTU	5	S	0.093	0.089	0.072	0.081	0.088	0.12	0.21	0.23	0.13	0.15	0.23	0.25
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	17	16	13	12	24	22	6	6.4	11	10	39	42
Barium, Total	ug/l	1000	P	49	51	96	95	120	120	61	68	78	89	95	100
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Cerritos #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/13/15	9/22/15	4/13/15	9/22/15	4/13/15	9/22/15	4/13/15	9/22/15	4/13/15	9/22/15	4/13/15	9/22/15
General Minerals															
Alkalinity	mg/l			150	150	170	160	160	160	180	180	180	180	340	330
Anion Sum	meq/l			3.6	3.6	8.2	8.1	3.7	3.7	4.2	4.1	4.1	4.1	14	13
Bicarbonate as HCO3	mg/l			180	180	210	200	200	190	220	210	220	210	410	400
Boron	mg/l	1	N	0.059	0.058	0.15	0.16	0.063	0.064	0.076	0.078	0.076	0.074	0.11	0.11
Bromide	ug/l			20	20	140	140	16	17	20	19	19	20	280	1200
Calcium, Total	mg/l			44	40	88	86	44	43	50	50	50	50	170	160
Carbon Dioxide	mg/l			ND	2.3	ND	4.1	ND	2	ND	2.7	ND	2.7	11	13
Carbonate as CO3	mg/l			ND	ND	ND	ND	2	2	ND	ND	2.3	ND	ND	ND
Cation Sum	meq/l			3.9	3.6	8	7.9	3.8	3.8	4.2	4.2	4.1	4.1	14	13
Chloride	mg/l	500	S	5.8	5.9	75	75	5.2	5.3	6.2	6.4	5.8	6	100	90
Fluoride	mg/l	2	P	0.27	0.28	0.36	0.37	0.29	0.3	0.4	0.42	0.34	0.35	0.35	0.33
Hardness (Total, as CaCO3)	mg/l			130	120	290	280	130	130	160	160	150	160	570	540
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			1.6	2	ND	1.4	4.5	5.9	5.4	7.1	6.1	6.8	24	22
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.031	0.04	0.08	0.08	0.34	0.31
Langelier Index - 25 degree	None			0.53	0.47	0.7	0.65	0.64	0.63	0.73	0.69	0.74	0.68	1.2	1.1
Magnesium, Total	None			5.7	5.3	17	17	6.1	6.1	8.4	8.6	7.2	7.4	35	33
Manganese, Total	ug/l	50	S	7.3	7	ND	ND	39	31	82	68	110	92	490	280
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	13	13	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	3	2.9	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			2.8	2.6	4	4.1	2.4	2.4	2.6	2.6	2.6	2.6	4.1	4.2
Sodium, Total	mg/l			26	25	49	50	23	24	21	22	21	22	55	55
Sulfate	mg/l	500	S	21	21	120	120	17	17	18	18	17	17	210	200
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.059	ND	0.052
Total Dissolved Solid (TDS)	mg/l	1000	S	220	230	500	490	220	170	240	240	220	240	820	800
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	3	2.9	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	0.44	0.52	ND	ND	ND	ND	ND	ND	1.1	0.94
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	10	5	ND	15
Lab pH	Units			8.1	8.1	7.9	7.9	8.2	8.2	8.1	8.1	8.2	8.1	7.8	7.7
Odor	TON	3	S	2	1	2	ND	ND	1	1	1	1	2	1	1
Specific Conductance	umho/cm	1600	S	350	350	800	800	360	360	390	400	390	390	1300	1200
Turbidity	NTU	5	S	0.062	0.11	0.1	0.29	0.24	0.79	0.11	0.12	0.19	0.18	2.4	2
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	2.3	2.1	ND	3.5	2.5	8.4	6.3	19	14	5.4	2.9
Barium, Total	ug/l	1000	P	100	110	140	110	110	97	160	140	180	150	78	75
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	0.088	0.097	0.68	0.66	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	5.8	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
Perchlorate	ug/l	6	P	ND	ND	0.96	0.76	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Commerce #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/15/15	9/24/15	4/15/15	9/24/15	4/15/15	9/24/15	4/15/15	9/24/15	4/15/15	9/24/15	4/15/15	9/24/15
General Minerals															
Alkalinity	mg/l			460	310	300	230	230	190	190	180	160	170	170	
Anion Sum	meq/l			220	11	11	8.5	8.9	8.3	8.3	12	6.6	7.3	7.4	
Bicarbonate as HCO3	mg/l			570	380	370	280	280	230	230	220	200	210	210	
Boron	mg/l	1	N	6.1	0.59	0.62	0.22	0.24	0.25	0.26	0.28	0.13	0.12	0.12	
Bromide	ug/l			42000	920	1100	570	690	330	360	1100	220	270	280	
Calcium, Total	mg/l			180	42	43	56	60	39	42	50	59	64	67	
Carbon Dioxide	mg/l			ND	5	3	ND	2.9	ND	3	ND	ND	ND	ND	
Carbonate as CO3	mg/l			2.3	3.1	4.8	2.3	2.9	ND	ND	ND	ND	ND	ND	
Cation Sum	meq/l			210	10	11	8.1	9.1	7.9	8.5	11	6.7	7	7.4	
Chloride	mg/l	500	S	7700	160	180	110	130	84	88	230	59	74	76	
Fluoride	mg/l	2	P	0.2	0.38	0.4	0.35	0.34	0.5	0.52	0.44	0.4	0.43	0.43	
Hardness (Total, as CaCO3)	mg/l			1000	180	190	220	240	160	170	200	220	240	260	
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iodide	mg/l			9700	220	280	140	200	55	69	160	ND	ND	ND	
Iron, Total	mg/l	0.3	S	1.1	0.02	0.02	0.025	0.024	0.12	0.12	ND	ND	ND	ND	
Langelier Index - 25 degree	None			1.4	0.88	1	0.85	0.98	0.56	0.64	0.47	0.57	0.59	0.67	
Magnesium, Total	None			140	19	20	20	22	16	17	18	19	20	22	
Manganese, Total	ug/l	50	S	120	13	15	37	31	61	51	18	ND	ND	ND	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	14	18	34	34	
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	3.3	4.1	7.7	7.8	
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Potassium, Total	mg/l			46	5.4	5.9	3.2	3.6	3.3	3.6	3.2	2.1	1.8	1.7	
Sodium, Total	mg/l			4400	150	160	81	97	100	110	170	48	48	52	
Sulfate	mg/l	500	S	2.5	2.4	2.9	32	27	98	96	63	63	56	57	
Surfactants	mg/l	0.5	S	0.26	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND	
Total Dissolved Solid (TDS)	mg/l	1000	S	13000	610	640	460	510	480	470	670	390	410	450	
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	3.3	4.1	7.7	7.8	
Total Organic Carbon	mg/l			5.8	4.6	4.7	1.2	1.2	0.89	0.83	1.2	ND	0.32	ND	
General Physical Properties															
Apparent Color	ACU	15	S	100	25	50	3	ND	5	10	3	ND	ND	3	
Lab pH	Units			7.8	8.1	8.3	8.1	8.2	8	8.1	7.9	7.9	7.9	8	
Odor	TON	3	S	4	40	40	ND	2	ND	1	2	1	ND	2	
Specific Conductance	umho/cm	1600	S	22000	1100	1200	830	900	810	830	1200	660	720	750	
Turbidity	NTU	5	S	37	0.14	0.26	0.12	0.14	0.41	0.56	0.18	0.13	0.72	1.3	
Metals															
Aluminum, Total	ug/l	1000	P	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	
Arsenic, Total	ug/l	10	P	11	1.5	1.3	ND	ND	ND	ND	ND	ND	ND	ND	
Barium, Total	ug/l	1000	P	680	71	67	94	85	210	190	74	63	60	63	
Beryllium, Total	ug/l	4	P	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	
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	5.1	8.2	7.1	10	
Hexavalent Chromium (Cr VI)	ug/l	10		ND	0.031	0.021	ND	ND	ND	ND	5.4	9	11	11	
Lead, Total	ug/l	15	P	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	
Selenium, Total	ug/l	50	P	210	ND	ND	ND	ND	ND	ND	7	ND	ND	ND	
Silver, Total	ug/l	100	S	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	
Zinc, Total	ug/l	5000	S	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	
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzene	ug/l	1	P	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	
Chlorobenzene	ug/l	70	P	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	
cis-1,2-Dichloroethylene	ug/l	6	P	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	
Ethylbenzene	ug/l	300	P	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	
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Styrene	ug/l	100	P	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	
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	0.77	0.63	ND	ND	
Toluene	ug/l	150	P	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	0.89	0.87	
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	3.7	3.1	ND	ND	
Vinyl chloride (VC)	ug/l	0.5	P	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	
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	2.5	2.5	3.8	3.2	

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Compton #1							
				Zone 1	Zone 1	Zone 2	Zone 2	Zone 3	Zone 3	Zone 4	Zone 4
				4/28/15	9/24/15	4/28/15	9/24/15	4/28/15	9/24/15	4/28/15	9/24/15
General Minerals											
Alkalinity	mg/l			150	140	140	140	160	160	170	160
Anion Sum	meq/l			4.1	4.1	4.7	4.7	5.1	5.1	5.5	5.5
Bicarbonate as HCO3	mg/l			180	170	170	170	190	190	200	200
Boron	mg/l	1	N	0.15	0.15	0.1	0.095	0.12	0.11	0.094	0.09
Bromide	ug/l			110	110	110	110	130	130	100	100
Calcium, Total	mg/l			20	21	38	38	49	50	59	60
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.3	2.8	2.2	2.8	2	2	2	2.6
Cation Sum	meq/l			4	4.2	4.7	4.7	5.1	5.3	5.4	5.6
Chloride	mg/l	500	S	18	18	22	23	25	25	22	23
Fluoride	mg/l	2	P	0.28	0.29	0.33	0.35	0.28	0.29	0.27	0.28
Hardness (Total, as CaCO3)	mg/l			57	60	110	110	160	160	170	180
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			23	31	23	28	27	34	22	27
Iron, Total	mg/l	0.3	S	ND	ND	0.026	ND	0.024	0.023	0.069	0.075
Langelier Index - 25 degree	None			0.42	0.54	0.63	0.73	0.72	0.78	0.8	0.91
Magnesium, Total	None			1.8	1.8	3.4	3.3	9	9.3	6.3	6.5
Manganese, Total	ug/l	50	S	10	8.8	15	14	50	52	85	75
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			1.5	1.5	1.7	1.4	2.8	2.8	2.5	2.6
Sodium, Total	mg/l			65	67	58	58	42	45	43	46
Sulfate	mg/l	500	S	31	36	58	58	60	60	75	76
Surfactants	mg/l	0.5	S	ND	ND	ND	0.068	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	240	240	280	280	310	300	340	340
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.6	2.2	0.9	0.77	0.75	0.56	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	25	30	5	10	3	5	ND	5
Lab pH	Units			8.3	8.4	8.3	8.4	8.2	8.2	8.2	8.3
Odor	TON	3	S	2	1	2	2	2	1	2	1
Specific Conductance	umho/cm	1600	S	400	410	470	460	500	500	530	540
Turbidity	NTU	5	S	0.14	0.13	0.075	0.1	0.27	0.4	0.74	0.84
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	21	18
Barium, Total	ug/l	1000	P	9.4	7.4	11	9.7	54	61	140	130
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		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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Compton #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/28/15	9/22/15	4/28/15	9/22/15	4/28/15	9/22/15	4/28/15	9/22/15	4/28/15	9/22/15	4/28/15	9/22/15
General Minerals															
Alkalinity	mg/l			470	460	280	270	160	160	180	180	190	180	180	180
Anion Sum	meq/l			9.8	9.6	6	5.9	5.1	5	6.2	6.1	6.7	6.7	7.8	7.9
Bicarbonate as HCO3	mg/l			570	560	340	330	190	190	220	220	230	220	220	220
Boron	mg/l	1	N	0.69	0.65	0.18	0.18	0.11	0.1	0.12	0.12	0.13	0.12	0.17	0.17
Bromide	ug/l			190	200	94	95	99	99	120	120	150	150	300	290
Calcium, Total	mg/l			12	12	25	26	44	46	63	66	66	68	80	80
Carbon Dioxide	mg/l			ND	3.6	ND	2.7	ND	2	ND	2.9	ND	2.3	ND	ND
Carbonate as CO3	mg/l			9.3	9.1	4.4	4.3	2	2	2.3	ND	2.4	2.3	ND	ND
Cation Sum	meq/l			10	10	6	6.2	4.9	5	6	6.2	6.6	6.8	7.8	7.9
Chloride	mg/l	500	S	14	14	13	13	21	21	29	30	39	40	70	72
Fluoride	mg/l	2	P	0.4	0.4	0.26	0.28	0.22	0.22	0.24	0.23	0.31	0.3	0.39	0.4
Hardness (Total, as CaCO3)	mg/l			39	39	84	86	140	140	200	210	230	230	270	270
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			63	ND	22	28	20	26	28	32	39	31	1	ND
Iron, Total	mg/l	0.3	S	0.054	0.052	0.035	0.026	ND	ND	0.024	0.027	0.024	0.027	0.12	ND
Langelier Index - 25 degree	None			0.82	0.8	0.75	0.76	0.68	0.73	0.88	0.85	0.95	0.89	0.88	0.92
Magnesium, Total	None			2.1	2.1	5.2	5.2	6.9	7.1	11	12	15	15	18	18
Manganese, Total	ug/l	50	S	11	13	30	ND	31	24	42	37	110	110	29	15
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	2.6
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.42	0.58
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	3.1	4.2	4.1	2.5	2.4	2.5	2.4	3.9	3.9	4.1	3.9
Sodium, Total	mg/l			210	210	98	99	47	48	43	44	44	46	51	53
Sulfate	mg/l	500	S	ND	ND	ND	ND	63	62	81	82	89	90	100	100
Surfactants	mg/l	0.5	S	ND	0.062	ND	ND	ND	0.061	ND	ND	ND	0.05	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	590	580	360	310	300	290	370	360	400	400	470	470
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.42	0.58
Total Organic Carbon	mg/l			17	14	3	3.1	0.59	0.53	0.71	ND	ND	ND	0.47	ND
General Physical Properties															
Apparent Color	ACU	15	S	150	200	25	33	5	5	ND	ND	ND	5	ND	3
Lab pH	Units			8.4	8.4	8.3	8.3	8.2	8.2	8.2	8.1	8.2	8.2	8.1	8.1
Odor	TON	3	S	2	40	2	2	1	2	ND	1	ND	1	2	1
Specific Conductance	umho/cm	1600	S	910	910	560	560	500	490	590	590	640	650	760	760
Turbidity	NTU	5	S	1	1.2	0.82	0.4	0.26	0.097	0.085	0.11	2.2	4.4	2	1.9
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	120	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	2.3	ND	ND	ND	ND	ND	ND	1.4	ND	4	3.1
Barium, Total	ug/l	1000	P	13	14	15	ND	30	24	32	30	90	94	72	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	0.69
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	5.1	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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Downey #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/16/15	9/8/15	4/16/15	9/8/15	4/16/15	9/8/15	4/16/15	9/8/15	4/16/15	9/8/15	4/16/15	9/8/15
General Minerals															
Alkalinity	mg/l			150	150	150	150	170	170	190	190	220	200	380	400
Anion Sum	meq/l			3.6	3.5	6.2	6.2	8.1	8.1	9	9	7.8	7.2	17	18
Bicarbonate as HCO3	mg/l			190	180	190	180	210	210	230	230	260	250	460	480
Boron	mg/l	1	N	0.057	0.058	0.06	0.063	0.092	0.1	0.18	0.19	0.086	0.082	0.25	0.29
Bromide	ug/l			17	16	92	93	150	140	160	160	140	120	430	460
Calcium, Total	mg/l			38	39	74	75	92	96	87	94	91	92	180	210
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	ND	ND	ND	ND	2.7	ND	3.8	ND
Cation Sum	meq/l			3.5	3.5	5.8	6	7.4	7.8	8.2	9	7.2	7.4	16	19
Chloride	mg/l	500	S	5.1	5.2	38	38	70	71	77	79	45	40	110	120
Fluoride	mg/l	2	P	0.32	0.32	0.29	0.28	0.34	0.32	0.38	0.37	0.37	0.39	0.28	0.31
Hardness (Total, as CaCO3)	mg/l			120	120	230	240	300	310	290	320	300	300	600	700
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	4	3.4	6.2	5.7	7	4.9
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1	ND	0.31
Langelier Index - 25 degree	None			0.44	0.54	0.64	0.73	0.67	0.81	0.8	0.7	1.1	0.87	1.6	1.2
Magnesium, Total	None			5.6	5.8	12	12	17	18	18	20	18	18	38	43
Manganese, Total	ug/l	50	S	ND	ND	ND	ND	ND	ND	2.6	2.3	120	120	120	120
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	9	9	15	15	7.8	8.1	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2	2	3.3	3.4	1.7	1.8	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			2.6	2.6	3.2	3.2	3.3	3.2	4.1	4.4	3.6	3.8	5.9	7
Sodium, Total	mg/l			24	24	24	25	31	32	53	59	25	28	88	110
Sulfate	mg/l	500	S	18	18	93	93	110	120	140	140	100	93	320	330
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	210	210	360	410	480	510	540	580	470	460	1100	1100
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	2	2	3.3	3.4	1.7	1.8	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	ND	ND	0.31	0.36	0.48	0.52	0.34	0.36	0.86	1
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	5
Lab pH	Units			8	8.1	7.9	8	7.8	8	7.9	7.8	8.2	8	8.1	7.6
Odor	TON	3	S	ND	1	ND	1	ND	2	ND	1	1	1	ND	1
Specific Conductance	umho/cm	1600	S	340	340	600	600	780	780	850	870	720	680	1500	1600
Turbidity	NTU	5	S	0.1	0.081	0.093	0.11	0.064	0.48	0.06	0.14	0.76	5.1	0.48	7.5
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	66	ND	200
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	2.4	2.2	3	2.8	1.9	1.8	4.1	4	2.7	2.4
Barium, Total	ug/l	1000	P	95	94	160	160	130	130	86	81	240	240	80	89
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	4.5
Chromium, Total	ug/l	50	P	3.2	3.5	1.6	2	1.1	1.2	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	3.8	3.8	1.9	1.9	1.2	1.2	0.36	0.35	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	0.56	0.58	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	0.58	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
Perchlorate	ug/l	6	P	ND	ND	3.4	3	2.4	2.1	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Huntington Park #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				5/20/15	9/30/15	5/20/15	9/30/15	5/20/15	9/30/15	5/20/15	9/30/15
General Minerals											
Alkalinity	mg/l			170	180	170	180	230	240	350	380
Anion Sum	meq/l			6	6.1	6.2	6.2	11	11	13	14
Bicarbonate as HCO3	mg/l			210	210	210	220	280	290	430	460
Boron	mg/l	1	N	0.14	0.15	0.14	0.15	0.23	0.26	0.17	0.2
Bromide	ug/l			110	100	110	110	390	400	670	600
Calcium, Total	mg/l			61	60	61	61	120	120	150	150
Carbon Dioxide	mg/l			ND	3.4	ND	2.9	ND	3.8	ND	9.5
Carbonate as CO3	mg/l			2.7	ND	ND	ND	2.9	2.4	4.4	2.4
Cation Sum	meq/l			6.1	6	6.1	6.3	10	11	14	14
Chloride	mg/l	500	S	23	23	26	26	86	83	87	87
Fluoride	mg/l	2	P	0.44	0.49	0.39	0.42	0.3	0.34	0.31	0.36
Hardness (Total, as CaCO3)	mg/l			210	220	210	220	410	420	530	550
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			44	39	ND	ND	45	35	38	30
Iron, Total	mg/l	0.3	S	0.29	0.29	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.95	0.68	0.75	0.81	1.3	1.2	1.6	1.3
Magnesium, Total	None			15	16	15	17	27	30	38	42
Manganese, Total	ug/l	50	S	46	43	ND	ND	6.5	5.2	3	2.4
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	1.6	1.7	2.8	2.6	20	20
Nitrate as Nitrogen	mg/l	10	P	ND	ND	0.35	0.38	0.64	0.58	4.5	4.5
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.2	3.3	3.2	3.2	4.1	4.1	4.9	5
Sodium, Total	mg/l			39	38	40	40	57	56	62	62
Sulfate	mg/l	500	S	93	94	92	92	180	170	180	180
Surfactants	mg/l	0.5	S	ND	0.078	ND	0.057	1.4	0.82	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	390	380	390	370	710	700	840	830
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	0.35	0.38	0.64	0.58	4.5	4.5
Total Organic Carbon	mg/l			ND	0.32	ND	ND	5.8	5.8	0.8	0.79
General Physical Properties											
Apparent Color	ACU	15	S	10	5	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.3	8	8.1	8.1	8.2	8.1	8.2	7.9
Odor	TON	3	S	ND	ND	1	1	2	100	2	200
Specific Conductance	umho/cm	1600	S	590	590	600	600	1000	1000	1300	1300
Turbidity	NTU	5	S	1.7	1.5	0.098	0.12	0.12	0.1	0.07	0.073
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	60	65	74	80	120	120	99	110
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	1.7	ND
Hexavalent Chromium (Cr VI)	ug/l	10		ND	ND	0.75	0.73	0.06	0.054	1.3	1.3
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	5.6	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	1.1	1.1	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	7.5	7.3	51	52
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	1.3	1.4	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	200	200
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	0.5	0.59	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	14	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	0.41	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	1.4	1.3	2.9	2.8

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Lakewood #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/14/15	9/18/15	4/14/15	9/18/15	4/14/15	9/18/15	4/14/15	9/18/15	4/14/15	9/18/15	4/14/15	9/18/15
General Minerals															
Alkalinity	mg/l			96	92	140	140	160	150	170	160	180	170	190	180
Anion Sum	meq/l			2.9	2.9	3.3	3.3	3.7	3.6	4.4	4.7	4.2	4.1	7.6	7.7
Bicarbonate as HCO3	mg/l			120	110	170	170	190	180	200	200	220	210	230	220
Boron	mg/l	1	N	0.056	0.058	0.052	ND	0.066	0.068	0.068	0.071	0.086	0.086	0.084	0.086
Bromide	ug/l			110	110	26	28	43	45	150	220	47	56	650	680
Calcium, Total	mg/l			10	10	34	34	39	39	47	50	48	47	97	97
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			3.9	3.6	2.2	2.8	2.5	2.9	2.6	2.6	2.3	2.2	ND	ND
Cation Sum	meq/l			2.8	2.9	3.3	3.4	3.7	3.8	4.4	4.8	4.2	4.3	7.5	7.6
Chloride	mg/l	500	S	20	21	6.1	6.4	8.9	9	28	40	11	12	100	110
Fluoride	mg/l	2	P	0.42	0.45	0.26	0.26	0.3	0.31	0.32	0.31	0.49	0.49	0.21	0.21
Hardness (Total, as CaCO3)	mg/l			26	26	100	100	120	120	140	150	160	150	280	290
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			42	45	8.2	7.1	15	14	36	54	18	15	83	110
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.044	0.044	0.088	0.092	0.091	0.1
Langelier Index - 25 degree	None			0.34	0.3	0.65	0.69	0.74	0.76	0.81	0.81	0.73	0.71	0.98	0.87
Magnesium, Total	None			0.36	0.37	3.7	3.9	4.9	5.1	5.6	6.1	8.9	9	10	11
Manganese, Total	ug/l	50	S	4.7	ND	17	ND	22	ND	78	33	55	12	240	18
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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	1.9	2.1	2.2	2.5	2.8	3.4	2.6	2.8	3.9	4.3
Sodium, Total	mg/l			53	55	30	31	30	32	34	38	24	25	39	41
Sulfate	mg/l	500	S	16	20	16	17	16	15	14	15	14	14	37	37
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.054	0.12
Total Dissolved Solid (TDS)	mg/l	1000	S	160	190	190	210	220	220	260	280	240	260	460	510
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			0.79	0.8	ND	ND	ND	ND	0.46	0.52	ND	ND	0.79	0.8
General Physical Properties															
Apparent Color	ACU	15	S	10	15	3	ND	3	ND	5	3	3	ND	5	ND
Lab pH	Units			8.7	8.7	8.3	8.4	8.3	8.4	8.3	8.3	8.2	8.2	8.1	8
Odor	TON	3	S	1	67	ND	40	1	2	1	2	1	17	1	1
Specific Conductance	umho/cm	1600	S	290	290	320	320	360	350	430	470	400	400	760	780
Turbidity	NTU	5	S	0.92	0.3	0.78	1	1.3	0.66	0.34	0.54	0.21	0.2	0.48	0.42
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	14	ND	8.9	ND	ND	ND	12	ND	3.7	ND	29	ND
Barium, Total	ug/l	1000	P	16	ND	23	ND	28	ND	160	78	110	27	280	23
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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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	
				5/19/15	9/20/15	5/19/15	9/20/15	5/19/15	9/20/15	5/19/15	9/20/15	5/19/15	9/20/15	5/19/15	9/20/15	5/19/15	9/20/15	5/19/15	9/20/15
General Minerals																			
Alkalinity	mg/l			97	99	130	130	130	130	170	180	170	180	180	170	170	200	200	
Anion Sum	meq/l			3.4	3.4	3	3.1	3	3	4.8	4.8	3.9	4	4	3.8	3.9	4.3	4.3	
Bicarbonate as HCO3	mg/l			120	120	160	160	150	160	210	210	200	220	220	200	210	240	240	
Boron	mg/l	1	N	0.06	0.063	0.052	0.057	ND	ND	0.072	0.071	0.057	0.065	0.066	0.062	0.064	0.079	0.075	
Bromide	ug/l			46	48	24	24	29	28	34	34	19	18	19	20	21	38	38	
Calcium, Total	mg/l			9.7	11	22	24	22	26	59	62	39	32	37	50	52	46	50	
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbonate as CO3	mg/l			3.1	3.1	2.6	2.1	2.4	2.6	2.2	ND	2.6	3.6	2.8	2.6	2.7	3.1	2	
Cation Sum	meq/l			3.2	3.5	3	3.2	2.9	3.1	4.7	5	3.7	4	4.2	3.8	4	4.3	4.5	
Chloride	mg/l	500	S	13	13	5.6	5.6	6.2	5.7	13	12	5.8	5.4	5.3	5.6	5.6	6.6	6.6	
Fluoride	mg/l	2	P	0.39	0.44	0.31	0.33	0.25	0.28	0.37	0.4	0.3	0.33	0.33	0.21	0.23	0.32	0.34	
Hardness (Total, as CaCO3)	mg/l			26	29	68	74	64	75	180	200	110	100	120	140	140	140	150	
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iodide	mg/l			22	18	9.9	8.9	15	15	ND	ND	8.2	5.8	6.7	9.3	9.4	30	28	
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.032	0.036	0.061	0.065	0.046	0.058	
Langelier Index - 25 degree	None			0.22	0.31	0.45	0.48	0.51	0.57	0.85	0.79	0.75	0.76	0.76	0.83	0.85	0.87	0.7	
Magnesium, Total	None			0.37	0.4	3.1	3.4	2.1	2.4	9.1	9.8	4	5	5.7	3.5	3.7	6.1	6.8	
Manganese, Total	ug/l	50	S	5	7.8	12	13	17	18	7.1	5.3	56	100	120	99	100	140	160	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	2	1.8	ND	ND	ND	ND	ND	ND	ND	
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.46	0.41	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	
Potassium, Total	mg/l			ND	ND	2.2	2.3	1.6	1.7	3	3.1	2.3	2.5	2.5	2.3	2.2	2.8	2.7	
Sodium, Total	mg/l			61	68	35	39	35	37	22	23	33	45	41	22	25	33	32	
Sulfate	mg/l	500	S	50	50	14	14	13	11	44	43	17	11	10	15	15	7.2	7.1	
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total Dissolved Solid (TDS)	mg/l	1000	S	210	210	190	200	180	180	280	300	230	250	240	220	230	250	260	
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.46	0.41	ND	ND	ND	ND	ND	ND	ND	
Total Organic Carbon	mg/l			0.53	0.55	0.44	0.42	0.63	0.58	ND	ND	0.48	1	0.73	0.3	ND	0.55	0.44	
General Physical Properties																			
Apparent Color	ACU	15	S	10	5	5	5	5	5	10	ND	5	5	5	3	ND	3	3	
Lab pH	Units			8.6	8.6	8.4	8.3	8.4	8.4	8.2	8.1	8.3	8.4	8.3	8.3	8.3	8.3	8.1	
Odor	TON	3	S	2	1	2	2	2	2	2	1	2	2	2	1	1	2	1	
Specific Conductance	umho/cm	1600	S	350	350	300	300	300	290	480	470	390	400	390	380	380	420	420	
Turbidity	NTU	5	S	0.16	0.12	0.11	0.09	0.14	0.13	0.86	0.26	1.3	0.24	0.15	0.37	0.17	0.14	0.13	
Metals																			
Aluminum, Total	ug/l	1000	P	ND	ND	ND	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	ND	ND	ND	
Arsenic, Total	ug/l	10	P	18	18	ND	ND	3	2.1	4.1	3.5	31	25	18	46	43	56	47	
Barium, Total	ug/l	1000	P	12	16	6.3	7.2	11	12	95	110	100	47	56	130	150	90	100	
Beryllium, Total	ug/l	4	P	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	
Copper, Total	ug/l	1300	P	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	
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	0.84	0.77	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	ND	ND	ND	
Nickel, Total	ug/l	100	P	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	
Silver, Total	ug/l	100	S	ND	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	ND	
Zinc, Total	ug/l	5000	S	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	
1,1-Dichloroethylene	ug/l	6	P	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	
Benzene	ug/l	1	P	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	
Chlorobenzene	ug/l	70	P	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	
cis-1,2-Dichloroethylene	ug/l	6	P	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	
Ethylbenzene	ug/l	300	P	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	
Freon 11	ug/l	150	P	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	
Methylene Chloride	ug/l	5	P	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	
Styrene	ug/l	100	P	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	
Tetrachloroethylene (PCE)	ug/l	5	P	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	
Total Trihalomethanes	ug/l	80	P	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	
Trichloroethylene (TCE)	ug/l	5	P	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	
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	0.68	0.53	ND	ND	ND	ND	ND	ND	ND	

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	La Mirada #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/9/15	9/25/15	4/9/15	9/25/15	4/9/15	9/25/15	4/9/15	9/25/15	4/9/15	9/25/15
General Minerals													
Alkalinity	mg/l			150	150	140	140	180	180	190	190	190	180
Anion Sum	meq/l			5.8	5.7	4.2	4.2	5.3	5.3	7.1	7	12	14
Bicarbonate as HCO3	mg/l			180	180	170	160	210	210	230	230	230	220
Boron	mg/l	1	N	0.14	0.13	0.096	0.088	0.14	0.14	0.12	0.11	0.14	0.14
Bromide	ug/l			78	80	50	42	67	59	190	160	540	720
Calcium, Total	mg/l			14	14	9.4	9	20	21	47	45	90	100
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	3.8	ND	5.7
Carbonate as CO3	mg/l			2.9	2.9	3.5	3.3	2.7	2.7	2.4	ND	ND	ND
Cation Sum	meq/l			5.5	5.5	4.2	4.1	5.2	5.4	7	6.8	12	13
Chloride	mg/l	500	S	26	25	15	15	18	18	45	43	180	260
Fluoride	mg/l	2	P	0.79	0.83	0.58	0.57	0.73	0.78	0.52	0.56	0.41	0.37
Hardness (Total, as CaCO3)	mg/l			49	48	29	28	78	82	190	180	360	400
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			29	25	9.3	8.4	23	21	36	44	6.2	5.1
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.36	0.31	0.21	0.2	0.52	0.47	0.77	0.6	0.94	0.77
Magnesium, Total	None			3.5	3.2	1.4	1.3	6.9	7.3	18	17	32	37
Manganese, Total	ug/l	50	S	12	11	2.7	2.5	18	17	37	29	16	7.6
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	1.1	1	49	71
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.24	0.24	11	16
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2	2	1.5	1.5	2.3	2.4	2.8	2.6	3.4	3.6
Sodium, Total	mg/l			100	100	81	80	81	85	71	71	100	110
Sulfate	mg/l	500	S	96	95	48	48	60	60	92	95	100	110
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	350	250	240	320	310	420	410	730	890
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.24	0.24	11	16
Total Organic Carbon	mg/l			ND	ND	ND	ND	0.45	0.38	ND	ND	0.38	0.38
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	3	ND	ND	ND	ND	ND
Lab pH	Units			8.4	8.4	8.5	8.5	8.3	8.3	8.2	8	8.1	7.8
Odor	TON	3	S	2	ND	1	1	ND	1	2	1	2	ND
Specific Conductance	umho/cm	1600	S	590	570	430	420	530	520	700	680	1200	1500
Turbidity	NTU	5	S	0.065	0.075	0.076	0.071	0.079	0.097	0.076	0.086	0.072	0.083
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	6.4	6.4	8.8	8.2	8.1	7.8	3.7	3.6	ND	ND
Barium, Total	ug/l	1000	P	46	50	24	26	35	37	45	44	80	100
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		ND	ND	ND	ND	ND	ND	ND	ND	0.71	1.2
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	5.3	ND	12	11
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	4.7	6.4

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Long Beach #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/27/15	8/24/15	3/27/15	8/24/15	3/27/15	8/24/15	3/27/15	8/24/15	3/27/15	8/24/15	3/27/15	8/24/15
General Minerals															
Alkalinity	mg/l			150	150	150	150	120	110	130	130	140	130	250	240
Anion Sum	meq/l			3.6	3.5	3.5	3.4	3	3	3.7	3.6	12	12	18	18
Bicarbonate as HCO3	mg/l			180	180	180	180	140	140	160	150	160	160	300	300
Boron	mg/l	1	N	0.18	0.18	0.17	0.18	0.084	0.095	0.056	0.06	0.14	0.16	0.11	0.11
Bromide	ug/l			76	82	84	87	43	42	38	36	410	410	590	580
Calcium, Total	mg/l			3.5	2.5	2.4	2.5	5.2	5.3	23	22	53	54	200	200
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			12	12	12	12	5.7	7.2	2.6	2.4	ND	ND	ND	ND
Cation Sum	meq/l			3.6	3.5	3.4	3.6	3.1	3.1	3.7	3.8	12	12	18	18
Chloride	mg/l	500	S	14	15	14	15	11	12	12	12	160	160	220	220
Fluoride	mg/l	2	P	0.6	0.62	0.59	0.62	0.64	0.64	0.36	0.39	0.26	0.29	0.26	0.26
Hardness (Total, as CaCO3)	mg/l			10	7.2	6.5	6.8	14	14	66	63	160	170	640	640
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			22	20	24	20	8.8	6.9	5.8	6.9	13	16	84	65
Iron, Total	mg/l	0.3	S	ND	ND	ND	0.021	ND	ND	ND	ND	0.029	0.03	0.17	0.18
Langelier Index - 25 degree	None			0.35	0.22	0.18	0.25	0.25	0.3	0.5	0.49	0.64	0.63	1.3	1.2
Magnesium, Total	None			0.32	0.23	0.13	0.13	0.27	0.27	2.2	2	7.8	8	35	35
Manganese, Total	ug/l	50	S	ND	2.2	ND	ND	2.4	2.4	24	19	60	53	440	420
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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	1.1	1.2	2.7	3.1	4.1	4.3
Sodium, Total	mg/l			78	78	75	79	64	66	54	56	190	200	110	120
Sulfate	mg/l	500	S	3.8	ND	ND	ND	15	15	36	34	220	220	320	320
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.052
Total Dissolved Solid (TDS)	mg/l	1000	S	220	220	210	210	190	190	230	240	740	750	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			2.6	3.2	3	3.6	1.7	1.5	0.64	0.59	1.3	1.4	1.5	1.5
General Physical Properties															
Apparent Color	ACU	15	S	50	100	50	100	30	30	5	10	5	5	10	5
Lab pH	Units			9	9	9	9	8.8	8.9	8.4	8.4	8.2	8.2	7.9	7.9
Odor	TON	3	S	1	2	2	3	40	2	1	1	ND	2	1	ND
Specific Conductance	umho/cm	1600	S	350	340	340	340	300	300	360	360	1200	1200	1700	1600
Turbidity	NTU	5	S	0.2	0.24	0.18	0.22	0.53	3.7	0.55	0.58	3.5	0.94	0.75	1.6
Metals															
Aluminum, Total	ug/l	1000	P	24	33	25	25	ND	ND	ND	ND	ND	ND	27	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	4.6	ND	ND	ND	ND	ND	ND	1.5	7.9	9.5
Barium, Total	ug/l	1000	P	ND	2.3	ND	ND	ND	ND	8.5	8.7	38	43	190	210
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	3.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10		0.031	0.024	0.028	ND	0.036	0.029	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	2.8	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	5.5	8.7
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Long Beach #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/23/15	9/1/15	4/23/15	9/1/15	4/23/15	9/1/15	4/23/15	9/1/15	4/23/15	9/1/15	4/23/15	9/1/15
General Minerals															
Alkalinity	mg/l			310	300	190	190	150	150	150	140	300	290	300	290
Anion Sum	meq/l			6.9	6.8	4.5	4.4	3.8	3.8	6	6.2	18	19	20	20
Bicarbonate as HCO3	mg/l			380	370	230	230	180	180	180	180	360	350	360	350
Boron	mg/l	1	N	0.55	0.6	0.19	0.21	0.14	0.16	0.1	0.11	0.29	0.32	0.31	0.34
Bromide	ug/l			190	200	130	130	140	140	200	130	1400	1300	1100	1000
Calcium, Total	mg/l			6.8	7.2	14	15	12	13	53	54	190	200	220	230
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			7.8	9.6	3	4.7	2.9	4.6	ND	2.9	2.3	ND	ND	2.3
Cation Sum	meq/l			7.2	7.3	4.2	4.5	3.6	3.9	6	6.3	17	18	19	20
Chloride	mg/l	500	S	21	23	20	22	24	25	54	58	150	150	160	170
Fluoride	mg/l	2	P	0.59	0.56	0.42	0.41	0.48	0.48	0.28	0.27	0.16	0.16	0.25	0.25
Hardness (Total, as CaCO3)	mg/l			23	24	42	44	34	37	160	160	600	630	690	730
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			27	48	27	26	33	28	44	36	40	27	44	32
Iron, Total	mg/l	0.3	S	0.1	0.16	0.026	0.026	ND	ND	0.022	0.035	0.24	0.27	0.22	0.24
Langelier Index - 25 degree	None			0.46	0.54	0.41	0.54	0.31	0.5	0.73	0.88	1.4	1.3	1.2	1.4
Magnesium, Total	None			1.5	1.6	1.6	1.7	1.1	1.2	5.8	6.3	30	32	35	38
Manganese, Total	ug/l	50	S	13	16	15	16	7.6	6.1	30	27	220	210	400	360
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			2.6	2.7	1.5	2	1.1	1.6	3	3.1	4.9	5.2	5.5	5.7
Sodium, Total	mg/l			150	160	77	83	66	72	64	69	120	130	120	120
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	70	76	400	410	460	480
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	0.083	ND	0.083	ND	0.077	0.055	
Total Dissolved Solid (TDS)	mg/l	1000	S	400	420	280	270	230	240	360	360	1100	1100	1300	1200
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			7.5	12	3.6	3.9	2.4	3	1.4	2.9	1.3	1.5	1.4	1.6
General Physical Properties															
Apparent Color	ACU	15	S	350		50	10	35	35	5	5	10	10	5	
Lab pH	Units			8.5	8.6	8.3	8.5	8.4	8.6	8.2	8.4	8	7.9	7.8	8
Odor	TON	3	S	2		2	2	2	2	1	2	2	1	8	
Specific Conductance	umho/cm	1600	S	650	650	430	430	370	370	600	600	1600	1600	1800	1700
Turbidity	NTU	5	S	0.51		0.17	0.38	0.13	0.15	0.5	0.33	2.1	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	ND	ND	ND	ND	ND	ND	ND	ND	5.1	5.2	7.9	7.7
Barium, Total	ug/l	1000	P	6	7.3	9.2	9.4	6.3	5.2	38	34	77	70	92	79
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	7.2	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	4.1	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	7.4	9.7	8.9	11
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	8.2	9.8	6.9	7
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	0.53	0.5
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	0.54	0.55	9.5	9.2
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	1.1	1.4	30	26
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	0.89	0.9
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Long Beach #6											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/25/15	8/25/15	3/25/15	8/25/15	3/25/15	8/25/15	3/25/15	8/25/15	3/25/15	8/25/15	3/25/15	8/25/15
General Minerals															
Alkalinity	mg/l			540	530	270	490	160	160	150	120	120	130	130	
Anion Sum	meq/l			11	11	5.9	10	3.8	3.7	3.8	3.2	3.1	4.6	4.5	
Bicarbonate as HCO3	mg/l			660	640	320	600	200	190	200	180	150	160	150	
Boron	mg/l	1	N	1.1	1.2	0.49	1.1	0.24	0.27	0.23	0.081	0.092	0.059	0.051	
Bromide	ug/l			340	330	180	310	120	120	98	80	72	400	330	
Calcium, Total	mg/l			7.8	8.3	3.4	7.9	4.8	5.3	5.7	6.6	12	46	46	
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbonate as CO3	mg/l			17	16	10	16	8.2	7.8	8.2	7.4	3.9	3.6	ND	
Cation Sum	meq/l			12	12	6	11	3.7	4	3.8	4.1	3.1	3.2	4.6	
Chloride	mg/l	500	S	18	19	18	19	16	17	17	17	16	15	59	
Fluoride	mg/l	2	P	0.68	0.71	0.73	0.65	0.61	0.59	0.6	0.61	0.49	0.52	0.23	
Hardness (Total, as CaCO3)	mg/l			26	28	11	26	13	14	16	18	33	33	140	
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iodide	mg/l			100	26	54	1.2	31	31	28	25	27	27	95	
Iron, Total	mg/l	0.3	S	0.084	0.092	0.059	0.098	0.027	0.032	0.043	0.037	ND	ND	0.053	
Langelier Index - 25 degree	None			0.85	0.85	0.33	0.81	0.33	0.37	0.38	0.42	0.36	0.39	0.6	
Magnesium, Total	None			1.6	1.8	0.6	1.5	0.23	0.25	0.32	0.38	0.82	0.84	4.9	
Manganese, Total	ug/l	50	S	15	14	9.4	19	4.2	3.9	16	14	5.2	5.1	71	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nitrate (as NO3)	mg/l	45	P	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	
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Potassium, Total	mg/l			1.7	1.9	ND	1.6	ND	ND	ND	ND	1.1	2.1	2.1	
Sodium, Total	mg/l			250	270	130	240	79	85	81	86	56	58	41	
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	2	5.5	13	14	17	
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total Dissolved Solid (TDS)	mg/l	1000	S	670	670	360	630	240	240	240	240	190	180	280	
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total Organic Carbon	mg/l			23	24	12	20	6.3	5.7	6.9	5	1.7	1.5	0.73	
General Physical Properties															
Apparent Color	ACU	15	S	300	300	200	300	100	150	100	250	40	25	5	
Lab pH	Units			8.6	8.6	8.7	8.6	8.8	8.8	8.8	8.8	8.6	8.6	8.2	
Odor	TON	3	S	2	40	2	8	2	1	1	2	1	2	1	
Specific Conductance	umho/cm	1600	S	1000	1000	560	980	370	370	370	370	310	310	480	
Turbidity	NTU	5	S	2.1	1.6	0.71	1	0.26	0.3	0.4	0.28	0.15	0.16	0.12	
Metals															
Aluminum, Total	ug/l	1000	P	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	
Arsenic, Total	ug/l	10	P	4	2.2	2.5	ND	2.1	ND	2.3	ND	2.1	ND	2.8	
Barium, Total	ug/l	1000	P	6.5	6.7	4.9	9.5	3.8	3.8	6.9	6.8	3	3	19	
Beryllium, Total	ug/l	4	P	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	
Copper, Total	ug/l	1300	P	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	
Hexavalent Chromium (Cr VI)	ug/l	10	P	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	
Nickel, Total	ug/l	100	P	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	
Silver, Total	ug/l	100	S	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	
Zinc, Total	ug/l	5000	S	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	
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzene	ug/l	1	P	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	
Chlorobenzene	ug/l	70	P	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	
cis-1,2-Dichloroethylene	ug/l	6	P	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	
Ethylbenzene	ug/l	300	P	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	
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Styrene	ug/l	100	P	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	
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethylene (TCE)	ug/l	5	P	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	
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Los Angeles #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/29/15	9/24/15	5/29/15	9/24/15	5/29/15	9/24/15	5/29/15	9/24/15	5/29/15	9/24/15
General Minerals													
Alkalinity	mg/l			170	180	170	180	180	180	170	210	210	210
Anion Sum	meq/l			5.7	5.8	5.8	6	6	6.1	9.6	10	10	10
Bicarbonate as HCO3	mg/l			210	220	210	220	210	220	210	250	250	260
Boron	mg/l	1	N	0.14	0.15	0.12	0.14	0.13	0.15	0.15	0.18	0.15	0.18
Bromide	ug/l			120	120	100	100	110	110	310	280	330	320
Calcium, Total	mg/l			50	56	54	62	55	61	94	110	97	110
Carbon Dioxide	mg/l			ND	2.9	ND	2.9	ND	3.6	ND	5.2	ND	4.3
Carbonate as CO3	mg/l			2.2	ND	ND	ND	2.2	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.3	6	5.4	6.2	5.5	6.3	9	10	9.2	11
Chloride	mg/l	500	S	23	24	22	22	22	23	77	75	82	82
Fluoride	mg/l	2	P	0.27	0.3	0.42	0.46	0.36	0.4	0.37	0.41	0.37	0.41
Hardness (Total, as CaCO3)	mg/l			170	190	190	220	190	220	340	390	340	400
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			28	30	26	25	1.4	1.2	2.3	3.3	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.15	0.19	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.81	0.71	0.73	0.75	0.82	0.72	0.89	0.87	0.99	0.98
Magnesium, Total	None			12	13	13	15	14	16	25	29	25	30
Manganese, Total	ug/l	50	S	14	11	56	47	13	12	ND	ND	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	59	56	66	66
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	13	13	15	15
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.6	4	3.1	3.4	3	3.4	3.9	4.6	3.8	4.6
Sodium, Total	mg/l			41	47	35	41	36	42	50	60	50	60
Sulfate	mg/l	500	S	75	76	85	85	86	86	140	140	140	140
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13
Total Dissolved Solid (TDS)	mg/l	1000	S	350	350	350	360	370	350	630	620	670	680
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	13	13	15	15
Total Organic Carbon	mg/l			0.42	0.41	ND	ND	ND	ND	0.44	0.45	0.48	0.47
General Physical Properties													
Apparent Color	ACU	15	S	ND	5	ND	5	ND	ND	10	15	10	20
Lab pH	Units			8.2	8.1	8.1	8.1	8.2	8	8	7.9	8	8
Odor	TON	3	S	ND	2	1	2	1	ND	1	ND	1	ND
Specific Conductance	umho/cm	1600	S	560	560	570	590	580	590	990	980	1000	1000
Turbidity	NTU	5	S	0.08	0.36	0.67	0.81	0.072	0.076	0.11	0.14	0.088	0.072
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	30	25	47	46	70	65	140	130	150	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	450	430	500	530
Hexavalent Chromium (Cr VI)	ug/l	10		0.029	0.05	0.046	ND	0.23	0.22	460	440	610	580
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	5.6	ND	6.2	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	1.2	0.87	1.3	1.3
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	1.7	1.5	ND	ND	ND	ND	2.7	2	2.7	2.7
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	0.57	ND	0.98	0.72
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	3.6	3	ND	ND	ND	ND	45	30	49	47
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	4.6	4.2	4.9	5.2

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Los Angeles #2							
				Zone 2		Zone 3		Zone 4		Zone 5	
				4/22/15	9/18/15	4/22/15	9/18/15	4/22/15	9/18/15	4/22/15	9/18/15
General Minerals											
Alkalinity	mg/l			300	300	310	310	330	320	300	300
Anion Sum	meq/l			19	19	19	20	21	21	23	23
Bicarbonate as HCO3	mg/l			370	370	380	370	400	400	360	360
Boron	mg/l	1	N	0.24	0.26	0.23	0.25	0.29	0.3	0.41	0.42
Bromide	ug/l			560	550	530	540	620	630	670	710
Calcium, Total	mg/l			200	190	200	230	210	200	200	220
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	15
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			19	19	19	22	21	20	22	23
Chloride	mg/l	500	S	230	230	270	280	330	340	170	170
Fluoride	mg/l	2	P	0.2	0.2	0.28	0.31	0.31	0.33	0.28	0.28
Hardness (Total, as CaCO3)	mg/l			720	700	710	820	750	720	750	820
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			59	77	63	66	66	67	44	34
Iron, Total	mg/l	0.3	S	0.18	0.17	1.2	1.4	1.8	1.8	0.78	4
Langelier Index - 25 degree	None			1	1.1	1.1	1.1	1.3	1.2	1.1	1.1
Magnesium, Total	None			53	54	51	60	54	55	60	65
Manganese, Total	ug/l	50	S	340	40	170	53	120	67	860	880
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			9.3	9.4	6.5	7.2	7.4	7.8	10	11
Sodium, Total	mg/l			95	100	98	120	120	130	140	150
Sulfate	mg/l	500	S	300	300	260	270	250	260	580	590
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	0.14
Total Dissolved Solid (TDS)	mg/l	1000	S	1100	1100	1200	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			0.59	0.59	0.64	0.65	0.74	0.71	2.6	1.8
General Physical Properties											
Apparent Color	ACU	15	S	5	3	30	15	50	40	50	10
Lab pH	Units			7.6	7.7	7.7	7.6	7.8	7.7	7.6	7.6
Odor	TON	3	S	2	1	1	2	2	1	4	17
Specific Conductance	umho/cm	1600	S	1700	1700	1800	1800	2000	2000	1900	2000
Turbidity	NTU	5	S	1.3	2.1	12	11	22	16	34	35
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	770
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	5.9	8.4
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	6.7	6.6
Barium, Total	ug/l	1000	P	73	ND	150	51	190	100	53	64
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	3
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	3.2
Hexavalent Chromium (Cr VI)	ug/l	10		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	12	ND	10	ND	12	ND	13	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	5.7	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	110	210
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	0.89	0.89
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Los Angeles #3											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/15/15	9/4/15	4/15/15	9/4/15	4/15/15	9/4/15	4/15/15	9/4/15	4/15/15	9/4/15	4/15/15	9/4/15
General Minerals															
Alkalinity	mg/l			240	240	180	170	180	180	200	190	210	200	250	240
Anion Sum	meq/l			6.4	6.4	5.8	5.7	6	5.9	6.8	6.7	9.1	9	13	13
Bicarbonate as HCO3	mg/l			300	290	220	210	230	220	240	230	260	250	300	280
Boron	mg/l	1	N	0.36	0.34	0.15	0.14	0.15	0.14	0.15	0.15	0.18	0.18	0.21	0.21
Bromide	ug/l			240	240	120	120	100	110	200	210	240	240	520	530
Calcium, Total	mg/l			16	14	59	54	60	57	69	66	94	90	140	140
Carbon Dioxide	mg/l			ND	ND	3.6	ND	ND	ND	5	ND	ND	ND	ND	3.6
Carbonate as CO3	mg/l			3.9	3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.3
Cation Sum	meq/l			6.4	6	6	5.5	6	5.8	6.8	6.6	9.1	8.7	13	12
Chloride	mg/l	500	S	37	38	24	24	23	22	40	41	56	57	120	120
Fluoride	mg/l	2	P	0.33	0.33	0.33	0.35	0.48	0.49	0.43	0.44	0.35	0.36	0.32	0.34
Hardness (Total, as CaCO3)	mg/l			63	58	210	190	210	200	240	230	330	320	490	480
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			60	82	25	25	24	23	36	35	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.033	0.032	ND	ND	0.059	0.057	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.54	0.51	0.68	0.68	0.67	0.58	0.71	0.83	0.83	0.75	1.1	1.2
Magnesium, Total	None			5.7	5.5	15	14	14	14	16	16	24	23	34	33
Manganese, Total	ug/l	50	S	24	26	110	99	65	68	45	45	ND	ND	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	45	44	29	28
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	10	10	6.5	6.3
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			4.2	3.8	3.8	3.3	3.8	3.5	4.1	3.9	4.4	4	4.5	4.1
Sodium, Total	mg/l			120	110	42	38	40	39	45	44	54	52	64	61
Sulfate	mg/l	500	S	24	24	77	77	80	80	80	80	120	120	180	190
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	390	400	340	350	340	360	380	410	530	560	770	770
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	10	10	6.5	6.3
Total Organic Carbon	mg/l			1.8	2	ND	0.31	ND	0.3	ND	ND	0.44	0.5	0.38	0.45
General Physical Properties															
Apparent Color	ACU	15	S	25	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Lab pH	Units			8.3	8.3	8	8.1	8	7.9	7.9	8.1	7.9	7.8	7.9	8.1
Odor	TON	3	S	1	2	1	2	1	1	ND	1	ND	1	ND	1
Specific Conductance	umho/cm	1600	S	630	620	550	560	570	570	650	650	860	860	1200	1200
Turbidity	NTU	5	S	0.16	0.2	0.14	0.11	0.082	0.08	0.23	0.19	0.11	0.18	0.18	6.5
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	ND	ND
Barium, Total	ug/l	1000	P	9	11	22	23	44	52	72	77	110	120	130	140
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	1.6	2	4.3	5.1
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2	2	4.9	4.8
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	15	12
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	4.4	4.4
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	0.87	0.95	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	0.89	1.2
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	2.3	2	1.2	1.1

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	LosAngeles #4											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/18/15	9/2/15	5/18/15	9/2/15	5/18/15	9/2/15	5/18/15	9/2/15	5/18/15	9/2/15	5/18/15	9/2/15
General Minerals															
Alkalinity	mg/l			1500	1500	430	440	160	160	170	170	170	170	320	310
Anion Sum	meq/l			32	32	8.9	9	5.5	5.5	5.6	5.7	5.6	5.7	11	11
Bicarbonate as HCO3	mg/l			1800	1900	520	530	200	200	200	210	200	210	380	380
Boron	mg/l	1	N	6.1	6.4	0.52	0.54	0.12	0.13	0.12	0.13	0.13	0.14	0.26	0.27
Bromide	ug/l			580	560	66	61	94	94	97	98	94	97	480	480
Calcium, Total	mg/l			13	13	17	17	52	55	53	56	52	56	93	98
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			74	20	17	4.3	4.1	ND	4.1	ND	4.1	ND	9.8	2
Cation Sum	meq/l			34	34	9	8.6	5.4	5.7	5.5	5.9	5.6	5.9	12	12
Chloride	mg/l	500	S	30	31	7.6	7.7	20	20	21	21	20	21	63	69
Fluoride	mg/l	2	P	0.39	0.37	0.25	0.26	0.3	0.31	0.39	0.41	0.35	0.34	0.12	0.08
Hardness (Total, as CaCO3)	mg/l			60	61	72	73	180	190	180	190	180	190	330	350
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			170	34	18	17	22	22	30	32	23	23	15	14
Iron, Total	mg/l	0.3	S	0.72	0.75	0.12	0.13	ND	ND	ND	ND	0.043	0.045	ND	ND
Langelier Index - 25 degree	None			1.7	1.1	1.2	0.65	1	0.74	1.1	0.61	1.1	0.74	1.7	1
Magnesium, Total	None			6.7	6.9	7.2	7.4	11	12	12	13	11	12	23	25
Manganese, Total	ug/l	50	S	29	28	53	54	39	37	51	54	55	58	82	100
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	25	20
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.6	4.6
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			14	13	10	9.9	2.9	3	3.5	3.7	3.6	3.8	6.1	6.2
Sodium, Total	mg/l			750	750	170	160	42	45	41	44	45	48	110	110
Sulfate	mg/l	500	S	1.5	1.4	1.3	1.1	78	78	78	78	79	80	140	130
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	2000	2100	540	520	350	320	330	320	350	340	680	670
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.6	4.6
Total Organic Carbon	mg/l			140	120	7.3	12	0.3	0.55	ND	ND	0.38	0.47	0.51	0.77
General Physical Properties															
Apparent Color	ACU	15	S	1500	1500	100	100	ND	ND	ND	ND	3	ND	ND	ND
Lab pH	Units			8.8	8.2	8.7	8.1	8.5	8.1	8.5	8	8.5	8.1	8.6	7.9
Odor	TON	3	S	8	8	4	3	2	1	2	2	1	2	2	2
Specific Conductance	umho/cm	1600	S	2800	2800	850	850	540	540	550	550	550	550	1100	1100
Turbidity	NTU	5	S	0.74	0.91	11	10	0.086	0.21	0.076	0.11	0.25	0.29	1.1	0.7
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	3.2	3.1	6.8	4.9	ND	ND	2	2.2	1.3	1.3	6.4	6.4
Barium, Total	ug/l	1000	P	36	38	33	35	14	17	49	53	48	62	59	70
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	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.064	ND	0.033	ND	ND	ND	ND	ND	ND	0.82	0.62
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	79	74
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	1

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Montebello #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/20/15	9/23/15	4/20/15	9/23/15	4/20/15	9/23/15	4/20/15	9/23/15	4/20/15	9/23/15
General Minerals													
Alkalinity	mg/l			890	860	570	560	190	190	190	190	210	220
Anion Sum	meq/l			39	39	15	15	8.3	8.4	8.5	8.7	8.9	9.6
Bicarbonate as HCO3	mg/l			1100	1000	690	680	230	230	230	230	250	260
Boron	mg/l	1	N	6.4	5.9	2.3	2.3	0.16	0.15	0.16	0.15	0.2	0.21
Bromide	ug/l			4500	4600	840	920	190	210	240	270	270	320
Calcium, Total	mg/l			14	14	16	16	91	96	85	90	82	97
Carbon Dioxide	mg/l			ND	5.2	ND	4.4	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			18	20	14	11	2.4	2.4	ND	ND	ND	ND
Cation Sum	meq/l			39	38	15	16	7.9	8.4	8.2	8.8	8.4	9.8
Chloride	mg/l	500	S	760	780	140	140	65	67	74	77	83	92
Fluoride	mg/l	2	P	0.44	0.44	0.34	0.34	0.18	0.18	0.29	0.28	0.36	0.36
Hardness (Total, as CaCO3)	mg/l			60	60	67	68	290	310	280	290	270	320
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			1000	430	210	220	41	38	37	45	ND	ND
Iron, Total	mg/l	0.3	S	0.16	0.2	0.21	0.2	0.024	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.1	1.2	1.1	1	1	1.1	0.98	0.85	0.89	0.65
Magnesium, Total	None			6.2	6	6.6	6.8	15	17	16	17	17	20
Manganese, Total	ug/l	50	S	11	12	28	30	87	87	15	18	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	2	1.7	17	18
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.45	0.39	3.9	4.1
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			8.5	9	5.3	6	3.4	3.6	3.6	3.9	3.4	3.8
Sodium, Total	mg/l			870	850	320	330	46	50	58	63	66	74
Sulfate	mg/l	500	S	ND	ND	ND	ND	130	130	120	130	100	110
Surfactants	mg/l	0.5	S	0.056	0.061	0.068	0.069	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	2200	2200	890	860	490	510	490	530	520	570
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.45	0.39	3.9	4.1
Total Organic Carbon	mg/l			32	30	23	22	0.87	0.83	0.63	0.58	0.54	0.57
General Physical Properties													
Apparent Color	ACU	15	S	400	500	250	250	5	5	3	ND	ND	ND
Lab pH	Units			8.4	8.5	8.5	8.4	8.2	8.2	8.1	8	8	7.7
Odor	TON	3	S	2	8	2	8	2	1	1	1	2	1
Specific Conductance	umho/cm	1600	S	3800	3900	1400	1500	790	820	810	850	860	930
Turbidity	NTU	5	S	0.41	0.4	0.28	0.31	0.2	0.36	0.15	0.12	0.075	0.12
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	5.3	5.9	2.5	1.6	ND	ND	1.9	1.7	1.4	1.2
Barium, Total	ug/l	1000	P	34	41	20	25	39	46	72	76	65	76
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	1.4	1	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10		0.026	0.026	ND	ND	ND	ND	ND	ND	0.18	0.27
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	13	18	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	0.57	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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	1.2	1

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Norwalk #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/23/15	9/10/15	4/23/15	9/10/15	4/23/15	9/10/15	4/23/15	9/10/15	4/23/15	9/10/15
General Minerals													
Alkalinity	mg/l			270	270	180	170	140	140	130	130	200	190
Anion Sum	meq/l			8.6	8.4	5.2	5.1	5	5.1	3.4	3.6	7.4	7.9
Bicarbonate as HCO3	mg/l			330	320	210	200	170	170	160	160	240	240
Boron	mg/l	1	N	0.38	0.39	0.19	0.19	0.05	0.05	ND	0.051	0.074	0.077
Bromide	ug/l			260	280	260	270	350	380	95	120	520	610
Calcium, Total	mg/l			13	13	8.8	8.7	30	33	27	29	64	73
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			4.3	5.2	3.4	5.2	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			8.3	8.7	4.9	5.1	4.6	5.2	3.3	3.7	7.1	8.2
Chloride	mg/l	500	S	65	66	59	60	70	76	22	28	120	140
Fluoride	mg/l	2	P	0.47	0.42	0.58	0.58	0.26	0.27	0.31	0.31	0.3	0.29
Hardness (Total, as CaCO3)	mg/l			60	61	26	27	86	95	88	96	220	250
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			72	82	83	93	99	110	24	28	91	120
Iron, Total	mg/l	0.3	S	ND	0.02	ND	ND	0.023	ND	0.023	0.025	0.082	0.16
Langelier Index - 25 degree	None			0.49	0.53	0.22	0.43	0.51	0.55	0.38	0.43	0.76	0.65
Magnesium, Total	None			6.7	7	1.1	1.2	2.6	3.1	5.1	5.8	15	17
Manganese, Total	ug/l	50	S	2.3	2.9	6.1	5.8	24	26	36	40	140	140
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			2.3	2.6	1.1	ND	2	2.3	1.6	1.7	3.2	3.7
Sodium, Total	mg/l			160	170	99	100	65	74	35	39	60	69
Sulfate	mg/l	500	S	61	58	ND	ND	6	4.7	9.1	9.6	5.3	6.8
Surfactants	mg/l	0.5	S	ND	0.062	ND	ND	ND	ND	ND	ND	0.13	0.16
Total Dissolved Solid (TDS)	mg/l	1000	S	500	500	310	320	300	290	200	210	420	470
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	2.3	2.7	3	0.62	0.62	0.45	0.44	1.4	1.7
General Physical Properties													
Apparent Color	ACU	15	S	20	25	35	25	ND	ND	3	5	15	25
Lab pH	Units			8.3	8.4	8.4	8.6	8.2	8.2	8.2	8.2	8	7.9
Odor	TON	3	S	100	200	1	2	1	2	1	200	8	8
Specific Conductance	umho/cm	1600	S	850	850	520	530	510	530	340	360	760	820
Turbidity	NTU	5	S	0.1	0.12	0.18	0.36	0.59	0.37	2.6	1.4	25	18
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	5.6	6	20	21	13	10
Barium, Total	ug/l	1000	P	13	13	6.3	6.2	98	110	110	130	330	310
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		ND	0.029	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
Nickel, Total	ug/l	100	P	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	5	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	1.7	2.6
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Norwalk #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/27/15	9/11/15	4/27/15	9/11/15	4/27/15	9/11/15	4/27/15	9/11/15	4/27/15	9/11/15	4/27/15	9/11/15
General Minerals															
Alkalinity	mg/l			160	160	180	170	150	140	160	160	160	150	200	200
Anion Sum	meq/l			8	7.9	4.7	4.6	4.2	4.1	5.7	5.6	7.6	7.6	9	9
Bicarbonate as HCO3	mg/l			200	190	220	210	180	180	200	190	190	180	240	240
Boron	mg/l	1	N	0.19	0.18	0.23	0.22	ND	ND	0.056	0.058	0.14	0.14	0.18	0.18
Bromide	ug/l			160	160	130	130	45	45	63	63	140	140	170	170
Calcium, Total	mg/l			77	82	11	12	42	44	63	66	78	83	86	92
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	2.8	4.3	ND	2.3	2	ND	2	ND	2	ND
Cation Sum	meq/l			7.9	8.1	4.7	4.8	4.1	4.3	5.5	5.7	7.4	7.7	8.8	9.1
Chloride	mg/l	500	S	78	77	30	31	14	14	26	27	71	73	84	84
Fluoride	mg/l	2	P	0.26	0.27	0.47	0.47	0.2	0.22	0.28	0.28	0.24	0.26	0.36	0.36
Hardness (Total, as CaCO3)	mg/l			260	270	36	39	130	130	200	210	260	280	290	310
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			16	20	41	36	7.8	6.9	ND	ND	5.8	6.9	1.9	4.1
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.65	0.7	0.25	0.41	0.62	0.73	0.89	0.76	0.91	0.77	0.99	0.76
Magnesium, Total	None			16	17	2.2	2.3	5.2	5.3	11	12	16	17	19	20
Manganese, Total	ug/l	50	S	14	16	14	14	21	12	ND	ND	19	15	ND	2.8
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	1.3	ND	ND	ND	ND	5.5	5.5	11	11	8.5	8.2
Nitrate as Nitrogen	mg/l	10	P	ND	0.3	ND	ND	ND	ND	1.2	1.2	2.5	2.5	1.9	1.8
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			4.4	4.3	2.5	2.5	2.7	2.8	3.3	3.5	4.1	4.4	4.4	4.5
Sodium, Total	mg/l			59	56	90	92	36	36	31	31	47	47	64	65
Sulfate	mg/l	500	S	120	120	12	13	38	39	73	74	110	110	120	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	510	510	280	280	260	240	350	360	460	470	540	580
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	0.3	ND	ND	ND	ND	1.2	1.2	2.5	2.5	1.9	1.8
Total Organic Carbon	mg/l			0.71	0.68	1.3	1.5	0.48	0.41	0.35	0.33	0.55	0.48	0.59	0.55
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	20	20	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.9	8	8.3	8.5	8.2	8.3	8.2	8.1	8.2	8	8.1	7.9
Odor	TON	3	S	1	2	1	1	1	2	ND	2	ND	2	ND	2
Specific Conductance	umho/cm	1600	S	790	770	460	460	410	400	540	540	740	750	860	880
Turbidity	NTU	5	S	0.18	0.089	0.1	0.14	0.14	0.16	0.067	0.12	0.074	0.083	0.064	0.076
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	1.8	ND	ND	ND	ND	2.2	1.8	2.2	ND	1.4	1.2
Barium, Total	ug/l	1000	P	69	74	9.8	9.2	28	18	150	130	74	64	57	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	3.2	2.7	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	3.2	3.2	0.92	0.85	0.69	0.65
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	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	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	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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	1.6	1.9	1.4	1.2	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Pico #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				5/4/15	9/3/15	5/4/15	9/3/15	5/4/15	9/3/15	5/4/15	9/3/15
General Minerals											
Alkalinity	mg/l			280	170	170	200	200	180	180	
Anion Sum	meq/l			5.8	5.9	6.1	9.7	9.7	9.8	10	
Bicarbonate as HCO3	mg/l			340	210	200	240	240	220	230	
Boron	mg/l	1	N	0.61	0.068	0.072	0.13	0.14	0.24	0.24	
Bromide	ug/l			25	76	83	220	210	180	170	
Calcium, Total	mg/l			8.5	74	75	120	120	94	92	
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	
Carbonate as CO3	mg/l			5.6	ND	ND	ND	ND	ND	ND	
Cation Sum	meq/l			5.7	5.9	6	9.5	9.4	9.8	9.6	
Chloride	mg/l	500	S	3	26	29	87	86	100	110	
Fluoride	mg/l	2	P	0.25	0.26	0.26	0.33	0.34	0.31	0.31	
Hardness (Total, as CaCO3)	mg/l			34	240	240	380	380	310	300	
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	
Iodide	mg/l			7.8	6.5	5	19	21	1.2	3.3	
Iron, Total	mg/l	0.3	S	0.072	0.3	0.31	0.41	0.46	ND	ND	
Langelier Index - 25 degree	None			0.38	0.76	0.78	1.1	1	0.75	0.63	
Magnesium, Total	None			3	13	14	20	20	18	18	
Manganese, Total	ug/l	50	S	31	23	26	16	14	ND	ND	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	8.6	9.5	
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	1.9	2.1	
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	
Potassium, Total	mg/l			3.5	2.8	2.8	4.1	4	4.9	4.6	
Sodium, Total	mg/l			110	24	24	44	43	80	79	
Sulfate	mg/l	500	S	0.51	86	92	150	160	150	150	
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	
Total Dissolved Solid (TDS)	mg/l	1000	S	340	370	390	580	580	620	630	
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	1.9	2.1	
Total Organic Carbon	mg/l			2.8	ND	ND	0.49	0.51	0.52	0.62	
General Physical Properties											
Apparent Color	ACU	15	S	50	10	10	15	15	ND	ND	
Lab pH	Units			8.4	8	8	8	8	7.9	7.8	
Odor	TON	3	S	2	ND	ND	1	2	ND	2	
Specific Conductance	umho/cm	1600	S	540	570	580	920	920	980	980	
Turbidity	NTU	5	S	7.5	2	1.9	4.6	4.1	0.064	0.07	
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	5.2	ND	ND	ND	ND	2.9	2.6	
Barium, Total	ug/l	1000	P	15	92	100	87	87	57	61	
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		ND	ND	ND	ND	ND	0.32	0.2	
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	
Nickel, Total	ug/l	100	P	ND	5.3	ND	9.2	ND	8.9	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	
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Pico #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/4/15	9/25/15	5/4/15	9/25/15	5/4/15	9/25/15	5/4/15	9/25/15	5/4/15	9/25/15	5/4/15	9/25/15
General Minerals															
Alkalinity	mg/l			200	200	220	210	190	190	140	140	140	140	100	140
Anion Sum	meq/l			8.8	8.8	10	10	8.9	8.9	8.1	8.3	8.5	8.8	6.6	9.9
Bicarbonate as HCO3	mg/l			240	240	260	260	230	230	170	170	180	180	120	170
Boron	mg/l	1	N	0.056	0.056	0.15	0.15	0.15	0.15	0.22	0.22	0.22	0.23	0.2	0.27
Bromide	ug/l			190	170	220	210	160	170	140	140	130	130	240	170
Calcium, Total	mg/l			120	120	120	120	100	100	68	70	68	69	43	66
Carbon Dioxide	mg/l			ND	5	ND	6.8	ND	6	ND	7	ND	7.4	ND	11
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			8.8	9	10	10	8.7	8.9	8.2	8.5	8.5	8.9	6.3	9.5
Chloride	mg/l	500	S	56	58	88	90	76	77	97	100	110	110	87	140
Fluoride	mg/l	2	P	0.25	0.24	0.24	0.26	0.32	0.33	0.3	0.33	0.35	0.36	0.36	0.33
Hardness (Total, as CaCO3)	mg/l			390	390	400	410	330	340	230	240	250	250	160	250
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	1.2	ND	3	3.6	ND	1.4
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1	0.92	1.1	0.83	0.91	0.72	0.57	0.27	0.48	0.22	0.26	0.05
Magnesium, Total	None			21	22	25	26	20	21	15	16	19	20	14	21
Manganese, Total	ug/l	50	S	ND	ND	3.3	3.2	ND	ND	ND	ND	46	48	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	14	14	11	11	14	14	23	20	24	24	5.5	23
Nitrate as Nitrogen	mg/l	10	P	3.2	3.2	2.5	2.5	3.3	3.2	5.2	4.5	5.4	5.4	1.2	5.3
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.7	3.9	4	4.3	4.1	4.4	3.9	4.3	4.8	5.2	6.6	9
Sodium, Total	mg/l			25	27	40	43	43	47	79	82	77	85	66	96
Sulfate	mg/l	500	S	140	140	150	150	130	130	100	110	100	110	95	130
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.092	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	530	530	600	600	530	520	530	520	530	510	400	590
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	3.2	3.2	2.5	2.5	3.3	3.2	5.2	4.5	5.4	5.4	1.2	5.3
Total Organic Carbon	mg/l			0.32	ND	0.38	0.38	0.48	0.36	0.66	0.54	0.76	0.77	0.9	1.1
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	3
Lab pH	Units			8	7.9	8	7.8	8	7.8	7.9	7.6	7.8	7.6	8	7.4
Odor	TON	3	S	ND	ND	2	ND	1	ND	1	ND	1	ND	1	1
Specific Conductance	umho/cm	1600	S	830	840	960	980	850	860	870	860	880	900	690	1000
Turbidity	NTU	5	S	0.1	0.096	0.12	0.1	0.27	0.32	0.17	0.14	0.076	0.75	2.8	1.9
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	1.6	1.4	2.5	1.9	1.8	1.4	2.4	2	ND	ND	12	10
Barium, Total	ug/l	1000	P	130	130	100	100	110	98	61	62	98	100	110	190
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	2.5
Chromium, Total	ug/l	50	P	1.4	1	ND	ND	1.3	1	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	1.3	1.3	0.73	0.73	1.2	1.3	0.51	0.49	0.1	0.11	0.24	0.28
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	8.2	ND	11	ND	6.2	ND	5.8	ND	7.2	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	0.77	0.89	1.2	0.95	3.2	2.9	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	0.63	1.8	ND	ND	ND	8
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
Perchlorate	ug/l	6	P	1.9	1.6	ND	ND	1.1	0.92	ND	ND	ND	ND	ND	0.76

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Rio Hondo #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/15/15	9/21/15	4/15/15	9/21/15	4/15/15	9/21/15	4/15/15	9/21/15	4/15/15	9/21/15	4/15/15	9/21/15
General Minerals															
Alkalinity	mg/l			140	140	170	160	180	170	120	120	110	120	130	140
Anion Sum	meq/l			4.5	4.4	7.3	7.3	7.6	7.6	5.9	6	5.6	6	7.2	7.9
Bicarbonate as HCO3	mg/l			180	170	200	200	210	210	140	140	140	140	160	160
Boron	mg/l	1	N	0.065	0.068	0.058	0.055	0.16	0.17	0.17	0.17	0.13	0.13	0.15	0.16
Bromide	ug/l			93	93	140	130	140	140	100	100	94	100	120	130
Calcium, Total	mg/l			40	38	95	89	84	82	51	49	50	50	64	69
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	4.6	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			4.4	4.4	7.4	7.1	7.6	7.6	5.9	5.9	5.6	5.8	7.2	7.8
Chloride	mg/l	500	S	18	19	47	49	63	65	60	64	60	67	84	99
Fluoride	mg/l	2	P	0.22	0.24	0.2	0.21	0.28	0.29	0.32	0.35	0.28	0.32	0.28	0.24
Hardness (Total, as CaCO3)	mg/l			130	130	310	290	280	270	170	160	170	170	230	250
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			22	24	4.5	4.2	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.074	0.06	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.55	0.59	0.74	0.77	0.69	0.72	0.2	0.19	0.062	0.17	0.16	0.061
Magnesium, Total	None			8.3	8.2	17	17	16	16	10	10	11	12	17	19
Manganese, Total	ug/l	50	S	18	18	32	32	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 NO3)	mg/l	45	P	ND	ND	ND	ND	8.6	8.7	9.9	11	12	13	18	21
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	1.9	2	2.2	2.5	2.6	3	4.1	4.8
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	3.4	3.5	3.7	3.8	3.5	3.4	3.4	3.5	4.6	4.8
Sodium, Total	mg/l			38	40	26	26	47	49	55	58	50	52	57	61
Sulfate	mg/l	500	S	49	50	120	130	100	100	78	78	70	74	90	100
Surfactants	mg/l	0.5	S	ND	ND	ND	0.09	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	270	270	440	460	440	460	350	350	350	370	420	480
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	1.9	2	2.2	2.5	2.6	3	4.1	4.8
Total Organic Carbon	mg/l			0.4	0.32	0.33	0.32	0.4	0.43	0.44	0.38	0.36	0.32	0.4	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	7.9	7.9	7.8	7.8	7.7	7.8	7.6	7.4
Odor	TON	3	S	2	1	1	1	1	2	1	2	1	2	1	2
Specific Conductance	umho/cm	1600	S	430	430	690	690	740	740	600	600	570	610	730	810
Turbidity	NTU	5	S	0.25	0.43	0.27	0.54	0.086	0.12	0.083	0.18	0.47	0.2	0.14	1.3
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	ND	ND	ND	ND	2	2	2.5	2.4	1.6	1.6	ND	ND
Barium, Total	ug/l	1000	P	17	18	51	54	110	120	48	51	59	64	130	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	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	0.52	0.53	0.41	0.39	0.4	0.42	0.55	0.59
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	0.57	0.72	1.3	1.7	2.7	4.1
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	0.53	ND	0.66	0.53	0.63	0.52	0.75	0.51

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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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	
				5/11/15	8/26/15	5/11/15	8/26/15	5/11/15	8/26/15	5/11/15	8/26/15	5/11/15	8/26/15	5/11/15	8/26/15	5/11/15	8/26/15
General Minerals																	
Alkalinity	mg/l			200	200	160	160	150	150	210	180	120	110	100	100	190	190
Anion Sum	meq/l			4.5	4.5	3.6	3.6	3.4	3.5	5.1	4.2	3.7	3.7	7.4	7.7	34	37
Bicarbonate as HCO3	mg/l			240	240	190	190	180	180	250	220	150	140	120	130	240	240
Boron	mg/l	1	N	0.26	0.24	0.16	0.15	0.21	0.2	0.29	0.25	0.092	0.091	0.14	0.14	0.19	0.22
Bromide	ug/l			160	150	99	97	91	86	200	130	88	90	160	160	3600	3700
Calcium, Total	mg/l			4.4	4.4	4	4	3.7	3.8	7.7	5.9	7.8	9.8	64	65	320	320
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			6.2	9.8	6.2	9.8	4.6	9.3	2.6	7.2	ND	2.9	ND	ND	ND	ND
Cation Sum	meq/l			4.7	4.4	3.7	3.7	3.7	3.5	5.3	4.3	3.8	3.6	7.4	7.3	35	35
Chloride	mg/l	500	S	17	17	15	15	14	14	18	19	20	27	82	86	900	1000
Fluoride	mg/l	2	P	0.41	0.39	0.52	0.46	0.55	0.5	0.99	0.71	0.62	0.48	0.34	0.32	0.35	0.36
Hardness (Total, as CaCO3)	mg/l			13	13	12	12	10	11	25	18	26	30	210	210	1000	1100
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			44	41	22	23	20	17	100	34	19	8.2	12	12	270	250
Iron, Total	mg/l	0.3	S	0.052	0.047	0.039	0.026	0.027	0.024	0.16	0.038	ND	ND	ND	ND	0.2	0.17
Langelier Index - 25 degree	None			0.19	0.35	0.18	0.35	0.0064	0.33	0.094	0.35	-0.18	0.15	0.33	0.69	1.1	1.4
Magnesium, Total	None			0.51	0.45	0.46	0.41	0.32	0.29	1.5	0.8	1.5	1.4	12	11	63	64
Manganese, Total	ug/l	50	S	7.6	7.4	5	4.4	3.4	2.3	17	10	13	13	89	110	760	680
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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	1.5	ND	1.8	1.3	2.5	2.3	6.9	6.8
Sodium, Total	mg/l			100	96	79	80	80	76	110	90	73	69	73	70	310	330
Sulfate	mg/l	500	S	ND	ND	0.6	ND	ND	ND	18	ND	31	29	140	150	250	250
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.061	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	270	290	210	230	200	220	320	270	220	230	450	480	2900	2300
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	8.5	4.2	4.9	3.3	3.7	8.7	5.8	1.8	1.2	1.3	1.2	0.63	0.58
General Physical Properties																	
Apparent Color	ACU	15	S	250	250	150	150	100	100	150	200	25	20	3	ND	10	ND
Lab pH	Units			9	9	9	8.9	8.6	8.9	8.2	8.7	8.2	8.5	7.9	8.2	7.6	8.0
Odor	TON	3	S	2	8	2	4	2	2	2	8	2	2	1	2	2	2
Specific Conductance	umho/cm	1600	S	440	440	360	360	340	340	510	410	380	370	750	770	3500	3600
Turbidity	NTU	5	S	0	0	1	0	0	1	4	2	3	11	0	0	1	1
Metals																	
Aluminum, Total	ug/l	1000	P	32	36	37	31	27	22	84	ND	28	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	3.4	1.9	ND	1.2	ND	8.8
Barium, Total	ug/l	1000	P	7.2	7.2	4.8	4.8	4.3	3.6	11	6.2	12	14	100	100	120	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10		0.038	0.042	0.025	0.045	0.021	0.037	0.04	0.063	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	15
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.2	27
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	South Gate #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/13/15	9/30/15	5/13/15	9/30/15	5/13/15	9/30/15	5/13/15	9/30/15	5/13/15	9/30/15
General Minerals													
Alkalinity	mg/l			160	160	130	140	150	150	150	150	190	200
Anion Sum	meq/l			5	5.1	6.4	6.6	6.6	6.8	6.9	7	9	9.1
Bicarbonate as HCO3	mg/l			190	200	160	170	180	180	180	180	240	240
Boron	mg/l	1	N	0.11	0.12	0.14	0.15	0.12	0.13	0.16	0.18	0.13	0.14
Bromide	ug/l			110	110	120	120	95	120	110	130	400	370
Calcium, Total	mg/l			48	47	65	65	71	72	71	68	96	89
Carbon Dioxide	mg/l			ND	ND	ND	2.8	ND	3.70	ND	3.7	ND	3.9
Carbonate as CO3	mg/l			3.1	2.60	ND	ND	2.3	ND	2.3	ND	3.9	ND
Cation Sum	meq/l			5	5	6.3	6.4	6.5	6.7	7	6.8	9.3	8.8
Chloride	mg/l	500	S	22	24	52	56	46	49	56	59	98	98
Fluoride	mg/l	2	P	0.3	0.31	0.3	0.32	0.36	0.38	0.37	0.4	0.39	0.42
Hardness (Total, as CaCO3)	mg/l			150	150	210	220	240	240	230	230	340	330
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			17	23.00	2.9	6.9	ND	ND	ND	ND	110	110
Iron, Total	mg/l	0.3	S	0.027	0.03	ND	ND	ND	ND	ND	ND	0.084	0.089
Langelier Index - 25 degree	None			0.91	0.82	0.52	0.55	0.95	0.62	0.98	0.52	1.3	0.91
Magnesium, Total	None			7.6	8.2	12	13	15	16	14	15	25	26
Manganese, Total	ug/l	50	S	40	38.00	2	2	ND	ND	ND	ND	110	110
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	9.4	9.8	9.3	9.70	8.1	8.6	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2.1	2.2	2.1	2.20	1.8	1.9	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.4	2.3	3.1	3	2.8	2.8	3.1	3	2.9	2.7
Sodium, Total	mg/l			45	44	46	45	38	39	50	48	54	51
Sulfate	mg/l	500	S	53	54	98	100	100	100	100	100	110	110
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	300	300	410	430	410	430	440	410	540	520
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	2.1	2.2	2.1	2.20	1.8	1.9	ND	ND
Total Organic Carbon	mg/l			ND	ND	0.3	0.32	0.31	ND	0.33	0.3	0.73	0.72
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	3	ND
Lab pH	Units			8.4	8.3	7.9	8	8.3	7.9	8.3	7.9	8.4	8
Odor	TON	3	S	1	1	1	2	2	1	1	1	2	2
Specific Conductance	umho/cm	1600	S	490	490	660	650	660	660	690	680	900	880
Turbidity	NTU	5	S	0.11	0.094	0.17	0.11	0.071	0.088	0.075	0.085	0.36	0.3
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	2.9	2.8	2.9	2.6	2.9	2.6	2	1.8	2	1.9
Barium, Total	ug/l	1000	P	120	130	89	88	140	150	62	67	200	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		ND	ND	0.056	0.05	0.88	0.87	0.55	0.57	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	0.56	0.61	3	2.4	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	0.74	0.62	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
Perchlorate	ug/l	6	P	ND	ND	0.74	0.69	1.7	1.90	ND	0.52	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
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Constituents	Units	MCL	MCL Type	South Gate #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/6/15	9/29/15	5/6/15	9/29/15	5/6/15	9/29/15	5/6/15	9/29/15	5/6/15	9/29/15	5/6/15	9/29/15
General Minerals															
Alkalinity	mg/l			170	170	180	180	170	170	180	180	170	170	190	190
Anion Sum	meq/l			5.6	5.6	5.8	5.7	5.6	5.7	6.4	6.4	5.7	5.7	6.2	6.2
Bicarbonate as HCO3	mg/l			210	210	220	210	210	210	210	210	210	210	240	240
Boron	mg/l	1	N	0.12	0.14	0.12	0.14	0.11	0.12	0.13	0.15	0.13	0.14	0.13	0.15
Bromide	ug/l			99	46	96	90	97	96	150	140	98	95	110	110
Calcium, Total	mg/l			53	55	55	55	50	50	60	59	54	54	58	59
Carbon Dioxide	mg/l			ND	2.2	ND	2.7	ND	2.2	ND	5.4	ND	3.4	ND	3.9
Carbonate as CO3	mg/l			ND	2.2	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.3	5.6	5.6	5.7	5.3	5.6	6.2	6.3	5.6	5.6	5.9	6.1
Chloride	mg/l	500	S	21	20	21	20	21	21	33	31	21	21	24	23
Fluoride	mg/l	2	P	0.39	0.42	0.38	0.4	0.37	0.39	0.42	0.43	0.41	0.43	0.39	0.49
Hardness (Total, as CaCO3)	mg/l			180	190	190	190	170	170	210	210	180	190	200	210
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			22	25	18	24	19	32	4.8	8	17	24	14	17
Iron, Total	mg/l	0.3	S	0.062	0.05	0.12	0.12	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.46	0.81	0.44	0.75	0.34	0.74	0.35	0.5	0.44	0.65	0.36	0.73
Magnesium, Total	None			12	14	12	13	10	11	15	16	12	13	14	16
Manganese, Total	ug/l	50	S	52	60	34	39	30	49	27	34	54	53	120	120
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	1.7	1.5	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.39	0.33	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			3.1	3.1	3.3	3.4	2.6	2.7	3.4	3.5	3.2	3.2	2.6	2.7
Sodium, Total	mg/l			37	38	40	40	42	50	44	45	41	40	41	41
Sulfate	mg/l	500	S	78	79	77	77	73	76	92	92	79	80	77	78
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	340	340	340	330	340	370	370	310	330	340	360
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.39	0.33	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.48	0.38	0.42	ND	0.34	0.42	0.31	ND	0.34	ND	0.37	ND
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.9	8.2	7.8	8.1	7.8	8.2	7.7	7.8	7.8	8	7.7	8
Odor	TON	3	S	1	1	ND	1	1	2	2	1	1	1	1	1
Specific Conductance	umho/cm	1600	S	540	550	550	560	540	560	620	620	550	550	590	600
Turbidity	NTU	5	S	0.076	0.093	0.15	0.46	0.16	0.43	0.074	0.094	0.087	0.15	0.08	0.12
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	ND	ND	1.7	2	1.7	3.3	1.4	2	1.5	1.4	ND	1
Barium, Total	ug/l	1000	P	56	60	73	70	88	84	57	60	85	98	74	78
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	1.2	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	1.3	1.3	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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Whittier #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/5/15	9/17/15	5/5/15	9/17/15	5/5/15	9/17/15	5/5/15	9/17/15	5/5/15	9/17/15
General Minerals													
Alkalinity	mg/l			260	260	280	280	290	280	250	250	230	230
Anion Sum	meq/l			41	43	40	41	30	32	11	12	11	11
Bicarbonate as HCO3	mg/l			320	320	340	340	350	350	310	300	280	280
Boron	mg/l	1	N	0.89	0.9	0.99	0.99	0.65	0.7	0.19	0.2	0.15	0.16
Bromide	ug/l			1300	1300	1200	1100	900	900	290	300	300	300
Calcium, Total	mg/l			190	190	190	180	170	180	76	78	77	79
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			40	40	39	38	29	30	11	12	11	11
Chloride	mg/l	500	S	250	300	240	260	200	210	81	83	84	88
Fluoride	mg/l	2	P	0.27	0.27	0.28	0.3	0.47	0.48	0.2	0.2	0.31	0.33
Hardness (Total, as CaCO3)	mg/l			1000	1000	1000	980	820	860	330	340	350	360
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			220	170	210	150	160	120	100	81	4	1.8
Iron, Total	mg/l	0.3	S	0.54	0.56	0.42	0.44	0.3	0.34	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.94	1	0.96	1	1.2	1.2	0.8	0.72	0.56	0.63
Magnesium, Total	None			130	130	130	130	96	100	34	36	38	40
Manganese, Total	ug/l	50	S	46	54	74	84	71	80	20	24	3	3
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	18	18	23	24
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	4	4.1	5.2	5.4
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			10	11	9.8	10	7	8	3.8	4.3	3.3	3.7
Sodium, Total	mg/l			440	440	430	420	280	300	100	110	87	90
Sulfate	mg/l	500	S	1400	1400	1300	1300	900	960	180	190	180	190
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	2700	2600	2600	1900	2000	690	700	680	690
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	4	4.1	5.2	5.4
Total Organic Carbon	mg/l			1.8	1.6	2.1	2.1	1.4	1.4	ND	ND	ND	ND
General Physical Properties													
Apparent Color	ACU	15	S	20	20	20	20	10	15	ND	ND	ND	ND
Lab pH	Units			7.6	7.7	7.6	7.7	7.8	7.9	7.9	7.8	7.7	7.7
Odor	TON	3	S	2	1	1	1	1	2	ND	1	ND	1
Specific Conductance	umho/cm	1600	S	3500	3400	3300	3300	2600	2600	1100	1100	1100	1000
Turbidity	NTU	5	S	3.4	3.6	2.3	2.3	2.4	1.9	0.076	0.11	0.25	1.7
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	1.4	1.4	ND	ND
Barium, Total	ug/l	1000	P	15	18	16	18	22	24	32	34	26	29
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	0.57	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	3.2	3.6
Hexavalent Chromium (Cr VI)	ug/l	10		ND	ND	ND	ND	ND	ND	ND	ND	3.3	3.4
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	10	5.4	ND	ND	9	ND	17	14	22	19
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	1.4	1.3	2.6	2.5

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Whittier #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/16/15	9/25/15	4/16/15	9/25/15	4/16/15	9/25/15	4/16/15	9/25/15	4/16/15	9/25/15	4/16/15	9/25/15
General Minerals															
Alkalinity	mg/l			280	280	170	160	200	200	390	380	220	220	360	350
Anion Sum	meq/l			16	16	4.2	4.2	12	12	28	28	12	12	18	18
Bicarbonate as HCO3	mg/l			340	340	200	200	250	240	480	470	270	260	430	420
Boron	mg/l	1	N	0.57	0.51	0.26	0.23	0.22	0.23	0.88	0.84	0.21	0.18	0.36	0.36
Bromide	ug/l			1100	950	100	120	600	600	950	960	360	360	300	300
Calcium, Total	mg/l			110	120	24	25	80	82	130	130	130	120	160	160
Carbon Dioxide	mg/l			ND	8.8	ND	2.1	ND	3.9	ND	15	ND	5.4	ND	14
Carbonate as CO3	mg/l			2.8	ND	2.6	2	ND	ND	2.5	ND	2.8	ND	3.5	ND
Cation Sum	meq/l			16	15	4.3	4.5	12	12	28	27	12	12	17	17
Chloride	mg/l	500	S	190	170	18	20	130	130	240	240	120	120	99	98
Fluoride	mg/l	2	P	0.27	0.29	0.3	0.3	0.28	0.29	0.47	0.49	0.24	0.26	0.25	0.28
Hardness (Total, as CaCO3)	mg/l			410	430	78	81	340	350	680	670	430	400	560	560
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			220	ND	18	28	9.9	18	160	ND	ND	ND	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			1.3	0.92	0.51	0.46	0.84	0.83	1.3	1	1.2	0.95	1.4	1.1
Magnesium, Total	None			33	31	4.5	4.6	34	35	87	83	26	24	39	40
Manganese, Total	ug/l	50	S	26	24	42	43	38	50	150	140	ND	ND	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	3	2.9	10	11	21	21	32	33
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	0.67	0.66	2.4	2.4	4.8	4.7	7.3	7.4
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			4.2	4.2	2.4	2.6	3.7	4	4.1	4.4	4.8	4.7	4.7	5
Sodium, Total	mg/l			170	160	60	64	100	110	320	320	81	78	120	130
Sulfate	mg/l	500	S	230	260	14	14	230	230	650	640	170	170	360	360
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	0.052	ND	0.069	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	950	940	250	250	750	750	1800	1700	700	690	1100	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	0.67	0.66	2.4	2.4	4.8	4.7	7.3	7.4
Total Organic Carbon	mg/l			0.83	0.79	0.53	0.49	0.48	0.42	0.52	0.52	0.42	0.4	0.54	0.53
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	7.8	8.3	8.2	8	8	7.9	7.7	8.2	7.9	8.1	7.7
Odor	TON	3	S	1	2	ND	1	ND	ND	2	1	1	ND	ND	ND
Specific Conductance	umho/cm	1600	S	1500	1500	400	410	1200	1200	2400	2500	1100	1100	1600	1600
Turbidity	NTU	5	S	0.16	0.45	0.079	0.085	0.12	0.12	0.07	0.15	0.15	0.13	0.13	0.18
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	1	1.2	ND	ND	ND	ND	1.3	1.4
Barium, Total	ug/l	1000	P	23	26	25	26	48	50	13	14	76	78	34	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	2.7	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	2.9	2.8	ND	ND	1.8	1.8	3.7	3.7
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	3.2	3.1	0.038	0.031	2	2	4.5	4.5
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	5.5	ND	ND	ND	ND	ND	10	8.5	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	1.1	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	0.58	0.64	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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	1.9	1.5	2.2	1.8	2.4	2	2.8	2.6

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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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
				9/16/15	9/16/15	9/16/15	9/16/15	9/16/15	9/16/15	9/23/15	9/23/15	9/23/15
General Minerals												
Alkalinity	mg/l			91	110	130	150	140	160	170	160	150
Anion Sum	meq/l			20	3.3	7.4	8.5	7.1	9.7	9.7	9.7	9.1
Bicarbonate as HCO3	mg/l			110	140	160	180	170	200	210	200	180
Boron	mg/l	1	N	1.1	0.15	0.081	0.13	0.081	0.26	0.27	0.25	0.23
Bromide	ug/l			5800	170	170	200	170	170	170	190	200
Calcium, Total	mg/l			56	11	98	110	91	89	83	81	70
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	3.5	7.3	8.5	7.1	9.6	9.8	9.7	9.2
Chloride	mg/l	500	S	630	25	80	100	78	120	120	120	110
Fluoride	mg/l	2	P	0.73	0.38	0.24	0.24	0.26	0.25	0.25	0.26	0.34
Hardness (Total, as CaCO3)	mg/l			190	30	280	330	280	280	260	260	250
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			1200	40	ND	8.7	1.2	6.1	9.5	5.9	16
Iron, Total	mg/l	0.3	S	7.6	0.059	0.062	0.071	0.072	0.062	ND	ND	ND
Langelier Index - 25 degree	None			-0.48	0.029	0.7	0.86	0.85	0.95	0.89	0.79	0.65
Magnesium, Total	None			12	0.54	10	14	14	14	14	15	18
Manganese, Total	ug/l	50	S	550	50	7.9	10	ND	ND	36	14	36
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	5.7	7.9	6.8	11	16	15	7.1
Nitrate as Nitrogen	mg/l	10	P	ND	ND	1.3	1.8	1.5	2.5	3.7	3.3	1.6
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	0.24	ND	ND	0.17
Potassium, Total	mg/l			2.7	2	3.1	4.9	4.6	5.6	5.5	5.8	5.7
Sodium, Total	mg/l			320	65	34	44	30	89	99	98	94
Sulfate	mg/l	500	S	ND	15	110	120	94	140	130	140	130
Surfactants	mg/l	0.5	S	0.1	0.13	0.066	0.11	0.13	0.11	ND	0.074	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	1300	210	500	550	460	600	570	570	540
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	1.3	1.8	1.5	2.7	3.7	3.3	1.8
Total Organic Carbon	mg/l			6.9	0.76	0.74	1	0.82	1.3	1.3	1.7	2
General Physical Properties												
Apparent Color	ACU	15	S	200	ND	ND	ND	ND	ND	5	5	5
Lab pH	Units			7.2	8.3	7.9	8	8.1	8.1	8.1	8	8
Odor	TON	3	S	67	200	1	2	2	2	2	2	2
Specific Conductance	umho/cm	1600	S	2100	330	730	840	700	950	980	980	930
Turbidity	NTU	5	S	54	0.63	0.85	0.94	1.1	1.2	0.75	0.42	0.83
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	8.5	ND	ND	1.4	ND	ND	1.4	1.2	ND
Barium, Total	ug/l	1000	P	390	100	150	190	150	160	96	82	56
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	2.2	3.8	3.9
Chromium, Total	ug/l	50	P	1.7	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10		ND	ND	1.3	0.075	1	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	33	ND	7.5	ND	ND	5.1	ND	7.5
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	47	ND	ND	38	ND	ND	ND	34	24
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Willowbrook #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/1/15	9/14/15	4/1/15	9/14/15	4/1/15	9/14/15	4/1/15	9/14/15
General Minerals											
Alkalinity	mg/l			180	180	180	170	180	170	190	180
Anion Sum	meq/l			5.5	5.6	5.4	5.2	5.9	5.8	5.9	5.8
Bicarbonate as HCO3	mg/l			210	220	220	210	220	210	230	220
Boron	mg/l	1	N	0.14	0.14	0.12	0.12	0.13	0.12	0.12	0.13
Bromide	ug/l			100	96	98	94	100	100	120	120
Calcium, Total	mg/l			50	51	54	53	59	59	59	60
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	2.3	2.2	ND	ND	ND	ND
Cation Sum	meq/l			5.7	5.7	5.5	5.4	5.9	5.9	5.9	6
Chloride	mg/l	500	S	21	20	21	21	22	22	28	29
Fluoride	mg/l	2	P	0.3	0.34	0.28	0.32	0.38	0.4	0.34	0.39
Hardness (Total, as CaCO3)	mg/l			170	170	180	170	200	200	190	200
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			25	23	27	21	34	22	44	38
Iron, Total	mg/l	0.3	S	0.087	0.092	0.049	ND	0.081	0.089	ND	0.02
Langelier Index - 25 degree	None			0.7	0.6	0.87	0.8	0.76	0.72	0.82	0.73
Magnesium, Total	None			10	11	10	10	13	13	10	11
Manganese, Total	ug/l	50	S	66	63	46	38	30	27	89	76
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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	3.7	2.7	2.8	3.5	3.7	3	3.1
Sodium, Total	mg/l			52	49	43	43	42	42	46	46
Sulfate	mg/l	500	S	66	68	59	57	79	80	65	65
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	330	330	320	310	350	340	340	340
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.81	0.65	0.36	0.34	ND	ND	0.33	0.37
General Physical Properties											
Apparent Color	ACU	15	S	5	5	3	3	3	3	10	25
Lab pH	Units			8.1	8	8.2	8.2	8.1	8.1	8.1	8.1
Odor	TON	3	S	2	67	ND	1	ND	ND	1	2
Specific Conductance	umho/cm	1600	S	550	540	510	510	560	560	570	560
Turbidity	NTU	5	S	1.7	0.39	0.077	0.1	0.24	0.22	5.2	11
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	9.9	9.8	ND	ND	3.3	2.8	5.7	4.2
Barium, Total	ug/l	1000	P	45	50	46	44	70	74	130	120
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		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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Carson #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/26/2015	9/8/2015	3/26/2015	9/8/2015	3/26/2015	9/8/2015	3/26/2015	9/8/2015
General Minerals											
Alkalinity	mg/l			150	140	170	170	170	160	180	180
Anion Sum	meq/l			3.5	3.5	4.1	4	5.3	5.3	6.4	6.4
Bicarbonate as HCO3	mg/l			180	170	210	200	200	200	220	220
Boron	mg/l	1	N	0.094	0.1	0.1	0.1	0.11	0.1	0.13	0.12
Bromide	ug/l			100	100	100	100	110	110	220	220
Calcium, Total	mg/l			20	21	32	32	44	44	51	52
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.9	2.2	3.4	3.3	2.6	2.6	2.3	2.3
Cation Sum	meq/l			3.5	3.7	4.1	4.1	5.3	5.3	6.3	6.5
Chloride	mg/l	500	S	20	21	21	22	22	24	42	46
Fluoride	mg/l	2	P	0.25	0.25	0.21	0.2	0.29	0.28	0.39	0.38
Hardness (Total, as CaCO3)	mg/l			66	69	110	110	160	160	190	200
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			29	23	27	22	39	24	73	74
Iron, Total	mg/l	0.3	S	ND	0.02	0.023	0.021	ND	ND	0.07	0.078
Langelier Index - 25 degree	None			0.48	0.45	0.73	0.72	0.8	0.81	0.76	0.82
Magnesium, Total	None			4	4.1	6.9	7	13	13	15	16
Manganese, Total	ug/l	50	S	20	18	17	14	30	28	96	93
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			2.8	2.9	2.5	2.4	3	2.8	3.5	3.5
Sodium, Total	mg/l			49	51	43	44	46	46	57	58
Sulfate	mg/l	500	S	ND	ND	ND	ND	63	64	72	73
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	210	210	240	240	310	310	370	380
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.96	0.86	0.6	0.53	0.45	0.39	0.54	0.5
General Physical Properties											
Apparent Color	ACU	15	S	10	10	5	3	ND	ND	5	ND
Lab pH	Units			8.4	8.3	8.4	8.4	8.3	8.3	8.2	8.2
Odor	TON	3	S	1	1	1	1	ND	1	1	1
Specific Conductance	umho/cm	1600	S	350	340	390	390	510	510	630	620
Turbidity	NTU	5	S	0.14	0.14	0.11	0.21	0.065	0.078	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	ND	ND
Barium, Total	ug/l	1000	P	13	14	37	38	61	64	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			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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Carson #2									
				Zone 1	Zone 1	Zone 2	Zone 2	Zone 3	Zone 3	Zone 4	Zone 4	Zone 5	Zone 5
				4/16/2015	8/28/2015	4/16/2015	8/28/2015	4/16/2015	8/28/2015	4/16/2015	8/28/2015	4/16/2015	8/28/2015
General Minerals													
Alkalinity	mg/l			160	160	190	190	180	180	190	200	180	170
Anion Sum	meq/l			3.9	3.8	4.5	4.4	4.5	4.4	4.4	4.7	4.6	4.6
Bicarbonate as HCO3	mg/l			200	190	240	230	220	220	230	240	210	210
Boron	mg/l	1	N	0.12	0.15	0.13	0.14	0.12	0.14	0.1	0.12	0.1	0.12
Bromide	ug/l			110	110	98	98	99	100	100	110	94	96
Calcium, Total	mg/l			4.5	3.1	9.6	10	22	25	32	39	39	40
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			4.1	9.8	4.9	6	3.6	3.6	2.4	3.1	2.7	2.7
Cation Sum	meq/l			3.5	4.1	4.4	4.7	4.1	4.7	4.1	5	4.3	4.7
Chloride	mg/l	500	S	19	19	22	22	22	22	24	26	22	22
Fluoride	mg/l	2	P	0.32	0.32	0.24	0.24	0.3	0.28	0.21	0.2	0.28	0.28
Hardness (Total, as CaCO3)	mg/l			14	10	38	40	85	97	120	150	130	140
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			26	25	23	20	21	19	24	20	21	18
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	0.05	0.053
Langelier Index - 25 degree	None			0.04	0.18	0.39	0.53	0.64	0.73	0.67	0.79	0.78	0.75
Magnesium, Total	None			0.78	0.54	3.4	3.6	7.4	8.5	11	13	8.9	9.8
Manganese, Total	ug/l	50	S	3.9	2.6	6	5.7	12	13	8.4	8.2	48	44
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			1.8	1.9	3.8	4.1	3.9	4.5	3.5	4.3	2.9	3.4
Sodium, Total	mg/l			72	89	82	86	53	62	35	43	36	41
Sulfate	mg/l	500	S	ND	ND	ND	ND	8.3	11	ND	ND	23	24
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	210	230	260	260	250	260	250	260	270	270
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.8	1.8	0.98	1	0.75	0.81	0.49	0.48	0.33	0.38
General Physical Properties													
Apparent Color	ACU	15	S	30	25	15	10	10	ND	ND	ND	3	ND
Lab pH	Units			8.5	8.9	8.5	8.6	8.4	8.4	8.2	8.3	8.3	8.3
Odor	TON	3	S	2	1	1	2	2	1	2	67	ND	ND
Specific Conductance	umho/cm	1600	S	370	370	430	430	430	440	420	460	440	450
Turbidity	NTU	5	S	0.18	0.16	0.11	0.1	0.088	0.083	0.07	0.085	0.17	0.18
Metals													
Aluminum, Total	ug/l	1000	P	ND	20	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	2	ND	6	5.8	13	15	17	18	24	24
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			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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Carson #3											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/21/2015	8/19/2015	4/21/2015	8/19/2015	4/21/2015	8/19/2015	4/21/2015	8/19/2015	4/21/2015	8/19/2015	4/21/2015	8/19/2015
General Minerals															
Alkalinity	mg/l			360	350	150	150	160	160	170	160	180	170	180	170
Anion Sum	meq/l			7.4	7.3	3.9	3.8	3.9	3.8	4.1	4	4.1	4.1	5.2	5.1
Bicarbonate as HCO3	mg/l			430	420	180	180	200	190	200	200	210	210	210	210
Boron	mg/l	1	N	0.7	0.68	0.11	0.1	0.11	0.11	0.092	0.093	0.11	0.11	0.13	0.13
Bromide	ug/l			330	340	100	100	110	100	100	100	98	99	95	92
Calcium, Total	mg/l			8.1	8.1	19	20	16	17	24	26	30	31	47	50
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			7	8.6	2.3	2.9	2	3.1	2	2.6	2.2	2.7	ND	2.2
Cation Sum	meq/l			7.4	7.7	3.8	4	3.8	4.1	4	4.3	4.1	4.2	5.2	5.5
Chloride	mg/l	500	S	12	12	20	20	21	21	23	22	21	21	22	20
Fluoride	mg/l	2	P	0.52	0.54	0.24	0.24	0.29	0.3	0.24	0.26	0.26	0.26	0.35	0.37
Hardness (Total, as CaCO3)	mg/l			29	30	62	66	52	56	87	94	110	110	170	180
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			100	130	21	25	27	27	21	24	23	24	20	21
Iron, Total	mg/l	0.3	S	0.052	0.058	ND	ND	ND	ND	ND	ND	ND	ND	0.029	0.028
Langelier Index - 25 degree	None			0.51	0.58	0.37	0.53	0.31	0.49	0.43	0.6	0.56	0.68	0.68	0.77
Magnesium, Total	None			2.2	2.3	3.6	3.9	3	3.3	6.6	7.2	8.1	8.4	12	13
Manganese, Total	ug/l	50	S	17	17	15	15	33	34	48	46	20	22	49	45
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			2.7	2.6	3	3.4	3.2	3.5	3.9	4.4	2.9	3.1	3.4	3.8
Sodium, Total	mg/l			150	160	56	59	62	66	50	53	42	43	40	42
Sulfate	mg/l	500	S	ND	ND	13	13	0.99	0.77	4.9	3.6	ND	ND	54	53
Surfactants	mg/l	0.5	S	0.051	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	450	460	220	220	220	210	230	230	230	230	300	300
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			13	12	0.84	0.86	1.3	1.1	0.92	0.86	0.44	0.43	ND	ND
General Physical Properties															
Apparent Color	ACU	15	S	150	120	10	10	15	15	5	5	5	5	ND	ND
Lab pH	Units			8.4	8.5	8.3	8.4	8.2	8.4	8.2	8.3	8.2	8.3	8.1	8.2
Odor	TON	3	S	2	4	2	2	1	2	1	2	ND	2	1	1
Specific Conductance	umho/cm	1600	S	690	690	380	380	380	380	400	390	400	400	500	500
Turbidity	NTU	5	S	0.4	0.27	0.14	0.15	0.15	0.18	0.095	0.12	0.082	0.15	0.6	0.51
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	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	1.1
Barium, Total	ug/l	1000	P	7	7.3	16	15	17	17	22	21	28	30	59	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			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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Chandler #3			
				Zone 1		Zone 2	
				4/16/2015	9/17/2015	4/16/2015	9/17/2015
General Minerals							
Alkalinity	mg/l			360	350	380	380
Anion Sum	meq/l			13	13	16	16
Bicarbonate as HCO3	mg/l			440	420	470	460
Boron	mg/l	1	N	0.18	0.2	0.26	0.31
Bromide	ug/l			740	740	700	660
Calcium, Total	mg/l			95	100	140	150
Carbon Dioxide	mg/l			ND	ND	ND	ND
Carbonate as CO3	mg/l			2.8	3.4	3	ND
Cation Sum	meq/l			12	13	15	16
Chloride	mg/l	500	S	180	190	210	220
Fluoride	mg/l	2	P	0.2	0.21	0.16	0.17
Hardness (Total, as CaCO3)	mg/l			350	370	530	560
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND
Iodide	mg/l			ND	67	1.3	1.3
Iron, Total	mg/l	0.3	S	0.2	0.23	ND	0.039
Langelier Index - 25 degree	None			1.2	1.3	1.4	0.93
Magnesium, Total	None			28	30	44	45
Manganese, Total	ug/l	50	S	97	93	10	12
Mercury	ug/l	2	P	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	50	53
Nitrate as Nitrogen	mg/l	10	P	ND	ND	11	12
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND
Potassium, Total	mg/l			3.7	4.2	3.1	3.5
Sodium, Total	mg/l			110	130	98	110
Sulfate	mg/l	500	S	31	37	77	91
Surfactants	mg/l	0.5	S	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	720	730	940	920
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	11	12
Total Organic Carbon	mg/l			1.1	0.98	0.69	0.66
General Physical Properties							
Apparent Color	ACU	15	S	10	10	5	10
Lab pH	Units			8	8.1	8	7.5
Odor	TON	3	S	ND	1	2	ND
Specific Conductance	umho/cm	1600	S	1200	1200	1500	1600
Turbidity	NTU	5	S	1.1	1.8	2.4	7.6
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	4.1	2.2	1.9
Barium, Total	ug/l	1000	P	36	39	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	1.3	2.1	2.1
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	1.5	1.8
Lead, Total	ug/l	15	P	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	100	120
Selenium, Total	ug/l	50	P	ND	ND	28	21
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
Perchlorate	ug/l	6	P	ND	ND	3.4	2.9

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Gardena #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				5/7/2015	8/20/2015	5/7/2015	8/20/2015	5/7/2015	8/20/2015	5/7/2015	8/20/2015
General Minerals											
Alkalinity	mg/l			270	270	180	180	170	160	210	200
Anion Sum	meq/l			5.9	5.8	5.5	5.2	5.4	5.5	39	40
Bicarbonate as HCO3	mg/l			330	320	210	220	200	200	250	250
Boron	mg/l	1	N	0.36	0.32	0.12	0.12	0.11	0.12	0.13	0.12
Bromide	ug/l			140	130	140	100	110	100	3000	2900
Calcium, Total	mg/l			14	13	52	47	52	50	430	400
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			3.4	4.1	ND	2.3	ND	ND	ND	ND
Cation Sum	meq/l			5.8	5.4	5.3	4.9	5.3	5.3	38	36
Chloride	mg/l	500	S	18	18	27	22	23	24	1200	1200
Fluoride	mg/l	2	P	0.19	0.21	0.39	0.41	0.38	0.38	0.14	0.16
Hardness (Total, as CaCO3)	mg/l			65	60	180	160	180	170	1600	1500
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			32	35	36	24	20	25	ND	ND
Iron, Total	mg/l	0.3	S	0.22	0.12	0.055	0.05	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.45	0.49	0.62	0.75	0.59	0.64	1	1
Magnesium, Total	None			7.2	6.6	11	10	11	11	130	120
Manganese, Total	ug/l	50	S	45	44	52	57	42	41	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	92	92
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	21	21
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			11	10	3.3	3.2	3	3.2	7	6.9
Sodium, Total	mg/l			97	90	40	37	41	41	130	120
Sulfate	mg/l	500	S	ND	ND	55	42	69	70	50	54
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.073	0.11
Total Dissolved Solid (TDS)	mg/l	1000	S	330	340	350	330	340	340	3600	2900
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	21	21
Total Organic Carbon	mg/l			2.3	2.7	0.32	0.34	0.41	0.34	0.31	0.37
General Physical Properties											
Apparent Color	ACU	15	S	25	30	3	10	5	5	10	5
Lab pH	Units			8.2	8.3	8	8.2	8	8.1	7.4	7.4
Odor	TON	3	S	2	3	2	2	1	2	1	2
Specific Conductance	umho/cm	1600	S	570	570	530	500	530	530	4100	4000
Turbidity	NTU	5	S	11	1.6	3.1	24	5.2	12	11	3.3
Metals											
Aluminum, Total	ug/l	1000	P	36	ND	20	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	29	31	ND	ND	ND	ND	ND	11
Barium, Total	ug/l	1000	P	15	14	51	48	27	27	400	470
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	2.3
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	6.7	7.7
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	ND	ND	7.2	7.1
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	0.63
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	19
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	19
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	12	11

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Gardena #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/27/2015	8/26/2015	4/27/2015	8/26/2015	4/27/2015	8/26/2015	4/27/2015	8/26/2015	4/27/2015	8/26/2015
General Minerals													
Alkalinity	mg/l			280	280	180	180	180	170	170	170	200	190
Anion Sum	meq/l			6.1	6	5.5	5.3	5.3	5.2	4.1	4	5.2	5.1
Bicarbonate as HCO3	mg/l			350	340	220	210	210	210	210	200	240	230
Boron	mg/l	1	N	0.31	0.32	0.16	0.16	0.13	0.13	0.094	0.12	0.13	0.13
Bromide	ug/l			120	120	100	99	100	100	100	100	150	140
Calcium, Total	mg/l			15	16	37	37	46	46	29	28	47	47
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			4.5	5.6	2.3	2.2	2.2	ND	2.2	2	3.1	3
Cation Sum	meq/l			6	6.1	5.3	5.3	5.2	5.2	4	3.9	5.2	5.2
Chloride	mg/l	500	S	13	13	23	22	23	23	22	22	41	42
Fluoride	mg/l	2	P	0.25	0.24	0.26	0.26	0.38	0.37	0.28	0.27	0.29	0.29
Hardness (Total, as CaCO3)	mg/l			62	65	140	140	160	160	110	100	160	160
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			28	29	23	20	26	17	21	22	23	22
Iron, Total	mg/l	0.3	S	0.025	0.027	0.032	0.036	0.042	0.044	0.064	0.057	0.034	0.031
Langelier Index - 25 degree	None			0.6	0.67	0.63	0.63	0.75	0.67	0.51	0.51	0.87	0.89
Magnesium, Total	None			6.1	6	12	12	12	11	8.8	8.3	11	10
Manganese, Total	ug/l	50	S	24	25	28	28	39	38	44	48	52	52
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			5.5	5.2	6	5.6	3.8	3.6	3.2	3	3.1	3
Sodium, Total	mg/l			100	110	54	53	42	43	41	40	44	44
Sulfate	mg/l	500	S	ND	ND	58	58	52	52	ND	ND	4.5	4.4
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	340	340	320	320	310	310	240	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			3.4	3.2	0.75	0.67	0.55	0.42	0.73	0.6	0.44	0.3
General Physical Properties													
Apparent Color	ACU	15	S	30	30	5	5	3	5	5	5	ND	ND
Lab pH	Units			8.3	8.4	8.2	8.2	8.2	8.1	8.2	8.2	8.3	8.3
Odor	TON	3	S	2	17	2	2	1	ND	1	1	2	200
Specific Conductance	umho/cm	1600	S	580	570	530	530	510	510	390	390	510	510
Turbidity	NTU	5	S	0.67	0.42	0.088	0.14	0.11	0.13	0.14	0.13	18	14
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	19	20	19	18	21	21	39	39	86	88
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			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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Hawthorne #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/22/2015	9/28/2015	4/22/2015	9/28/2015	4/22/2015	9/28/2015	4/22/2015	9/28/2015	4/22/2015	9/28/2015	4/22/2015	9/28/2015
General Minerals															
Alkalinity	mg/l			700	680	660	650	480	460	300	290	190	200	300	280
Anion Sum	meq/l			15	15	14	14	11	11	7.4	7.2	13	14	23	22
Bicarbonate as HCO3	mg/l			840	830	800	790	580	560	360	360	240	240	370	340
Boron	mg/l	1	N	1.4	1.4	1.1	1.1	0.64	0.58	0.31	0.35	0.12	0.12	0.24	0.21
Bromide	ug/l			260	270	280	310	280	300	230	230	790	850	1100	1000
Calcium, Total	mg/l			15	16	14	16	35	34	33	34	110	120	200	180
Carbon Dioxide	mg/l			ND	5.4	ND	8.2	ND	4.6	ND	4.7	ND	3.9	ND	18
Carbonate as CO3	mg/l			8.6	14	10	8.1	6	7.3	3.7	2.9	ND	ND	ND	ND
Cation Sum	meq/l			15	16	15	15	11	11	7.1	7.8	12	14	24	22
Chloride	mg/l	500	S	46	47	43	43	50	55	50	48	290	310	440	410
Fluoride	mg/l	2	P	0.11	0.095	0.23	0.23	0.22	0.21	0.36	0.37	0.28	0.26	0.25	0.24
Hardness (Total, as CaCO3)	mg/l			91	93	76	81	190	180	140	150	420	470	750	670
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			66	20	93	2.4	69	80	43	46	36	51	95	130
Iron, Total	mg/l	0.3	S	0.19	0.18	0.14	0.14	0.18	0.17	0.059	0.074	ND	0.026	1.2	0.16
Langelier Index - 25 degree	None			0.81	1	0.92	0.85	1	1.1	0.8	0.71	0.91	1	1.2	0.84
Magnesium, Total	None			13	13	10	10	24	23	15	16	36	42	61	54
Manganese, Total	ug/l	50	S	13	14	51	53	55	46	31	31	120	120	480	420
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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	16	15	15	14	8.4	9.4	6.9	8.1	6.8	5.9
Sodium, Total	mg/l			300	300	310	310	160	160	93	100	76	89	200	180
Sulfate	mg/l	500	S	ND	ND	0.53	1	ND	ND	ND	ND	29	49	220	250
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	0.08	ND	0.055	ND	ND	0.15	0.19
Total Dissolved Solid (TDS)	mg/l	1000	S	880	850	840	840	610	600	420	410	920	930	1300	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			13	13	13	15	5.6	5.3	2.3	2.5	0.88	0.86	1.8	1.9
General Physical Properties															
Apparent Color	ACU	15	S	200	200	300	500	50	100	20	33	3	5	10	5
Lab pH	Units			8.2	8.4	8.3	8.2	8.2	8.3	8.2	8.1	7.9	8	7.7	7.5
Odor	TON	3	S	2	2	4	2	2	2	2	2	2	2	1	40
Specific Conductance	umho/cm	1600	S	1400	1400	1300	1300	1000	1000	710	710	1300	1400	2200	2200
Turbidity	NTU	5	S	0.28	0.22	4	0.33	0.16	0.14	0.28	0.1	0.14	0.16	13	1.5
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	660	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	1.1	ND	ND	ND	ND	ND	ND	ND	3.1	ND
Barium, Total	ug/l	1000	P	32	32	28	29	35	30	28	28	100	110	53	44
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	15	2
Chromium, Total	ug/l	50	P	ND	ND	1.6	1.6	ND	ND	ND	ND	ND	ND	1.2	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	0.025	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	5.4	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	1.4	2.6
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	0.77	0.87
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	0.59	0.61
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	11	19
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Inglewood #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/9/2015	9/2/2015	4/9/2015	9/2/2015	4/9/2015	9/1/2015	4/9/2015	9/1/2015	4/9/2015	9/1/2015
General Minerals													
Alkalinity	mg/l			1400	1400	390	630	330	330	230	230	350	350
Anion Sum	meq/l			73	75	24	34	22	23	15	15	23	24
Bicarbonate as HCO3	mg/l			1700	1700	470	770	400	400	280	280	430	420
Boron	mg/l	1	N	10	10	0.37	1.6	0.43	0.51	0.19	0.21	0.26	0.3
Bromide	ug/l			16000	16000	1800	4600	4000	4000	1400	1200	1600	1600
Calcium, Total	mg/l			67	55	180	180	160	160	110	110	200	200
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			22	8.8	ND	ND	2.6	ND	2.3	ND	ND	ND
Cation Sum	meq/l			72	73	23	34	22	23	14	15	23	24
Chloride	mg/l	500	S	1600	1700	400	650	440	470	280	280	400	430
Fluoride	mg/l	2	P	0.29	0.3	0.22	0.29	0.44	0.41	0.38	0.37	0.22	0.2
Hardness (Total, as CaCO3)	mg/l			330	290	730	730	650	680	470	480	800	820
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			5400	5200	150	180	960	960	90	95	1.9	5
Iron, Total	mg/l	0.3	S	2.4	2	ND	12	0.51	0.57	0.38	0.4	ND	ND
Langelier Index - 25 degree	None			1.9	1.4	1.2	0.99	1.3	1.1	1.2	0.94	1.1	0.91
Magnesium, Total	None			40	37	69	68	62	68	48	51	73	77
Manganese, Total	ug/l	50	S	22	24	78	160	440	430	230	220	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	1.7	ND	ND	ND	ND	ND	55	57
Nitrate as Nitrogen	mg/l	10	P	ND	ND	0.39	ND	ND	ND	ND	ND	12	13
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			33	36	9.8	17	8.2	8.2	9.9	10	9	8.9
Sodium, Total	mg/l			1500	1500	170	440	200	220	100	100	150	160
Sulfate	mg/l	500	S	ND	ND	220	160	160	170	100	110	200	210
Surfactants	mg/l	0.5	S	ND	0.19	ND	0.074	0.062	ND	ND	ND	ND	0.064
Total Dissolved Solid (TDS)	mg/l	1000	S	4100	4100	1300	1900	1300	1300	860	860	1400	1400
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	0.39	ND	ND	ND	ND	ND	12	13
Total Organic Carbon	mg/l			7.9	8.8	1.7	12	1.4	1.4	0.63	0.67	1	1
General Physical Properties													
Apparent Color	ACU	15	S	300	500	5	300	15	15	10	15	ND	ND
Lab pH	Units			8.3	7.9	7.7	7.3	8	7.8	8.1	7.9	7.7	7.4
Odor	TON	3	S	8	3	2	40	1	2	1	2	ND	2
Specific Conductance	umho/cm	1600	S	7000	7000	2300	3200	2200	2200	1500	1400	2300	2200
Turbidity	NTU	5	S	2	1.6	0.19	150	3.7	3.7	1.8	1.9	0.12	1.3
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	2.2	ND	46	ND	1.5	ND	1.1	ND	2
Barium, Total	ug/l	1000	P	190	210	190	240	50	53	120	120	210	200
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	1.7	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	0.4	0.48
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	7.9	ND	5.6	7.9	ND	5.4	7.4	10
Selenium, Total	ug/l	50	P	75	9.3	11	ND	23	29	6.7	8.2	17	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	0.52	0.6
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	0.57	ND	0.67	0.51	ND	ND	ND	ND	0.69	0.68
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	3	2.8

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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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	
				4/29/2015	9/16/2015	4/29/2015	9/16/2015	4/29/2015	9/16/2015	4/29/2015	9/16/2015	4/29/2015	9/16/2015	4/29/2015	9/16/2015	4/29/2015	9/16/2015
General Minerals																	
Alkalinity	mg/l			690	670	1100	1100	550	540	790	780	470	430	200	200	240	230
Anion Sum	meq/l			46	47	23	23	11	11	16	16	12	11	8.1	8.4	17	17
Bicarbonate as HCO3	mg/l			830	820	1300	1300	660	660	960	950	570	520	240	240	280	280
Boron	mg/l	1	N	4.2	4.2	5.3	5.2	1.2	1.2	2.2	2.2	0.64	0.58	0.11	0.12	0.1	0.11
Bromide	ug/l			8800	8600	1700	1700	140	150	160	160	550	620	480	490	1300	1300
Calcium, Total	mg/l			21	21	11	10	5.6	5.6	15	14	52	54	68	75	170	180
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			14	5.3	34	13	17	8.6	20	7.8	7.4	3.4	2.5	ND	2.3	ND
Cation Sum	meq/l			44	45	24	23	11	11	17	16	12	12	7.9	8.7	17	18
Chloride	mg/l	500	S	1100	1200	53	54	15	15	26	27	88	99	140	150	400	420
Fluoride	mg/l	2	P	0.45	0.48	0.48	0.52	0.22	0.24	0.2	0.22	0.23	0.25	0.31	0.31	0.35	0.35
Hardness (Total, as CaCO3)	mg/l			98	100	53	50	26	27	79	76	200	210	260	290	630	670
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			2500	3100	190	460	ND	42	57	53	160	180	44	93	68	61
Iron, Total	mg/l	0.3	S	0.18	0.21	0.53	0.53	0.16	0.14	0.37	0.4	0.047	0.052	0.041	0.022	0.13	0.13
Langelier Index - 25 degree	None			1.1	0.84	1.3	0.92	0.67	0.45	1.2	0.78	1.4	0.96	0.96	0.77	1.4	1
Magnesium, Total	None			11	12	6.3	6.2	3	3.1	10	10	18	18	22	24	51	54
Manganese, Total	ug/l	50	S	55	54	23	23	19	20	34	35	45	56	110	120	330	380
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			18	18	14	13	7.3	7.1	18	17	12	12	6.9	7.4	6.9	7.6
Sodium, Total	mg/l			960	980	510	490	250	240	340	320	180	170	57	63	93	98
Sulfate	mg/l	500	S	0.58	ND	0.83	0.58	0.93	0.64	ND	ND	ND	ND	8.6	10	44	47
Surfactants	mg/l	0.5	S	0.078	0.11	ND	ND	ND	ND	ND	ND	ND	0.068	0.093	0.37	0.53	
Total Dissolved Solid (TDS)	mg/l	1000	S	2600	2700	1500	1600	680	710	980	1000	650	690	480	500	1200	1400
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			8	25	97	96	11	15	18	24	4.6	3.3	1.3	1.4	4.6	4.5
General Physical Properties																	
Apparent Color	ACU	15	S	200	250	1500	1500	400	500	1000	1000	40	25	5	3	5	5
Lab pH	Units			8.4	8	8.6	8.2	8.6	8.3	8.5	8.1	8.3	8	8.2	8	8.1	7.8
Odor	TON	3	S	2	17	2	8	2	4	2	4	1	2	1	2	8	17
Specific Conductance	umho/cm	1600	S	4600	4600	2100	2100	1100	1000	1500	1500	1100	1100	840	860	1800	1800
Turbidity	NTU	5	S	0.3	0.38	0.51	0.52	0.66	0.71	0.36	0.42	0.12	0.16	0.1	0.11	0.55	0.73
Metals																	
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	22	23	33	28	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	1.9	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
Arsenic, Total	ug/l	10	P	1.8	1.6	ND	1.1	1.4	1.5	2.3	1.9	ND	ND	ND	ND	2.1	2.5
Barium, Total	ug/l	1000	P	61	63	25	28	13	14	40	39	48	55	65	73	200	230
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	5.5	2.1	2	2.4	2.1	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	1.8	4	1.1	ND	1.8	1.5	ND	ND	ND	ND	ND	1.3
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	0.046	0.044	0.027	0.022	0.039	0.039	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	5.8	ND	15	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	5.4
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	1.9	1.6
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	47	46
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	15	14
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	0.78	0.83
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Lawndale #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/21/2015	8/27/2015	4/21/2015	8/27/2015	4/21/2015	8/27/2015	4/21/2015	8/27/2015	4/21/2015	8/27/2015	4/21/2015	8/27/2015
General Minerals															
Alkalinity	mg/l			470	450	610	600	250	250	200	190	190	180	240	220
Anion Sum	meq/l			9.8	9.4	13	13	5.8	5.9	6.7	6.6	6.7	6.8	24	23
Bicarbonate as HCO3	mg/l			570	540	740	730	300	300	240	230	230	220	300	270
Boron	mg/l	1	N	0.91	0.9	1.2	1.2	0.18	0.2	0.11	0.12	0.099	0.11	0.35	0.32
Bromide	ug/l			400	380	200	200	140	120	200	200	200	200	670	1300
Calcium, Total	mg/l			11	11	5.1	5.9	16	15	46	48	52	52	180	180
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			7.4	8.8	9.6	9.5	3.1	3.9	2	ND	ND	ND	ND	ND
Cation Sum	meq/l			9.8	9.7	13	14	5.8	6	6.5	6.4	6.6	6.7	22	22
Chloride	mg/l	500	S	15	15	30	31	27	26	60	61	58	62	540	540
Fluoride	mg/l	2	P	0.43	0.41	0.31	0.25	0.31	0.31	0.38	0.37	0.43	0.44	0.24	0.23
Hardness (Total, as CaCO3)	mg/l			42	42	28	32	79	74	180	190	200	200	650	650
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			48	64	ND	ND	36	28	34	29	26	29	21	31
Iron, Total	mg/l	0.3	S	0.097	0.075	0.096	0.11	0.022	0.023	0.057	0.058	0.029	0.031	ND	ND
Langelier Index - 25 degree	None			0.64	0.67	0.47	0.53	0.47	0.47	0.7	0.68	0.73	0.73	1.2	0.98
Magnesium, Total	None			3.6	3.6	3.6	4.1	9.5	8.8	17	17	17	17	49	48
Manganese, Total	ug/l	50	S	14	14	35	41	31	37	74	81	67	76	210	180
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	12
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	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			5.9	5.9	9	9.5	9.2	9.1	5.2	4.9	5	5	8.2	7.9
Sodium, Total	mg/l			200	200	290	300	92	98	62	56	57	58	200	200
Sulfate	mg/l	500	S	0.54	ND	ND	ND	5.4	7.3	51	52	61	62	150	140
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.087	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	560	560	750	770	350	350	400	380	400	400	1500	1600
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	2.7
Total Organic Carbon	mg/l			12	11	12	8	2.5	2.5	0.84	0.54	0.58	1.1	0.6	0.55
General Physical Properties															
Apparent Color	ACU	15	S	100	100	250	250	10	15	5	5	3	5	ND	ND
Lab pH	Units			8.3	8.4	8.3	8.3	8.2	8.3	8.1	8.1	8.1	8.1	7.9	7.7
Odor	TON	3	S	2	2	1	2	1	2	1	1	1	1	2	1
Specific Conductance	umho/cm	1600	S	900	880	1200	1200	560	580	650	650	660	670	2300	2300
Turbidity	NTU	5	S	4.4	0.42	0.55	0.62	0.14	0.23	0.16	0.14	0.08	0.12	0.11	0.12
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	32	26	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	1.1	2.9	1.5	ND	ND	2.2	2	ND	ND	3.4	4.2
Barium, Total	ug/l	1000	P	11	13	13	15	12	14	25	26	88	100	110	91
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	2.3	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	1	1	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	0.022	0.054	ND	ND	ND	ND	ND	ND	0.18	0.17
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	9.6	9.4
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	11
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	1.8	1.3
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.3	3.6

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Lomita #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/30/2015	9/17/2015	3/30/2015	9/17/2015	3/30/2015	9/17/2015	3/30/2015	9/17/2015	3/30/2015	9/17/2015
General Minerals													
Alkalinity	mg/l			290	270	290	280	360	360	320	300	290	280
Anion Sum	meq/l			29	29	26	28	17	17	14	20	28	30
Bicarbonate as HCO3	mg/l			350	330	350	340	440	430	390	370	360	350
Boron	mg/l	1	N	0.52	0.54	0.49	0.54	0.47	0.49	0.48	0.54	0.55	0.59
Bromide	ug/l			8200	8000	7300	7100	3200	2800	2800	4400	8400	7900
Calcium, Total	mg/l			230	220	210	210	120	110	110	140	240	230
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.3	ND	ND	ND	2.3	3.5	2.5	2.4	ND	ND
Cation Sum	meq/l			28	28	26	26	17	17	16	19	29	28
Chloride	mg/l	500	S	820	830	700	770	320	330	280	490	780	850
Fluoride	mg/l	2	P	0.1	0.11	0.11	0.11	0.14	0.15	0.22	0.18	0.086	0.091
Hardness (Total, as CaCO3)	mg/l			840	810	760	770	440	400	400	510	870	850
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			1400	1600	1200	1400	290	450	230	890	1500	1500
Iron, Total	mg/l	0.3	S	0.13	0.12	0.16	0.17	0.09	0.055	0.045	0.19	0.15	0.16
Langelier Index - 25 degree	None			1.4	1.3	1.1	1.3	1.1	1.3	1.2	1.3	1.2	1.3
Magnesium, Total	None			64	63	58	60	34	31	31	38	66	66
Manganese, Total	ug/l	50	S	440	180	340	420	170	70	150	87	400	480
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	0.8	ND	2.5	1.1	ND	ND	0.89	0.56
Nitrate as Nitrogen	mg/l	10	P	ND	ND	0.18	ND	0.57	0.25	ND	ND	0.2	0.13
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			16	16	15	16	11	11	10	12	16	16
Sodium, Total	mg/l			250	250	230	240	200	200	180	200	250	250
Sulfate	mg/l	500	S	23	22	29	28	32	26	8	16	30	31
Surfactants	mg/l	0.5	S	ND	0.08	0.054	0.093	0.054	0.059	ND	0.064	0.075	0.069
Total Dissolved Solid (TDS)	mg/l	1000	S	2000	2500	1800	2300	970	980	850	1400	2000	2000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	0.18	ND	0.57	0.25	ND	ND	0.2	0.13
Total Organic Carbon	mg/l			1	1	1	0.9	3.5	3.6	3.8	2.1	0.94	0.87
General Physical Properties													
Apparent Color	ACU	15	S	5	10	10	10	25	30	35	30	10	5
Lab pH	Units			8	7.9	7.7	7.9	7.9	8.1	8	8	7.7	7.8
Odor	TON	3	S	2	200	1	2	1	17	1	2	ND	2
Specific Conductance	umho/cm	1600	S	3000	2900	2700	2800	1800	1700	1500	2100	3000	3000
Turbidity	NTU	5	S	11	14	2	2.1	1.8	2.3	1.2	1	0.75	0.83
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	3.5	ND	2.9	1.1	1.3	ND	1.7	ND	3	1
Barium, Total	ug/l	1000	P	120	53	120	140	62	28	60	36	130	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	ND	ND	ND	1.1
Hexavalent Chromium (Cr VI)	ug/l			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	28	ND	20	32	9.4	ND	8.9	ND	23	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			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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Long Beach #3									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/6/2015	9/29/2015	4/6/2015	9/29/2015	4/6/2015	9/29/2015	4/6/2015	9/29/2015	4/6/2015	9/29/2015
General Minerals													
Alkalinity	mg/l			380	360	140	130	160	150	120	120	140	140
Anion Sum	meq/l			8	7.8	3.8	3.7	4	3.9	32	32	35	36
Bicarbonate as HCO3	mg/l			450	440	160	160	190	180	150	140	170	170
Boron	mg/l	1	N	0.38	0.39	0.12	0.13	0.12	0.14	0.1	0.12	0.1	0.11
Bromide	ug/l			210	220	110	110	220	210	8200	7900	8800	8600
Calcium, Total	mg/l			11	12	16	16	19	19	330	370	400	430
Carbon Dioxide	mg/l			2.3	ND	ND	ND	ND	ND	3.9	3.6	4.4	3.5
Carbonate as CO3	mg/l			9.2	11	3.3	3.3	2.5	2.9	ND	ND	ND	ND
Cation Sum	meq/l			7.9	8.4	3.8	3.7	4	3.9	30	32	34	35
Chloride	mg/l	500	S	18	17	20	20	32	31	980	1000	1100	1100
Fluoride	mg/l	2	P	0.47	0.5	0.34	0.34	0.3	0.31	0.14	0.14	0.14	0.14
Hardness (Total, as CaCO3)	mg/l			42	45	51	52	61	62	1200	1300	1400	1500
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			58	50	32	25	55	46	2400	ND	3100	ND
Iron, Total	mg/l	0.3	S	0.042	0.046	ND	ND	0.026	0.029	0.24	0.26	0.32	0.32
Langelier Index - 25 degree	None			0.76	0.84	0.45	0.46	0.45	0.48	1	1.1	1.2	1.3
Magnesium, Total	None			3.5	3.6	2.8	3	3.4	3.6	91	97	95	96
Manganese, Total	ug/l	50	S	11	13	7.6	7.6	11	10	340	300	470	410
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			3.7	3.8	1.9	2	2.4	2.3	13	13	10	10
Sodium, Total	mg/l			160	170	61	60	61	60	130	120	130	120
Sulfate	mg/l	500	S	ND	ND	24	23	ND	ND	73	72	80	80
Surfactants	mg/l	0.5	S	ND	0.12	ND	0.074	ND	0.064	0.064	0.14	0.16	0.16
Total Dissolved Solid (TDS)	mg/l	1000	S	460	450	220	210	240	220	2000	2300	2300	2400
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			8.1	7.2	1.3	1.2	2.4	2.2	0.64	0.64	0.69	0.68
General Physical Properties													
Apparent Color	ACU	15	S	100	100	15	10	20	25	5	10	10	10
Lab pH	Units			8.5	8.6	8.5	8.5	8.3	8.4	7.8	7.8	7.8	7.9
Odor	TON	3	S	1	2	2	2	2	2	2	2	1	2
Specific Conductance	umho/cm	1600	S	760	740	380	380	400	390	3500	3400	3900	3700
Turbidity	NTU	5	S	0.55	1	0.088	1.4	0.1	0.16	1.5	1.5	2.3	2.1
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	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	8.3	10	14	15	7.5	8	100	120	200	200
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			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	11	ND	14	5.4
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	41	18	50	19
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Long Beach #8					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				8/10/2015	8/10/2015	8/10/2015	8/10/2015	8/10/2015	8/10/2015
General Minerals									
Alkalinity	mg/l			520	440	600	380	300	200
Anion Sum	meq/l			11	9.9	15	24	19	21
Bicarbonate as HCO3	mg/l			620	530	730	470	360	250
Boron	mg/l	1	N	1.2	0.8	1.3	1	0.57	0.23
Bromide	ug/l			330	420	680	4200	3200	2400
Calcium, Total	mg/l			7.3	9	9.9	45	59	150
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			16	14	19	6.1	4.7	ND
Cation Sum	meq/l			11	10	14	23	18	22
Chloride	mg/l	500	S	22	36	90	590	450	590
Fluoride	mg/l	2	P	0.78	0.81	0.55	0.22	0.19	0.54
Hardness (Total, as CaCO3)	mg/l			27	36	45	250	260	620
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	mg/l			65	120	90	1200	870	69
Iron, Total	mg/l	0.3	S	0.17	0.16	0.2	0.18	0.3	2.3
Langelier Index - 25 degree	None			0.86	0.8	1	1.2	1.2	1
Magnesium, Total	None			2.1	3.2	5	34	27	59
Manganese, Total	ug/l	50	S	15	23	24	15	49	440
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			1.6	3.6	6.9	11	9.1	8.7
Sodium, Total	mg/l			250	220	310	410	280	220
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	31
Surfactants	mg/l	0.5	S	0.061	ND	ND	0.08	0.076	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	710	620	920	1400	1000	1200
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			17	19	28	19	14	2.2
General Physical Properties									
Apparent Color	ACU	15	S	500	500	500	100	100	50
Lab pH	Units			8.6	8.6	8.6	8.3	8.3	8
Odor	TON	3	S	17	4	4	2	2	17
Specific Conductance	umho/cm	1600	S	1000	940	1400	2400	1900	2200
Turbidity	NTU	5	S	0.66	0.53	0.61	0.27	12	54
Metals									
Aluminum, Total	ug/l	1000	P	23	ND	ND	ND	38	870
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.2	ND	1.1	ND	ND	ND
Barium, Total	ug/l	1000	P	8	8.5	14	20	19	96
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	2.3	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	1.1	ND	1.9	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.045	0.044	0.061	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
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	ND
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	ND
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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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
				6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
General Minerals										
Alkalinity	mg/l			560	440	890	470	120	150	130
Anion Sum	meq/l			120	48	21	10	410	140	10
Bicarbonate as HCO3	mg/l			680	530	1100	570	150	190	150
Boron	mg/l	1	N	14	6.4	3.9	0.39	ND	ND	0.2
Bromide	ug/l			27000	9200	2200	310	43000	14000	330
Calcium, Total	mg/l			48	32	16	25	1800	940	49
Carbon Dioxide	mg/l			ND	ND	14	5.9	ND	ND	3.1
Carbonate as CO3	mg/l			5.6	2.7	9	5.9	ND	ND	ND
Cation Sum	meq/l			120	48	23	10	370	130	11
Chloride	mg/l	500	S	4000	1400	120	35	13000	4200	130
Fluoride	mg/l	2	P	0.76	0.58	0.36	0.21	0.081	0.14	0.3
Hardness (Total, as CaCO3)	mg/l			270	140	93	100	8400	3500	180
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			5900	2400	720	120	230	50	36
Iron, Total	mg/l	0.3	S	0.65	0.2	0.23	0.082	4.5	1.8	ND
Langelier Index - 25 degree	None			1.2	0.66	0.89	0.9	1.1	1.3	0.36
Magnesium, Total	None			37	14	13	10	940	280	15
Manganese, Total	ug/l	50	S	63	50	40	92	970	1500	60
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	10
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	2.3
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			22	18	28	9.9	110	38	6
Sodium, Total	mg/l			2700	1000	460	190	4600	1400	160
Sulfate	mg/l	500	S	ND	ND	1.3	ND	1700	590	190
Surfactants	mg/l	0.5	S			0.081	ND	0.27	0.14	ND
Total Dissolved Solid (TDS)	mg/l	1000	S		2600	1300	580	28000	11000	620
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	2.3
Total Organic Carbon	mg/l					42	4.9	1.4	0.49	1.4
General Physical Properties										
Apparent Color	ACU	15	S			250	35	50	25	10
Lab pH	Units			8.1	7.9	8.1	8.2	7.2	7.5	7.9
Odor	TON	3	S			2	2	2	2	2
Specific Conductance	umho/cm	1600	S	13000	5000	2000	980	34000	13000	1000
Turbidity	NTU	5	S	1.2	7.1	0.59	0.13	42	20	1.5
Metals										
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	1.5	9.1	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	4	1	ND	ND	ND	ND	4.5
Barium, Total	ug/l	1000	P	620	180	83	56	170	250	18
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	2.5	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	1.9	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	0.031	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	ND	ND	ND	ND	140	59	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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	1.3

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	PM-3 Madrid							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/13/2015	8/31/2015	4/13/2015	8/31/2015	4/13/2015	8/31/2015	4/13/2015	8/31/2015
General Minerals											
Alkalinity	mg/l			310	300	190	190	190	190	220	210
Anion Sum	meq/l			6.9	6.7	10	11	10	10	17	17
Bicarbonate as HCO3	mg/l			380	360	230	230	230	230	270	260
Boron	mg/l	1	N	0.34	0.38	0.17	0.19	0.2	0.22	0.41	0.44
Bromide	ug/l			120	120	1000	1100	1400	1400	1800	1800
Calcium, Total	mg/l			11	12	85	86	85	89	130	130
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			6.2	4.7	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.8	7.2	10	11	10	11	16	17
Chloride	mg/l	500	S	24	24	240	240	230	240	370	380
Fluoride	mg/l	2	P	0.29	0.28	0.32	0.28	0.32	0.31	0.29	0.28
Hardness (Total, as CaCO3)	mg/l			65	71	320	320	320	330	490	490
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			35	30	120	130	230	120	210	210
Iron, Total	mg/l	0.3	S	0.043	0.053	0.18	0.21	0.1	0.12	0.56	0.52
Langelier Index - 25 degree	None			0.58	0.52	0.71	0.78	0.68	0.8	0.72	0.93
Magnesium, Total	None			9.1	9.9	26	27	25	27	40	41
Manganese, Total	ug/l	50	S	24	24	64	61	55	52	390	340
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			12	14	5.2	5.8	5	5.8	6.9	7.6
Sodium, Total	mg/l			120	120	90	92	86	91	150	160
Sulfate	mg/l	500	S	ND	ND	ND	ND	0.8	0.95	82	100
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	370	400	700	750	690	760	1000	1100
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3	2.9	0.67	0.76	0.82	0.76	1.3	1.2
General Physical Properties											
Apparent Color	ACU	15	S	35	35	5	10	5	5	15	15
Lab pH	Units			8.4	8.3	7.9	7.9	7.8	7.9	7.6	7.8
Odor	TON	3	S	2	2	2	1	2	2	2	2
Specific Conductance	umho/cm	1600	S	650	650	1100	1100	1100	1100	1700	1700
Turbidity	NTU	5	S	0.32	0.52	1.8	0.72	1.3	2.4	6.2	4.6
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	6.6	7.2
Barium, Total	ug/l	1000	P	18	19	39	39	61	59	88	90
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			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	5.4	5.6
Selenium, Total	ug/l	50	P	ND	ND	5.9	7	8.3	10	11	12
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	1.2	1.5
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	2	1.5	23	30
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	0.9	0.69	3.7	4.4
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	1.2	1.7
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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	PM-4 Mariner							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/12/2015	8/23/2015	4/12/2015	8/23/2015	4/12/2015	8/23/2015	4/12/2015	8/23/2015
General Minerals											
Alkalinity	mg/l			260	250	160	150	170	160	190	190
Anion Sum	meq/l			6	5.8	210	200	10	10	10	10
Bicarbonate as HCO3	mg/l			310	300	190	180	210	190	230	230
Boron	mg/l	1	N	0.17	0.17	ND	ND	0.27	0.26	0.24	0.26
Bromide	ug/l			150	150	23000	23000	280	260	400	400
Calcium, Total	mg/l			26	26	1500	1400	64	64	68	70
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			5.1	3.9	ND	ND	2.7	2.5	3	3
Cation Sum	meq/l			6	5.8	210	210	10	9.7	10	11
Chloride	mg/l	500	S	28	28	6700	6500	110	100	120	130
Fluoride	mg/l	2	P	0.35	0.36	0.11	0.12	0.42	0.41	0.27	0.28
Hardness (Total, as CaCO3)	mg/l			110	110	5700	5500	230	230	250	260
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			63	58	81	250	40	28	55	57
Iron, Total	mg/l	0.3	S	0.062	0.059	0.25	0.24	0.026	0.028	0.41	0.15
Langelier Index - 25 degree	None			0.87	0.77	1.7	1.6	1	0.96	1	1.1
Magnesium, Total	None			12	11	480	490	18	17	19	20
Manganese, Total	ug/l	50	S	32	31	1100	1100	49	51	75	74
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			7.1	7	53	55	6.3	5.9	6.3	6.9
Sodium, Total	mg/l			81	78	2200	2200	120	110	120	120
Sulfate	mg/l	500	S	ND	ND	860	880	180	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	320	350	14000	14000	630	640	560	650
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.7	1.6	0.66	0.73	1.3	1.2	1.2	1
General Physical Properties											
Apparent Color	ACU	15	S	10	10	3	5	5	5	5	5
Lab pH	Units			8.4	8.3	7.7	7.7	8.3	8.3	8.3	8.3
Odor	TON	3	S	1	1	1	2	2	2	ND	2
Specific Conductance	umho/cm	1600	S	560	560	19000	19000	1000	1000	1000	1000
Turbidity	NTU	5	S	0.079	1.2	1.7	2	0.43	0.59	0.75	0.29
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	25	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	19	20	210	230	93	95	43	47
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			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	70	80	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	140	190	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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	PM-5 ColumbiaPark											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/7/2015	8/18/2015	4/7/2015	8/18/2015	4/7/2015	8/18/2015	4/7/2015	8/18/2015	4/7/2015	8/18/2015	4/7/2015	8/18/2015
General Minerals															
Alkalinity	mg/l			690	670	910	890	420	400	290	280	170	170	220	210
Anion Sum	meq/l			16	16	19	18	9.2	9	6.8	6.6	43	42	13	13
Bicarbonate as HCO3	mg/l			840	820	1100	1100	500	490	360	350	210	210	260	250
Boron	mg/l	1	N	2.8	2.5	2	1.8	0.4	0.34	0.17	0.18	0.18	0.19	0.18	0.19
Bromide	ug/l			1500	1500	190	200	220	250	180	160	3300	3300	700	690
Calcium, Total	mg/l			14	12	7.5	7.1	14	12	25	26	350	360	90	91
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			22	8.4	36	18	13	10	5.9	5.7	2.2	ND	4.2	2
Cation Sum	meq/l			17	16	19	19	9.5	8.4	6.8	6.9	41	41	12	12
Chloride	mg/l	500	S	95	99	14	15	30	31	32	33	1100	1000	160	160
Fluoride	mg/l	2	P	0.6	0.59	0.31	0.3	0.27	0.26	0.31	0.3	0.16	0.16	0.33	0.31
Hardness (Total, as CaCO3)	mg/l			61	54	41	40	67	57	120	120	1200	1200	320	310
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			480	630	78	86	130	130	24	65	41	40	92	96
Iron, Total	mg/l	0.3	S	0.17	0.15	0.3	0.28	0.049	0.042	0.023	0.027	0.13	0.12	ND	ND
Langelier Index - 25 degree	None			1.2	0.74	1.1	0.79	1	0.79	0.93	0.86	1.6	1.4	1.4	1
Magnesium, Total	None			6.4	5.8	5.5	5.3	7.7	6.6	13	13	87	85	22	21
Manganese, Total	ug/l	50	S	37	41	27	27	28	33	23	22	390	270	130	120
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			14	12	11	10	16	14	11	12	12	12	5.9	5.7
Sodium, Total	mg/l			360	330	420	400	180	160	97	98	370	370	140	130
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	420	430	180	190
Surfactants	mg/l	0.5	S	ND	0.1	ND	ND	0.05	ND	ND	ND	0.071	0.062	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	980	1000	1100	1100	510	530	380	390	2700	3100	750	770
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			37	38	34	23	7.2	6.9	2.8	2.9	0.86	1.1	1.1	1.2
General Physical Properties															
Apparent Color	ACU	15	S	350	250	800	670	50	100	20	20	3	5	ND	ND
Lab pH	Units			8.6	8.2	8.7	8.4	8.6	8.5	8.4	8.4	8.2	7.9	8.4	8.1
Odor	TON	3	S	2	8	1	3	2	1	2	1	ND	1	ND	2
Specific Conductance	umho/cm	1600	S	1600	1500	1700	1600	860	850	650	640	4200	4000	1200	1200
Turbidity	NTU	5	S	0.49	0.67	0.44	0.57	0.26	0.29	0.13	0.78	0.61	0.52	0.091	0.088
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	42	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	3.3	2.9	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	84	91	20	21	23	24	19	21	120	120	150	170
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	2.1	ND	ND	ND	ND	ND	2.2	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.1	2.4	2.5	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	0.031	ND	0.11	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	12	5.8	ND	ND
Selenium, Total	ug/l	50	P	6.4	ND	ND	ND	ND	ND	ND	ND	19	7.4	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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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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	
				3/24/2015	8/21/2015	3/24/2015	8/21/2015	3/24/2015	8/21/2015	3/24/2015	8/21/2015	3/24/2015	8/21/2015	3/24/2015	8/21/2015
General Minerals															
Alkalinity	mg/l			410	410	130	120	150	160	240	230	160	160	180	170
Anion Sum	meq/l			61	63	77	82	190	200	6.4	6.2	53	54	12	12
Bicarbonate as HCO3	mg/l			500	500	160	150	180	190	290	280	200	190	220	210
Boron	mg/l	1	N	0.69	0.75	0.57	0.56	ND	ND	0.25	0.24	0.35	0.33	0.17	0.17
Bromide	ug/l			6800	6200	9800	9800	23000	23000	240	240	4600	4400	520	490
Calcium, Total	mg/l			300	270	200	200	1100	1100	18	17	300	280	89	86
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			4.1	3.2	ND	ND	ND	ND	3.8	3.6	ND	ND	ND	ND
Cation Sum	meq/l			63	58	76	77	200	200	6.4	6.2	51	49	12	12
Chloride	mg/l	500	S	1900	1900	2600	2800	6600	6900	53	55	1400	1500	210	220
Fluoride	mg/l	2	P	0.37	0.41	0.087	0.084	0.1	0.11	0.49	0.52	0.15	0.15	0.24	0.25
Hardness (Total, as CaCO3)	mg/l			1600	1500	910	910	6100	6100	90	88	1100	1100	330	320
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			150	170	470	390	330	300	82	58	78	49	77	78
Iron, Total	mg/l	0.3	S	0.069	0.1	0.21	ND	ND	ND	0.038	0.076	0.89	0.86	0.19	0.31
Langelier Index - 25 degree	None			1.8	1.7	1.1	1.1	2	1.9	0.62	0.55	1.2	1	0.93	0.82
Magnesium, Total	None			220	200	100	100	820	820	11	11	94	90	26	26
Manganese, Total	ug/l	50	S	24	17	220	200	150	190	76	82	680	630	140	130
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			34	31	44	44	94	96	5.4	5.4	20	21	6.2	6.4
Sodium, Total	mg/l			660	620	1300	1300	1600	1600	100	99	630	620	120	130
Sulfate	mg/l	500	S	6.3	13	ND	ND	10	83	ND	ND	440	460	130	130
Surfactants	mg/l	0.5	S	0.1	0.13	0.14	0.15	0.21	0.17	ND	ND	0.075	0.11	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	4200	4400	5100	5600	14000	10000	380	350	3400	3600	760	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			3	7.9	1.1	1.2	0.96	0.95	2.3	2.1	1.3	1.4	1.3	1.3
General Physical Properties															
Apparent Color	ACU	15	S	150	300	15	10	120	30	25	15	25	15	10	10
Lab pH	Units			8.1	8	8	8	8.1	8	8.3	8.3	7.8	7.7	8.1	8
Odor	TON	3	S	67	200	1	2	200	200	2	1	1	1	1	1
Specific Conductance	umho/cm	1600	S	6400	6100	8200	8200	18000	19000	620	620	5200	5100	1300	1300
Turbidity	NTU	5	S	4	4.4	0.38	2.7	25	0.23	0.11	0.14	8.6	3.5	0.69	1.5
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	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	1.5	ND	14	11	37	ND	ND	ND	8.9	1.3	2.9
Barium, Total	ug/l	1000	P	850	800	300	500	2900	2900	23	26	100	140	23	23
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	2.1	ND	ND
Chromium, Total	ug/l	50	P	ND	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			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	8.2	ND	52	ND	ND	ND	11	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	59	79	160	ND	ND	ND	26	ND	ND
Silver, Total	ug/l	100	S	ND	0.51	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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Westchester #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/2/2015	9/1/2015	4/2/2015	9/1/2015	4/2/2015	9/1/2015	4/2/2015	9/1/2015	4/2/2015	9/1/2015
General Minerals													
Alkalinity	mg/l			410	420	530	520	440	430	350	340	290	290
Anion Sum	meq/l			12	12	13	12	11	11	10	10	9.5	9.5
Bicarbonate as HCO3	mg/l			500	510	650	630	530	520	420	410	350	350
Boron	mg/l	1	N	0.44	0.52	0.83	0.88	0.39	0.49	0.21	0.26	0.21	0.25
Bromide	ug/l			400	430	460	450	390	370	340	320	330	330
Calcium, Total	mg/l			73	72	30	31	47	52	67	74	62	67
Carbon Dioxide	mg/l			8.2	ND	8.5	ND	8.7	ND	6.9	ND	7.2	ND
Carbonate as CO3	mg/l			3.2	4.2	5.3	6.5	3.4	5.4	2.7	3.4	ND	2.3
Cation Sum	meq/l			12	12	13	13	10	12	10	11	9.1	9.9
Chloride	mg/l	500	S	70	74	68	69	64	63	65	67	68	69
Fluoride	mg/l	2	P	0.25	0.25	0.26	0.24	0.24	0.24	0.25	0.25	0.32	0.31
Hardness (Total, as CaCO3)	mg/l			310	310	150	150	200	230	280	310	250	280
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			81	94	130	110	88	88	75	81	76	77
Iron, Total	mg/l	0.3	S	0.16	0.16	0.12	0.12	0.2	0.24	0.11	0.14	0.27	0.32
Langelier Index - 25 degree	None			1.1	1.2	0.96	1.1	0.95	1.1	0.96	1.1	0.8	0.98
Magnesium, Total	None			31	31	18	18	21	25	27	31	24	27
Manganese, Total	ug/l	50	S	130	120	44	45	130	130	110	120	140	150
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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	11	16	15	10	12	8.2	9.3	6.5	7.2
Sodium, Total	mg/l			130	140	220	220	140	150	97	100	88	94
Sulfate	mg/l	500	S	64	63	ND	ND	9.9	9.7	80	81	84	85
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	680	710	720	720	600	600	590	590	540	540
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			5.3	6.1	7.6	7.4	3.3	3.6	1.6	1.8	1.4	1.4
General Physical Properties													
Apparent Color	ACU	15	S	100	25	75	10	25	25	10	10	15	15
Lab pH	Units			8	8.1	8.1	8.2	8	8.2	8	8.1	7.9	8
Odor	TON	3	S	1	40	1	3	1	2	ND	2	1	2
Specific Conductance	umho/cm	1600	S	1100	1100	1200	1200	1000	1000	990	970	920	900
Turbidity	NTU	5	S	1.6	1.6	0.25	0.46	0.29	0.26	0.31	0.3	0.78	0.68
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	79	88	110	120	62	70	69	76	57	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	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			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
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Wilmington #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/4/2015	8/5/2015	3/4/2015	8/5/2015	3/4/2015	8/5/2015	3/4/2015	8/5/2015	3/4/2015	8/5/2015
General Minerals													
Alkalinity	mg/l			150	140	160	150	170	160	140	140	160	180
Anion Sum	meq/l			11	11	28	27	30	30	13	16	15	15
Bicarbonate as HCO3	mg/l			180	180	190	190	200	190	170	170	200	210
Boron	mg/l	1	N	0.25	0.26	0.2	0.21	0.26	0.26	0.22	0.22	0.2	0.21
Bromide	ug/l			2100	2100	3100	2900	3900	3700	780	1000	1100	1300
Calcium, Total	mg/l			64	63	190	170	180	180	60	70	110	100
Carbon Dioxide	mg/l			3.5	3.4	9.2	8.8	9.9	9	3.9	4.2	6.4	9
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			11	11	28	25	30	29	13	15	15	15
Chloride	mg/l	500	S	280	290	760	740	890	880	230	330	280	300
Fluoride	mg/l	2	P	0.14	0.12	0.065	0.057	0.081	0.068	0.14	0.12	0.14	0.12
Hardness (Total, as CaCO3)	mg/l			250	240	680	610	660	660	240	280	420	390
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			720	480	320	200	580	330	30	22	120	66
Iron, Total	mg/l	0.3	S	ND	ND	0.044	0.046	ND	ND	ND	ND	0.032	0.21
Langelier Index - 25 degree	None			0.54	0.54	0.64	0.61	0.64	0.64	0.41	0.46	0.61	0.48
Magnesium, Total	None			22	21	50	45	51	52	22	26	36	35
Manganese, Total	ug/l	50	S	23	18	24	21	7.5	6.1	9.2	12	34	58
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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			8.6	8.5	9.5	9	9.4	9.1	5.5	5.9	7	7.3
Sodium, Total	mg/l			140	140	310	290	380	340	190	210	140	160
Sulfate	mg/l	500	S	ND	ND	140	130	86	92	180	190	160	150
Surfactants	mg/l	0.5	S	0.36	0.4	0.43	0.54	0.28	0.47	0.068	0.15	0.49	0.63
Total Dissolved Solid (TDS)	mg/l	1000	S	660	780	1700	2000	1900	2300	820	1000	880	970
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.5	3.3	2.2	2.1	2.1	2	2	2.1	4.3	4.7
General Physical Properties													
Apparent Color	ACU	15	S	ND	5	ND	5	5	10	3	5	3	10
Lab pH	Units				8.2		7.9		7.8		8.2		8
Odor	TON	3	S	67	200	17	67	200	200	17	200	200	200
Specific Conductance	umho/cm	1600	S	1200	1200	2900	2800	3300	3100	1400	1600	1500	1600
Turbidity	NTU	5	S	0.11	0.11	0.19	0.21	0.094	0.13	0.11	0.24	0.15	12
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	1.2	ND	ND	ND	1.2	ND
Barium, Total	ug/l	1000	P	13	9.4	14	13	25	20	24	32	87	76
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			ND	ND	ND	ND	0.086	0.02	ND	ND	0.024	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	11	13	ND	ND	ND	12	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			8.6	8.1	17	16	13	13	ND	ND	5	5
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	0.71	32	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	0.46	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	0.53	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2014-15
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Constituents	Units	MCL	MCL Type	Wilmington #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				2/24/2015	8/4/2015	2/24/2015	8/4/2015	2/24/2015	8/4/2015	2/24/2015	8/4/2015	2/24/2015	8/4/2015
General Minerals													
Alkalinity	mg/l			320	310	490	480	160	150	280	270	170	160
Anion Sum	meq/l			9.9	10	26	26	11	11	11	11	71	73
Bicarbonate as HCO3	mg/l			390	370	600	580	200	190	340	330	200	200
Boron	mg/l	1	N	0.61	0.59	2	1.8	0.18	0.18	0.64	0.62	0.53	0.53
Bromide	ug/l			610	680	4200	4200	1900	2000	1200	1300	7200	7100
Calcium, Total	mg/l			3.7	3.8	31	27	54	53	22	22	230	220
Carbon Dioxide	mg/l			2.5	2	12	11	4.5	3.6	7.5	5.8	12	10
Carbonate as CO3	mg/l			6.4	7.4	3.2	3.4	ND	ND	ND	2	ND	ND
Cation Sum	meq/l			10	10	28	25	11	11	11	11	73	70
Chloride	mg/l	500	S	120	140	560	580	260	280	190	200	2100	2200
Fluoride	mg/l	2	P	0.72	0.81	0.47	0.42	0.16	0.18	0.69	0.74	0.22	0.2
Hardness (Total, as CaCO3)	mg/l			21	22	170	150	220	210	96	96	1000	960
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			110	89	1300	1300	730	620	350	330	62	42
Iron, Total	mg/l	0.3	S	0.039	0.04	0.068	0.064	0.03	0.03	ND	0.056	ND	ND
Langelier Index - 25 degree	None			0.11	0.2	0.73	0.71	0.44	0.49	0.3	0.38	0.67	0.69
Magnesium, Total	None			2.9	3	23	21	20	20	10	9.9	110	100
Manganese, Total	ug/l	50	S	3.2	2.9	9.8	8.9	12	12	7.6	6.4	36	51
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	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	5.9	13	12	7.3	7.2	5.9	5.5	19	19
Sodium, Total	mg/l			220	220	560	500	140	140	210	200	1200	1100
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	360	360
Surfactants	mg/l	0.5	S	ND	ND	0.071	0.1	ND	0.052	ND	ND	ND	0.1
Total Dissolved Solid (TDS)	mg/l	1000	S	590	620	1500	1500	630	660	660	670	4300	4700
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			26	6	9	7.7	6.2	2.1	28	7.3	11	1.4
General Physical Properties													
Apparent Color	ACU	15	S	180	150	200	180	10	15	120	75	15	15
Lab pH	Units				8.6		8.6		8.2		8.3		8.1
Odor	TON	3	S	2	4	2	17	1	2	2	8	3	2
Specific Conductance	umho/cm	1600	S	1000	1000	2700	2600	1200	1200	1100	1100	7300	7100
Turbidity	NTU	5	S	0.21	0.27	0.25	0.4	0.072	0.083	1.4	0.35	2.4	0.22
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	1.1	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	3.7	4.1	44	45	16	18	16	17	42	63
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	1.2	ND	ND	ND	1	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	0.025	0.026	ND	ND	0.05	0.026	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	17	ND	ND	ND	ND	ND	ND	24
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
Perchlorate	ug/l	6	P	ND	7.2	ND	ND	ND	ND	ND	ND	ND	ND

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

TABLE 3.3
QUALITY OF REPLENISHMENT WATER

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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
			2014	2014	2014	2014	2014	2014	2014-2015	2014-2015	2014-2015	2014-2015	2014-2015
Arsenic	µg/L	MCL = 10	ND / 2.2	2.2	3.5	ND	0.43	ND	1.10	1.57	1.16	1.26	1.61
Chloride	mg/L	SMCL = 500	97 ¹ / 85 ¹	92 ¹	80 ¹	56 ^J	92 ^K	56 ^L	140	157	117	117	50
Hexavalent Chromium	µg/L	MCL = 10	ND / ND	ND	ND	NA	ND	NA	0.06	0.12	0.14	0.09	ND
Iron	µg/L	SMCL = 300	ND / ND	ND	ND	ND	11.77	ND	31.6	37	35	30	2,000
Manganese	µg/L	SMCL = 50	ND / ND	ND	ND	0.3	3.78	ND	7.46	4.61	6.24	2.88	NA
Nitrate (as N)	mg/L	MCL = 10	ND / 0.6	ND	0.8	0.4 ^J	1.00 ^K	1.02 ^L	7.07	5.32	7.70	7.56	2.60
Perchlorate	µg/L	MCL = 6	ND / ND	ND	ND	ND	ND	ND	0.3	0.45	0.40	0.9	NA
Tetrachloroethylene (PCE)	µg/L	MCL = 5	ND / ND	ND	ND	ND	ND	ND	ND	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	643 ¹ / 442 ¹	620 ¹	331 ¹	403 ^J	237 ^K	460 ^L	609	701	565	638	315
Alkalinity	mg/L	None	126 ¹ / 96 ¹	131 ¹	83 ¹	69	NA	NA	165	166	166	166	79
Boron	µg/L	NL = 1,000	100 / 160	100	160	190 ^J	573 ^K	170 ^L	280	310	330	260	NA
Chromium, Total	µg/L	MCL = 50	ND / ND	ND	ND	0.52	0.57	ND	1.0	0.83	1.0	1.1	2.92
Copper, Total	µg/L	SMCL = 1,000	ND / ND	ND	ND	3.0	0.95	ND	4.53	3.57	4.26	4.53	13.2
1,4-Dioxane	ug/L	NL = 1	NA	NA	NA	ND	ND	ND	0.86	0.86	0.74	0.77	NA
Hardness	mg/L	None	298 ¹ / 160 ¹	294 ¹	111 ¹	52	72	11.4	221	241	212	219	139
Lead, Total	µg/L	AL = 15	ND / ND	ND	ND	ND	0.10	NA	0.36	0.07	0.043	0.07	13.4
Methyl tertiary butyl ether (MTBE)	µg/L	SMCL = 5	ND / ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite (as N)	mg/L	MCL = 1	ND / ND	ND	ND	0.24 ^J	ND ^K	0.05 ^L	0.18	0.052	0.023	0.067	0.30
n-Nitrosodimethylamine (NDMA)	ng/L	NL = 10	ND / 2.2	NA	NA	2.7	13.48	3.6	122	230	546	27	ND
pH	pH Units	None	8.1 / 8.2	8.2	8.0	7.8	8.0 ^K	8.1	7.4	7.0	7.1	7.4	7.4
Selenium	µg/L	MCL = 50	ND / ND	ND	ND	ND	0.46	ND	0.034	ND	ND	0.092	1.07
Specific Conductance	µS/cm	SMCL = 1,600	1036 ¹ / 744 ¹	1010 ¹	589 ¹	73.8	373	148.2	NA	NA	NA	NA	473
Sulfate	mg/L	SMCL = 500	251 ¹ / 132 ¹	239 ¹	72 ¹	132 ^J	8.4 ^K	121 ^L	84.3	135	99.4	133	67.2
Total Organic Carbon (TOC)	mg/L	None ^M	2.9 / 2.1	3.13 ¹	2.71 ¹	0.39	0.23	ND	6.96	6.68	5.33	5.8	14.2
Turbidity	NTU	SMCL = 5	0.04 ¹ / 0.04 ¹	1.71 ¹	0.72 ¹	0.07	0.1	0.06	0.53	0.49	0.65	0.50	82.8

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 (Data Source #1).
- B = Used at the Montebello Forebay spreading grounds (Lake Mathews) (Data Source #1).
- C = Used at the Montebello Forebay spreading grounds (Silverwood Lake) (Data Source #1).
- 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 (Data Source #4).
- 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. Estimated values used where reported as "detected, but not quantified" [DNQ] (Data Source #6).
- 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 (Data Source #7).
- G = Effluent of water reclamation plants (WRPs); used at the Montebello Forebay spreading grounds (Data Source #3).
- H = Average concentration of water samples collected from LACDPW San Gabriel River Monitoring Station S14 from October 2014 through April 2015 (3 storm events total) (Data Source #5).
- I = Average concentration for Water Year October 2014 through September 2015 (Data Source #2).
- 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 (Data Source #4).
- 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 (Data Source #6).
- 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 (Data Source #7).
- M = California's 2014 Groundwater Replenishment Using Recycled Water Regulations specify the following TOC limits for groundwater replenishment projects:
 - For surface spreading (surface application), TOC limit = 0.5 mg/L divided by the 120-month running monthly average recycled water contribution (e.g., the TOC limit for a 100% recycled water project would be 0.5 mg/L.) For compliance determination, TOC may be monitored in one of the following: 1) undiluted recycled municipal wastewater prior to application or within the zone of percolation; 2) diluted percolated recycled municipal wastewater, with the value amended to negate the effect of the diluent water; or 3) undiluted recycled municipal wastewater prior to application, with the value amended using a soil-aquifer treatment factor approved by the Division of Drinking Water.
 - For injection (subsurface application), TOC limit = 0.5 mg/L. For compliance determination, TOC is monitored in the applied recycled municipal wastewater.

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:

- (1) 2014 Water Quality Report to MWD Member Agencies (Metropolitan Water District of Southern California, March 2015)
- (2) Table D, Monthly Analyses of the District Water Supplies (Metropolitan Water District of Southern California, October 2014 - September 2015)
- (3) October 2014 - September 2015 Annual Monitoring Report, Montebello Forebay Groundwater Recharge (County Sanitation Districts of Los Angeles County [SDLAC], December 15, 2015)
- (4) Annual West Coast Basin Barrier Project Monitoring Report for 2014, Edward C. Little Water Recycling Facility (West Basin Municipal Water District [WBMWD], March 25, 2015)
- (5) 2014 - 2015 Annual Stormwater Monitoring Final Report, Los Angeles County (Los Angeles County Department of Public Works [LACDPW], December 15, 2015)
- (6) Annual Monitoring Report - January-December 2014, Harbor Water Recycling/Dominguez Gap Barrier Project (Los Angeles Department of Water and Power [LADWP], February 27, 2015)
- (7) 2014 Annual Summary Report, Alamitos Barrier Recycled Water Project, Leo J. Vander Lans Water Treatment Facility (Water Replenishment District of Southern California [WRD], April 15, 2015)

**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

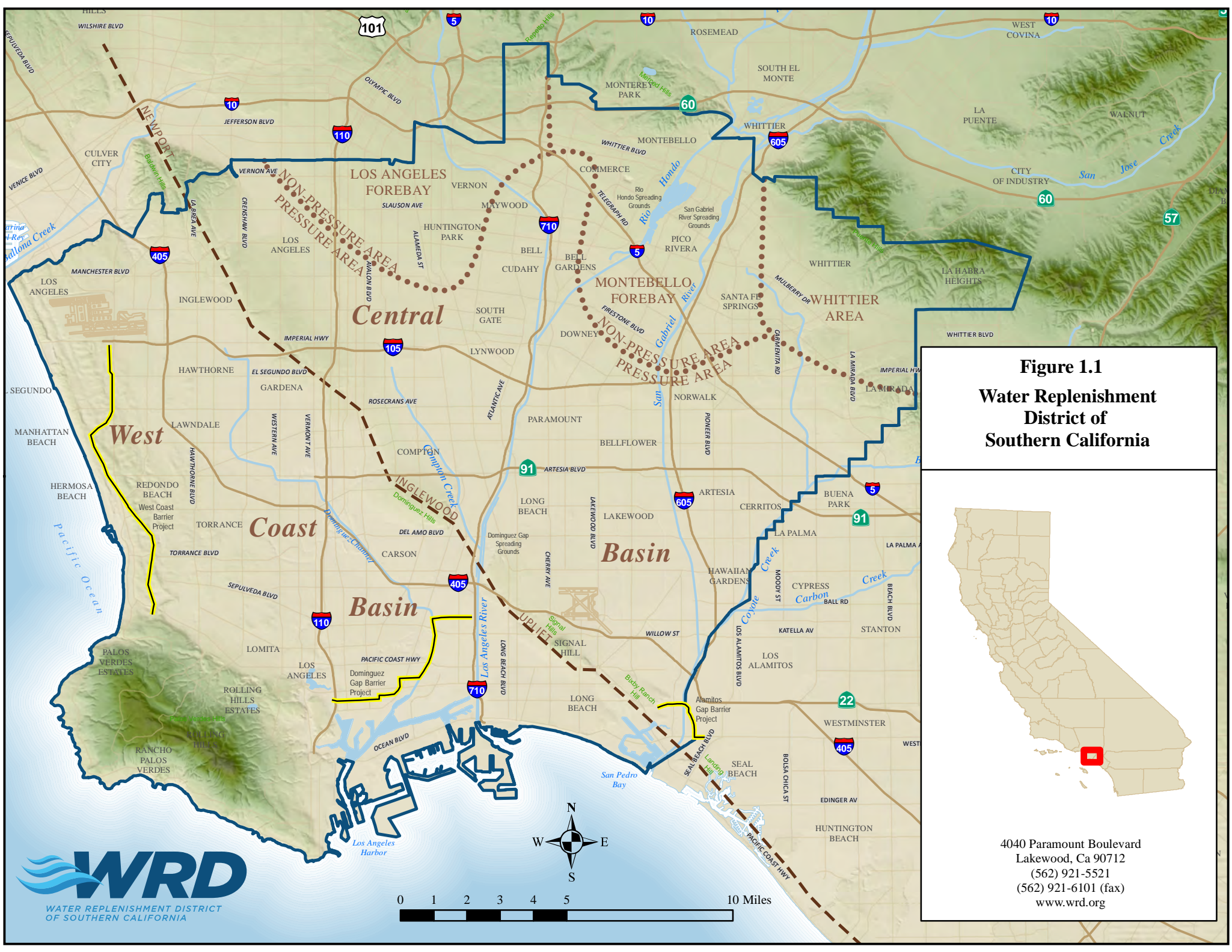


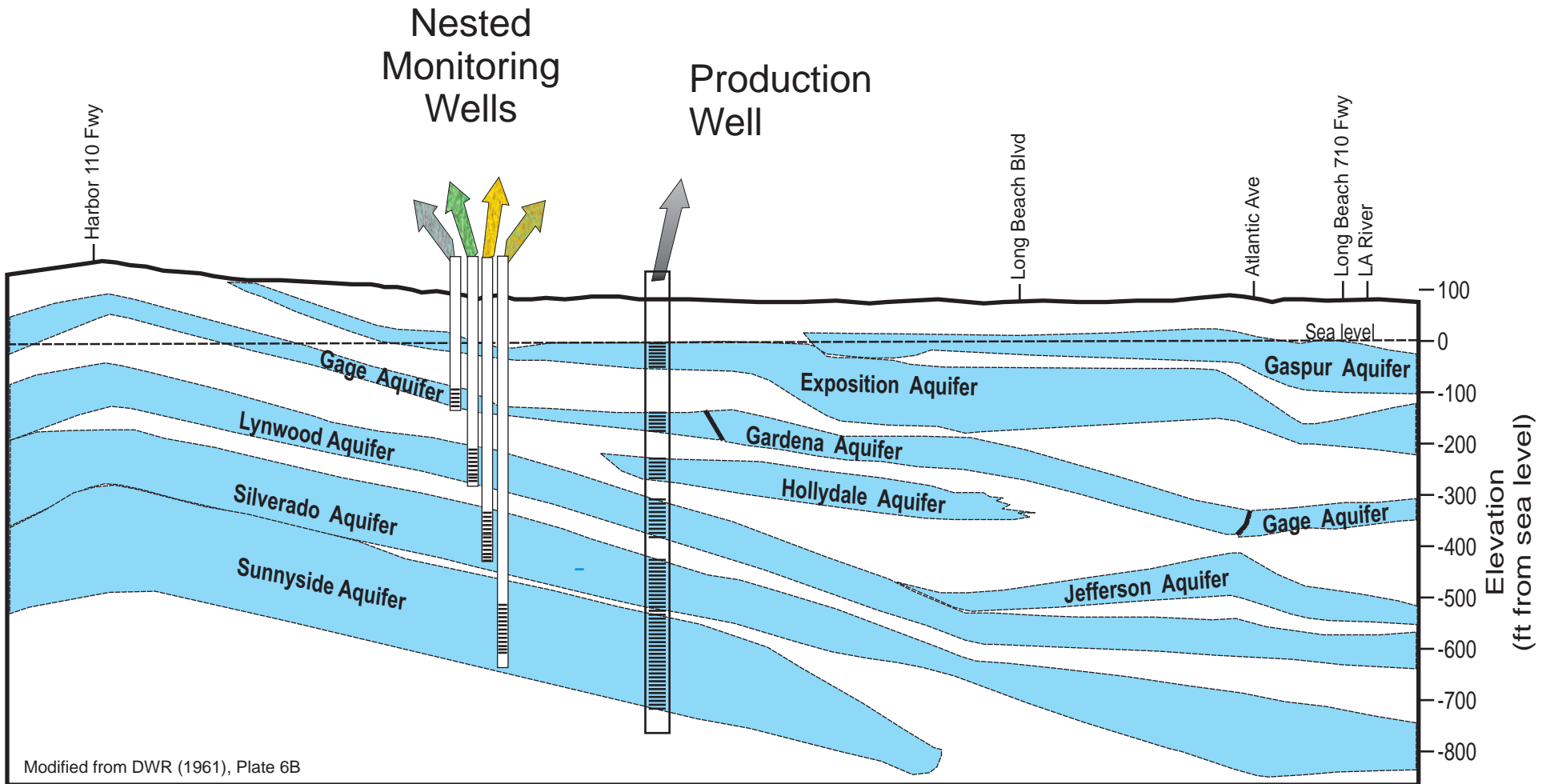
Figure 1.1
Water Replenishment
District of
Southern California



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.

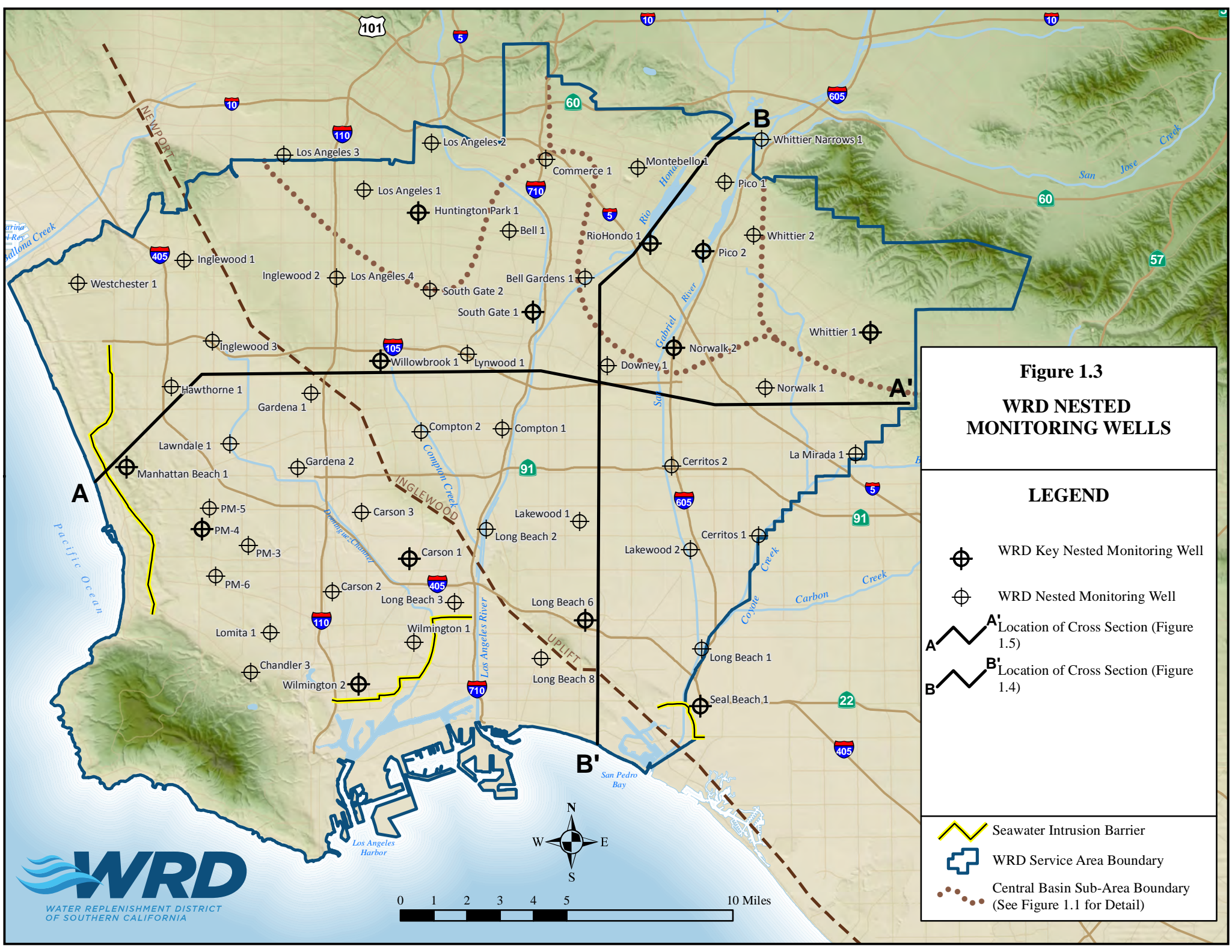







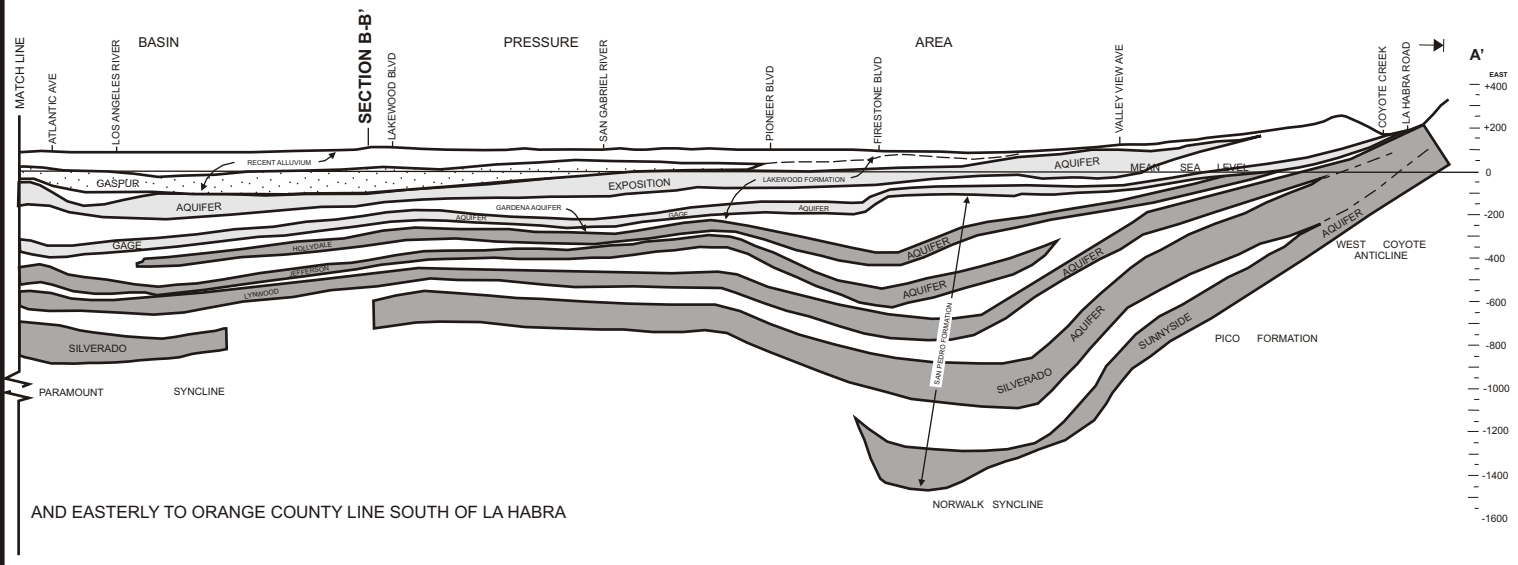
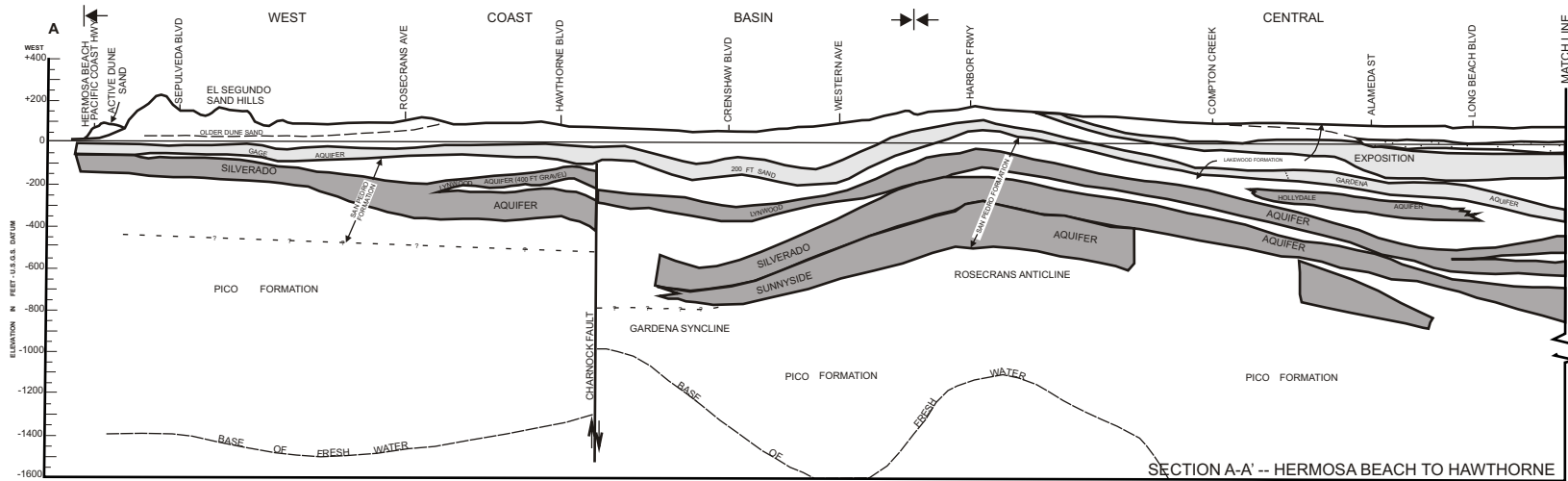






Figure 1.3
WRD NESTED
MONITORING WELLS

LEGEND

-  WRD Key Nested Monitoring Well
-  WRD Nested Monitoring Well
-  A-A' Location of Cross Section (Figure 1.5)
-  B-B' Location of Cross Section (Figure 1.4)
-  Seawater Intrusion Barrier
-  WRD Service Area Boundary
-  Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)



LEGEND

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

IDEALIZED GEOLOGIC CROSS SECTION AA'

Adapted from
CDWR Bull. 104 App. B

FIGURE 1.4

AND EASTERLY TO ORANGE COUNTY LINE SOUTH OF LA HABRA

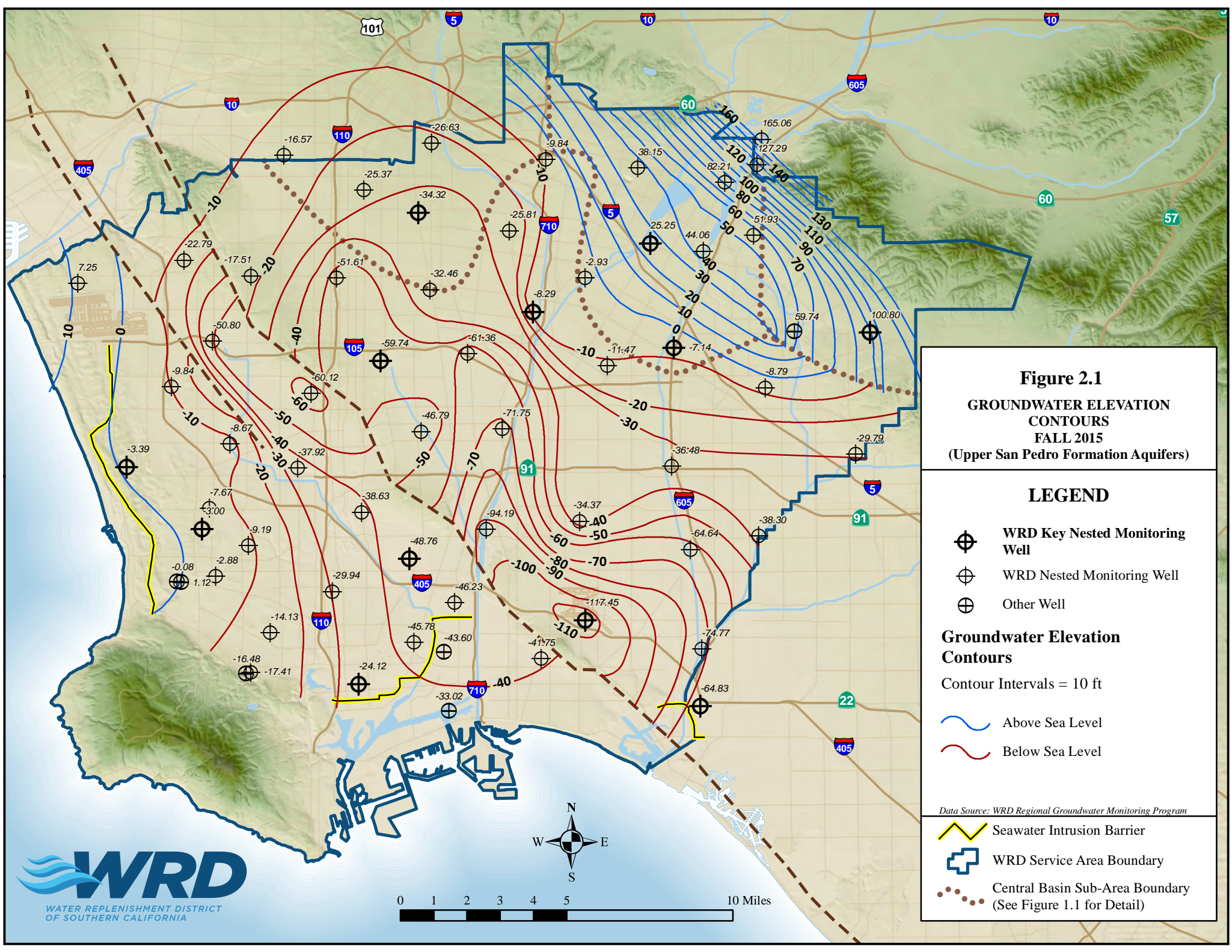


Figure 2.1
GROUNDWATER ELEVATION CONTOURS
FALL 2015
 (Upper San Pedro Formation Aquifers)

LEGEND

- WRD Key Nested Monitoring Well
- WRD Nested Monitoring Well
- Other Well

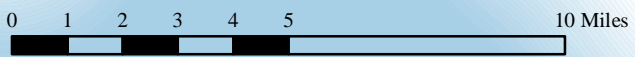
Groundwater Elevation Contours

Contour Intervals = 10 ft

- Above Sea Level
- Below Sea Level

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)



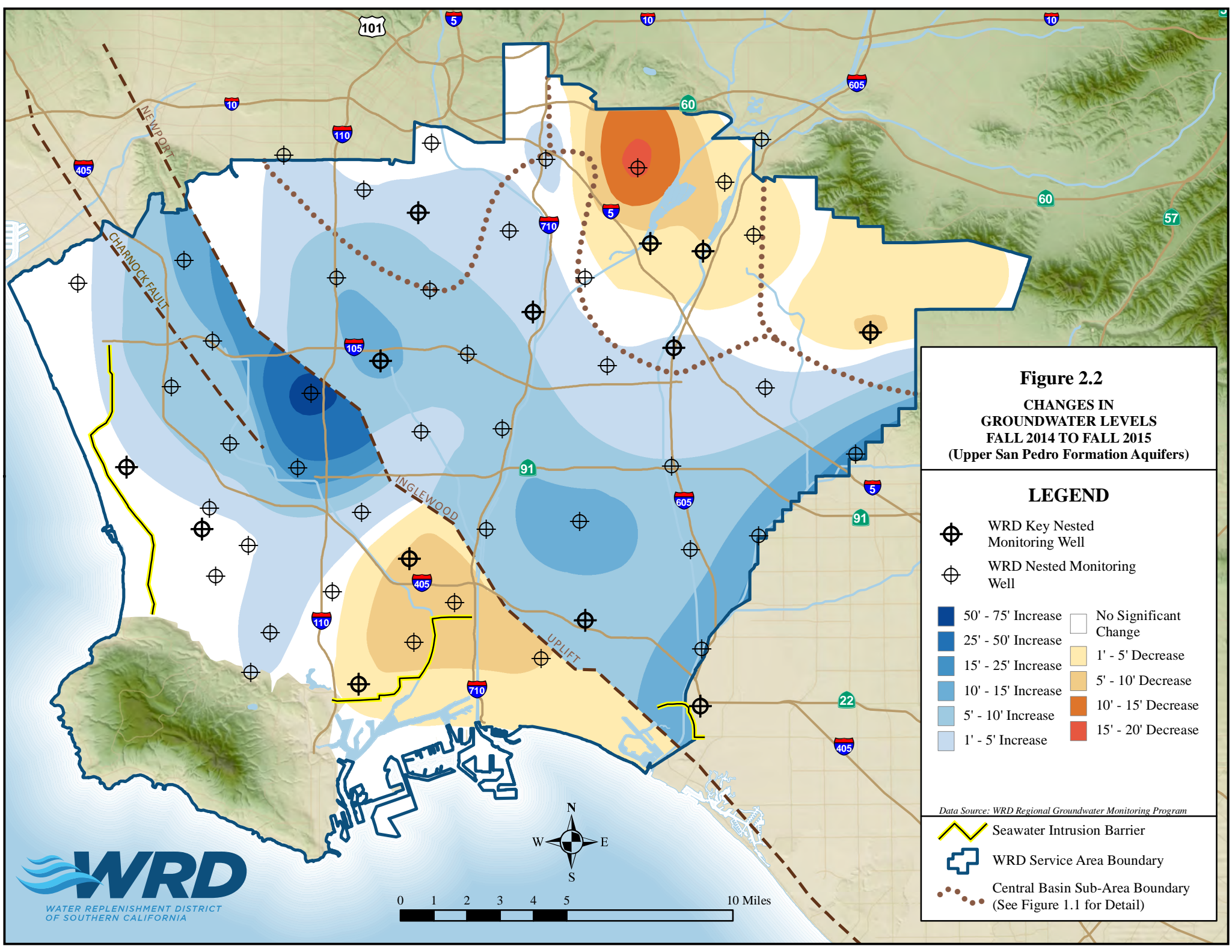


















Figure 2.2
CHANGES IN
GROUNDWATER LEVELS
FALL 2014 TO FALL 2015
(Upper San Pedro Formation Aquifers)

LEGEND

-  WRD Key Nested Monitoring Well
-  WRD Nested Monitoring Well
-  50' - 75' Increase
-  25' - 50' Increase
-  15' - 25' Increase
-  10' - 15' Increase
-  5' - 10' Increase
-  1' - 5' Increase
-  No Significant Change
-  1' - 5' Decrease
-  5' - 10' Decrease
-  10' - 15' Decrease
-  15' - 20' 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)

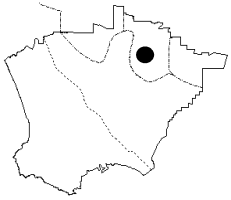
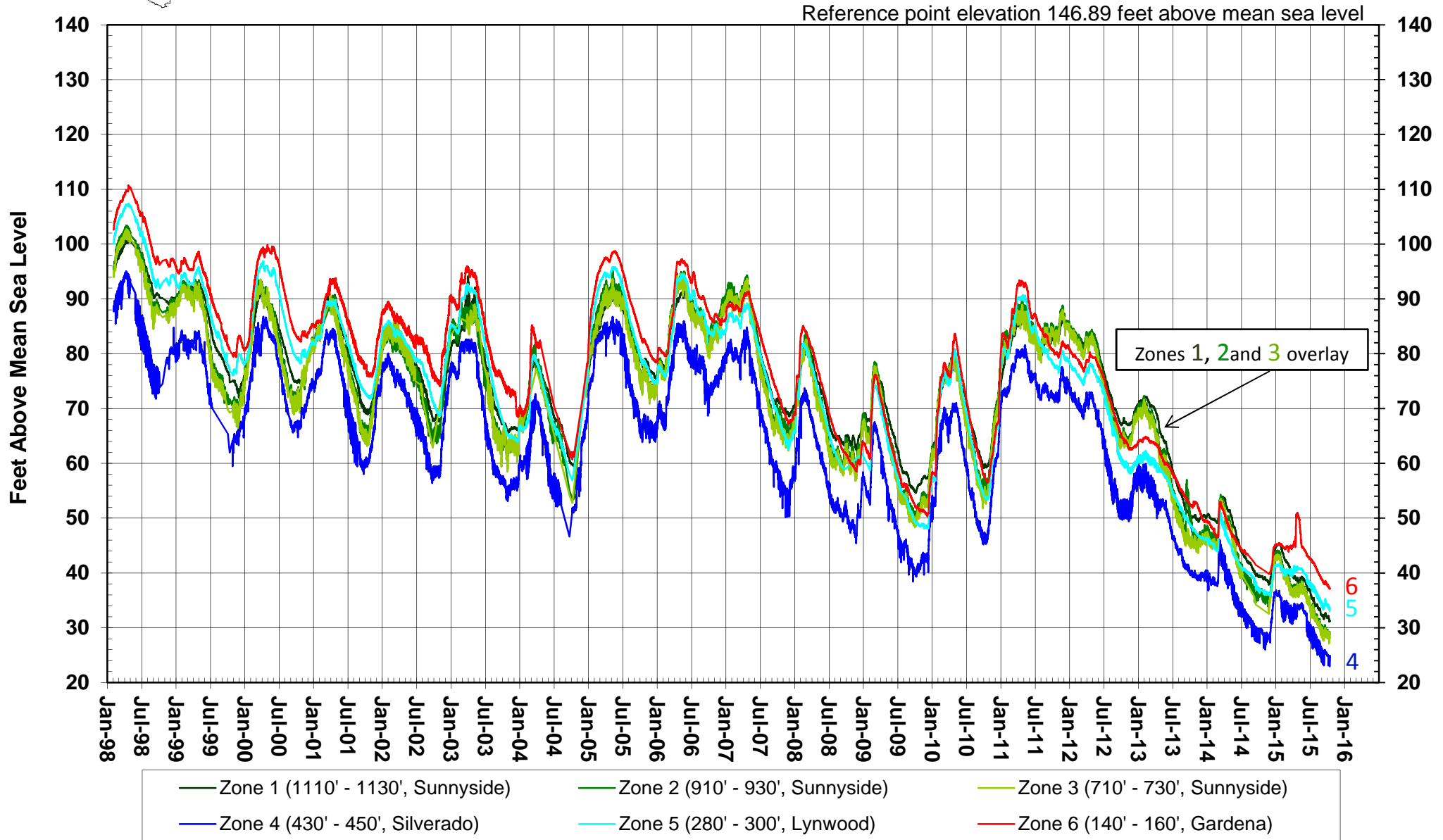


FIGURE 2.3
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL RIO HONDO #1



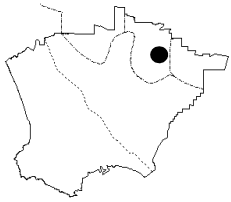
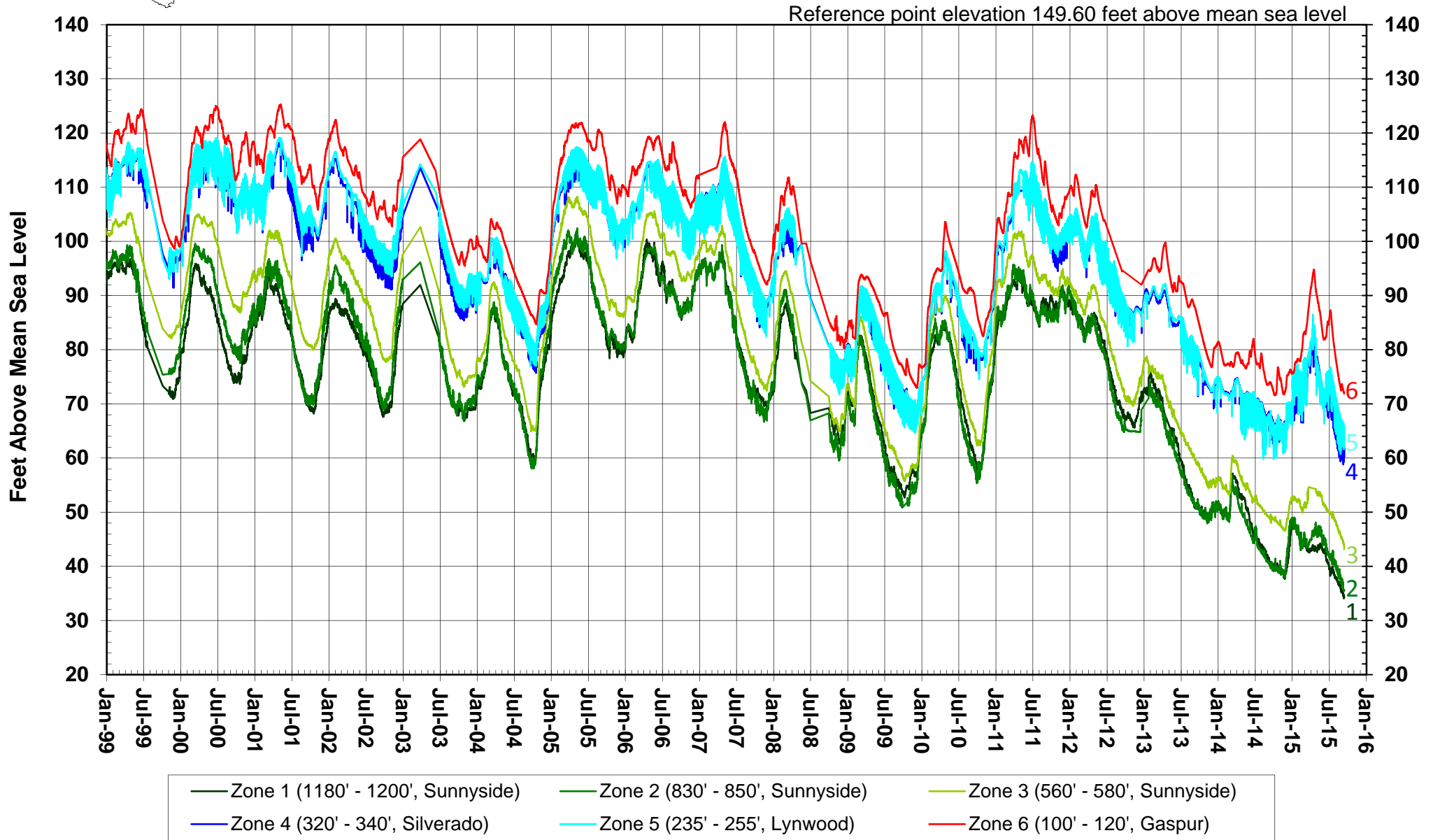


FIGURE 2.4
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL PICO #2



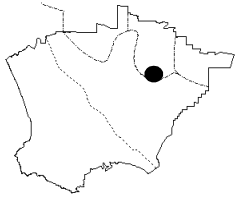
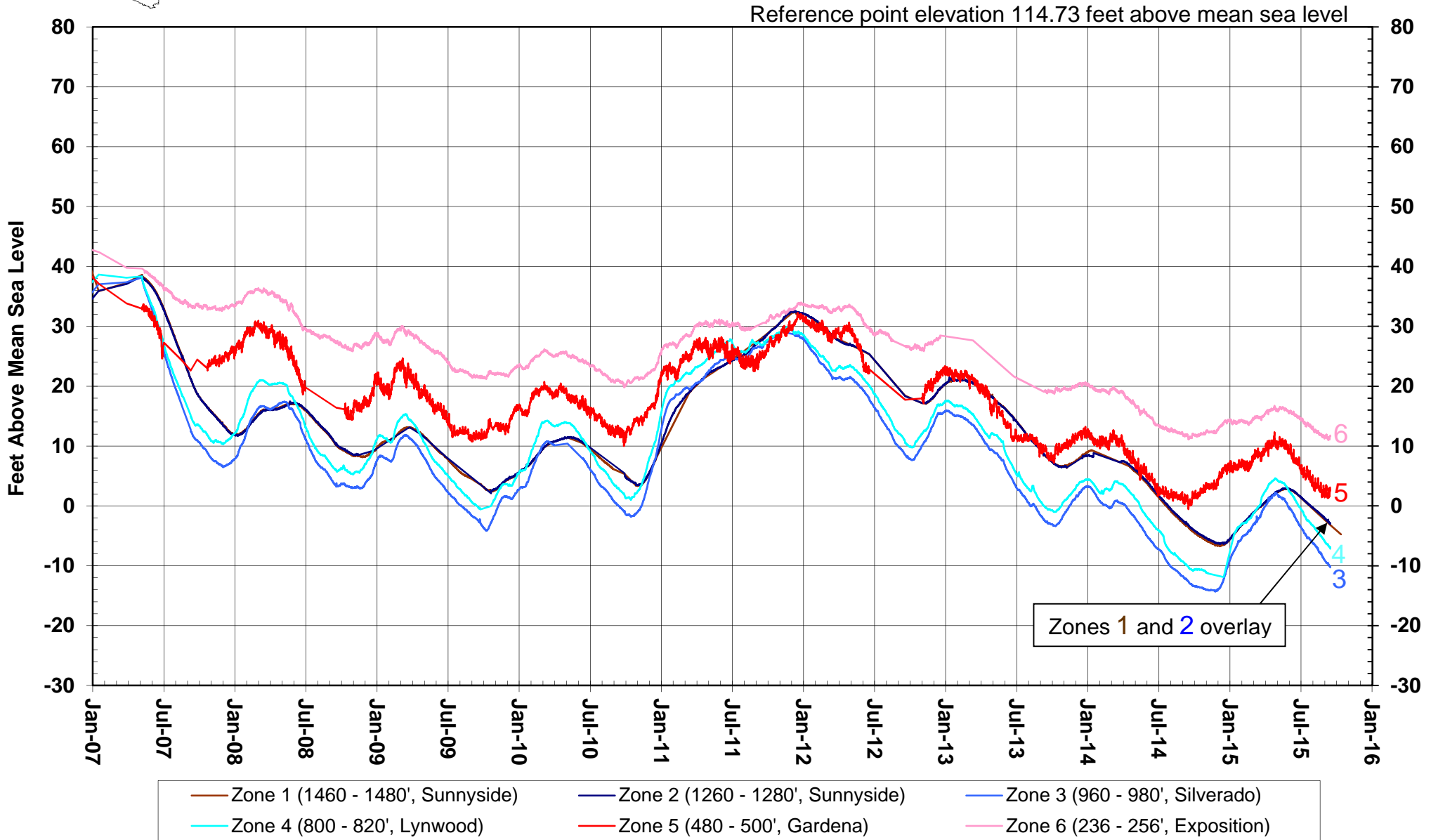


FIGURE 2.5
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL NORWALK #2



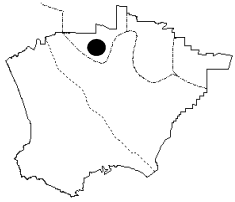
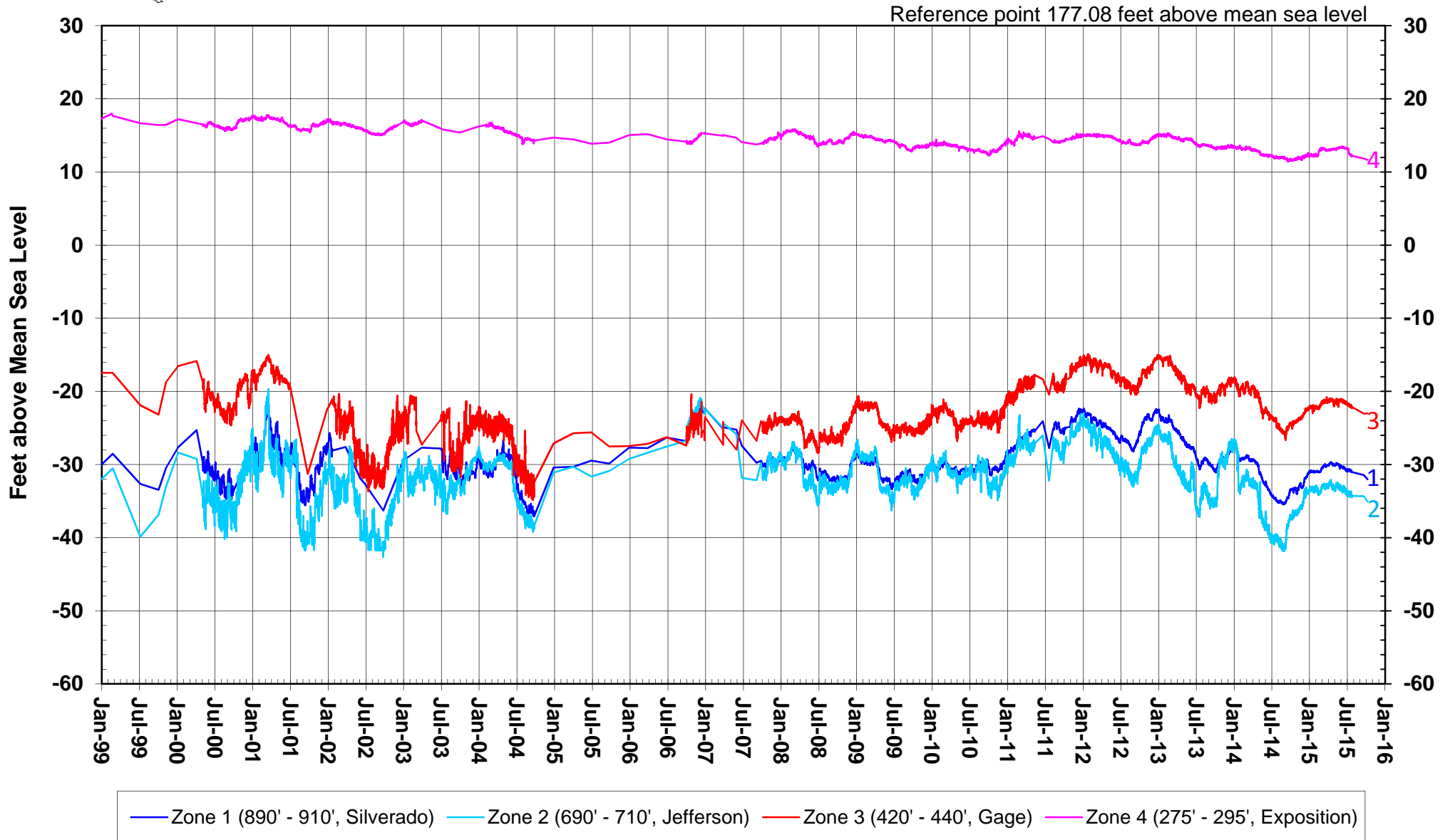


FIGURE 2.6
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL HUNTINGTON PARK #1



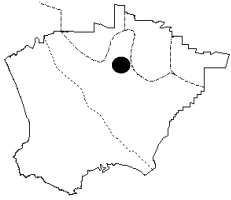
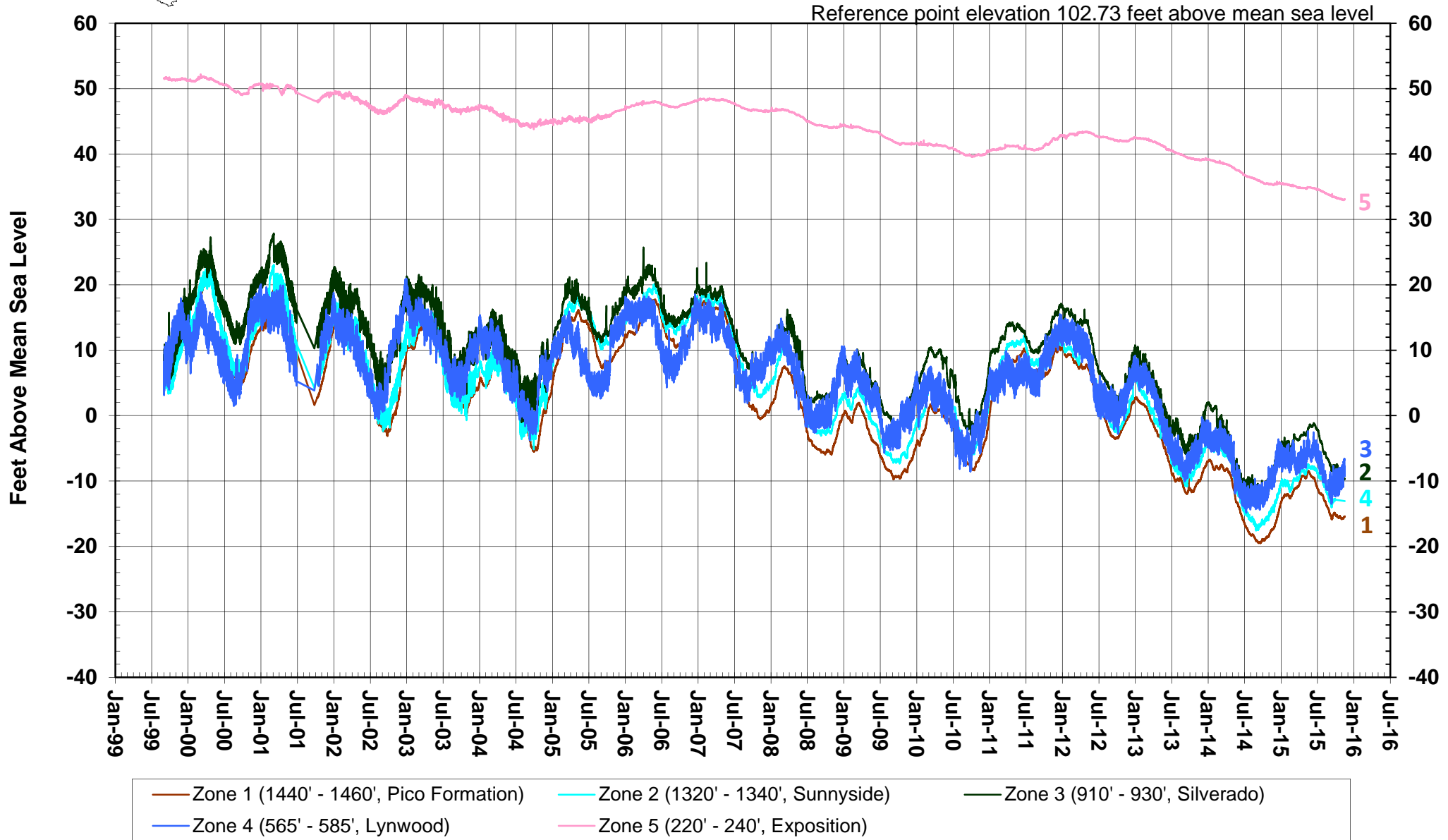


FIGURE 2.7
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL SOUTH GATE #1



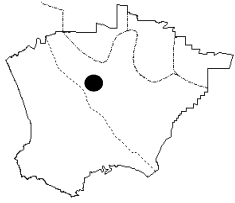
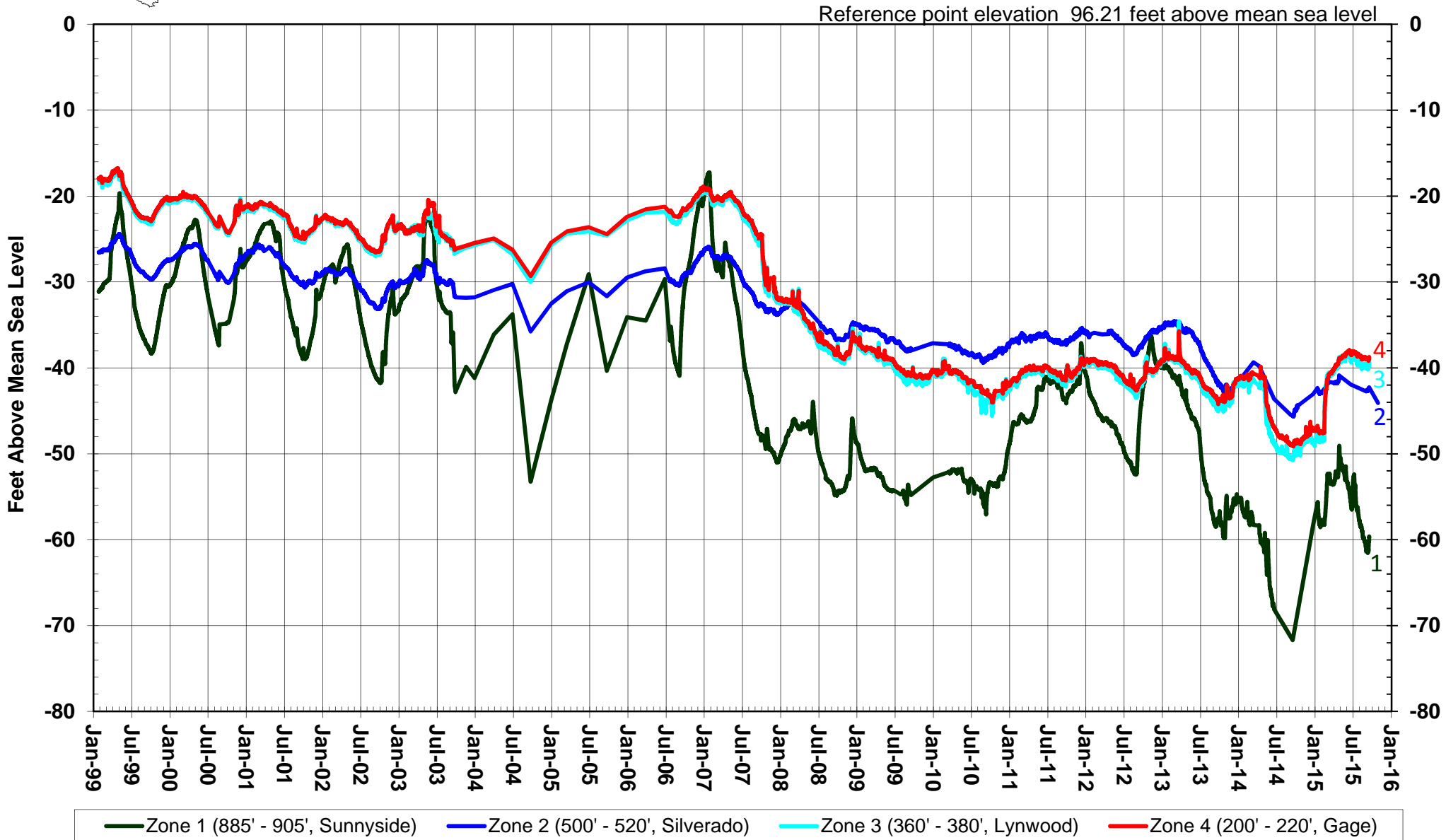


FIGURE 2.8
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL WILLOWBROOK #1



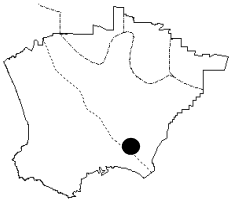
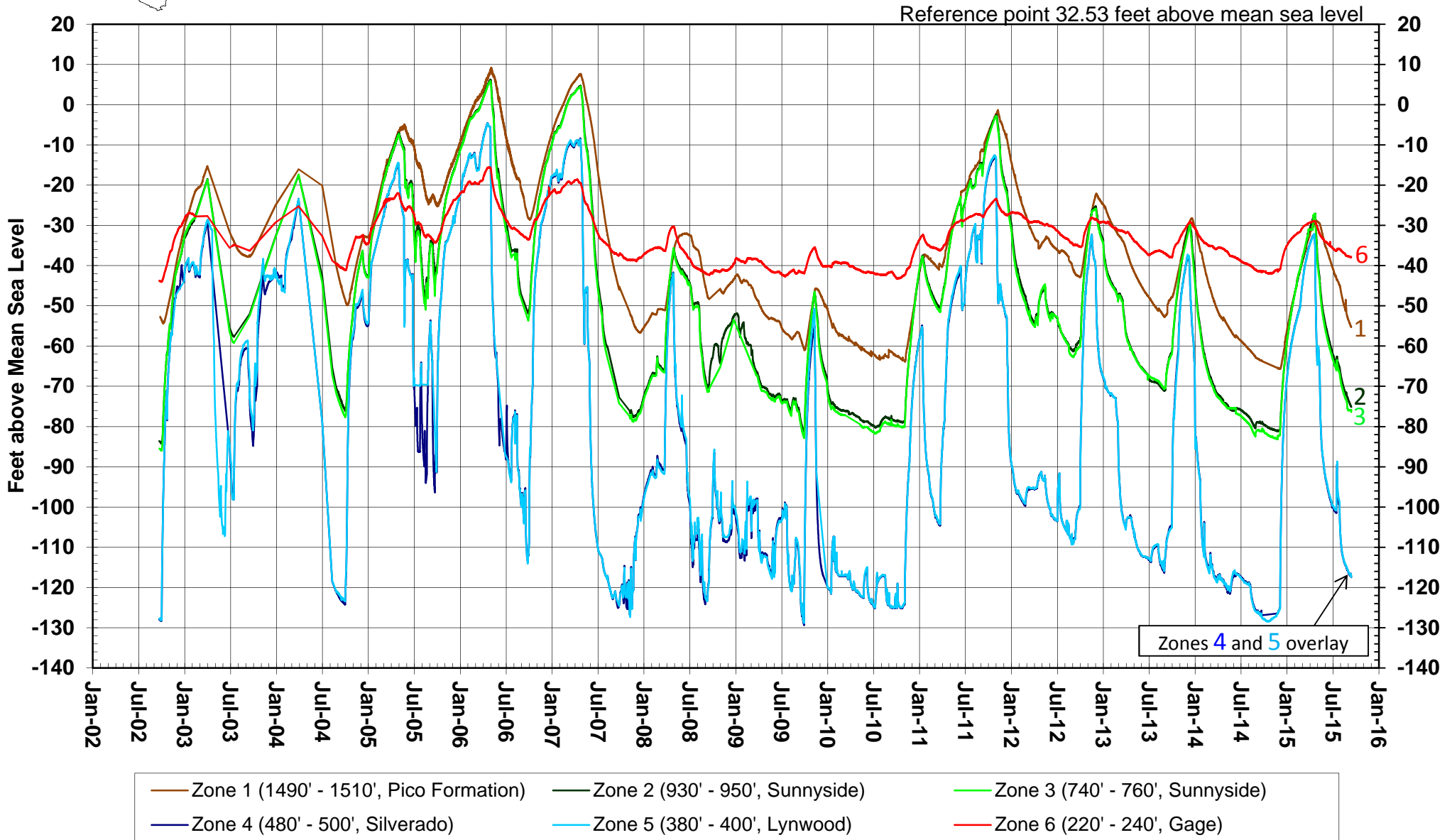


FIGURE 2.9
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL LONG BEACH #6



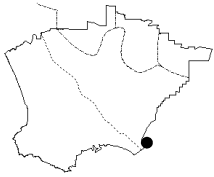
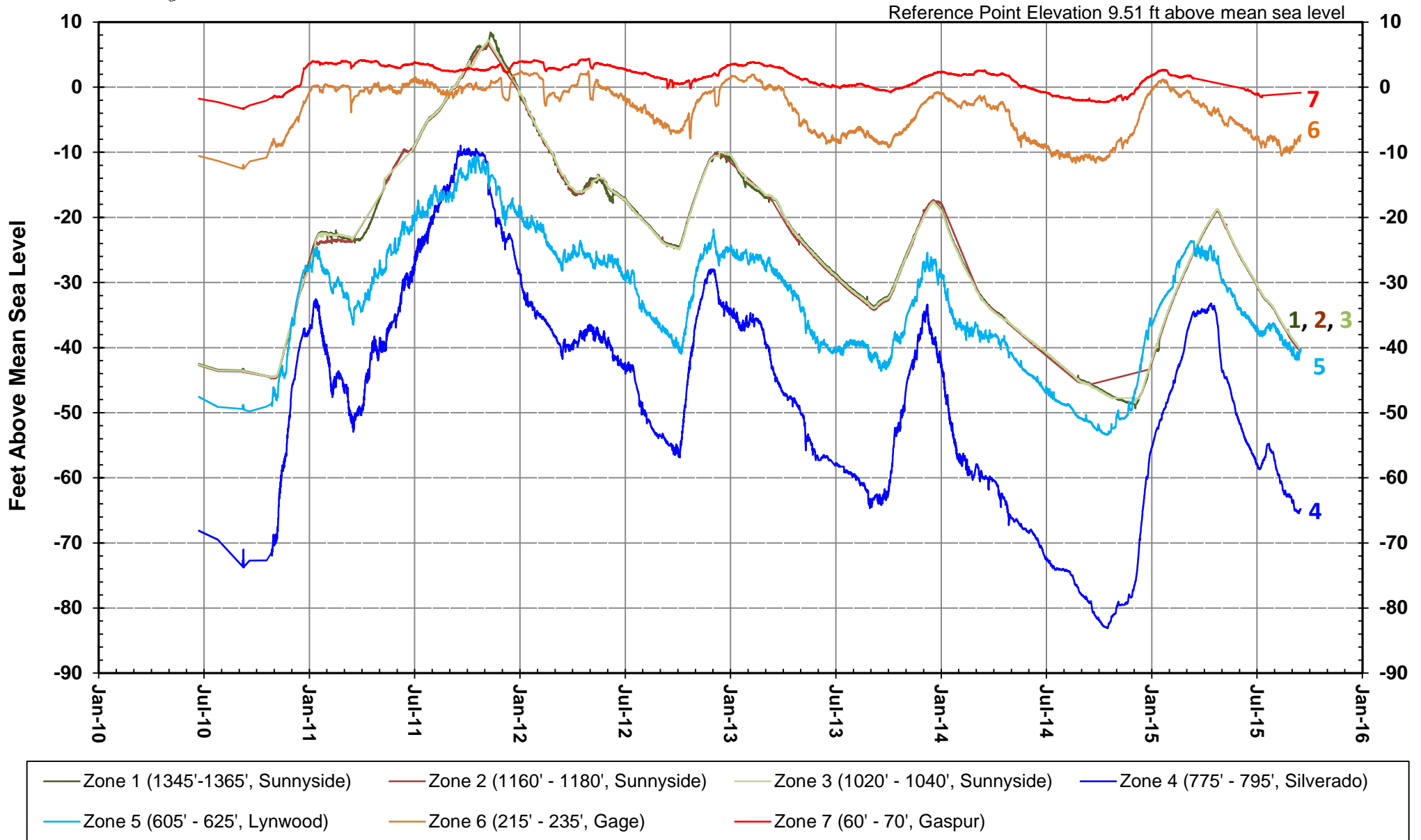


FIGURE 2.10
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL SEAL BEACH #1



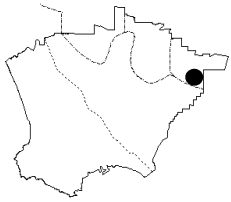
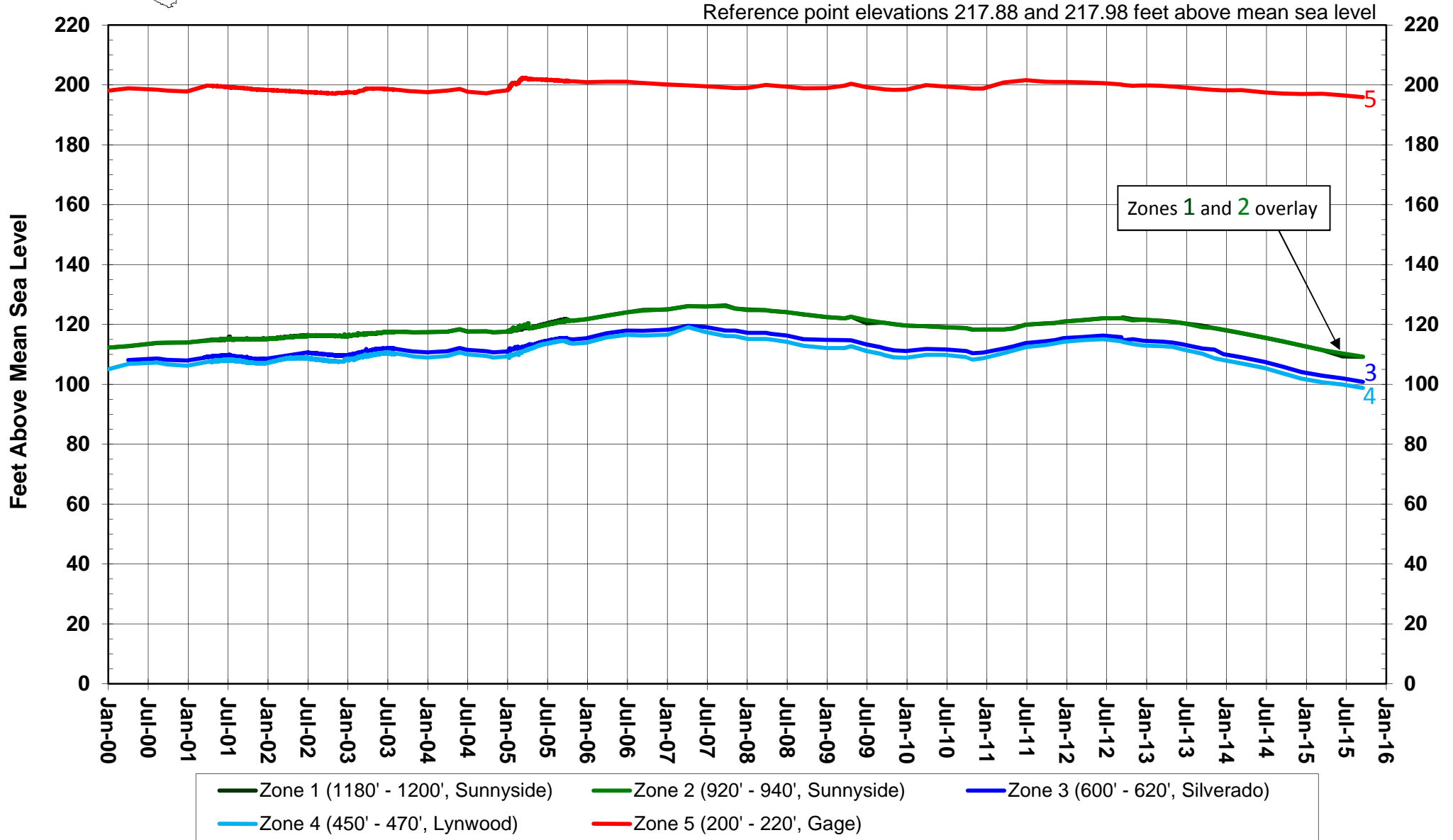


FIGURE 2.11
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL WHITTIER #1



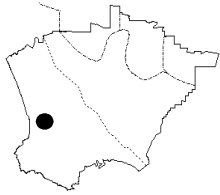
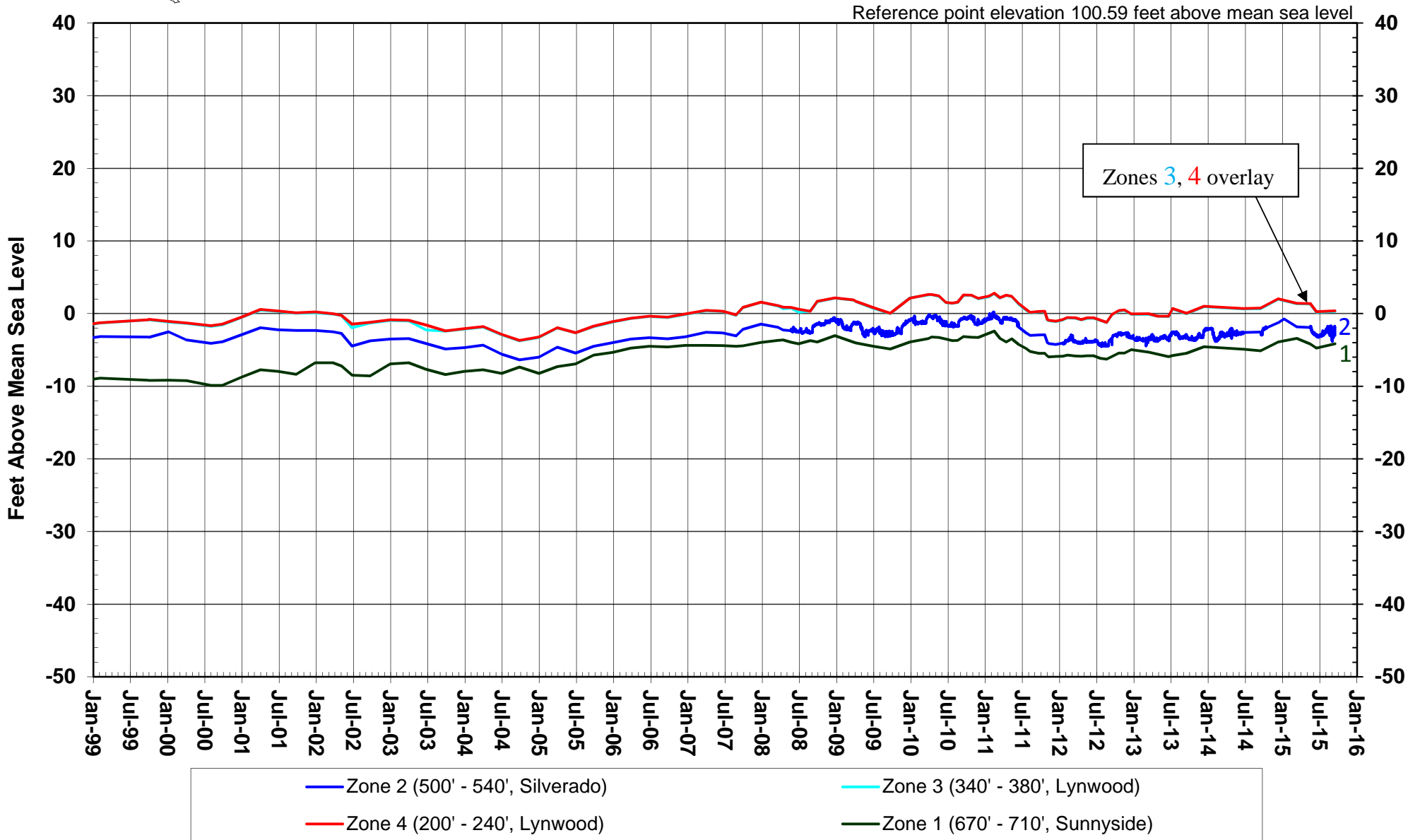


FIGURE 2.12
WATER LEVELS IN WRD NESTED
MONITORING WELL PM-4 MARINER



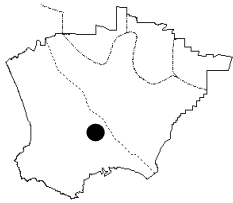
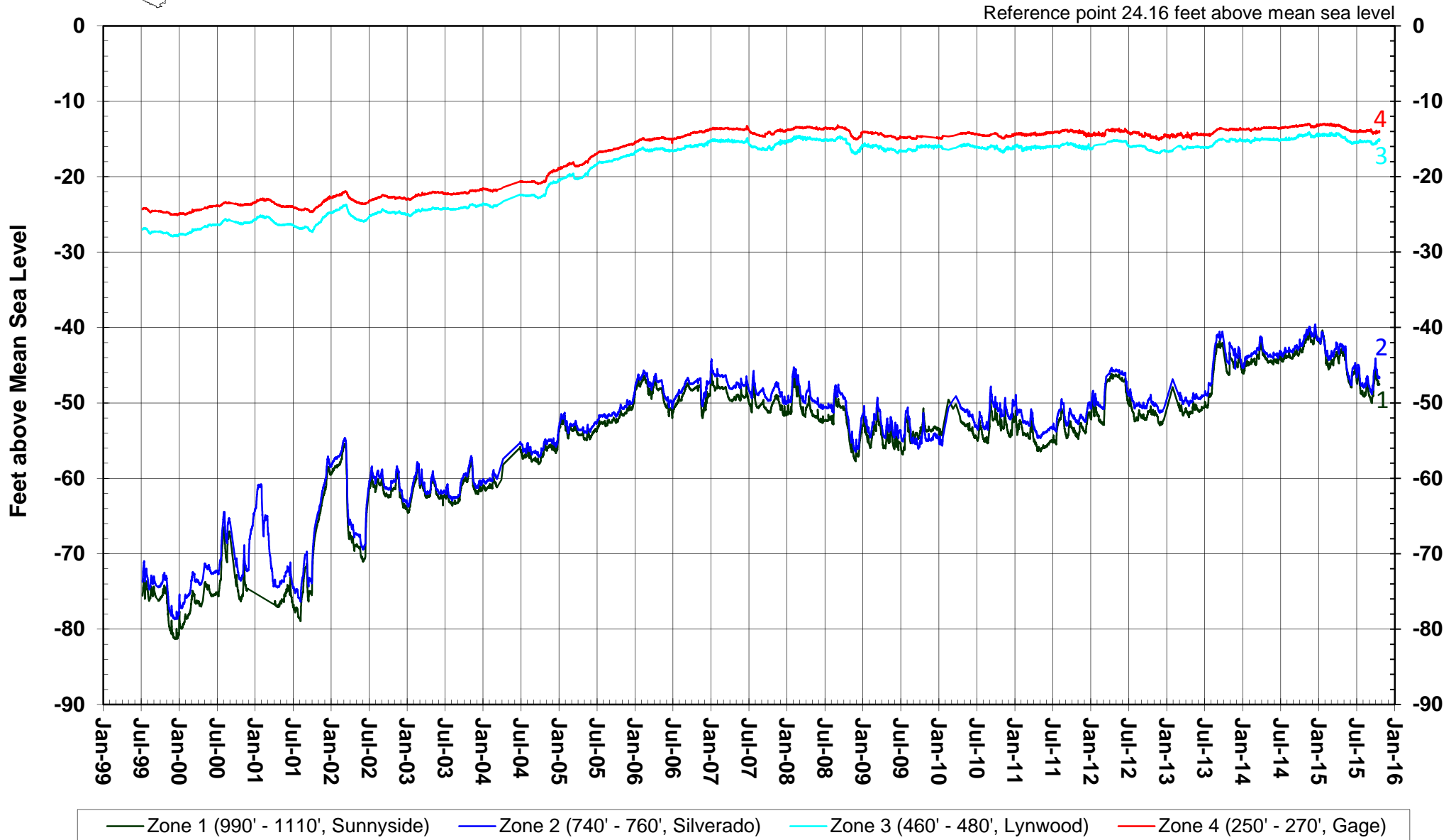


FIGURE 2.13
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL CARSON #1



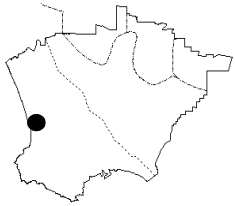
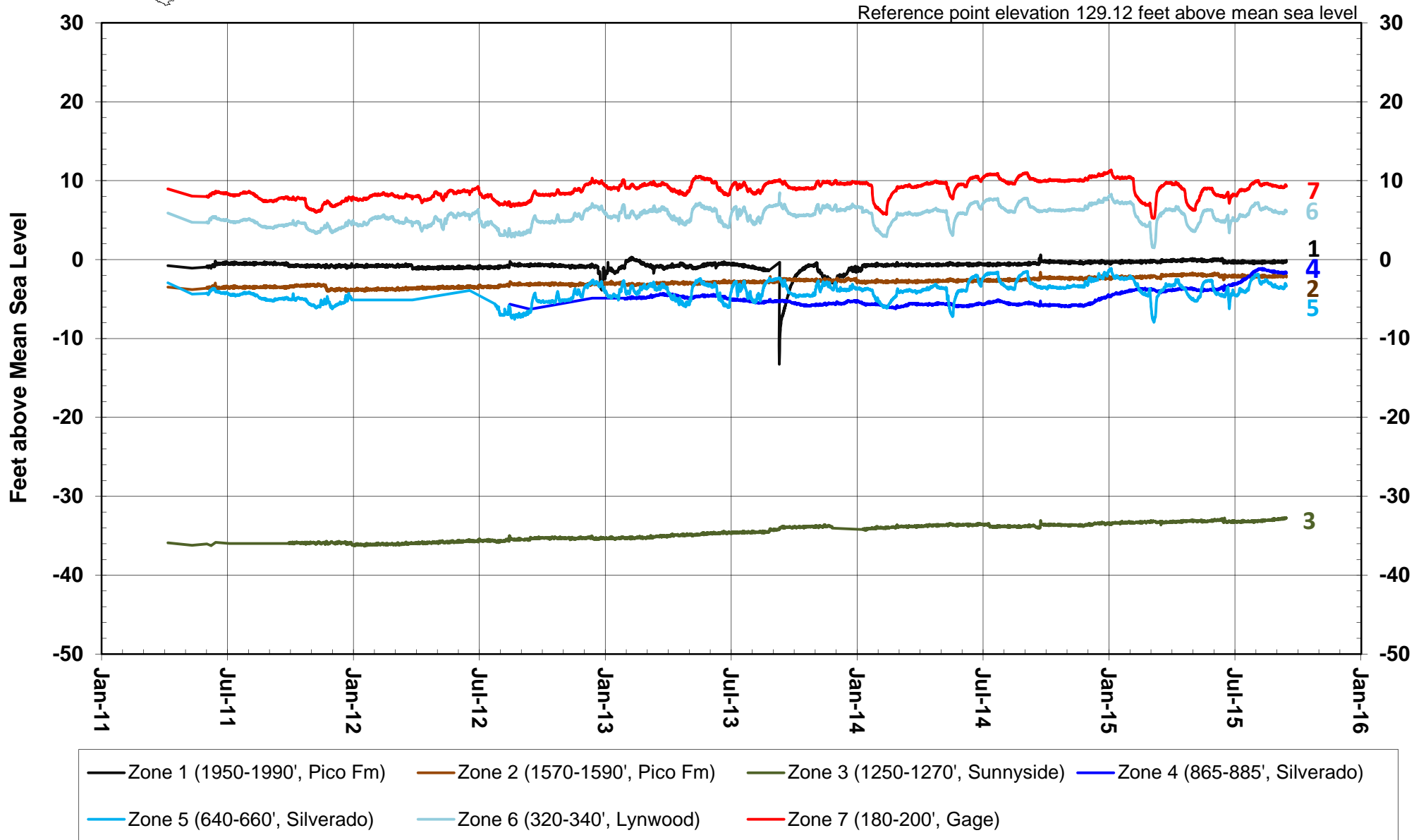


FIGURE 2.14
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL MANHATTAN BEACH #1



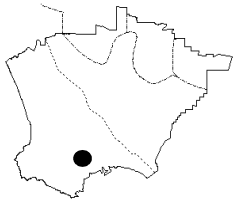
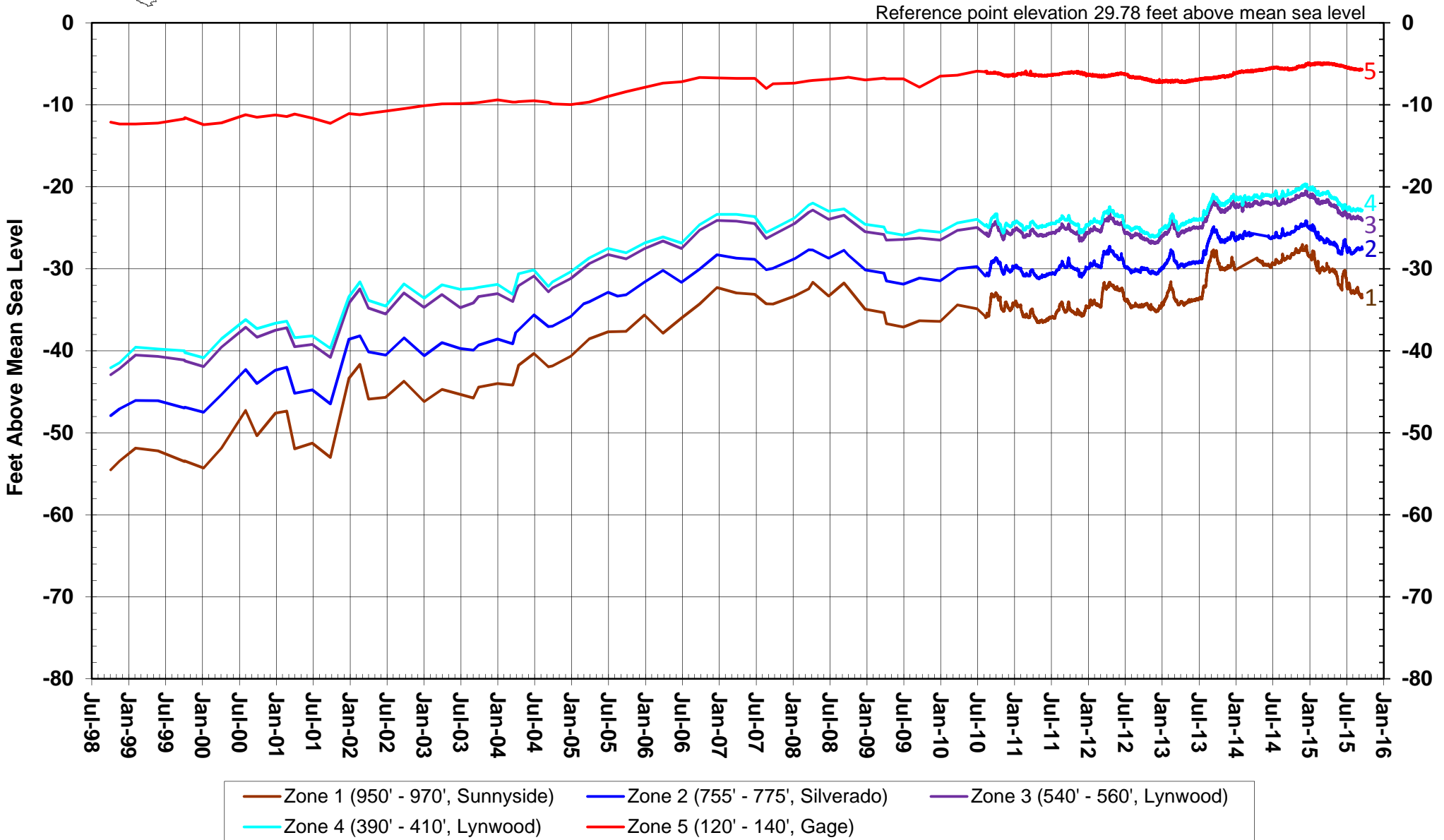


FIGURE 2.15
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL WILMINGTON #2



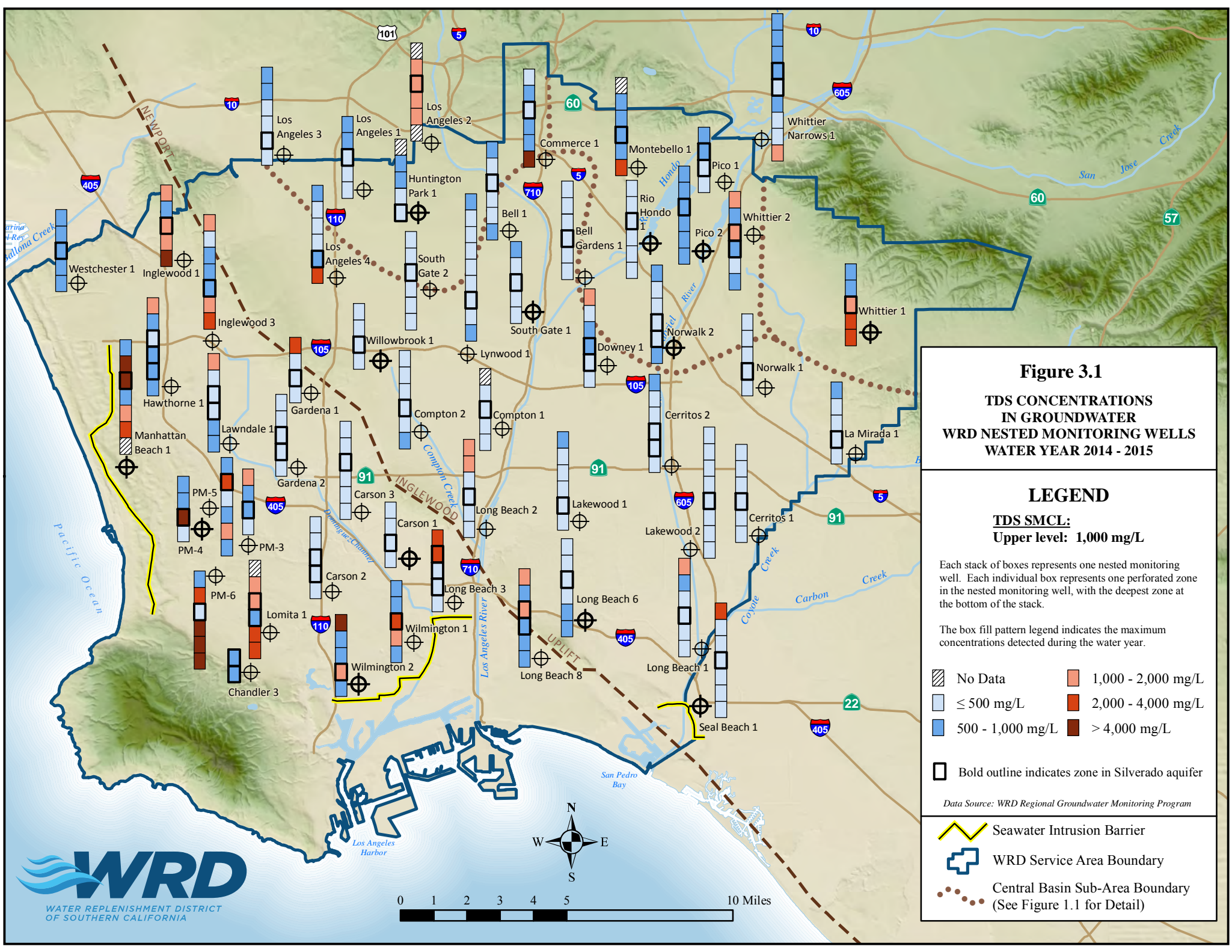


Figure 3.1
TDS CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2014 - 2015

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)

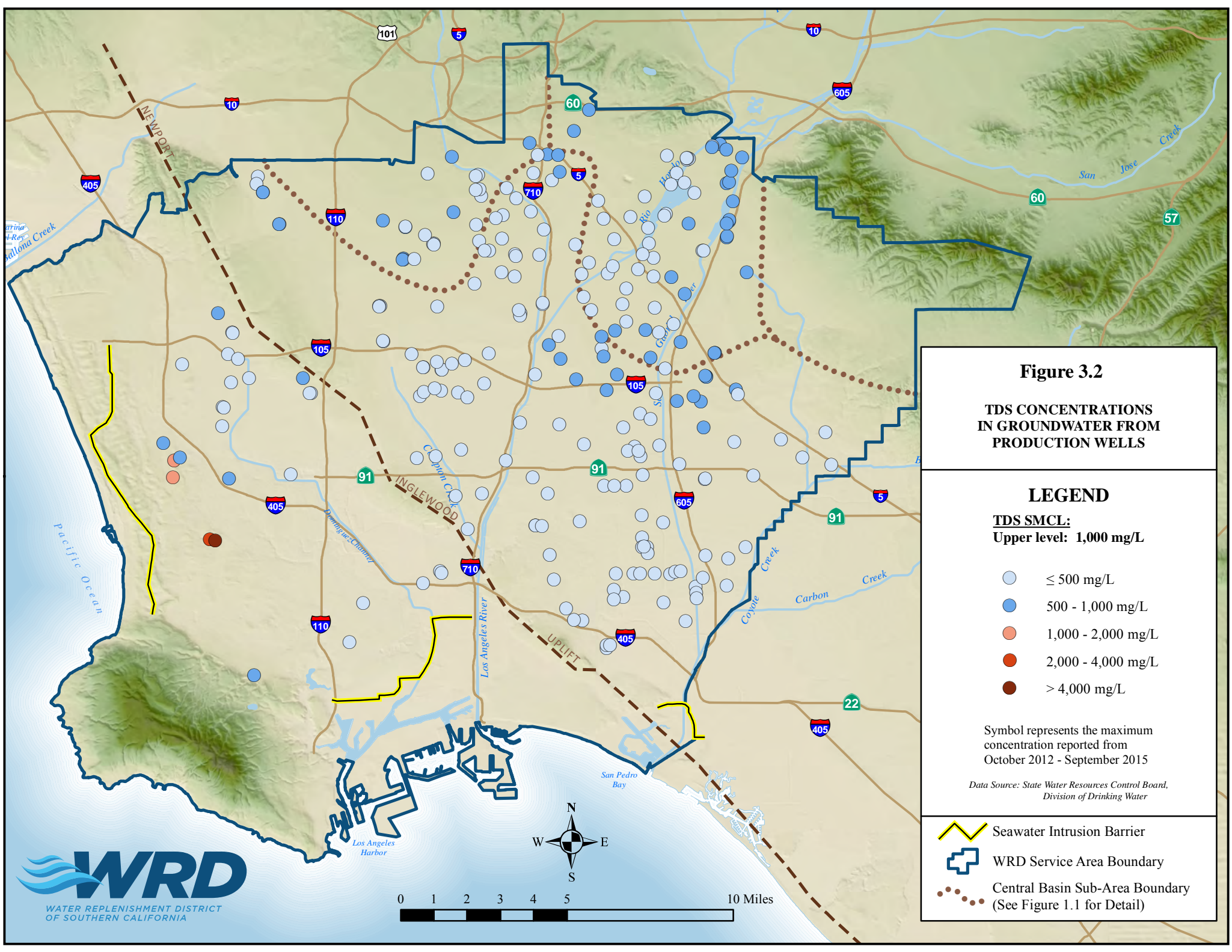


Figure 3.2

**TDS CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS**

LEGEND

TDS 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 2012 - September 2015

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)



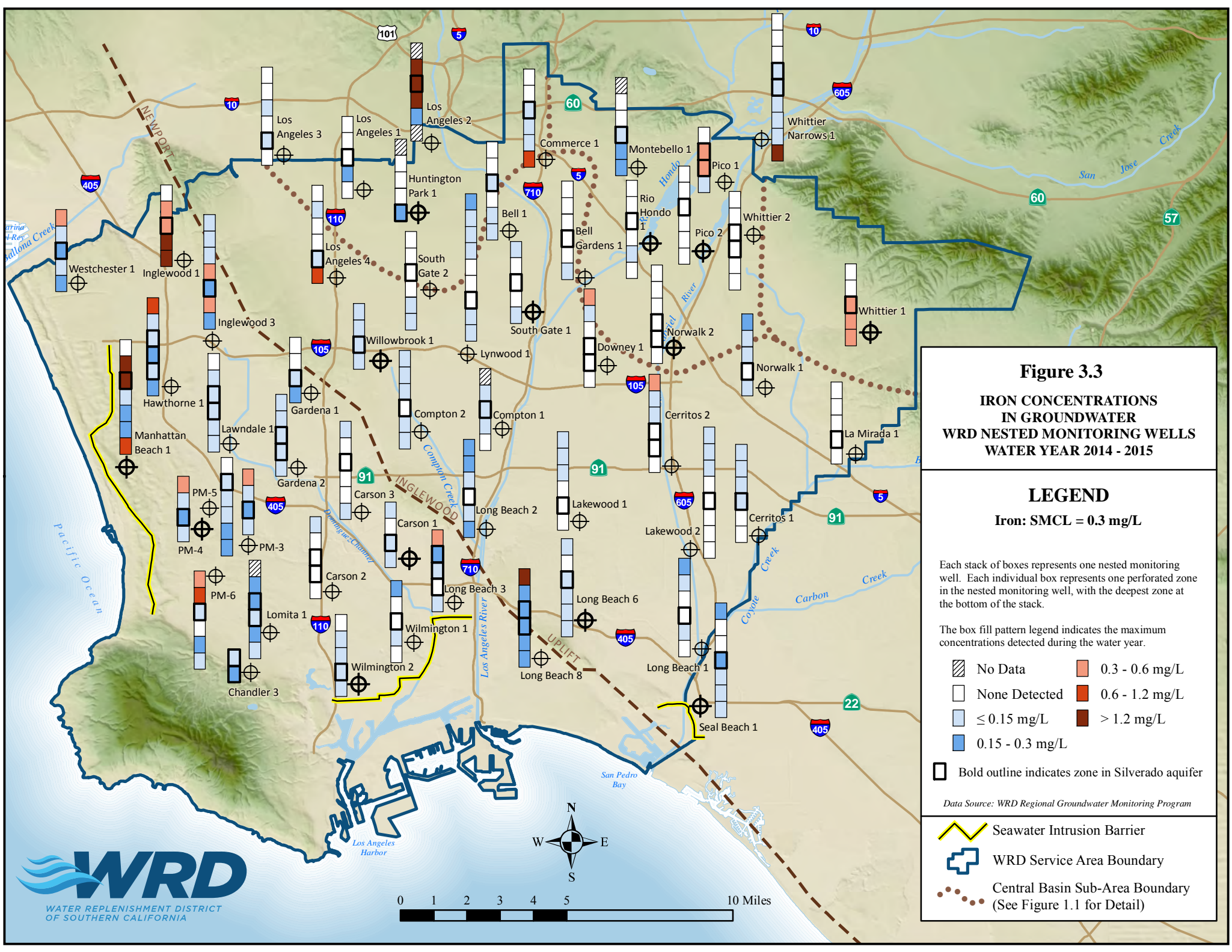


Figure 3.3
IRON CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2014 - 2015

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
- 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
- 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)



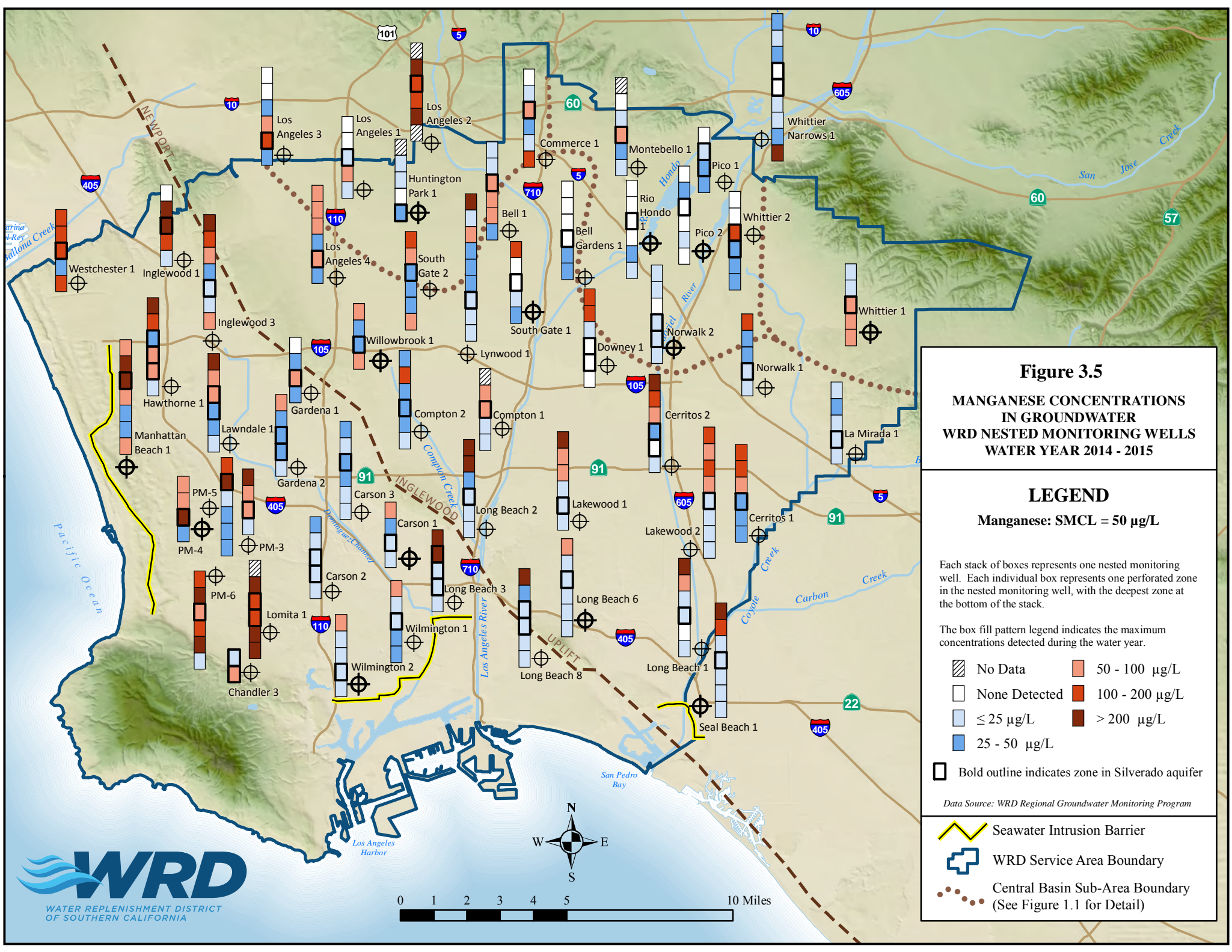


Figure 3.5
MANGANESE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2014 - 2015

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		≤ 25 µg/L
	None Detected		25 - 50 µg/L
	50 - 100 µg/L		100 - 200 µg/L
	> 200 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)



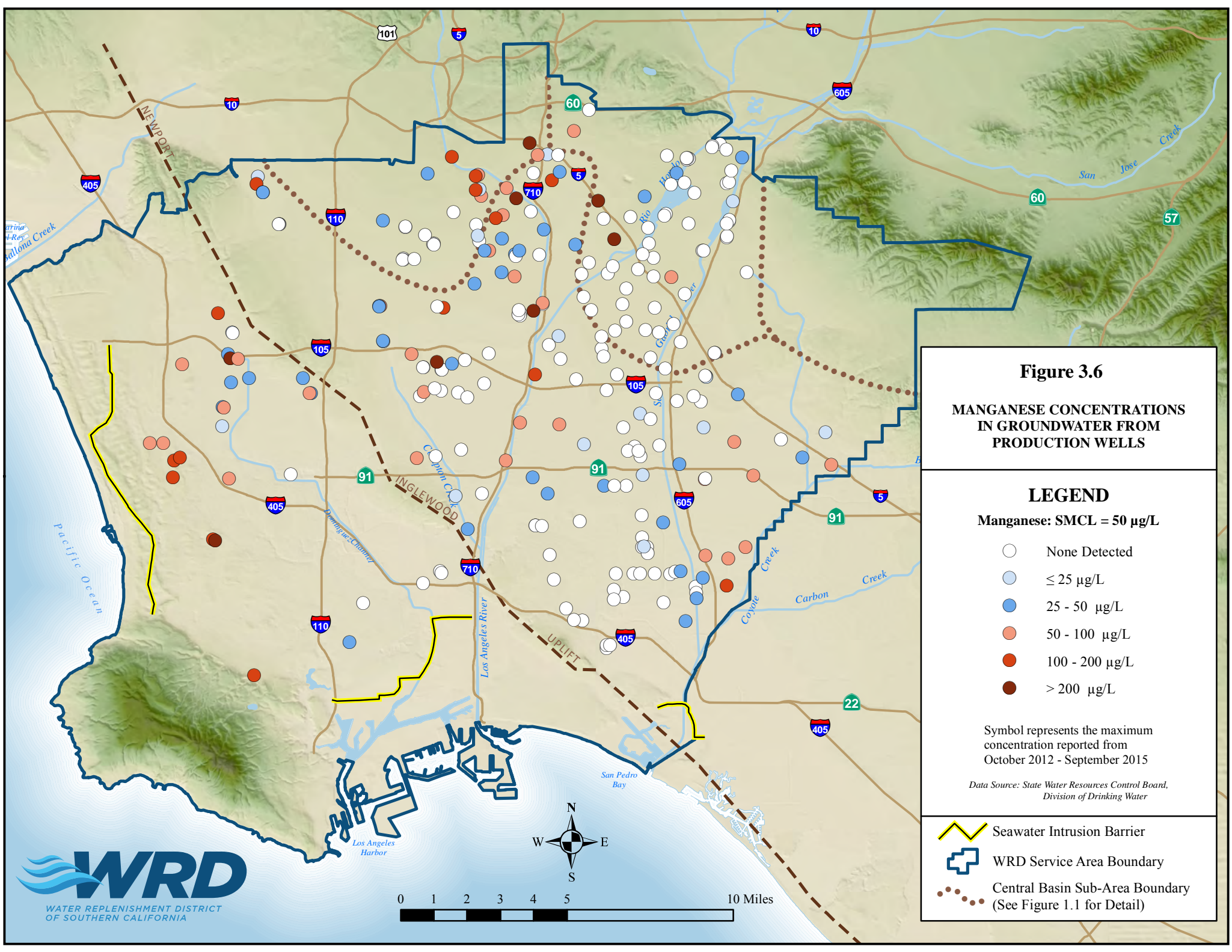


Figure 3.6

**MANGANESE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS**

LEGEND

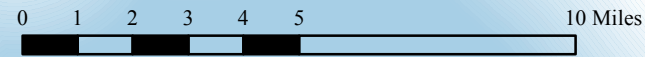
Manganese: SMCL = 50 µg/L

- 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 2012 - September 2015

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)



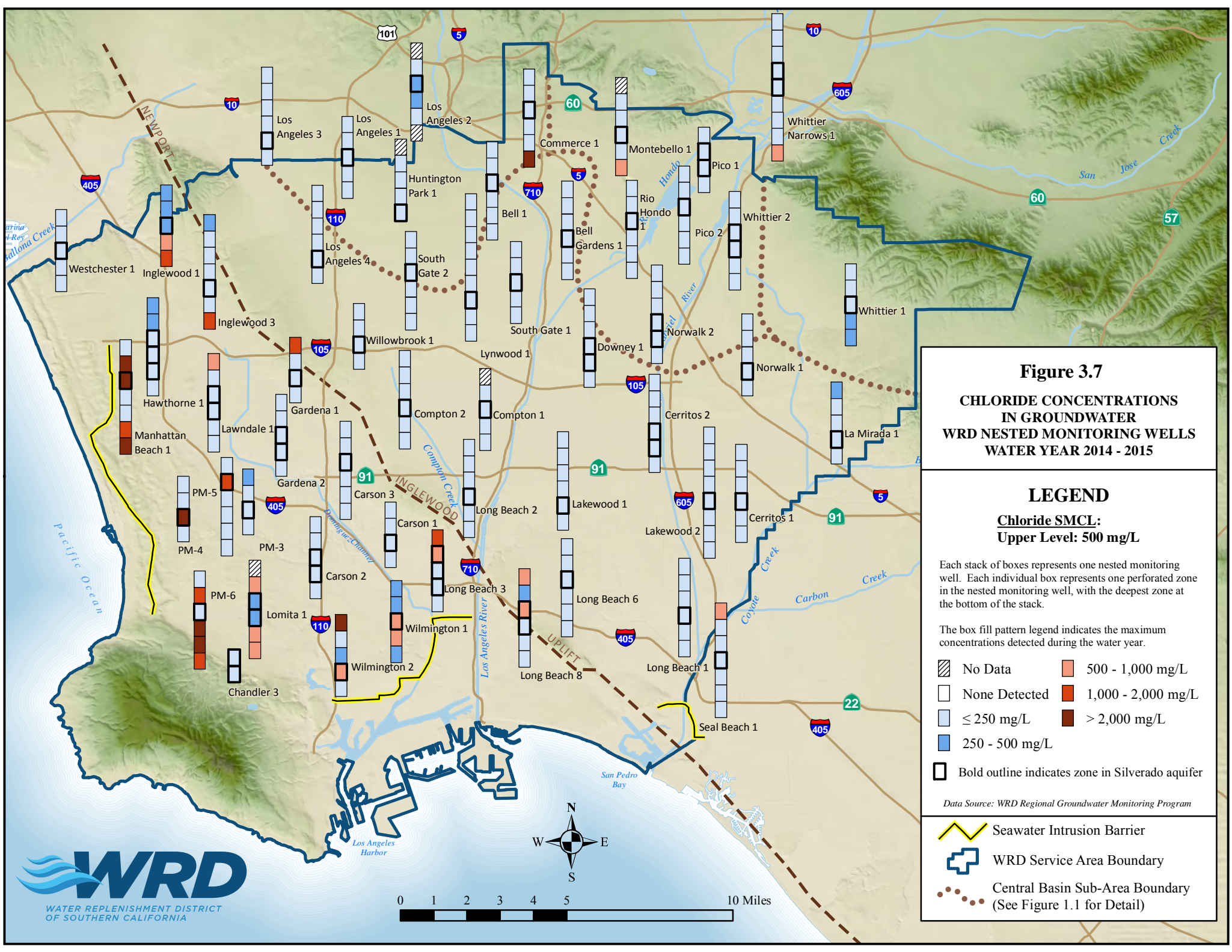


Figure 3.7
CHLORIDE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2014 - 2015

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
	None Detected		1,000 - 2,000 mg/L
	≤ 250 mg/L		> 2,000 mg/L
	250 - 500 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)

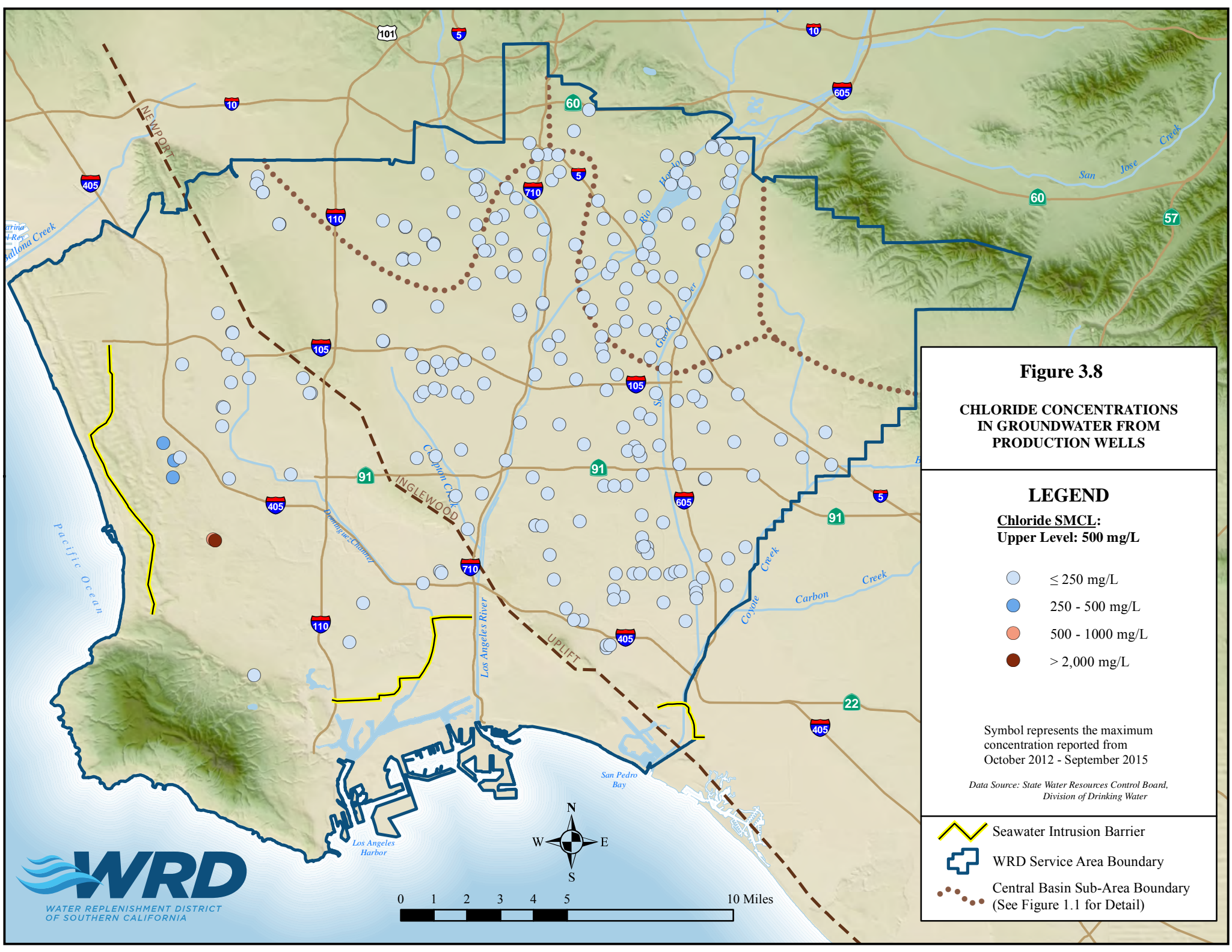


Figure 3.8

**CHLORIDE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS**

LEGEND

Chloride SMCL:
Upper Level: 500 mg/L

- ≤ 250 mg/L
- 250 - 500 mg/L
- 500 - 1000 mg/L
- > 2,000 mg/L

Symbol represents the maximum concentration reported from October 2012 - September 2015

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)

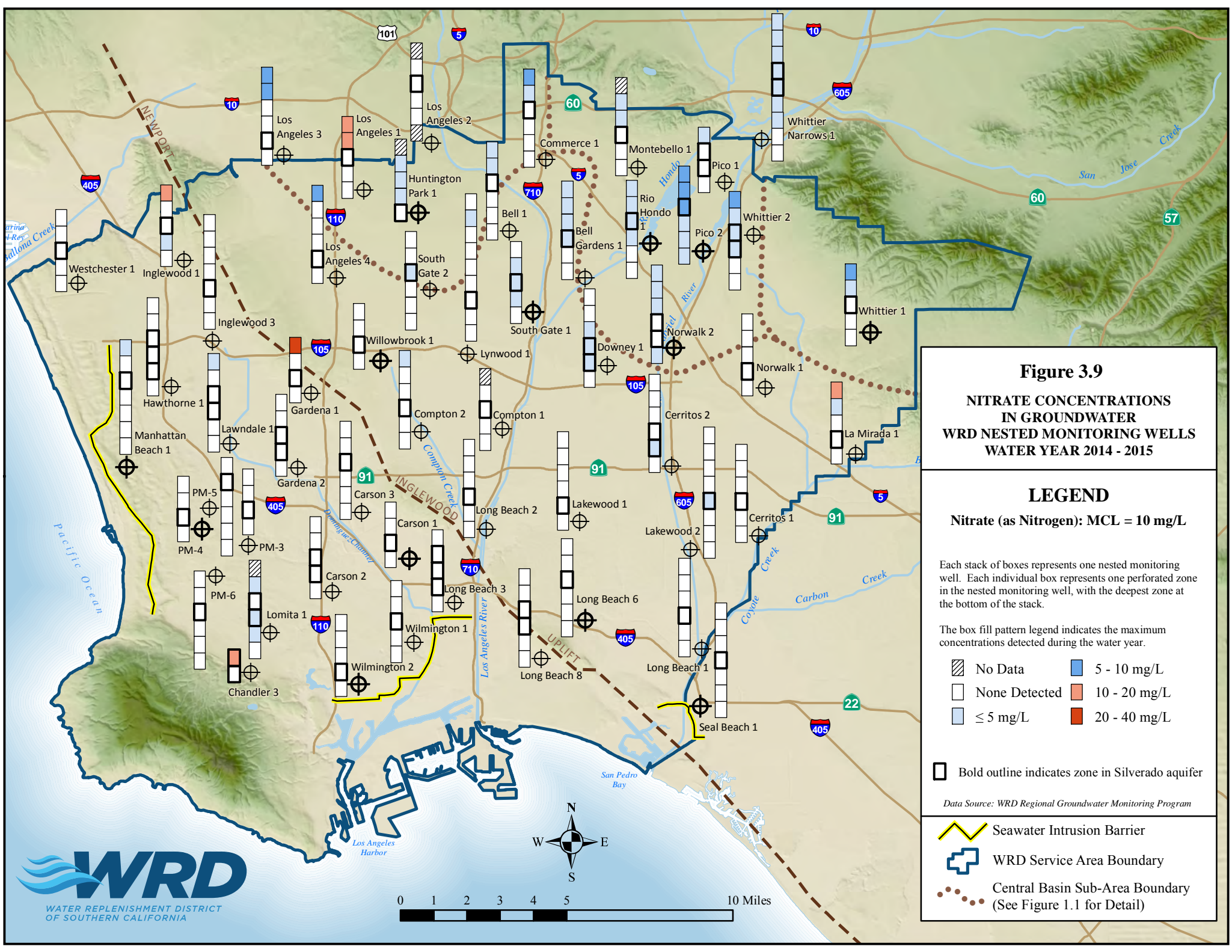


Figure 3.9
NITRATE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2014 - 2015

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)

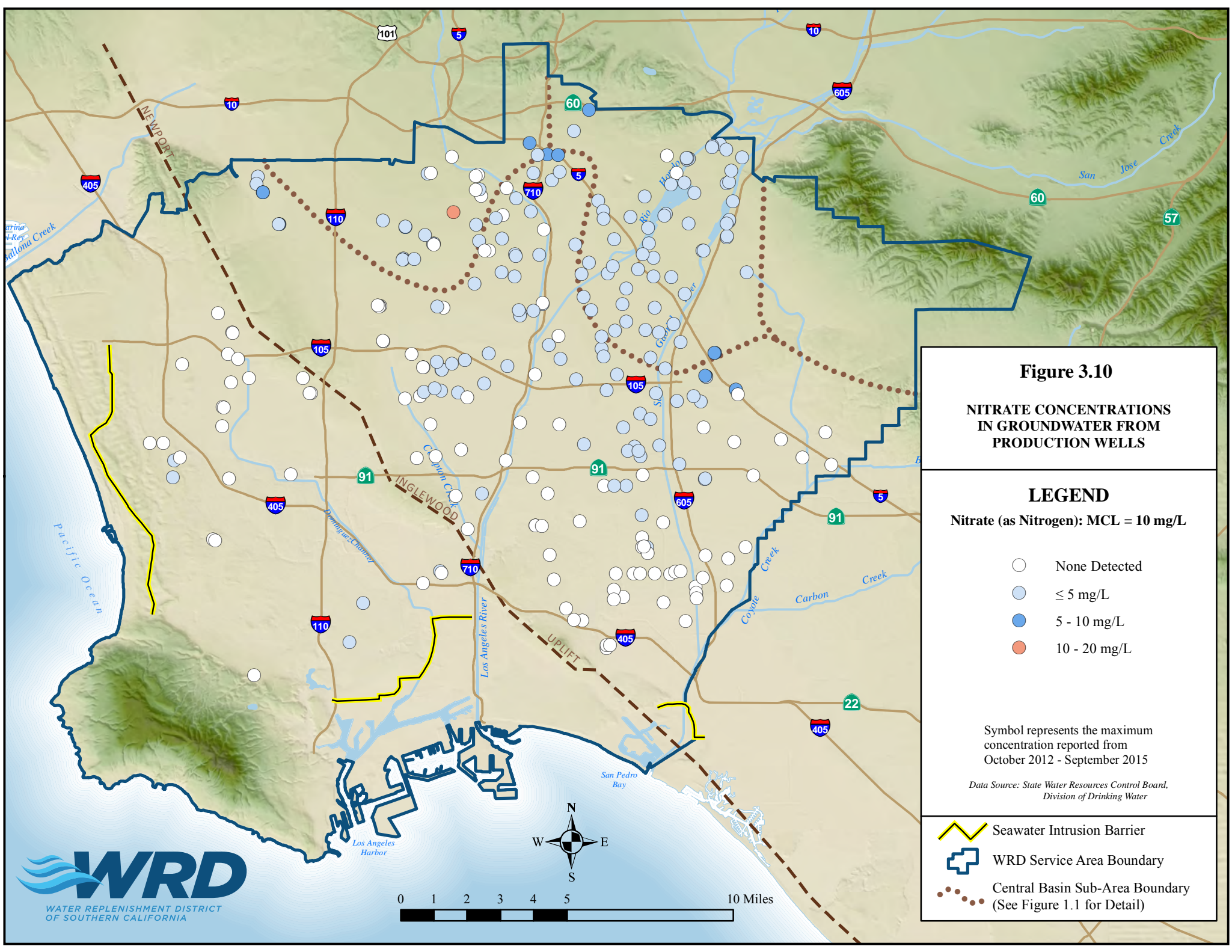


Figure 3.10

**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 2012 - September 2015

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)

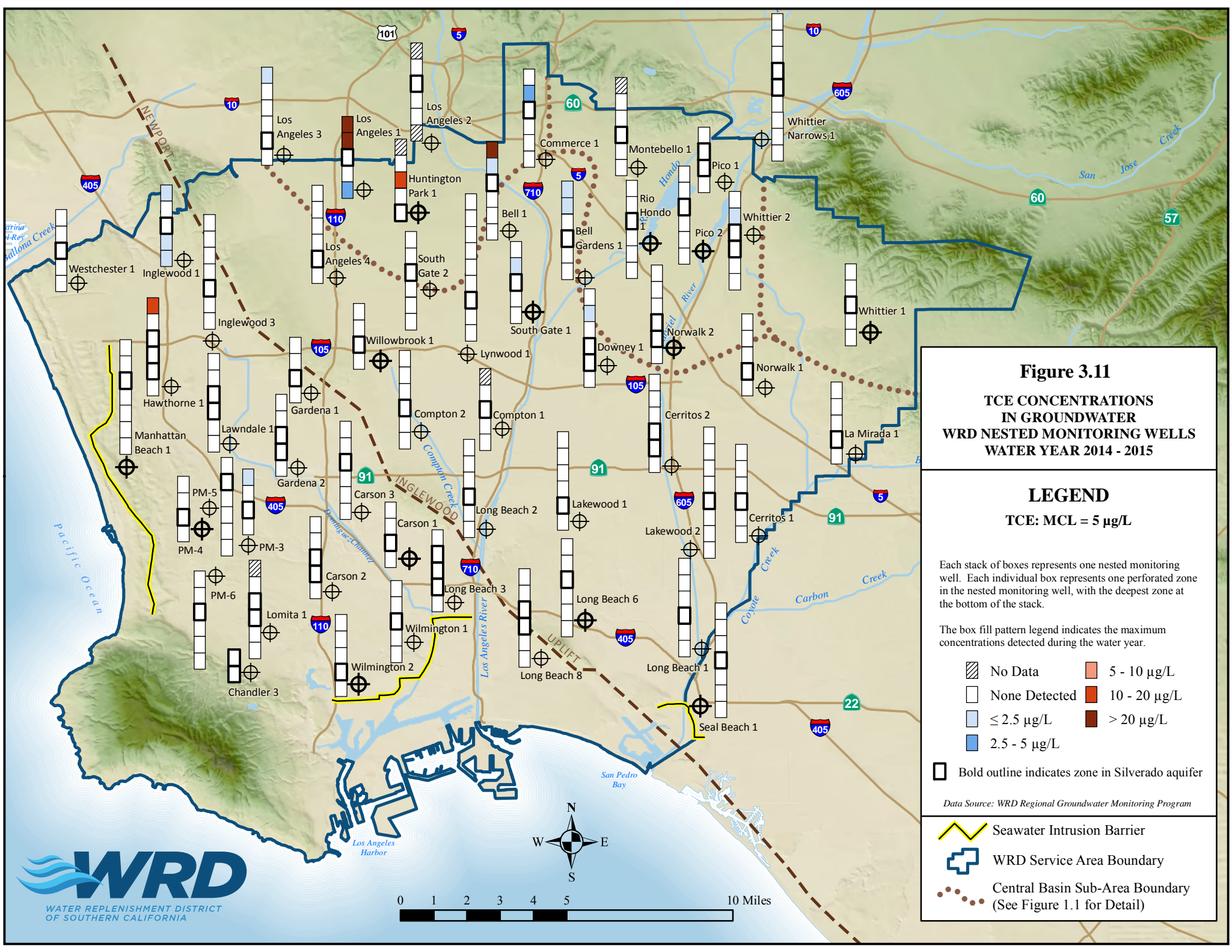


Figure 3.11
TCE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2014 - 2015

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
- None Detected
- ≤ 2.5 µg/L
- 2.5 - 5 µg/L
- 5 - 10 µg/L
- 10 - 20 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)



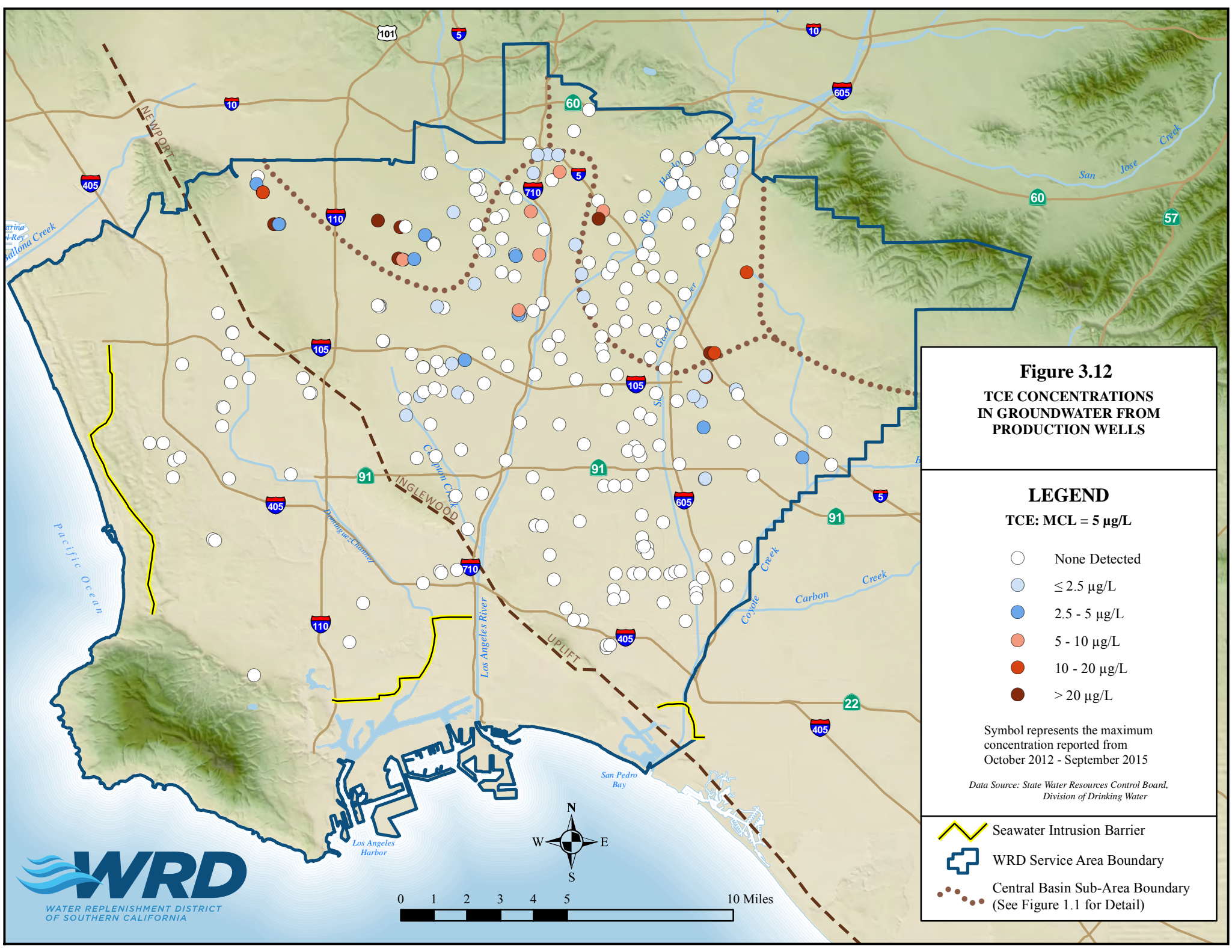


Figure 3.12
TCE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

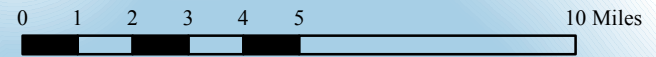
TCE: MCL = 5 µg/L

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

Symbol represents the maximum concentration reported from October 2012 - September 2015

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)



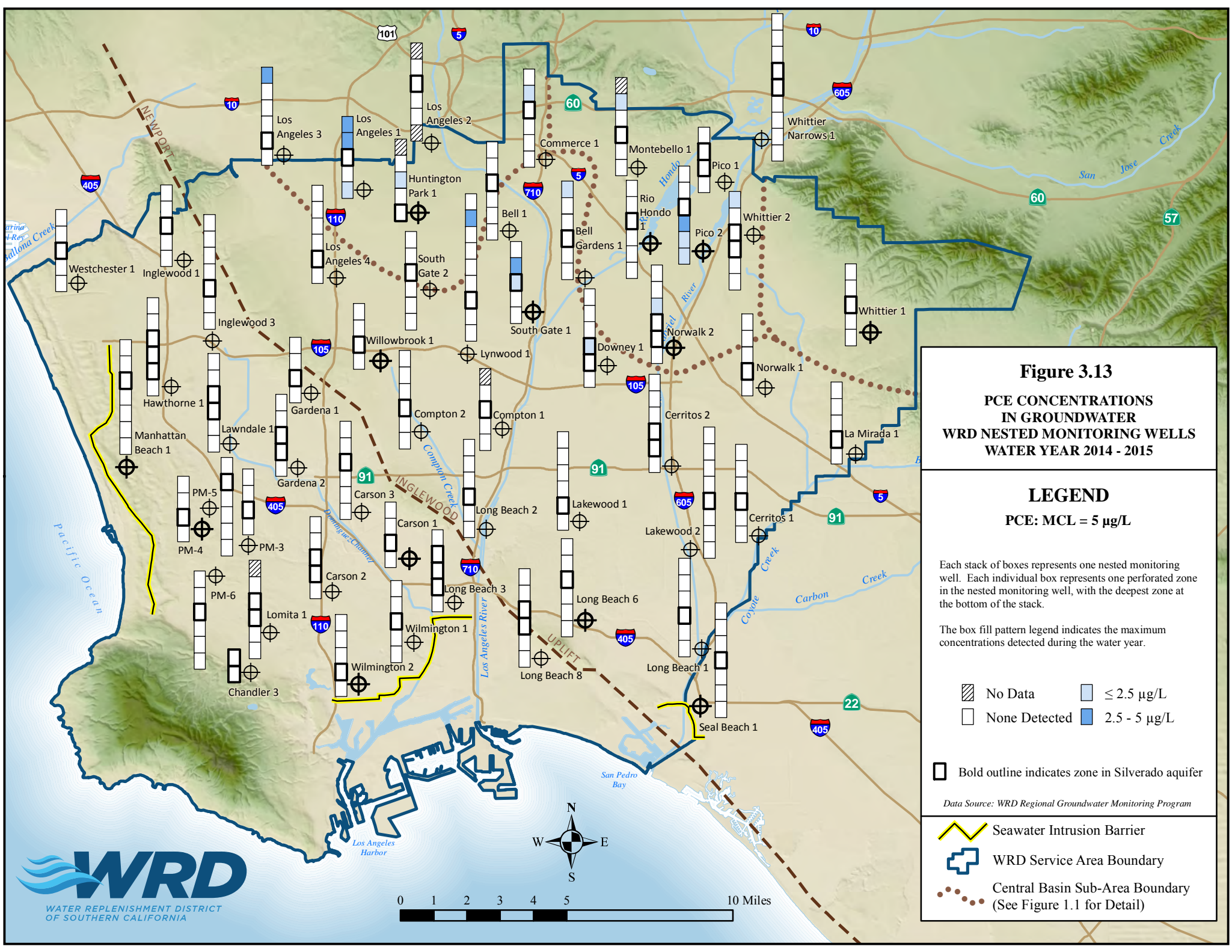


Figure 3.13
PCE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2014 - 2015

LEGEND
 PCE: MCL = 5 µg/L

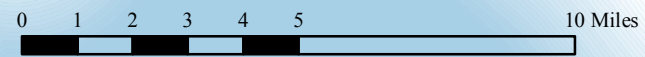
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.

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

- No Data
- None Detected
- ≤ 2.5 µg/L
- 2.5 - 5 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)



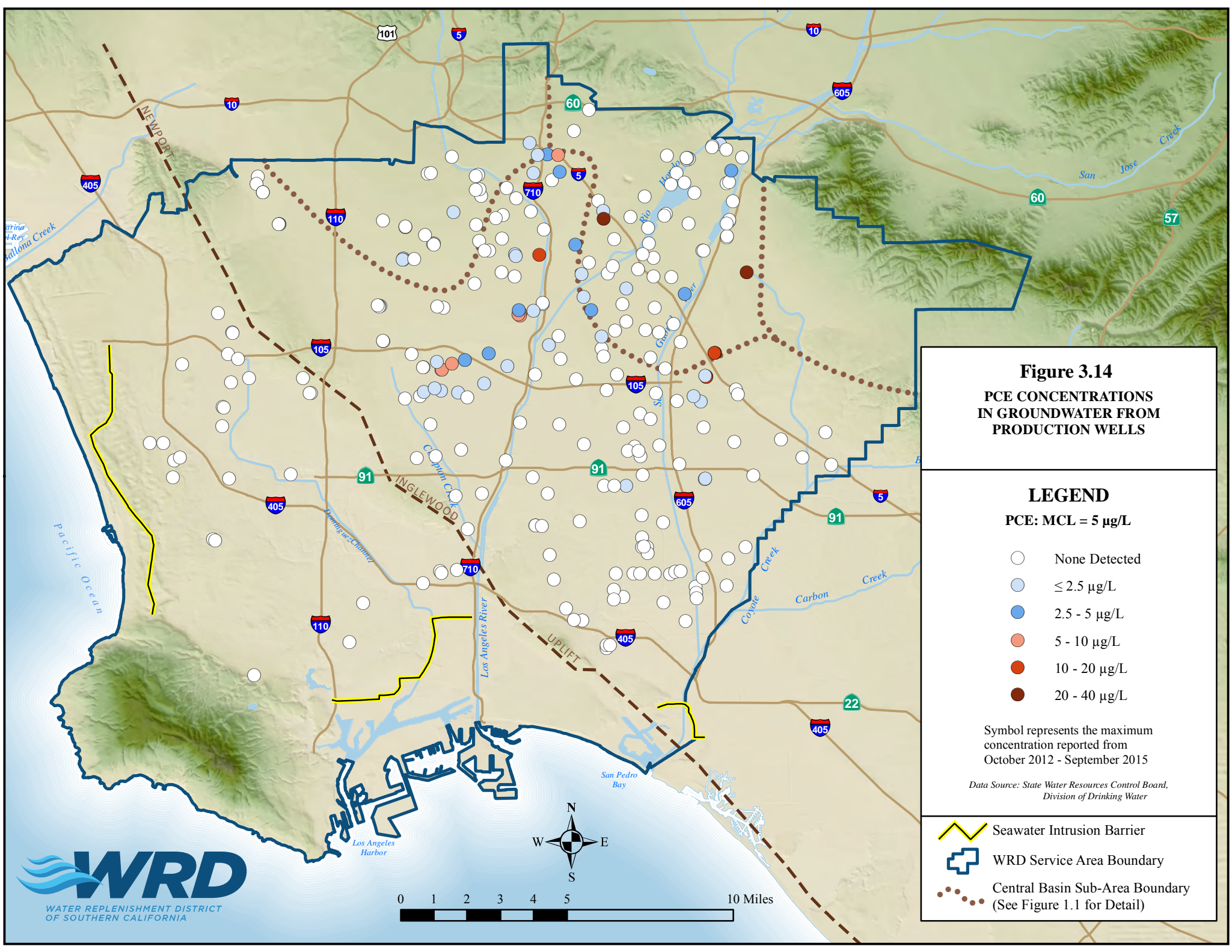


Figure 3.14
PCE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

LEGEND

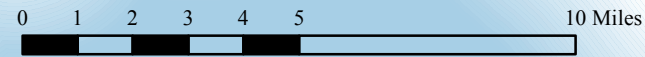
PCE: MCL = 5 µg/L

- None Detected
- ≤ 2.5 µg/L
- 2.5 - 5 µg/L
- 5 - 10 µg/L
- 10 - 20 µg/L
- 20 - 40 µg/L

Symbol represents the maximum concentration reported from October 2012 - September 2015

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)



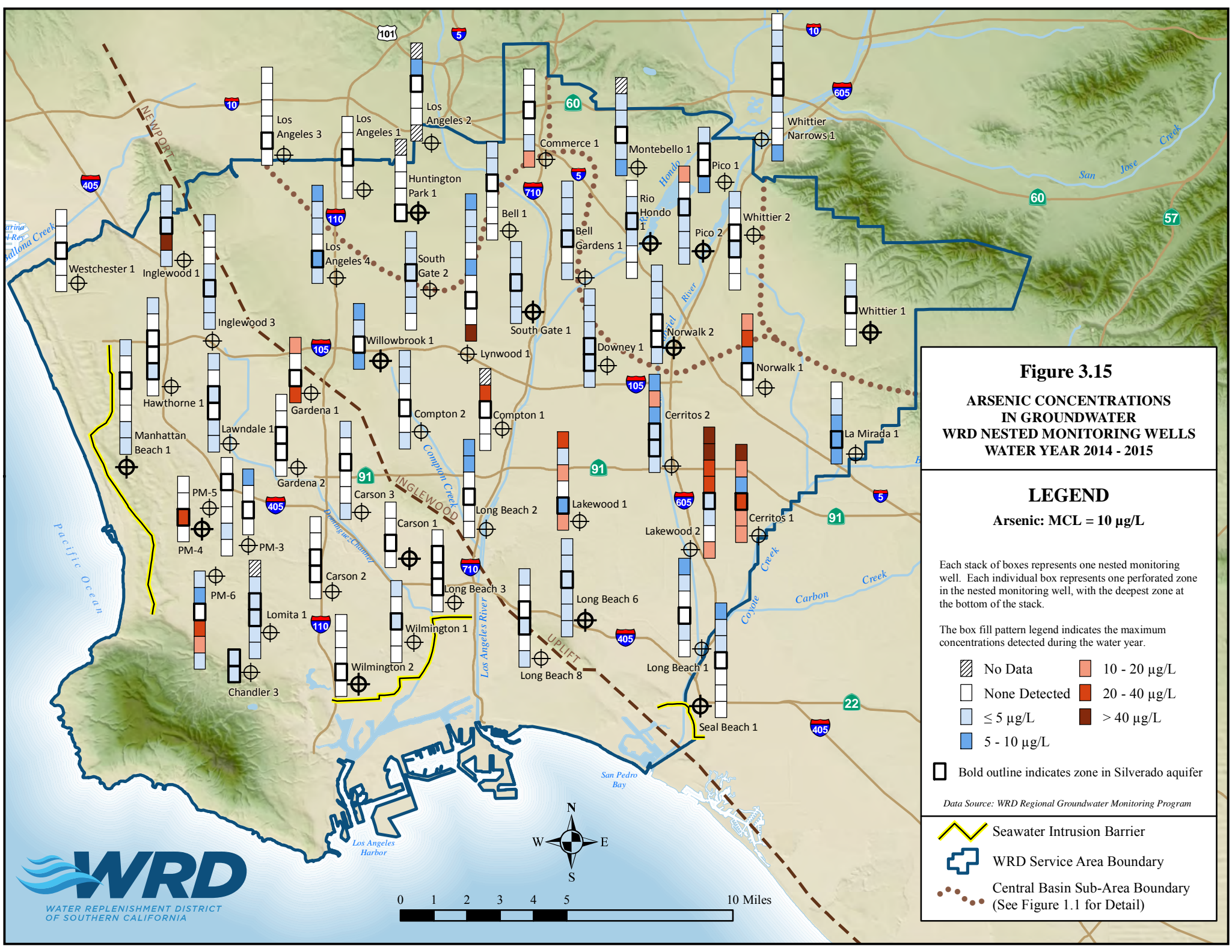


Figure 3.15
ARSENIC CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2014 - 2015

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)

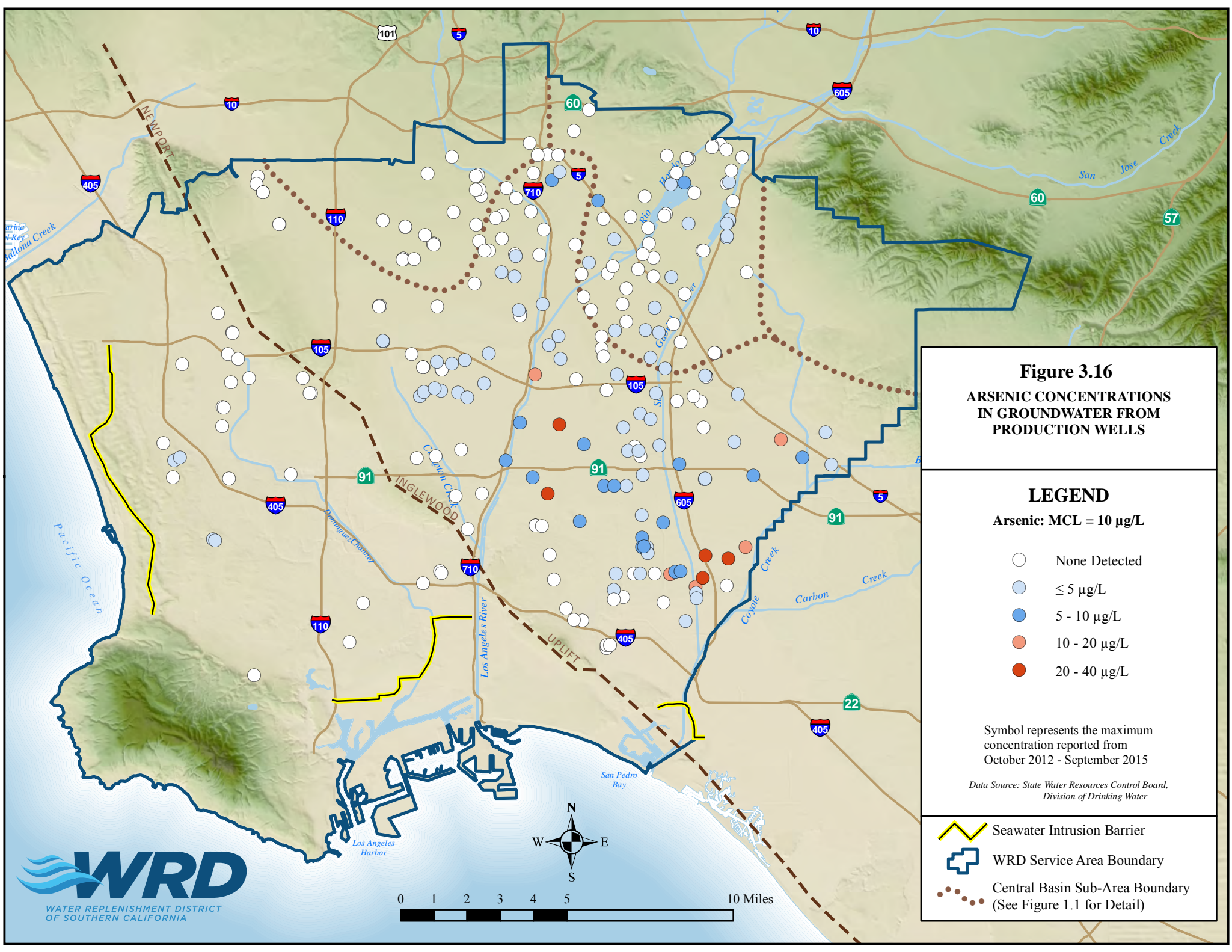


Figure 3.16
ARSENIC CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS

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 2012 - September 2015

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)

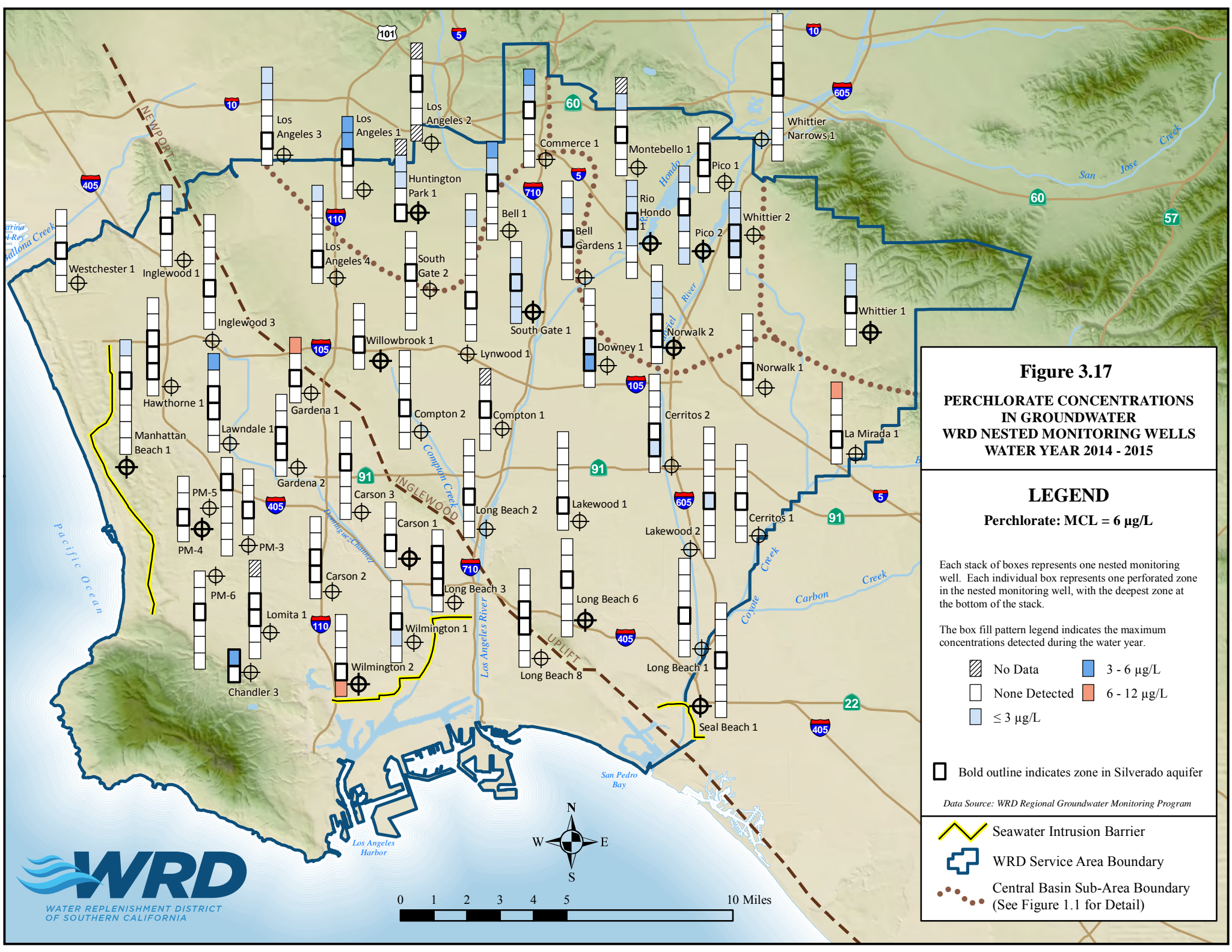


Figure 3.17
PERCHLORATE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2014 - 2015

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.

	None Detected		≤ 3 µg/L
	3 - 6 µg/L		6 - 12 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)

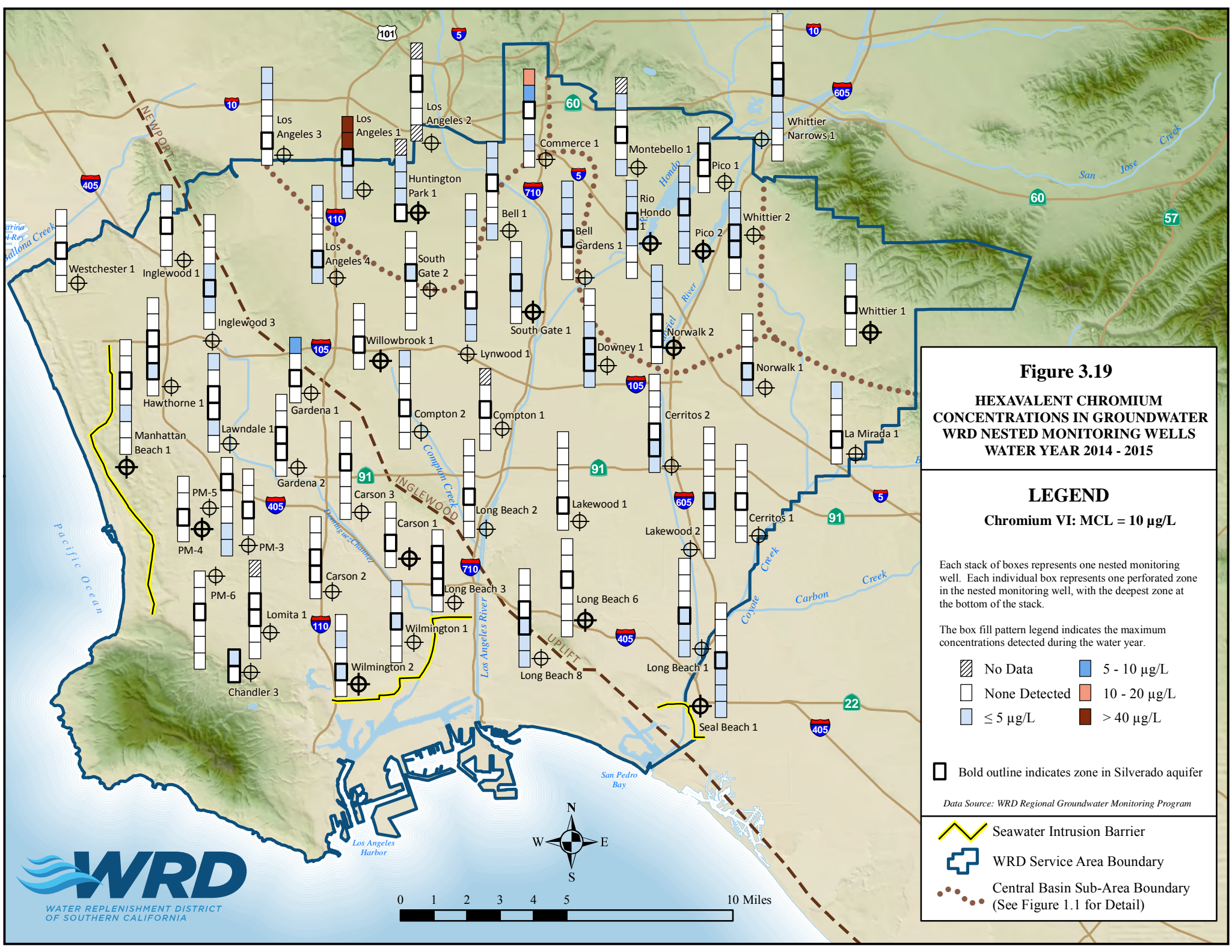


Figure 3.19
HEXAVALENT CHROMIUM
CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2014 - 2015

LEGEND

Chromium VI: 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		5 - 10 µg/L
	None Detected		10 - 20 µg/L
	≤ 5 µg/L		> 40 µg/L

Bold outline indicates zone in Silverado aquifer

Data Source: WRD Regional Groundwater Monitoring Program

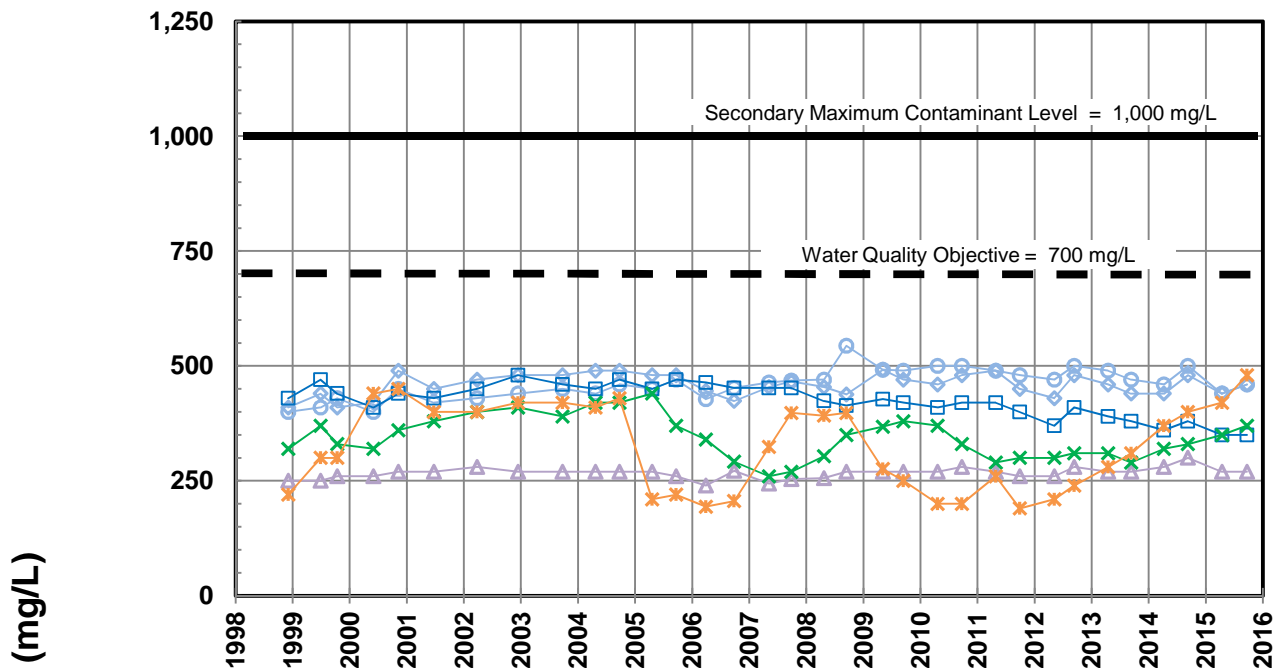
Seawater Intrusion Barrier

WRD Service Area Boundary

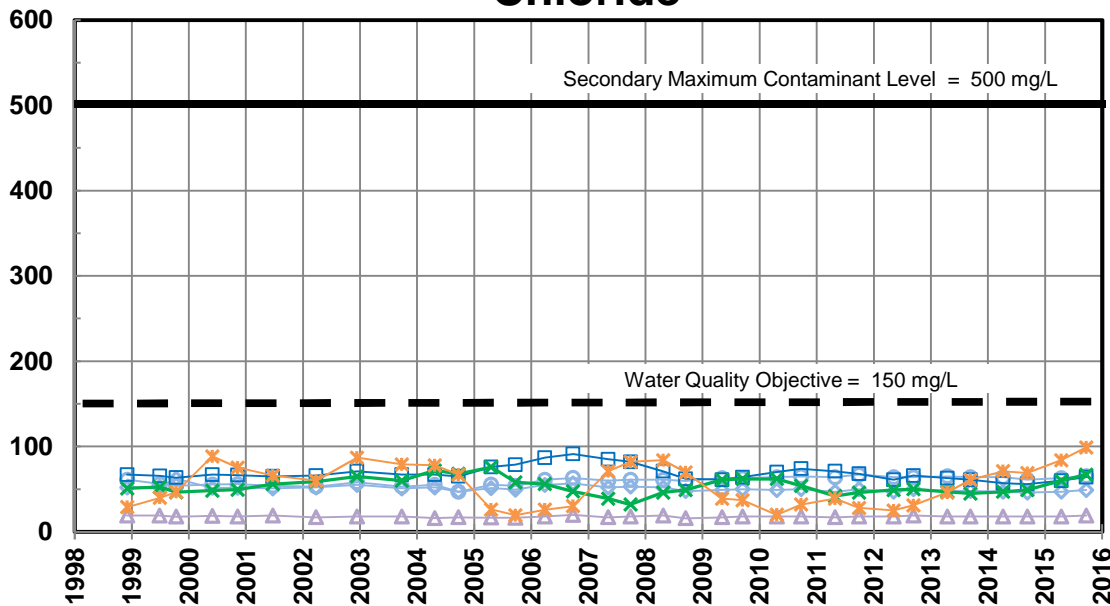
Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)



Total Dissolved Solids



Chloride

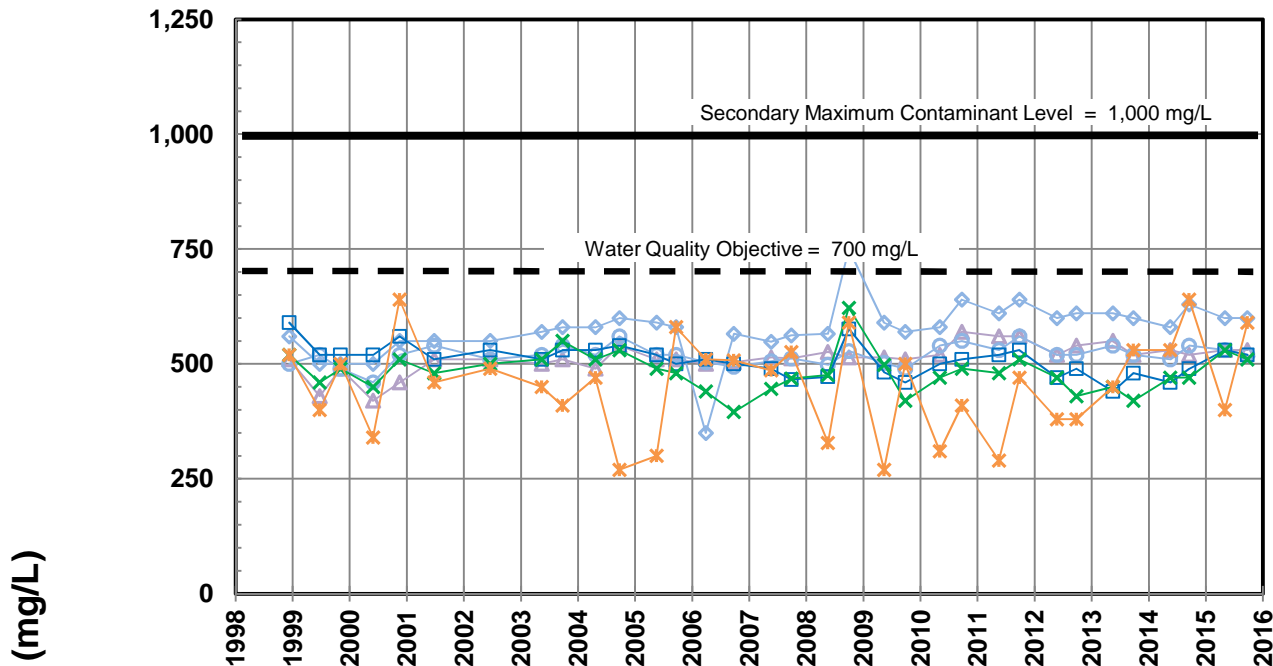


- ▲ Zone 1 (1110'-1130', Sunnyside)
- ◆ Zone 2 (910'-930', Sunnyside)
- Zone 3 (710'-730', Sunnyside)
- Zone 4 (430'-450', Silverado)
- × Zone 5 (280'-300', Lynwood)
- ★ Zone 6 (140'-160', Gardena)

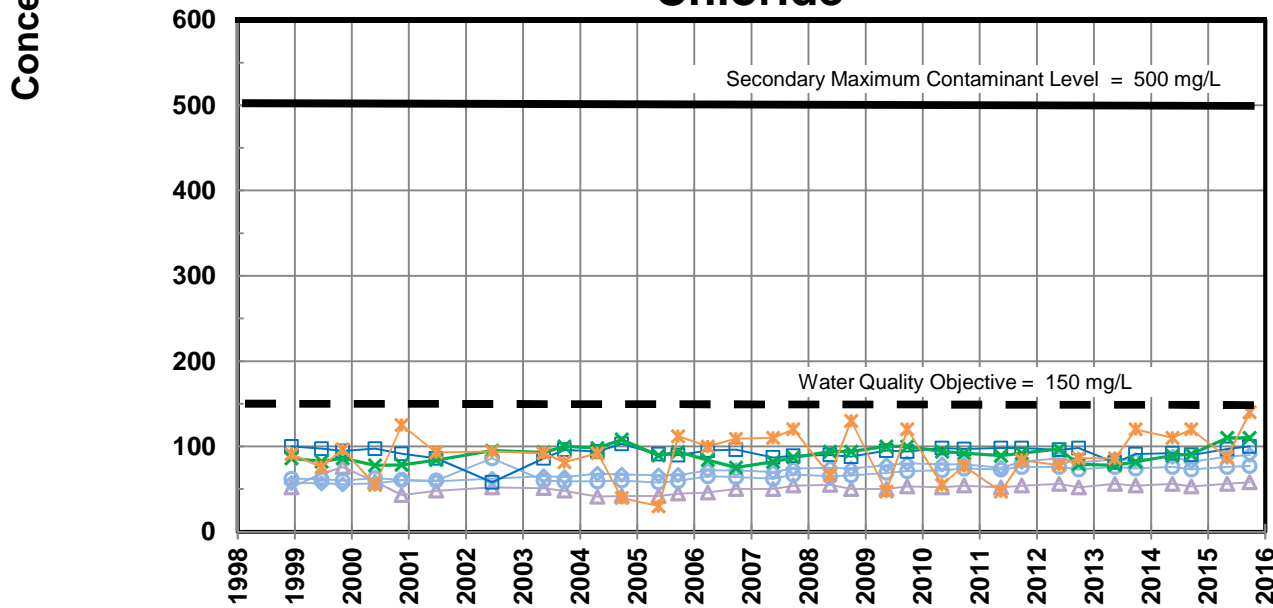
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL RIO HONDO #1**

FIGURE 4.1

Total Dissolved Solids



Chloride

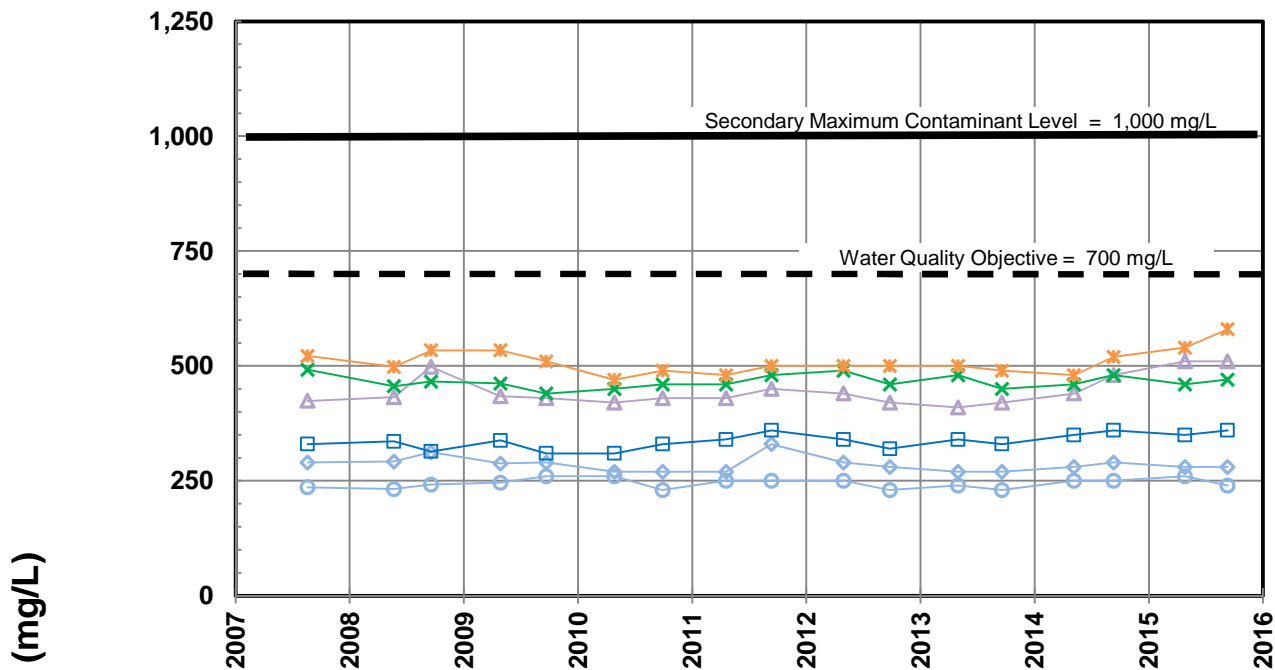


- | | |
|-----------------------------------|---------------------------------|
| ▲ Zone 1 (1180'-1200', Sunnyside) | ◆ Zone 2 (830'-850', Sunnyside) |
| ○ Zone 3 (560'-580', Sunnyside) | □ Zone 4 (320'-340', Silverado) |
| ✱ Zone 5 (235'-255', Lynwood) | ✱ Zone 6 (100'-120', Gaspar) |

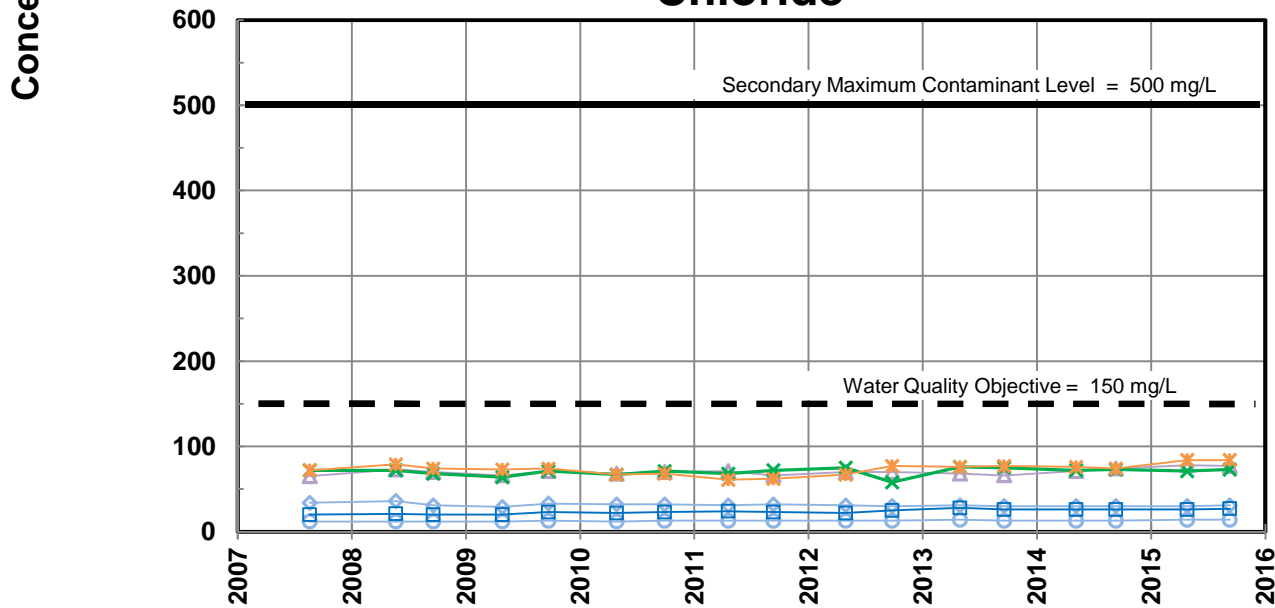
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL PICO #2**

FIGURE 4.2

Total Dissolved Solids



Chloride

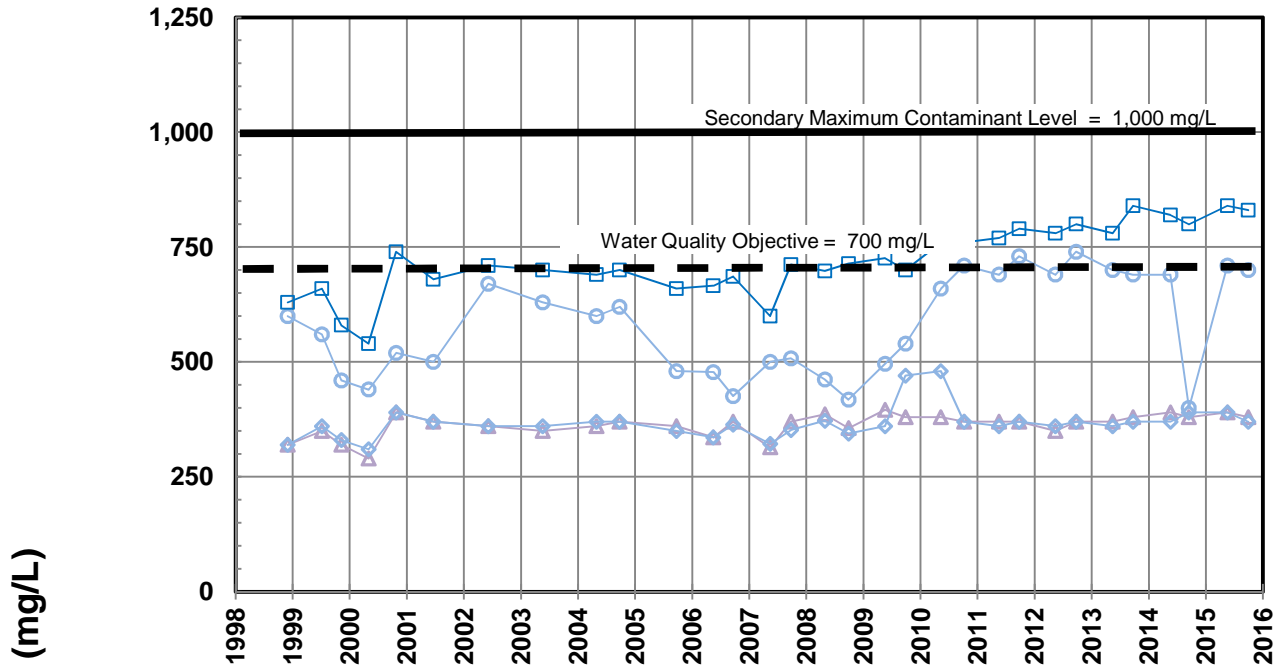


- ▲ Zone 1 (1460'-1480', Sunnyside)
- ◆ Zone 2 (1260'-1280', Sunnyside)
- Zone 3 (960'-980', Silverado)
- Zone 4 (800'-820', Lynwood)
- ✱ Zone 5 (480'-500', Gardena)
- ✱ Zone 6 (236'-256', Exposition)

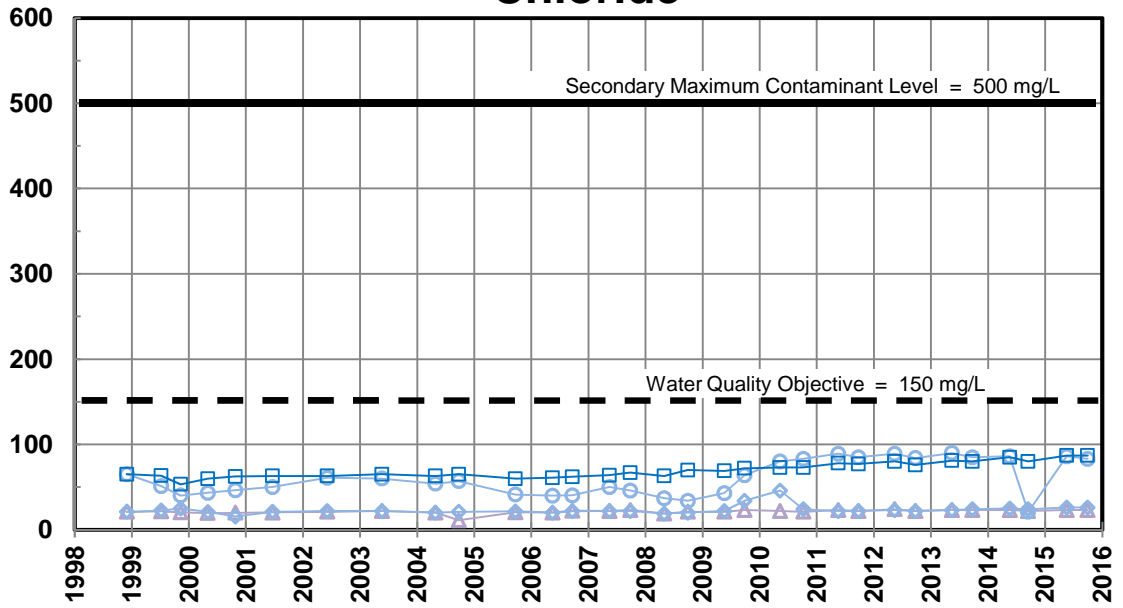
WATER QUALITY CONCENTRATIONS IN WRD KEY MONITORING WELL NORWALK #2

FIGURE 4.3

Total Dissolved Solids



Chloride

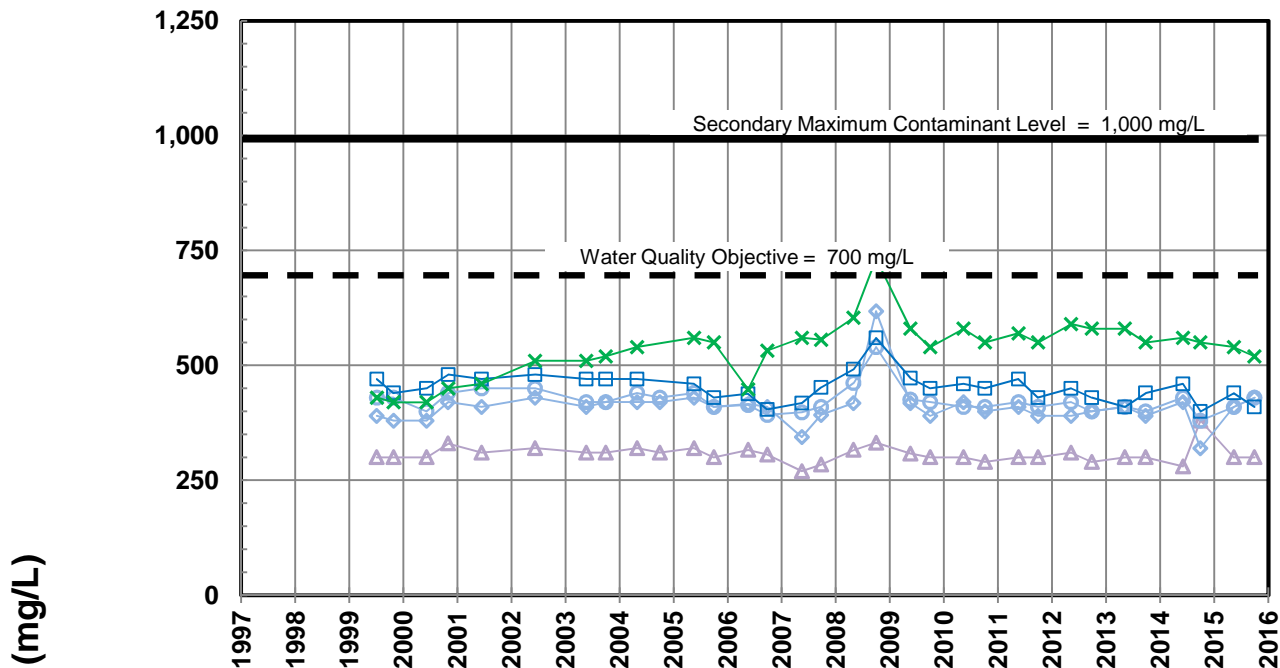


- ▲— Zone 1 (890'-910', Silverado)
- ◆— Zone 2 (690'-710', Jefferson)
- Zone 3 (420'-440', Gage)
- Zone 4 (275'-295', Exposition)

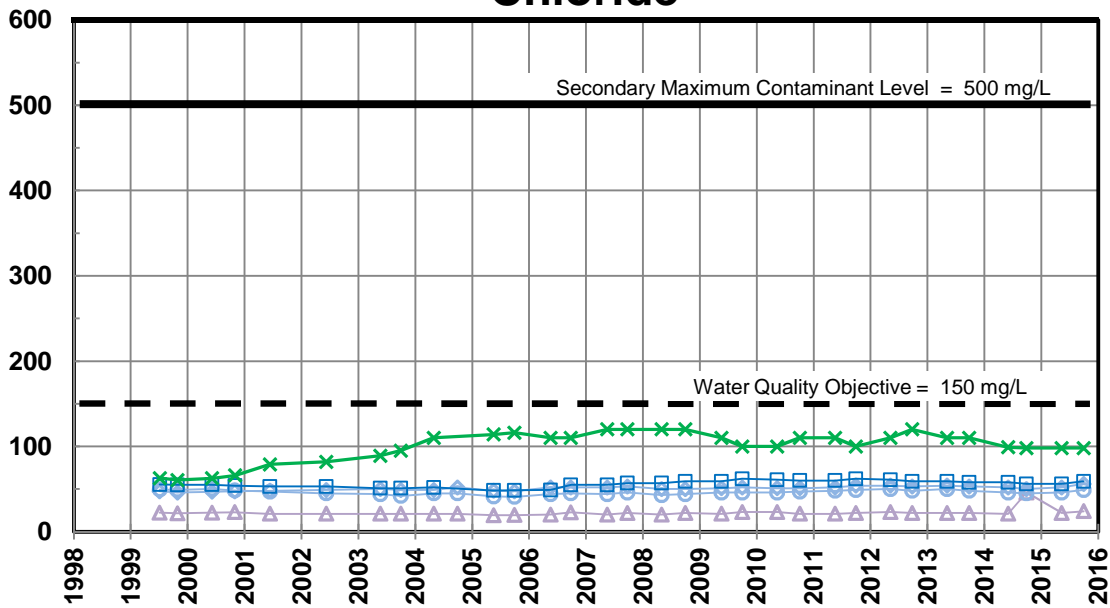
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL HUNTINGTON PARK #1**

FIGURE 4.4

Total Dissolved Solids



Chloride



Concentration (mg/L)

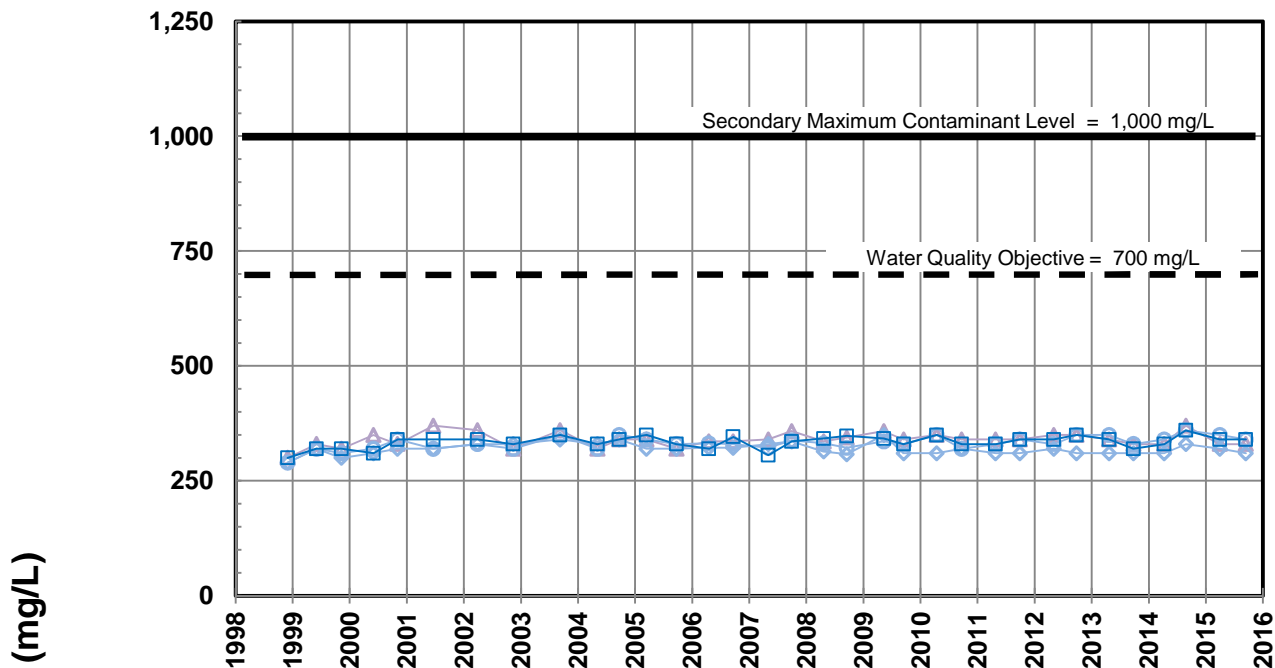


- △— Zone 1 (1440'-1460', Pico Formation)
- ◇— Zone 2 (1320'-1340', Sunnyside)
- Zone 3 (910'-930', Silverado)
- Zone 4 (565'-585', Lynwood)
- ×— Zone 5 (220'-240', Exposition)

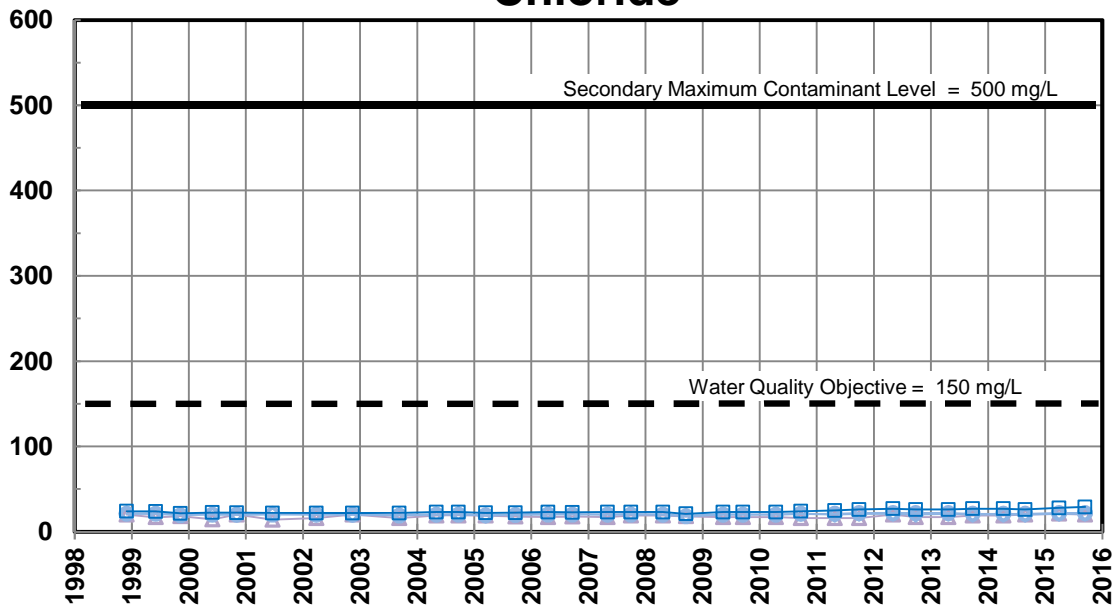
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL SOUTH GATE #1**

FIGURE 4.5

Total Dissolved Solids



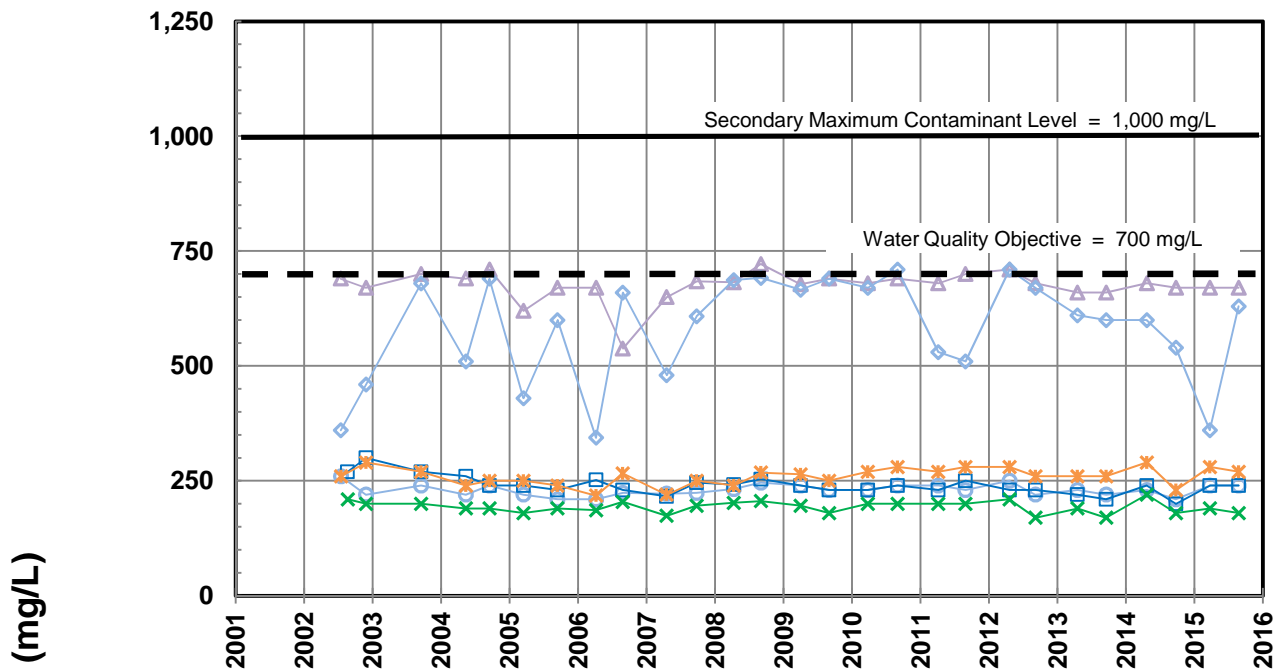
Chloride



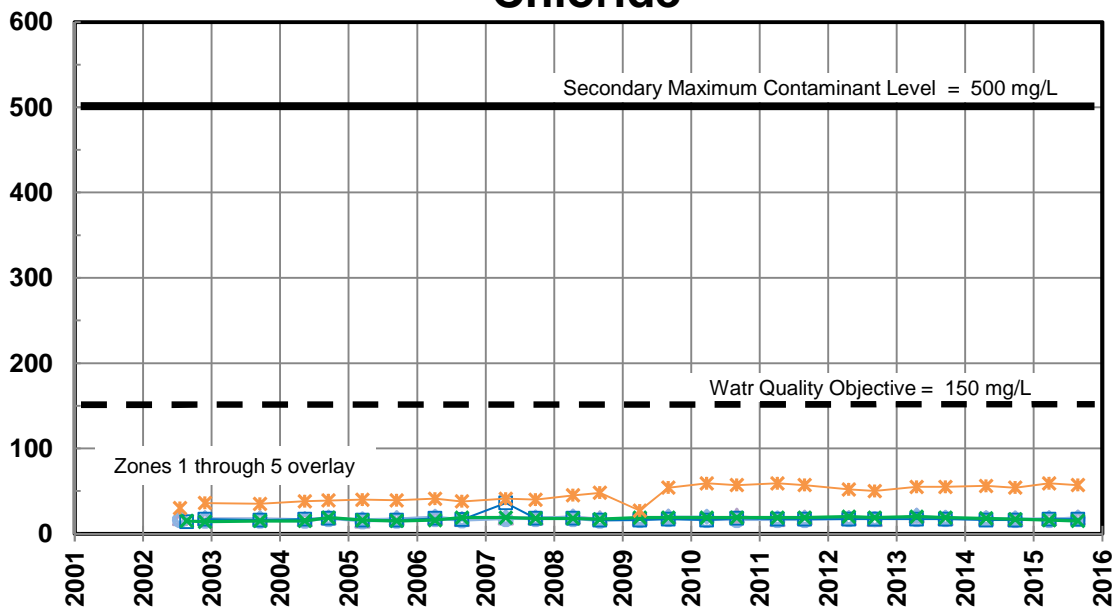
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL WILLOWBROOK#1**

FIGURE 4.6

Total Dissolved Solids



Chloride

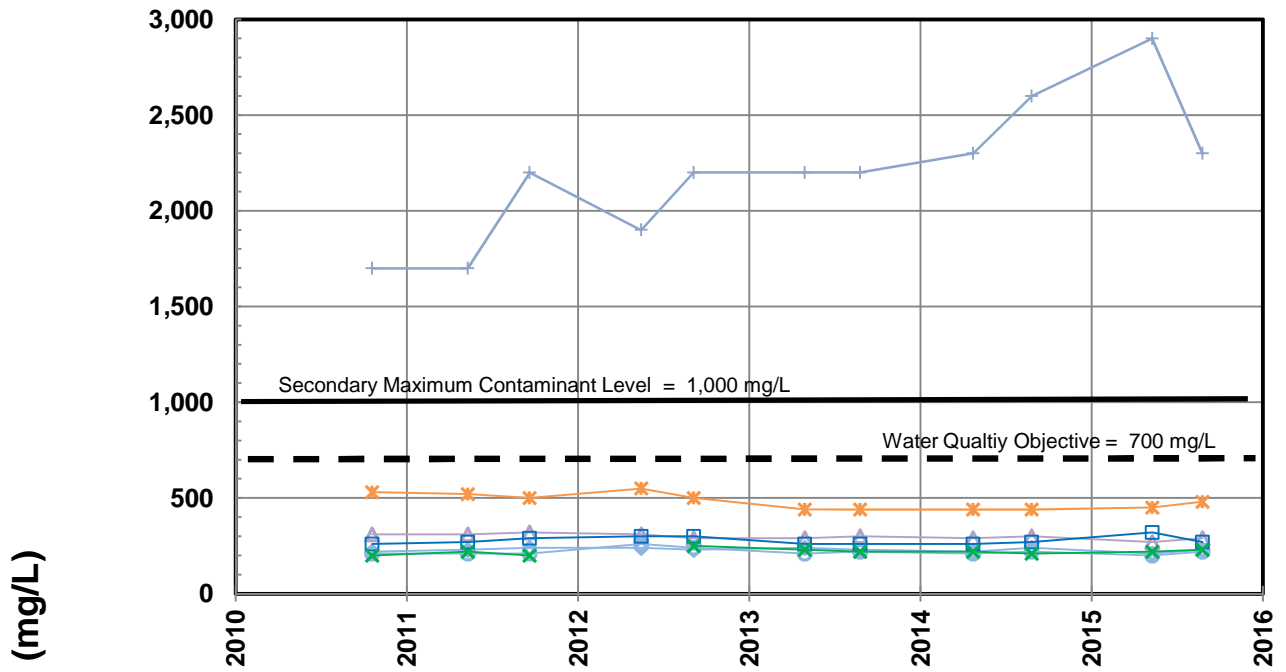


- ▲— Zone 1 (1490'-1510', Pico Formation)
- ◆— Zone 2 (930'-950', Sunnyside)
- Zone 3 (740'-760', Sunnyside)
- Zone 4 (480'-500', Silverado)
- ×— Zone 5 (380'-400', Lynwood)
- ★— Zone 6 (220'-240', Gage)

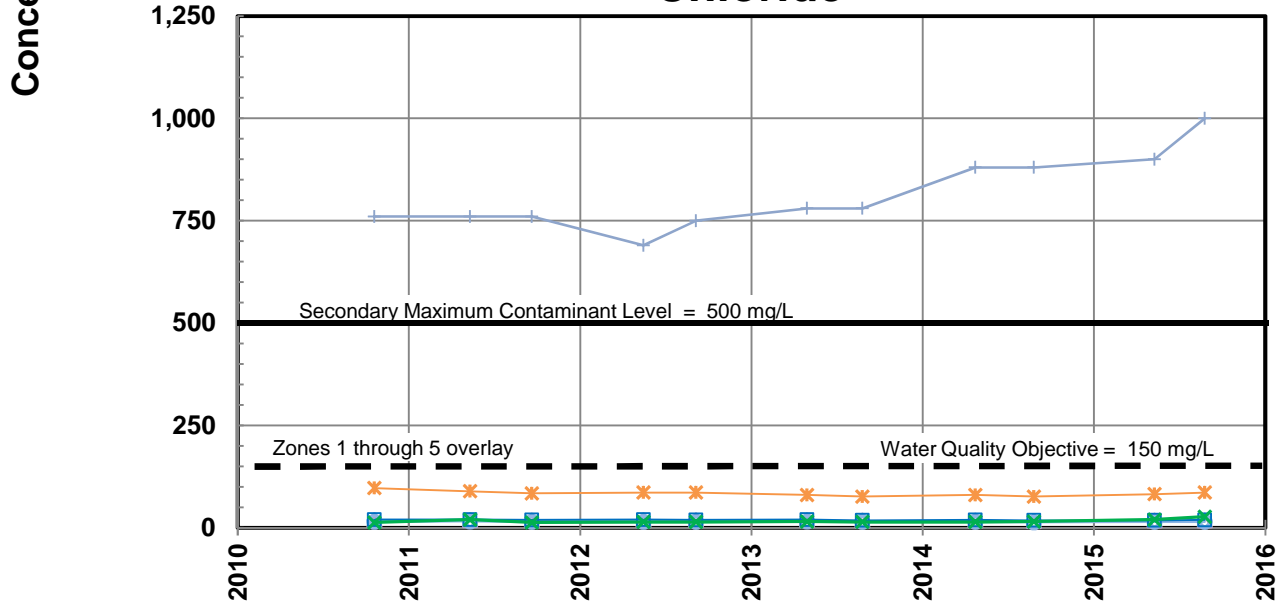
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL LONG BEACH #6**

FIGURE 4.7

Total Dissolved Solids



Chloride

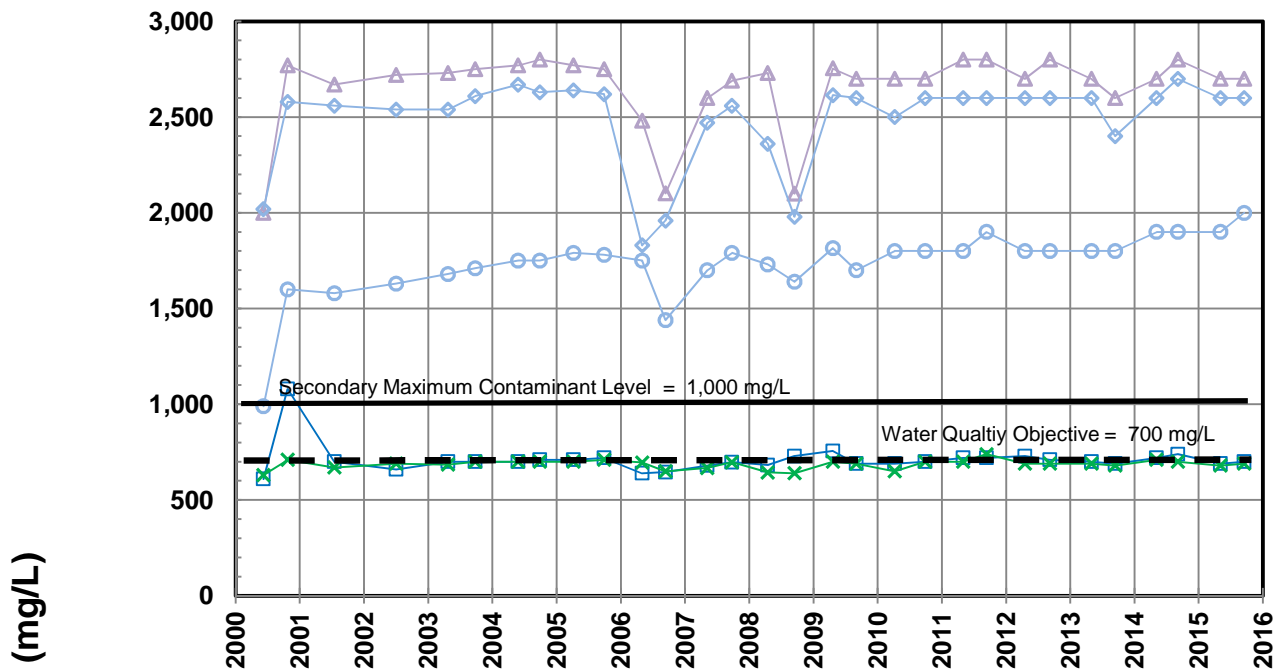


- Zone 1 (1345'-1365', Sunnyside)
- Zone 2 (1160'-1180', Sunnyside)
- Zone 3 (1020'-1040', Sunnyside)
- Zone 4 (775'-795', Silverado)
- Zone 5 (605'-625', Lynwood)
- Zone 6 (215'-235', Gage)
- Zone 7 (60'-70', Gaspar)

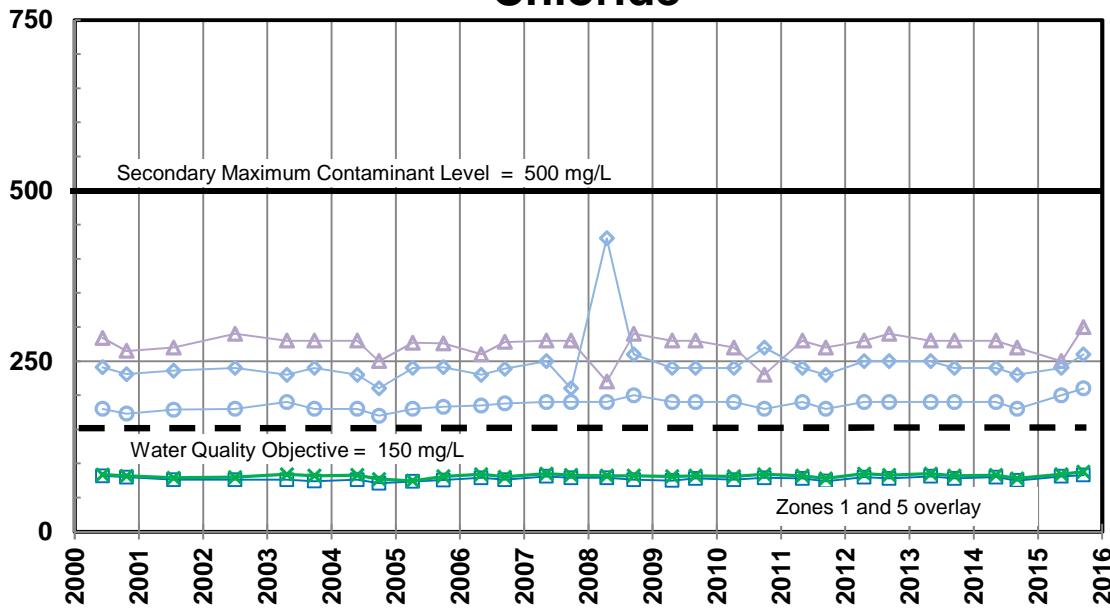
WATER QUALITY CONCENTRATIONS IN WRD KEY MONITORING WELL SEAL BEACH #1

FIGURE 4.8

Total Dissolved Solids



Chloride



Concentration (mg/L)

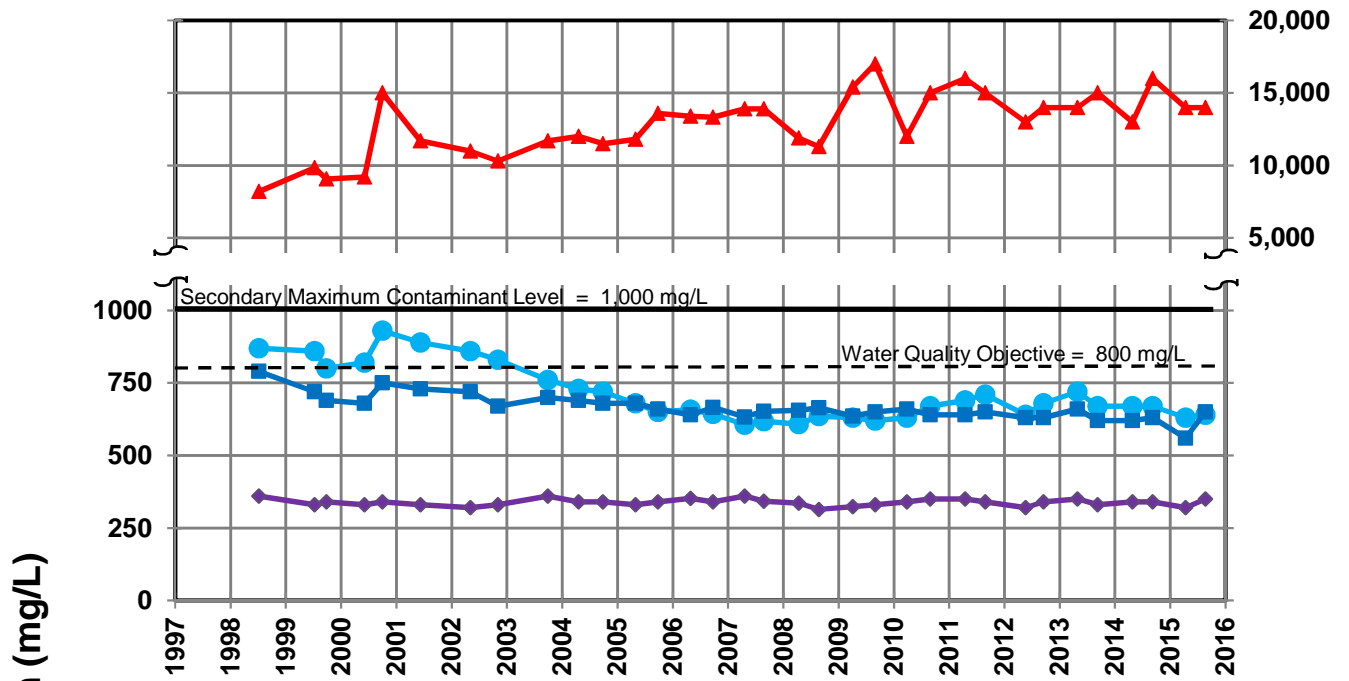


- ▲ Zone 1 (1180'-1200', Sunnyside)
- ◆ Zone 2 (920'-940', Sunnyside)
- Zone 3 (770'-790', Silverado)
- ◻ Zone 4 (450'-470', Lynwood)
- ✕ Zone 5 (200'-220', Gage)

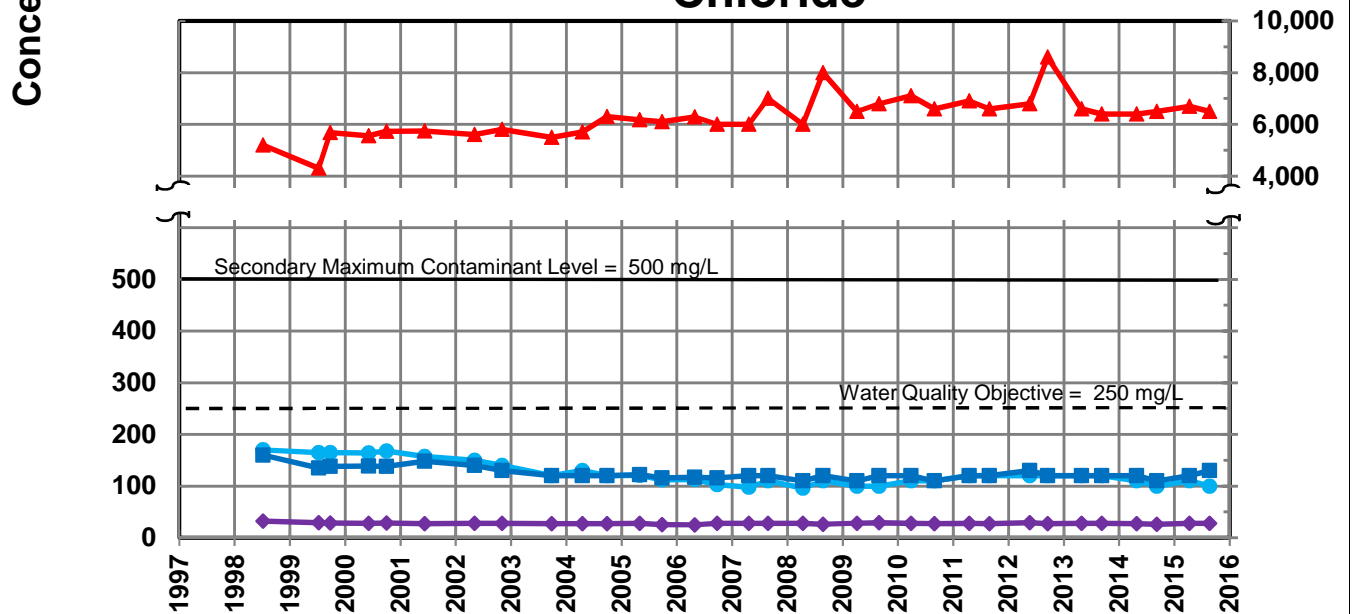
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL WHITTIER #1**

FIGURE 4.9

Total Dissolved Solids



Chloride

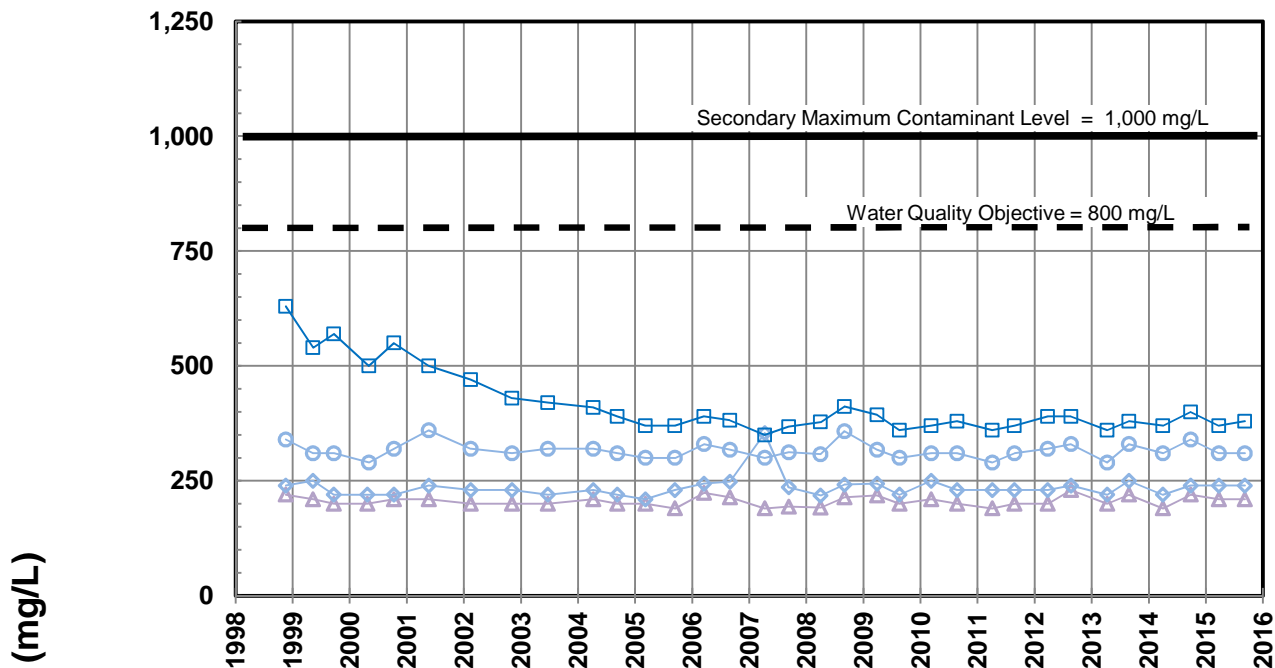


- ◆ Zone 1 (670'-710', Sunnyside)
- ◆ Zone 2 (500'-540', Silverado)
- Zone 3 (340'-380', Lynwood)
- Zone 4 (200'-240', Lynwood)

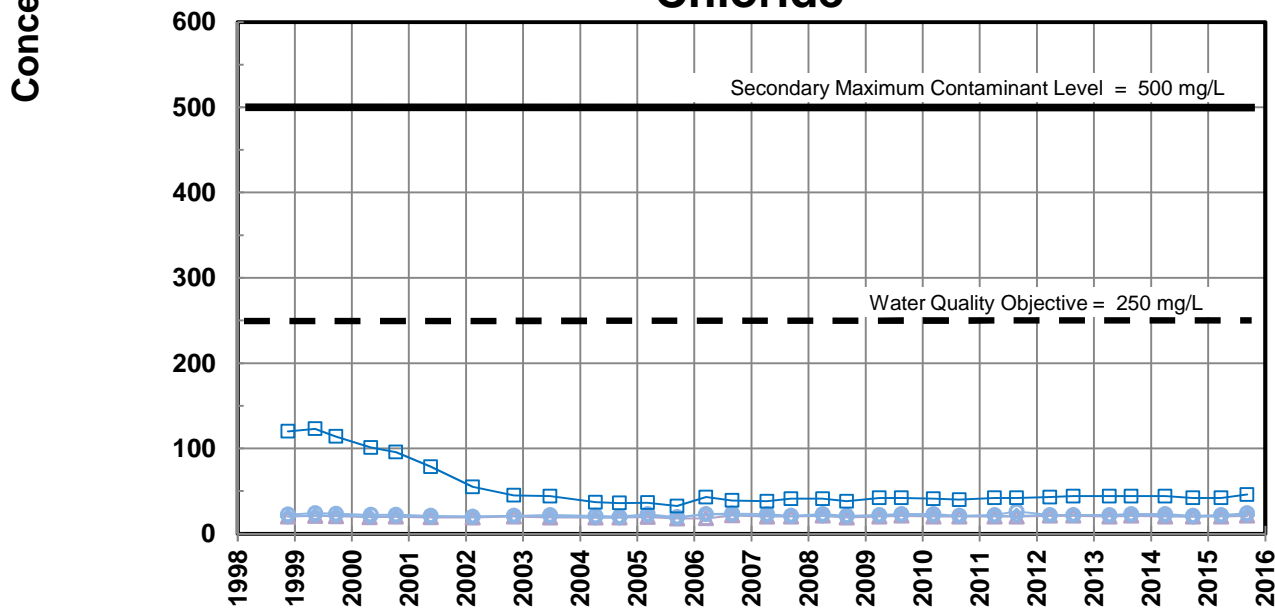
WATER QUALITY CONCENTRATIONS IN WRD KEY MONITORING WELL PM-4 MARINER

FIGURE 4.10

Total Dissolved Solids



Chloride

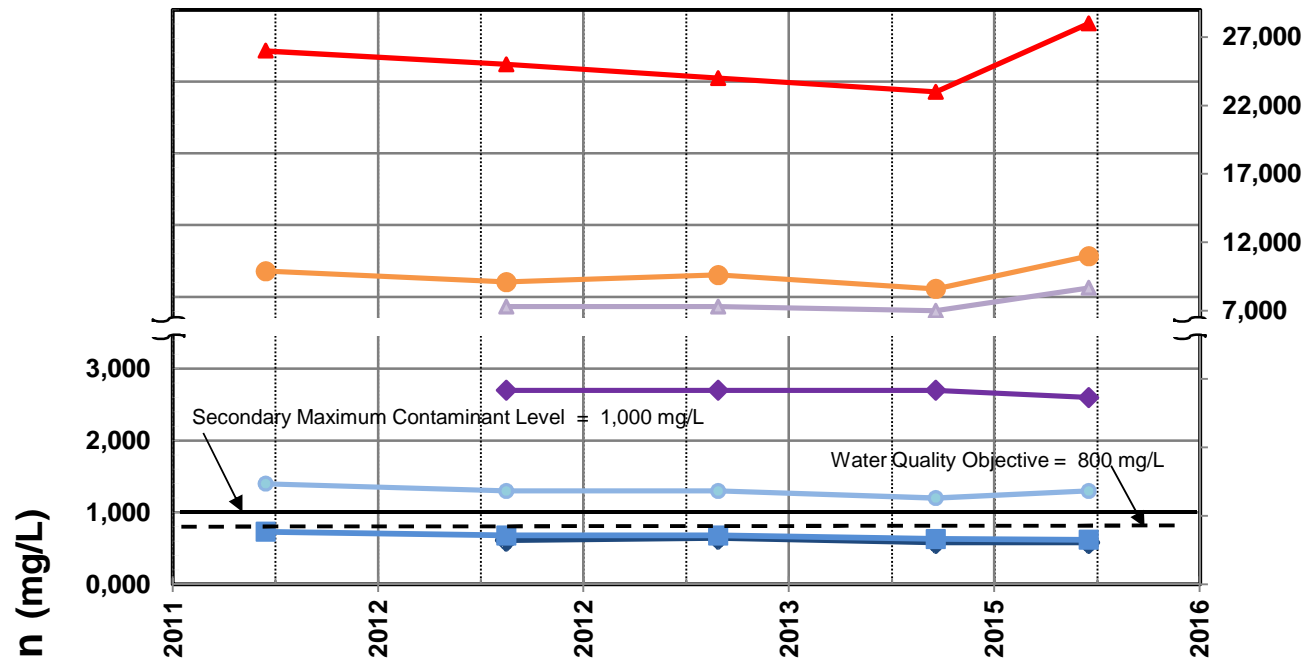


- ▲— Zone 1 (990'-1010', Sunnyside)
- ◆— Zone 2 (740'-760', Silverado)
- Zone 3 (460'-480', Lynwood)
- Zone 4 (250'-270', Gage)

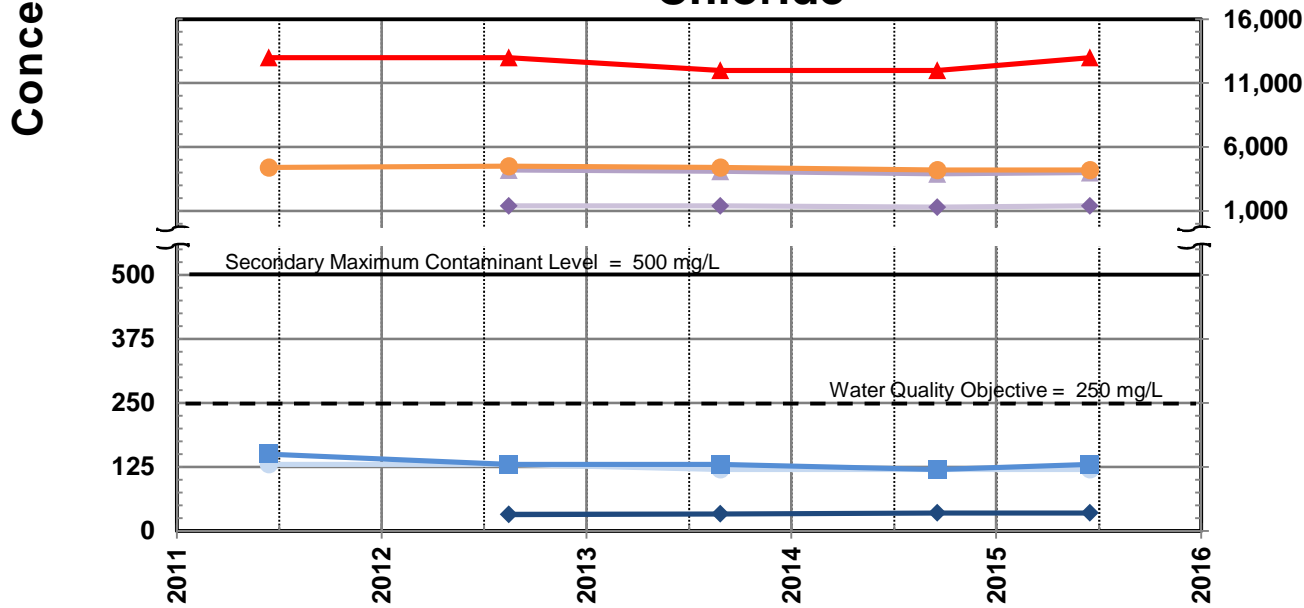
**WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL CARSON #1**

FIGURE 4.11

Total Dissolved Solids



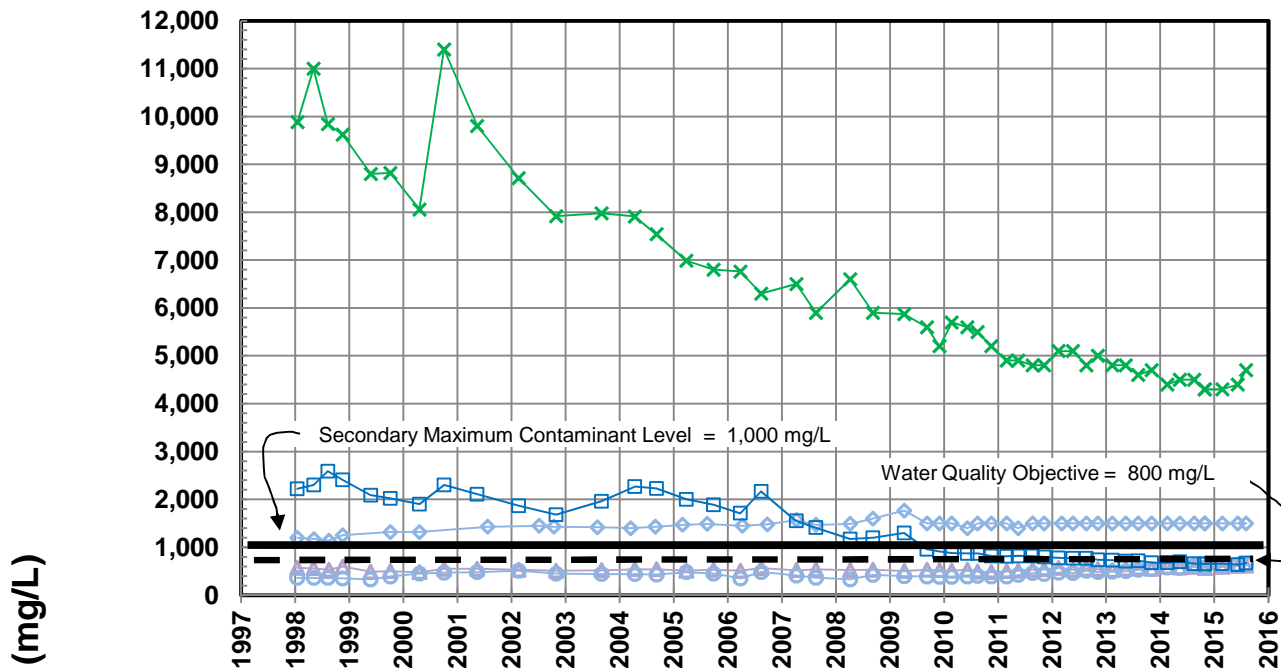
Chloride



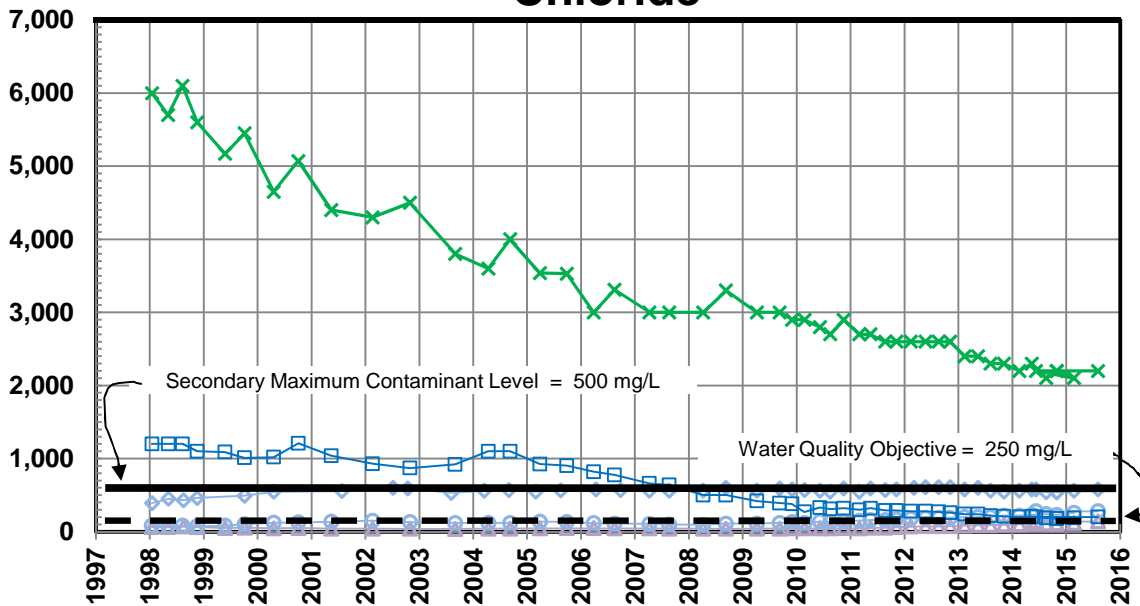
- | | |
|--------------------------------------|--------------------------------------|
| Zone 1 (1950'-1990', Pico Formation) | Zone 2 (1570'-1590', Pico Formation) |
| Zone 3 (1250'-1270', Sunnyside) | Zone 4 (865'-885', Silverado) |
| Zone 5 (640'-660', Silverado) | Zone 6 (320'-340', Lynwood) |
|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

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

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

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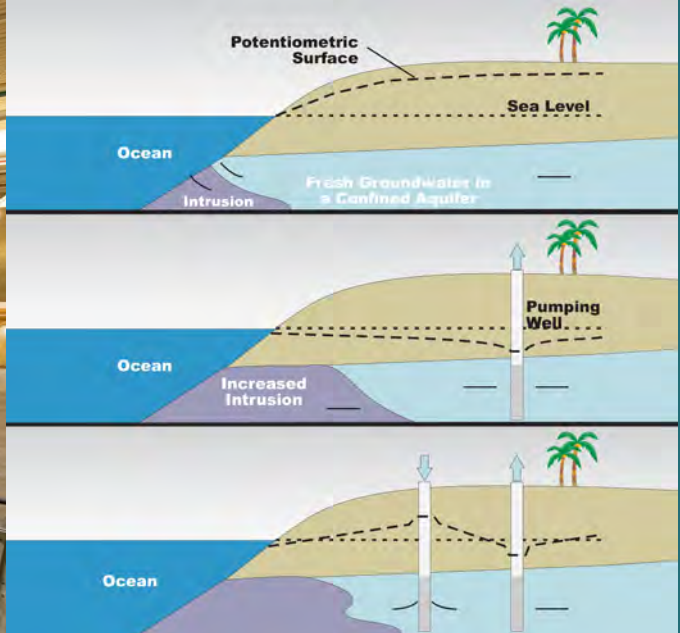
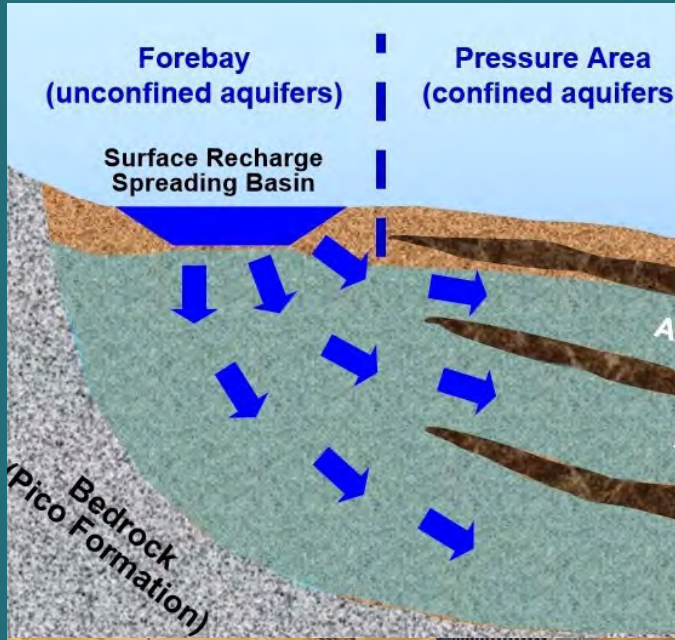
Mission:

“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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REGIONAL GROUNDWATER MONITORING REPORT WATER YEAR 2014-2015

Central and West Coast Basins
Los Angeles County, California

February 2016

