Water Replenishment District
of Southern California

REGIONAL GROUNDWATER MONITORING REPORT
WATER YEAR 2015-2016

Central and West Coast Basins
Los Angeles County, California

March 2017

WRD

Water Replenishment District
Of Southern California

REGIONAL GROUNDWATER MONITORING REPORT
CENTRAL BASIN AND WEST COAST BASIN
LOS ANGELES COUNTY, CALIFORNIA
WY 2015-2016

MARCH 2017

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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. WRD's service area encompasses nearly the entire Central Basin and all of the West Coast Basin. These two basins currently supply about 50 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 within the WRD service area.

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 58 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 2015-16. Detailed information is presented in the body of the report with a summary below:

Groundwater Levels

Because of the fifth year of drought, WY 2015-16 saw a net loss of groundwater from storage. However, across the WRD service area water levels have increased in some areas, decreased in other areas, and have remained essentially unchanged elsewhere. In the unconfined Montebello Forebay water levels have increased by as much as 6 feet in the vicinity of the spreading grounds; to the west they decrease by about 2 feet, and to the south and east they are essentially unchanged. Across much of the unconfined Los Angeles Forebay water levels have decreased an average of about 3 feet. In the Huntington Park/Commerce area of the Los Angeles Forebay groundwater levels decrease more than 5 feet and appear to be influenced by a localized area of groundwater depression just outside of the Forebay to the east. In the western portion of the Whittier Area water levels are essentially unchanged from WY 2014-15; however, to the east they steadily decrease by as much as 4 feet.

Water levels in the north and eastern portions of the Central Basin Pressure Area have decreased an average of about 2.5 feet; however, small localized regions within this area show much greater decreases, likely as a result of nearby pumping, including a drop of as much as 9 feet in Commerce, a 15 foot decrease near La Mirada, and a 25 foot decrease in Lakewood. Water levels in the southwest portion of the Central Basin Pressure Area adjacent to the Newport Inglewood Fault from about Los Angeles in the north to Long Beach in the south and extending to the northeast as far as Lynwood, Compton, and Long Beach have increased by as much as 11 feet.

Water levels did not change significantly over most of the coastal areas or within the Long Beach Plain of the West Coast Basin during WY 2015-16. However, water levels increased between 1 and 4 feet in the Carson/Torrance area, and as much as 10 feet in the northern Inglewood area. In the Gardena area a localized groundwater depression shows water level decreases of up to 9 feet.

District wide, groundwater levels fell nearly 1.2 feet, although across the Montebello Forebay region water levels rose an average of nearly 0.6 feet. Overall groundwater storage loss from the District was 500 Acre-Feet (AF), although 4,600 AF was gained in the Montebello Forebay and 100 AF was gained in the West Coast Bain.

Groundwater Quality

Annually, WRD collects over 600 groundwater samples from its monitoring well network and analyzes them for more than 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 WRD service area 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 WRD's service area 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 wells in WRD's service area. 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 the groundwater in WRD's service area.

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 its service area. To that end, WRD plans an expansion of its groundwater monitoring well network to fill data gaps in the Central Basin and to install new monitoring points in the North Central Basin. WRD will continue to perform other projects and programs to meet its 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 its reliance on imported water for replenishment and looks to expand local sources including storm water and recycled water. This initiative is our Water Independence Now (WIN) program, which includes as a key component, the Groundwater Reliability Improvement Project (GRIP). GRIP's main purpose is 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 its service area. WRD staff will be working on refining the hydrogeologic conceptual model of the CBWCB using data from the RGWMP along with an anticipated update to the groundwater model currently in the latter stages of development by the United States Geological Survey (USGS) 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 groundwater within its service area 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 48 high-priority sites across WRD's service area. WRD will continue to monitor the saline plume in the West Coast Basin and will update the saline plume map with new data collected from increased sampling.

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
DAC	Disadvantaged Communities
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
MSL	Mean Sea Level
MWD	Metropolitan Water District of Southern California
NDMA	N-Nitrosodimethlyamine
NL	Notification Level
OEHHA	Office of Environmental Health Hazard Assessment
PCE	Tetrachloroethylene or Perchloroethylene
PHG	Public Health Goal
Policy	Recycled Water Policy

GLOSSARY OF ACRONYMS (continued)

RGWMR	Regional Groundwater Monitoring Report
RL	Response Level
SCADA	Supervisory Control and Data Acquisition
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**). WRD's service area encompasses nearly the entire Central Basin and all of the West Coast Basin. 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 within WRD's service area.

As part of accomplishing this mission, WRD maintains a thorough and current understanding of groundwater conditions in its service area 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. Each year WRD compiles the most recently collected information into a Regional Groundwater Monitoring Report (RGWMR) that presents the most current understanding of conditions in the basins; the 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 WRD service area 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 WRD's 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 groundwater monitoring.

Figure 1.3 is a District map showing the locations of wells in WRD's nested monitoring well network. Currently, there are over 320 wells at 58 locations; these wells allow WRD to comprehensively monitor groundwater conditions in its service area . A listing and depth details for the WRD wells are presented in **Table 1.1.**

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 RGWMR is published in lieu of the previous *Annual Reports*.

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 collects groundwater level data from within its service area, tracks seasonal and long-term trends and provides that data to the CASGEM program.

1.2 CONCEPTUAL HYDROGEOLOGIC MODEL

As described above, the RGWMP changes the focus of groundwater monitoring efforts in the WRD service area 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 WRD service area 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 described in Bulletin 104 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 groundwater management in its service area. 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 determine and document the locations of basinwide production wells, nested monitoring wells, and other geographic features for use in the GIS database. During WY 2015-16, WRD updated and modernized its database so that a consistent reference surface datum is used when describing the mean sea level elevation at each monitoring well. This update required a re-survey of the measurement reference point at each of WRD's wells relative to the NAVD88 datum reference plane. This update resulted in adjustment for some of the "reference point elevations" that have previously been used and published by WRD. Current NAVD88 reference point elevations are listed in **Table 2.1**.

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 WRD service area for WY 2015-16, and discusses the status of the RGWMP. Section 1 provided an overview of WRD and its RGWMP. Section 2 discusses districtwide groundwater levels for WY 2015-16. 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 presents 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. This WY 2015-16 WRD Regional Groundwater Monitoring Report, along with previously published reports for past WYs, can be viewed online and downloaded in PDF format from the WRD website at *http://www.wrd.org.*

SECTION 2
GROUNDWATER LEVELS

Groundwater levels are 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 and 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 its service area. Groundwater elevations are calculated by comparing depth to water measurements to the mean sea level elevation at the measuring point of each well. During WY 2015-16, WRD updated and modernized its database so that a consistent reference plane is applied to the measurement of the vertical elevation for each monitoring well. This update required a re-survey of elevations at each of WRD's wells relative to the NAVD88 datum reference plane, and resulted in slightly different values for some of the reference point elevation measurements previously used and published. Updated NAVD88 reference point elevations are identified in **Table 2.1**.

Table 2.1 presents manual groundwater level measurements collected from the District's nested monitoring wells during WY 2015-16. 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 WRD service area in the deeper, main producing aquifers during the Fall of 2016 is presented in **Figure 2.1**. The Fall 2016 Contour Map shows that in the Central Basin water levels range from highs in excess of 150 feet above mean sea level (msl) to lows of nearly 110 feet below msl. 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 range from highs of about 10 feet above msl to lows of nearly 70 below msl. The highest water levels are along the West Coast Basin Seawater Intrusion Barrier; they 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 WY 2015-16 are illustrated on **Figure 2.2**, which is a groundwater level change map. During WY 2015-16, changes in groundwater levels across the WRD service area have been variable. Water levels have increased in some areas, decreased in other areas, and have remained unchanged elsewhere.

Changes in groundwater levels in the Central Basin were variable. In the unconfined Montebello Forebay water levels have increased by as much as 6 feet in the vicinity of the spreading grounds; to the west they decrease by about 2 feet, and to the south and east they are essentially unchanged. Across much of the unconfined Los Angeles Forebay and Whittier Area water levels have decreased from 1 to 5 feet. In the Huntington Park/Commerce area of the Forebay groundwater levels decrease more than 5 feet and appear to be influenced by a localized area of groundwater depression just outside of the Forebay to the east.

Water levels in the north and eastern portions of the Central Basin Pressure Area have decreased an average of about 2.5 feet; however, two localized pumping holes are observed in Lakewood and La Mirada where water levels have decreased 25 feet and 15 feet, respectively. In the southwest portion of the Central Basin Pressure Area, along the Northeast Uplift, water levels generally increase by as much as 10 feet.

In the West Coast Basin, water levels did not change significantly over most of the coastal areas or within the Long Beach Plain during WY 2015-16. However, water levels increased between 1 and 4 feet in the Carson/Torrance area, and as much as 10 feet in the northern Inglewood area. In the Gardena area a localized pumping hole shows water level decreases of as much as 9 feet.

District wide, groundwater levels fell nearly 1.2 feet, although across the Montebello Forebay region water levels rose an average of nearly 0.6 feet. Overall groundwater storage loss from the District was 500 AF, although 4,600 AF was gained in the Montebello Forebay and 100 AF was gained in the West Coast Bain.

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 6 water years, water levels have generally decreased in the Montebello Forebay as well as in the rest of the Central Basin.

Hydrographs for WRD nested monitoring wells that plot water level measurements from individual aquifer zones against time provide WRD with a graphical method to observe changes in water level and can aid in identifying current and historic trends in aquifer conditions. 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. Locations of the 13 key nested monitoring wells are shown on **Figure 1.3**. 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 2 feet over the past WY and are near the lowest level recorded in the past 18 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 Zone 3 increased about 3 feet over the past WY and are near the lowest levels recorded in the past 17 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 decreased by about 2 feet over the past WY. Water levels in Norwalk #2 are near the lowest levels recorded in the past 9 years.

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): Gaspur, 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 Gaspur Aquifer sediments) 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. Water levels in the Jefferson Aquifer decreased by about 5 feet and in the Silverado Aquifer they decreased by about 1-foot 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 much shallower water levels, shows little seasonal response, and is isolated from the aquifers below by an aquitard, resulting in the observed hydraulic separation. South Gate #1 water levels decreased by about 1 foot in the deeper aquifers over WY 2015-16, and have generally declined about 17 feet over the past 16 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. Water levels have increased about 8 feet in Zone 1 and about 1 foot in Zone 2 over WY 2015-16. Water levels in Zones 3 and 4 have decreased about 7 feet over the past WY. Water Levels in Willowbrook #1, have generally declined over the past 17 years.

Figure 2.9 is a 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 are the deepest responders; they are screened in the Lynwood and Silverado Aquifers, rise and fall over 100 feet through typical seasonal cycles, and occur at elevations ranging from highs at near sea level to lows greater than 120 feet below sea level. Water levels in the other zones also generally show significant seasonal variation. Zone 6 did not show the seasonal winter rise that has been seen in past years, likely the result of nearby year-round pumping. **Figure 2.9** shows minor decreases in water levels in Zones 1, 2, 3, and 6 over the past WY; water levels in Zones 4 and 5 have increased about 10 feet from the previous WY.

Seal Beach #1 is included 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. 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 Seal Beach #1. 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 decreased about 5 feet over WY 2015-16.

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 decreased about 1 foot over the past WY and have decreased 5 to 7 feet over the past 16 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 have increased between 2 and 4 feet at PM-4 Mariner in WY 2015-16 and have increased as much as 8 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. 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 1 foot over the past WY, but have generally increased 30 feet over the past 17 years.

Manhattan Beach #1 is a relatively 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 includes 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 has the deepest groundwater levels, up to 30 feet lower than Zones 1, 2, 4, and 5 which generally track together. Water levels in Zones 6 and 7 are six to eight feet above Zones 1, 2, 4, and 5. Seasonal fluctuations are not pronounced at the Manhattan Beach #1 location and groundwater levels did not change significantly over the past water year, however water levels in Zone 3 have increased about 3 feet over the past WY and about 7 feet since this well was installed.

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 have remained relatively unchanged in the deeper aquifers over WY 2015-16, but have generally increased about 20 feet over the past 18 years.

SECTION 3
GROUNDWATER AND REPLENISHMENT WATER QUALITY

This section discusses the vertical and horizontal distribution of water quality constituents in the CBWCB based on data from WRD's nested monitoring wells, purveyors' production wells, and source waters used for CBWCB groundwater replenishment. 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, 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 2015-16. **Table 3.2** presents water quality analytical results from WRD nested monitoring wells in the West Coast Basin during WY 2015-16. 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 2015-16 indicate relatively low TDS concentrations for groundwater in the 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 24 out of 33 (73%) were below 500 mg/L. In contrast, West Coast Basin nested monitoring well data show generally higher TDS concentrations with just 12 out of 21 (57%) nested wells screened in the Silverado Aquifer having TDS concentrations below 1,000 mg/L, and 7 out of 33 (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 WRD service area for the period spanning WYs 2013-16. In the Central Basin, TDS was not detected above the Upper Level SMCL of 1,000 mg/L in any of the 223 production wells sampled for TDS during this period, and 166 of those 222 wells (75%) had TDS concentrations below 500 mg/L.

West Coast Basin production well data indicate that most drinking water wells had TDS concentrations below 1000 mg/L. TDS was detected below the Upper Level SMCL in 26 out of 30 production wells (87%). Nineteen production wells (63%) 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 iron. 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 WRD service area. **Figure 3.3** shows iron data in WRD nested monitoring well locations for WY 2015-16. In the Central Basin, iron was below the SMCL in Silverado zones in 30 out of the 33 (91%) nested well locations. In non-Silverado Zones, iron was detected above the SMCL in 9 out of the 33 (27%) 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%). Eight well locations had iron concentrations above the SMCL in non-Silverado Zones.

Figure 3.4 presents DDW water quality data for iron in production wells across the WRD service area for the period spanning WYs 2013-16. In the Central Basin, 201 of 227 (89%) production wells have iron concentrations in groundwater below the SMCL. In the West Coast Basin, 25 production wells out of 30 (83%) 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 (μg/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 WRD service area. 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. Seven out of 33 (21%) 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 14 out of 21 (67%) nested well locations.

Figure 3.6 presents DDW water quality data for manganese in production wells across the WRD service area for the period spanning WYs 2013-16. In the Central Basin, data show a number of wells having elevated manganese concentrations, but 190 out of 227 production wells (84%) 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, 13 out of 31 production wells (42%) 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 WRD service area during WY 2015-16. In the Central Basin, all 33 nested monitoring well locations generally have low chloride concentrations. No Central Basin zone 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. Seven nested wells in the West Coast Basin show chloride impacts above the

MCL in non-Silverado Zones.

Figure 3.8 presents DDW water quality data for chloride in production wells in the WRD service area for the period spanning WYs 2013-16. 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 skin 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 WRD service area during WY 2015-16. 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 at concentrations below the MCL 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, but also could be associated with industrial operations.

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. In one of those three nested monitoring wells, the nitrate was detected above the MCL in a Silverado aquifer zone. 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 WRD service area for the period spanning WYs 2013-16. 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 2013-16.

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, TCE was not detected 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 nested well in the WRD service area 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 WRD service area for the period spanning WYs 2013-16. In the Central Basin, TCE was not detected in 184 of 238 (77%) of the production wells that were tested. Of the 54 production wells that had detectable TCE levels, 19 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 detected at a concentration below the MCL in one West Coast Basin production well during WYs 2013-16.

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 2015-16, PCE (**Figure 3.13**) was not detected at 23 out of 33 (70%) nested well locations. PCE was not detected above the MCL at any nested well location in the Central Basin. Two detections, both below the MCL, were in a Silverado zone. PCE was not detected in any nested wells in the West Coast Basin during WY 2015-16.

Figure 3.14 presents DDW water quality data for PCE in production wells across the WRD service area for WYs 2013-16. In the Central Basin, PCE was not detected in 186 out of the 238 (78%) production wells that were tested. Of the 52 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 of the 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 2015-16. Arsenic concentrations greater than the MCL in the Central Basin were detected at 7 out of 33 (21%) nested well locations; two of those seven wells had arsenic concentrations 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 those 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 WRD service area for the period spanning WYs 2013-16. In the Central Basin, 8 out of 220 (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 2015-16. In the Central Basin, perchlorate was detected at 17 out of 33 (52%) 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 detected at a concentration below the MCL in one of the West Coast Basin nested monitoring wells in the Silverado Aquifer zone.

Figure 3.18 presents DDW water quality data for perchlorate in production wells across the WRD service area for the period spanning WYs 2013-16. In the Central Basin, 7 out of 234 (3%) production wells had detectable perchlorate, with three production wells testing for perchlorate above the MCL. Perchlorate was not detected in any of the West Coast Basin production wells.

3.1.10 Hexavalent Chromium

Hexavalent chromium (chromium-6) and trivalent chromium (chromium-3) are two forms of the metal chromium found in groundwater. Together, these two 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 WRD service area. In the Central Basin hexavalent chromium was detected in 29 out of 33 (88%) 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 15 out of 21 (71%) nested monitoring well locations.

Figure 3.20 shows hexavalent chromium in WRD service area production wells from sampling conducted during WYs 2013-16. In the Central Basin, hexavalent chromium was not detected in 179 of the 228 (79%) production wells that were tested. Of the 49 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 WRD service area from the Colorado River and from Northern California via the State Water Project for potable supply and for groundwater recharge. 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, 23,961 AF were received for replenishment in 2015-16. 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 and untreated imported water are presented in **Table 3.3**

In 2015, the average TDS concentration of untreated Colorado River water was 640 mg/L and the average TDS concentration of untreated water from the State Water Project was 322 mg/L. Both untreated Colorado River water and untreated State Water Project water was received for recharge in the Montebello Forebay spreading grounds in 2015.

In 2015, 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 0.9 mg/L. Recently and historically, both Colorado River and State Water Project nitrate concentrations have remained far below the MCL.

In 2015, the average iron and manganese concentrations in untreated Colorado River water were below detection limits. Average iron concentrations in State Water Project water were also below the detection limit, however manganese was detected in these waters at an average concentration of 25 ug/L. Both Colorado River and State Water Project iron and manganese concentrations have recently and historically been below the SMCL.

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

According to the MWD, TCE, PCE, perchlorate, and hexavalent chromium have not been detected in water from the Colorado River or State Water Project during calendar year 2015.

3.2.2 Quality of Recycled Water

Recycled water is used for groundwater recharge in the WRD Service Area for percolation through the Montebello Forebay spreading grounds and for injection into the seawaters. 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 the San Gabriel River Coastal Spreading Grounds and the Rio Hondo Coastal Spreading Grounds 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, arsenic, 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, ultraviolet light, and advanced oxidation using hydrogen peroxide. 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 recently 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 is currently being expanded (and ozonation will be added to the treatment train) and it is anticipated that advanced treated recycled water will fully replace imported water for injection during the current WY. **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 WRD service area. 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 2015-16 are presented on **Table 3.3**. The average TDS, manganese, chloride, nitrate, TCE, PCE, arsenic, and perchlorate concentrations in stormwater are relatively low. Iron exceeded drinking water standards, and was present in stormwater samples at much higher concentrations than in other sources.

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.

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 Final SNMP for the CBWCB was finalized February 12, 2015 and adopted 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.

WRD's 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.

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, chloride, and nitrate for all WRD nested wells sampled during WY 2015-16 are shown on maps (**Figures 3.1, 3.7, and 3.9**, respectively) 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 2013-2016 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 it has been detected only at concentrations significantly below the MCLs and WQOs, and thus, trend graphs for nitrate have not been prepared. However, nitrate will continue to be monitored as part of the RGWMP and will be reported in **Section 3** of the annual 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 the 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). 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 at concentrations 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 these concentrations are still below the SMCLs. In the upper two zones chloride concentrations are below the WQO, but TDS concentrations are at or above 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). 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 SMCLs and WQOs. TDS and chloride concentrations in South Gate #1 Zone 5 have increased somewhat since initial sampling but are relatively stable over the past 8 years and are generally below both the WQOs and SMCLs. At all 4 zones of Willowbrook #1 and the upper four zones at Long Beach #6, TDS and chloride concentrations are quite stable and are below both the SMCLs and WQOs. In the two deepest zones of Long Beach #6, TDS is typically detected very close to the WQO of 700 mg/L, while chloride concentrations remain stable and are significantly below the SMCL and WQO. At Seal Beach #1, the deeper six zones contain TDS and chloride at concentrations below the WQOs and SMCLs. Zone 7, the shallowest zone, contains TDS and chloride concentrations that have been generally increasing and are well 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 has been stable over the past 14 years, is below the MCL, and meets the WQO. TDS in zones 1, 2, and 3 has historically exceeded the MCL and WQO, and generally shows a stable to slightly increasing trend. Chloride in zones 4 and 5 has been historically below the MCL and meets the WQO. Chloride in zones 1, 2, and 3 has historically exceeded the MCL and WQO, and generally shows a stable trend.

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 SMCLs and WQOs. However at PM-4 Mariner Zone 2, TDS and chloride concentrations are well above the SMCLs and WQOs and have steadily increased since monitoring began around 1997. This is attributed to historical seawater intrusion prior to the construction of the West Coast Basin Seawater Barrier. At Carson #1, all four zones contain TDS and chloride concentrations below both the SMCLs and WQOs; here the three deeper zones show relatively stable TDS and chloride concentrations, while concentrations of these constituents in the shallow Zone 4 have decreased since initial sampling in 1998. At Manhattan Beach #1, groundwater in this coastal area indicates impacts from seawater intrusion. While this well was constructed in 2011 and thus only sampled seven times over the past five years, TDS concentrations in 5 of the 7 zones exceed the WQO and SMCL and in four zones the WQO and SMCL for chloride are exceeded. Additional sampling at Manhattan Beach #1 should allow concentration trends to be more clearly identified. At Wilmington #2, TDS in Zones 1 and 3 has 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 WQOs and SMCLs, but have steadily decreased since and are now below the WQOs and SMCLs, due to the implementation measures discussed in Section 4.3 below. TDS and chloride in Zone 5 are much higher than the WQOs and SMCLs; however, they have steadily decreased and are currently at concentrations far below 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 are 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 concentrations in 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, have 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 concentrations in the middle depth 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. Two notable 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 Program (GRIP) which includes tertiary treated and advanced treated recycled waters.

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 or 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 WRD service area during WY 2015-16. 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 WRD service area. 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 WRD service area 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 WRD service area. 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 and West Coast Basins during WY 2015-16. In the unconfined Montebello Forebay, water levels have increased by as much as 6 feet in the vicinity of the spreading grounds; to the west they have decreased by about 2 feet, and to the south and east they are essentially unchanged. Across much of the unconfined Los

Angeles Forebay water levels have decreased an average of about 3 feet. In the Huntington Park/Commerce area of the Los Angeles Forebay groundwater levels decrease more than 5 feet and appear to be influenced by a localized area of groundwater depression just outside of the Forebay to the east. In the western portion of the Whittier Area water levels are essentially unchanged from WY 2014-15; however, to the east they steadily decrease by as much as 4 feet.

- Water levels in the north and eastern portions of the Central Basin Pressure Area have decreased an average of about 2.5 feet; however, small localized regions within this area show much greater decreases including a drop of as much as 9 feet in Commerce, a 15 foot decrease near La Mirada, and a 25 foot decrease in Lakewood. Water levels in the southwest portion of the Central Basin Pressure Area adjacent to the Newport Inglewood Fault from about Los Angeles in the north to Long Beach in the south and extending to the northeast as far as Lynwood, Compton, and Long Beach have increased by as much as 11 feet.
- Water levels did not change significantly over most of the coastal areas or within the Long Beach Plain of the West Coast Basin during WY 2015-16. However, water levels increased between 1 and 4 feet in the Carson/Torrance area, and as much as 10 feet in the northern Inglewood area. In the Gardena area a localized groundwater depression shows water level decreases of up to 9 feet.
- District wide, groundwater levels fell nearly 1.2 feet, although across the Montebello Forebay region water levels rose an average of nearly 0.6 feet. Overall groundwater storage loss from the District was 500 AF, although 4,600 AF was gained in the Montebello Forebay and 100 AF was gained in the West Coast Bain; the remainder was a storage loss to net at a 500 AF loss.
- Overall groundwater storage loss from the District was 500 AF, although 4,600 AF was gained in the Montebello Forebay and the remainder was a storage loss to net at a 500 AF loss.
- Based on data obtained from WRD nested monitoring wells during WY 2015-2016, the water quality of key constituents in groundwater varies significantly across the WRD service area.
- 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 30 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 201 of 227 production wells in the Central Basin and 25 out of 30 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 7 out of 33 nested monitoring well locations in the Central Basin and at 14 out of 21 nested well locations in the West Coast Basin. Manganese concentrations were below the SMCL in 190 out of 227 production wells in the Central Basin and 13 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.
- Nitrate (measured as nitrate) has an MCL of 45 mg/L, which corresponds to 10 mg/L nitrate as nitrogen. 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 either to localized surface recharge, or isolated areas of shallow impacts from industrial operations. In the Central Basin nitrate concentrations above the MCL were not observed in the Silverado Aquifer in any nested monitoring well; in the West Coast Basin, nitrate above the MCL in the Silverado Aquifer was only observed in one nested 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 30 out of 33 nested monitoring well locations in the Central Basin and 20 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 2013-16, and 19 of the 54 detections exceed the MCL. In the West Coast Basin, TCE was detected above the MCL in one production well.
- 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 52 production wells in the Central Basin during the period spanning WYs 2013-16; 14 of the 52 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 7 out of 33 nested monitoring well locations in the Central Basin and at 4 out of 21 nested well locations in the West Coast Basin. During the three year 2013-16 period, 8 out of 220 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 out of 33 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 out of 21 nested monitoring well locations, with perchlorate in one nested well above the MCL. Perchlorate was detected below the MCL in the Silverado zone at one nested monitoring well location in the West Coast Basin. In Central Basin production wells, 7 out of 234 wells tested had detectable perchlorate; three of these wells had perchlorate concentrations above the MCL. Perchlorate was not detected in any of the West Coast Basin production wells.

- The MCL for hexavalent chromium is 10 ug/L. Hexavalent chromium can occur naturally in groundwater and/or be introduced through industrial and commercial activities. 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 2015-16 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 WRD service area is of generally good quality and is suitable for use by the pumpers in the District, the stakeholders, and the public. Groundwater from localized areas with marginal to poor water quality can still be utilized but may require treatment prior to being used as a potable source.

SECTION 6
FUTURE ACTIVITIES

WRD will continue to update and augment its 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 2016-17 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. A key component of the WIN program is the Groundwater Reliability Improvement Project (GRIP), which is designed to ensure reliable sources of high quality replenishment water for groundwater users in the WRD service area.
- 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. All three of these Barriers are now permitted for 100% recycled water injection. 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. A Supervisory Control and Data Acquisition (SCADA) system is being developed which will allow electronic transfer of water level data from the source of measurement to a centralized location which can be accessed remotely for real-time data observation and analysis.

- 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 nested wells. Two such wells are planned for installation in the North Central Basin to expand WRD's monitoring network into that area. Data gaps in the Central Basin are anticipated to be filled by the installation of at least three additional wells in 2017.
- 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. This year WRD anticipates filling database gaps by analyzing groundwater samples for 1-4 dioxane, 1,2,3-TCP, and NDMA in wells where such data has not been previously collected. WRD will be working on refining the hydrogeologic conceptual model of the CBWCB using data from the RGWMP along with an anticipated update to the groundwater model currently in the latter stages of development by the United States Geological Survey (USGS) to improve the framework for understanding the groundwater system and for 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 48 sites located throughout the CBWCB.

- WRD will continue to be proactively involved in the oversight of the most significant contaminated sites that threaten groundwater resources within its service area 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 WRD service area. The WRD Safe Drinking Program now includes special assistance for water systems located in disadvantaged communities within the District's 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 is now being implemented. Based on the existing water quality of the CBWCB and results from the SNMP analysis, it has been shown that salt and nutrient loading to groundwater is not a concern and that 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 its beneficial uses and the increased use of recycled water in the WRD service area 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 its service area.

SECTION 7

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TABLES

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Bell #1	1	102041	1750	1730	1750	Pico Formation
	2	102042	1215	1195	1215	Sunnyside
	3	102043	985	965	985	Silverado
	4	102044	635	615	635	Silverado
	5	102045	440	420	440	Hollydale
	6	102046	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

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Compton #1	1	101809	1410	1370	1390	Sunnyside
	2	101810	1170	1150	1170	Sunnyside
	3	101811	820	800	820	Silverado
	4	101812	480	460	480	Hollydale
	5	101813	325	305	325	Gage
Compton #2	1	101948	1495	1475	1495	Sunnyside
	2	101949	850	830	850	Sunnyside
	3	101950	605	585	605	Silverado
	4	101951	400	380	400	Hollydale
	5	101952	315	295	315	Gage
	6	101953	170	150	170	Exposition
Downey #1	1	100010	1190	1170	1190	Sunnyside
	2	100011	960	940	960	Silverado
	3	100012	600	580	600	Silverado
	4	100013	390	370	390	Hollydale/Jefferson
	5	100014	270	250	270	Gage
	6	100015	110	90	110	Gaspur
Gardena #1	1	100020	990	970	990	Sunnyside
	2	100021	465	445	465	Silverado
	3	100022	365	345	365	Lynwood
	4	100023	140	120	140	Gage
Gardena #2	1	101804	1335	1275	1335	Sunnyside
	2	101805	790	770	790	Silverado
	3	101806	630	610	630	Silverado
	4	101807	360	340	360	Lynwood
	5	101808	255	235	255	Gardena
Hawthorne #1	1	100887	990	910	950	Sunnyside
	2	100888	730	710	730	Silverado
	3	100889	540	520	540	Silverado
	4	100890	420	400	420	Silverado
	5	100891	260	240	260	Lynwood
	6	100892	130	110	130	Gage
Huntington Park #1	1	100005	910	890	910	Silverado
	2	100006	710	690	710	Jefferson
	3	100007	440	420	440	Gage
	4	100008	295	275	295	Exposition
	5	100009	134	114	134	Gaspur
Inglewood #1	1	100091	1400	1380	1400	Pico Formation
	2	100092	885	865	885	Pico Formation
	3	100093	450	430	450	Silverado
	4	100094	300	280	300	Lynwood
	5	100095	170	150	170	Gage
Inglewood #2	1	100824	860	800	840	Pico Formation
	2	100825	470	450	470	Sunnyside
	3	100826	350	330	350	Silverado
	4	100827	245	225	245	Lynwood

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Inglewood #3	1	102138	1940	1900	1940	Pico Formation
	2	102139	1460	1440	1460	Pico Formation
	3	102140	1275	1255	1275	Pico Formation
	4	102141	910	890	910	Pico Formation
	5	102142	560	540	560	Silverado
	6	102143	390	370	390	Lynwood/Silverado
	7	102144	265	245	265	Gage/Lynwood
Lakewood #1	1	100024	1009	989	1009	Sunnyside
	2	100025	660	640	660	Silverado
	3	100026	470	450	470	Lynwood
	4	100027	300	280	300	Gage
	5	100028	160	140	160	Artesia
	6	100029	90	70	90	Bellflower
Lakewood #2	1	102151	2000	1960	2000	Sunnyside
	2	102152	1760	1740	1760	Sunnyside
	3	102153	1320	1300	1320	Sunnyside
	4	102154	1015	995	1015	Silverado
	5	102155	710	690	710	Lynwood
	6	102156	575	555	575	Jefferson
	7	102157	275	255	275	Gage
	8	102158	120	110	120	Artesia
La Mirada #1	1	100876	1150	1130	1150	Sunnyside
	2	100877	985	965	985	Silverado
	3	100878	710	690	710	Lynwood
	4	100879	490	470	490	Jefferson
	5	100880	245	225	245	Gage
Lawndale #1	1	102171	1400	1360	1400	Pico Formation
	2	102172	905	885	905	Pico Formation
	3	102173	635	615	635	Pico Formation
	4	102174	415	395	415	Silverado
	5	102175	310	290	310	Lynwood
	6	102176	190	170	190	Gardena
Lomita #1	1	100818	1340	1240	1260	Sunnyside
	2	100819	720	700	720	Sunnyside
	3	100820	570	550	570	Silverado
	4	100821	420	400	420	Silverado
	5	100822	240	220	240	Gage
	6	100823	120	100	120	Gage
Long Beach #1	1	100920	1470	1430	1450	Sunnyside
	2	100921	1250	1230	1250	Sunnyside
	3	100922	990	970	990	Silverado
	4	100923	619	599	619	Lynwood
	5	100924	420	400	420	Jefferson
	6	100925	175	155	175	Gage
Long Beach #2	1	101740	1090	970	990	Sunnyside
	2	101741	740	720	740	Sunnyside
	3	101742	470	450	470	Silverado
	4	101743	300	280	300	Lynwood
	5	101744	180	160	180	Gage
	6	101745	115	95	115	Gaspur

TABLE 1.1

CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

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-2 Police Station	1	102237	665	645	665	Sunnyside
	2	102238	540	520	520	Silverado
	3	102239	390	370	390	Lynwood
	4	102240	260	240	260	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

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 2015-2016

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Bell #1									Reference Point Elevation: 149.25 *
Depth of Well	1730-1750	1195-1215	965-985	615-635	420-440	250-270			
Aquifer Name	Pico Formation	Sunnyside	Silverado	Silverado	Hollydale	Gage			
12/14/2015	-32.42	-42.19	-23.48	-21.55	-15.43	12.80			
3/21/2016	-30.57	-30.19	-22.15	-20.49	-13.80	13.72			
6/13/2016	-30.49	-29.15	-22.53	-23.28	-16.23	11.62			
7/13/2016	-32.26	-30.41	-23.71	-25.76	-17.13	11.09			
9/20/2016	-34.20	-31.76	-25.14	-26.39	-19.16	10.67			
Bell Gardens #1									Reference Point Elevation: 121.03 *
Depth of Well	1775-1795	1390-1410	1090-1110	855-875	555-575	370-390			
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gage			
12/14/2015	-11.68	-10.03	-6.56	-1.27	3.29	3.89			
2/11/2016	-7.45	-5.81	-2.24	2.27	6.24	6.17			
3/11/2016	-6.80	-5.87	-2.25	2.13	6.22	6.23			
6/21/2016	-6.71	-6.57	-3.95	0.36	3.53	3.09			
7/21/2016	-7.65	-8.00	-6.10	-0.24	3.51	2.79			
9/20/2016	-10.22	-10.92	-8.82	-2.60	2.07	2.30			
Carson #1									Reference Point Elevation: 26.86 *
Depth of Well	990-1010	740-760	460-480	250-270					
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage					
10/7/2015	-44.15	-43.03	-12.77	-11.39					
10/21/2015	-44.90	-43.81	-12.57	-11.21					
11/20/2015	-42.83	-42.05	-12.34	-11.03					
12/11/2015	-42.00	-41.29	-12.24	-10.92					
1/28/2016	-43.42	-42.53	-12.49	-11.17					
2/16/2016	-44.79	-43.51	-12.33	-10.95					
3/14/2016	-44.57	-43.36	-12.47	-11.11					
3/24/2016	-44.34	-43.19	-12.49	-11.08					
4/18/2016	-43.96	-42.83	-12.45	-11.10					
5/24/2016	-43.49	-42.33	-12.26	-10.96					
6/14/2016	-42.47	-41.39	-12.05	-10.77					
6/21/2016	-42.72	-41.70	-12.05	-10.76					
7/20/2016	-43.50	-42.40	-12.17	-10.87					
8/16/2016	-45.38	-43.91	-12.21	-10.86					
8/18/2016	-45.41	-44.03	-12.24	-10.89					
9/8/2016	-46.05	-44.55	-12.39	-11.04					
9/27/2016	-45.00	-43.51	-12.26	-10.92					
Carson #2									Reference Point Elevation: 43.04 *
Depth of Well	1230-1250	850-870	600-620	450-470	230-250				
Aquifer Name	Sunnyside	Silverado	Silverado	Lynwood	Gage				
12/11/2015	-30.61	-24.80	-24.59	-22.27	-20.60				
3/14/2016	-30.97	-25.23	-25.00	-22.60	-20.87				
3/23/2016	-31.00	-25.56	-25.34	-22.93	-21.21				
6/21/2016	-30.04	-24.49	-24.27	-21.94	-20.29				
9/20/2016	-31.06	-25.39	-25.16	-20.84	-22.60				
Carson #3									Reference Point Elevation: 20.18 *
Depth of Well	1600-1620	1220-1240	1080-1100	870-890	620-640	360-380			
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood			
12/11/2015	-31.81	-35.23	-34.23	-34.21	-33.44	-14.96			
3/14/2016	-31.39	-34.98	-33.90	-34.75	-34.03	-15.05			
6/22/2016	-30.87	-34.17	-33.13	-33.72	-33.05	-14.45			
9/20/2016	-30.55	-34.70	-34.03	-35.33	-34.56	-14.54			
Cerritos #1									Reference Point Elevation: 43.35 *
Depth of Well	1155-1175	1000-1020	610-630	270-290	180-200	125-135			
Aquifer Name	Sunnyside	Sunnyside	Lynwood	Gage	Artesia	Artesia			
12/14/2015	-38.10	-46.03	-32.18	15.20	18.30	18.32			
3/15/2016	-33.77	-44.08	-26.97	16.81	19.46	19.53			
4/13/2016	-34.14	-42.14	-28.43	16.42	19.05	19.07			
6/9/2016	-45.14	-53.64	-32.97	14.55	17.12	17.14			
9/14/2016	-47.41	-52.72	-40.10	12.76	16.69	16.75			

* Reference Point Elevation resurveyed in WY 2015-16 and adjusted to fit NAVD88 datum.

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2015-2016

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Cerritos #2									Reference Point Elevation: 76.47 *
Depth of Well	1350-1370	915-935	740-760	490-510	350-370	150-170			
Aquifer Name	Sunnyside	Silverado	Silverado	Jefferson	Gage	Gaspur			
12/11/2015	-27.73	-36.68	-33.43	-10.03	16.37	25.02			
3/15/2016	-21.26	-36.19	-29.37	-7.21	16.92	25.05			
3/30/2016	-21.06	-39.13	-29.72	-7.09	16.89	25.04			
4/27/2016	-21.94	-40.78	-32.91	-9.20	16.34	24.71			
6/22/2016	-26.52	-42.65	-37.14	-12.03	15.42	24.13			
9/20/2016	-30.31	-42.57	-39.68	-14.41	14.06	23.11			
Chandler #3									Reference Point Elevation: 156.01 *
Depth of Well	341-363	165-192							
Aquifer Name	Gage/Lynw/Silv	Gage/Lynw/Silv							
12/16/2015	-14.45	-14.14							
3/24/2016	-14.60	-13.96							
6/23/2016	-14.32	-13.84							
9/22/2016	-13.29	-10.27							
Commerce #1									Reference Point Elevation: 159.30 *
Depth of Well	1330-1390	940-960	760-780	570-590	325-345	205-225			
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Hollydale	Gage			
12/15/2015	31.52	18.37	13.80	-10.24	-9.08	33.46			
2/5/2016	30.50	18.57	15.07	-14.81	-11.84	32.93			
3/17/2016	30.89	18.96	15.52	-14.53	-11.70	32.82			
3/21/2016	30.85	18.78	15.53	-14.82	-11.93	32.61			
4/21/2016	30.40	19.63	16.09	-14.74	-11.97	32.59			
6/13/2016	29.15	19.87	16.41	-15.80	-12.63	31.80			
9/22/2016	28.83	17.29	13.47	-18.80	-14.08	31.12			
Compton #1									Reference Point Elevation: 68.84 *
Depth of Well	1370-1390	1150-1170	800-820	460-480	305-325				
Aquifer Name	Sunnyside	Sunnyside	Silverado	Hollydale	Gage				
12/16/2015	-64.58	-64.34	-28.97	-27.99	-13.99				
3/9/2016	-65.99	-65.66	-27.9	-26.01	-12.43				
6/22/2016	-61.27	-61.02	-30.92	-30.46	-17.47				
9/15/2016	-62.56	-62.28	-32.62	-32.47	-18.72				
Compton #2									Reference Point Elevation: 76.97 *
Depth of Well	1479-1495	830-850	585-605	380-400	295-315	150-170			
Aquifer Name	Sunnyside	Sunnyside	Silverado	Hollydale	Gage	Exposition			
12/15/2015	-31.58	-51.43	-43.15	-42.65	-36.14	-30.75			
4/7/2016	-32.79	-50.70	-41.64	-41.00	-35.96	-29.98			
4/11/2016	-32.80	-50.14	-40.17	-39.80	-35.72	-30.26			
6/15/2016	-32.08	-50.26	-40.96	-40.58	-36.61	-31.02			
9/22/2016	-31.92	-49.06	-44.92	-43.66	-36.93	-31.16			
Downey #1									Reference Point Elevation: 99.39 *
Depth of Well	1170-1190	940-960	580-600	370-390	250-270	90-110			
Aquifer Name	Sunnyside	Silverado	Silverado	Holly/Jeff	Gage	Gaspur			
12/14/2015	-13.41	-10.62	-6.08	-1.07	26.94	31.67			
1/19/2016	-10.09	-7.76	-2.86	2.54	27.19	31.31			
1/28/2016	-9.48	-6.87	-3.38	2.35	27.21	31.34			
2/26/2016	-9.45	-6.46	-4.73	1.19	26.90	31.09			
3/9/2016	-9.64	-6.76	-3.98	0.79	26.79	31.06			
6/21/2016	-12.46	-10.58	-8.42	-4.23	25.46	30.32			
9/21/2016	-16.00	-13.33	-10.35	-5.51	24.52	29.58			
Gardena #1									Reference Point Elevation: 84.23 *
Depth of Well	970-990	445-465	345-365	120-140					
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage					
12/15/2015	-42.69	-44.81	-47.83	-9.02					
3/18/2016	-39.95	-47.06	-43.00	-8.63					
6/15/2016	-38.74	-46.42	-42.12	-8.06					
9/15/2016	-37.76	-66.67	-50.07	-7.61					

* Reference Point Elevation resurveyed in WY 2015-16 and adjusted to fit NAVD88 datum.

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2015-2016

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Gardena #2									Reference Point Elevation: 29.45 *
Depth of Well	1275-1335	770-790	610-630	340-360	235-255				
Aquifer Name	Sunnyside	Silverado	Silverado	Lynwood	Gardena				
12/16/2015	-34.13	-34.39	-34.22	-15.39	-7.62				
3/17/2016	-32.44	-34.96	-34.90	-15.64	-7.21				
3/18/2016	-32.34	-34.58	-34.55	-15.60	-7.25				
5/17/2016	-32.14	-35.59	-35.83	-14.24	-6.23				
6/21/2016	-31.84	-33.96	-34.27	-13.58	-6.09				
9/22/2016	-31.53	-35.34	-35.57	-13.60	-5.81				
Hawthorne #1									Reference Point Elevation: 88.98 *
Depth of Well	910-950	710-730	520-540	400-420	240-260	110-130			
Aquifer Name	Sunnyside	Silverado	Silverado	Silverado	Lynwood	Gage			
12/18/2015	-40.65	-9.00	-8.28	-8.07	-4.00	3.94			
3/16/2016	-40.36	-6.71	-5.73	-5.60	-2.57	4.28			
4/19/2016	-39.99	-9.30	-8.53	-8.35	-4.03	4.23			
5/12/2016	-39.66	-7.21	-6.66	-6.56	-2.90	4.27			
6/23/2016	-38.17	-4.48	-3.92	-3.79	-1.32	4.46			
9/19/2016	-36.99	-5.02	-4.52	-4.47	-1.52	4.81			
Huntington Park #1									Reference Point Elevation: 179.44 *
Depth of Well	890-910	690-710	420-440	275-295	114-134				
Aquifer Name	Silverado	Jefferson	Gage	Exposition	Gaspur				
1/4/2016	-27.48	-29.90	-19.94	14.67	Dry				
2/12/2016	-28.18	-30.64	-19.86	14.34	Dry				
3/15/2016	-29.10	-31.71	-20.64	14.29	Dry				
6/22/2016	-30.26	-34.25	-22.41	12.99	Dry				
9/21/2016	-29.41	-36.91	-23.51	12.65	Dry				
Inglewood #1									Reference Point Elevation: 112.82 *
Depth of Well	1380-1400	865-885	430-450	280-300	150-170				
Aquifer Name	Pico Formation	Pico Formation	Silverado	Lynwood	Gage				
12/18/2015	-32.96	-42.74	-23.03	2.17	6.66				
1/21/2016	-32.83	-41.9	-22.81	2.01	6.54				
3/21/2016	-32.64	-40.58	-22.15	2.25	6.45				
6/15/2016	-32.7	-38.97	-21.50	2.22	6.49				
9/15/2016	-30.83	-37.33	-20.99	2.23	6.45				
Inglewood #2									Reference Point Elevation: 219.82 *
Depth of Well	800-840	450-470	330-350	225-245					
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood					
12/11/2015	-24.49	-15.17	-1.78	1.57					
3/21/2016	-24.98	-15.49	-2.01	1.25					
6/13/2016	-25.19	-15.62	-2.10	1.15					
9/15/2016	-25.27	-15.68	-2.01	1.32					
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		
12/15/2015	-29.65	-36.75	-47.40	-43.27	-42.80	-11.24	2.87		
3/4/2016	-29.62	-36.01	-44.83	-42.58	-42.44	-10.76	2.79		
3/22/2016	-29.59	-35.91	-44.39	-42.26	-42.14	-9.65	2.83		
6/15/2016	-29.76	-35.18	-42.40	-40.35	-40.29	-10.04	3.18		
7/22/2016	-29.77	-34.80	-41.49	-39.56	-39.83	-9.74	3.37		
9/21/2016	-29.97	-34.26	-40.35	-38.68	-39.76	-8.84	3.54		
Lakewood #1									Reference Point Elevation: 53.87* (shallow) and 53.14* (deep)
Depth of Well	989-1009	640-660	450-470	280-300	140-160	70-90			
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage	Artesia	Bellflower			
12/16/2015	-54.78	-35.72	-34.49	-19.34	-3.50	22.57			
3/15/2016	-63.93	-33.68	-32.47	-17.44	-1.34	22.89			
6/15/2016	-47.52	-36.41	-35.55	-21.41	-3.98	-3.98			
9/26/2016	-82.82	-38.90	-36.92	-23.56	-7.38	20.57			
Lakewood #2									Reference Point Elevation: 40.51 *
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	
12/14/2015	-35.14	-41.64	-50.39	-60.34	-41.89	-22.51	15.75	18.46	
3/15/2016	-31.00	-38.98	-47.69	-59.88	-35.65	-17.31	16.39	19.01	
5/9/2016	-31.15	-41.16	-51.16	-65.74	-38.37	-18.91	15.55	18.22	
6/14/2016	-33.68	-44.20	-54.00	-68.21	-42.84	-22.90	15.1	17.79	
9/14/2016	-38.92	-49.72	-57.09	-67.31	-50.25	-27.93	13.94	16.82	

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2015-2016

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
La Mirada #1									Reference Point Elevation: 78.24 *
Depth of Well	1130-1150	965-985	690-710	470-490	225-245				
Aquifer Name	Sunnyside	Silverado	Lynwood	Jefferson	Gage				
12/16/2015	-27.68	-22.66	-25.94	-34.56	-10.98				
3/15/2016	-20.59	-16.70	-17.11	-28.32	-6.45				
6/22/2016	-27.36	-21.75	-34.27	-51.99	-18.69				
8/22/2016	-30.48	-24.95	-37.04	-55.00	-22.42				
9/12/2016	-32.11	-26.51	-42.51	-52.18	-21.74				
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			
12/16/2015	-32.80	-37.97	-9.12	-8.97	-7.41	-4.45			
3/15/2016	-31.82	-37.80	-10.75	-10.17	-8.75	-6.92			
6/17/2016	-31.33	-34.93	-5.49	-5.07	-4.15	-5.15			
7/18/2016	-31.13	-36.48	-4.86	-4.37	-3.57	-5.47			
9/12/2016	-30.64	-35.92	-4.66	-4.18	-3.26	-5.00			
Lomita #1									Reference Point Elevation: 79.48 *
Depth of Well	1240-1260	700-720	550-570	400-420	220-240	100-120			
Aquifer Name	Sunnyside	Sunnyside	Silverado	Silverado	Gage	Gage			
12/11/2015	-24.87	-16.63	-13.62	-15.47	-12.98	-12.91			
3/22/2016	-23.55	-16.43	-13.52	-15.27	-12.99	-12.84			
6/23/2016	-24.63	-16.43	-13.51	-14.58	-12.88	-12.80			
9/20/2016	-23.98	-16.35	-13.21	-14.14	-12.69	-12.55			
Long Beach #1									Reference Point Elevation: 30.54 *
Depth of Well	1430-1450	1230-1250	970-990	599-619	400-420	155-175			
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Jefferson	Gage			
12/18/2015	-44.73	-47.39	-72.36	-38.59	-36.06	-13.45			
3/29/2016	-45.18	-48.05	-69.17	-36.29	-33.34	-9.15			
6/20/2016	-44.14	-46.81	-73.99	-42.68	-39.87	-14.98			
9/15/2016	-45.92	-48.67	-80.47	-45.34	-41.22	-16.86			
Long Beach #2									Reference Point Elevation: 44.20 *
Depth of Well	970-990	720-740	450-470	280-300	160-180	95-115			
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gage	Gaspur			
12/7/2015	-83.90	-50.40	-39.15	-11.64	-3.12	-0.71			
12/9/2015	-83.81	-50.20	-39.67	-14.55	-3.05	-0.69			
12/18/2015	-83.75	-49.99	-39.30	-14.50	-3.09	-0.72			
3/10/2016	-87.25	-47.78	-36.70	-14.16	-3.05	-0.69			
6/14/2016	-82.53	-50.17	-40.39	-15.13	-3.53	-1.09			
9/13/2016	-83.12	-49.26	-43.35	-15.67	-3.95	-1.45			
Long Beach #3									Reference Point Elevation: 26.67 *
Depth of Well	1350-1390	997-1017	670-690	530-550	410-430				
Aquifer Name	Sunnyside	Silverado	Silverado	Silverado	Lynwood				
12/18/2015	-34.71	-46.08	-46.08	-46.50	-4.21				
3/18/2016	-34.56	-47.59	-47.59	-48.04	-3.79				
4/1/2016	-34.64	-46.07	-46.06	-46.53	-6.47				
6/20/2016	-34.24	-45.38	-45.35	-45.80	-3.19				
9/21/2016	-34.35	-48.06	-48.05	-48.65	-3.40				
Long Beach #4									Reference Point Elevation: 12.34 *
Depth of Well	1200-1220	800-820							
Aquifer Name	Pico Formation	Sunnyside							
12/18/2015	-30.18	-10.98							
3/16/2016	-30.19	-11.15							
6/20/2016	-29.29	-10.81							
9/13/2016	-30.11	-12.21							

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2015-2016

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Long Beach #6									Reference Point Elevation: 34.47 *
Depth of Well	1490-1510	930-950	740-760	480-500	380-400	220-240			
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Lynwood	Gage			
12/22/2015	-56.82	-73.07	-74.20	-103.71	-103.51	-35.28			
3/10/2016	-59.81	-75.93	-76.92	-104.62	-104.39	-35.05			
4/29/2016	-59.21	-73.59	-74.78	-100.66	-100.45	-35.29			
6/14/2016	-59.32	-74.09	-75.26	-109.46	-109.55	-37.18			
6/29/2016	-58.65	-72.65	-73.87	-109.34	-109.39	-37.34			
6/29/2016	-58.65	-72.65	-73.87	-109.34	-109.39	-37.34			
7/7/2016	-58.75	-73.09	-74.28	-110.86	-110.94	-37.68			
7/12/2016	-58.71	-73.14	-74.37	-111.21	-111.27	-37.64			
9/13/2016	-59.81	-74.24	-75.42	-107.38	-107.45	-38.77			
Long Beach #8									Reference Point Elevation: 21.20 *
Depth of Well	1435-1455	1020-1040	780-800	635-655	415-435	165-185			
Aquifer Name	Pico Formation	Sunnyside	Silverado	Silverado	Lynwood	Gage			
1/4/2016	-12.23	-28.69	-38.54	-36.36	-35.96	4.01			
3/18/2016	-12.52	-28.77	-40.44	-38.22	-37.78	3.72			
6/29/2016	-13.63	-28.61	-39.16	-37.02	-36.57	3.65			
9/28/2016	-12.56	-29.10	-40.65	-38.41	-38.13	3.22			
Los Angeles #1									Reference Point Elevation:176.21 *
Depth of Well	1350-1370	1080-1100	920-940	640-660	350-370				
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Gage				
12/14/2015	-28.94	-22.61	-23.00	-24.00	-14.84				
3/17/2016	-26.92	-22.49	-23.08	-23.99	-14.79				
3/21/2016	-26.88	-22.65	-23.23	-24.13	-14.96				
6/14/2016	-26.28	-23.29	-23.75	-24.76	-15.03				
9/20/2016	-25.82	-22.76	-23.02	-25.42	-16.29				
Los Angeles #2									Reference Point Elevation: 220.33 *
Depth of Well	1330-1370	710-730	505-525	410-430	245-265	135-155			
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Lynwood	Exposition			
12/15/2015	47.66	-3.94	-4.93	-17.65	-24.88	Dry			
3/17/2016	47.45	-4.42	-4.93	-17.36	-24.47	Dry			
3/21/2016	47.51	-4.60	-5.05	-17.56	-24.77	Dry			
6/14/2016	47.75	-4.88	-5.37	-18.55	-25.46	Dry			
9/29/2016	46.78	-5.69	-6.16	-18.52	-25.90	Dry			
Los Angeles #3									Reference Point Elevation: 145.35 *
Depth of Well	1210-1230	875-895	705-725	550-570	330-350	190-210			
Aquifer Name	Sunnyside	Silverado	Lynwood	Hollydale	Gage	Exposition			
12/15/2015	-19.47	-7.50	-12.84	-16.92	-13.47	6.50			
3/17/2016	-18.26	-7.35	-12.65	-16.05	-12.93	6.47			
3/21/2016	-18.28	-7.45	-12.73	-16.09	-13.17	6.22			
6/14/2016	-17.61	-7.49	-12.75	-18.15	-14.14	5.93			
9/19/2016	-17.31	-7.14	-12.23	-17.79	-14.45	5.62			
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			
12/15/2015	-29.66	-52.22	-42.77	-29.86	-28.24	-17.31			
3/17/2016	-28.81	-51.64	-42.93	-30.40	-28.90	-17.32			
3/21/2016	-28.90	-51.77	-42.92	-30.49	-28.99	-17.53			
4/25/2016	-28.16	-52.39	-43.54	-30.88	-29.36	-17.60			
6/15/2016	-27.62	-43.70	-34.50	-29.36	-28.66	-17.77			
8/26/2016	-27.45	-37.27	-33.37	-30.19	-29.59	-18.29			
9/15/2016	-27.24	-36.86	-33.30	-30.26	-29.69	-18.41			

* Reference Point Elevation resurveyed in WY 2015-16 and adjusted to fit NAVD88 datum.

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2015-2016

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Lynwood #1						Reference Point Elevation: 88.64 (shallow) and 89.29 (deep)			
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	Gaspur
12/15/2015	-28.39	-44.24	-57.61	-51.59	-34.86	-30.36	-30.66	-22.21	39.41
3/22/2016	-28.45	-45.01	-58.34	-51.83	-33.51	-30.67	-30.15	-21.06	39.07
5/10/2016	-27.48	-44.07	-58.09	-51.72	-35.85	-33.23	-34.98	-23.73	38.80
6/15/2016	-27.12	-43.31	-52.65	-47.17	-34.38	-33.98	-35.65	-25.97	38.34
9/22/2016	-27.27	-43.18	-52.15	-47.16	-35.40	-36.19	-37.73	-27.62	37.71
Manhattan Beach #1								Reference Point Elevation: 128.71 *	
Depth of Well	1950-1990	1570-1590	1250-1270	865-885	640-660	320-340	180-200		
Aquifer Name	Pico Formation	Pico Formation	Sunnyside	Silverado	Silverado	Lynwood	Gage		
12/16/2015	-0.74	-2.73	-32.44	-2.29	-4.22	5.06	8.23		
3/4/2016	-0.79	-2.90	-31.85	-2.44	-2.52	6.43	9.08		
3/14/2016	-0.69	-1.54	-31.58	-2.43	-2.51	6.56	9.06		
6/17/2016	-0.67	-2.81	-30.97	-0.92	-1.87	7.06	9.56		
9/19/2016	-0.49	-2.69	-30.19	0.06	-1.16	7.68	10.27		
Montebello #1								Reference Point Elevation: 193.11 *	
Depth of Well	900-960	690-710	500-520	370-390	210-230	90-110			
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Gage	Exposition			
12/30/2015	46.62	40.46	40.03	38.76	40.27	Dry			
3/18/2016	53.90	50.90	50.40	47.95	44.79	Dry			
4/28/2016	57.29	52.53	52.91	50.15	47.31	Dry			
6/21/2016	54.99	48.86	48.25	46.11	46.91	Dry			
9/28/2016	50.07	41.45	40.81	39.25	43.03	Dry			
Norwalk #1								Reference Point Elevation: 96.18 *	
Depth of Well	1400-1420	990-1010	720-740	430-450	220-240				
Aquifer Name	Sunnyside	Silverado	Lynwood	Jefferson	Gage				
12/14/2015	12.93	-34.42	-2.00	-8.90	-4.87				
3/15/2016	16.72	-22.82	0.86	-7.13	-4.32				
6/9/2016	16.43	-29.51	-0.02	-11.60	-6.98				
6/22/2016	16.82	-25.66	-0.67	-10.83	-6.84				
7/12/2016	16.61	-25.41	-1.34	-11.50	-8.17				
7/14/2016	16.61	-25.47	-1.45	-11.61	-8.33				
7/19/2016	16.65	-25.57	-1.61	-11.68	-8.44				
9/12/2016	15.81	-27.19	-3.42	-12.63	-9.47				
Norwalk #2								Reference Point Elevation: 116.73 *	
Depth of Well	1460-1480	1260-1280	960-980	800-820	480-500	236-256			
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gardena	Exposition			
12/14/2015	-4.85	-4.72	-10.95	-6.23	5.40	13.45			
3/11/2016	-1.65	-1.59	-4.70	-1.02	6.68	14.18			
6/15/2016	-0.81	-0.69	-5.92	-2.65	3.63	12.01			
9/12/2016	-2.93	-2.81	-9.60	-6.91	1.78	10.48			
Pico #1								Reference Point Elevation: 182.89 *	
Depth of Well	860-900	460-480	380-400	170-190					
Aquifer Name	Pico Formation	Silverado	Silverado	Gardena					
12/15/2015	100.50	83.14	83.13	78.80					
3/15/2016	114.21	101.33	100.91	98.64					
6/15/2016	120.39	103.55	102.87	101.34					
9/15/2016	106.70	90.00	89.37	86.59					
Pico #2								Reference Point Elevation: 151.83 *	
Depth of Well	1180-1200	830-850	560-580	320-340	235-255	100-120			
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gaspur			
12/15/2015	34.84	37.74	43.95	63.11	63.94	68.92			
3/15/2016	51.14	55.60	58.12	75.02	76.34	84.38			
6/15/2016	48.48	50.00	56.14	77.14	78.70	87.16			
9/15/2016	39.58	40.45	49.21	73.04	73.70	78.93			
PM-2 Police Station								Reference Point Elevation: 88	
Depth of Well	635-665	520-540	370-390	240-260					
Aquifer Name	Pico Formation	Silverado	Lynwood	Lynwood					
9/16/2015	-6.24	-1.96	-1.69	-1.55					
12/16/2015	-6.61	-2.70	-2.40	-2.25					
1/11/2016	-6.26	-1.81	-1.55	-1.39					
3/22/2016	-6.15	-2.36	-2.02	-1.90					
4/18/2016	-5.92	-1.64	-1.38	-1.13					
4/28/2016	-5.65	-1.65	-1.36	-1.20					
6/21/2016	-5.17	-1.11	-0.82	-0.66					
9/14/2016	-4.71	-0.42	-0.16	0.03					

* Reference Point Elevation resurveyed in WY 2015-16 and adjusted to fit NAVD88 datum.

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2015-2016

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
PM-3 Madrid									Reference Point Elevation: 73.12 *
Depth of Well	640-680	480-520	240-280	145-185					
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage					
12/17/2015	-9.10	-7.06	-6.96	-6.93					
3/21/2016	-8.78	-6.58	-6.61	-6.58					
6/10/2016	-7.76	-5.74	-5.68	-5.67					
9/14/2016	-7.42	-5.30	-5.19	-5.19					
PM-4 Mariner									Reference Point Elevation: 100.38 *
Depth of Well	670-710	500-540	340-380	200-240					
Aquifer Name	Sunnyside	Silverado	Lynwood	Lynwood					
12/16/2015	-4.72	-3.12	0.13	0.21					
3/21/2016	-4.27	-2.07	1.08	1.13					
4/19/2016	-3.53	-1.44	1.83	1.89					
6/10/2016	-2.45	-1.01	2.28	2.32					
9/14/2016	-1.83	-0.37	2.93	2.96					
PM-5 Columbia Park									Reference Point Elevation: 78.57 *
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			
12/15/2015	-31.56	-30.56	-7.54	-6.03	-0.58	-0.44			
3/8/2016	-30.89	-29.95	-7.61	-5.67	0.38	0.53			
3/21/2016	-30.91	-30.08	-7.38	-5.51	0.27	0.47			
4/18/2016	-29.95	-30.81	-6.51	-4.46	0.99	1.23			
6/21/2016	-30.42	-30.06	-4.04	-2.98	1.55	1.71			
9/14/2016	-29.96	-29.75	-3.49	-2.43	2.20	2.37			
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			
12/17/2015	-29.16	-11.02	-10.51	-3.22	-2.18	-1.77			
1/14/2016	28.98	-10.81	-10.32	-2.92	-1.80	-1.34			
3/22/2016	-29.17	-10.72	-10.17	-2.68	-1.57	-1.15			
4/11/2016	-29.51	-10.76	-10.15	-2.76	-1.67	-1.23			
6/21/2016	-28.97	-10.16	-9.76	-2.23	-1.07	-0.69			
9/13/2016	-28.94	-9.93	-9.41	-1.80	-0.75	-0.27			
Rio Hondo #1									Reference Point Elevation: 146.51 *
Depth of Well	1110-1130	910-930	710-730	430-450	280-300	140-160			
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gardena			
10/16/2015	31.02	29.45	28.85	24.90	32.44	36.27			
12/31/2015	32.79	32.41	31.78	26.86	31.50	35.30			
3/14/2016	40.77	43.37	42.78	35.41	39.20	42.84			
4/21/2016	43.91	45.15	44.55	38.75	42.16	45.02			
4/22/2016	43.92	44.88	44.23	38.83	42.12	44.92			
6/22/2016	39.42	37.06	36.42	32.41	38.70	42.62			
7/20/2016	36.68	34.19	33.61	30.21	37.43	41.94			
9/20/2016	33.11	29.93	29.33	22.63	33.18	38.79			
Seal Beach #1									Reference Point Elevation: 9.06 *
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	Gaspur		
12/21/2015	-43.24	-43.40	-43.24	-64.04	-39.49	-5.83	-0.62		
3/16/2016	-43.50	-43.66	-43.49	-58.61	-36.46	-2.12	1.32		
6/15/2016	-42.82	-43.10	-42.95	-67.94	-44.98	-8.68	-1.76		
7/8/2016	-42.48	-42.68	-42.58	-67.17	-44.95	-9.45	-1.97		
9/19/2016	-44.38	-44.58	-44.48	-72.46	-47.30	-10.82	-3.20		
South Gate #1									Reference Point Elevation: 102.50 *
Depth of Well	1440-1460	1320-1340	910-930	565-585	220-240				
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Exposition				
12/14/2015	-15.78	-13.53	-9.18	-7.60	32.59				
3/11/2016	-13.35	-10.95	-6.20	-7.22	32.36				
6/22/2016	-16.08	-14.09	-10.14	-10.29	31.51				
7/25/2016	-16.58	-14.53	-11.31	-13.35	31.02				
9/27/2016	-18.54	-16.34	-11.34	-14.31	30.74				
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	Gaspur			
12/16/2015	-30.89	-30.06	-25.63	-15.66	40.69	46.31			
3/11/2016	-31.53	-30.88	-25.18	-15.05	40.51	46.13			
6/14/2016	-32.21	-31.87	-29.86	-27.01	39.60	45.76			
9/20/2016	-35.78	-35.37	-28.33	-22.78	39.17	52.71			

* Reference Point Elevation resurveyed in WY 2015-16 and adjusted to fit NAVD88 datum.

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2015-2016

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Westchester #1									Reference Point Elevation: 126.95 *
Depth of Well	740-760	560-580	455-475	310-330	215-235				
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Gage				
12/11/2015	0.79	9.30	9.60	9.71	9.78				
3/14/2016	0.79	9.17	9.47	9.62	9.80				
3/29/2016	1.00	9.31	9.66	9.79	9.91				
6/13/2016	0.38	8.98	9.23	9.41	9.60				
9/15/2016	0.49	8.92	9.28	9.42	9.56				
Whittier #1									Reference Point Elevation: 217.35* and 217.81* (Zone 3)
Depth of Well	1180-1200	920-940	600-620	450-470	200-220				
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gage				
12/22/2015	107.45	107.46	98.87	96.31	195.00				
3/14/2016	106.16	106.17	98.20	95.87	194.87				
6/14/2016	105.21	105.22	97.49	95.30	194.36				
9/13/2016	104.10	104.20	96.71	94.45	193.76				
Whittier #2									Reference Point Elevation: 167.55 *
Depth of Well	1370-1390	1090-1110	655-675	425-445	315-335	150-170			
Aquifer Name	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood	Gardena			
12/22/2015	61.99	62.65	51.93	55.70	85.00	94.62			
3/14/2016	68.34	68.89	65.14	69.17	91.34	98.92			
6/14/2016	70.05	70.41	65.10	67.33	92.98	101.57			
7/25/2016	67.26	67.68	58.80	59.43	88.42	98.91			
9/13/2016	64.94	65.42	55.65	55.01	88.27	98.46			
Whittier Narrows #1									Reference Point Elevation: 214.66 *
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	Gaspur
3/17/2016	171.11	169.66	171.36	175.33	176.05	177.51	177.45	177.86	181.82
9/14/2016	137.67	140.95	145.03	153.09	154.11	155.67	155.83	156.08	160.36
Whittier Narrows #2									Reference Point Elevation: 209.15 *
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
3/18/2016	-18.53	-18.14	-18.35	-10.04	95.04	154.87	156.78	157.19	160.12
9/15/2016	-20.1	-19.97	-19.73	-12.35	82.06	129.07	130.01	133.17	152.94
Willowbrook #1									Reference Point Elevation: 98.87 *
Depth of Well	885-905	500-520	360-380	200-220					
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage					
12/15/2015	-52.95	-38.78	-34.88	-34.58					
3/18/2016	-55.75	-38.59	-38.95	-37.94					
4/19/2016	-57.61	-39.26	-40.12	-38.92					
6/13/2016	-50.51	-38.44	-40.63	-39.00					
9/21/2016	-49.13	-38.62	-43.60	-42.38					
Wilmington #1									Reference Point Elevation: 40.74 *
Depth of Well	915-935	780-800	550-570	225-245	120-140				
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gage				
11/9/2015	-41.38	-41.94	-41.87	-13.06	-10.00				
12/11/2015	-41.30	-41.76	-41.79	-12.92	-9.82				
3/18/2016	-43.18	-43.61	-43.55	-13.52	-10.28				
6/20/2016	-41.18	-41.58	-41.56	-13.49	-10.41				
8/1/2016	-41.47	-41.92	-41.89	-14.22	-11.15				
9/21/2016	-43.07	-43.46	-43.40	-14.43	-11.26				
Wilmington #2									Reference Point Elevation: 32.30 *
Depth of Well	950-970	755-775	540-560	390-410	120-140				
Aquifer Name	Sunnyside	Silverado	Lynwood	Lynwood	Gage				
11/10/2015	-28.38	-23.82	-19.54	-18.64	-3.14				
12/16/2015	-28.78	-24.42	-20.26	-19.33	-3.20				
3/1/2016	-29.61	-25.36	-21.09	-20.09	-3.24				
3/22/2016	-29.70	-25.25	-20.99	-20.06	-3.02				
6/21/2016	-28.30	-24.05	-20.13	-19.05	-2.65				
9/22/2016	-29.36	-24.88	-21.03	-20.17	-2.79				

* Reference Point Elevation resurveyed in WY 2015-16 and adjusted to fit NAVD88 datum.

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Bell #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/17/16	9/15/16	5/17/16	9/15/16	5/17/16	9/15/16	5/17/16	9/15/16	5/17/16	9/15/16	5/17/16	9/15/16
General Minerals															
Alkalinity	mg/l			590	590	160	160	150	160	170	170	180	170	250	260
Anion Sum	meq/l			16	16	5.4	5.5	5.1	5.2	5.7	5.6	7.4	7.2	11	11
Bicarbonate as HCO3	mg/l			720	720	190	200	190	190	210	210	210	210	300	310
Boron	mg/l	1	N	**1.6**	**1.5**	0.14	0.13	0.14	0.12	0.16	0.14	0.15	0.13	0.17	0.15
Bromide	ug/l			1200	1200	100	100	150	140	120	120	180	170	350	370
Calcium, Total	mg/l			21	19	50	51	45	46	56	58	73	74	120	130
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			15	12	2.5	2	2	ND	2.2	2.2	2.2	ND	ND	ND
Cation Sum	meq/l			17	17	5.4	5.7	5.2	5.4	5.7	6	7.4	7.6	11	12
Chloride	mg/l	500	S	140	150	22	22	29	29	27	24	51	47	100	100
Fluoride	mg/l	2	P	0.43	0.42	0.23	0.23	0.41	0.41	0.43	0.45	0.38	0.36	0.37	0.39
Hardness (Total, as CaCO3)	mg/l			80	74	170	170	160	160	190	200	260	260	430	460
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			1500	5.6	31	19	38	27	39	23	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.1	0.1	0.02	0.02	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.2	1	0.84	0.77	0.72	0.55	0.81	0.83	0.94	0.8	1.2	0.97
Magnesium, Total	None			6.7	6.5	10	10	11	11	13	14	18	19	32	33
Manganese, Total	ug/l	50	S	37	36	**71**	**75**	48	50	**68**	**63**	2.4	2.1	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	7.7	7.1	12	11
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	1.7	1.6	2.6	2.6
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	5.8	2.6	2.7	3.4	3.6	3.2	3.5	2.8	3	2.8	3
Sodium, Total	mg/l			350	360	46	51	46	50	40	44	48	53	58	63
Sulfate	mg/l	500	S	2.2	2.2	78	77	57	56	73	70	110	110	150	150
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	960	940	340	320	320	320	350	370	470	460	660	700
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	1.7	1.6	2.6	2.6
Total Organic Carbon	mg/l			17	18	0.31	0.42	0.39	0.5	0.37	ND	ND	ND	0.32	0.5
General Physical Properties															
Apparent Color	ACU	15	S	**300**	**250**	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
Lab pH	Units			8.5	8.4	8.3	8.2	8.2	8	8.2	8.2	8.2	8	8	7.8
Odor	TON	3	S	**17**	**8**	1	2	1	1	2	1	ND	ND	2	2
Specific Conductance	umho/cm	1600	S	1600	1600	540	540	510	520	560	560	720	720	1100	1100
Turbidity	NTU	5	S	0.42	0.33	0.1	0.11	0.16	ND	0.14	0.12	0.23	0.46	3	**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	ND	ND	ND	ND	ND	ND	ND	1	2.8	3.8	1.1	1.6
Barium, Total	ug/l	1000	P	25	25	36	34	35	33	76	69	230	250	140	130
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1	ND	ND	ND	ND	ND	ND	1.2	ND	3.9	3.9
Hexavalent Chromium (Cr VI)	ug/l			0.031	0.069	ND	ND	ND	ND	ND	ND	1.7	1.2	4.3	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	ND	ND	ND	ND	ND	ND	ND	ND	5.8	8.9	ND	7.8
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	**0.65**	**0.74**
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	0.64	0.77
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	**39**	**50**
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	2.2	2.1	4.2	4

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Bell Gardens #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/2/16	9/8/16	5/2/16	9/8/16	5/2/16	9/8/16	5/2/16	9/8/16	5/2/16	9/8/16	5/2/16	9/8/16
General Minerals															
Alkalinity	mg/l			160	160	150	160	140	140	100	110	120	120	140	140
Anion Sum	meq/l			7.2	7.1	5	5	7	6.9	5	4.9	5	4.9	5.5	5.5
Bicarbonate as HCO3	mg/l			190	200	190	190	170	170	130	130	140	150	170	170
Boron	mg/l	1	N	0.054	0.057	0.12	0.13	0.16	0.17	0.14	0.14	0.14	0.15	0.14	0.14
Bromide	ug/l			120	120	130	130	140	140	76	81	220	210	130	130
Calcium, Total	mg/l			91	100	39	42	69	77	44	46	45	49	54	58
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2	ND	2	2	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.9	7.7	4.8	5.3	6.7	7.5	4.8	5	4.8	5.2	5.4	5.8
Chloride	mg/l	500	S	48	48	34	34	66	64	42	40	37	36	38	39
Fluoride	mg/l	2	P	0.21	0.2	0.29	0.28	0.32	0.3	0.42	0.41	0.24	0.23	0.35	0.34
Hardness (Total, as CaCO3)	mg/l			280	310	130	140	220	250	140	150	150	160	180	190
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			6.9	6.6	12	11	ND	1.2	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.036	0.043	ND	0.02	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.97	0.97	0.66	0.63	0.58	0.59	0.26	0.22	0.14	0.087	0.35	0.32
Magnesium, Total	None			13	14	7.7	8.3	12	14	8.3	8.6	9.1	9.8	10	11
Manganese, Total	ug/l	50	S	33	29	46	41	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	10	6.4	6	8	7.6	7.1	6.8
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	2.4	2.3	1.4	1.3	1.8	1.7	1.6	1.5
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	2.6	3.2	3.6	2.9	3.1	2.8	2.9	3	3.3
Sodium, Total	mg/l			28	31	50	56	50	56	43	45	39	43	41	45
Sulfate	mg/l	500	S	130	120	45	43	100	100	74	71	68	66	72	70
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	450	470	280	300	450	460	300	310	300	320	360	350
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	2.4	2.3	1.4	1.3	1.8	1.7	1.6	1.5
Total Organic Carbon	mg/l			ND	0.36	ND	1.7	0.37	0.47	ND	0.35	ND	0.32	ND	ND
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	8.1	8.2	8.2	8	7.9	8	7.9	7.8	7.7	7.8	7.8
Odor	TON	3	S	1	2	ND	2	ND	1	1	2	1	1	ND	1
Specific Conductance	umho/cm	1600	S	710	720	500	510	720	720	510	510	510	510	560	560
Turbidity	NTU	5	S	0.13	0.18	0.11	0.11	ND	ND	0.11	0.31	ND	ND	ND	0.15
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	2.9	ND	ND	2.6	2.2	2.4	2.2	1.2	1.2	1.9	1.8
Barium, Total	ug/l	1000	P	110	100	70	64	120	110	46	46	52	48	52	48
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	1.5	ND	ND	ND	1.5	ND	1.4	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	0.28	0.29	0.51	0.54	0.65	0.68	0.54	0.56
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	1.6	1.5
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	0.85	0.7	0.57	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	0.53	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 2015-16

Constituents	Units	MCL	MCL Type	Cerritos #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/13/16	9/7/16	4/13/16	9/7/16	4/13/16	9/7/16	4/13/16	9/7/16	4/13/16	9/7/16	4/13/16	9/7/16
General Minerals															
Alkalinity	mg/l			160	160	160	160	170	170	170	170	180	180	180	180
Anion Sum	meq/l			4.6	4.6	4	4	5.3	5.1	4.8	4.8	4.4	4.4	4.5	4.5
Bicarbonate as HCO3	mg/l			190	190	190	200	200	200	210	210	210	210	220	220
Boron	mg/l	1	N	0.084	0.083	0.057	0.056	0.09	0.086	0.086	0.083	0.086	0.083	0.079	0.078
Bromide	ug/l			55	46	32	32	66	66	49	47	38	38	56	60
Calcium, Total	mg/l			34	35	31	32	42	42	45	46	37	38	43	45
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			3.1	3.1	3.1	2.6	2.6	2.6	2.2	2.2	2.2	2.2	2.3	2.8
Cation Sum	meq/l			4.6	4.7	4	4.1	5.3	5.2	4.8	4.9	4.5	4.5	4.5	4.6
Chloride	mg/l	500	S	14	14	9.4	8.7	20	19	14	13	9.8	9.5	9.4	9.2
Fluoride	mg/l	2	P	0.26	0.27	0.36	0.36	0.38	0.4	0.53	0.51	0.47	0.46	0.32	0.32
Hardness (Total, as CaCO3)	mg/l			100	110	98	100	130	130	160	160	130	130	140	150
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			11	10	18	14	32	28	22	18	18	14	120	100
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	0.022	0.028	0.075	0.087	0.054	0.06	0.074	0.078
Langelier Index - 25 degree	None			0.78	0.74	0.71	0.68	0.75	0.75	0.74	0.73	0.66	0.68	0.75	0.83
Magnesium, Total	None			4.6	4.8	5	5.2	6.2	6.3	11	11	9.3	9.5	8.8	9.2
Manganese, Total	ug/l	50	S	27	25	32	30	46	43	**82**	**80**	**110**	**110**	**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			2	2.2	2.1	2.1	2	2.1	1.9	2	1.9	2	2	2.1
Sodium, Total	mg/l			57	58	46	46	60	59	38	38	42	41	35	36
Sulfate	mg/l	500	S	51	49	25	23	64	60	45	43	29	28	25	24
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	290	280	240	250	320	320	290	270	260	280	270	270
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	0.33	ND	ND	ND	ND	ND	0.31	ND	0.32	0.3
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.4	8.4	8.4	8.3	8.3	8.3	8.2	8.2	8.2	8.2	8.2	8.3
Odor	TON	3	S	2	ND	ND	1	ND	1	ND	2	ND	1	ND	2
Specific Conductance	umho/cm	1600	S	460	470	400	400	520	520	470	480	430	440	440	440
Turbidity	NTU	5	S	ND	ND	ND	ND	ND	0.11	0.21	0.25	0.14	0.17	0.21	0.23
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**	**16**	**11**	**12**	**20**	**20**	5.1	5.5	9.4	9.8	**35**	**36**
Barium, Total	ug/l	1000	P	52	50	100	93	140	120	66	61	83	78	100	94
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 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Cerritos #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/30/16	9/6/16	3/30/16	9/6/16	3/30/16	9/6/16	3/30/16	9/6/16	3/30/16	9/6/16	3/30/16	9/6/16
General Minerals															
Alkalinity	mg/l			140	150	160	160	160	160	180	180	180	180	330	330
Anion Sum	meq/l			3.5	3.6	8	8.2	3.6	3.6	4.1	4.1	4.1	4.1	13	12
Bicarbonate as HCO3	mg/l			180	180	200	200	190	190	210	210	220	220	400	400
Boron	mg/l	1	N	0.057	0.05	0.16	0.14	0.064	0.056	0.077	0.066	0.078	0.066	0.11	0.1
Bromide	ug/l			23	24	140	140	16	18	25	22	20	23	230	230
Calcium, Total	mg/l			42	39	88	83	45	42	51	48	52	48	160	140
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	2	2	ND	2.2	ND	2.3	ND	2.1
Cation Sum	meq/l			3.7	3.4	8	7.6	3.8	3.6	4.2	4	4.2	3.9	13	12
Chloride	mg/l	500	S	5.6	5.7	73	77	5.1	5	5.9	6.2	5.6	5.8	81	76
Fluoride	mg/l	2	P	0.29	0.28	0.37	0.36	0.3	0.29	0.42	0.42	0.35	0.36	0.33	0.36
Hardness (Total, as CaCO3)	mg/l			130	120	280	270	140	130	160	150	160	150	530	460
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			2.4	1.7	ND	1.2	4.6	5	6	5.2	7.3	6	13	15
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.035	0.031	0.083	0.075	**0.32**	**0.32**
Langelier Index - 25 degree	None			0.54	0.58	0.64	0.78	0.69	0.65	0.57	0.76	0.68	0.81	1	1.2
Magnesium, Total	None			5.4	5	16	16	6	5.7	8.4	7.8	7.4	6.9	31	28
Manganese, Total	ug/l	50	S	7.9	7	ND	ND	39	38	**85**	**82**	**110**	**110**	**370**	**320**
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	3	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.7	2.6	4.2	4	2.5	2.4	2.7	2.5	2.8	2.7	4.1	3.9
Sodium, Total	mg/l			25	24	50	48	23	22	21	20	22	21	52	49
Sulfate	mg/l	500	S	21	20	120	120	17	16	18	18	17	17	190	180
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	220	200	490	500	220	220	250	250	240	240	760	800
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	3	3	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	0.46	0.48	ND	ND	ND	ND	ND	ND	1	0.93
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	5
Lab pH	Units			8.1	8.2	7.8	8	8.2	8.2	8	8.2	8.1	8.2	7.7	7.9
Odor	TON	3	S	ND	1	ND	2	2	2	1	1	ND	1	2	3
Specific Conductance	umho/cm	1600	S	350	350	790	800	350	360	400	400	390	400	1200	1200
Turbidity	NTU	5	S	ND	ND	ND	ND	0.8	1.1	0.14	0.14	0.18	0.2	2	2.2
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	2.3	2.2	2	1.9	3	2.9	7.4	7.2	**16**	**16**	3.6	3.4
Barium, Total	ug/l	1000	P	100	110	140	140	110	120	160	170	170	180	93	92
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	1.4	1.4	2.3	ND	1.7	ND	1.6	ND	1.5	1.8	3.2
Hexavalent Chromium (Cr VI)	ug/l			0.14	0.15	0.7	0.68	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	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	0.78	0.72	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 2015-16

Constituents	Units	MCL	MCL Type	Commerce #1										
				Zone 1	Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/27/16	4/27/16	9/26/16	4/27/16	9/26/16	4/27/16	9/26/16	4/27/16	9/26/16	4/27/16	9/26/16
General Minerals														
Alkalinity	mg/l			460	300	300	240	240	190	190	160	170	170	180
Anion Sum	meq/l			230	10	11	8.7	9.9	8	8.1	6.6	6.7	7.3	7.5
Bicarbonate as HCO3	mg/l			560	360	370	290	290	230	230	200	200	210	210
Boron	mg/l	1	N	**6.4**	0.65	0.62	0.22	0.24	0.25	0.22	0.14	0.12	0.12	0.12
Bromide	ug/l			47000	930	1100	670	920	330	350	230	240	290	300
Calcium, Total	mg/l			180	42	43	58	58	40	39	63	62	66	69
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.9	3.7	2.4	3	2.4	2.4	ND	ND	ND	ND	2.2
Cation Sum	meq/l			210	10	12	8.7	9.6	8.2	7.9	6.9	6.6	7.3	7.5
Chloride	mg/l	500	S	**7900**	160	190	130	170	83	84	60	61	74	78
Fluoride	mg/l	2	P	0.19	0.4	0.42	0.36	0.34	0.49	0.51	0.38	0.38	0.45	0.45
Hardness (Total, as CaCO3)	mg/l			1100	190	190	230	230	160	160	240	230	250	260
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			9000	230	320	210	250	ND	73	1.2	ND	1.1	ND
Iron, Total	mg/l	0.3	S	**1.1**	ND	0.02	ND	ND	0.11	0.11	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.5	0.95	0.8	1	0.88	0.69	0.55	0.72	0.51	0.62	0.9
Magnesium, Total	None			150	20	21	20	21	16	16	19	18	21	22
Manganese, Total	ug/l	50	S	**120**	12	12	35	38	**54**	**53**	ND	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	18	19	34	36
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	4.1	4.2	7.7	8.1
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			44	5.6	5.8	3.7	3.7	3.1	3.4	1.9	2	2.2	2
Sodium, Total	mg/l			4400	150	180	92	110	110	100	49	45	50	51
Sulfate	mg/l	500	S	1.5	3.4	2.8	15	15	90	93	64	62	56	56
Surfactants	mg/l	0.5	S	0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	**14000**	610	660	500	550	490	500	430	430	460	460
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	4.1	4.2	7.7	8.1
Total Organic Carbon	mg/l			7.7	4.6	5	1.3	1.5	0.73	0.84	ND	ND	0.31	0.3
General Physical Properties														
Apparent Color	ACU	15	S	**100**	**35**	**30**	5	ND	5	3	ND	ND	ND	ND
Lab pH	Units			7.9	8.2	8	8.2	8.1	8.2	8	8.1	7.8	7.9	8.2
Odor	TON	3	S	**40**	**200**	**200**	3	ND	3	ND	2	ND	ND	ND
Specific Conductance	umho/cm	1600	S	**22000**	1100	1200	890	1000	820	830	680	690	750	770
Turbidity	NTU	5	S	**15**	0.19	0.3	ND	0.15	0.32	0.22	1.1	0.12	0.71	0.62
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	9.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	670	67	69	98	94	220	210	73	69	64	59
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	1.1	ND	ND	ND	ND	ND	ND	8	7.6	10	9.8
Hexavalent Chromium (Cr VI)	ug/l			ND	0.13	0.035	ND	ND	ND	ND	8.6	8.7	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	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	1.2	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	0.87	0.88	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	0.91	0.98
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	4.1	4.7	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	2.9	2.6	3.7	3.9

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Compton #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/19/16	9/19/16	4/19/16	9/19/16	4/19/16	9/19/16	4/19/16	9/19/16
General Minerals											
Alkalinity	mg/l			140	130	140	140	150	160	160	170
Anion Sum	meq/l			4.6	4	4.1	4.5	5.1	5	5.5	5.5
Bicarbonate as HCO3	mg/l			170	160	160	170	190	190	190	200
Boron	mg/l	1	N	0.096	0.14	0.15	0.092	0.11	0.1	0.091	0.082
Bromide	ug/l			120	110	110	110	130	130	110	100
Calcium, Total	mg/l			36	21	21	37	48	48	58	60
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.2	2.1	2.6	2.2	2	2	ND	ND
Cation Sum	meq/l			4.6	4.1	4.2	4.6	5.1	5.1	5.5	5.5
Chloride	mg/l	500	S	23	18	19	22	25	24	23	21
Fluoride	mg/l	2	P	0.36	0.32	0.3	0.39	0.3	0.28	0.27	0.31
Hardness (Total, as CaCO3)	mg/l			100	60	59	100	150	160	170	180
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			32	26	35	26	37	32	30	24
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	0.021	0.023	0.067	0.072
Langelier Index - 25 degree	None			0.66	0.38	0.52	0.65	0.71	0.73	0.71	0.73
Magnesium, Total	None			3.1	1.8	1.7	3.2	8.5	8.9	6.1	6.3
Manganese, Total	ug/l	50	S	15	9.8	9.8	17	50	49	**77**	**82**
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			1.7	1.4	1.6	1.6	2.7	2.6	2.6	2.4
Sodium, Total	mg/l			57	66	68	56	44	43	47	45
Sulfate	mg/l	500	S	58	41	40	54	61	58	78	72
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	290	250	250	280	320	300	350	320
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.78	2.2	2.2	0.85	0.64	0.57	0.3	ND
General Physical Properties											
Apparent Color	ACU	15	S	5	**25**	**25**	5	ND	ND	ND	ND
Lab pH	Units			8.3	8.3	8.4	8.3	8.2	8.2	8.1	8.1
Odor	TON	3	S	1	**4**	2	**40**	1	2	2	**40**
Specific Conductance	umho/cm	1600	S	460	410	410	460	500	500	530	540
Turbidity	NTU	5	S	0.11	0.18	0.23	0.12	0.37	0.13	0.38	0.69
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	**17**	**19**
Barium, Total	ug/l	1000	P	12	9	8.9	13	62	62	140	160
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	0.026	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 2015-16

Constituents	Units	MCL	MCL Type	Compton #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/10/16	9/7/16	5/10/16	9/7/16	5/10/16	9/7/16	5/10/16	9/7/16	5/10/16	9/7/16	5/10/16	9/7/16
General Minerals															
Alkalinity	mg/l			460	460	270	280	160	160	180	180	180	180	180	180
Anion Sum	meq/l			9.6	9.6	5.8	6	4.9	4.9	6	5.9	6.5	6.4	7.8	7.8
Bicarbonate as HCO3	mg/l			550	560	330	340	190	190	220	220	220	220	220	220
Boron	mg/l	1	N	0.71	0.62	0.19	0.18	0.11	0.1	0.12	0.11	0.13	0.12	0.17	0.16
Bromide	ug/l			200	200	96	98	99	100	120	120	150	150	300	290
Calcium, Total	mg/l			12	11	27	27	49	49	69	67	69	70	83	86
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			14	12	5.4	5.6	3.1	2.5	2.8	2.3	2.8	2.3	ND	ND
Cation Sum	meq/l			10	9.9	6.1	6.3	5.2	5.2	6.4	6.3	6.7	6.8	8	8.3
Chloride	mg/l	500	S	14	13	12	16	20	20	27	27	36	35	67	66
Fluoride	mg/l	2	P	0.42	0.39	0.3	0.28	0.24	0.22	0.26	0.24	0.34	0.31	0.42	0.39
Hardness (Total, as CaCO3)	mg/l			39	36	89	89	150	150	220	220	230	240	280	290
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			59	48	27	26	28	21	28	22	34	29	ND	1.2
Iron, Total	mg/l	0.3	S	0.048	0.052	0.031	0.038	0.02	ND	0.029	0.033	0.028	0.031	ND	ND
Langelier Index - 25 degree	None			0.94	0.84	0.94	0.86	0.87	0.79	1	0.93	1	0.98	0.9	0.81
Magnesium, Total	None			2.2	2	5.3	5.2	7.5	7.3	12	12	15	15	19	19
Manganese, Total	ug/l	50	S	13	12	30	27	33	32	44	43	**110**	**110**	15	20
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	3.3	2.9
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75	0.65
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.8	2.8	4.2	4.3	2.6	2.6	2.6	2.6	4	4	3.9	4
Sodium, Total	mg/l			210	210	98	100	47	48	44	44	44	46	52	54
Sulfate	mg/l	500	S	ND	ND	ND	1.2	60	59	78	76	86	83	110	110
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	590	580	350	340	300	300	380	390	410	400	500	500
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75	0.65
Total Organic Carbon	mg/l			14	15	2.9	3.4	0.48	0.65	ND	0.44	ND	ND	ND	0.31
General Physical Properties															
Apparent Color	ACU	15	S	ND	**150**	ND	**25**	5	ND	ND	ND	ND	ND	5	ND
Lab pH	Units			8.6	8.5	8.4	8.4	8.4	8.3	8.3	8.2	8.3	8.2	8.1	8
Odor	TON	3	S	**17**	**17**		3	**17**	1	**40**	2	1	1	**17**	2
Specific Conductance	umho/cm	1600	S	920	910	570	570	500	500	600	600	650	650	790	790
Turbidity	NTU	5	S	1	1.1	0.53	2	0.11	0.14	0.12	0.11	1.5	3.6	**14**	0.53
Metals															
Aluminum, Total	ug/l	1000	P	ND	20	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	1.1	ND	ND	ND	ND	ND	ND	1.3	1.6	4.2	3.9
Barium, Total	ug/l	1000	P	13	14	15	15	28	27	33	33	92	88	80	83
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	0.029	ND	ND	ND	ND	ND	ND	ND	ND	0.47	0.67
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	8.9	8.1
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 2015-16

Constituents	Units	MCL	MCL Type	Downey #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/27/16	9/14/16	4/27/16	9/14/16	4/27/16	9/14/16	4/27/16	9/14/16	4/27/16	9/14/16	4/27/16	9/14/16
General Minerals															
Alkalinity	mg/l			150	150	150	150	170	170	180	190	210	210	400	400
Anion Sum	meq/l			3.5	3.5	6	6	8	8.1	8.9	9.1	7.5	7.6	19	19
Bicarbonate as HCO3	mg/l			180	180	180	180	210	210	220	230	250	260	490	480
Boron	mg/l	1	N	0.054	0.057	0.059	0.062	0.093	0.094	0.18	0.18	0.088	0.084	0.25	0.23
Bromide	ug/l			17	17	90	94	140	140	160	160	130	140	460	470
Calcium, Total	mg/l			39	40	76	78	94	97	90	94	95	95	200	200
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	ND	2.5	2
Cation Sum	meq/l			3.6	3.7	6.1	6.2	7.7	7.9	8.7	8.9	7.6	7.6	18	18
Chloride	mg/l	500	S	4.8	5	34	36	69	72	78	82	41	43	120	120
Fluoride	mg/l	2	P	0.34	0.3	0.32	0.32	0.35	0.33	0.43	0.39	0.41	0.44	0.36	0.37
Hardness (Total, as CaCO3)	mg/l			120	120	240	250	310	320	300	310	320	310	670	670
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	4.6	5	6	8.3	4.7	6.8
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.65	0.51	0.85	0.77	0.92	0.88	0.83	0.72	1	0.81	1.4	1.3
Magnesium, Total	None			5.6	5.8	12	13	18	18	19	19	19	18	41	41
Manganese, Total	ug/l	50	S	ND	ND	ND	ND	ND	ND	2.5	3.7	**100**	**110**	**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	8.8	9.2	15	16	8.1	8	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2	2.1	3.4	3.6	1.8	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	2.8	3.1	3.5	3.6	3.4	4.6	4.3	4	3.7	6.6	6.4
Sodium, Total	mg/l			26	26	27	26	34	34	59	58	28	28	110	100
Sulfate	mg/l	500	S	18	18	90	89	120	110	140	140	100	100	360	350
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	410	390	540	470	600	530	490	450	**1200**	**1100**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	2	2.1	3.4	3.6	1.8	1.8	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	ND	ND	ND	0.33	0.36	0.5	ND	0.36	0.75	1
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
Lab pH	Units			8.2	8.1	8.2	8.1	8.1	8	8	7.8	8.1	7.9	7.9	7.8
Odor	TON	3	S	1	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	350	350	600	610	780	800	870	890	720	740	**1700**	**1700**
Turbidity	NTU	5	S	ND	ND	0.12	0.12	ND	0.12	ND	ND	1.8	0.83	0.66	0.76
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	2.8	3.2	2.3	2.4	2.9	3.1	1.6	2.2	3.5	4.4	2.5	3.4
Barium, Total	ug/l	1000	P	95	94	160	150	130	120	86	83	220	240	92	81
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	3.7	3.7	1.8	1.8	1.2	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			3.9	4.1	1.9	2	1.2	1.2	0.35	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	9.1
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	0.53	0.65	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	3.1	2.5	2.2	1.7	0.54	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 2015-16

Constituents	Units	MCL	MCL Type	Huntington Park #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				5/31/16	9/21/16	5/31/16	9/21/16	5/31/16	9/21/16	5/31/16	9/21/16
General Minerals											
Alkalinity	mg/l			170	180	180	180	230	230	370	380
Anion Sum	meq/l			6	6	6.2	6.2	11	11	14	14
Bicarbonate as HCO3	mg/l			210	220	210	220	280	280	450	460
Boron	mg/l	1	N	0.15	0.13	0.15	0.13	0.26	0.22	0.2	0.17
Bromide	ug/l			110	110	110	110	410	410	680	710
Calcium, Total	mg/l			62	62	63	64	120	120	150	150
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.1	6.2	6.3	6.4	11	11	14	14
Chloride	mg/l	500	S	22	21	26	25	89	87	86	85
Fluoride	mg/l	2	P	0.47	0.5	0.41	0.43	0.32	0.32	0.32	0.36
Hardness (Total, as CaCO3)	mg/l			220	220	220	220	410	410	540	540
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			30	36	ND	ND	25	30	23	27
Iron, Total	mg/l	0.3	S	0.29	0.29	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.49	0.64	0.7	0.67	1	1	1.2	1.1
Magnesium, Total	None			15	15	15	16	28	28	39	40
Manganese, Total	ug/l	50	S	44	41	ND	ND	5.2	4.7	5.6	5
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	2.1	2.2	2	1.8	20	20
Nitrate as Nitrogen	mg/l	10	P	ND	ND	0.48	0.51	0.46	0.4	4.6	4.5
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.3	3.3	3.3	3.4	4.4	4.2	5.1	5.1
Sodium, Total	mg/l			40	40	41	42	59	58	63	64
Sulfate	mg/l	500	S	92	90	90	88	180	170	170	170
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	**1.2**	**1.5**	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	360	380	390	400	730	710	830	840
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	0.48	0.51	0.46	0.4	4.6	4.5
Total Organic Carbon	mg/l			ND	ND	ND	ND	5.6	6.2	0.64	0.77
General Physical Properties											
Apparent Color	ACU	15	S	5	5	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.8	8	8	8	7.9	8	7.8	7.7
Odor	TON	3	S	2	ND	2	2	2	**8**	2	**67**
Specific Conductance	umho/cm	1600	S	590	600	610	620	1000	1000	1300	1300
Turbidity	NTU	5	S	1.4	1.7	0.11	0.11	0.24	0.12	2.4	ND
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	76	73	82	100	110	92	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	1.2	ND	ND	ND	2.4
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	0.75	0.78	0.048	0.046	1.2	1.2
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	1.2	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	**7**	**7.4**	**53**	**56**
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	1.4	1.4	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	190	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	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	**14**	**14**	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	0.35	0.35	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	1.2	1.3	2.6	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 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Lakewood #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/14/16	9/12/16	4/14/16	9/12/16	4/14/16	9/12/16	4/14/16	9/12/16	4/14/16	9/12/16	4/14/16	9/12/16
General Minerals															
Alkalinity	mg/l			91	95	140	140	150	150	160	170	170	180	180	170
Anion Sum	meq/l			2.8	2.8	3.3	3.3	3.6	3.6	4.2	4.1	4.1	4.1	7.5	7.6
Bicarbonate as HCO3	mg/l			110	110	170	170	180	180	200	200	210	210	210	210
Boron	mg/l	1	N	0.051	0.054	ND	ND	0.063	0.069	0.063	0.068	0.082	0.087	0.082	0.083
Bromide	ug/l			120	110	31	30	44	46	120	87	55	57	710	740
Calcium, Total	mg/l			10	9.9	34	36	39	40	44	46	47	49	96	100
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.8	4.5	2.8	2.2	2.9	ND	2.6	2	ND	ND	ND	ND
Cation Sum	meq/l			2.9	2.9	3.4	3.6	3.8	3.8	4.3	4.4	4.2	4.4	7.5	7.9
Chloride	mg/l	500	S	20	20	6.4	6.4	8.6	8.8	22	17	11	11	110	120
Fluoride	mg/l	2	P	0.45	0.46	0.28	0.26	0.3	0.32	0.31	0.33	0.45	0.48	0.2	0.22
Hardness (Total, as CaCO3)	mg/l			26	26	100	110	120	120	130	140	150	160	280	290
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			45	43	8.3	8	23	15	35	23	14	15	64	75
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	0.022	0.038	0.054	0.092	0.11	0.078	0.089
Langelier Index - 25 degree	None			0.2	0.37	0.69	0.63	0.77	0.63	0.81	0.72	0.69	0.61	0.82	0.8
Magnesium, Total	None			0.36	0.36	3.7	4	5	5.1	5.1	5.5	8.6	9.3	9.9	11
Manganese, Total	ug/l	50	S	3.5	3	19	17	29	22	**67**	**70**	**55**	**53**	**230**	**210**
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	2	2.1	2.4	2.4	3.2	3.5	2.7	2.7	4.2	4.2
Sodium, Total	mg/l			55	55	32	32	32	32	37	35	26	26	41	42
Sulfate	mg/l	500	S	20	13	17	17	15	15	13	13	14	14	38	36
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	190	180	230	210	240	230	270	250	270	250	510	500
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			0.73	0.94	ND	0.34	ND	0.39	0.34	0.55	ND	0.32	0.64	0.84
General Physical Properties															
Apparent Color	ACU	15	S	10	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.6	8.8	8.4	8.3	8.4	8.2	8.3	8.2	8.1	8	8	7.9
Odor	TON	3	S	1	2	ND	2	ND	1	1	**4**	ND	2	ND	2
Specific Conductance	umho/cm	1600	S	300	290	330	330	360	360	420	410	400	410	780	800
Turbidity	NTU	5	S	0.45	0.15	1	0.61	1.7	0.38	0.2	0.14	0.23	0.25	0.27	0.33
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	**12**	**13**	9.7	**11**	1.6	1.4	**12**	**12**	3.5	3.4	**24**	**26**
Barium, Total	ug/l	1000	P	16	14	24	22	31	28	160	140	110	100	280	270
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 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Lakewood #2															
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7		Zone 8	
				5/3/16	9/19/16	5/3/16	9/19/16	5/3/16	9/19/16	5/3/16	9/19/16	5/3/16	9/19/16	5/3/16	9/19/16	5/3/16	9/19/16	5/3/16	9/19/16
General Minerals																			
Alkalinity	mg/l			99	99	130	130	130	130	170	180	200	170	180	180	170	170	170	200
Anion Sum	meq/l			3.4	3.4	3	3.1	3	3	4.7	4.7	4.3	4	4	4	3.9	3.9	4.1	4.4
Bicarbonate as HCO3	mg/l			120	120	160	160	160	160	210	220	240	210	220	220	210	210	210	240
Boron	mg/l	1	N	0.06	0.056	0.05	0.052	ND	ND	0.076	0.065	0.078	0.06	0.062	0.06	0.06	0.06	0.077	0.072
Bromide	ug/l			51	46	24	25	27	27	34	33	39	26	18	18	20	21	22	37
Calcium, Total	mg/l			11	11	22	24	25	26	63	61	50	35	35	38	49	51	37	52
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			3.1	3.1	2.1	2.1	2.6	2.1	ND	ND	2.5	2.2	2.8	2.3	2.2	2.2	2.7	2
Cation Sum	meq/l			3.4	3.4	3	3.2	2.9	3.1	5	4.9	4.4	4.2	4.1	4.1	3.8	4	4.6	4.5
Chloride	mg/l	500	S	14	13	5.5	5.4	5.6	5.5	12	12	6.5	5.9	5.2	5.1	5.4	5.4	6.2	6.4
Fluoride	mg/l	2	P	0.44	0.46	0.34	0.36	0.29	0.31	0.44	0.45	0.36	0.29	0.37	0.37	0.24	0.25	0.29	0.36
Hardness (Total, as CaCO3)	mg/l			29	29	68	74	72	75	200	190	150	100	110	120	140	140	110	160
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			26	23	10	8.3	11	11	ND	ND	25	6	5.1	5.7	7.4	7.9	7.1	24
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	0.055	ND	0.034	0.037	0.061	0.06	**2.7**	0.053
Langelier Index - 25 degree	None			0.29	0.3	0.43	0.41	0.55	0.51	0.82	0.72	0.8	0.6	0.75	0.69	0.79	0.76	0.73	0.76
Magnesium, Total	None			0.44	0.41	3.2	3.4	2.3	2.4	9.9	9.6	6.9	4.1	5.6	6	3.5	3.7	4.9	7.2
Manganese, Total	ug/l	50	S	4.8	5	15	14	17	18	2.5	2.3	**160**	**60**	**110**	**130**	**99**	**110**	**110**	**170**
Mercury	ug/l	2	P	ND	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	1.6	1.5	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.36	0.33	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			ND	ND	2.1	2.2	1.6	1.6	3.2	3.1	2.7	2.5	2.7	2.7	2.2	2.3	3.2	2.8
Sodium, Total	mg/l			65	66	35	38	34	36	22	22	29	48	42	37	23	24	52	28
Sulfate	mg/l	500	S	49	49	14	14	10	10	41	39	6.9	21	10	9.6	15	15	23	6.7
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	200	220	170	180	180	190	280	280	270	250	240	240	230	230	270	260
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.36	0.33	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.5	0.54	0.35	0.46	0.51	0.57	ND	ND	0.3	0.6	0.71	0.6	ND	ND	0.39	0.43
General Physical Properties																			
Apparent Color	ACU	15	S	5	5	ND	ND	5	5	ND	ND	ND	ND	ND	5	ND	ND	10	ND
Lab pH	Units			8.6	8.6	8.3	8.3	8.4	8.3	8.1	8	ND	8.2	8.3	8.2	8.2	8.2	8.3	8.1
Odor	TON	3	S	1	**8**	1	2	2	2	ND	1	1	2	1	2	ND	1	2	2
Specific Conductance	umho/cm	1600	S	350	350	300	300	290	290	460	470	420	400	390	390	380	380	410	420
Turbidity	NTU	5	S	0.34	0.12	ND	ND	0.15	0.11	ND	ND	0.14	2.8	0.18	0.15	0.29	0.26	**29**	0.15
Metals																			
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2000**	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	**14**	**15**	ND	ND	1.8	1.8	3.4	3.5	**41**	**29**	**18**	**14**	**38**	**40**	**33**	**41**
Barium, Total	ug/l	1000	P	13	14	8.7	9.6	11	13	100	110	97	100	48	58	140	170	110	110
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.6	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	1.1	1.3	ND	ND	ND	ND	ND	ND	3.3	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	ND	ND	0.69	0.7	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	ND	ND	1.8	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																			
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	0.8	0.62	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 2015-16

Constituents	Units	MCL	MCL Type	La Mirada #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/20/16	9/20/16	4/20/16	9/20/16	4/20/16	9/20/16	4/20/16	9/20/16	4/20/16	9/20/16
General Minerals													
Alkalinity	mg/l			150	150	130	130	170	170	190	190	180	190
Anion Sum	meq/l			5.6	5.6	4.1	4.1	5.2	5.2	6.8	8.7	15	17
Bicarbonate as HCO3	mg/l			180	180	160	160	210	210	230	230	220	230
Boron	mg/l	1	N	0.15	0.14	0.1	0.09	0.15	0.13	0.14	0.12	0.16	0.14
Bromide	ug/l			78	80	52	45	61	60	160	280	810	850
Calcium, Total	mg/l			16	14	9.4	8.9	22	20	48	60	120	130
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.9	2.9	3.3	2.6	2.2	2.2	2.4	ND	ND	ND
Cation Sum	meq/l			6	5.7	4.4	4.1	5.6	5.2	7.4	8.5	15	16
Chloride	mg/l	500	S	24	24	14	14	16	18	38	92	280	340
Fluoride	mg/l	2	P	0.82	0.86	0.6	0.62	0.79	0.81	0.58	0.56	0.39	0.36
Hardness (Total, as CaCO3)	mg/l			56	49	29	28	84	78	190	250	480	510
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			30	27	13	9.9	20	21	31	31	3.1	3.5
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.42	0.32	0.22	0.15	0.44	0.4	0.77	0.62	0.98	0.72
Magnesium, Total	None			4	3.4	1.3	1.3	7.2	6.9	18	24	43	46
Manganese, Total	ug/l	50	S	13	11	2.4	2.4	17	16	37	7.1	18	4.4
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	8.4	**81**	**96**
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	1.9	**18**	**22**
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.2	2.1	1.6	1.5	2.7	2.4	3	3	4.2	4.2
Sodium, Total	mg/l			110	110	86	80	88	83	80	79	130	120
Sulfate	mg/l	500	S	90	94	46	48	58	58	91	100	110	120
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	360	380	270	270	320	340	430	550	1000	**1200**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	1.9	**18**	**22**
Total Organic Carbon	mg/l			ND	0.32	ND	ND	0.3	0.49	ND	0.36	0.37	0.55
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.4	8.4	8.5	8.4	8.2	8.2	8.2	7.9	8	7.7
Odor	TON	3	S	ND	ND	ND	ND	ND	1	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	570	580	420	420	520	520	680	870	1600	**1800**
Turbidity	NTU	5	S	ND	0.11	ND	ND	ND	ND	ND	0.14	0.1	ND
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	5.8	5.9	7.2	8	6.5	6.9	3.5	3.2	ND	1.2
Barium, Total	ug/l	1000	P	50	51	25	29	36	40	43	60	120	140
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	1	1.3	2.8
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	ND	ND	ND	0.062	1.4	1.8
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	5.1	9.4	10
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	0.68	**7.1**	**8.7**

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 2015-16

Constituents	Units	MCL	MCL Type	Long Beach #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/30/16	9/1/16	3/30/16	9/1/16	3/30/16	9/1/16	3/30/16	9/1/16	3/30/16	9/1/16	3/30/16	9/1/16
General Minerals															
Alkalinity	mg/l			150	150	150	150	120	120	130	130	130	130	250	250
Anion Sum	meq/l			3.5	3.4	3.4	3.4	3	3	3.6	3.6	12	11	18	17
Bicarbonate as HCO3	mg/l			180	180	180	180	140	140	150	150	160	160	300	300
Boron	mg/l	1	N	0.19	0.18	0.19	0.17	0.088	0.086	0.064	0.055	0.15	0.13	0.12	0.1
Bromide	ug/l			89	95	84	86	44	43	36	39	430	400	590	570
Calcium, Total	mg/l			4.8	3.3	2.6	2.4	5.2	5.4	24	24	51	48	190	180
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			12	9.3	11	12	7.2	5.7	2.4	2.4	ND	ND	ND	ND
Cation Sum	meq/l			3.7	3.7	3.8	3.6	3.1	3.2	3.8	3.8	12	11	17	16
Chloride	mg/l	500	S	14	14	14	14	11	11	12	11	160	160	220	200
Fluoride	mg/l	2	P	0.6	0.55	0.56	0.55	0.6	0.64	0.38	0.39	0.29	0.29	0.26	0.27
Hardness (Total, as CaCO3)	mg/l			14	9.5	7.1	6.6	14	14	68	68	160	150	610	580
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			23	23	20	19	10	5.8	7.1	4.2	12	5.6	33	26
Iron, Total	mg/l	0.3	S	0.024	0.026	0.021	ND	ND	ND	ND	ND	0.034	0.027	0.18	0.16
Langelier Index - 25 degree	None			0.48	0.24	0.26	0.18	0.29	0.2	0.52	0.54	0.65	0.64	1.2	1.3
Magnesium, Total	None			0.46	0.3	0.14	0.14	0.26	0.27	2.1	2.1	7.4	7.1	33	31
Manganese, Total	ug/l	50	S	3.7	3.5	ND	ND	2.7	2.4	21	21	**54**	**51**	**410**	**350**
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	1.3	1.4	2.9	2.7	4.3	4
Sodium, Total	mg/l			78	81	84	80	65	67	55	55	200	180	110	110
Sulfate	mg/l	500	S	2.4	ND	ND	ND	15	14	35	33	220	210	320	290
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	230	220	230	210	190	190	230	230	720	730	1000	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.8	3.1	3	2.9	1.6	1.7	0.5	0.52	1.3	1.3	1.4	1.4
General Physical Properties															
Apparent Color	ACU	15	S	**50**	**100**	**50**	**100**	**40**	**30**	5	ND	5	ND	5	ND
Lab pH	Units			9	8.9	9	9	8.9	8.8	8.4	8.4	8.2	8.2	7.9	8
Odor	TON	3	S	2	2	2	**17**	2	**100**	1	1	**4**	1	2	2
Specific Conductance	umho/cm	1600	S	340	350	340	340	300	310	360	370	1200	1200	1600	1600
Turbidity	NTU	5	S	0.23	0.3	0.2	0.24	0.32	0.23	0.78	0.54	1.1	1.6	0.86	0.88
Metals															
Aluminum, Total	ug/l	1000	P	25	31	25	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.2	6.4
Barium, Total	ug/l	1000	P	2.8	2.7	2.1	2.2	ND	ND	8.9	10	43	42	200	180
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	1.1
Hexavalent Chromium (Cr VI)	ug/l			0.027	0.039	0.026	0.023	0.025	0.026	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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 2015-16

Constituents	Units	MCL	MCL Type	Long Beach #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/4/16	9/1/16	4/4/16	9/1/16	4/4/16	9/1/16	4/4/16	9/1/16	4/4/16	9/1/16	4/4/16	9/1/16
General Minerals															
Alkalinity	mg/l			300	300	190	190	150	150	150	140	290	290	280	280
Anion Sum	meq/l			6.6	6.7	4.3	4.4	3.7	3.7	5.9	5.9	18	17	19	19
Bicarbonate as HCO3	mg/l			360	370	230	230	180	180	180	180	350	350	340	340
Boron	mg/l	1	N	0.57	0.52	0.2	0.19	0.14	0.13	0.1	0.09	0.31	0.27	0.3	0.27
Bromide	ug/l			220	220	130	140	150	150	210	210	1300	1200	990	1000
Calcium, Total	mg/l			7.4	7.1	15	14	13	12	54	53	200	180	220	210
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			7.4	9.6	3	4.7	3.7	4.6	ND	2.3	ND	ND	ND	ND
Cation Sum	meq/l			7.5	7.2	4.6	4.5	3.9	3.8	6.2	6.2	18	17	19	19
Chloride	mg/l	500	S	20	20	20	19	23	22	53	53	140	130	160	160
Fluoride	mg/l	2	P	0.54	0.58	0.37	0.38	0.47	0.53	0.27	0.29	0.14	0.18	0.24	0.26
Hardness (Total, as CaCO3)	mg/l			25	24	44	42	37	34	160	160	630	570	690	660
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			40	110	12	34	24	37	36	31	19	14	19	18
Iron, Total	mg/l	0.3	S	0.14	0.13	0.023	0.024	ND	ND	0.024	0.022	0.27	0.24	0.23	0.22
Langelier Index - 25 degree	None			0.52	0.52	0.43	0.53	0.47	0.5	0.77	0.83	1.2	1.3	1.2	1.2
Magnesium, Total	None			1.6	1.5	1.7	1.6	1.2	1.1	6.1	6	31	29	35	34
Manganese, Total	ug/l	50	S	16	14	16	15	6.6	6.4	27	27	**190**	**190**	**350**	**340**
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			2.4	2.5	1.9	1.7	1.3	1.2	3.2	3.1	5.4	5.1	5.9	5.6
Sodium, Total	mg/l			160	150	85	82	71	71	67	68	120	120	110	120
Sulfate	mg/l	500	S	0.7	ND	ND	ND	ND	ND	72	70	380	360	450	420
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	400	430	260	280	220	240	360	390	**1100**	**1100**	**1200**	**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			12	11	3.5	3.8	2.7	2.8	1.3	1.4	1.2	1.3	1.3	1.5
General Physical Properties															
Apparent Color	ACU	15	S	**300**	**300**	**50**	**35**	**40**	**30**	5	ND	5	3	5	ND
Lab pH	Units			8.5	8.6	8.3	8.5	8.5	8.6	8.2	8.3	7.8	7.9	7.8	7.8
Odor	TON	3	S	2	**8**	1	**4**	2	2	2	2	2	1	**17**	**4**
Specific Conductance	umho/cm	1600	S	640	650	420	430	370	380	600	620	1600	1600	**1700**	**1700**
Turbidity	NTU	5	S	0.48	0.51	0.19	0.14	0.14	0.24	0.34	0.2	1.2	1.2	1.2	1.1
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	4.7	4	6	6.3
Barium, Total	ug/l	1000	P	8.4	7.4	9.3	11	5.4	7.1	34	36	60	67	76	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	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.1	1.2	1.6	1.1	1.3	1	1.1	ND	2.1	2.1	2.4
Hexavalent Chromium (Cr VI)	ug/l			0.058	1.6	0.02	0.63	0.03	1.6	ND	ND	ND	ND	ND	0.97
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	0.5	0.57
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	0.79	0.85	**10**	**11**
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	2.4	3.3	**25**	**22**
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	0.91	1.1
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 2015-16

Constituents	Units	MCL	MCL Type	Long Beach #6											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/17/16	8/18/16	3/17/16	8/18/16	3/17/16	8/18/16	3/17/16	8/18/16	3/17/16	8/18/16	3/17/16	8/18/16
General Minerals															
Alkalinity	mg/l			530	540	440	440	160	160	150	140	120	120	130	130
Anion Sum	meq/l			11	11	9.4	9.3	3.7	3.7	3.6	3.5	3.1	3.1	4.4	4.5
Bicarbonate as HCO3	mg/l			640	650	530	530	190	190	180	180	140	140	150	160
Boron	mg/l	1	N	**1.2**	**1.1**	0.95	0.85	0.25	0.23	0.22	0.17	0.089	0.078	0.051	ND
Bromide	ug/l			340	340	290	290	110	120	97	93	73	76	350	330
Calcium, Total	mg/l			8	8	6.6	6.7	5	5.1	6	6	12	12	45	46
Carbon Dioxide	mg/l			2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			16	17	17	14	7.8	7.8	7.4	7.4	3.6	3.6	ND	2.1
Cation Sum	meq/l			12	12	9.8	10	3.8	3.8	3.9	3.8	3.4	3.2	4.7	4.5
Chloride	mg/l	500	S	19	17	18	18	17	16	17	15	15	15	54	54
Fluoride	mg/l	2	P	0.62	0.66	0.64	0.69	0.57	0.6	0.58	0.61	0.45	0.45	0.21	0.24
Hardness (Total, as CaCO3)	mg/l			26	26	21	22	13	14	16	16	33	33	130	130
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			72	110	59	82	26	32	17	24	18	31	34	78
Iron, Total	mg/l	0.3	S	0.081	0.088	0.09	0.14	0.032	0.038	0.029	0.029	ND	ND	0.049	0.051
Langelier Index - 25 degree	None			0.92	0.86	0.76	0.69	0.34	0.36	0.36	0.34	0.42	0.37	0.6	0.68
Magnesium, Total	None			1.6	1.6	1.2	1.2	0.23	0.23	0.34	0.33	0.84	0.8	4.8	4.7
Manganese, Total	ug/l	50	S	14	14	16	16	4	3.8	14	13	5	5	**65**	**62**
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			1.7	1.8	1.4	1.5	ND	ND	ND	ND	1.1	1.1	2.2	2.1
Sodium, Total	mg/l			260	260	210	220	81	82	82	80	63	58	45	41
Sulfate	mg/l	500	S	ND	1	ND	ND	ND	ND	6.5	7.8	14	13	17	16
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	720	700	560	570	260	240	250	240	220	200	290	270
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			22	21	18	18	4.5	5	3.9	3.4	1.5	1.6	0.63	0.66
General Physical Properties															
Apparent Color	ACU	15	S	**300**	**300**	**250**	**300**	**100**	**150**	**100**	**100**	**30**	**25**	3	ND
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	8.3
Odor	TON	3	S	**4**	**100**	**4**	**40**	1	**4**	1	**8**	ND	1	1	**4**
Specific Conductance	umho/cm	1600	S	1000	1000	880	880	370	370	360	360	310	320	460	470
Turbidity	NTU	5	S	0.72	1.8	0.65	0.43	0.29	0.27	0.42	0.22	0.18	0.16	0.12	0.14
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.4	2.4	ND	ND	ND	ND	ND	ND	ND	ND	2.5	2.8
Barium, Total	ug/l	1000	P	6.6	6.4	8	7.6	3.7	3.6	6	5.5	2.7	3	19	18
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	2.8	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			0.03	ND	0.022	ND	0.024	ND	0.035	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 2015-16

Constituents	Units	MCL	MCL Type	Los Angeles #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				6/1/16	9/26/16	6/1/16	9/26/16	6/1/16	9/26/16	6/1/16	9/26/16	6/1/16	9/26/16
General Minerals													
Alkalinity	mg/l			180	180	180	180	180	180	210	210	210	210
Anion Sum	meq/l			5.7	5.7	5.9	5.9	6	5.9	11	9.9	11	10
Bicarbonate as HCO3	mg/l			210	210	220	220	220	220	250	260	260	260
Boron	mg/l	1	N	0.15	0.14	0.14	0.13	0.14	0.14	0.19	0.16	0.19	0.16
Bromide	ug/l			140	120	100	100	110	110	320	300	320	330
Calcium, Total	mg/l			54	52	59	58	57	58	110	100	110	110
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.2	2.2	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.7	5.5	5.9	5.8	5.8	5.9	10	9.8	10	10
Chloride	mg/l	500	S	22	23	21	22	21	20	83	72	84	78
Fluoride	mg/l	2	P	0.29	0.29	0.47	0.46	0.39	0.39	0.41	0.42	0.39	0.41
Hardness (Total, as CaCO3)	mg/l			180	180	200	200	200	200	390	360	400	390
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			21	33	18	26	ND	1.6	ND	3.5	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.18	0.18	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.78	0.76	0.62	0.6	0.65	0.56	0.89	0.97	0.86	1
Magnesium, Total	None			12	12	14	14	14	14	29	27	30	28
Manganese, Total	ug/l	50	S	13	12	**52**	46	11	11	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	**68**	**58**	**71**	**67**
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	**15**	**13**	**16**	**15**
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.9	3.9	3.3	3.4	3.2	3.3	4.4	4.4	4.5	4.4
Sodium, Total	mg/l			44	43	39	38	38	39	56	55	57	57
Sulfate	mg/l	500	S	75	72	84	81	85	82	140	130	140	140
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND		ND	
Total Dissolved Solid (TDS)	mg/l	1000	S	340	370	340	380	340	370	620	610	640	630
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	**15**	**13**	**16**	**15**
Total Organic Carbon	mg/l			0.49	0.45	ND	ND	ND	0.31	0.42	0.5	0.43	0.48
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	5		5	
Lab pH	Units			8.2	8.2	8	7.9	8	7.9	7.9	8	7.9	8
Odor	TON	3	S	ND	ND	ND	ND	ND	ND	ND		ND	
Specific Conductance	umho/cm	1600	S	570	570	580	580	590	590	1000	990	1000	1000
Turbidity	NTU	5	S	ND	ND	0.85	0.7	ND	ND	0.25		ND	
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	37	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	28	28	48	44	67	66	150	140	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	7.2	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	**490**	**380**	**510**	**470**
Hexavalent Chromium (Cr VI)	ug/l			0.1	0.023	ND	ND	0.23	0.24	510	430	540	520
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	5.7	5.5
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	
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	**1.1**		**1.2**	
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	2.1	2.2	ND	ND	ND	ND	2.4		2.7	
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	0.68		0.67	
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND		ND	
Trichloroethylene (TCE)	ug/l	5	P	4	3.5	ND	ND	ND	ND	**39**		**41**	
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	4.5	4	4.9	4.8

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 2015-16

Constituents	Units	MCL	MCL Type	Los Angeles #2							
				Zone 2		Zone 3		Zone 4		Zone 5	
				4/26/16	9/29/16	4/26/16	9/29/16	4/26/16	9/29/16	4/26/16	9/29/16
General Minerals											
Alkalinity	mg/l			300	300	310	310	320	320	300	300
Anion Sum	meq/l			19	19	20	19	20	20	23	23
Bicarbonate as HCO3	mg/l			370	370	370	370	390	390	360	360
Boron	mg/l	1	N	0.24	0.22	0.25	0.22	0.28	0.26	0.4	0.37
Bromide	ug/l			580	580	540	550	650	640	710	710
Calcium, Total	mg/l			190	190	210	190	200	200	200	200
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			18	18	19	18	20	19	21	21
Chloride	mg/l	500	S	240	240	280	270	290	290	160	160
Fluoride	mg/l	2	P	0.19	0.19	0.32	0.32	0.34	0.35	0.31	0.3
Hardness (Total, as CaCO3)	mg/l			680	680	740	680	710	700	750	750
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			72	85	65	71	73	75	49	36
Iron, Total	mg/l	0.3	S	0.17	0.17	**1.2**	**1.1**	**1.6**	**1.6**	0.13	0.26
Langelier Index - 25 degree	None			1.2	1.1	1.2	1	0.99	1.1	1.2	0.88
Magnesium, Total	None			50	51	52	49	51	50	60	60
Manganese, Total	ug/l	50	S	**350**	**350**	**170**	**160**	**120**	**120**	**920**	**820**
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	9.2	6.8	6.5	8.1	7.2	10	9.5
Sodium, Total	mg/l			94	94	100	96	120	120	140	140
Sulfate	mg/l	500	S	300	290	270	260	280	260	**590**	**590**
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
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			0.52	0.62	0.43	0.64	0.51	0.69	1.9	1.4
General Physical Properties											
Apparent Color	ACU	15	S	ND	ND	15	**20**	15	**30**	**30**	**20**
Lab pH	Units			7.8	7.7	7.7	7.6	7.6	7.6	7.8	7.5
Odor	TON	3	S	ND	ND	1	1	1	2	**67**	**100**
Specific Conductance	umho/cm	1600	S	**1700**	**1800**	**1800**	**1800**	**1900**	**1900**	**2000**	**2000**
Turbidity	NTU	5	S	0.73	1.2	4.2	**14**	**9.2**	**21**	**60**	**27**
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	**11**	**19**
Arsenic, Total	ug/l	10	P	ND	1.3	ND	1.3	ND	1.2	6.3	6.5
Barium, Total	ug/l	1000	P	78	75	150	140	160	140	57	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	5.3	ND	5.4	ND	5.3	ND	7.4
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	300	300
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	1	0.96
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 2015-16

Constituents	Units	MCL	MCL Type	Los Angeles #3											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/4/16	9/27/16	5/4/16	9/27/16	5/4/16	9/27/16	5/4/16	9/27/16	5/4/16	9/27/16	5/4/16	9/27/16
General Minerals															
Alkalinity	mg/l			240	240	170	170	180	180	190	190	200	210	240	240
Anion Sum	meq/l			6.2	6.3	5.7	5.8	5.9	5.9	6.5	6.6	8.8	8.9	13	13
Bicarbonate as HCO3	mg/l			280	290	210	210	220	220	230	230	250	250	290	300
Boron	mg/l	1	N	0.37	0.31	0.14	0.12	0.13	0.13	0.14	0.13	0.16	0.16	0.19	0.17
Bromide	ug/l			250	240	130	130	110	110	210	210	250	240	550	530
Calcium, Total	mg/l			15	15	56	55	54	56	62	64	81	88	130	130
Carbon Dioxide	mg/l			ND	2.4	ND	2.7	ND	3.6	ND	3.8	ND	5.2	ND	ND
Carbonate as CO3	mg/l			4.6	3.8	2.7	ND	2.3	ND	2.4	ND	2	ND	2.4	ND
Cation Sum	meq/l			6.4	6.2	5.8	5.6	5.5	5.7	6.2	6.4	7.9	8.5	12	12
Chloride	mg/l	500	S	35	36	24	25	22	23	38	39	53	56	120	120
Fluoride	mg/l	2	P	0.33	0.32	0.33	0.33	0.47	0.46	0.42	0.41	0.32	0.32	0.32	0.34
Hardness (Total, as CaCO3)	mg/l			61	60	200	190	190	190	210	220	280	310	450	450
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			58	72	36	28	34	24	48	36	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.03	0.027	ND	ND	0.05	0.059	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.65	0.52	0.89	0.72	0.78	0.62	0.88	0.7	0.95	0.77	1.2	1
Magnesium, Total	None			5.7	5.4	14	13	13	13	14	15	20	22	31	31
Manganese, Total	ug/l	50	S	28	22	**85**	**85**	**56**	**54**	44	41	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	**46**	45	29	29
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	10	10	6.5	6.6
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	3.5	3.5	3.5	3.6	3.9	4	3.8	4.1	4.1	4.2
Sodium, Total	mg/l			120	110	40	40	38	39	42	44	48	52	60	61
Sulfate	mg/l	500	S	24	24	76	75	80	79	79	78	120	120	190	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	350	350	350	350	430	410	550	560	760	810
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	10	10	6.5	6.6
Total Organic Carbon	mg/l			1.8	1.9	ND	ND	ND	0.85	ND	ND	0.37	0.38	0.35	0.38
General Physical Properties															
Apparent Color	ACU	15	S	**20**	**20**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.4	8.3	8.3	8.1	8.2	8	8.2	8	8.1	7.9	8.1	7.9
Odor	TON	3	S	1	2	1	2	1	2	1	1	1	1	1	2
Specific Conductance	umho/cm	1600	S	630	630	560	570	570	580	640	650	870	880	1200	1200
Turbidity	NTU	5	S	0.18	0.12	0.2	0.13	0.11	ND	0.21	0.22	0.19	**180**	0.62	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	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	12	9.4	21	22	45	47	74	78	120	140	130	130
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	2	2.5	4.9	5.3
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	2.1	1.8	4.9	5.1
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	10
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	76	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.67
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	3.9	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	0.91	0.87	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	1.4
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	2.2	1.8	1.3	1.2

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Los Angeles #4											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/25/16	8/29/16	4/25/16	8/29/16	4/25/16	8/29/16	4/25/16	8/29/16	4/25/16	8/29/16	4/25/16	8/29/16
General Minerals															
Alkalinity	mg/l			1600	1600	440	440	160	170	170	170	170	170	230	210
Anion Sum	meq/l			32	32	9	9.1	5.5	5.5	5.6	5.6	5.6	5.6	8.6	7.8
Bicarbonate as HCO3	mg/l			1900	1900	530	540	200	200	210	210	200	210	280	250
Boron	mg/l	1	N	**5.8**	**5.2**	0.51	0.46	0.13	0.12	0.14	0.12	0.14	0.13	0.21	0.17
Bromide	ug/l			580	620	76	68	100	93	100	100	100	100	320	290
Calcium, Total	mg/l			11	11	16	16	55	54	57	56	56	56	73	66
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			31	39	6.9	8.8	2	2.6	ND	2.2	ND	2.7	2.3	ND
Cation Sum	meq/l			33	32	8.7	8.7	5.6	5.6	5.9	5.9	5.8	5.8	8.9	8
Chloride	mg/l	500	S	30	31	7.4	7.3	21	20	21	20	21	20	58	53
Fluoride	mg/l	2	P	0.39	0.39	0.27	0.27	0.32	0.32	0.4	0.38	0.36	0.36	0.17	0.2
Hardness (Total, as CaCO3)	mg/l			52	53	69	70	180	180	200	190	190	190	260	230
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			180	180	12	18	25	24	34	34	23	26	8.8	7.2
Iron, Total	mg/l	0.3	S	**0.7**	**0.59**	0.11	0.14	ND	ND	ND	ND	0.045	0.049	ND	ND
Langelier Index - 25 degree	None			1.3	1.4	0.82	0.94	0.8	0.92	0.64	0.88	0.6	0.88	0.93	0.8
Magnesium, Total	None			6.1	6.3	7.1	7.4	11	11	13	13	12	12	18	16
Manganese, Total	ug/l	50	S	32	22	47	49	38	35	**55**	50	**61**	**56**	**76**	**66**
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	9.9	8.3
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	1.9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			13	12	10	10	3.1	3.1	3.8	3.8	3.9	3.9	5.3	5
Sodium, Total	mg/l			720	710	160	160	43	43	44	44	45	44	83	75
Sulfate	mg/l	500	S	1.9	0.72	0.79	0.96	77	75	76	74	78	76	110	94
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	**2100**	**2000**	530	530	320	330	330	340	330	350	530	470
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	1.9
Total Organic Carbon	mg/l			130	140	7	7.4	ND	0.32	ND	ND	ND	ND	0.31	0.32
General Physical Properties															
Apparent Color	ACU	15	S	**1500**	**1200**	**50**	**50**	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.4	8.5	8.3	8.4	8.2	8.3	8	8.2	8	8.3	8.1	8
Odor	TON	3	S	**40**	**40**	**8**	**4**	ND	1	1	1	1	1	**8**	2
Specific Conductance	umho/cm	1600	S	**2800**	**2800**	850	860	540	540	550	560	550	560	830	780
Turbidity	NTU	5	S	4.2	0.63	**6.8**	**15**	0.13	0.12	0.14	0.12	0.25	0.35	4.5	2.1
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	27	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	4.2	ND	4.4	5.2	ND	ND	2	1.9	1.4	1.2	4	3.4
Barium, Total	ug/l	1000	P	40	37	34	34	15	16	54	54	52	54	53	49
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	3.1	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	1.9
Hexavalent Chromium (Cr VI)	ug/l			0.051	0.031	0.028	ND	ND	ND	ND	ND	ND	ND	1.2	1.3
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	ND	ND	26	13
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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	0.57	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 2015-16

Constituents	Units	MCL	MCL Type	Lynwood #1																	
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7		Zone 8		Zone 9	
				5/25/16	9/30/16	5/25/16	9/30/16	5/25/16	9/30/16	5/25/16	9/30/16	5/25/16	9/30/16	5/25/16	9/30/16	5/25/16	9/30/16	5/25/16	9/30/16	5/25/16	9/30/16
General Minerals																					
Alkalinity	mg/l			560	550	130	130	110	120	130	130	150	150	160	160	180	180	170	180	290	290
Anion Sum	meq/l			12	11	4.1	4.1	4.4	4.4	4.9	4.9	4.6	4.6	5.2	5.2	6	6.2	6.9	6.8	16	17
Bicarbonate as HCO3	mg/l			680	670	160	160	140	140	160	160	180	180	200	200	220	220	210	220	350	360
Boron	mg/l	1	N	**1.4**	**1.3**	0.19	0.16	0.11	0.099	0.09	0.082	0.09	0.08	0.13	0.12	0.12	0.11	0.13	0.12	0.17	0.17
Bromide	ug/l			140	150	120	120	100	100	100	100	110	110	98	100	120	130	130	130	580	580
Calcium, Total	mg/l			9.2	9.9	4.7	4.6	38	39	44	45	42	43	50	52	56	64	74	76	190	200
Carbon Dioxide	mg/l			ND	6.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.7
Carbonate as CO3	mg/l			14	6.9	6.6	5.2	ND	ND	2.1	2.1	2.3	2.3	2	ND	2.3	ND	ND	ND	ND	2.9
Cation Sum	meq/l			12	12	4.2	4.1	4.4	4.5	4.8	5	4.6	4.7	5.3	5.4	6.1	6.6	6.9	7.1	16	17
Chloride	mg/l	500	S	10	9.6	21	20	20	20	21	20	21	21	20	20	27	27	43	40	150	160
Fluoride	mg/l	2	P	0.53	0.51	0.42	0.41	0.3	0.31	0.26	0.26	0.27	0.28	0.35	0.37	0.3	0.32	0.4	0.41	0.32	0.31
Hardness (Total, as CaCO3)	mg/l			32	34	13	13	120	120	130	140	120	120	170	180	190	220	250	260	640	680
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			35	33	28	31	23	22	24	24	27	27	26	23	32	36	ND	ND	170	200
Iron, Total	mg/l	0.3	S	0.084	0.086	ND	ND	ND	ND	ND	ND	ND	ND	0.024	0.025	0.048	0.058	ND	ND	0.3	**0.33**
Langelier Index - 25 degree	None			0.86	0.56	0.2	0.17	0.53	0.54	0.71	0.71	0.74	0.72	0.79	0.68	0.88	0.78	0.83	0.59	1.2	1.6
Magnesium, Total	None			2.1	2.2	0.29	0.29	5.7	5.5	5.9	5.9	3.2	2.9	11	12	12	14	17	17	41	45
Manganese, Total	ug/l	50	S	16	16	3.1	3.1	19	15	32	33	33	28	**61**	**60**	**100**	**110**	5.6	4.6	**230**	**210**
Mercury	ug/l	2	P	ND	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	6.2	5.6	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.3	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.6	2.8	ND	ND	1.3	1.4	1.7	1.7	2.2	2.2	3.6	3.4	3.5	3.4	3.2	3.3	4.5	5
Sodium, Total	mg/l			250	270	91	89	47	48	48	50	51	51	40	39	51	49	40	42	68	71
Sulfate	mg/l	500	S	2.5	1.8	41	40	75	74	79	78	48	48	68	68	81	85	100	95	310	340
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	690	690	260	270	270	270	300	320	290	280	330	320	350	390	450	410	980	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.3	ND	ND
Total Organic Carbon	mg/l			15	17	2	2	0.34	0.43	0.37	0.38	ND	ND	ND	0.36	0.38	0.43	ND	ND	0.85	1
General Physical Properties																					
Apparent Color	ACU	15	S	**300**	**200**	**50**	**50**	ND	ND	3	ND	ND	ND	ND	ND	5	ND	ND	ND	10	ND
Lab pH	Units			8.5	8.2	8.8	8.7	8.2	8.2	8.3	8.3	8.3	8.3	8.2	8.1	8.2	8.1	8.1	7.8	7.9	8.1
Odor	TON	3	S	**200**	**17**	2	**17**	ND	2	**17**	**200**	2	**17**	1	**4**	1	**100**	2	ND	**17**	3
Specific Conductance	umho/cm	1600	S	1100	1100	430	430	450	460	500	500	470	470	520	520	590	630	690	700	1500	1600
Turbidity	NTU	5	S	2.8	2.9	0.82	0.69	0.11	ND	0.6	ND	0.14	0.11	0.16	0.14	**5.7**	0.36	0.32	0.13	**10**	1.2
Metals																					
Aluminum, Total	ug/l	1000	P	ND	ND	44	38	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	ND	ND	ND
Arsenic, Total	ug/l	10	P	**220**	**230**	1.1	1.8	ND	ND	ND	ND	5.3	5.1	2	1.7	2.9	3.7	2	2.1	8	7.7
Barium, Total	ug/l	1000	P	14	14	2.3	2.1	9.1	6.7	140	140	87	94	43	41	89	81	110	100	170	170
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	2.6	2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.047	0.037	0.03	0.022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.69	0.81	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	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	ND	ND	5.6
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																					
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.2	3.8	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.74	1	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	0.64	0.53	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 2015-16

Constituents	Units	MCL	MCL Type	Montebello #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/28/16	9/28/16	4/28/16	9/28/16	4/28/16	9/28/16	4/28/16	9/28/16	4/28/16	9/28/16
General Minerals													
Alkalinity	mg/l			890	870	570	570	180	180	180	200	220	240
Anion Sum	meq/l			37	40	15	15	7	6.5	8.2	8.8	9.4	10
Bicarbonate as HCO3	mg/l			1100	1000	690	690	220	220	210	240	270	290
Boron	mg/l	1	N	**5.8**	**5.7**	**2.2**	**2.1**	0.13	0.14	0.13	0.14	0.2	0.18
Bromide	ug/l			4200	4600	840	900	160	160	250	270	290	330
Calcium, Total	mg/l			13	14	16	16	79	74	85	83	91	96
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			23	10	14	7.1	2.3	ND	ND	ND	ND	ND
Cation Sum	meq/l			33	39	14	15	6.8	6.5	7.9	8.1	9	9.5
Chloride	mg/l	500	S	**690**	**800**	130	130	49	44	70	78	86	93
Fluoride	mg/l	2	P	0.47	0.44	0.35	0.35	0.21	0.21	0.27	0.29	0.32	0.36
Hardness (Total, as CaCO3)	mg/l			55	59	65	68	250	230	270	270	300	320
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			940	1000	200	210	33	28	58	37	ND	ND
Iron, Total	mg/l	0.3	S	0.15	0.17	0.17	0.2	0.022	0.034	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.2	0.96	1	0.78	1	0.77	0.93	0.58	0.87	0.7
Magnesium, Total	None			5.4	5.9	6.1	6.7	13	12	14	15	18	19
Manganese, Total	ug/l	50	S	9.6	12	27	29	**74**	**71**	43	21	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	ND	1.3	13	13
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	0.3	3	2.9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			7.1	8.7	4.8	5.5	3.3	3.1	3.6	3.4	3.5	3.6
Sodium, Total	mg/l			740	860	290	320	39	40	54	59	67	69
Sulfate	mg/l	500	S	ND	ND	ND	ND	100	78	130	120	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	**2100**	**2200**	880	920	470	400	570	560	620	630
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	0.3	3	2.9
Total Organic Carbon	mg/l			36	46	24	27	0.64	0.94	0.46	0.62	0.5	0.58
General Physical Properties													
Apparent Color	ACU	15	S	**400**	**400**	**100**	**100**	3	5	ND	ND	ND	ND
Lab pH	Units			8.5	8.2	8.5	8.2	8.2	8	8.1	7.7	7.9	7.7
Odor	TON	3	S	**100**	**17**	3	**17**	3	2	1	2	2	1
Specific Conductance	umho/cm	1600	S	**3700**	**3800**	1400	1400	690	660	810	870	930	990
Turbidity	NTU	5	S	0.54	0.44	0.37	0.3	0.14	0.22	0.12	0.1	ND	ND
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	3.9	4.7	ND	ND	ND	ND	2.6	2.4	1.4	2
Barium, Total	ug/l	1000	P	39	42	23	24	37	32	78	76	74	77
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.14	0.13	0.087	0.07	ND	ND	ND	ND	0.058	0.14
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	0.72	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 2015-16

Constituents	Units	MCL	MCL Type	Norwalk #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/13/16	8/31/16	4/13/16	8/31/16	4/13/16	8/31/16	4/13/16	8/31/16	4/13/16	8/31/16
General Minerals													
Alkalinity	mg/l			260	270	170	170	140	150	130	130	190	190
Anion Sum	meq/l			8.3	8.3	5.1	5.1	5.2	5.2	3.5	3.3	7	7.7
Bicarbonate as HCO3	mg/l			320	330	210	210	180	180	160	150	230	230
Boron	mg/l	1	N	0.39	0.36	0.2	0.18	0.056	0.054	ND	0.05	0.074	0.071
Bromide	ug/l			290	290	270	270	410	420	120	100	500	580
Calcium, Total	mg/l			14	13	8.9	8.9	33	34	27	28	60	66
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			5.2	4.3	5.4	5.4	2.9	2.3	2.1	ND	ND	ND
Cation Sum	meq/l			8.8	8.7	5.1	5.2	5.1	5.2	3.4	3.6	6.9	7.5
Chloride	mg/l	500	S	62	63	59	58	77	78	25	21	110	130
Fluoride	mg/l	2	P	0.5	0.51	0.58	0.6	0.26	0.27	0.32	0.32	0.32	0.32
Hardness (Total, as CaCO3)	mg/l			65	61	27	27	95	98	89	92	210	230
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			100	62	92	64	120	100	31	30	91	73
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	0.035	ND	0.028	0.082	0.059
Langelier Index - 25 degree	None			0.59	0.49	0.43	0.42	0.67	0.62	0.49	0.41	-1.7	0.63
Magnesium, Total	None			7.2	7	1.2	1.2	3	3.2	5.3	5.5	14	16
Manganese, Total	ug/l	50	S	2.4	2.4	6.3	5.4	29	27	39	34	**120**	**120**
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			2.5	2.5	1.2	1.3	2.3	2.4	1.5	1.8	3.3	3.5
Sodium, Total	mg/l			170	170	100	110	73	74	37	39	61	66
Sulfate	mg/l	500	S	59	51	ND	ND	4	3.3	9.4	8.3	4.8	5.9
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.12	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	520	530	310	320	330	320	220	210	410	460
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2	2.2	2.8	3	0.67	0.71	0.43	0.45	1.3	1.6
General Physical Properties													
Apparent Color	ACU	15	S	15	**25**	**35**	**35**	ND	ND	ND	ND	5	3
Lab pH	Units			8.4	8.3	8.6	8.6	8.4	8.3	8.3	8.2	8	7.9
Odor	TON	3	S	**200**	**100**	2	1	1	1	**8**	1	**8**	2
Specific Conductance	umho/cm	1600	S	850	850	520	520	540	550	350	340	720	780
Turbidity	NTU	5	S	0.11	0.15	0.24	0.25	0.27	0.24	2.9	1.5	**9.1**	**6**
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1	ND	1.1	ND	5.5	5.9	**18**	**18**	10	10
Barium, Total	ug/l	1000	P	15	14	6.2	5.2	110	100	120	100	300	270
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			0.024	0.026	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	1.3	1.9
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 2015-16

Constituents	Units	MCL	MCL Type	Norwalk #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/19/16	9/6/16	4/19/16	9/6/16	4/19/16	9/6/16	4/19/16	9/6/16	4/19/16	9/6/16	4/19/16	9/6/16
General Minerals															
Alkalinity	mg/l			170	160	170	180	140	150	160	160	150	160	200	210
Anion Sum	meq/l			7.6	7.8	4.6	4.6	4.1	4.1	5.6	5.5	7.8	7.7	9	9.4
Bicarbonate as HCO3	mg/l			200	200	210	210	180	180	200	200	190	190	240	250
Boron	mg/l	1	N	0.2	0.17	0.23	0.22	ND	ND	0.053	ND	0.14	0.14	0.17	0.16
Bromide	ug/l			220	200	140	130	64	46	64	66	140	140	170	190
Calcium, Total	mg/l			70	78	11	12	42	41	64	60	80	87	86	90
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	3.4	4.3	ND	2.3	2	2	ND	ND	ND	ND
Cation Sum	meq/l			7.6	7.9	4.9	4.8	4.2	4.1	5.6	5.2	7.5	7.9	8.8	8.9
Chloride	mg/l	500	S	75	78	31	31	14	14	27	25	74	74	82	91
Fluoride	mg/l	2	P	0.31	0.29	0.48	0.49	0.21	0.21	0.3	0.29	0.26	0.26	0.36	0.36
Hardness (Total, as CaCO3)	mg/l			230	260	36	39	120	120	200	190	260	290	290	300
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			68	27	48	37	9.3	6.9	ND	ND	9	6.2	2.6	1.2
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.61	0.82	0.37	0.44	0.65	0.72	0.83	0.78	0.85	0.86	0.86	0.9
Magnesium, Total	None			14	15	2.2	2.3	5	5	11	10	16	17	18	19
Manganese, Total	ug/l	50	S	15	15	15	15	20	21	ND	ND	20	17	2.6	3
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	1.3	1.7	ND	ND	ND	ND	5.7	5.6	12	12	10	9.1
Nitrate as Nitrogen	mg/l	10	P	0.29	0.38	ND	ND	ND	ND	1.3	1.3	2.6	2.6	2.2	2
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	2.6	2.5	2.8	2.6	3.5	3.2	4.2	4.3	4.4	4.2
Sodium, Total	mg/l			67	61	94	91	38	35	32	29	48	48	66	64
Sulfate	mg/l	500	S	100	110	12	12	38	38	74	71	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	460	490	280	280	240	260	370	370	470	480	520	590
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	0.29	0.38	ND	ND	ND	ND	1.3	1.3	2.6	2.6	2.2	2
Total Organic Carbon	mg/l			0.73	0.81	0.99	1.2	ND	0.4	ND	ND	0.32	0.5	0.35	0.51
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	15	**20**	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.9	8.1	8.4	8.5	8.2	8.3	8.2	8.2	8.1	8.1	8	8
Odor	TON	3	S	ND	2	1	2	ND	2	ND	1	ND	1	ND	2
Specific Conductance	umho/cm	1600	S	750	780	460	460	400	410	550	560	760	770	870	910
Turbidity	NTU	5	S	0.16	0.1	0.1	0.11	0.11	0.17	ND	ND	ND	ND	0.11	ND
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	1.8	2.3	ND	ND	ND	ND	1.9	1.7	1.6	2.2	1	1.5
Barium, Total	ug/l	1000	P	66	61	10	9.6	29	31	150	150	94	75	60	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	ND	ND	ND	ND	1.3	3	4.3	ND	ND	ND	3
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	ND	ND	3.3	3.2	0.99	0.88	0.71	0.68
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	0.67	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	2	1.7	1.2	0.95	0.57	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 2015-16

Constituents	Units	MCL	MCL Type	Pico #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/5/16	9/28/16	4/5/16	9/28/16	4/5/16	9/28/16	4/5/16	9/28/16
General Minerals											
Alkalinity	mg/l			280	280	160	170	200	200	190	190
Anion Sum	meq/l			5.8	5.7	5.3	6.2	9.3	9.5	10	10
Bicarbonate as HCO3	mg/l			340	340	200	210	240	240	230	230
Boron	mg/l	1	N	0.68	0.54	0.079	0.064	0.14	0.11	0.26	0.2
Bromide	ug/l			25	26	66	110	200	200	180	170
Calcium, Total	mg/l			8.9	8.2	72	75	120	110	100	86
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			4.4	4.4	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.1	5.6	5.8	6	9.8	8.9	11	9.3
Chloride	mg/l	500	S	2.8	2.9	22	34	78	83	110	110
Fluoride	mg/l	2	P	0.24	0.25	0.25	0.27	0.3	0.33	0.28	0.31
Hardness (Total, as CaCO3)	mg/l			35	33	230	240	390	350	330	280
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			2.5	7.4	2.2	6.3	12	17	1.7	1.4
Iron, Total	mg/l	0.3	S	0.088	0.074	0.3	**0.31**	**0.48**	**0.45**	ND	ND
Langelier Index - 25 degree	None			0.38	0.31	0.66	0.62	0.82	0.62	0.6	0.43
Magnesium, Total	None			3.2	3	13	13	21	19	19	16
Manganese, Total	ug/l	50	S	33	30	23	25	14	15	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	9.8	10
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	2.2	2.4
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.8	3.5	3.1	3	4.4	4	5.3	4.8
Sodium, Total	mg/l			120	110	24	24	42	37	93	81
Sulfate	mg/l	500	S	0.52	ND	72	89	150	150	150	140
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	330	350	320	410	550	580	620	630
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	2.2	2.4
Total Organic Carbon	mg/l			2.9	3.2	ND	0.36	0.36	0.65	0.46	0.66
General Physical Properties											
Apparent Color	ACU	15	S	**50**	**40**	5	5	10	10	ND	ND
Lab pH	Units			8.3	8.3	8	7.9	7.8	7.6	7.7	7.6
Odor	TON	3	S	2	3	ND	1	1	ND	ND	ND
Specific Conductance	umho/cm	1600	S	540	540	520	620	900	930	1000	1000
Turbidity	NTU	5	S	**6.2**	5	1.3	1.7	3.2	3.2	ND	ND
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	4.9	4	ND	ND	ND	ND	3	2.5
Barium, Total	ug/l	1000	P	14	17	79	100	81	85	64	63
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	0.25	0.19
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 2015-16

Constituents	Units	MCL	MCL Type	Pico #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/27/16	9/28/16	5/27/16	9/28/16	5/27/16	9/28/16	5/27/16	9/28/16	5/27/16	9/28/16	5/27/16	9/28/16
General Minerals															
Alkalinity	mg/l			200	200	210	210	190	190	150	130	120	130	98	130
Anion Sum	meq/l			8.7	8.6	10	10	8.9	8.8	8.8	8.4	7.8	7.8	5.6	8.8
Bicarbonate as HCO3	mg/l			240	240	250	250	230	230	180	160	150	160	120	160
Boron	mg/l	1	N	0.058	0.056	0.16	0.13	0.17	0.14	0.25	0.21	0.25	0.2	0.16	0.21
Bromide	ug/l			170	170	220	210	180	170	160	150	190	180	170	150
Calcium, Total	mg/l			120	110	120	120	100	98	72	72	55	55	36	62
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	ND	ND	ND	ND
Cation Sum	meq/l			8.7	8.4	10	9.5	8.9	8.5	8.5	8.4	7.6	7.4	5.4	8.4
Chloride	mg/l	500	S	56	56	92	91	80	78	110	110	100	100	74	130
Fluoride	mg/l	2	P	0.23	0.25	0.25	0.28	0.3	0.33	0.28	0.33	0.32	0.38	0.34	0.32
Hardness (Total, as CaCO3)	mg/l			390	360	400	390	340	330	250	240	200	200	140	230
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	ND	ND	3.5	3.5	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.79	0.88	0.73	0.8	0.76	0.77	0.31	0.098	-0.059	0.15	-0.23	-0.0029
Magnesium, Total	None			21	20	25	23	21	20	17	16	16	16	12	19
Manganese, Total	ug/l	50	S	ND	ND	ND	2.3	ND	ND	ND	ND	43	39	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	21	20	14	14	9.7	22
Nitrate as Nitrogen	mg/l	10	P	3.2	3.2	2.4	2.5	3.2	3.1	4.7	4.5	3.2	3.1	2.2	5
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	3.6	4	3.8	4.3	4	4.2	4	4.9	4.6	6	7.7
Sodium, Total	mg/l			26	25	40	39	45	44	80	79	77	75	57	81
Sulfate	mg/l	500	S	140	140	150	140	130	120	110	110	100	100	67	110
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	550	550	600	640	590	550	550	550	500	510	350	570
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	3.2	3.2	2.4	2.5	3.2	3.1	4.7	4.5	3.2	3.1	2.2	5
Total Organic Carbon	mg/l			0.3	ND	0.37	0.37	0.32	0.32	0.6	0.56	0.68	0.71	0.94	0.99
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.8	7.9	7.7	7.8	7.8	7.9	7.6	7.5	7.5	7.7	7.6	7.4
Odor	TON	3	S	ND	1	1	ND	ND	ND	ND	ND	ND	1	ND	2
Specific Conductance	umho/cm	1600	S	840	850	970	980	880	880	910	940	820	810	640	930
Turbidity	NTU	5	S	0.24	0.16	0.1	ND	0.42	0.8	0.29	0.12	0.15	0.11	0.76	1.6
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	1.8	1.3	2.7	1.9	2	1.6	2.8	2.1	1.4	ND	10	8
Barium, Total	ug/l	1000	P	120	120	100	110	90	99	63	70	86	92	82	160
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
Chromium, Total	ug/l	50	P	ND	1.6	ND	1.3	ND	1.6	ND	1.1	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			1.2	1.2	0.73	0.78	1.1	1.2	0.62	0.62	0.29	0.21	0.25	0.3
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	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	0.86	0.84	1	1.1	2.8	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	1.1	1.9	ND	ND	1.9	13
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	1.8	1.9	ND	0.54	1	1.1	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 2015-16

Constituents	Units	MCL	MCL Type	Rio Hondo #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/21/16	9/21/16	4/21/16	9/21/16	4/21/16	9/21/16	4/21/16	9/21/16	4/21/16	9/21/16	4/21/16	9/21/16
General Minerals															
Alkalinity	mg/l			140	140	160	160	170	170	120	120	120	130	140	140
Anion Sum	meq/l			4.3	4.3	7	7	7.4	7.4	5.8	5.9	6.4	6.6	8.5	8.5
Bicarbonate as HCO3	mg/l			170	170	200	200	210	210	140	150	150	160	170	180
Boron	mg/l	1	N	0.072	0.064	0.06	0.05	0.16	0.14	0.17	0.14	0.15	0.13	0.2	0.18
Bromide	ug/l			93	97	130	130	140	140	100	100	110	110	140	130
Calcium, Total	mg/l			40	41	96	90	83	83	53	49	62	61	81	76
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	5.4	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			4.5	4.6	7.5	7	7.6	7.6	6.2	5.8	6.9	6.6	8.8	8.3
Chloride	mg/l	500	S	18	18	44	44	60	62	60	64	72	77	110	110
Fluoride	mg/l	2	P	0.26	0.26	0.22	0.22	0.3	0.3	0.33	0.35	0.29	0.3	0.26	0.26
Hardness (Total, as CaCO3)	mg/l			130	140	310	290	270	270	170	160	210	200	290	280
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			21	24	6.4	5.4	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.075	0.074	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.65	0.8	0.87	0.8	0.57	0.25	0.26	0.35	0.38	0.33	0.26
Magnesium, Total	None			8.2	8.6	17	16	15	16	10	9.9	14	13	22	21
Manganese, Total	ug/l	50	S	22	19	30	27	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	8.4	8.3	12	12	15	15	22	22
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	1.9	1.9	2.7	2.7	3.4	3.4	4.9	4.9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.9	2.9	3.6	3.4	3.9	3.8	3.7	3.4	3.9	3.7	5.5	5.1
Sodium, Total	mg/l			40	41	27	25	48	47	60	55	58	55	65	63
Sulfate	mg/l	500	S	48	47	120	120	100	100	73	72	79	79	100	100
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	280	270	460	440	470	460	390	380	430	400	530	520
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	1.9	1.9	2.7	2.7	3.4	3.4	4.9	4.9
Total Organic Carbon	mg/l			0.35	0.37	0.32	0.35	0.37	0.45	0.37	0.44	0.32	0.42	0.38	0.53
General Physical Properties															
Apparent Color	ACU	15	S	ND	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.2	8.2	8	8.1	8	7.8	7.8	7.8	7.8	7.8	7.6	7.6
Odor	TON	3	S	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	430	440	680	700	740	750	600	620	670	700	870	880
Turbidity	NTU	5	S	0.44	**23**	0.24	0.28	ND	0.11	0.12	0.11	0.3	0.24	0.21	0.57
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	1.9	2	2.4	2.3	1.5	1.4	1	ND
Barium, Total	ug/l	1000	P	18	20	50	54	110	120	49	53	70	81	160	160
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	1
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	0.53	0.55	0.4	0.41	0.47	0.51	0.65	0.67
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	0.74	0.77	2	2.8	4.7	5
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	0.54	0.53	0.69	0.63	0.61	0.6	0.6	0.5

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 2015-16

Constituents	Units	MCL	MCL Type	Seal Beach #1													
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				3/16/16	8/18/16	3/16/16	8/18/16	3/16/16	8/18/16	3/16/16	8/18/16	3/16/16	8/18/16	3/16/16	8/18/16	3/16/16	8/18/16
General Minerals																	
Alkalinity	mg/l			200	210	160	160	150	150	180	180	99	98	100	100	190	190
Anion Sum	meq/l			4.6	4.6	3.6	3.6	3.5	3.4	4.2	4.2	5	4.6	7.6	7.2	38	39
Bicarbonate as HCO3	mg/l			240	250	190	190	180	180	220	220	120	120	130	120	230	230
Boron	mg/l	1	N	0.26	0.22	0.16	0.14	0.21	0.19	0.25	0.23	0.07	0.067	0.15	0.14	0.24	0.24
Bromide	ug/l			170	170	100	110	88	83	140	130	280	240	150	110	3900	3800
Calcium, Total	mg/l			4.6	4.5	3.9	3.7	3.6	3.7	5.5	5.7	19	18	66	64	320	310
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8	ND
Carbonate as CO3	mg/l			9.8	10	9.8	12	12	12	7.2	7.2	ND	2	ND	ND	ND	ND
Cation Sum	meq/l			4.5	4.6	3.7	3.8	3.4	3.6	4.2	4.4	4.8	4.6	7.4	7.3	36	36
Chloride	mg/l	500	S	18	16	16	14	15	13	19	17	82	70	82	73	**1000**	**1100**
Fluoride	mg/l	2	P	0.41	0.4	0.5	0.51	0.55	0.54	0.77	0.76	0.41	0.42	0.33	0.33	0.34	0.35
Hardness (Total, as CaCO3)	mg/l			13	13	12	11	10	10	17	17	57	52	210	200	1100	1000
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			41	46	27	26	21	17	38	34	8.9	7.9	16	10	170	180
Iron, Total	mg/l	0.3	S	0.051	0.06	0.028	0.028	0.025	0.028	0.041	0.044	ND	ND	0.022	ND	0.17	0.17
Langelier Index - 25 degree	None			0.38	0.35	0.36	0.38	0.33	0.36	0.34	0.33	0.24	0.23	0.081	0.5	1.4	1.2
Magnesium, Total	None			0.48	0.46	0.43	0.38	0.3	0.28	0.76	0.7	2.3	1.7	12	11	67	65
Manganese, Total	ug/l	50	S	7.8	7.1	4.7	3.9	3.3	2.6	10	8.8	19	12	**100**	**91**	**770**	**710**
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	ND	ND	1.6	1.5	2.3	2.4	7.1	7.1
Sodium, Total	mg/l			98	100	80	82	73	78	88	93	84	80	69	70	320	340
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	34	29	150	150	250	230
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	280	300	230	230	200	220	260	260	300	480	470	470	**2500**	**2600**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			9.1	8.7	4	3.9	3.4	3.4	5.3	5.6	0.7	0.69	1	1.2	0.43	0.84
General Physical Properties																	
Apparent Color	ACU	15	S	**250**	**250**	**150**	**100**	**100**	**50**	**200**	**200**	5	10	ND	ND	5	3
Lab pH	Units			8.8	8.8	8.9	9	9	9	8.7	8.7	8.3	8.4	7.6	8	8	7.8
Odor	TON	3	S	1	**4**	1	**4**	1	**4**	2	**4**	1	1	1	2	1	2
Specific Conductance	umho/cm	1600	S	440	460	360	360	340	340	410	410	530	490	760	750	**3700**	**3800**
Turbidity	NTU	5	S	0.44	0.34	0.97	0.46	0.42	0.31	3	1.2	0.47	**12**	0.28	0.34	0.84	0.86
Metals																	
Aluminum, Total	ug/l	1000	P	36	30	32	28	30	27	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
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	1.5	ND	1.9	1.3	ND	ND	3.7	8
Barium, Total	ug/l	1000	P	7.5	6.9	4.5	3.8	4	3.5	6.3	5.2	24	18	100	98	120	110
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	1	1.1	ND	ND	ND	ND	1.2	1.1	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.067	0.039	0.044	0.029	0.032	0.022	0.085	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	ND	ND	ND	12
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19
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 2015-16

Constituents	Units	MCL	MCL Type	South Gate #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/26/16	9/27/16	5/26/16	9/27/16	5/26/16	9/27/16	5/26/16	9/27/16	5/26/16	9/27/16
General Minerals													
Alkalinity	mg/l			160	160	140	140	150	150	150	150	200	200
Anion Sum	meq/l			4.9	5	6.4	6.4	6.5	6.6	6.6	6.7	8.6	8.7
Bicarbonate as HCO3	mg/l			200	200	170	170	180	180	180	180	240	240
Boron	mg/l	1	N	0.11	0.1	0.14	0.12	0.12	0.1	0.18	0.14	0.13	0.12
Bromide	ug/l			100	100	130	120	110	110	130	130	360	340
Calcium, Total	mg/l			47	46	65	63	72	68	69	64	84	83
Carbon Dioxide	mg/l			ND	2.1	ND	2.8	ND	3.7	ND	4.7	ND	5
Carbonate as CO3	mg/l			ND	2	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			4.9	4.8	6.2	6.1	6.6	6.3	6.8	6.3	8.2	8.1
Chloride	mg/l	500	S	21	23	52	53	45	47	54	55	88	88
Fluoride	mg/l	2	P	0.3	0.31	0.27	0.3	0.34	0.37	0.38	0.38	0.4	0.42
Hardness (Total, as CaCO3)	mg/l			150	140	210	210	240	230	230	210	300	300
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			21	17	9	8.6	ND	ND	ND	ND	96	99
Iron, Total	mg/l	0.3	S	0.024	0.023	ND	ND	ND	ND	ND	ND	0.081	0.083
Langelier Index - 25 degree	None			0.64	0.68	0.56	0.53	0.64	0.58	0.55	0.46	0.81	0.72
Magnesium, Total	None			7.6	7.3	12	12	15	14	14	13	22	22
Manganese, Total	ug/l	50	S	37	36	2.6	3.1	ND	ND	ND	ND	**100**	**100**
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	9.6	9.6	9.7	9.7	8.1	8.1	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2.2	2.2	2.2	2.2	1.8	1.8	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.4	2.3	3.1	3.1	2.8	2.8	3	2.9	2.7	2.7
Sodium, Total	mg/l			44	42	44	44	39	38	48	46	48	48
Sulfate	mg/l	500	S	52	53	95	95	99	100	94	95	100	100
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	310	300	420	410	420	430	420	430	540	550
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	2.2	2.2	2.2	2.2	1.8	1.8	ND	ND
Total Organic Carbon	mg/l			ND	ND	0.3	0.3	ND	ND	ND	ND	0.69	0.71
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.1	8.2	8	8	8	7.9	7.9	7.8	8	7.9
Odor	TON	3	S	2	ND	1	1	ND	1	2	1	1	2
Specific Conductance	umho/cm	1600	S	490	500	650	660	660	660	670	680	840	850
Turbidity	NTU	5	S	0.16	0.1	0.2	0.21	0.16	1.1	0.2	ND	0.36	0.28
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.3	2.3	2.3	2.5	2.3	2.5	1.8	1.8	1.8	1.9
Barium, Total	ug/l	1000	P	120	150	87	98	140	150	65	66	200	240
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	1.1	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	0.047	0.042	0.85	0.88	0.57	0.59	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	0.5	0.56	2.4	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	0.59	0.6	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	0.84	0.74	2	1.8	0.5	0.5	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 2015-16

Constituents	Units	MCL	MCL Type	South Gate #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/13/16	9/20/16	5/13/16	9/20/16	5/13/16	9/20/16	5/13/16	9/20/16	5/13/16	9/20/16	5/13/16	9/20/16
General Minerals															
Alkalinity	mg/l			170	170	170	180	170	170	170	170	170	170	190	190
Anion Sum	meq/l			5.5	5.6	5.6	5.6	5.5	5.6	6.1	6.1	5.6	5.6	6.1	6.1
Bicarbonate as HCO3	mg/l			200	200	210	210	210	210	210	210	200	200	230	240
Boron	mg/l	1	N	0.14	0.12	0.14	0.12	0.13	0.11	0.14	0.12	0.14	0.13	0.15	0.13
Bromide	ug/l			96	100	95	120	96	91	130	130	96	110	110	110
Calcium, Total	mg/l			57	55	58	56	56	54	60	59	56	56	61	61
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2	ND	2.2	ND	2.7	ND	2.7	ND	2	ND	2.4	ND
Cation Sum	meq/l			5.8	5.6	5.9	5.7	5.7	5.5	6.2	6	5.7	5.7	6.2	6.2
Chloride	mg/l	500	S	20	19	20	19	20	21	27	27	20	20	22	22
Fluoride	mg/l	2	P	0.4	0.44	0.38	0.42	0.37	0.4	0.41	0.47	0.42	0.44	0.49	0.53
Hardness (Total, as CaCO3)	mg/l			200	190	200	190	190	180	210	210	190	190	210	210
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			33	23	32	22	32	18	5.7	3	18	21	16	12
Iron, Total	mg/l	0.3	S	0.05	0.049	0.13	0.12	ND	ND	ND	ND	ND	0.021	ND	ND
Langelier Index - 25 degree	None			0.87	0.68	0.88	0.7	0.89	0.63	0.94	0.54	0.86	0.53	0.88	0.54
Magnesium, Total	None			13	13	13	13	12	11	15	15	12	12	15	15
Manganese, Total	ug/l	50	S	**59**	**59**	39	39	31	29	35	32	49	45	**100**	**90**
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	1.6	1.7	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.36	0.39	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			3.3	3.3	3.6	3.5	2.8	2.7	3.5	3.3	3.2	3.2	2.8	2.7
Sodium, Total	mg/l			40	39	42	41	44	42	43	41	42	42	43	42
Sulfate	mg/l	500	S	77	77	76	75	71	73	87	88	78	78	76	77
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	340	360	350	350	340	340	370	400	340	360	360	390
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.36	0.39	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.41	0.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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	8.1	8.2	8.1	8.3	8	8.3	7.9	8.2	7.9	8.2	7.8
Odor	TON	3	S	2	ND	2	ND	1	ND	1	1	2	1	2	1
Specific Conductance	umho/cm	1600	S	550	550	560	560	540	540	610	610	550	550	590	600
Turbidity	NTU	5	S	ND	0.1	0.28	0.27	0.24	0.11	0.29	ND	0.57	ND	1	ND
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	1.8	1.9	1.7	1.4	1.4	1	ND	1.1	ND	ND
Barium, Total	ug/l	1000	P	60	64	69	75	93	95	57	64	100	100	86	95
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	1.2	ND	ND	ND	1.1	1.2	2.6	ND	1.1	ND	1.3
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	ND	ND	1.4	1.6	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 2015-16

Constituents	Units	MCL	MCL Type	Whittier #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/21/16	8/30/16	4/21/16	8/30/16	4/21/16	8/30/16	4/21/16	8/30/16	4/21/16	8/30/16
General Minerals													
Alkalinity	mg/l			260	260	280	280	290	290	250	250	230	230
Anion Sum	meq/l			42	43	40	39	31	32	11	11	11	11
Bicarbonate as HCO3	mg/l			320	320	340	340	350	350	300	300	280	280
Boron	mg/l	1	N	0.96	0.89	1	0.91	0.7	0.66	0.2	0.17	0.16	0.14
Bromide	ug/l			1300	1600	1100	1200	900	940	280	300	290	320
Calcium, Total	mg/l			200	190	200	180	190	180	80	76	78	77
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	2.6	ND	ND	ND	2.3	ND	ND	ND	ND
Cation Sum	meq/l			42	40	40	38	32	30	12	11	11	11
Chloride	mg/l	500	S	270	280	240	230	200	210	75	71	82	83
Fluoride	mg/l	2	P	0.28	0.28	0.29	0.3	0.46	0.48	0.19	0.21	0.32	0.33
Hardness (Total, as CaCO3)	mg/l			1100	1000	1000	940	890	860	350	330	350	350
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			210	190	190	160	190	140	150	92	2	1.7
Iron, Total	mg/l	0.3	S	**0.59**	**0.55**	**0.46**	**0.44**	**0.33**	**0.34**	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.1	1.4	1.1	1.2	1.1	1.4	0.75	0.85	0.57	0.71
Magnesium, Total	None			140	130	130	120	100	99	36	34	38	38
Manganese, Total	ug/l	50	S	**51**	48	**70**	**73**	**71**	**73**	23	24	3.3	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	17	23	23
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	4.1	3.8	5.2	5.2
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			11	11	10	9.7	7.8	7.4	4.2	4	3.5	3.4
Sodium, Total	mg/l			470	440	450	420	310	300	110	100	88	86
Sulfate	mg/l	500	S	**1400**	**1400**	**1300**	**1300**	**950**	**960**	180	170	180	180
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	**2700**	**2700**	**2600**	**2600**	**2000**	**2000**	710	700	700	680
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	4.1	3.8	5.2	5.2
Total Organic Carbon	mg/l			1.8	1.8	2.2	2.2	1.5	1.6	ND	ND	ND	ND
General Physical Properties													
Apparent Color	ACU	15	S	15	15	15	15	10	10	ND	ND	ND	ND
Lab pH	Units			7.7	8.1	7.7	7.8	7.7	8	7.8	7.9	7.7	7.8
Odor	TON	3	S	1	2	1	1	2	1	ND	ND	ND	2
Specific Conductance	umho/cm	1600	S	**3400**	**3500**	**3300**	**3300**	**2600**	**2700**	1100	1100	1000	1100
Turbidity	NTU	5	S	2.5	2.4	2.2	2.3	1.7	1.5	ND	ND	0.15	0.15
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	1.5	1.3	1.3	ND
Barium, Total	ug/l	1000	P	18	18	17	19	23	24	31	35	27	27
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	1.2	ND	1.2	ND	1.1	ND	1	3.1	4.1
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	3.4	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	ND	ND	ND	ND	ND	ND	13	14	17	17
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	1.6	1.2	2.9	2.4

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Whittier #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/27/16	9/14/16	4/27/16	9/14/16	4/27/16	9/14/16	4/27/16	9/14/16	4/27/16	9/14/16	4/27/16	9/14/16
General Minerals															
Alkalinity	mg/l			260	290	160	160	200	200	380	390	210	220	340	340
Anion Sum	meq/l			16	17	4.2	4.2	12	12	28	29	12	12	18	17
Bicarbonate as HCO3	mg/l			320	350	200	200	240	240	470	470	260	260	420	410
Boron	mg/l	1	N	0.59	0.56	0.23	0.22	0.23	0.24	0.8	0.84	0.18	0.19	0.35	0.36
Bromide	ug/l			1200	980	130	140	580	590	960	960	340	350	300	300
Calcium, Total	mg/l			98	110	24	24	81	89	120	130	120	130	160	170
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	2.6	ND	2	ND	2.4	ND	2.1	ND	ND	ND
Cation Sum	meq/l			16	16	4.4	4.3	12	13	27	28	11	12	17	18
Chloride	mg/l	500	S	200	190	22	23	120	120	240	250	120	130	98	100
Fluoride	mg/l	2	P	0.34	0.32	0.33	0.28	0.32	0.3	0.5	0.47	0.28	0.28	0.31	0.28
Hardness (Total, as CaCO3)	mg/l			380	420	78	78	340	370	630	670	400	430	560	590
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			360	210	30	39	19	30	200	410	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			0.98	0.79	0.52	0.38	0.94	0.81	1.2	1	1.1	0.81	1.1	1
Magnesium, Total	None			32	36	4.4	4.3	34	37	81	85	24	26	40	41
Manganese, Total	ug/l	50	S	18	19	40	42	33	43	**140**	**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	2.9	3.2	11	11	20	22	32	31
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	0.65	0.73	2.4	2.5	4.6	4.9	7.3	7
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			4.6	4.3	2.2	2.5	3.4	4.3	4.7	4.3	4.2	5	5.1	5.1
Sodium, Total	mg/l			180	180	63	60	110	120	320	330	79	83	140	140
Sulfate	mg/l	500	S	230	290	14	15	220	230	**650**	**670**	180	180	380	340
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	990	1000	260	250	790	750	**1800**	**1700**	730	720	**1100**	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	0.65	0.73	2.4	2.5	4.6	4.9	7.3	7
Total Organic Carbon	mg/l			0.64	0.82	0.34	0.45	0.32	0.46	0.39	0.52	0.36	0.41	0.43	0.52
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.9	7.6	8.3	8.1	8.1	7.9	7.9	7.7	8.1	7.7	7.7	7.7
Odor	TON	3	S	3	**4**	3	2	ND	2	2	2	3	3	3	2
Specific Conductance	umho/cm	1600	S	1500	1600	420	420	1200	1200	**2500**	**2500**	1100	1100	1600	1600
Turbidity	NTU	5	S	0.21	0.19	0.1	0.11	0.12	ND	0.14	ND	0.12	0.13	0.3	0.23
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	1.4	ND	ND	1.1	1.8	1.1	1.4	ND	1.7	1.5	1.9
Barium, Total	ug/l	1000	P	23	23	26	24	50	46	14	12	75	79	32	29
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	3.1	2.8	ND	ND	1.7	2	3.8	3.8
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	3.2	3.3	0.055	0.043	1.9	2.1	4.6	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	5.8	ND	6.2	ND	6.6
Selenium, Total	ug/l	50	P	ND	5.6	ND	ND	ND	ND	5.5	11	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.82	0.78
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	0.61	0.59	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	1.8	1.4	1.9	1.7	2	1.9	2.4	2.2

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 2015-16

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
				9/14/16	9/14/16	9/14/16	9/14/16	9/14/16	9/14/16	9/14/16	9/14/16	9/14/16
General Minerals												
Alkalinity	mg/l			94	110	130	150	150	170	160	150	160
Anion Sum	meq/l			21	3.2	7.3	8.8	7.6	9.5	9.4	9	10
Bicarbonate as HCO3	mg/l			110	140	160	190	180	200	190	180	200
Boron	mg/l	1	N	**1.4**	0.14	0.076	0.17	0.13	0.26	0.25	0.26	0.26
Bromide	ug/l			6400	150	170	190	160	190	200	220	170
Calcium, Total	mg/l			62	11	100	110	100	96	86	73	81
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			20	3.3	7.6	9.2	8.1	10	9.9	9.1	11
Chloride	mg/l	500	S	**690**	21	80	110	89	120	120	120	130
Fluoride	mg/l	2	P	0.74	0.37	0.23	0.23	0.25	0.27	0.26	0.25	0.29
Hardness (Total, as CaCO3)	mg/l			210	29	290	330	310	300	270	240	280
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			1000	46	ND	11	4.9	22	29	9.9	8.7
Iron, Total	mg/l	0.3	S	**9.7**	0.049	0.046	0.027	ND	ND	0.061	ND	0.024
Langelier Index - 25 degree	None			-0.59	-0.074	0.63	0.78	0.78	0.82	0.7	0.62	0.56
Magnesium, Total	None			13	0.43	10	14	14	14	14	13	20
Manganese, Total	ug/l	50	S	**580**	14	ND	6.5	ND	46	34	13	44
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	5.8	10	9	11	11	13	21
Nitrate as Nitrogen	mg/l	10	P	ND	ND	1.3	2.3	2	2.5	2.4	3	4.8
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			4	1.7	3.1	4.8	4.6	5.6	5.7	5.3	6.3
Sodium, Total	mg/l			360	61	35	53	40	92	99	98	110
Sulfate	mg/l	500	S	0.63	15	110	120	98	130	130	120	140
Surfactants	mg/l	0.5	S									
Total Dissolved Solid (TDS)	mg/l	1000	S	**1200**	210	470	560	480	580	570	560	640
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	1.3	2.3	2	2.5	2.4	3	4.8
Total Organic Carbon	mg/l			7.8	0.83	0.92	1.1	0.96	1.6	1.7	1.8	2.2
General Physical Properties												
Apparent Color	ACU	15	S	**150**	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7	8.2	7.8	7.9	8	8	7.9	8	7.8
Odor	TON	3	S									
Specific Conductance	umho/cm	1600	S	**2200**	330	750	900	790	970	960	930	1000
Turbidity	NTU	5	S	**96**	0.48	0.67	0.66	0.58	0.65	0.59	0.6	0.71
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	9.1	1.1	1.3	2	1.6	2.1	2.2	1.9	1.3
Barium, Total	ug/l	1000	P	430	24	180	160	190	94	84	68	59
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	3.2	6.6
Chromium, Total	ug/l	50	P	3.2	ND	2.1	ND	1.6	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	1.3	0.054	0.8	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	6.1	8	6.5	13	6.1	6	10
Selenium, Total	ug/l	50	P	6.2	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	66	ND	34	25	22	ND	ND	ND	ND
Volatile Organic Compounds												
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	0.56
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 2015-16

Constituents	Units	MCL	MCL Type	Willowbrook #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/19/16	9/12/16	4/19/16	9/8/16	4/19/16	9/8/16	4/19/16	9/8/16
General Minerals											
Alkalinity	mg/l			180	190	170	180	170	180	180	180
Anion Sum	meq/l			5.6	5.5	5.2	5.1	5.8	5.7	5.8	5.7
Bicarbonate as HCO3	mg/l			220	230	210	210	210	210	220	220
Boron	mg/l	1	N	0.13	0.13	0.11	0.12	0.12	0.13	0.12	0.13
Bromide	ug/l			100	93	99	96	110	100	120	130
Calcium, Total	mg/l			50	51	52	52	58	63	56	63
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	2.2	2.2	ND	ND	ND	ND
Cation Sum	meq/l			5.7	5.8	5.4	5.4	5.9	6.4	5.8	6.3
Chloride	mg/l	500	S	21	20	21	20	21	21	29	26
Fluoride	mg/l	2	P	0.34	0.34	0.33	0.3	0.44	0.4	0.38	0.37
Hardness (Total, as CaCO3)	mg/l			170	170	170	170	190	210	180	200
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			30	26	24	23	29	24	39	38
Iron, Total	mg/l	0.3	S	0.078	0.074	ND	ND	0.077	0.093	ND	0.022
Langelier Index - 25 degree	None			0.65	0.61	0.83	0.8	0.69	0.7	0.64	0.75
Magnesium, Total	None			10	10	9.6	9.9	12	14	10	11
Manganese, Total	ug/l	50	S	**62**	**64**	45	45	29	28	**88**	**84**
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			3.7	3.7	2.8	2.7	3.7	3.8	3	3.1
Sodium, Total	mg/l			52	52	44	44	44	45	47	50
Sulfate	mg/l	500	S	67	57	56	46	78	75	64	60
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	330	330	330	320	360	360	350	360
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.64	0.76	ND	ND	ND	ND	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	ND	3	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.1	8	8.2	8.2	8	8	8	8
Odor	TON	3	S	2	**8**	1	1	ND	1	ND	2
Specific Conductance	umho/cm	1600	S	540	540	500	500	560	560	560	570
Turbidity	NTU	5	S	0.23	0.26	ND	0.12	0.22	0.24	5	4.8
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	10	7.8	ND	ND	2.7	3	4.2	5.1
Barium, Total	ug/l	1000	P	49	55	50	44	76	70	130	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	2.2	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 2015-16

Constituents	Units	MCL	MCL Type	Carson #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/24/16	8/22/16	3/24/16	8/22/16	3/24/16	8/22/16	3/24/16	8/22/16
General Minerals											
Alkalinity	mg/l			140	140	170	170	160	160	180	180
Anion Sum	meq/l			3.4	3.5	3.9	4	5.2	5.2	6.3	6.3
Bicarbonate as HCO3	mg/l			170	180	200	200	200	200	220	220
Boron	mg/l	1	N	0.095	0.09	0.1	0.1	0.1	0.099	0.12	0.11
Bromide	ug/l			100	100	100	100	120	110	240	220
Calcium, Total	mg/l			20	20	32	32	44	44	52	52
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.8	2.9	2.6	3.3	2	2	ND	ND
Cation Sum	meq/l			3.5	3.5	4.1	4.1	5.3	5.3	6.4	6.5
Chloride	mg/l	500	S	20	19	20	20	22	22	42	43
Fluoride	mg/l	2	P	0.25	0.24	0.22	0.22	0.31	0.3	0.4	0.4
Hardness (Total, as CaCO3)	mg/l			66	66	110	110	160	160	190	190
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			30	27	31	27	32	29	66	63
Iron, Total	mg/l	0.3	S	ND	ND	0.022	0.023	ND	ND	0.08	0.084
Langelier Index - 25 degree	None			0.47	0.48	0.71	0.74	0.74	0.68	0.66	0.71
Magnesium, Total	None			4	3.9	6.9	6.7	13	13	15	15
Manganese, Total	ug/l	50	S	19	19	13	12	28	27	**93**	**92**
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			2.6	2.8	2.2	2.4	2.8	3	3.4	3.6
Sodium, Total	mg/l			49	49	42	43	46	46	56	59
Sulfate	mg/l	500	S	ND	ND	ND	ND	62	60	71	69
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	200	220	230	220	300	310	380	400
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.83	0.84	0.49	0.49	0.4	0.32	0.47	0.48
General Physical Properties											
Apparent Color	ACU	15	S	5	5	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.4	8.4	8.3	8.4	8.2	8.2	8	8.1
Odor	TON	3	S	2	ND	1	2	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	340	350	390	390	510	520	630	640
Turbidity	NTU	5	S	0.14	0.23	ND	ND	ND	ND	0.87	0.47
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	15	15	34	33	61	62	150	150
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			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 2015-16

Constituents	Units	MCL	MCL Type	Carson #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/23/16	9/21/16	3/23/16	9/21/16	3/23/16	9/21/16	3/23/16	9/21/16	3/23/16	9/21/16
General Minerals													
Alkalinity	mg/l			160	160	190	190	180	180	200	200	170	170
Anion Sum	meq/l			3.8	3.8	4.4	4.4	4.6	4.7	4.7	4.8	4.5	4.5
Bicarbonate as HCO3	mg/l			190	200	230	230	210	210	240	250	210	210
Boron	mg/l	1	N	0.16	0.13	0.15	0.13	0.14	0.12	0.12	0.11	0.12	0.11
Bromide	ug/l			120	110	100	100	100	100	120	120	100	100
Calcium, Total	mg/l			2.5	2.4	11	9.9	27	28	40	37	44	43
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			7.8	8.2	6	6	3.4	3.4	3.9	5.1	2.7	2.7
Cation Sum	meq/l			4	3.8	4.6	4.4	4.6	4.7	5	4.7	4.8	4.9
Chloride	mg/l	500	S	18	18	21	21	21	22	25	24	21	21
Fluoride	mg/l	2	P	0.3	0.32	0.24	0.24	0.28	0.28	0.2	0.19	0.28	0.3
Hardness (Total, as CaCO3)	mg/l			8	7.6	43	39	100	110	150	140	150	150
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			29	28	23	23	20	20	30	25	18	19
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	0.062	0.06
Langelier Index - 25 degree	None			0.091	0.038	0.54	0.49	0.76	0.76	0.9	0.97	0.79	0.77
Magnesium, Total	None			0.42	0.4	3.8	3.5	9.3	9.8	13	12	10	9.8
Manganese, Total	ug/l	50	S	2.3	2.2	6	5.8	13	12	8.8	7.8	45	40
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			1.4	1.7	3.8	3.9	3.9	4.3	3.8	3.9	2.8	3.3
Sodium, Total	mg/l			87	84	84	82	55	55	41	41	40	41
Sulfate	mg/l	500	S	ND	ND	ND	ND	21	26	ND	ND	24	23
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	230	250	250	270	280	290	270	270	280	280
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.6	1.8	0.81	0.98	0.53	0.59	0.32	0.47	0.35	0.3
General Physical Properties													
Apparent Color	ACU	15	S	**35**	**35**	10	10	5	5	ND	ND	ND	ND
Lab pH	Units			8.8	8.8	8.6	8.6	8.4	8.4	8.4	8.5	8.3	8.3
Odor	TON	3	S	2	3	**17**	3	1	2	2	2	1	2
Specific Conductance	umho/cm	1600	S	380	380	430	440	450	470	460	460	450	450
Turbidity	NTU	5	S	0.18	0.18	0.12	0.13	ND	ND	ND	0.12	0.29	0.17
Metals													
Aluminum, Total	ug/l	1000	P	22	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	ND	ND	6	6.3	14	14	18	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 2015-16

Constituents	Units	MCL	MCL Type	Carson #3						
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	
				8/22/16	8/22/16	8/22/16	8/22/16	8/22/16	4/7/16	8/22/16
General Minerals										
Alkalinity	mg/l			350	150	160	160	170	170	170
Anion Sum	meq/l			7.4	3.8	3.8	3.8	4.1	5.1	5.2
Bicarbonate as HCO3	mg/l			420	180	200	200	210	210	210
Boron	mg/l	1	N	0.62	0.098	0.097	0.086	0.1	0.13	0.11
Bromide	ug/l			340	100	100	110	99	98	96
Calcium, Total	mg/l			7.9	19	16	24	31	48	48
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			8.6	2.9	3.3	2.6	3.4	2.2	2.7
Cation Sum	meq/l			7.5	3.9	3.9	3.9	4.2	5.3	5.3
Chloride	mg/l	500	S	11	19	20	20	20	20	21
Fluoride	mg/l	2	P	0.54	0.23	0.3	0.26	0.26	0.36	0.36
Hardness (Total, as CaCO3)	mg/l			29	63	53	86	110	170	170
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			120	26	26	24	25	29	22
Iron, Total	mg/l	0.3	S	0.048	ND	ND	ND	ND	0.03	0.026
Langelier Index - 25 degree	None			0.59	0.49	0.48	0.57	0.73	0.7	0.88
Magnesium, Total	None			2.3	3.7	3.1	6.4	8.1	12	12
Manganese, Total	ug/l	50	S	17	15	33	**51**	23	46	**52**
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	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.6	3.1	3.3	3.8	3	3.4	3.5
Sodium, Total	mg/l			160	58	64	48	44	40	41
Sulfate	mg/l	500	S	ND	12	ND	ND	ND	53	53
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	470	230	230	230	240	320	310
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			15	0.9	1.1	0.66	0.46	ND	ND
General Physical Properties										
Apparent Color	ACU	15	S	**150**	5	10	ND	ND	ND	ND
Lab pH	Units			8.5	8.4	8.4	8.3	8.4	8.2	8.3
Odor	TON	3	S	**4**	ND	ND	ND	1	1	ND
Specific Conductance	umho/cm	1600	S	700	380	380	380	400	500	510
Turbidity	NTU	5	S	0.29	0.19	0.17	0.12	ND	0.46	0.56
Metals										
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	1	1.6
Barium, Total	ug/l	1000	P	8	16	18	24	30	62	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	1.4	ND
Hexavalent Chromium (Cr VI)	ug/l			0.023	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Chandler 3			
				Zone 1		Zone 2	
				4/14/16	9/1/16	4/14/16	9/1/16
General Minerals							
Alkalinity	mg/l			350	360	390	390
Anion Sum	meq/l			13	12	17	17
Bicarbonate as HCO3	mg/l			430	440	480	480
Boron	mg/l	1	N	0.19	0.18	0.31	0.3
Bromide	ug/l			740	690	680	670
Calcium, Total	mg/l			100	99	150	150
Carbon Dioxide	mg/l			ND	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND
Cation Sum	meq/l			13	13	17	16
Chloride	mg/l	500	S	180	160	210	210
Fluoride	mg/l	2	P	0.19	0.2	0.18	0.17
Hardness (Total, as CaCO3)	mg/l			370	370	560	560
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND
Iodide	mg/l			68	46	ND	ND
Iron, Total	mg/l	0.3	S	0.19	0.2	ND	ND
Langelier Index - 25 degree	None			0.92	0.96	1.1	1.1
Magnesium, Total	None			29	30	45	44
Manganese, Total	ug/l	50	S	**80**	**79**	7.9	9
Mercury	ug/l	2	P	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	**56**	**49**
Nitrate as Nitrogen	mg/l	10	P	ND	ND	**13**	**11**
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND
Potassium, Total	mg/l			4.2	4	4.1	3.8
Sodium, Total	mg/l			120	120	120	120
Sulfate	mg/l	500	S	36	38	100	95
Surfactants	mg/l	0.5	S	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	720	740	1000	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	**13**	**11**
Total Organic Carbon	mg/l			0.89	1.1	0.58	0.73
General Physical Properties							
Apparent Color	ACU	15	S	5	ND	3	3
Lab pH	Units			7.7	7.8	7.7	7.7
Odor	TON	3	S	1	2	ND	1
Specific Conductance	umho/cm	1600	S	1200	1300	1600	1600
Turbidity	NTU	5	S	1.2	0.55	**6.2**	**9.5**
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	3.6	2.2	2.1
Barium, Total	ug/l	1000	P	32	33	130	120
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	2.6	2.6	5.6
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	2	2
Lead, Total	ug/l	15	P	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	**150**	98
Selenium, Total	ug/l	50	P	ND	ND	15	20
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	3.5

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

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Gardena #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/29/16	8/23/16	3/29/16	8/23/16	3/29/16	8/23/16	3/29/16	8/23/16
General Minerals											
Alkalinity	mg/l			260	270	160	160	160	160	210	210
Anion Sum	meq/l			5.8	5.9	7.8	7.7	5.4	5.4	42	42
Bicarbonate as HCO3	mg/l			320	330	190	200	200	200	260	260
Boron	mg/l	1	N	0.35	0.32	0.14	0.12	0.12	0.11	0.15	0.12
Bromide	ug/l			130	140	98	120	120	99	3300	3100
Calcium, Total	mg/l			14	14	75	74	52	52	440	430
Carbon Dioxide	mg/l			2.1	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			5.2	5.4	ND	2	ND	2	ND	ND
Cation Sum	meq/l			5.6	5.8	7.9	7.6	5.4	5.5	40	39
Chloride	mg/l	500	S	17	18	59	57	22	23	**1300**	**1200**
Fluoride	mg/l	2	P	0.2	0.22	0.44	0.46	0.39	0.41	0.14	0.16
Hardness (Total, as CaCO3)	mg/l			64	64	260	250	180	180	1700	1600
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			26	36	15	26	24	27	ND	ND
Iron, Total	mg/l	0.3	S	0.15	0.15	0.051	0.054	0.023	0.05	ND	ND
Langelier Index - 25 degree	None			0.59	0.59	0.7	0.87	0.61	0.81	0.86	1.2
Magnesium, Total	None			7	7.1	17	17	11	12	140	140
Manganese, Total	ug/l	50	S	41	42	**73**	**80**	44	46	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**	**110**
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	**21**	**24**
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			10	11	4.6	4	3.2	3.2	7.5	7.7
Sodium, Total	mg/l			94	98	61	55	42	43	140	140
Sulfate	mg/l	500	S	ND	ND	140	140	67	70	55	64
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	350	340	500	460	330	340	**2900**	**3300**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	**21**	**24**
Total Organic Carbon	mg/l			2.3	2.4	1	0.93	0.3	0.31	0.3	0.3
General Physical Properties											
Apparent Color	ACU	15	S	**30**	**30**	5	ND	5	10	10	ND
Lab pH	Units			8.4	8.4	8	8.2	8	8.2	7.3	7.6
Odor	TON	3	S	2	**17**	1	2	ND	2	ND	1
Specific Conductance	umho/cm	1600	S	560	580	770	740	520	530	**4100**	**4300**
Turbidity	NTU	5	S	2.3	4.6	3.4	**5.8**	**10**	**18**	**13**	**6.3**
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	**23**	**26**	ND	ND	ND	ND	ND	10
Barium, Total	ug/l	1000	P	14	13	76	75	29	30	490	450
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	2	ND
Chromium, Total	ug/l	50	P	1	ND	ND	ND	ND	ND	7.3	7.2
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	ND	ND	7.4	7.4
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	18
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	5	16
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	0.52	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	**10**	**12**

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 2015-16

Constituents	Units	MCL	MCL Type	Gardena #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/17/16	8/31/16	3/17/16	8/31/16	3/17/16	8/31/16	3/17/16	8/31/16	3/17/16	8/31/16
General Minerals													
Alkalinity	mg/l			280	280	180	180	170	170	170	170	190	190
Anion Sum	meq/l			6	6	5.4	5.3	5.2	5.1	4	4	5.1	5.1
Bicarbonate as HCO3	mg/l			340	340	210	220	210	210	200	210	230	230
Boron	mg/l	1	N	0.32	0.29	0.17	0.15	0.14	0.12	0.1	0.089	0.13	0.12
Bromide	ug/l			120	120	110	94	100	100	100	110	150	160
Calcium, Total	mg/l			16	16	38	38	47	49	29	30	48	50
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			5.6	5.6	2.2	2.3	ND	ND	2	2.2	3.8	2.4
Cation Sum	meq/l			6.4	6.2	5.6	5.5	5.4	5.5	4.2	4.2	5.4	5.5
Chloride	mg/l	500	S	14	14	23	22	23	22	22	21	42	43
Fluoride	mg/l	2	P	0.23	0.25	0.26	0.28	0.37	0.39	0.28	0.29	0.27	0.31
Hardness (Total, as CaCO3)	mg/l			65	65	150	140	170	170	110	110	160	170
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			38	32	39	19	38	21	22	25	21	25
Iron, Total	mg/l	0.3	S	0.03	0.028	0.038	0.038	0.046	0.052	0.064	0.07	0.031	0.029
Langelier Index - 25 degree	None			0.72	0.7	0.7	0.68	0.68	0.62	0.52	0.56	0.98	0.86
Magnesium, Total	None			6.2	6.2	13	12	12	12	8.9	8.8	11	11
Manganese, Total	ug/l	50	S	25	26	29	28	40	41	48	47	50	48
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			5.8	5.7	6.3	6	4	4	3.3	3.3	3.2	3.2
Sodium, Total	mg/l			110	110	59	56	46	45	45	43	46	47
Sulfate	mg/l	500	S	ND	ND	58	56	50	50	ND	ND	3.7	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	390	360	350	320	350	330	260	240	330	320
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	3.4	0.63	0.69	0.4	0.45	0.59	0.7	0.34	0.4
General Physical Properties													
Apparent Color	ACU	15	S	**30**	**30**	5	3	ND	ND	5	3	ND	ND
Lab pH	Units			8.4	8.4	8.2	8.2	8.1	8	8.2	8.2	8.4	8.2
Odor	TON	3	S	2	**67**	1	1	ND	1	ND	2	**100**	**200**
Specific Conductance	umho/cm	1600	S	580	580	530	540	500	520	390	400	510	520
Turbidity	NTU	5	S	0.38	0.27	0.15	0.11	0.16	0.13	0.15	0.18	**12**	5
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	19	19	18	22	19	38	36	86	82
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	0.02	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 2015-16

Constituents	Units	MCL	MCL Type	Hawthorne #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/12/16	9/29/16	5/12/16	9/29/16	5/12/16	9/29/16	5/12/16	9/29/16	5/12/16	9/29/16	5/12/16	9/29/16
General Minerals															
Alkalinity	mg/l			680	680	650	650	440	430	290	300	200	190	250	280
Anion Sum	meq/l			15	15	14	14	10	10	7.1	7.2	14	13	21	21
Bicarbonate as HCO3	mg/l			830	820	790	790	530	520	350	360	240	230	310	340
Boron	mg/l	1	N	**1.4**	**1.2**	**1.1**	0.99	0.6	0.49	0.35	0.32	0.14	0.1	0.22	0.19
Bromide	ug/l			260	270	300	300	290	300	220	230	860	820	970	1000
Calcium, Total	mg/l			14	14	14	16	36	33	32	32	120	110	170	170
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			17	8.4	16	10	8.6	5.4	4.5	3.7	2.5	ND	2.5	ND
Cation Sum	meq/l			15	14	14	15	11	10	7.3	7.4	14	12	20	20
Chloride	mg/l	500	S	45	45	40	43	52	52	44	44	320	300	360	360
Fluoride	mg/l	2	P	0.13	0.12	0.23	0.23	0.24	0.23	0.37	0.38	0.27	0.29	0.25	0.26
Hardness (Total, as CaCO3)	mg/l			84	84	73	81	190	170	140	140	470	430	630	630
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			42	74	72	110	47	69	ND	43	60	37	130	100
Iron, Total	mg/l	0.3	S	0.14	0.14	0.14	0.15	0.16	0.15	0.075	0.085	0.024	ND	0.14	0.12
Langelier Index - 25 degree	None			1.1	0.86	1.1	0.99	1.2	0.99	0.92	0.84	1.2	0.87	1.4	1
Magnesium, Total	None			12	12	9.2	10	24	22	15	15	41	37	51	50
Manganese, Total	ug/l	50	S	15	15	**59**	**57**	**58**	**53**	35	32	**140**	**120**	**460**	**440**
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			20	19	14	14	15	14	9	9.1	7.8	6.9	5.4	5.3
Sodium, Total	mg/l			280	280	290	300	170	150	99	99	94	76	170	170
Sulfate	mg/l	500	S	ND	ND	1	1.2	ND	ND	ND	ND	52	28	260	240
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.17	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	860	860	820	820	570	550	420	410	870	810	**1200**	**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			13	16	13	18	4.8	4.5	2.4	2.5	0.99	0.85	1.8	1.7
General Physical Properties															
Apparent Color	ACU	15	S	**200**	**150**	**250**	**400**	**50**	**40**	**20**	**20**	ND	ND	5	3
Lab pH	Units			8.5	8.2	8.5	8.3	8.4	8.2	8.3	8.2	8.2	7.9	8.1	7.7
Odor	TON	3	S	**8**	**8**	**17**	**40**	2	2	2	2	ND	**4**	2	**4**
Specific Conductance	umho/cm	1600	S	1400	1400	1300	1300	990	960	700	710	1400	1400	**2000**	**2100**
Turbidity	NTU	5	S	0.25	0.24	0.22	2.8	0.15	0.14	0.13	0.13	0.17	0.13	1.7	4.3
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	1.5	ND	2.1	1	1.6	ND	1.7	ND	ND	1.4	1.6	3.3
Barium, Total	ug/l	1000	P	31	33	29	30	35	31	28	26	130	110	49	43
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	1.8	1.6	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	0.089	0.049	0.16	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	5.9
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	5.1	5.8
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.63	0.75
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	**29**	**31**
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 2015-16

Constituents	Units	MCL	MCL Type	Inglewood #1							
				Zone 1	Zone 2	Zone 3		Zone 4		Zone 5	
				8/24/16	8/24/16	4/6/16	8/24/16	4/6/16	8/24/16	4/6/16	8/24/16
General Minerals											
Alkalinity	mg/l			1400	710	330	330	230	230	350	350
Anion Sum	meq/l			76	32	22	23	15	15	24	25
Bicarbonate as HCO3	mg/l			1700	860	400	400	280	280	430	430
Boron	mg/l	1	N	**11**	**2.1**	0.5	0.43	0.21	0.18	0.31	0.24
Bromide	ug/l			16000	8400	4100	4200	1200	1200	1700	1800
Calcium, Total	mg/l			53	100	170	150	120	110	220	190
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			8.8	2.8	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			71	32	24	21	15	14	25	22
Chloride	mg/l	500	S	**1700**	**600**	450	470	280	290	420	450
Fluoride	mg/l	2	P	0.31	0.29	0.41	0.45	0.36	0.4	0.19	0.22
Hardness (Total, as CaCO3)	mg/l			280	430	700	620	510	470	890	770
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			4700	980	890	940	65	85	ND	3.1
Iron, Total	mg/l	0.3	S	**2**	**0.38**	**0.59**	**0.52**	**0.4**	**0.37**	ND	ND
Langelier Index - 25 degree	None			1.4	1.2	1.2	0.95	0.76	0.84	1	0.96
Magnesium, Total	None			36	44	67	61	51	48	82	72
Manganese, Total	ug/l	50	S	29	**120**	**400**	**400**	**220**	**210**	3	4
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	**53**	**53**
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	**12**	**12**
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			34	18	8.8	7.9	10	9.4	9.7	8.5
Sodium, Total	mg/l			1500	530	220	190	100	96	170	150
Sulfate	mg/l	500	S	0.79	61	160	160	100	100	200	200
Surfactants	mg/l	0.5	S	0.13	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	**4400**	**1800**	**1300**	**1300**	810	850	**1400**	**1500**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	**12**	**12**
Total Organic Carbon	mg/l			44	14	1.6	1.2	0.6	0.79	0.86	1.1
General Physical Properties											
Apparent Color	ACU	15	S	**300**	**100**	15	10	10	10	ND	ND
Lab pH	Units			7.9	7.7	7.8	7.6	7.7	7.8	7.5	7.5
Odor	TON	3	S	**40**	**8**	2	3	ND	1	ND	1
Specific Conductance	umho/cm	1600	S	**7100**	**3200**	**2200**	**2300**	1500	1500	**2300**	**2300**
Turbidity	NTU	5	S	1.6	**6.3**	3.3	3.8	1.9	1.6	0.1	0.1
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	**26**	ND	1.5	ND	1.1	ND	1.8
Barium, Total	ug/l	1000	P	220	140	56	52	120	110	190	170
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	2.2	ND	1.5	ND	3.5	ND
Hexavalent Chromium (Cr VI)	ug/l			0.044	ND	ND	ND	ND	ND	0.57	0.49
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	5.2	ND	ND	ND	6.9
Selenium, Total	ug/l	50	P	ND	5.3	ND	19	ND	5.2	6.2	14
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	0.55	0.58
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	0.69	0.73
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	3.3	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 2015-16

Inglewood #3

Constituents	Units	MCL	MCL Type	Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				5/9/16	9/16/16	5/9/16	9/16/16	5/9/16	9/16/16	5/9/16	9/16/16	5/9/16	9/16/16	5/9/16	9/16/16	5/9/16	9/16/16
General Minerals																	
Alkalinity	mg/l			680	680	1100	1100	550	550	790	780	450	440	200	200	230	230
Anion Sum	meq/l			47	48	23	23	11	11	16	16	12	11	8.7	9.5	18	18
Bicarbonate as HCO3	mg/l			830	830	1300	1300	660	660	960	950	550	540	240	250	280	280
Boron	mg/l	1	N	**4.4**	**3.8**	**5.6**	**5.1**	**1.3**	**1.1**	**2.3**	**2.2**	0.71	0.6	0.11	0.1	0.1	0.1
Bromide	ug/l			9100	8400	1900	1700	160	160	180	160	610	610	560	640	1500	1400
Calcium, Total	mg/l			21	20	12	11	5.9	5.6	16	15	52	51	74	87	160	180
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			6.8	8.5	17	21	8.6	11	9.9	9.8	3.6	4.4	ND	ND	ND	ND
Cation Sum	meq/l			44	44	24	25	12	12	17	17	12	12	8.3	9.8	16	18
Chloride	mg/l	500	S	**1200**	**1200**	51	52	15	15	26	26	90	90	160	180	440	440
Fluoride	mg/l	2	P	0.48	0.51	0.53	0.53	0.24	0.26	0.23	0.24	0.27	0.24	0.32	0.3	0.38	0.38
Hardness (Total, as CaCO3)	mg/l			98	95	57	54	28	26	85	79	200	200	280	330	600	680
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			230	2500	600	560	ND	45	43	57	170	150	34	42	52	75
Iron, Total	mg/l	0.3	S	0.18	0.18	**0.57**	**0.54**	0.16	0.14	**0.38**	**0.37**	0.068	0.066	0.023	0.028	0.13	0.13
Langelier Index - 25 degree	None			0.87	0.96	1	1.1	0.49	0.55	0.93	0.96	1	1.1	0.85	0.79	1.1	1.1
Magnesium, Total	None			11	11	6.6	6.5	3.2	3	11	10	18	17	24	28	48	56
Manganese, Total	ug/l	50	S	**59**	**60**	23	24	22	21	33	35	**51**	48	**110**	**120**	**350**	**370**
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	14	7.6	7.3	18	18	12	12	7.2	8	6.5	7.6
Sodium, Total	mg/l			960	970	520	540	260	250	350	340	180	180	58	67	84	98
Sulfate	mg/l	500	S	ND	ND	0.52	ND	ND	ND	ND	ND	ND	ND	8.9	8.3	50	52
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	0.23	**0.65**	**0.6**
Total Dissolved Solid (TDS)	mg/l	1000	S	**2600**	**2700**	**1500**	**1500**	650	690	960	1000	630	680	550	610	**1400**	**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			27	26	99	110	13	13	22	18	4.1	4.1	1.9	2.7	4.4	4.6
General Physical Properties																	
Apparent Color	ACU	15	S	**300**	**500**	**1500**	**2200**	**600**	**750**	**1000**	**1000**	**30**	**35**	5	3	5	3
Lab pH	Units			8.1	8.2	8.3	8.4	8.3	8.4	8.2	8.2	8	8.1	8	7.9	7.9	7.8
Odor	TON	3	S	**40**	**40**	**40**	**67**	**200**	**67**	**40**	**40**	**4**	**8**	**17**	**17**	**17**	**17**
Specific Conductance	umho/cm	1600	S	**4700**	**4700**	**2100**	**2200**	1100	1100	1500	1500	1100	1100	920	990	**1800**	**1900**
Turbidity	NTU	5	S	0.33	0.32	0.55	0.6	0.56	0.52	0.41	0.53	0.17	0.14	0.11	0.11	1.6	0.66
Metals																	
Aluminum, Total	ug/l	1000	P	ND	ND	ND	53	20	ND	33	49	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.1	2.4	ND	ND	1.7	ND	1.9	2.2	ND	ND	ND	ND	2.2	2.2
Barium, Total	ug/l	1000	P	62	63	26	27	14	14	42	42	56	52	70	77	230	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	4.7	ND	2.1	ND	2.3	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.2	6.2	4.8	1.8	ND	2.9	3	ND	1.8	ND	ND	ND	1
Hexavalent Chromium (Cr VI)	ug/l			ND	0.022	0.11	0.079	0.067	0.071	0.061	0.083	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	7	8	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
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	2	1.8
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**58**	**51**
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	**17**	**15**
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	**1**	**0.86**
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 2015-16

Constituents	Units	MCL	MCL Type	Lawndale #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/28/16	8/24/16	4/28/16	8/24/16	4/28/16	8/24/16	4/28/16	8/24/16	4/28/16	8/24/16	4/28/16	8/24/16
General Minerals															
Alkalinity	mg/l			450	450	610	610	250	240	190	190	180	190	230	220
Anion Sum	meq/l			9.3	9.4	13	13	5.7	5.6	6.3	6.3	6.5	6.7	24	23
Bicarbonate as HCO3	mg/l			540	540	740	740	300	300	230	230	220	230	280	260
Boron	mg/l	1	N	0.85	0.79	**1.3**	**1.1**	0.18	0.17	0.11	0.11	0.094	0.095	0.33	0.27
Bromide	ug/l			380	390	200	200	130	130	200	200	200	210	1400	1400
Calcium, Total	mg/l			11	11	4.8	4.7	15	16	52	53	49	54	190	180
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			8.8	11	12	15	3.9	4.9	2.4	2.4	2.3	2.4	ND	ND
Cation Sum	meq/l			8.9	9.9	13	14	5.7	5.9	6.5	6.6	6.2	6.9	22	22
Chloride	mg/l	500	S	14	13	30	30	25	24	54	51	55	59	**550**	**550**
Fluoride	mg/l	2	P	0.44	0.38	0.34	0.34	0.33	0.31	0.4	0.39	0.44	0.44	0.24	0.25
Hardness (Total, as CaCO3)	mg/l			41	42	27	27	74	80	200	210	190	210	680	650
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			130	130	66	79	40	37	35	31	27	29	19	24
Iron, Total	mg/l	0.3	S	0.06	0.07	0.11	0.12	0.027	0.026	0.059	0.062	0.034	0.031	ND	ND
Langelier Index - 25 degree	None			0.76	0.86	0.54	0.64	0.52	0.63	0.84	0.85	0.85	0.88	1.2	1.1
Magnesium, Total	None			3.2	3.5	3.6	3.7	8.9	9.8	18	19	16	18	50	49
Manganese, Total	ug/l	50	S	11	11	38	35	39	37	**80**	**80**	**64**	**69**	**170**	**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	12	11
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6	2.5
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	5.7	8.9	9.1	9.4	9.3	4.7	4.9	5	5.1	7.7	7.9
Sodium, Total	mg/l			180	210	290	300	91	94	53	54	54	60	200	190
Sulfate	mg/l	500	S	ND	ND	ND	ND	5.1	3.4	49	50	60	60	160	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	550	570	820	790	360	330	370	380	400	400	**1500**	**1500**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6	2.5
Total Organic Carbon	mg/l			11	12	9.8	8.6	2	2	0.46	0.52	0.43	0.54	0.49	0.47
General Physical Properties															
Apparent Color	ACU	15	S	**100**	**100**	**200**	**350**	15	15	ND	ND	ND	ND	ND	ND
Lab pH	Units			8.4	8.5	8.4	8.5	8.3	8.4	8.2	8.2	8.2	8.2	7.9	7.8
Odor	TON	3	S	**4**	**4**	**8**	**4**	**17**	2	2	**4**	1	2	2	2
Specific Conductance	umho/cm	1600	S	880	890	1200	1200	570	560	640	650	660	680	**2300**	**2300**
Turbidity	NTU	5	S	0.29	0.29	2.2	0.5	0.2	0.19	0.11	0.16	0.14	0.15	ND	ND
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	2.3	ND	ND	ND	2.2	3.1	ND	ND	2	1.8
Barium, Total	ug/l	1000	P	11	11	14	ND	15	14	27	26	89	95	93	87
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	1.1	ND	ND	1.7	ND	1.3	ND	1.3	ND	1.8
Hexavalent Chromium (Cr VI)	ug/l			0.029	ND	0.094	0.055	ND	ND	ND	ND	ND	ND	0.19	0.14
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	2	1.4
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	3.1	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Lomita #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/22/16	9/20/16	3/22/16	9/20/16	3/22/16	9/20/16	3/22/16	9/20/16	3/22/16	9/20/16
General Minerals													
Alkalinity	mg/l			270	280	280	280	350	340	300	310	280	280
Anion Sum	meq/l			30	30	28	28	17	18	19	16	30	30
Bicarbonate as HCO3	mg/l			330	340	340	340	430	420	370	370	350	350
Boron	mg/l	1	N	0.53	0.53	0.54	0.58	0.48	0.48	0.57	0.53	0.63	0.57
Bromide	ug/l			8500	8400	7300	7200	3000	3100	4100	3100	8100	8300
Calcium, Total	mg/l			220	240	210	220	110	120	140	100	240	230
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			2.1	ND	ND	ND	4.4	2.2	ND	3	2.3	ND
Cation Sum	meq/l			27	30	25	28	16	18	19	16	29	28
Chloride	mg/l	500	S	**840**	**850**	**770**	**760**	330	360	440	350	**860**	**860**
Fluoride	mg/l	2	P	0.1	0.13	0.1	0.13	0.14	0.17	0.18	0.24	0.083	0.094
Hardness (Total, as CaCO3)	mg/l			800	880	760	800	400	440	510	380	870	840
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			1600	1500	1300	1200	440	500	610	540	1800	1300
Iron, Total	mg/l	0.3	S	0.13	0.14	0.15	0.24	0.032	0.036	0.14	0.053	0.16	0.16
Langelier Index - 25 degree	None			1.4	1.2	1.1	1.2	1.4	1.1	1.2	1.2	1.5	1.2
Magnesium, Total	None			62	69	57	62	30	34	39	31	65	65
Manganese, Total	ug/l	50	S	**450**	**460**	**380**	**350**	**160**	**150**	**220**	**150**	**420**	**400**
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	0.64	1.1	0.86	ND	ND	ND	1.1
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	0.14	0.26	0.2	ND	ND	ND	0.24
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			15	16	14	16	10	12	11	10	15	16
Sodium, Total	mg/l			240	270	230	260	180	210	190	190	250	260
Sulfate	mg/l	500	S	25	24	27	28	26	25	13	9	30	32
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	**2000**	**1800**	**1900**	**1600**	980	1000	**1200**	930	**2100**	**2000**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	0.14	0.26	0.2	ND	ND	ND	0.24
Total Organic Carbon	mg/l			0.9	1.1	0.78	1	2.6	3.4	2.2	3.8	0.79	0.97
General Physical Properties													
Apparent Color	ACU	15	S	10	10	10	10	**30**	**25**	**35**	**35**	5	5
Lab pH	Units			8	7.8	7.7	7.8	8.2	7.9	7.9	8.1	8	7.7
Odor	TON	3	S	**67**	**40**	2	**4**	**100**	**8**	2	**17**	2	**4**
Specific Conductance	umho/cm	1600	S	**3000**	**3100**	**2800**	**2900**	**1700**	**1800**	**1900**	**1700**	**3000**	**3100**
Turbidity	NTU	5	S	**8.6**	**9.9**	0.76	1.3	3.1	1.5	1.3	0.73	0.77	0.8
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1	1.3	1	1.4	ND	1.3	ND	ND	ND	1.1
Barium, Total	ug/l	1000	P	140	150	140	130	69	65	88	65	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	1.3	1.8	1.3	1.6	1.7	1.9	ND	1.8	1.6	1.8
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	17	21	6.9	9.7	ND	5	ND	6.4	5.2	7.9
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 2015-16

Constituents	Units	MCL	MCL Type	Long Beach #3									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/28/16	8/17/16	3/28/16	8/17/16	3/28/16	8/17/16	3/28/16	8/17/16	3/28/16	8/17/16
General Minerals													
Alkalinity	mg/l			360	370	120	130	150	150	120	120	140	140
Anion Sum	meq/l			7.8	7.8	3.5	3.7	3.8	3.8	30	31	34	35
Bicarbonate as HCO3	mg/l			440	440	150	160	180	180	140	140	170	170
Boron	mg/l	1	N	0.37	0.35	0.13	0.12	0.13	0.12	0.11	0.1	0.11	0.1
Bromide	ug/l			220	230	110	110	220	210	7700	8100	9000	8500
Calcium, Total	mg/l			11	11	16	17	19	19	330	340	390	380
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			9	7.2	ND	2.6	2.3	2.3	ND	ND	ND	ND
Cation Sum	meq/l			7.5	8	4.1	3.8	4.1	4	30	30	33	32
Chloride	mg/l	500	S	16	16	19	19	30	28	**930**	**960**	**1100**	**1100**
Fluoride	mg/l	2	P	0.49	0.49	0.37	0.37	0.32	0.33	0.16	0.16	0.16	0.16
Hardness (Total, as CaCO3)	mg/l			41	41	51	54	61	61	1200	1200	1300	1300
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			66	61	30	33	62	52	1500	1700	2000	2100
Iron, Total	mg/l	0.3	S	0.042	0.04	ND	ND	0.024	0.027	0.25	0.25	**0.32**	0.3
Langelier Index - 25 degree	None			0.75	0.7	-0.052	0.41	0.4	0.44	0.89	1.1	1.2	1.1
Magnesium, Total	None			3.3	3.4	2.8	2.8	3.2	3.3	82	89	85	88
Manganese, Total	ug/l	50	S	12	11	6.8	6.9	10	9.8	**260**	**270**	**400**	**350**
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			3.3	3.5	2.1	2	2.4	2.4	14	13	11	10
Sodium, Total	mg/l			150	160	69	62	66	63	130	130	140	130
Sulfate	mg/l	500	S	ND	ND	23	23	ND	ND	72	72	80	82
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	440	470	240	250	210	260	**2100**	**2200**	**2400**	**2500**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			7.1	7.5	1.2	1.4	2.3	2.4	0.67	0.67	0.69	0.71
General Physical Properties													
Apparent Color	ACU	15	S	**50**	**50**	10	15	**20**	**20**	5	5	5	5
Lab pH	Units			8.5	8.4	8	8.4	8.3	8.3	7.7	7.9	7.8	7.8
Odor	TON	3	S	1	2	1	3	1	3	3	2	3	2
Specific Conductance	umho/cm	1600	S	740	750	390	380	390	390	**3100**	**3200**	**3500**	**3600**
Turbidity	NTU	5	S	0.47	0.51	0.12	0.15	0.12	0.14	1.3	1.2	2.1	1.5
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	9.2	8.9	12	13	7.6	7.3	100	100	190	160
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	0.024	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	5	16	6.2	17
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	20	46	23	46
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 2015-16

Constituents	Units	MCL	MCL Type	Long Beach #8					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				8/19/16	8/19/16	8/19/16	8/19/16	8/19/16	8/19/16
General Minerals									
Alkalinity	mg/l			520	440	610	390	300	200
Anion Sum	meq/l			11	9.8	14	24	19	18
Bicarbonate as HCO3	mg/l			630	540	740	470	360	240
Boron	mg/l	1	N	**1.1**	0.7	**1.2**	0.94	0.55	0.18
Bromide	ug/l			340	460	720	4500	3500	1600
Calcium, Total	mg/l			7.3	9	10	46	64	110
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			16	11	15	4.8	3.7	ND
Cation Sum	meq/l			11	10	15	23	19	18
Chloride	mg/l	500	S	21	33	83	**590**	460	480
Fluoride	mg/l	2	P	0.8	0.81	0.58	0.24	0.19	0.54
Hardness (Total, as CaCO3)	mg/l			27	36	46	250	280	420
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	mg/l			110	110	130	1100	780	71
Iron, Total	mg/l	0.3	S	0.19	0.16	0.21	0.19	0.26	**0.76**
Langelier Index - 25 degree	None			0.84	0.76	0.96	1.1	1.1	0.96
Magnesium, Total	None			2.1	3.2	5.2	34	29	35
Manganese, Total	ug/l	50	S	17	23	23	14	**52**	**320**
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			1.7	3.6	7.2	11	9.5	6.4
Sodium, Total	mg/l			240	210	320	400	300	210
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	21
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	690	600	910	**1400**	**1100**	**1100**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			21	21	30	20	14	0.99
General Physical Properties									
Apparent Color	ACU	15	S	**500**	**250**	**350**	**50**	**40**	15
Lab pH	Units			8.6	8.5	8.5	8.2	8.2	8
Odor	TON	3	S	**40**	**40**	**40**	**40**	**17**	**40**
Specific Conductance	umho/cm	1600	S	1000	950	1400	**2500**	**2000**	**1900**
Turbidity	NTU	5	S	0.44	0.51	0.51	0.27	2.5	**14**
Metals									
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.1	1.4	1.9	1.6	1.9	3.2
Barium, Total	ug/l	1000	P	9.2	8.6	13	22	21	100
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	1.2	1.3	1.9	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.09	0.083	0.13	0.023	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	9.6	8.2	8.4
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 2015-16

Constituents	Units	MCL	MCL Type	Manhattan Beach #1							
				Zone 1	Zone 2	Zone 3		Zone 4	Zone 5	Zone 6	Zone 7
				3/10/16	3/10/16	3/10/16	8/10/16	3/10/16	3/10/16	3/10/16	3/10/16
General Minerals											
Alkalinity	mg/l			570	440	910	900	480	120	130	97
Anion Sum	meq/l			120	51	22	22	10	400	130	9.4
Bicarbonate as HCO3	mg/l			690	540	1100	1100	580	150	160	120
Boron	mg/l	1	N	**16**	**6.5**	**3.9**	**3.5**	0.39	ND	ND	0.19
Bromide	ug/l			27000	10000	2300	2200	330	44000	15000	340
Calcium, Total	mg/l			51	41	16	16	26	1900	990	51
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			7.1	8.8	11	18	7.5	ND	ND	ND
Cation Sum	meq/l			130	46	21	21	10	380	140	10
Chloride	mg/l	500	S	**3900**	**1500**	120	120	35	**13000**	**4200**	120
Fluoride	mg/l	2	P	0.76	0.54	0.35	0.36	0.2	0.089	0.14	0.3
Hardness (Total, as CaCO3)	mg/l			280	180	89	89	110	8900	3700	190
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			5900	2600	860	820	120	190	43	63
Iron, Total	mg/l	0.3	S	**2.2**	**17**	0.22	0.22	0.084	**4.7**	**1.8**	ND
Langelier Index - 25 degree	None			1.4	1.2	0.96	1.1	1	1.2	1.5	-0.64
Magnesium, Total	None			38	19	12	12	11	1000	300	16
Manganese, Total	ug/l	50	S	**97**	**360**	**51**	48	**71**	**950**	**1100**	**63**
Mercury	ug/l	2	P			ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	13
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	2.9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			21	19	26	26	9.8	110	39	5.2
Sodium, Total	mg/l			2800	950	430	430	180	4600	1400	140
Sulfate	mg/l	500	S	0.96	ND	1	0.87	ND	**1600**	**610**	180
Surfactants	mg/l	0.5	S			0.16	ND	ND	0.17	0.2	0.12
Total Dissolved Solid (TDS)	mg/l	1000	S			**1300**	**1300**	600	**26000**	**10000**	620
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	2.9
Total Organic Carbon	mg/l			12	33	45	45	5.2	2	0.42	1.2
General Physical Properties											
Apparent Color	ACU	15	S			**200**	**400**	**40**	**50**	**30**	5
Lab pH	Units			8.2	8.4	8.2	8.4	8.3	7.2	7.7	7
Odor	TON	3	S			**4**	**40**	3	2	2	ND
Specific Conductance	umho/cm	1600	S	**13000**	**5100**	**2000**	**2000**	980	**34000**	**13000**	1000
Turbidity	NTU	5	S	**16**	**140**	0.45	0.68	0.12	**43**	**22**	0.33
Metals											
Aluminum, Total	ug/l	1000	P	610	**9100**	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	5.3	5.8	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	7.3	**15**	2.2	1.3	1.2	**21**	7.6	4.4
Barium, Total	ug/l	1000	P	770	320	96	100	42	180	190	20
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	11	90	ND	ND	ND	ND	3.2	ND
Chromium, Total	ug/l	50	P	4.4	17	1.7	2.6	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	0.026	0.082	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	10	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	16	ND	ND	ND	60	25	ND
Selenium, Total	ug/l	50	P	25	11	6.8	7	ND	**170**	**57**	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	200	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	1.7

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 2015-16

Constituents	Units	MCL	MCL Type	PM-3 Madrid							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/5/16	8/23/16	4/5/16	8/23/16	4/5/16	8/23/16	4/5/16	8/23/16
General Minerals											
Alkalinity	mg/l			300	300	180	190	190	190	210	210
Anion Sum	meq/l			6.7	6.8	10	11	11	11	17	17
Bicarbonate as HCO3	mg/l			370	370	220	230	230	240	260	250
Boron	mg/l	1	N	0.36	0.32	0.18	0.16	0.22	0.18	0.43	0.4
Bromide	ug/l			130	130	1100	1100	1600	1500	1800	1900
Calcium, Total	mg/l			12	12	82	81	100	93	140	120
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			6	7.6	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.9	7	10	10	12	11	17	16
Chloride	mg/l	500	S	22	23	230	240	260	270	370	370
Fluoride	mg/l	2	P	0.29	0.32	0.26	0.31	0.3	0.34	0.26	0.34
Hardness (Total, as CaCO3)	mg/l			68	68	300	300	370	340	510	450
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			29	39	90	120	140	200	130	220
Iron, Total	mg/l	0.3	S	0.044	0.042	0.07	0.14	0.12	0.12	**0.49**	**0.51**
Langelier Index - 25 degree	None			0.64	0.67	0.83	0.93	0.83	0.92	0.84	0.93
Magnesium, Total	None			9.2	9.2	24	25	29	27	40	37
Manganese, Total	ug/l	50	S	25	20	**61**	**57**	**57**	**55**	**350**	**320**
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	12	5.6	5.5	5.7	5.4	7.2	6.9
Sodium, Total	mg/l			120	120	96	95	98	94	160	150
Sulfate	mg/l	500	S	ND	ND	1.9	ND	4.3	3	110	100
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	380	400	610	670	680	780	970	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.8	3.2	1	0.77	0.76	0.81	1	1
General Physical Properties											
Apparent Color	ACU	15	S	**30**	**35**	5	ND	5	ND	15	10
Lab pH	Units			8.4	8.5	8	8.1	7.9	8	7.7	7.9
Odor	TON	3	S	1	2	2	3	2	3	2	1
Specific Conductance	umho/cm	1600	S	650	660	1100	1100	1200	1200	**1700**	**1700**
Turbidity	NTU	5	S	0.35	0.26	0.29	0.48	4.1	1.8	3.3	4.2
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	1.5	ND	ND	1	6.9	8.8
Barium, Total	ug/l	1000	P	21	18	45	39	61	61	95	81
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	5
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	7.2	5.7	8.8
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	1.1	1.4
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	1.5	1.6	**22**	**24**
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	0.78	0.73	4	3.9
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	1.4	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 2015-16

Constituents	Units	MCL	MCL Type	PM-4 Mariner							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/3/16	8/28/16	4/3/16	8/28/16	4/3/16	8/28/16	4/3/16	8/28/16
General Minerals											
Alkalinity	mg/l			250	250	150	150	160	190	190	140
Anion Sum	meq/l			5.8	5.8	210	220	9.8	10	10	9.1
Bicarbonate as HCO3	mg/l			300	300	180	180	190	230	230	180
Boron	mg/l	1	N	0.18	0.16	0.24	ND	0.29	0.23	0.25	0.25
Bromide	ug/l			31	160	23000	24000	270	420	420	210
Calcium, Total	mg/l			27	27	1500	1500	64	71	70	53
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			4.9	3.1	ND	ND	2.5	ND	2.4	ND
Cation Sum	meq/l			5.8	6	200	210	10	10	10	9
Chloride	mg/l	500	S	28	28	**6800**	**7200**	100	120	130	93
Fluoride	mg/l	2	P	0.32	0.35	0.098	0.11	0.37	0.27	0.24	0.41
Hardness (Total, as CaCO3)	mg/l			110	120	5600	5600	230	260	250	190
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			59	61	21	65	13	59	40	23
Iron, Total	mg/l	0.3	S	0.063	0.064	0.24	0.28	0.027	0.14	0.14	0.025
Langelier Index - 25 degree	None			0.82	0.68	1.3	1.4	0.96	0.89	0.99	0.67
Magnesium, Total	None			11	12	460	460	17	19	19	14
Manganese, Total	ug/l	50	S	32	29	**920**	**960**	**51**	**70**	**75**	40
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			6.8	7.2	63	53	6.2	6.3	6.4	5.6
Sodium, Total	mg/l			78	82	2100	2200	120	120	120	120
Sulfate	mg/l	500	S	ND	ND	**870**	**840**	180	140	140	170
Surfactants	mg/l	0.5	S	ND	ND	0.1	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	320	370	**15000**	**13000**	580	660	620	590
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.5	1.7	0.88	0.76	1.2	1.1	0.88	1.6
General Physical Properties											
Apparent Color	ACU	15	S	10	10	5	3	5	5	5	5
Lab pH	Units			8.4	8.2	7.4	7.4	8.3	8.1	8.2	8.1
Odor	TON	3	S	1	1	2	ND	**8**	1	3	1
Specific Conductance	umho/cm	1600	S	560	570	**19000**	**20000**	980	1100	1000	930
Turbidity	NTU	5	S	0.12	ND	2.1	1.9	0.42	0.38	0.3	0.98
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	3.6	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	20	20	210	220	96	47	49	84
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	5.2	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	1.2	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	15	25	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**

Constituents	Units	MCL	MCL Type	PM-5 Columbia Park										
				Zone 1	Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				8/16/16	4/15/16	8/16/16	4/15/16	8/16/16	4/15/16	8/16/16	4/15/16	8/16/16	4/15/16	8/16/16
General Minerals														
Alkalinity	mg/l			680	680	900	890	410	410	290	170	180	280	210
Anion Sum	meq/l			16	16	18	18	9.1	9	6.6	40	40	6.6	12
Bicarbonate as HCO3	mg/l			820	820	1100	1100	500	500	350	210	220	350	260
Boron	mg/l	1	N	**2.5**	**2.8**	**1.8**	**1.9**	0.37	0.38	0.17	0.2	0.18	0.18	0.18
Bromide	ug/l			1600	1600	210	210	260	270	170	3100	3100	170	760
Calcium, Total	mg/l			13	14	7.5	6.8	14	14	26	310	310	25	93
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			8.4	8.4	14	14	6.5	8.2	3.6	ND	ND	2.3	2.7
Cation Sum	meq/l			16	18	19	19	9.6	9.6	6.9	38	37	6.9	12
Chloride	mg/l	500	S	100	99	14	14	27	27	29	**990**	**970**	29	160
Fluoride	mg/l	2	P	0.6	0.66	0.31	0.34	0.28	0.28	0.32	0.17	0.16	0.34	0.33
Hardness (Total, as CaCO3)	mg/l			58	60	41	37	67	64	120	1100	1100	110	320
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			620	760	86	94	120	140	56	24	24	43	94
Iron, Total	mg/l	0.3	S	0.18	0.18	0.3	0.26	0.056	0.045	0.029	0.11	0.1	0.027	ND
Langelier Index - 25 degree	None			0.83	0.77	0.77	0.68	0.68	0.73	0.76	1.1	1.2	0.53	1.1
Magnesium, Total	None			6.2	6.2	5.4	4.8	7.7	7.1	13	80	78	12	22
Manganese, Total	ug/l	50	S	47	43	30	30	35	34	22	**300**	**320**	23	**120**
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			13	14	9.9	10	15	16	11	13	11	11	6
Sodium, Total	mg/l			350	370	420	410	180	180	98	370	340	99	140
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	410	420	0.62	180
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	1000	1000	**1100**	**1100**	530	520	390	**2500**	**2600**	390	790
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			41	41	33	35	9.5	5.9	2.8	0.83	0.89	2.8	1.2
General Physical Properties														
Apparent Color	ACU	15	S	**400**	**250**	**500**	**600**	**100**	**50**	**20**	ND	ND	15	ND
Lab pH	Units			8.2	8.2	8.3	8.3	8.3	8.4	8.2	7.7	7.9	8	8.2
Odor	TON	3	S	**8**	**8**	**8**	**8**	**4**	1	1	1	ND	1	ND
Specific Conductance	umho/cm	1600	S	1600	1600	**1700**	1600	870	850	650	**3800**	**3800**	640	1200
Turbidity	NTU	5	S	0.75	0.55	0.56	0.58	0.25	0.34	0.14	0.43	0.42	0.16	ND
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	2.3	ND	4.2	3.4	1.1	ND	ND	1.7	6.3	ND	ND
Barium, Total	ug/l	1000	P	92	97	22	24	25	26	21	120	110	23	140
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	1.6	1.3	3.1	2.9	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.067	ND	0.24	0.044	0.049	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	10	ND	ND
Selenium, Total	ug/l	50	P	5	ND	ND	ND	ND	ND	ND	ND	14	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	20	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	PM-6 Madrona Marsh								
				Zone 1			Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	
				4/11/16	4/15/16	8/16/16	8/16/16	8/16/16	8/16/16	8/16/16	4/11/16	8/16/16
General Minerals												
Alkalinity	mg/l			390	210	400	130	150	230	160	160	160
Anion Sum	meq/l			71	12	62	82	220	6.2	52	11	11
Bicarbonate as HCO3	mg/l			470	250	490	150	180	280	200	200	200
Boron	mg/l	1	N	0.67	0.18	0.67	0.51	ND	0.22	0.35	0.19	0.17
Bromide	ug/l			7700	790	7100	9900	24000	280	4700	400	350
Calcium, Total	mg/l			310	87	290	210	1200	18	280	87	80
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbonate as CO3	mg/l			3	2	3.2	ND	ND	3.6	ND	ND	ND
Cation Sum	meq/l			66	12	61	80	200	6.2	50	12	11
Chloride	mg/l	500	S	**2200**	160	**1900**	**2800**	**7500**	54	**1400**	200	200
Fluoride	mg/l	2	P	0.35	0.34	0.38	0.083	0.1	0.5	0.15	0.24	0.26
Hardness (Total, as CaCO3)	mg/l			1800	300	1600	940	6300	90	1000	320	290
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			140	170	160	460	220	65	53	32	48
Iron, Total	mg/l	0.3	S	0.048	ND	0.071	ND	ND	0.084	**0.77**	0.3	**0.31**
Langelier Index - 25 degree	None			1.7	0.97	1.6	0.87	1.7	0.52	1	0.82	0.79
Magnesium, Total	None			240	20	220	100	810	11	84	25	22
Manganese, Total	ug/l	50	S	17	**120**	14	**190**	**140**	**71**	**560**	**110**	**110**
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	16	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	3.6	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			36	5.9	33	46	95	5.4	20	6.4	6.1
Sodium, Total	mg/l			680	130	640	1400	1600	99	660	130	120
Sulfate	mg/l	500	S	15	180	ND	ND	26	ND	420	120	110
Surfactants	mg/l	0.5	S	ND	ND	0.1	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	**4100**	770	**4000**	**5100**	**12000**	400	**3400**	710	720
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	3.6	ND	ND	ND	ND
Total Organic Carbon	mg/l			4.5	1	8.1	1	0.88	2.3	1.2	1.2	1.4
General Physical Properties												
Apparent Color	ACU	15	S	**180**	ND	**35**	5	**35**	**20**	**20**	5	5
Lab pH	Units			8	8.1	8	7.8	7.8	8.3	7.7	8	8
Odor	TON	3	S	**200**	ND	**100**	2	**200**	3	2	2	2
Specific Conductance	umho/cm	1600	S	**7100**	1200	**6500**	**8500**	**20000**	630	**5200**	1200	1200
Turbidity	NTU	5	S	4.3	0.17	**7.6**	0.49	**140**	0.24	**7.4**	0.93	0.78
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	4	ND	ND	**16**	9.7	ND	8.4	1.7	2.8
Barium, Total	ug/l	1000	P	780	160	870	550	**2800**	22	140	22	20
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	2.8	ND	2	ND	2.4	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	2.2	ND	1.9	1.9	1.5	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	ND	ND	ND	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	9.6	ND	5.9	7.2	20	ND	9.2	ND	ND
Selenium, Total	ug/l	50	P	22	ND	16	**53**	**65**	ND	22	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds												
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2015-16

Constituents	Units	MCL	MCL Type	Westchester #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/29/16	8/29/16	3/29/16	8/29/16	3/29/16	8/29/16	3/29/16	8/29/16	3/29/16	8/29/16
General Minerals													
Alkalinity	mg/l			460	480	530	530	430	430	340	340	280	290
Anion Sum	meq/l			12	13	12	12	10	11	10	10	9.3	9.3
Bicarbonate as HCO3	mg/l			560	580	650	640	520	520	410	410	350	350
Boron	mg/l	1	N	0.65	0.61	0.84	0.68	0.44	0.4	0.24	0.21	0.24	0.23
Bromide	ug/l			480	510	470	480	400	380	340	350	340	360
Calcium, Total	mg/l			70	64	31	28	51	52	72	71	65	67
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	5.3	ND	ND	ND
Carbonate as CO3	mg/l			3.6	9.5	5.3	10	3.4	8.5	3.4	4.2	ND	3.6
Cation Sum	meq/l			13	13	13	12	11	11	10	10	9.5	9.8
Chloride	mg/l	500	S	76	80	67	68	63	62	65	63	67	65
Fluoride	mg/l	2	P	0.25	0.24	0.25	0.27	0.25	0.26	0.26	0.28	0.32	0.31
Hardness (Total, as CaCO3)	mg/l			290	270	150	140	230	220	300	290	270	270
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			160	120	120	120	120	96	110	80	110	70
Iron, Total	mg/l	0.3	S	0.17	0.16	0.12	0.11	0.23	0.25	0.13	0.13	**0.31**	**0.31**
Langelier Index - 25 degree	None			1.1	1.5	0.96	1.2	0.98	1.3	1.1	1.3	0.82	1.2
Magnesium, Total	None			29	27	18	16	24	23	30	28	26	26
Manganese, Total	ug/l	50	S	**110**	**110**	42	44	**130**	**140**	**100**	**110**	**130**	**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			11	11	15	14	12	12	9.2	9.2	7.2	7.4
Sodium, Total	mg/l			160	160	210	200	140	140	98	98	90	94
Sulfate	mg/l	500	S	56	52	ND	ND	11	12	78	76	82	80
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	730	790	730	730	620	630	600	630	560	570
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			8	12	7.8	7.6	3.3	3.4	1.6	1.6	1.4	1.4
General Physical Properties													
Apparent Color	ACU	15	S	**100**	**200**	**50**	**100**	**25**	**25**	10	5	10	10
Lab pH	Units			8	8.4	8.1	8.4	8	8.4	8.1	8.2	7.9	8.2
Odor	TON	3	S	**100**	**4**	**40**	**4**	2	**8**	ND	1	2	1
Specific Conductance	umho/cm	1600	S	1200	1200	1200	1200	990	1000	960	990	900	910
Turbidity	NTU	5	S	1.2	0.81	0.28	0.53	0.28	0.37	0.3	0.31	0.74	0.78
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	87	88	120	120	68	73	71	79	59	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	3.3	ND	2.5	1.8	1.4	1.6	1.1	1.2
Hexavalent Chromium (Cr VI)	ug/l			0.033	0.027	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 2015-16

Constituents	Units	MCL	MCL Type	Wilmington #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/8/16	8/1/16	3/8/16	8/1/16	3/8/16	8/1/16	3/8/16	8/1/16	3/8/16	8/1/16
General Minerals													
Alkalinity	mg/l			140	140	150	150	170	150	140	140	160	180
Anion Sum	meq/l			11	11	26	25	29	25	16	16	14	14
Bicarbonate as HCO3	mg/l			180	170	190	180	200	180	180	170	200	210
Boron	mg/l	1	N	0.26	0.24	0.21	0.19	0.25	0.22	0.22	0.21	0.21	0.19
Bromide	ug/l			2100	2300	2900	2800	3700	3100	1100	1000	1100	1100
Calcium, Total	mg/l			59	64	160	150	150	140	80	74	93	97
Carbon Dioxide	mg/l			2.5	2.7	7	6.8	7.2	6.6	3.4	ND	5.8	7.7
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			10	11	24	23	26	24	16	16	14	14
Chloride	mg/l	500	S	290	300	**720**	**700**	**850**	**720**	340	340	270	290
Fluoride	mg/l	2	P	0.12	0.16	0.065	0.079	0.078	0.098	0.13	0.15	0.12	0.13
Hardness (Total, as CaCO3)	mg/l			230	250	570	540	550	510	320	300	360	380
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			630	760	390	340	530	450	40	28	95	100
Iron, Total	mg/l	0.3	S	ND	ND	0.042	0.043	ND	ND	ND	ND	0.084	0.16
Langelier Index - 25 degree	None			0.64	0.6	0.68	0.65	0.71	0.63	0.65	0.54	0.57	0.52
Magnesium, Total	None			20	21	42	40	43	39	30	27	32	33
Manganese, Total	ug/l	50	S	23	23	20	20	6.7	6.5	13	12	**64**	**75**
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			7.8	8.5	8.3	8.4	8.3	8.1	6.1	6.5	6.4	7
Sodium, Total	mg/l			120	140	280	280	330	300	200	230	140	150
Sulfate	mg/l	500	S	ND	ND	120	120	84	97	180	170	150	140
Surfactants	mg/l	0.5	S	0.37	0.33	0.41	0.41	0.32	0.32	0.15	0.15	0.45	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	670	690	**1500**	**1600**	**1700**	**1600**	980	1000	810	860
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.7	3.6	2.6	3.2	2.3	3.2	2.3	2.3	4.7	5.2
General Physical Properties													
Apparent Color	ACU	15	S	3	ND	3	ND	5	ND	5	ND	5	5
Lab pH	Units			8.2	8.2	8	8	8	7.9	8.1	8	8	7.9
Odor	TON	3	S	**100**	**100**	**200**	**100**	**200**	**200**	**100**	**100**	**200**	**200**
Specific Conductance	umho/cm	1600	S	1200	1200	**2700**	**2600**	**3000**	**2600**	**1700**	**1700**	1400	1500
Turbidity	NTU	5	S	0.077	0.14	0.2	0.19	0.19	0.13	0.097	0.12	**7.8**	**8.3**
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	120	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	12	12	13	13	21	20	32	33	88	99
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	0.027	0.023	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	14	12
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			8.8	8.5	17	17	14	17	ND	ND	4.4	4.5
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	0.73	0.51	**26**	**28**
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 2015-16

Constituents	Units	MCL	MCL Type	Wilmington #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/1/16	8/2/16	3/1/16	8/2/16	3/1/16	8/2/16	3/1/16	8/2/16	3/1/16	8/2/16
General Minerals													
Alkalinity	mg/l			300	300	490	490	150	150	270	270	160	160
Anion Sum	meq/l			10	11	27	27	12	12	11	11	73	75
Bicarbonate as HCO3	mg/l			370	360	590	600	180	190	330	330	200	200
Boron	mg/l	1	N	0.56	0.52	**1.8**	**1.6**	0.18	0.18	0.62	0.59	0.51	0.48
Bromide	ug/l			730	770	4300	4200	2000	2100	1300	1200	6900	6500
Calcium, Total	mg/l			4.1	4.2	28	28	57	60	22	22	210	210
Carbon Dioxide	mg/l			2.2	ND	9	ND	3	ND	4.7	ND	8.2	ND
Carbonate as CO3	mg/l			6.8	7.9	4.1	4	ND	ND	2.5	2.4	ND	ND
Cation Sum	meq/l			10	11	25	25	11	12	11	11	66	67
Chloride	mg/l	500	S	160	180	**600**	**600**	300	320	190	190	**2200**	**2300**
Fluoride	mg/l	2	P	0.76	0.76	0.44	0.42	0.18	0.17	0.79	0.79	0.2	0.21
Hardness (Total, as CaCO3)	mg/l			23	24	160	160	230	240	95	96	930	920
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	mg/l			94	100	1100	1300	710	820	390	360	54	37
Iron, Total	mg/l	0.3	S	0.037	0.039	0.059	0.057	0.029	0.036	ND	ND	ND	0.022
Langelier Index - 25 degree	None			0.18	0.26	0.81	0.78	0.58	0.59	0.47	0.46	0.77	0.75
Magnesium, Total	None			3.1	3.2	21	21	22	22	9.8	10	99	97
Manganese, Total	ug/l	50	S	3.1	3.4	9	9.4	13	13	7.1	7	46	**53**
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			5.8	5.9	12	11	7.4	7.6	5.5	5.4	18	18
Sodium, Total	mg/l			220	240	500	490	150	160	200	200	1100	1100
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	360	380
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solid (TDS)	mg/l	1000	S	610	650	**1500**	**1500**	690	730	650	650	**4200**	**4100**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			6	6.5	8.7	20	1.9	2.2	8.4	9.9	1.3	1.2
General Physical Properties													
Apparent Color	ACU	15	S	**150**	**150**	**150**	**150**	10	10	**100**	**100**	15	15
Lab pH	Units			8.7	8.6	8.4	8.2	8.2	8.1	8.4	8.3	8	7.9
Odor	TON	3	S	**4**	**4**	2	3	2	1	2	**4**	**67**	**67**
Specific Conductance	umho/cm	1600	S	1100	1100	**2700**	**2700**	1200	1300	1100	1100	**7200**	**7000**
Turbidity	NTU	5	S	3.8	0.24	0.25	0.33	0.067	0.11	0.28	0.3	0.26	0.14
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	4.3	4.9	43	51	19	19	18	20	61	59
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	1	1.1	ND	ND	ND	ND	1.1	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	0.035	0.025	0.053	ND	ND	0.046	0.071	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	5.1	ND	6.4	ND	ND	14	42
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 3.3
QUALITY OF REPLENISHMENT WATER

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]
			2015	2015	2015	2015	2015	2015	2015-2016	2015-2016	2015-2016	2015-2016	2015-2016
Arsenic	µg/L	MCL = 10	2.3 / 3.3	2.6	6.4	ND	0.26	0.09	0.95	1.98	1.23	0.927	2.35
Chloride	mg/L	SMCL = 500	101 [I] / 94 [I]	97 [I]	85 [I]	44.3 [J]	88 [K]	65 [L]	146	162	117	122	73
Hexavalent Chromium	µg/L	MCL = 10	ND / ND	ND	ND	0.13	ND	0.038	0.06	0.10	0.20	0.07	0.43 J
Iron	µg/L	SMCL = 300	ND / ND	ND	ND	ND	9.60	3.0	33.3	50	48	36.8	732
Manganese	µg/L	SMCL = 50	ND / ND	ND	25	ND	3.18	0.18	5.14	11	16.1	4.37	ND
Nitrate (as N)	mg/L	MCL = 10	ND / 0.9	ND	0.9	0.45 [J]	1.04 [K]	0.75 [L]	6.78	6.31	6.57	7.3	2.47
Perchlorate	µg/L	MCL = 6	ND / ND	ND	ND	ND	ND	1.0	0.3	0.32	0.40	0.7	ND
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	631 [I] / 414 [I]	640 [I]	322 [I]	277.7 [J]	226 [K]	397 [L]	620	706	571	662	384
Alkalinity	mg/L	None	119 [I] / 94 [I]	127 [I]	81 [I]	65	NA	NA	162	155	165	165	95
Boron	µg/L	NL = 1,000	120 / 240	130	210	0.3 [J]	528 [K]	190 [L]	290	320	320	270	NA
Chromium, Total	µg/L	MCL = 50	ND / ND	ND	ND	0.48	0.61	ND	0.91	0.73	1.2	0.89	1.58
Copper, Total	µg/L	SMCL = 1,000	ND / ND	ND	ND	1.8	2.99	0.49	4.68	4.02	4.56	3.72	16.0
1,4-Dioxane	ug/L	NL = 1	NA	NA	NA	ND	0.14	ND	1.40	1.10	0.81	0.85	NA
Hardness	mg/L	None	285[I] / 132 [I]	297 [I]	110 [I]	81	44	26.00	211	229	203	218	114
Lead, Total	µg/L	AL = 15	ND / ND	ND	ND	0.03	0.15	NA	0.3	0.047	0.16	0.15	5.7
Methyl tertiary butyl ether (MTBE)	µg/L	SMCL = 5	ND / ND	ND	ND	ND	0.17	ND	ND	ND	0.15	ND	ND
Nitrite (as N)	mg/L	MCL = 1	ND / ND	ND	ND	0.13 [J]	ND [K]	0.03 [L]	0.16	0.011	0.016	0.14	0.11
n-Nitrosodimethylamine (NDMA)	ng/L	NL = 10	ND / 2.2	NA	NA	3.9	12.0	1.5	161	75	460	46	ND
pH	pH Units	None	8.1 / 8.4	8.3	8.7	7.6	8.0 [K]	8.2	7.3	7.0	7.1	7.3	NA
Selenium	µg/L	MCL = 50	ND / ND	ND	ND	ND	0.57	0.42	ND	ND	ND	ND	1.36
Specific Conductance	µS/cm	SMCL = 1,600	1012 [I] / 712 [I]	1028 [I]	576 [I]	108.1	385	203	NA	NA	NA	NA	NA
Sulfate	mg/L	SMCL = 500	244 [I] / 102 [I]	251 [I]	64 [I]	76.7 [J]	22.1 [K]	126 [L]	86.1	130	88.9	134	86.5
Total Organic Carbon (TOC)	mg/L	None [M]	2.7 / 2.4	3.09 [I]	3.77 [I]	0.41	0.23 [K]	0.33	7.56	8.23	16.2	6.76	8.3
Turbidity	NTU	SMCL = 5	0.04 [I] / 0.04 [I]	1.04 [I]	1.31 [I]	0.07	0.1	0.11	0.59	0.56	0.68	0.39	4.8

See footnotes on following page.

TABLE 3.3
QUALITY OF REPLENISHMENT WATER

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 December 2015 through March 2016 (four storm events total) (Data Source #5).

I = Average concentration for Water Year October 2015 through September 2016 (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) 2015 Water Quality Report to MWD Member Agencies (Metropolitan Water District of Southern California, March 2016)

(2) Table D, Monthly Analyses of the District Water Supplies (Metropolitan Water District of Southern California, October 2015 - September 2016)

(3) October 2015 - September 2016 Annual Monitoring Report, Montebello Forebay Groundwater Recharge (County Sanitation Districts of Los Angeles County [SDLAC], December 15, 2016)

(4) Annual West Coast Basin Barrier Project Monitoring Report for 2015, Edward C. Little Water Recycling Facility (West Basin Municipal Water District [WBMWD], March 30, 2015)

(5) Annual stormwater monitoring data provided by Los Angeles County (Los Angeles County Department of Public Works [LACDPW], Eva Hsiung email dated February 7, 2017)

(6) Annual Monitoring Report - January-December 2015, Harbor Water Recycling/Dominguez Gap Barrier Project (City of Los Angeles, Bureau of Sanitation)

(7) 2015 Annual Summary Report, Alamitos Barrier Recycled Water Project, Leo J. Vander Lans Water Treatment Facility (Water Replenishment District of Southern California [WRD], April 14, 2016)

TABLE 3.4
MAJOR MINERAL WATER QUALITY GROUPS

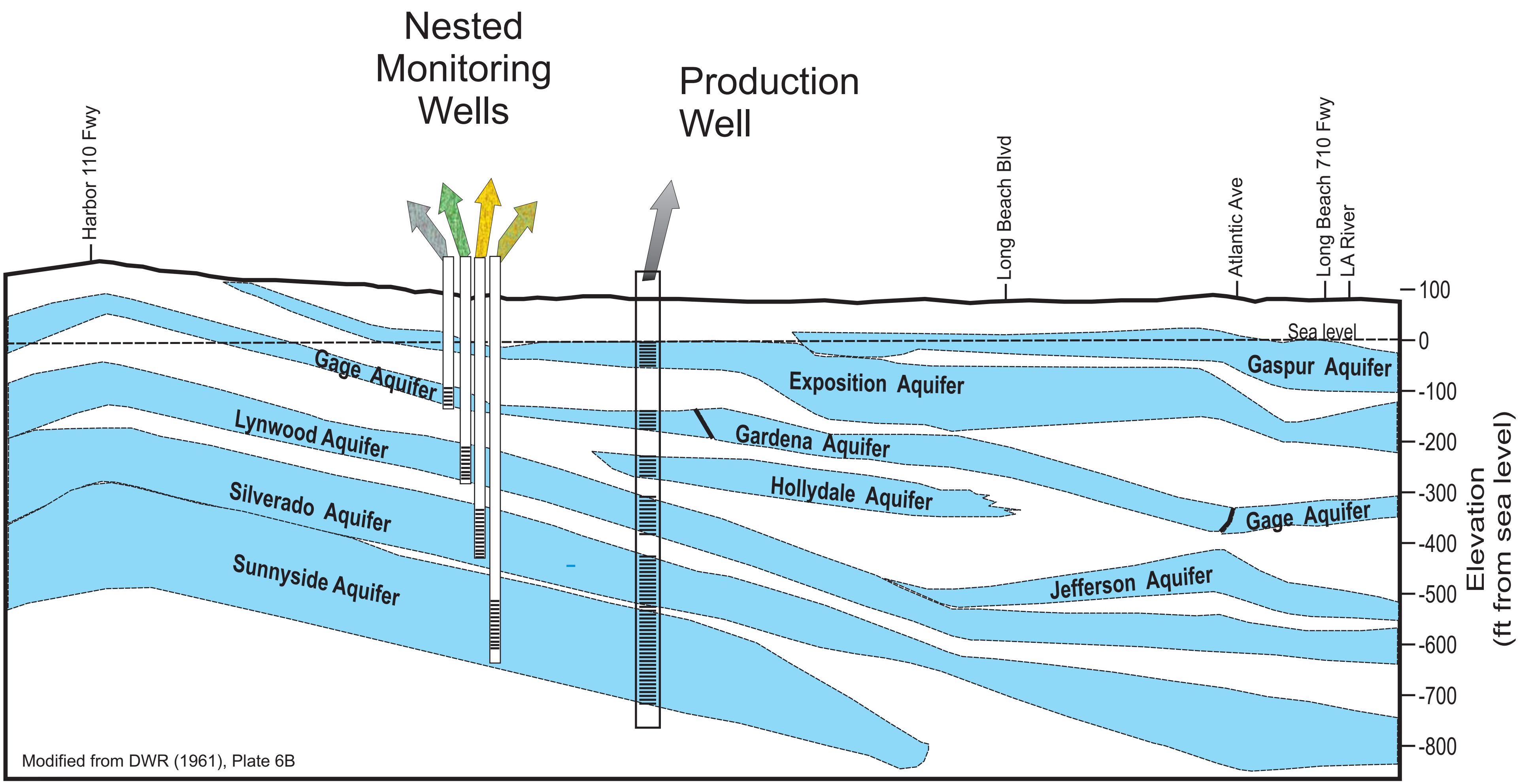
NESTED MONITORING WELL LOCATIONS	GROUP A ZONES Generally Calcium Bicarbonate or Calcium Bicarbonate/Sulfate Dominant	GROUP B ZONES Generally Calcium-Sodium-Bicarbonate or Sodium-Bicarbonate Dominant	GROUP C ZONES Generally Sodium-Chloride Dominant	OTHER ZONES Generally Different Than Groups A, B, and 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



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.

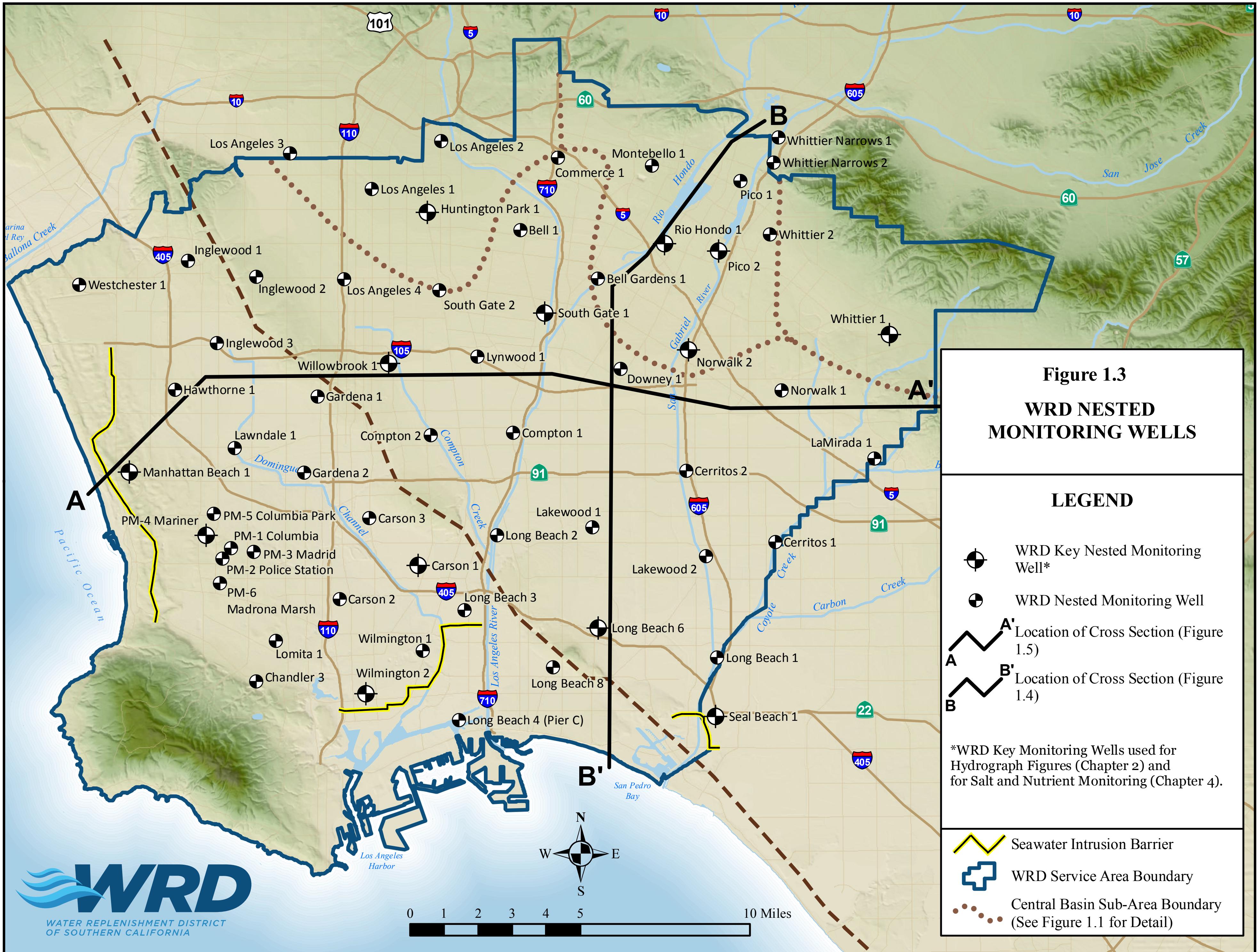
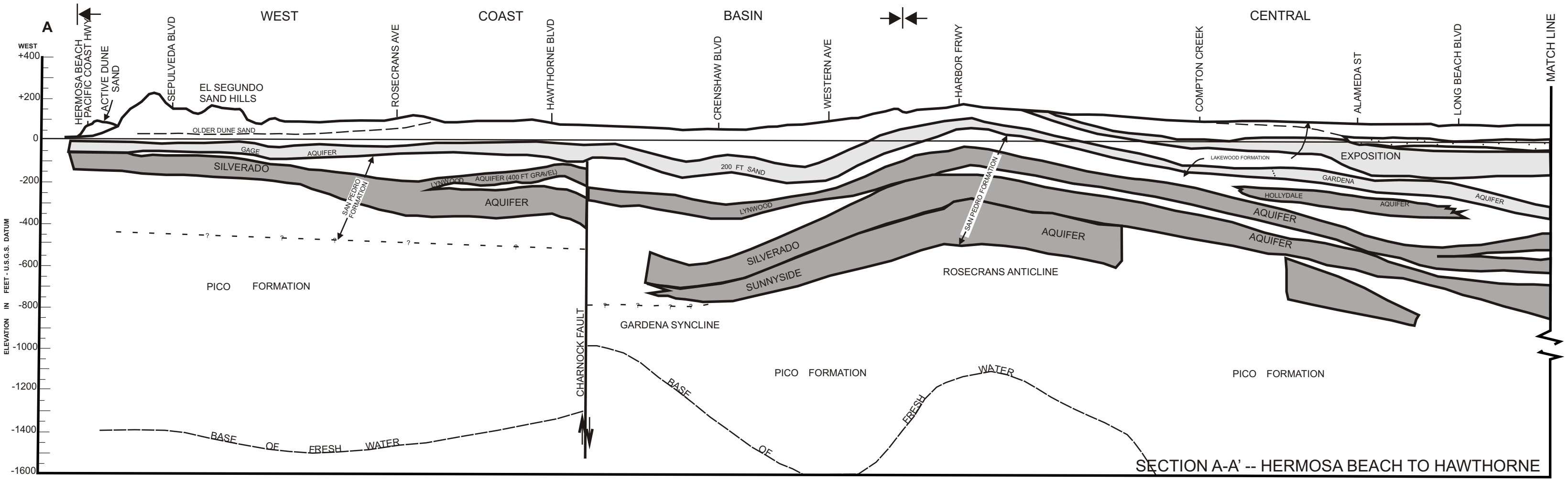
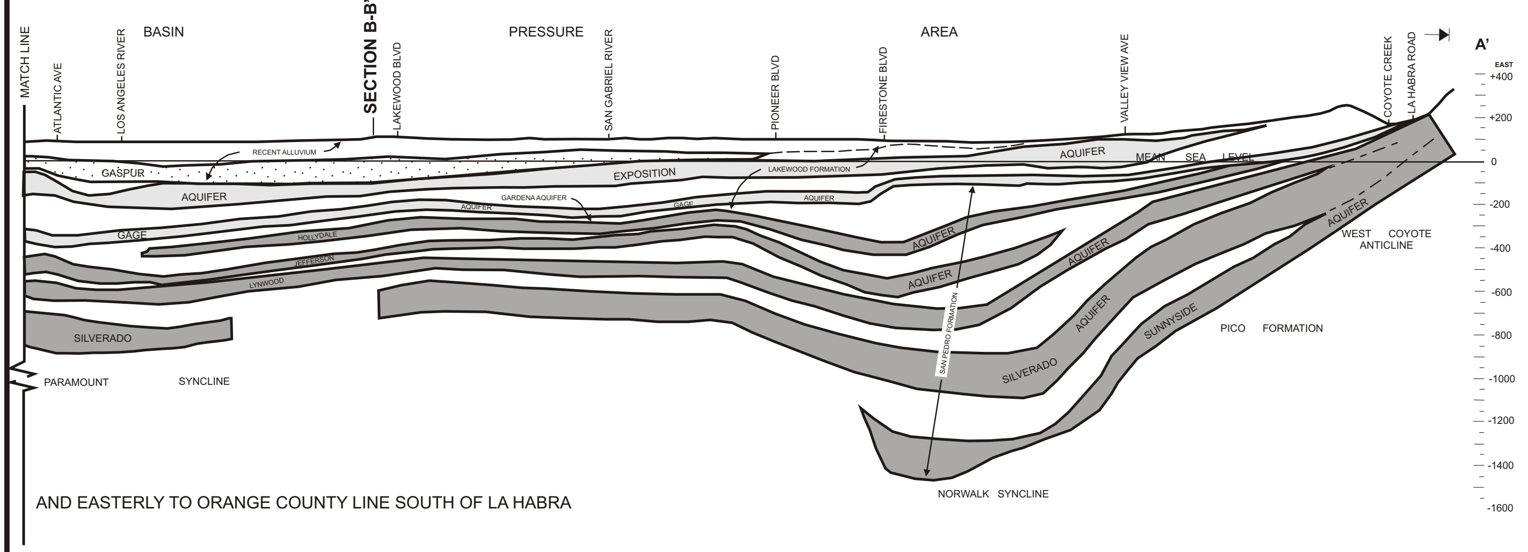


Figure 1.3

WRD NESTED MONITORING WELLS



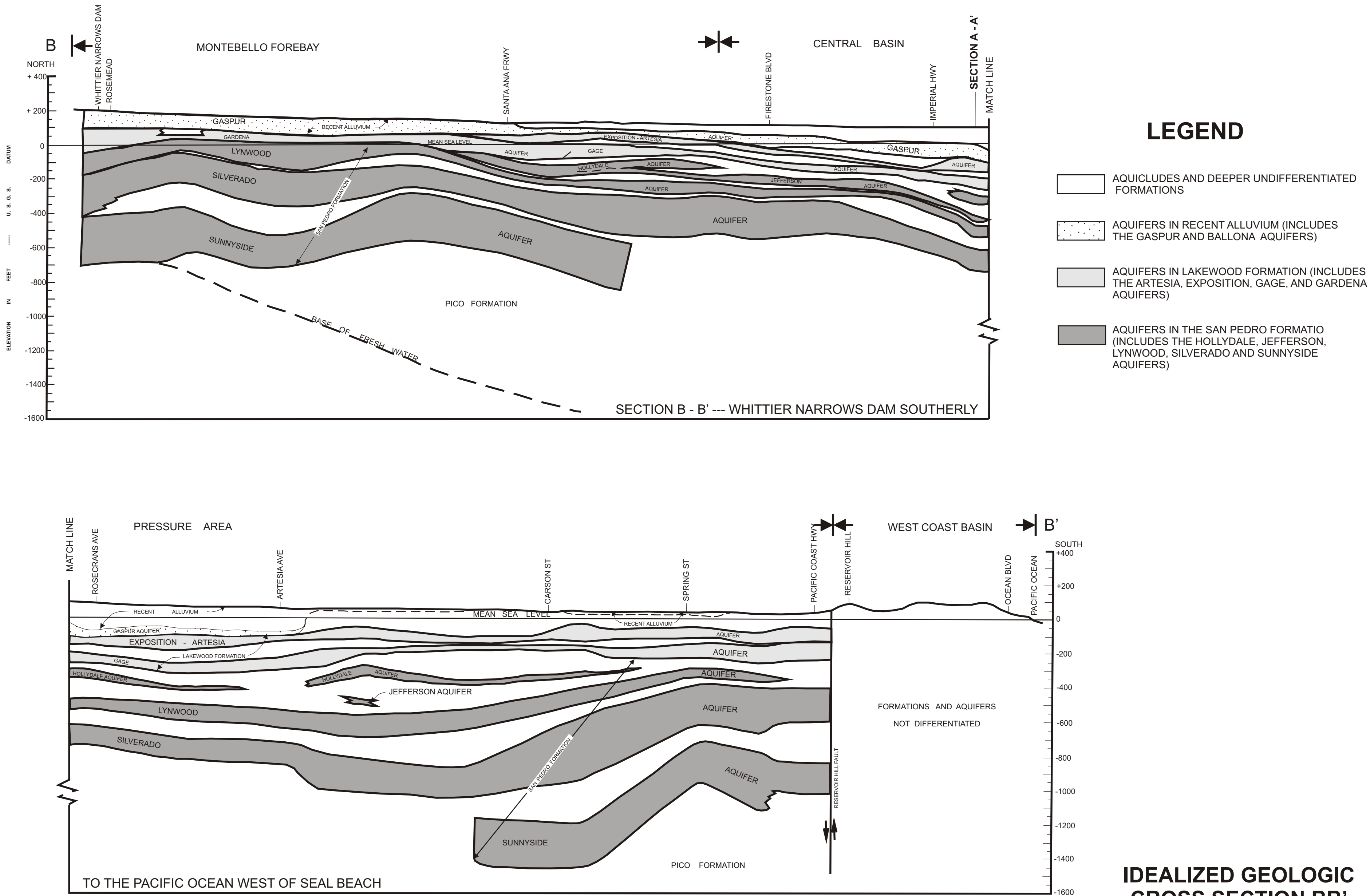


LEGEND

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

IDEALIZED GEOLOGIC CROSS SECTION AA'
Adapted from
CDWR Bull. 104 App. B

FIGURE 1.4



IDEALIZED GEOLOGIC CROSS SECTION BB'

Adapted from
CDWR Bull. 104 App. B

FIGURE 1.5

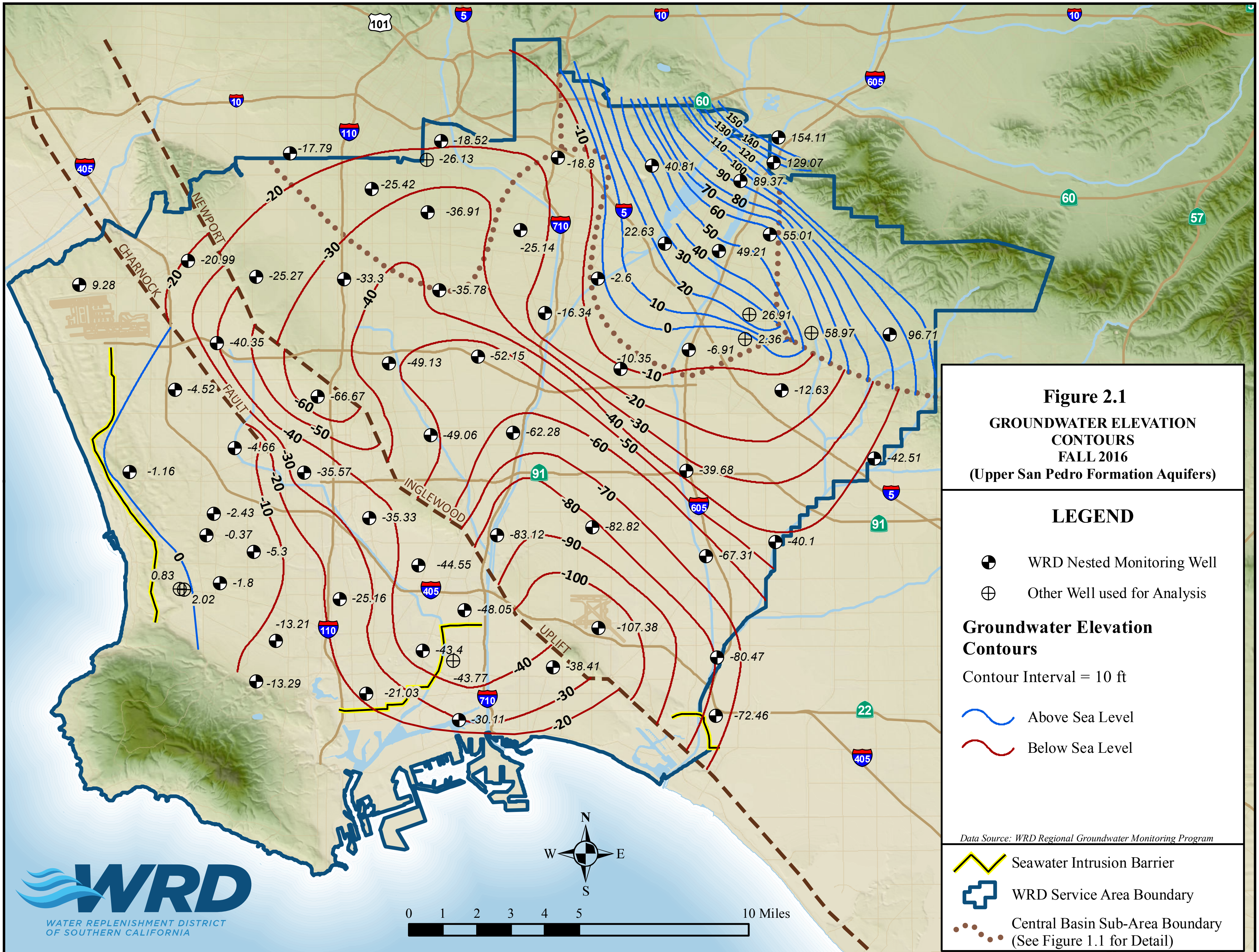


Figure 2.1

GROUNDWATER ELEVATION CONTOURS FALL 2016 (Upper San Pedro Formation Aquifers)

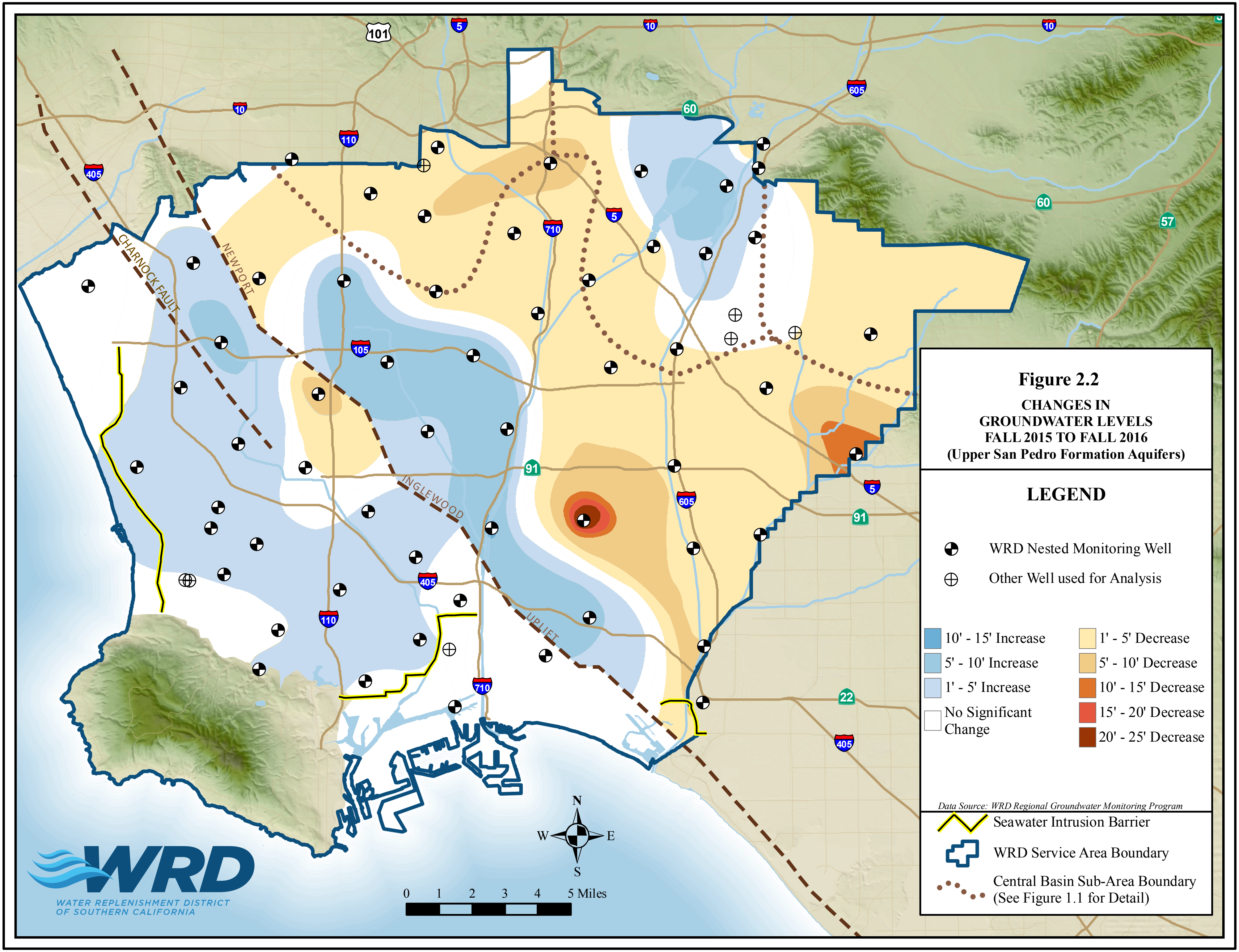
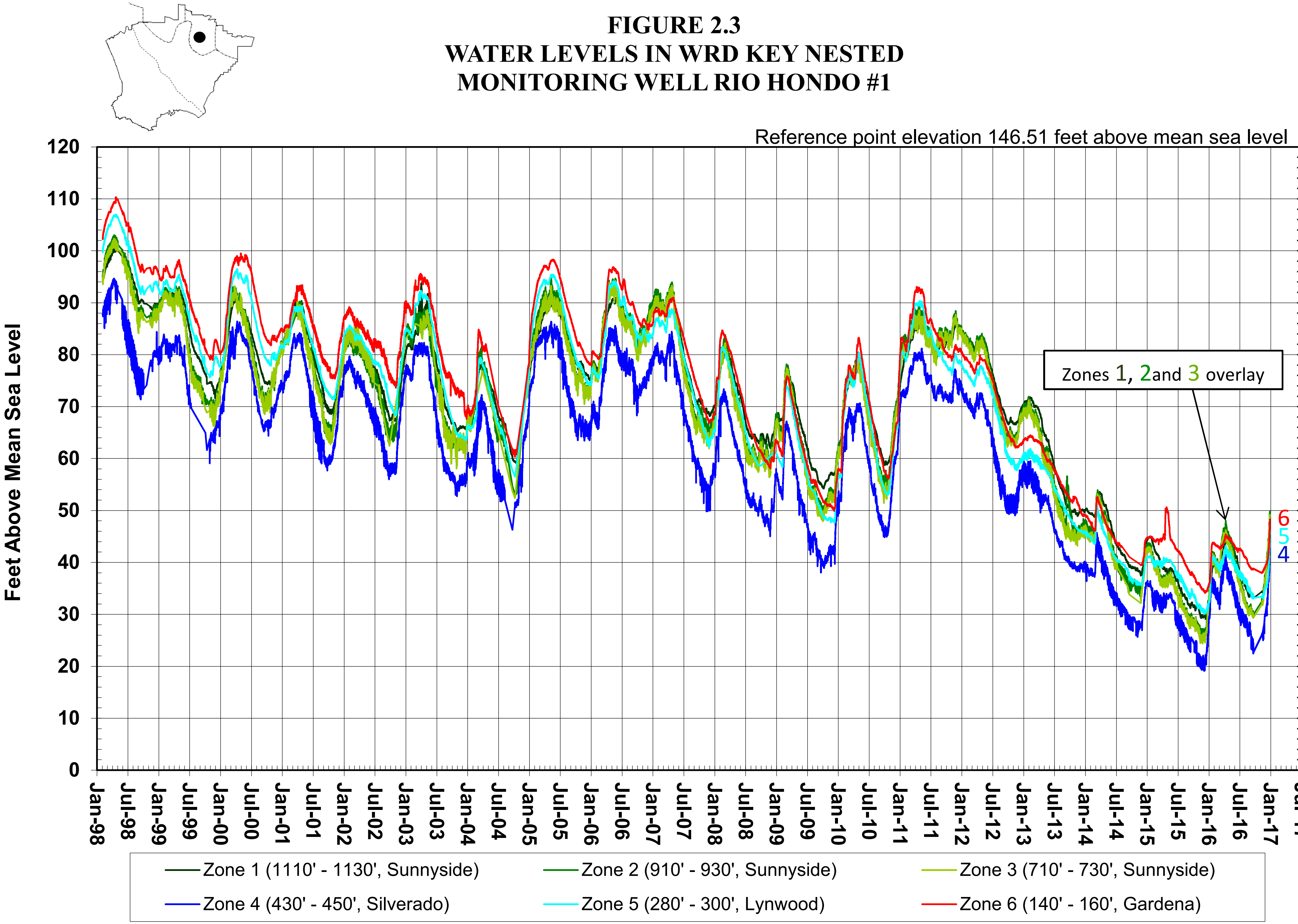


Figure 2.2
CHANGES IN
GROUNDWATER LEVELS
FALL 2015 TO FALL 2016
(Upper San Pedro Formation Aquifers)
LEGEND
WRD Nested Monitoring Well
Other Well used for Analysis
10' - 15' Increase
5' - 10' Increase
1' - 5' Increase
No Significant Change
1' - 5' Decrease
5' - 10' Decrease
10' - 15' Decrease
15' - 20' Decrease
20' - 25' Decrease
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
CHARNOCK FAULT
NEWPORT
INGLEWOOD
UPLIFT
N
W
E
S
0
1
2
3
4
5 Miles
WRD
WATER REPLENISHMENT DISTRICT
OF SOUTHERN CALIFORNIA

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



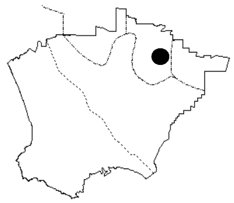


FIGURE 2.4
WATER LEVELS IN WRD KEY NESTED MONITORING WELL PICO #2

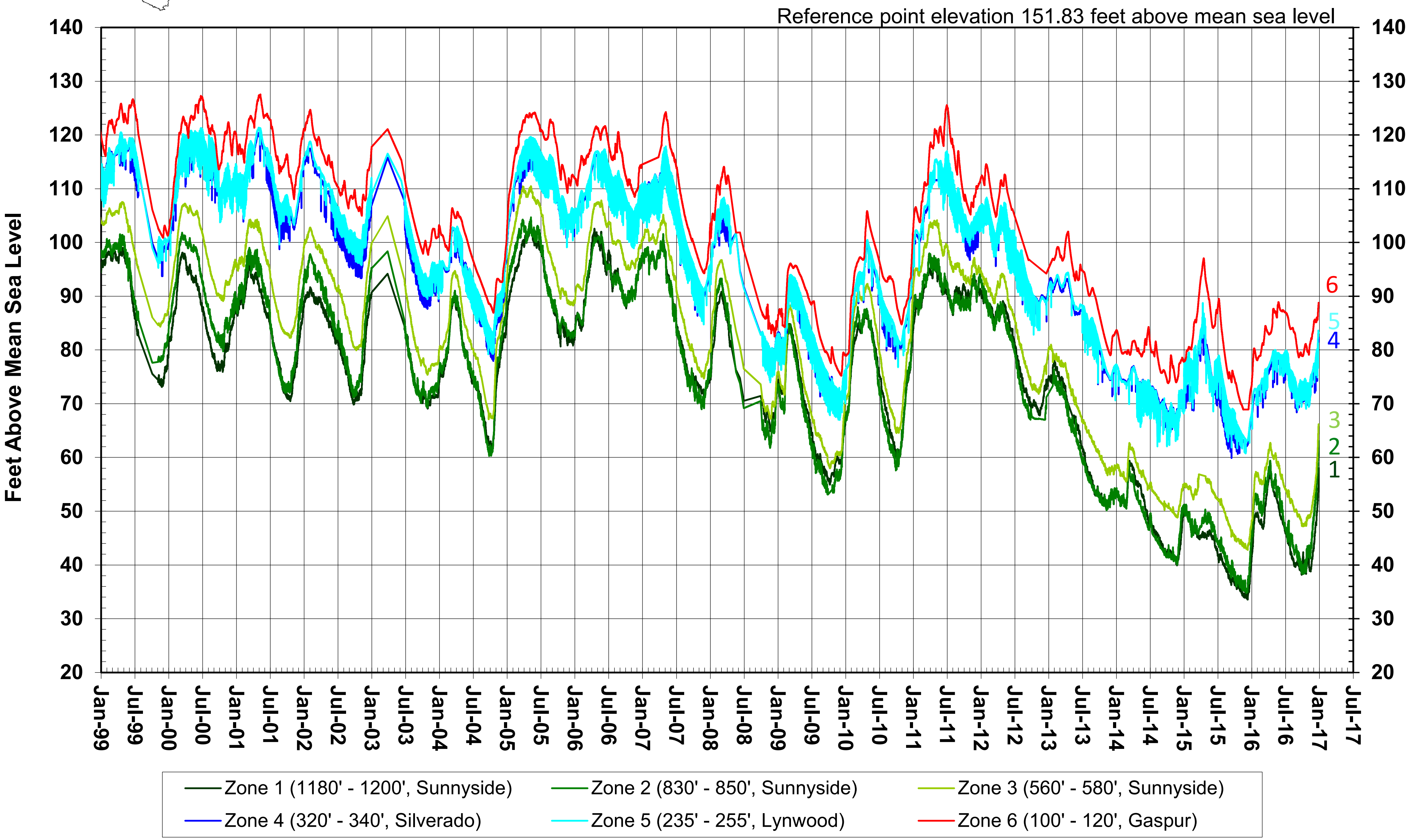
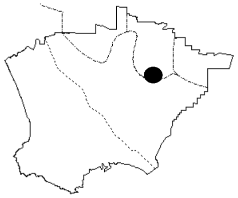


FIGURE 2.5
WATER LEVELS IN WRD KEY NESTED MONITORING WELL NORWALK #2



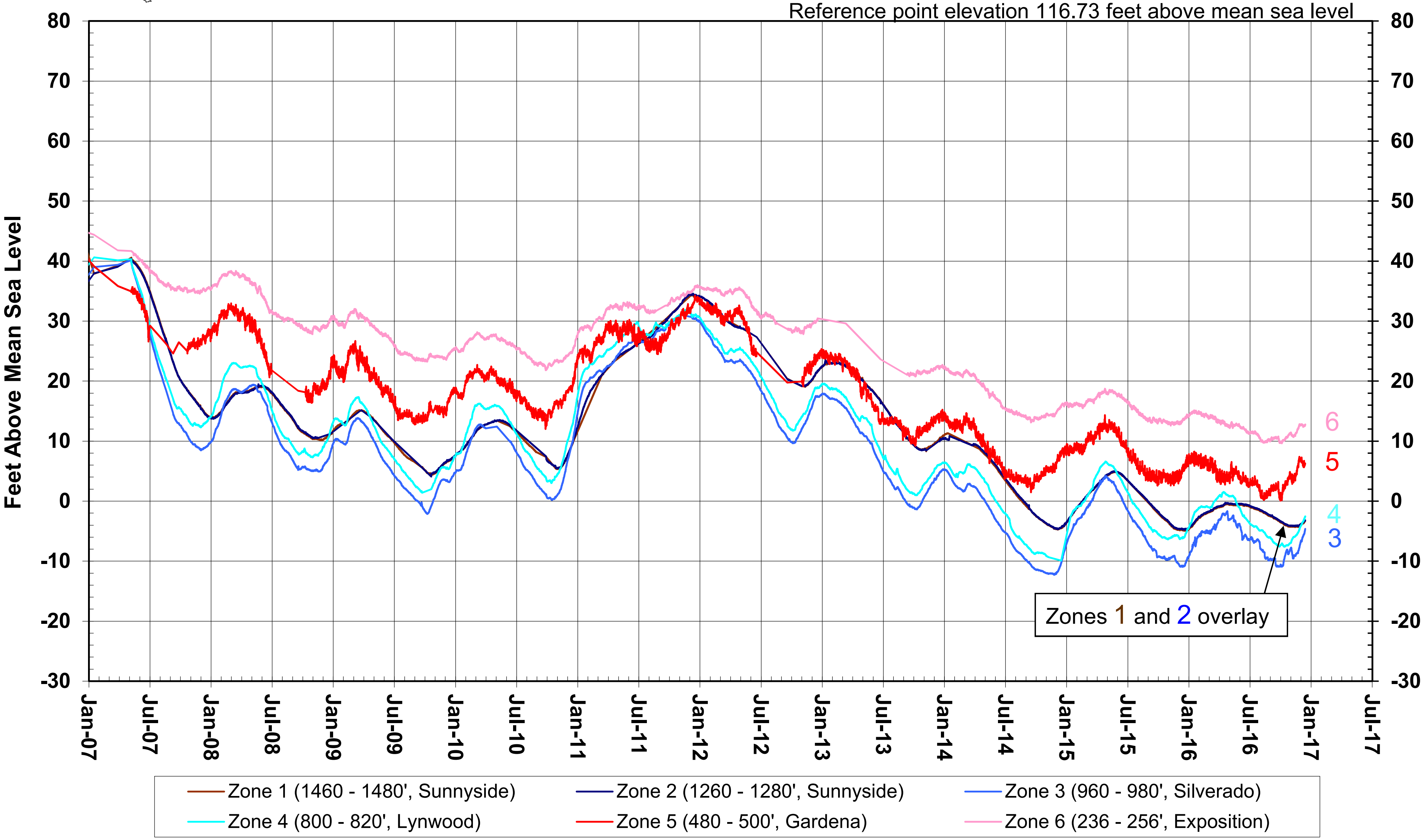


FIGURE 2.6
WATER LEVELS IN WRD KEY NESTED MONITORING WELL HUNTINGTON PARK #1

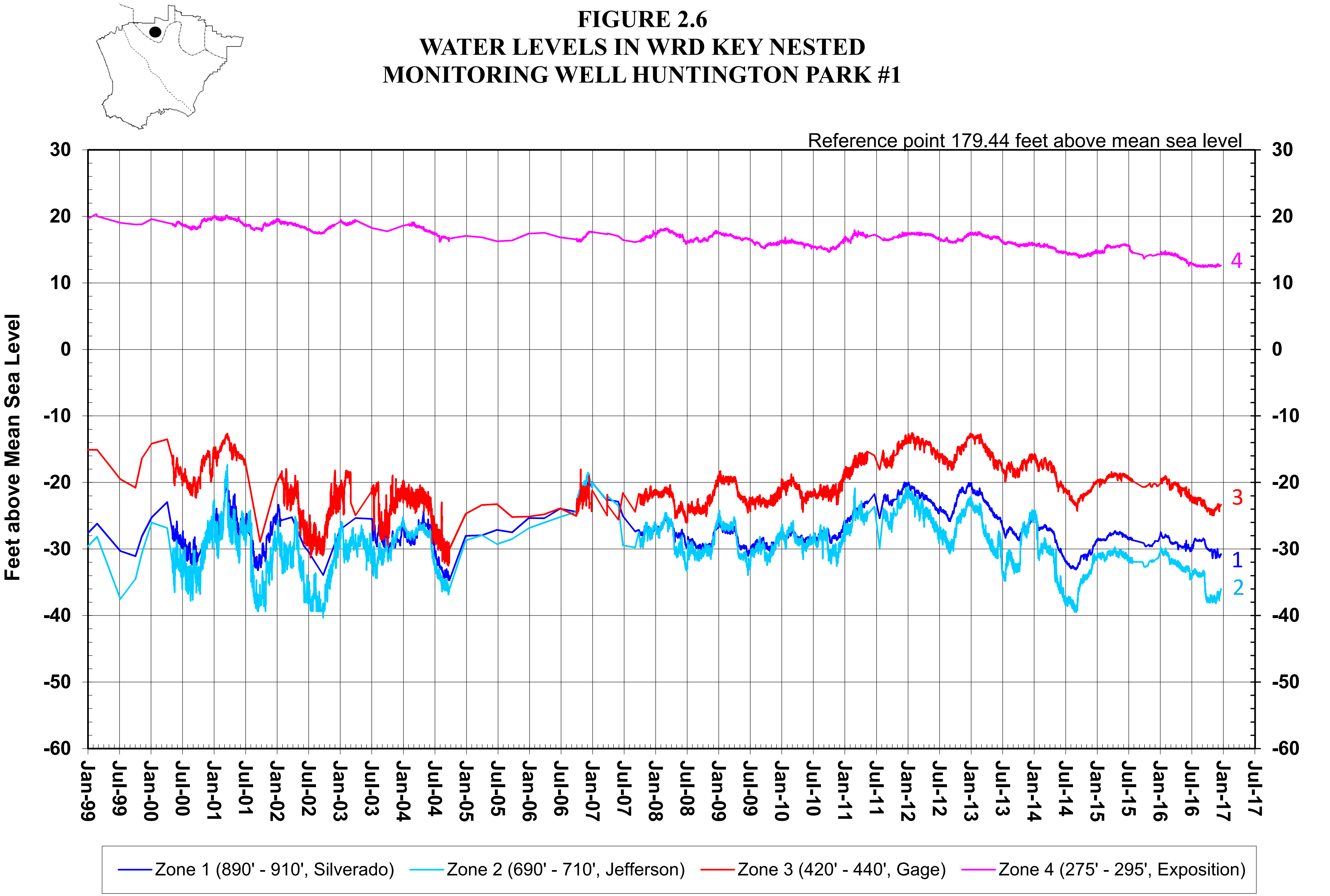


FIGURE 2.7
WATER LEVELS IN WRD KEY NESTED MONITORING WELL SOUTH GATE #1

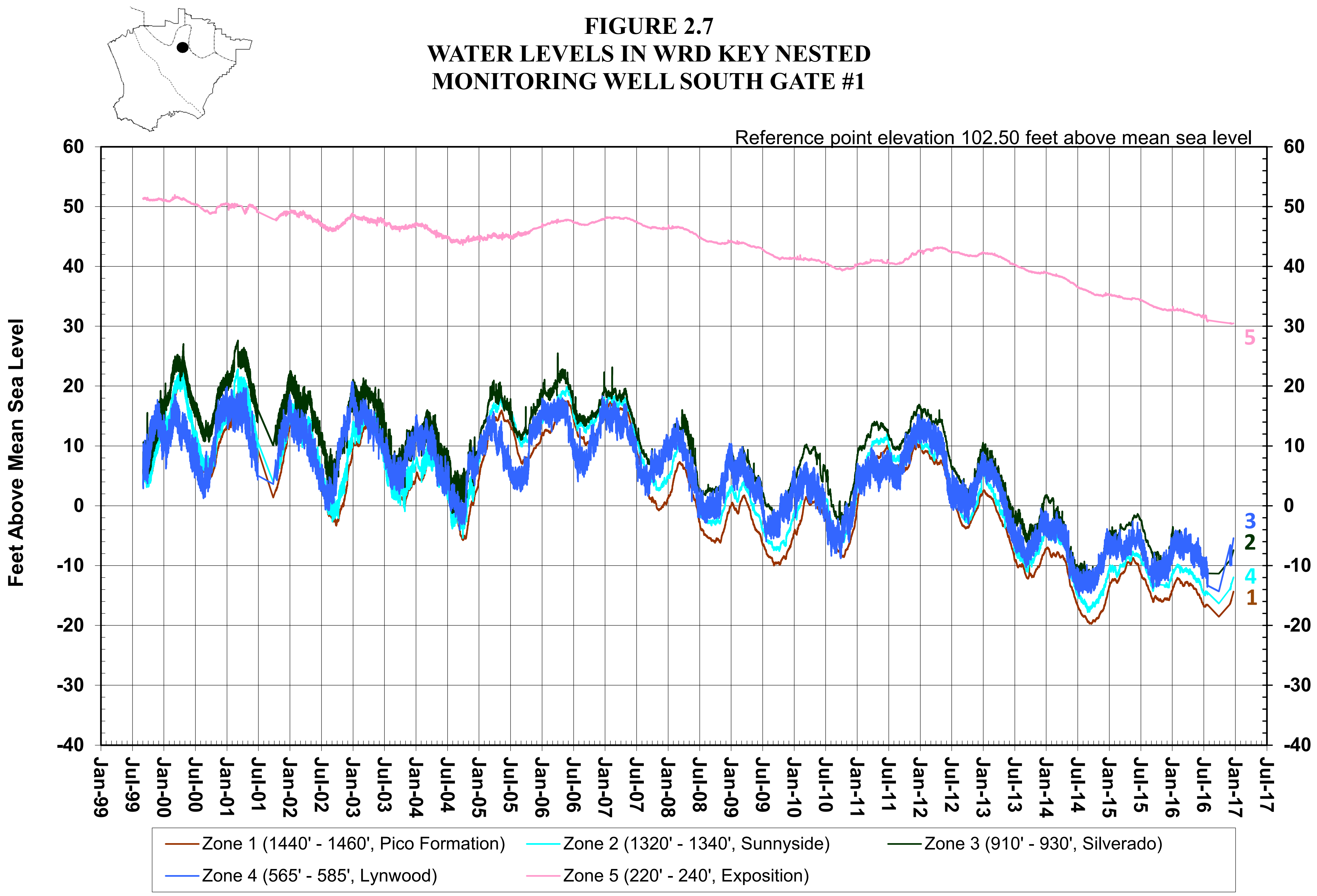
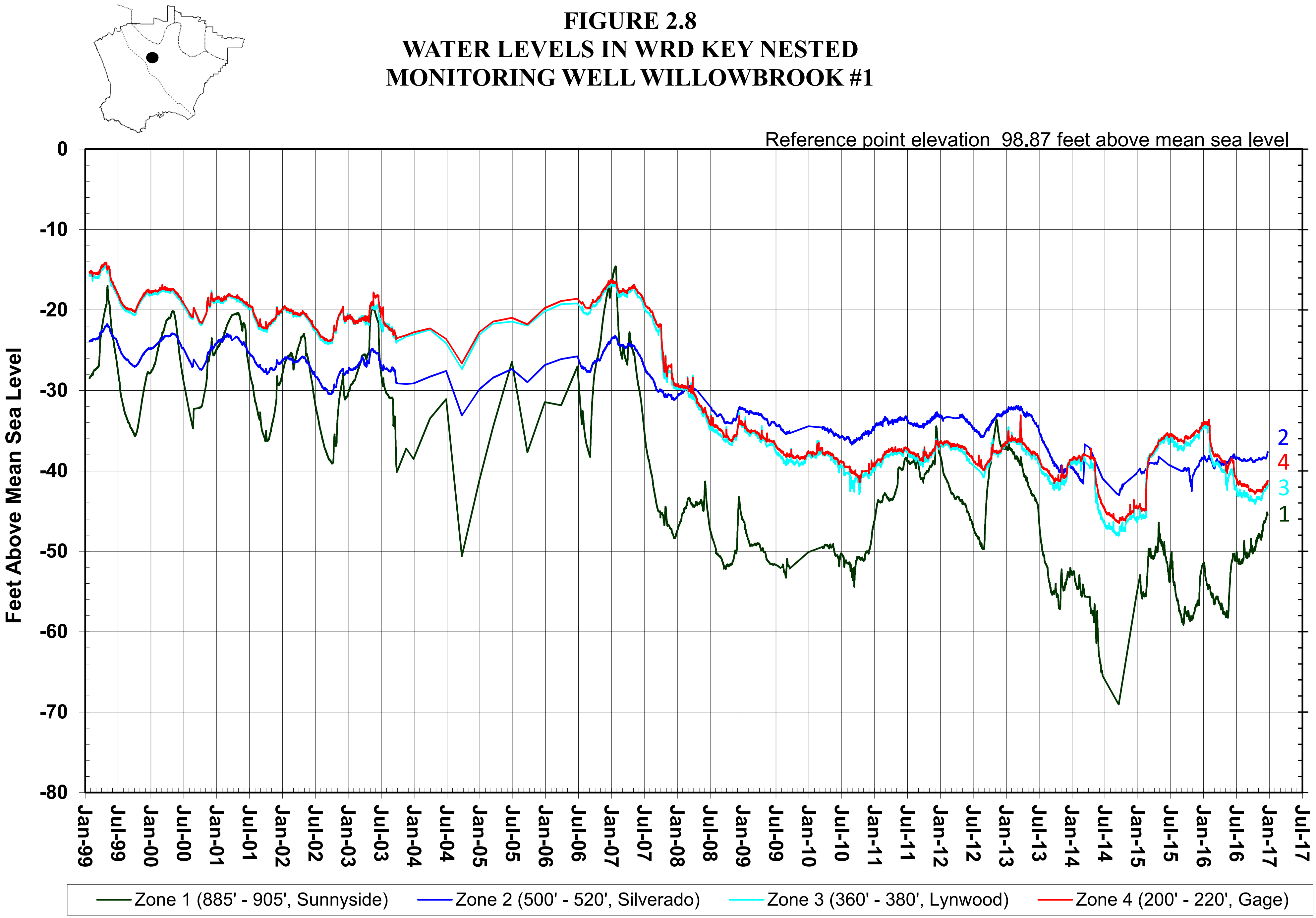


FIGURE 2.8
WATER LEVELS IN WRD KEY NESTED MONITORING WELL WILLOWBROOK #1



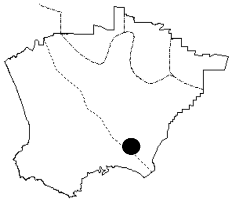


FIGURE 2.9
WATER LEVELS IN WRD KEY NESTED MONITORING WELL LONG BEACH #6

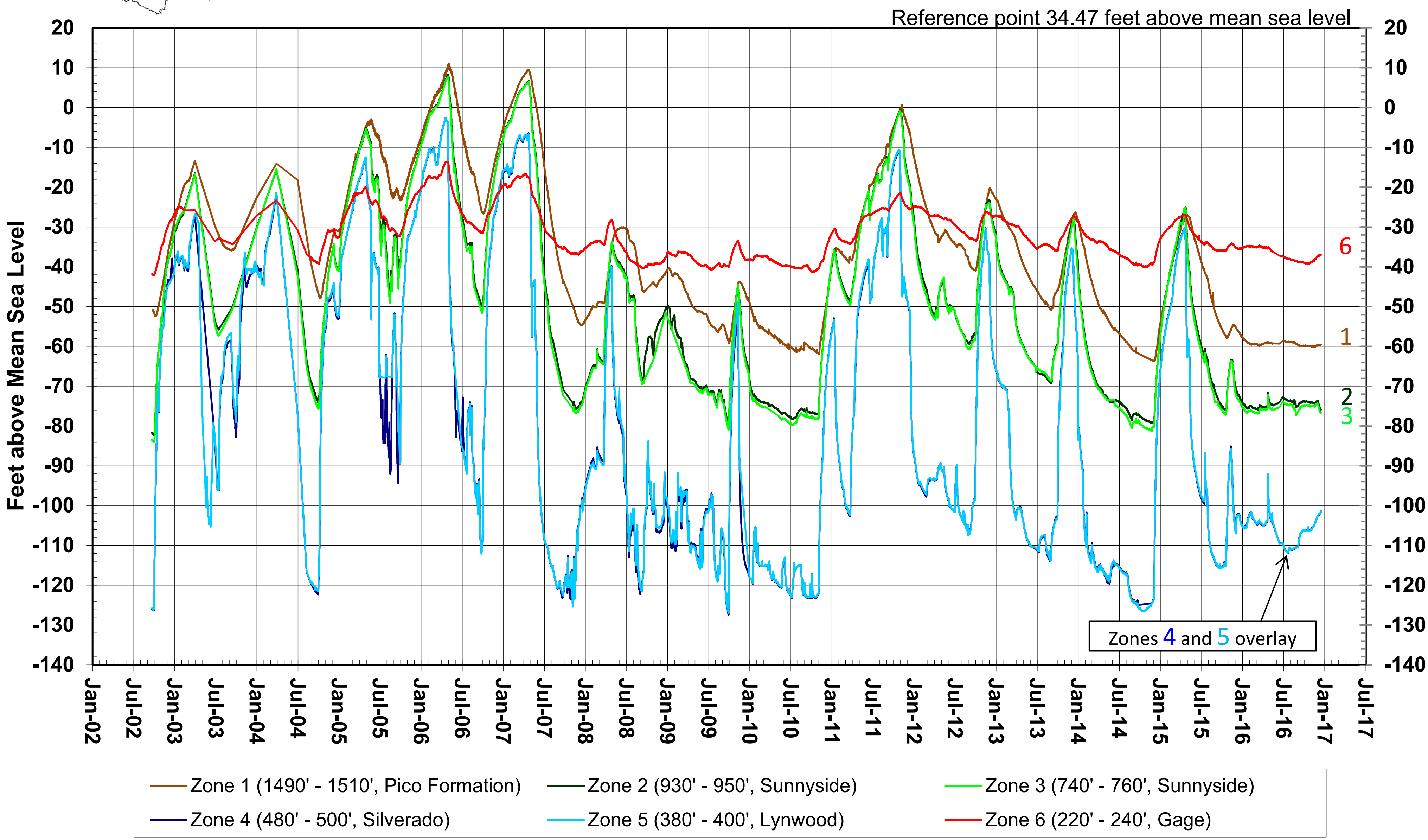


FIGURE 2.10
WATER LEVELS IN WRD KEY NESTED MONITORING WELL SEAL BEACH #1

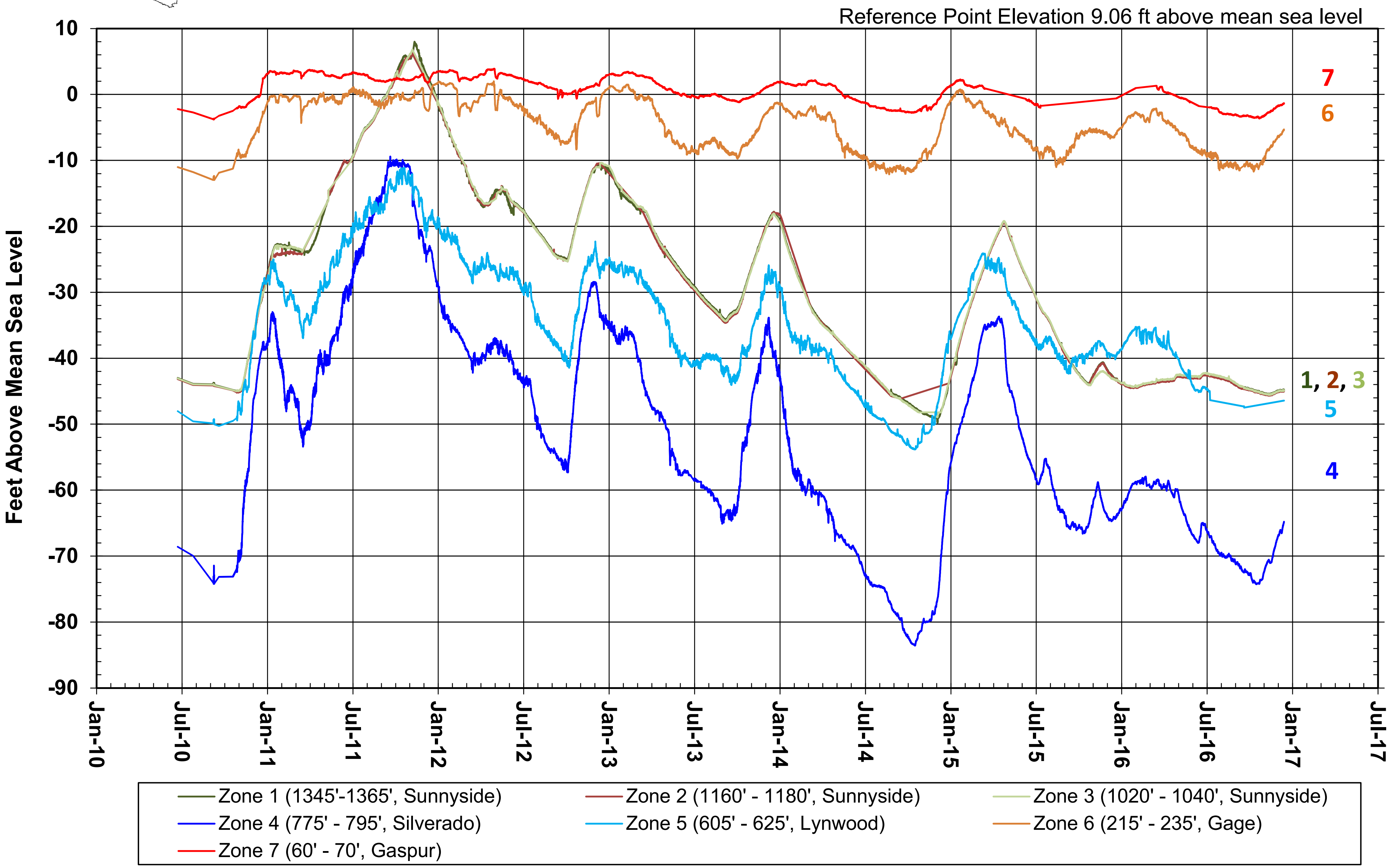


FIGURE 2.11
WATER LEVELS IN WRD KEY NESTED MONITORING WELL WHITTIER #1

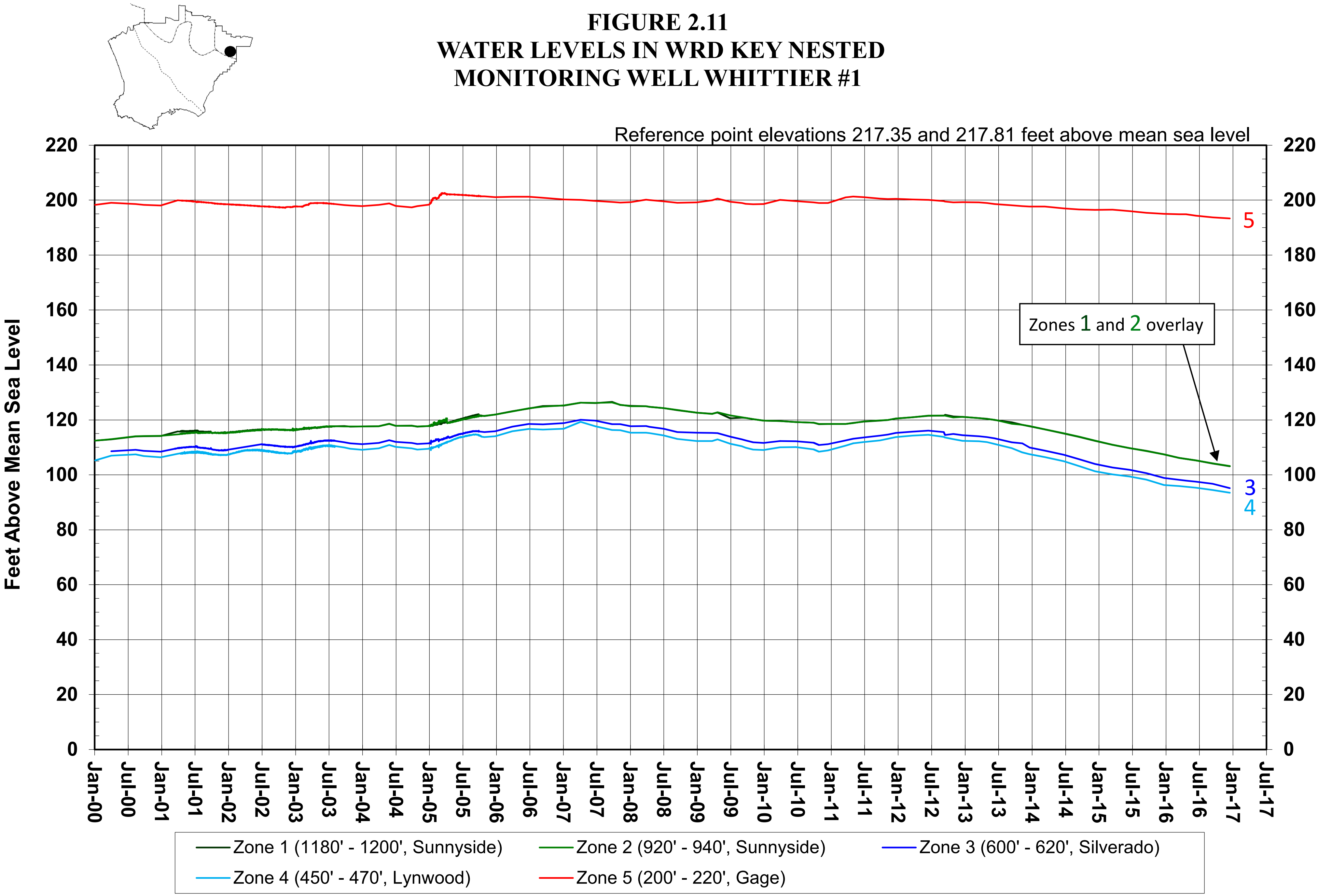


FIGURE 2.12
WATER LEVELS IN WRD NESTED MONITORING WELL PM-4 MARINER

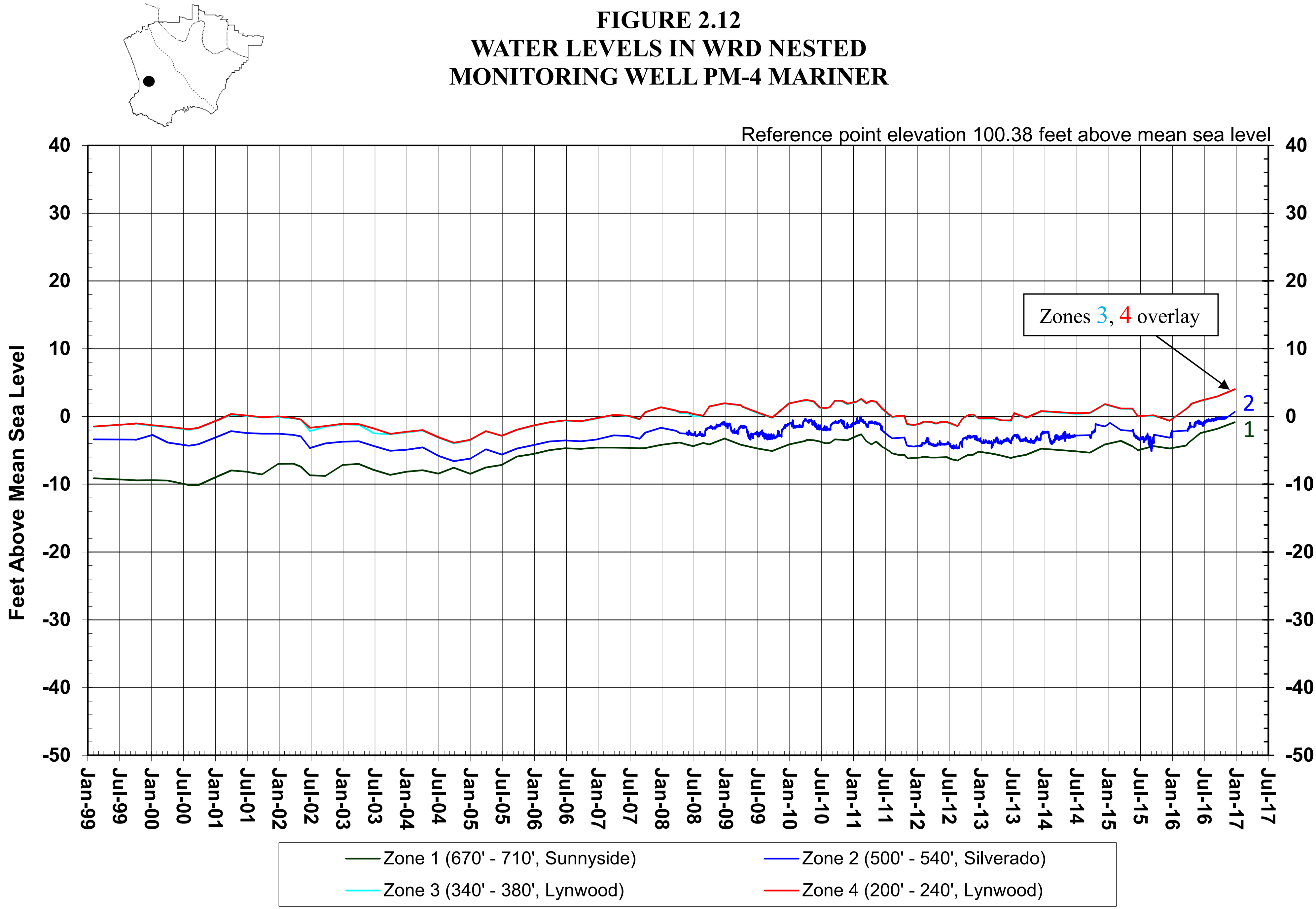


FIGURE 2.13
WATER LEVELS IN WRD KEY NESTED MONITORING WELL CARSON #1

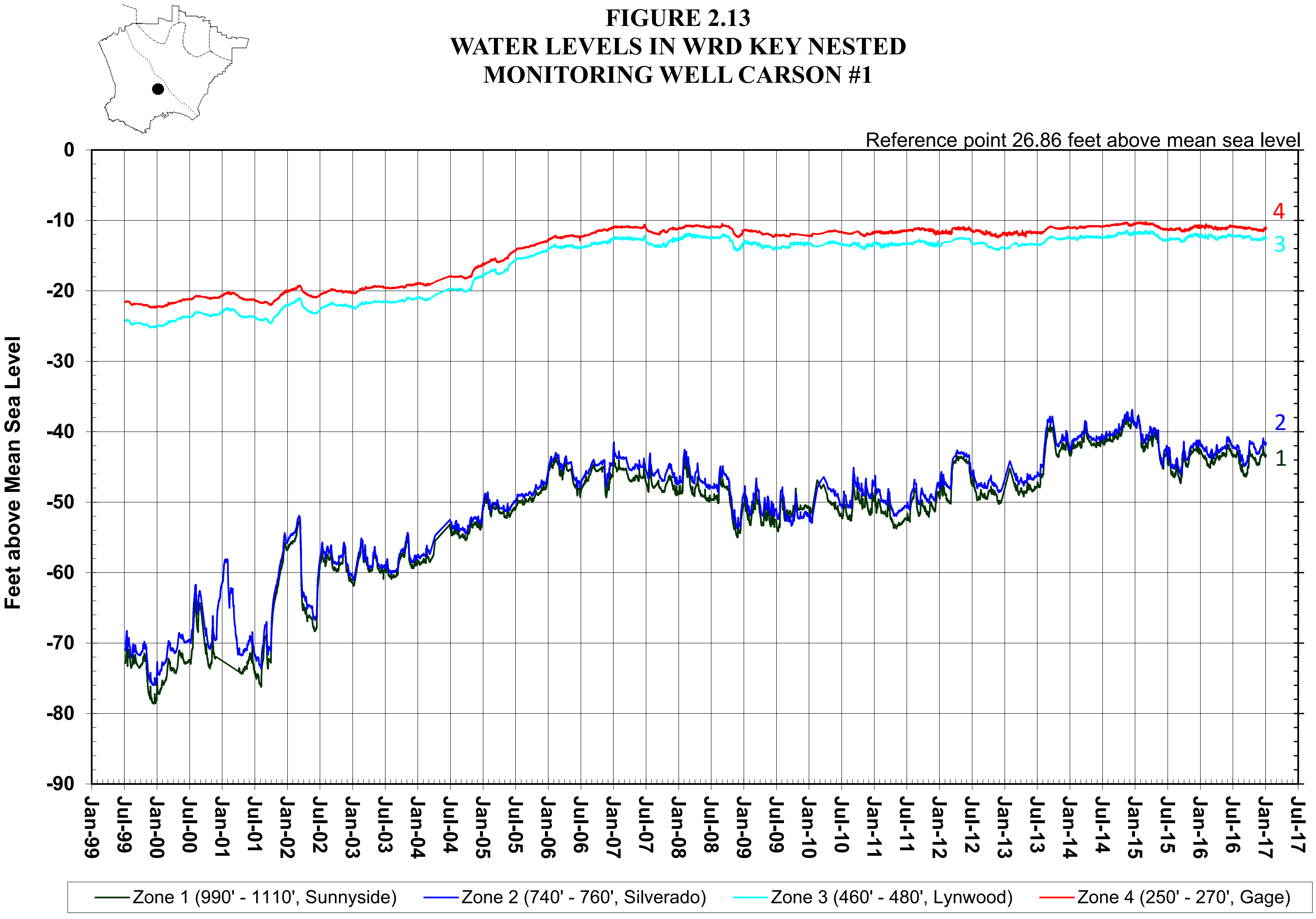


FIGURE 2.14
WATER LEVELS IN WRD KEY NESTED MONITORING WELL MANHATTAN BEACH #1

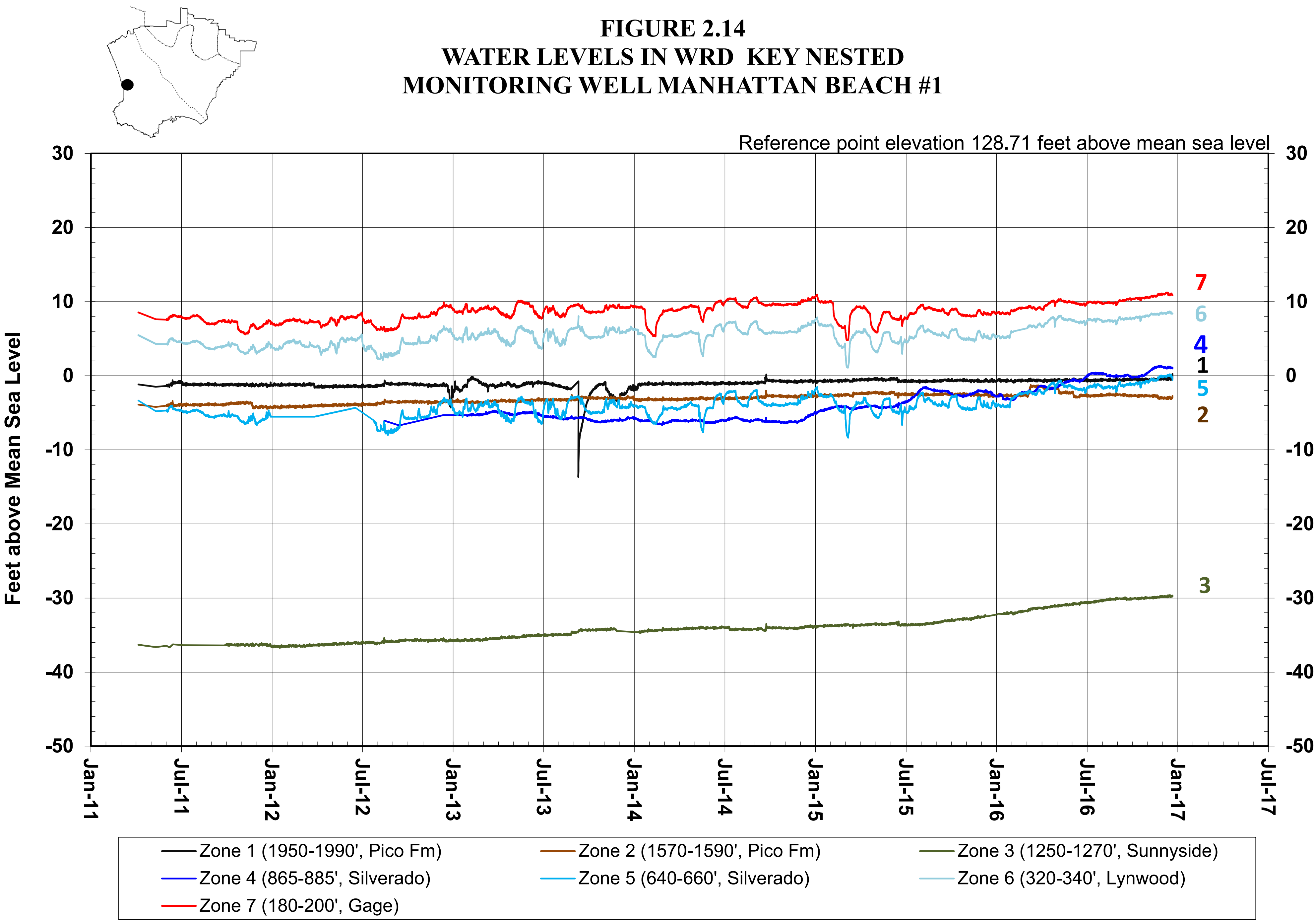
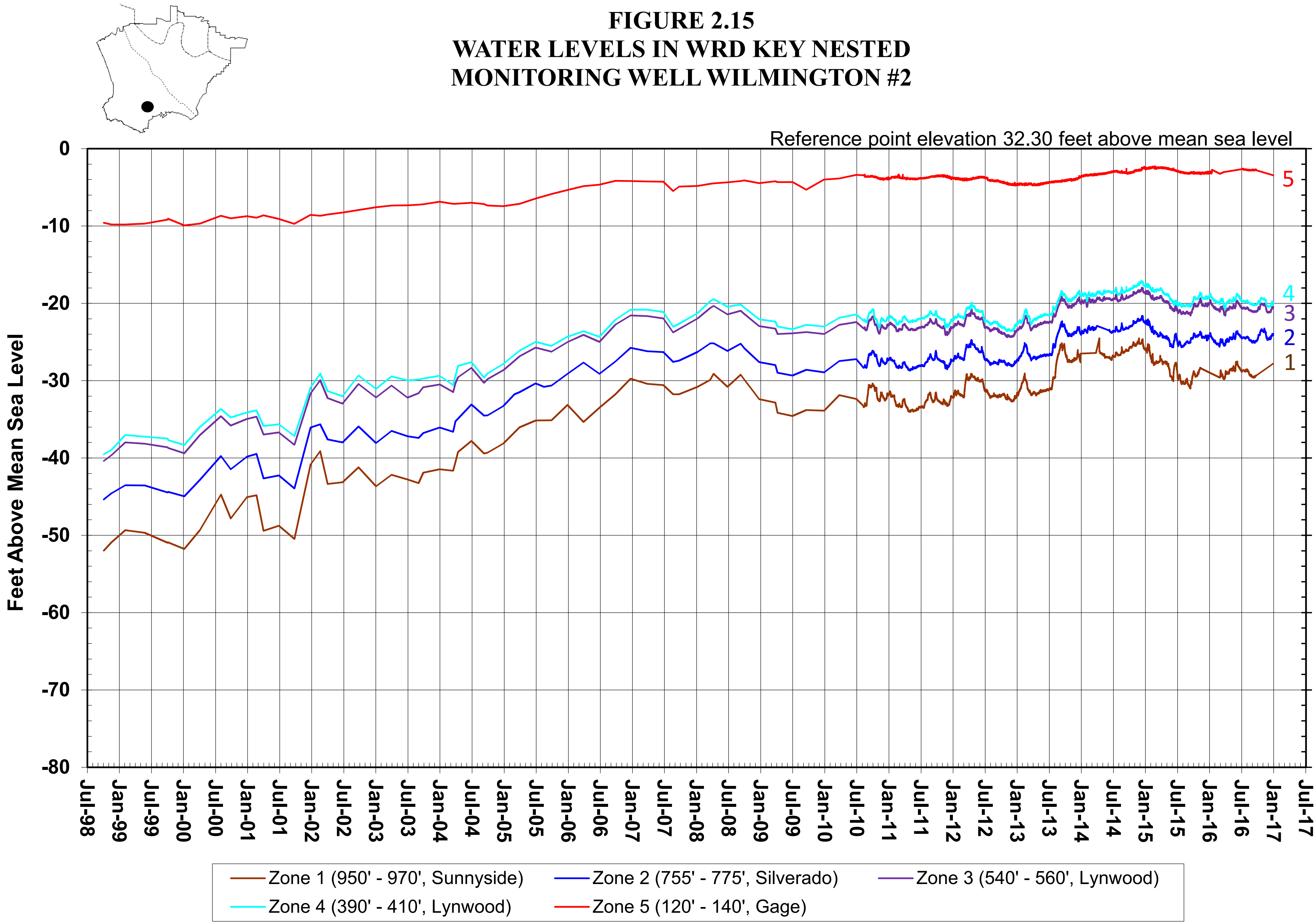


FIGURE 2.15
WATER LEVELS IN WRD KEY NESTED MONITORING WELL WILMINGTON #2



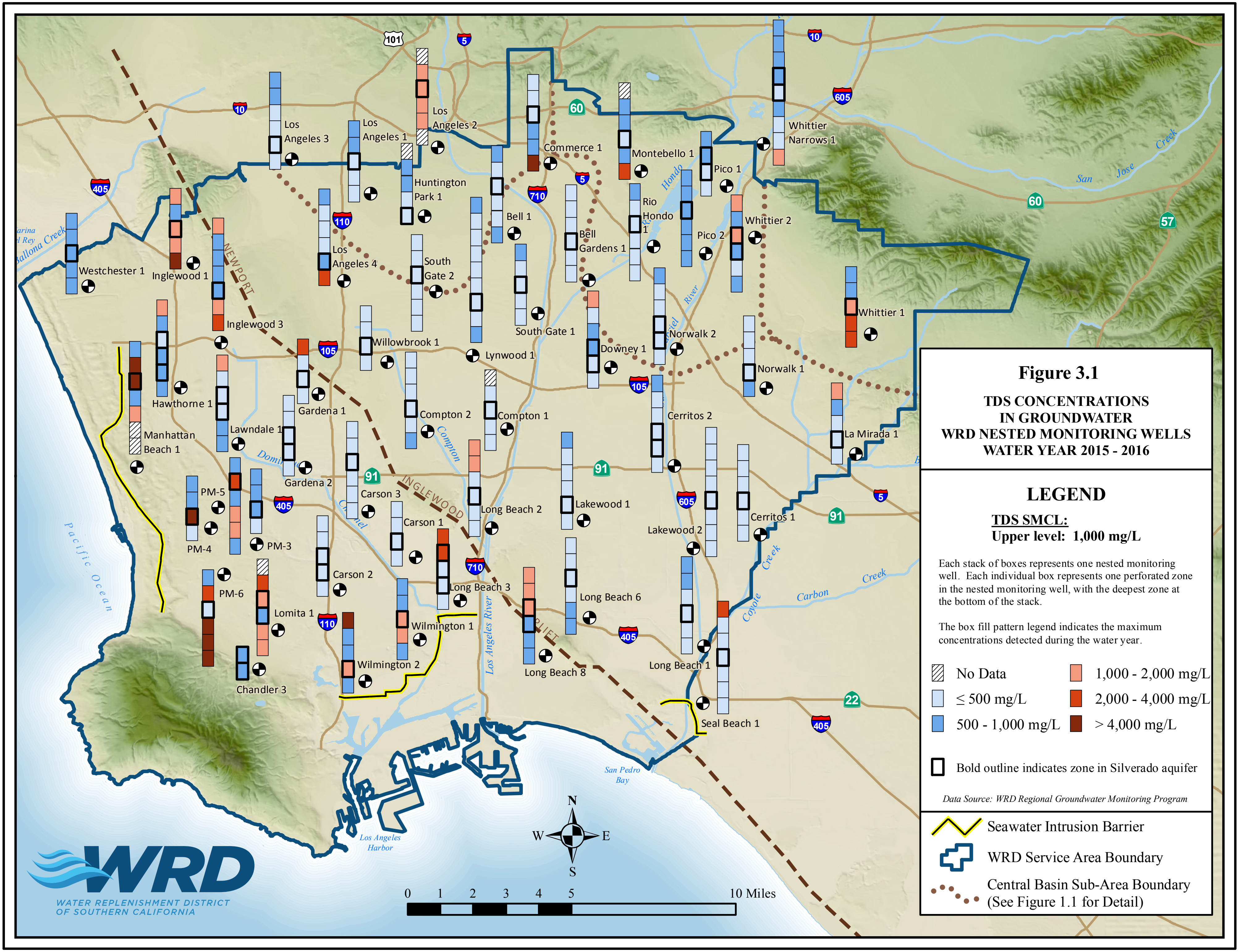


Figure 3.1
TDS CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2015 - 2016
LEGEND
TDS SMCL:
Upper level: 1,000 mg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
≤ 500 mg/L
500 - 1,000 mg/L
1,000 - 2,000 mg/L
2,000 - 4,000 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)
Los Angeles 3
Los Angeles 1
Los Angeles 2
Commerce 1
Montebello 1
Pico 1
Whittier Narrows 1
Huntington Park 1
Bell 1
Rio Hondo 1
Pico 2
Whittier 2
Westchester 1
Inglewood 1
Los Angeles 4
South Gate 2
Bell Gardens 1
Whittier 1
Inglewood 3
Willowbrook 1
South Gate 1
Lynwood 1
Downey 1
Norwalk 2
Norwalk 1
Hawthorne 1
Gardena 1
Compton 2
Compton 1
Cerritos 2
La Mirada 1
Manhattan Beach 1
Lawndale 1
Gardena 2
PM-5
PM-4
PM-3
Carson 3
Carson 1
Long Beach 2
Lakewood 1
Lakewood 2
Cerritos 1
PM-6
Lomita 1
Carson 2
Long Beach 3
Wilmington 1
Long Beach 6
Wilmington 2
Long Beach 8
Long Beach 1
Chandler 3
Seal Beach 1
NEWPORT
INGLEWOOD
Pacific Ocean
Los Angeles River
Compton
Dominguez
Channel
San Gabriel River
Rio Hondo
San Jose Creek
Coyote Creek
Carbon Creek
Ballona Creek
San Pedro Bay
Los Angeles Harbor
N
S
E
W
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
OF SOUTHERN CALIFORNIA

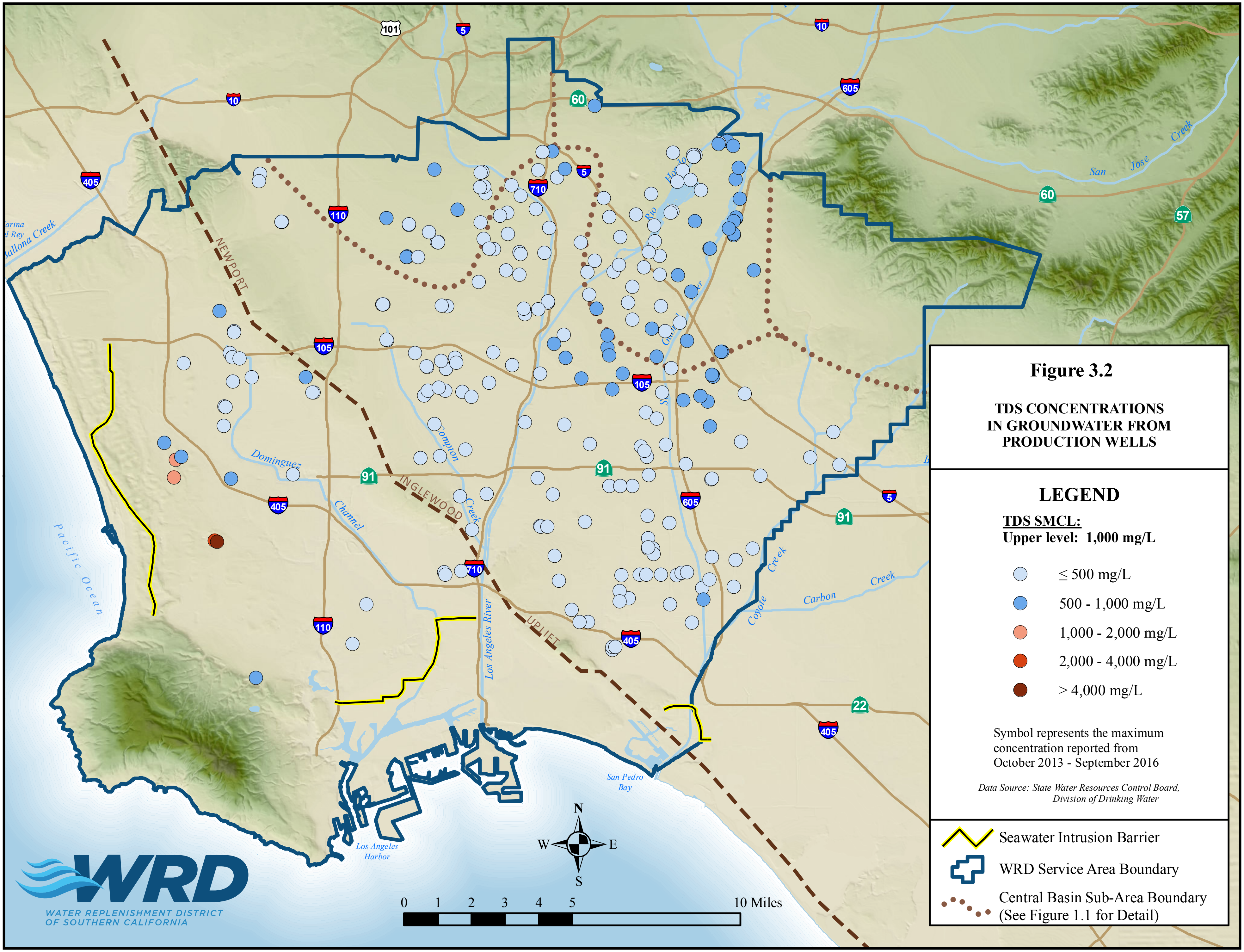


Figure 3.2

TDS CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS

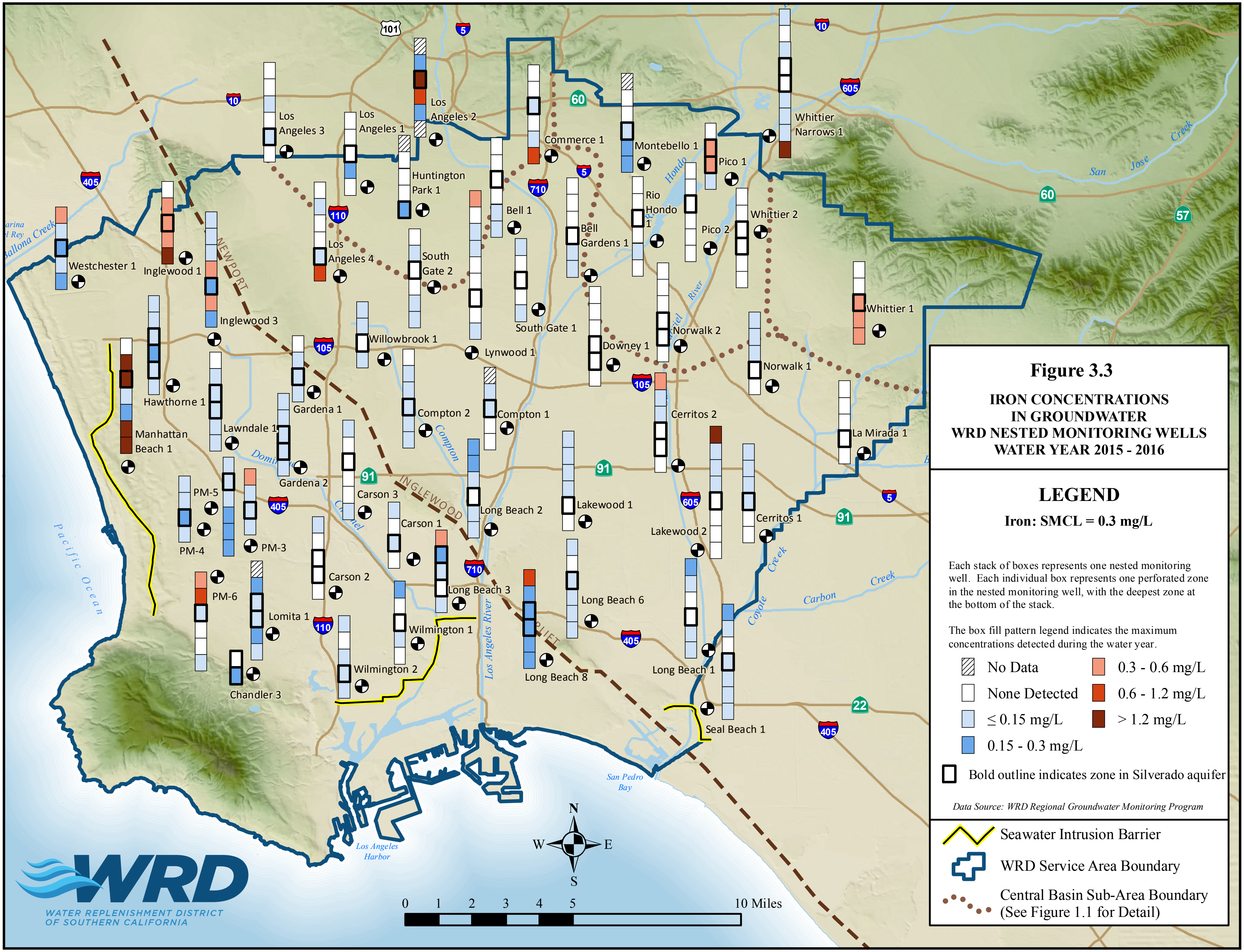


Figure 3.3
IRON CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2015 - 2016
LEGEND
Iron: SMCL = 0.3 mg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom 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)
Los Angeles 3
Los Angeles 1
Los Angeles 2
Commerce 1
Montebello 1
Pico 1
Whittier Narrows 1
Huntington Park 1
Bell 1
Rio Hondo 1
Pico 2
Whittier 2
Westchester 1
Inglewood 1
Los Angeles 4
South Gate 2
Bell Gardens 1
Inglewood 3
South Gate 1
Whittier 1
Willowbrook 1
Lynwood 1
Downey 1
Norwalk 2
Norwalk 1
Hawthorne 1
Gardena 1
Compton 2
Compton 1
Cerritos 2
La Mirada 1
Manhattan Beach 1
Lawndale 1
Gardena 2
PM-5
Carson 3
Long Beach 2
Lakewood 1
Cerritos 1
PM-4
PM-3
Carson 1
Lakewood 2
PM-6
Carson 2
Long Beach 3
Long Beach 6
Lomita 1
Wilmington 1
Long Beach 1
Chandler 3
Wilmington 2
Long Beach 8
Seal Beach 1
NEWPORT
INGLEWOOD
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Los Angeles River
San Jose Creek
Rio Hondo
San Gabriel River
Coyote Creek
Carbon Creek
Compton
Ballona Creek
101
5
10
60
605
405
110
710
105
91
57
22
N
S
E
W
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
OF SOUTHERN CALIFORNIA

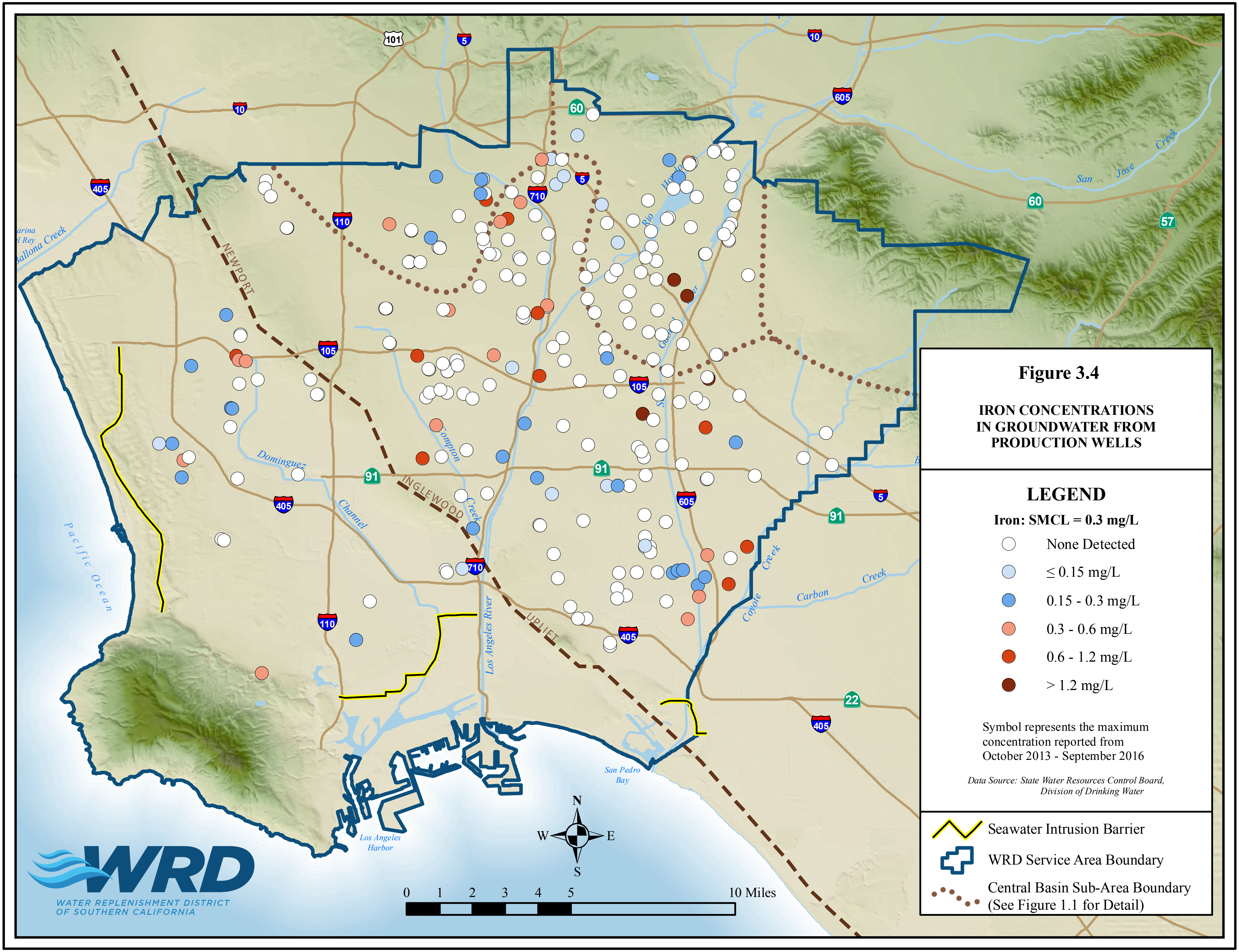


Figure 3.4
IRON CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Iron: SMCL = 0.3 mg/L
None Detected
≤ 0.15 mg/L
0.15 - 0.3 mg/L
0.3 - 0.6 mg/L
0.6 - 1.2 mg/L
> 1.2 mg/L
Symbol represents the maximum concentration reported from October 2013 - September 2016
Data Source: State Water Resources Control Board, Division of Drinking Water
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)
0 1 2 3 4 5 10 Miles
N
W
E
S
WRD
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
NEWPORT
INGLEWOOD
UPLIFT
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Los Angeles River
Compton
Creek
Dominguez
Channel
Ballona Creek
Coyote
Creek
Carbon
Creek
San
Jose
Creek
Rio
Hondo
101
5
10
60
605
405
110
710
105
91
22
57

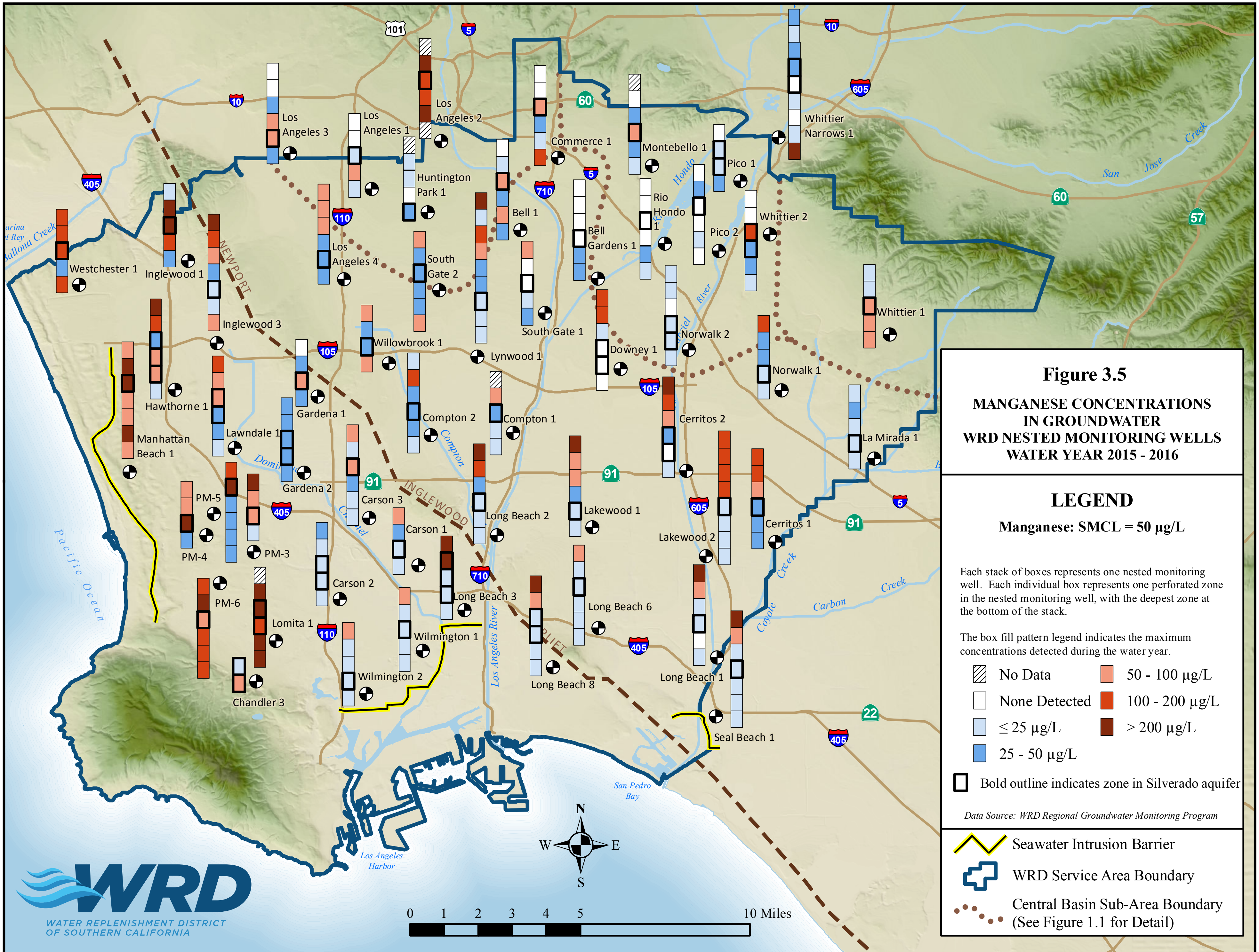


Figure 3.5

MANGANESE CONCENTRATIONS IN GROUNDWATER WRD NESTED MONITORING WELLS WATER YEAR 2015 - 2016

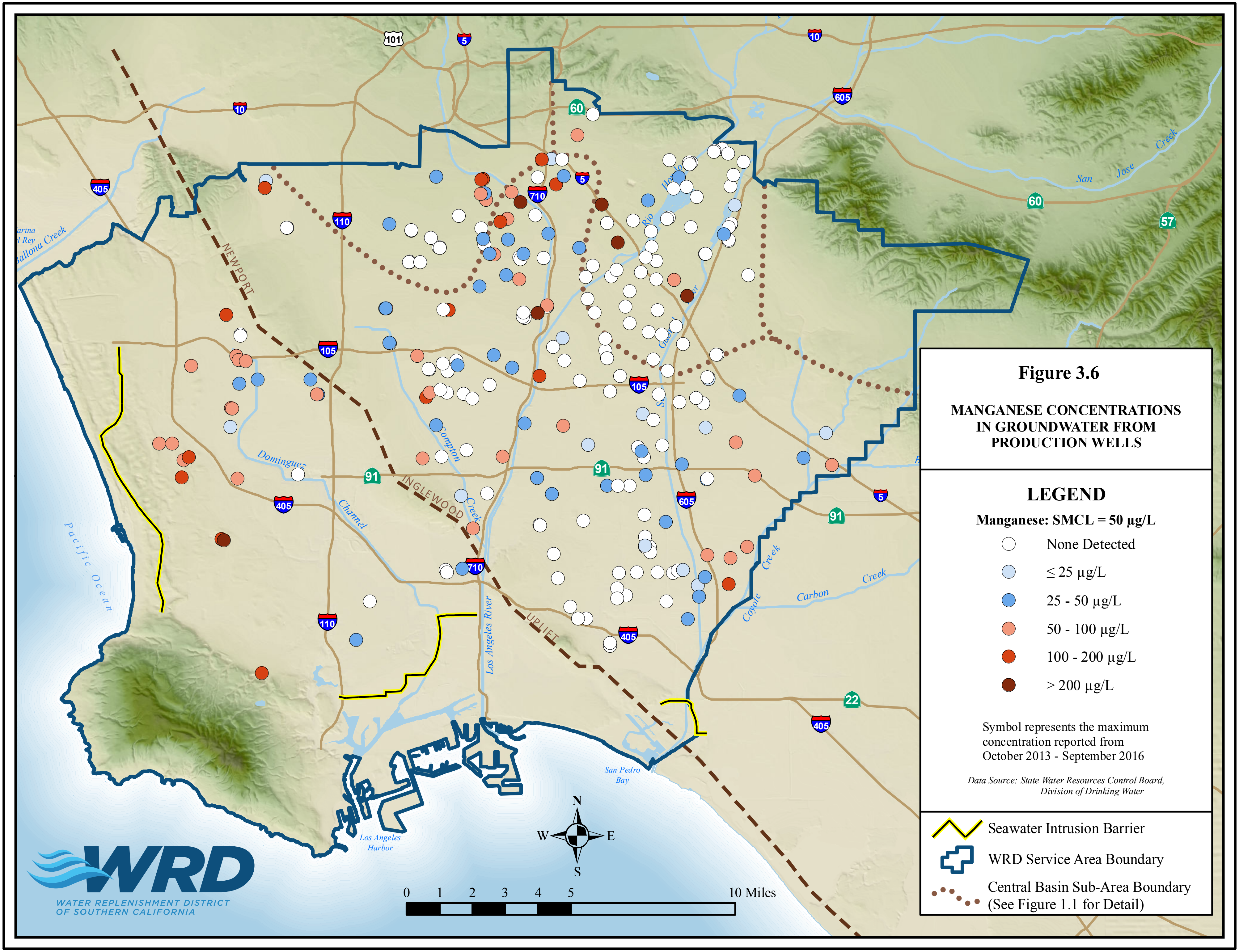


Figure 3.6
MANGANESE CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS
LEGEND
Manganese: SMCL = 50 µg/L
None Detected
≤ 25 µg/L
25 - 50 µg/L
50 - 100 µg/L
100 - 200 µg/L
> 200 µg/L
Symbol represents the maximum
concentration reported from
October 2013 - September 2016
Data Source: State Water Resources Control Board,
Division of Drinking Water
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
NEWPORT
INGLEWOOD
UPLIFT
Pacific Ocean
San Pedro
Bay
Los Angeles
Harbor
Los Angeles River
Dominguez
Channel
Compton
Creek
Coyote
Creek
Carbon
Creek
San Jose
Creek
Ballona Creek
N
S
E
W
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
OF SOUTHERN CALIFORNIA

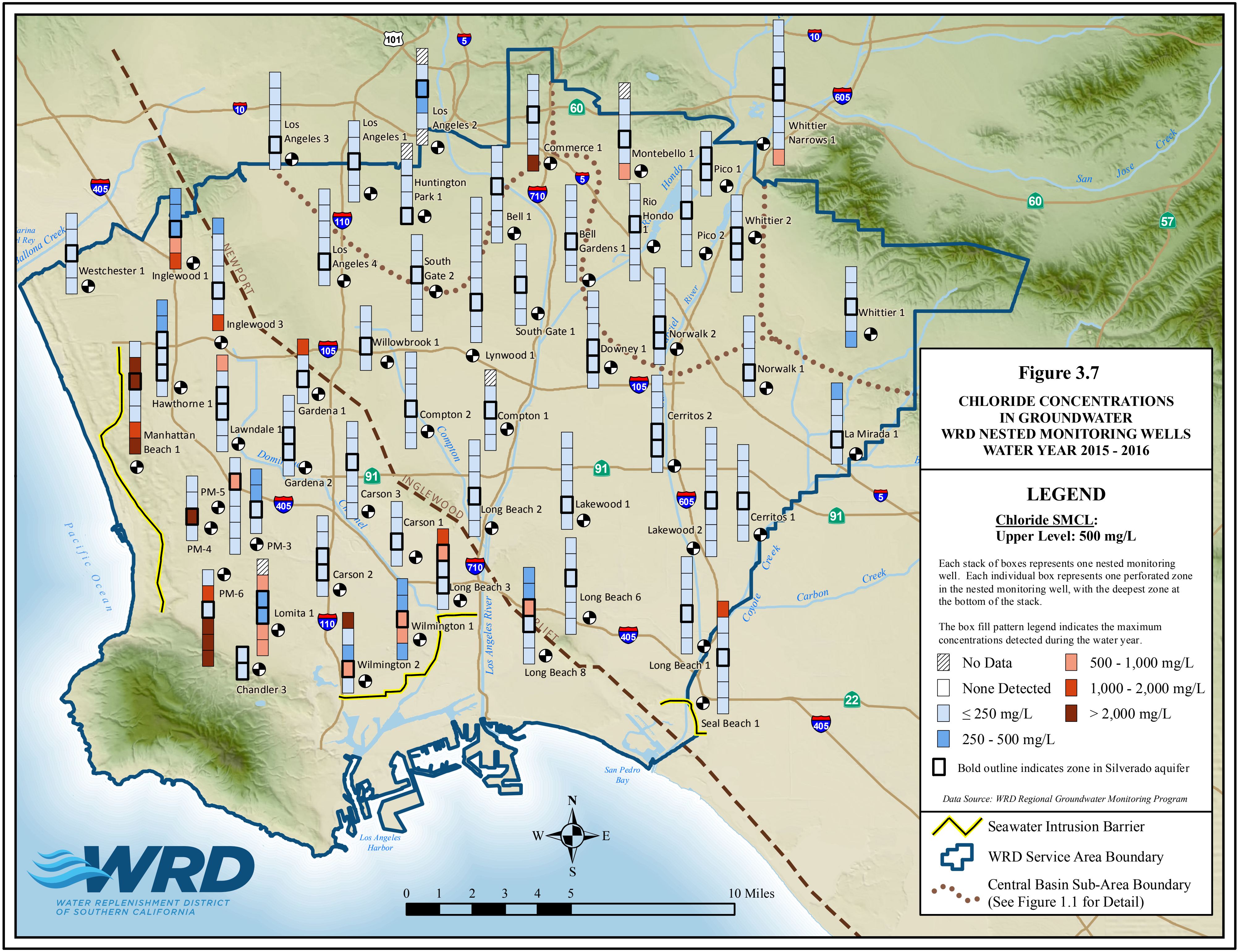


Figure 3.7

CHLORIDE CONCENTRATIONS IN GROUNDWATER WRD NESTED MONITORING WELLS WATER YEAR 2015 - 2016

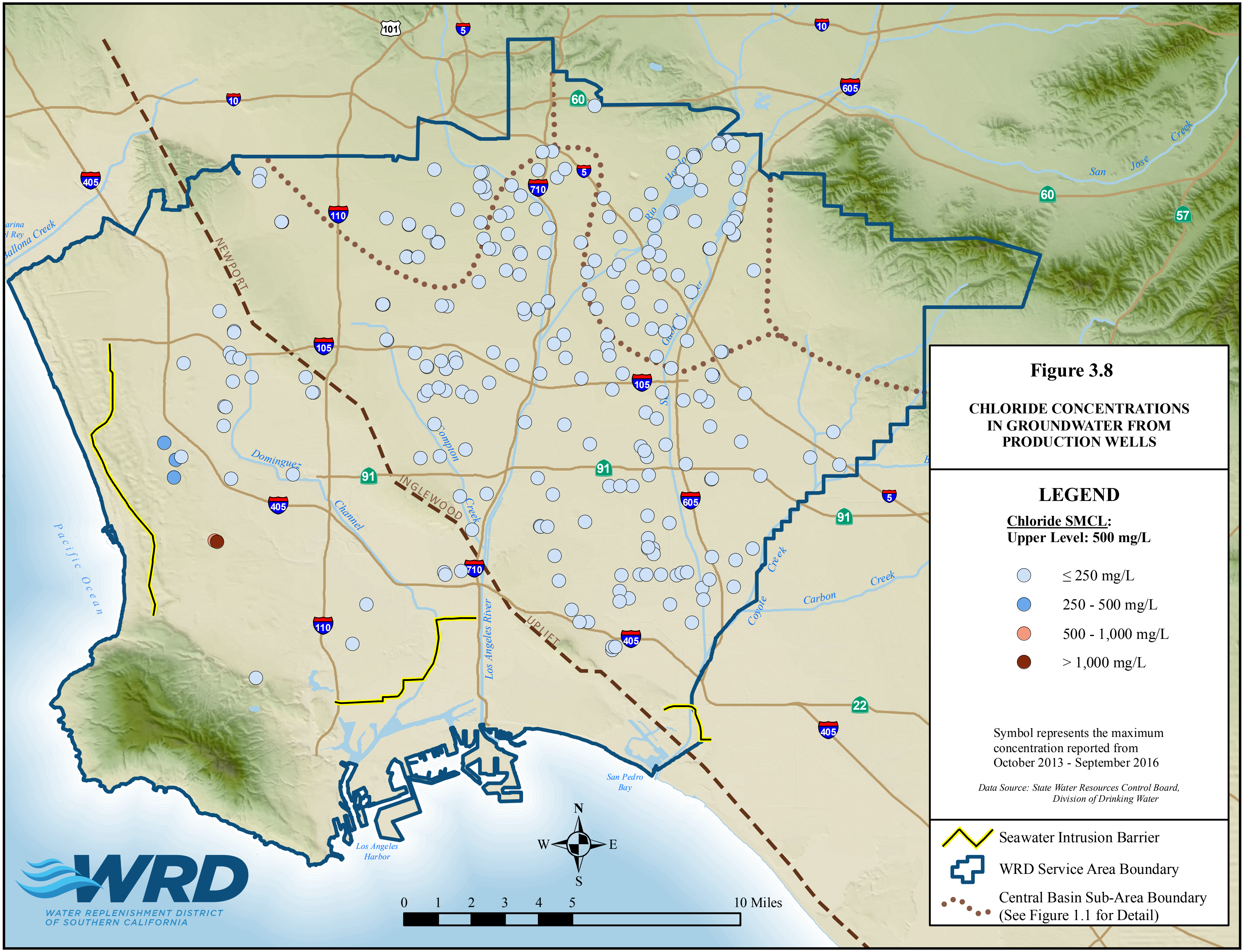


Figure 3.8

CHLORIDE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS

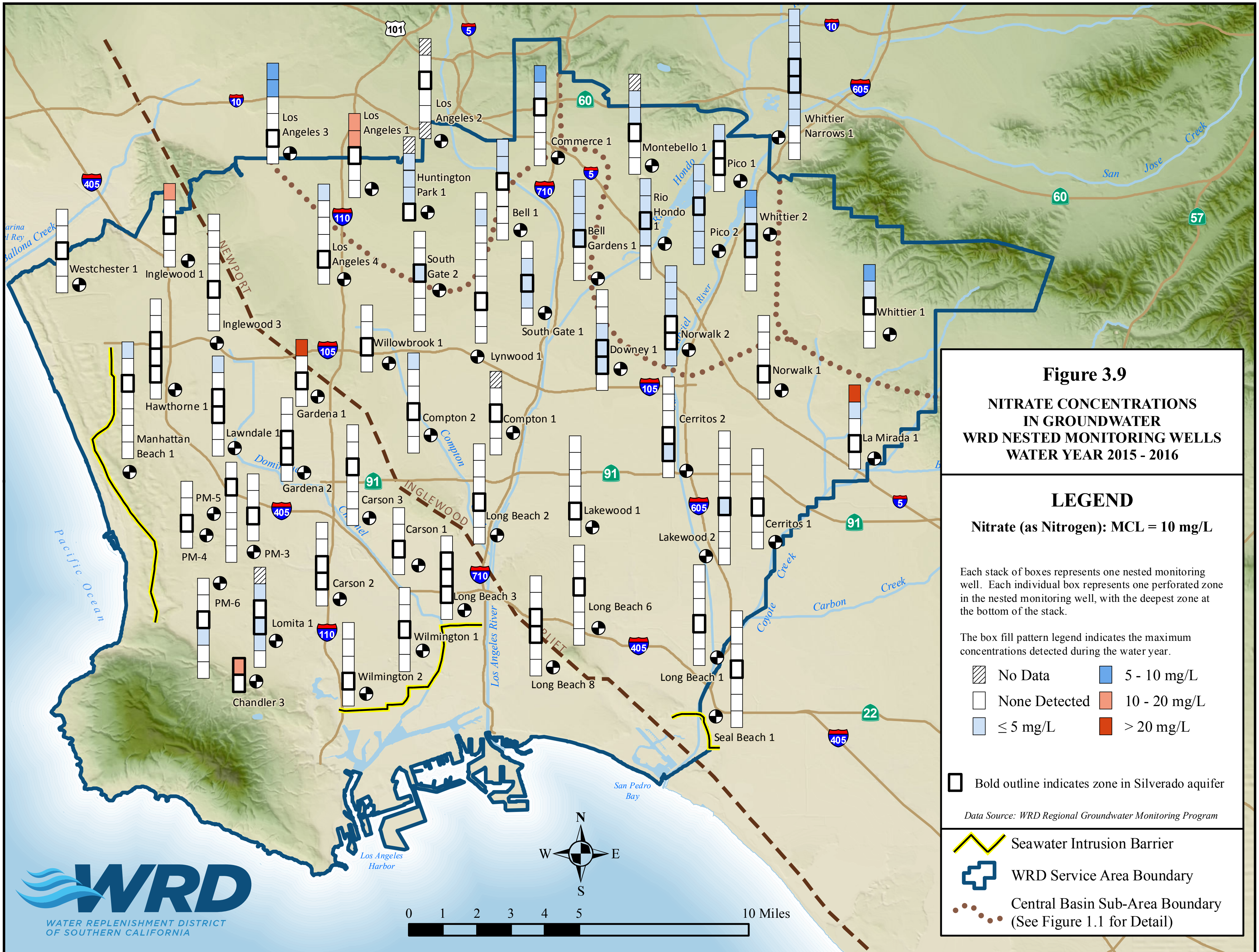


Figure 3.9

NITRATE CONCENTRATIONS IN GROUNDWATER WRD NESTED MONITORING WELLS WATER YEAR 2015 - 2016

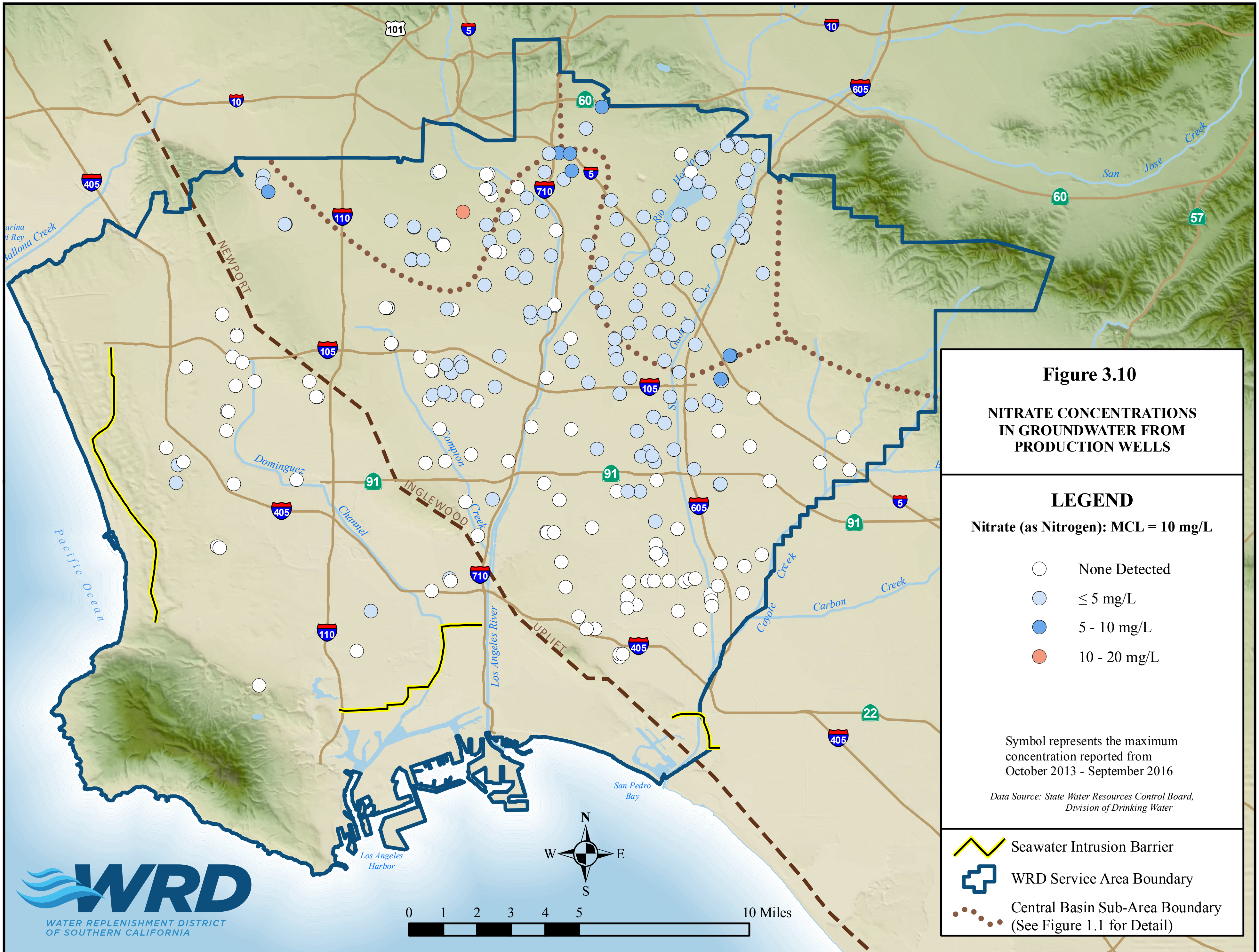


Figure 3.10

NITRATE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS

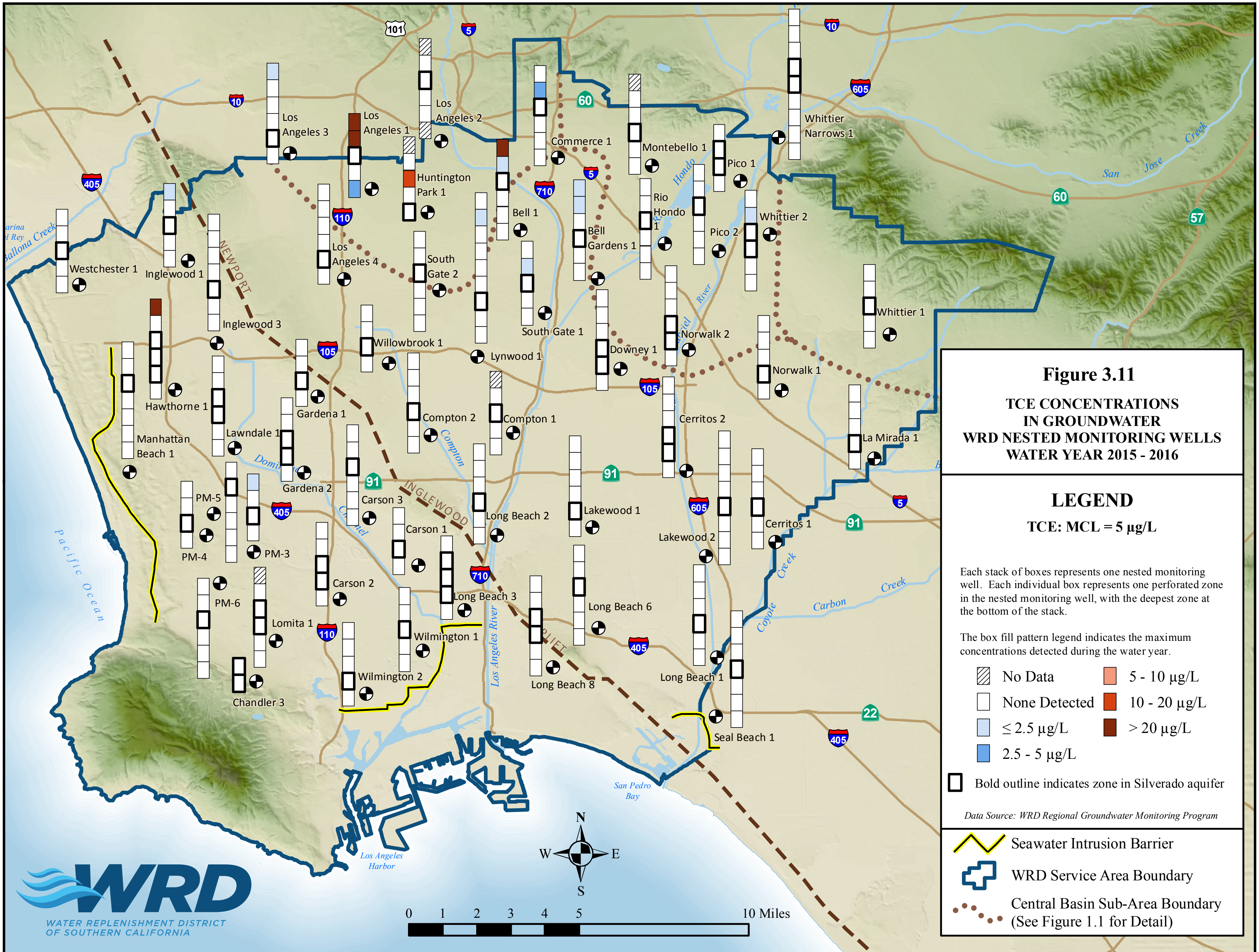


Figure 3.11
TCE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2015 - 2016
LEGEND
TCE: MCL = 5 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of 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)
WRD
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
0 1 2 3 4 5 10 Miles
N
S
E
W
Westchester 1
Inglewood 1
Inglewood 3
Los Angeles 3
Los Angeles 1
Los Angeles 2
Los Angeles 4
Huntington Park 1
Commerce 1
Montebello 1
Whittier Narrows 1
Pico 1
Pico 2
Whittier 2
Whittier 1
Bell 1
Bell Gardens 1
Rio Hondo 1
South Gate 2
South Gate 1
Willowbrook 1
Lynwood 1
Downey 1
Norwalk 2
Norwalk 1
Hawthorne 1
Manhattan Beach 1
Lawndale 1
Gardena 1
Gardena 2
Compton 2
Compton 1
Cerritos 2
La Mirada 1
PM-5
PM-4
PM-3
PM-6
Carson 3
Carson 1
Carson 2
Long Beach 2
Lakewood 1
Lakewood 2
Cerritos 1
Lomita 1
Chandler 3
Wilmington 1
Wilmington 2
Long Beach 3
Long Beach 6
Long Beach 8
Long Beach 1
Seal Beach 1
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Los Angeles River
San Jose Creek
Rio Hondo
San Gabriel River
Coyote Creek
Carbon Creek
Compton Creek
Dominguez Channel
Ballona Creek
NEWPORT
INGLEWOOD
101
5
10
405
110
710
60
105
605
91
57
22

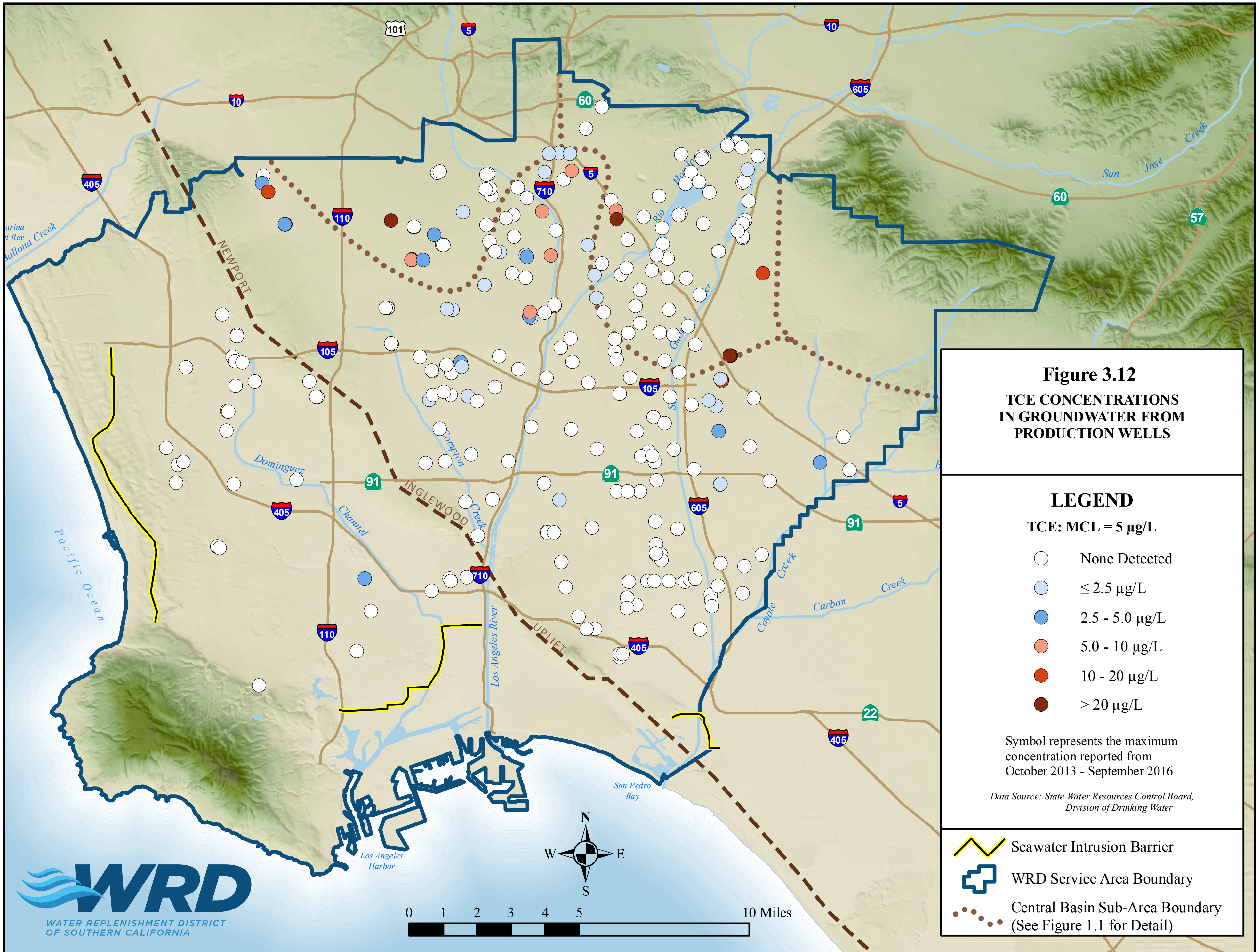


Figure 3.12
TCE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS

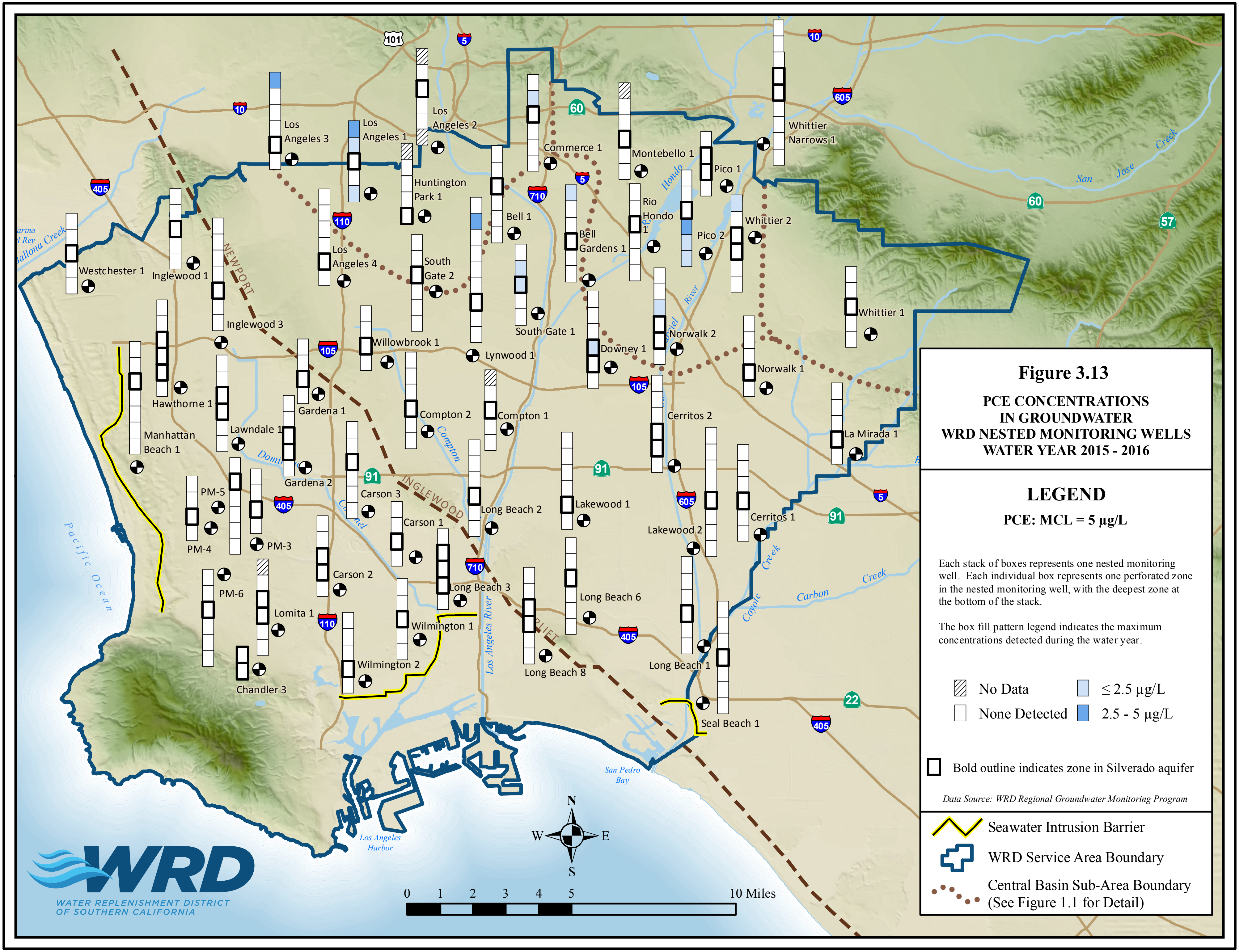


Figure 3.13
PCE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2015 - 2016
LEGEND
PCE: MCL = 5 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of 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)
WRD
WATER REPLENISHMENT DISTRICT
OF SOUTHERN CALIFORNIA
0 1 2 3 4 5 10 Miles
N
S
E
W
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Westchester 1
Inglewood 1
Inglewood 3
Los Angeles 3
Los Angeles 1
Los Angeles 2
Los Angeles 4
Huntington Park 1
South Gate 2
Bell 1
Commerce 1
Montebello 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Rio Hondo 1
Bell Gardens 1
South Gate 1
Downey 1
Norwalk 2
Norwalk 1
La Mirada 1
Willowbrook 1
Lynwood 1
Hawthorne 1
Manhattan Beach 1
Lawndale 1
Gardena 1
Gardena 2
Compton 2
Compton 1
Cerritos 2
Cerritos 1
Lakewood 1
Lakewood 2
PM-5
PM-4
PM-3
PM-6
Carson 3
Carson 1
Carson 2
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Long Beach 1
Lomita 1
Chandler 3
Wilmington 1
Wilmington 2
Seal Beach 1
NEWPORT
INGLEWOOD
San Jose Creek
Rio Hondo
San Gabriel River
Compton
Dominguez Channel
Los Angeles River
Coyote Creek
Carbon Creek
Ballona Creek

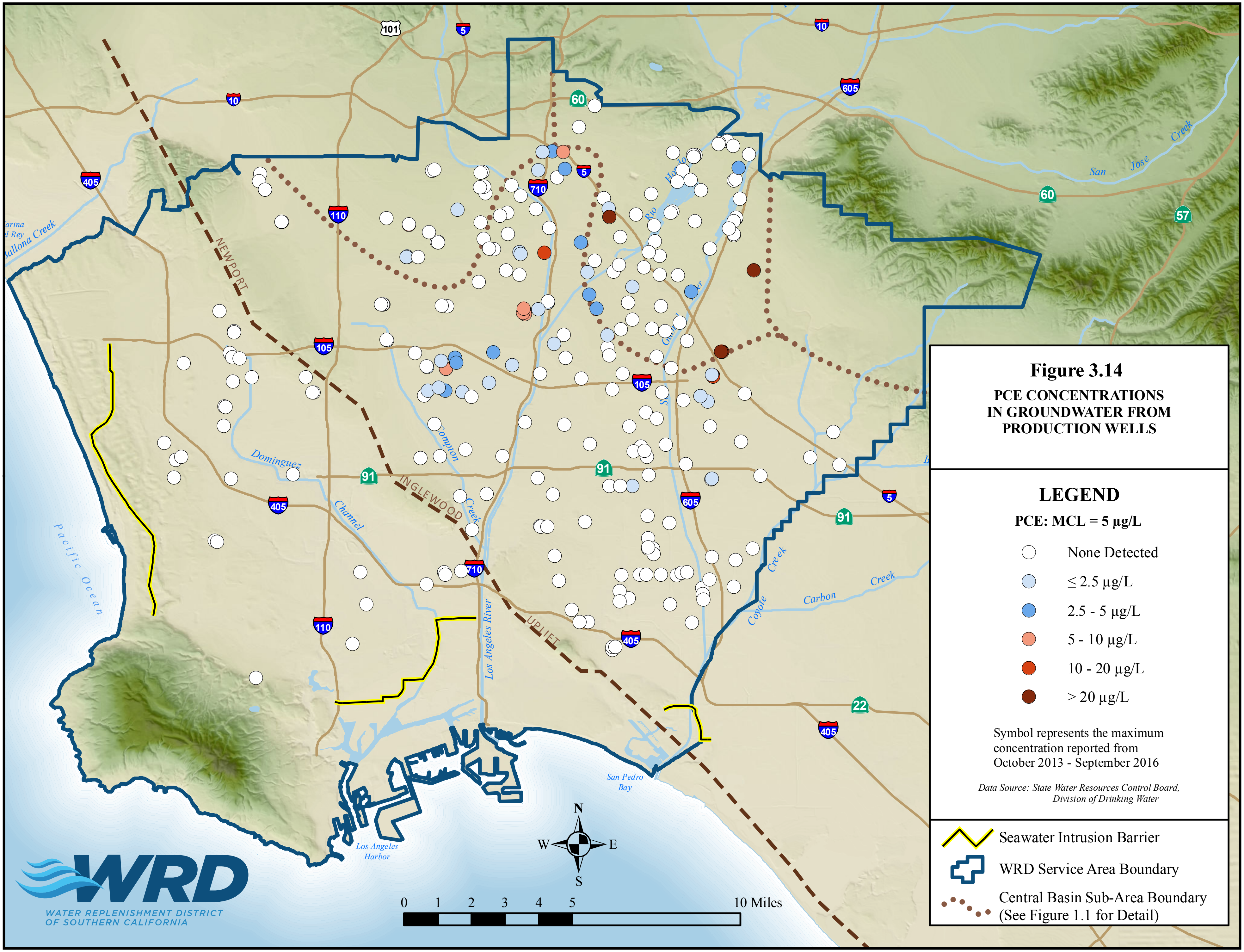


Figure 3.14

PCE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS

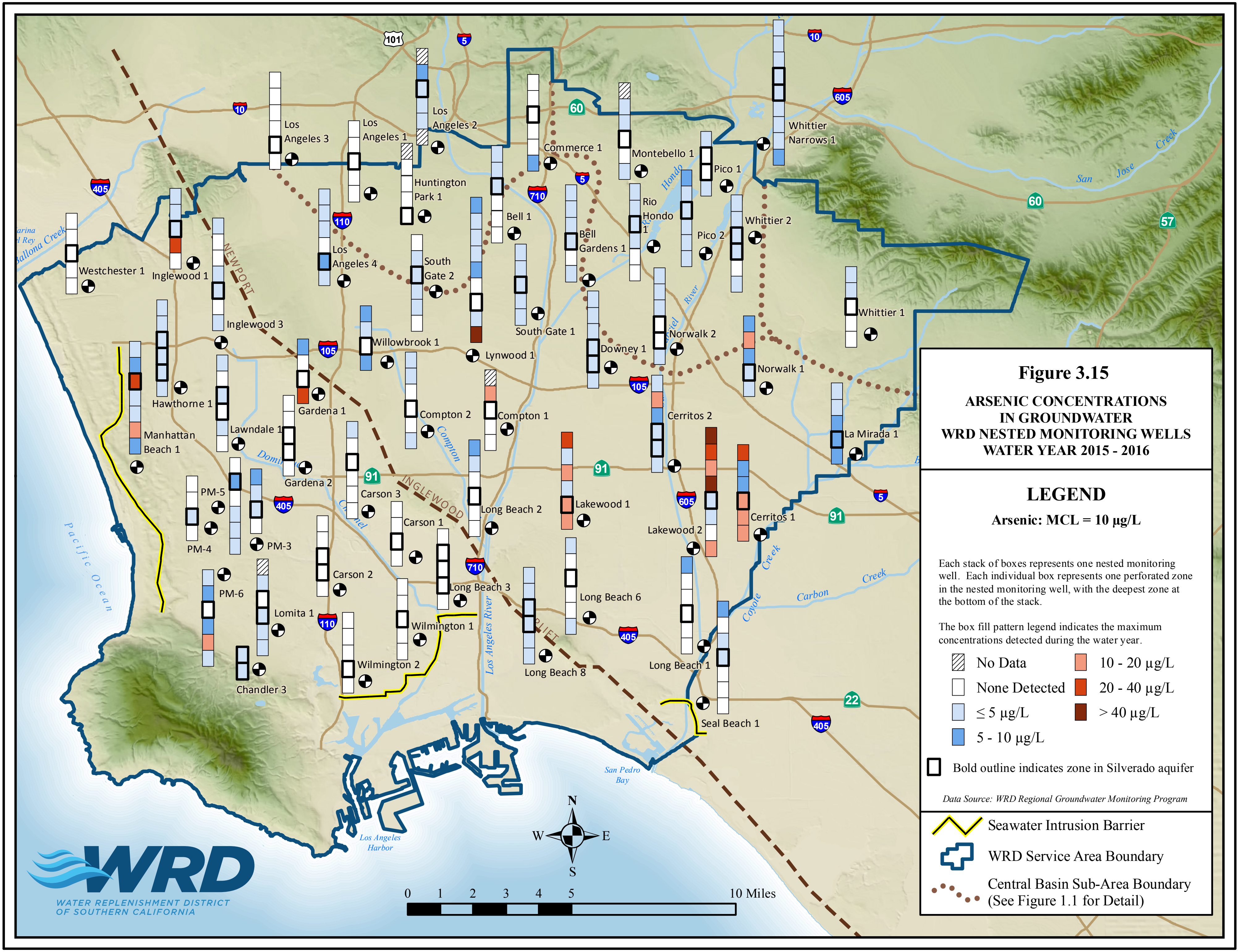


Figure 3.15
ARSENIC CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2015 - 2016
LEGEND
Arsenic: MCL = 10 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 5 µg/L
5 - 10 µg/L
10 - 20 µg/L
20 - 40 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)
WRD
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
0 1 2 3 4 5 10 Miles
N S E W
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
NEWPORT INGLEWOOD
Westchester 1
Inglewood 1
Inglewood 3
Los Angeles 3
Los Angeles 1
Los Angeles 2
Los Angeles 4
Huntington Park 1
South Gate 2
Commerce 1
Bell 1
Montebello 1
Rio Hondo 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Bell Gardens 1
South Gate 1
Lynwood 1
Downey 1
Norwalk 2
Norwalk 1
Willowbrook 1
Hawthorne 1
Manhattan Beach 1
Lawndale 1
Gardena 1
Gardena 2
Compton 2
Compton 1
Cerritos 2
Cerritos 1
La Mirada 1
Lakewood 1
Lakewood 2
Long Beach 2
Carson 3
Carson 1
Carson 2
PM-5
PM-4
PM-3
PM-6
Lomita 1
Chandler 3
Wilmington 1
Wilmington 2
Long Beach 3
Long Beach 8
Long Beach 6
Long Beach 1
Seal Beach 1
Los Angeles River
Compton Creek
Dominguez Channel
Rio Hondo
San Gabriel River
San Jose Creek
Coyote Creek
Carbon Creek
Ballona Creek

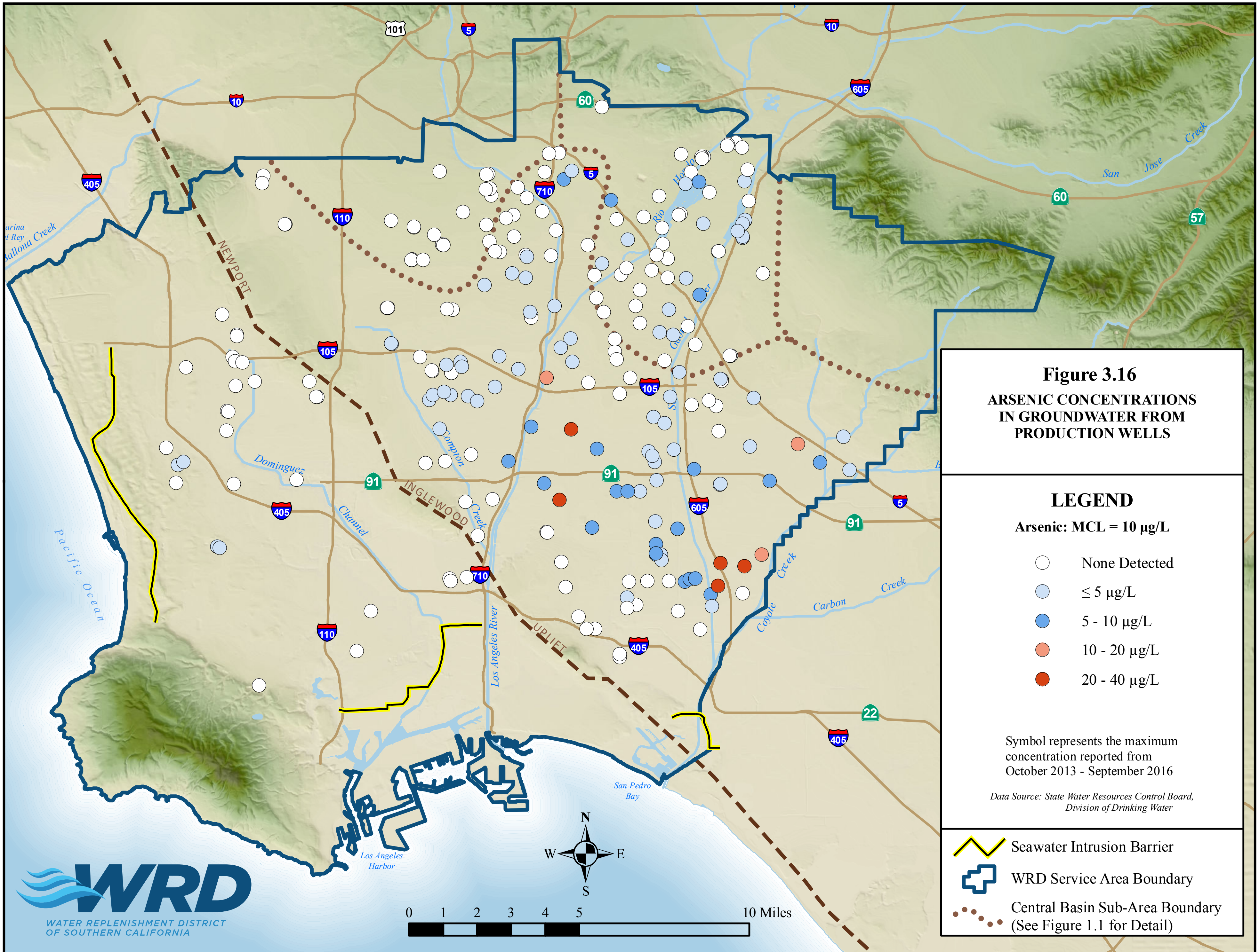


Figure 3.16
ARSENIC CONCENTRATIONS
IN GROUNDWATER FROM
PRODUCTION WELLS
LEGEND
Arsenic: MCL = 10 µg/L
None Detected
≤ 5 µg/L
5 - 10 µg/L
10 - 20 µg/L
20 - 40 µg/L
Symbol represents the maximum
concentration reported from
October 2013 - September 2016
Data Source: State Water Resources Control Board,
Division of Drinking Water
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
0
1
2
3
4
5
10 Miles
N
S
E
W
WRD
WATER REPLENISHMENT DISTRICT
OF SOUTHERN CALIFORNIA
NEWPORT
INGLEWOOD
UPLIFT
Pacific Ocean
San Pedro
Bay
Los Angeles
Harbor
Los Angeles River
Compton
Creek
Dominguez
Channel
Ballona Creek
Rio
Hondo
San
Jose
Creek
Coyote
Creek
Carbon
Creek
101
5
10
60
605
405
110
710
105
91
57
22

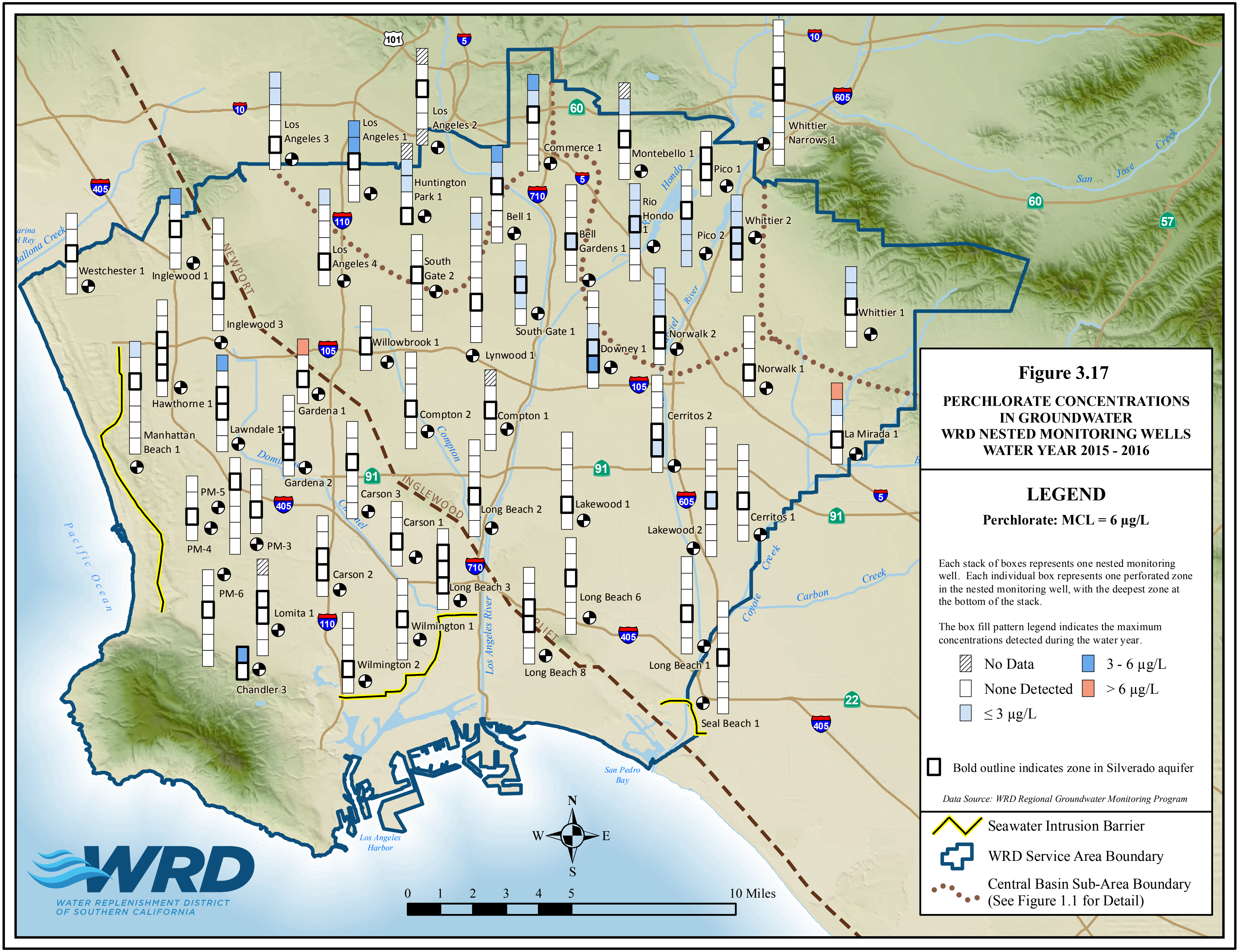


Figure 3.17

PERCHLORATE CONCENTRATIONS IN GROUNDWATER WRD NESTED MONITORING WELLS WATER YEAR 2015 - 2016

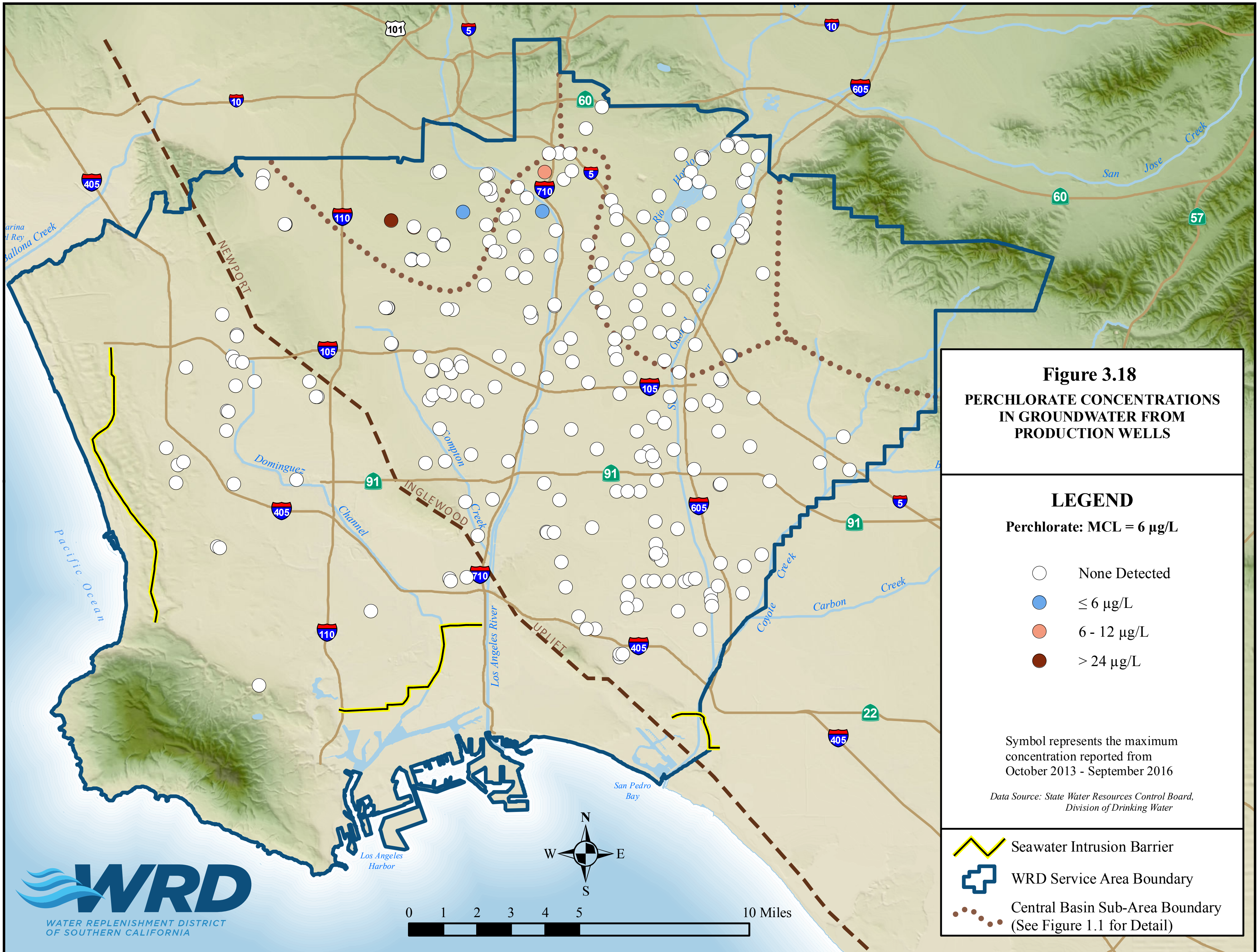


Figure 3.18
PERCHLORATE CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS

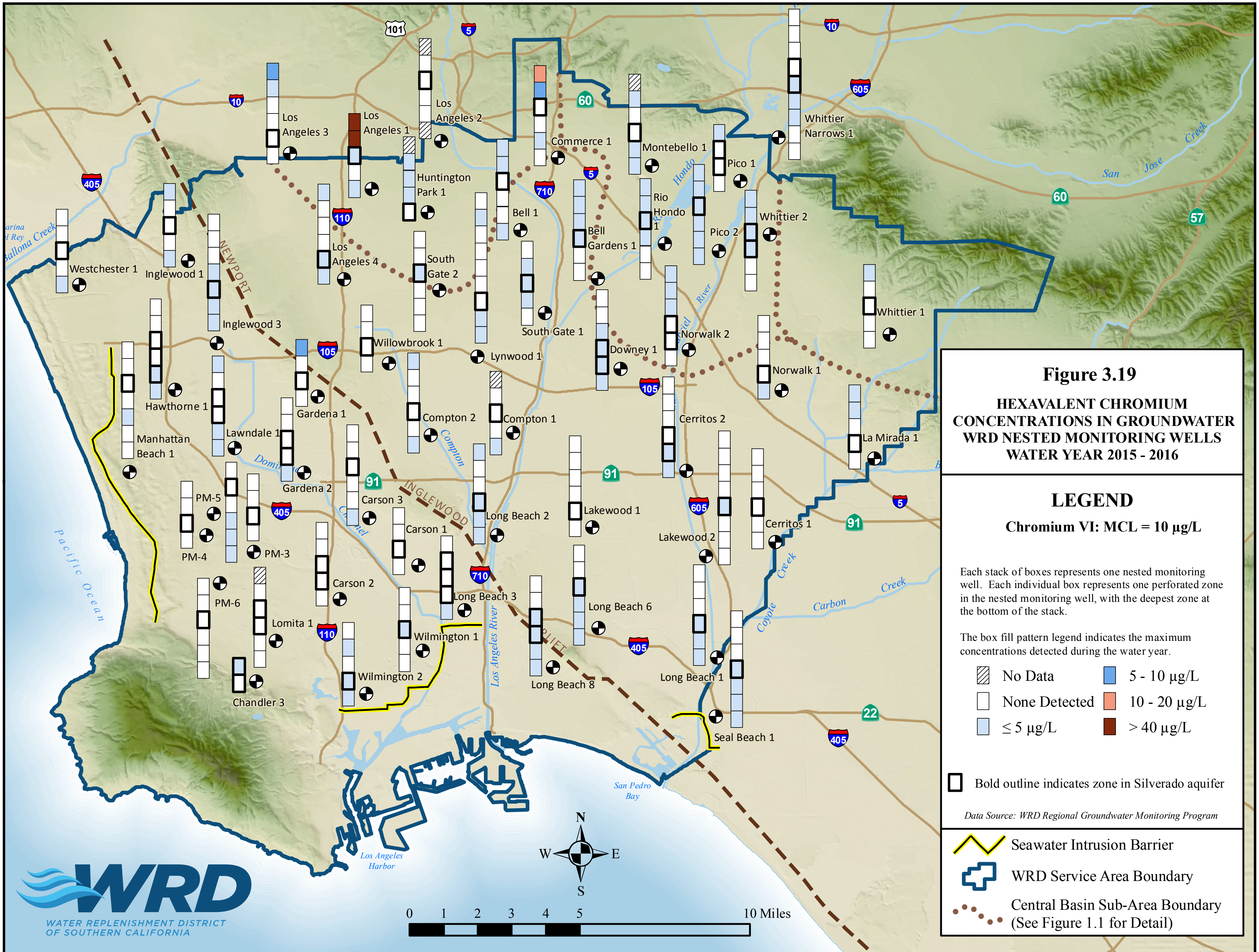


Figure 3.19
HEXAVALENT CHROMIUM CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2015 - 2016
LEGEND
Chromium VI: MCL = 10 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 5 µg/L
5 - 10 µg/L
10 - 20 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)
Los Angeles 3
Los Angeles 1
Los Angeles 2
Commerce 1
Montebello 1
Pico 1
Whittier Narrows 1
Huntington Park 1
Bell 1
Rio Hondo 1
Pico 2
Whittier 2
Westchester 1
Inglewood 1
Los Angeles 4
South Gate 2
Bell Gardens 1
Inglewood 3
Willowbrook 1
South Gate 1
Lynwood 1
Downey 1
Norwalk 2
Whittier 1
Norwalk 1
Hawthorne 1
Gardena 1
Compton 2
Compton 1
Cerritos 2
La Mirada 1
Manhattan Beach 1
Lawndale 1
Gardena 2
Carson 3
Long Beach 2
Lakewood 1
Cerritos 1
Lakewood 2
PM-5
PM-4
PM-3
Carson 1
Carson 2
PM-6
Lomita 1
Long Beach 3
Long Beach 6
Wilmington 1
Wilmington 2
Long Beach 8
Long Beach 1
Chandler 3
Seal Beach 1
NEWPORT
INGLEWOOD
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Los Angeles River
Ballona Creek
Rio Hondo
San Gabriel River
San Jose Creek
Coyote Creek
Carbon Creek
Dominguez Channel
Compton Creek
N
W
E
S
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA

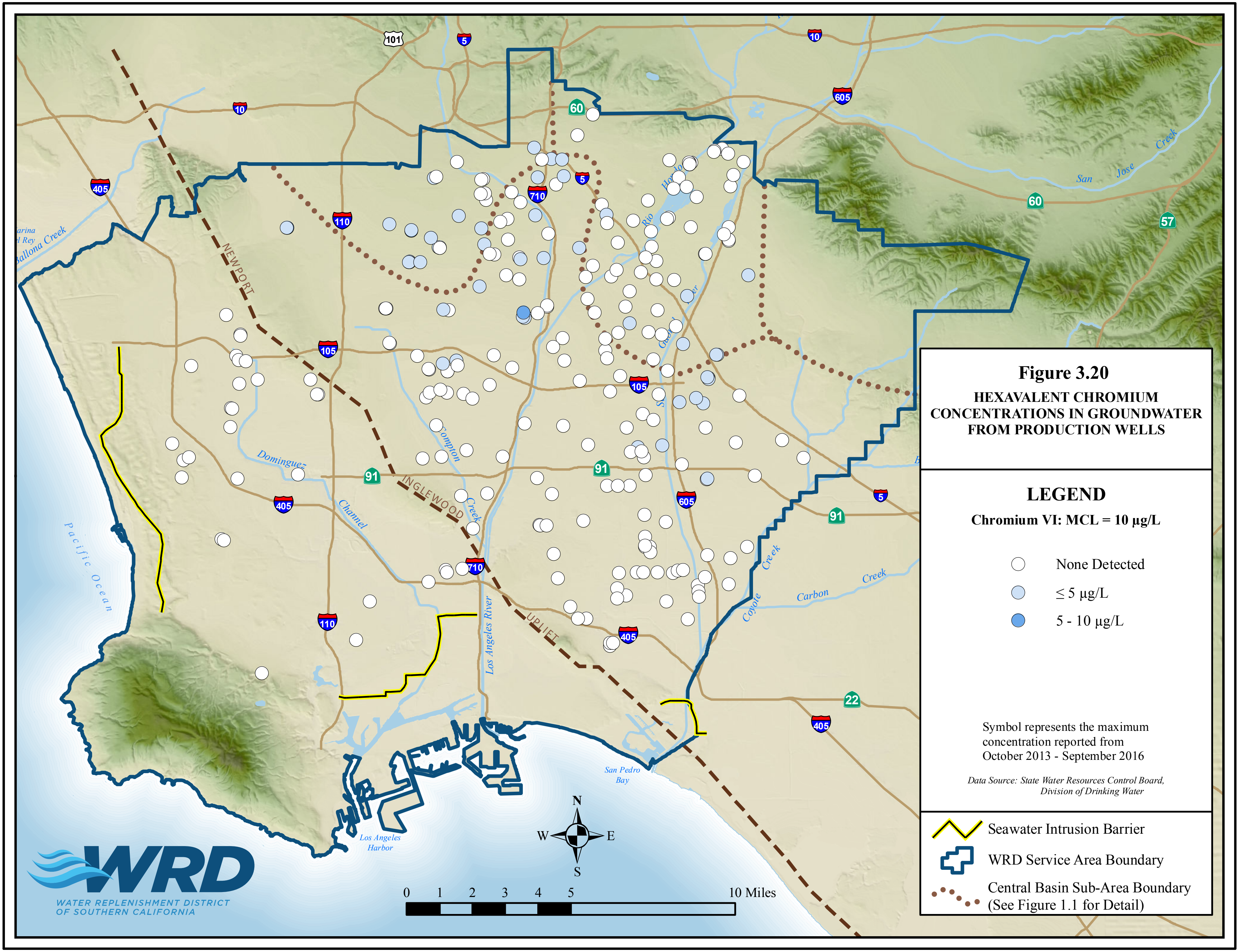
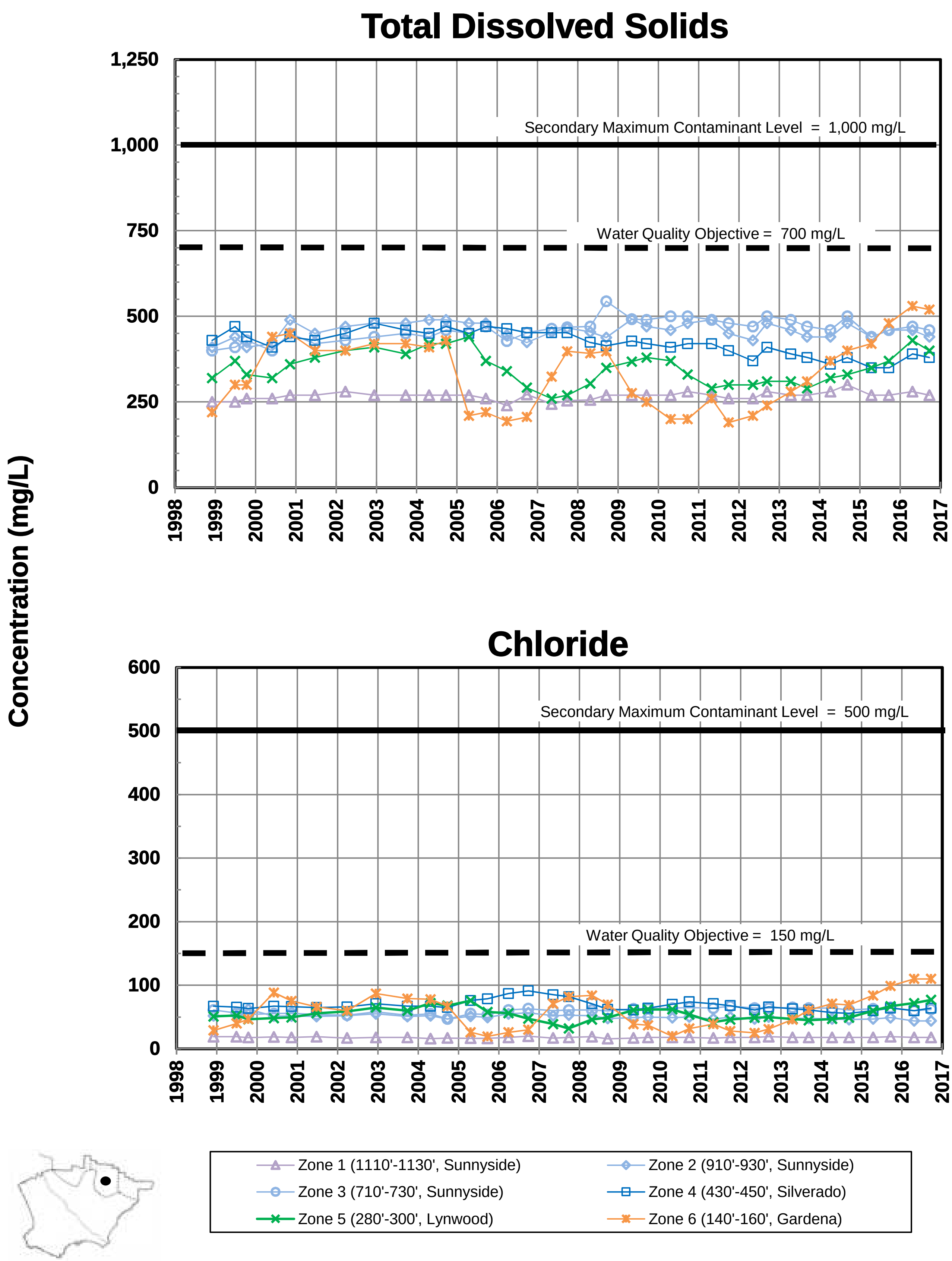
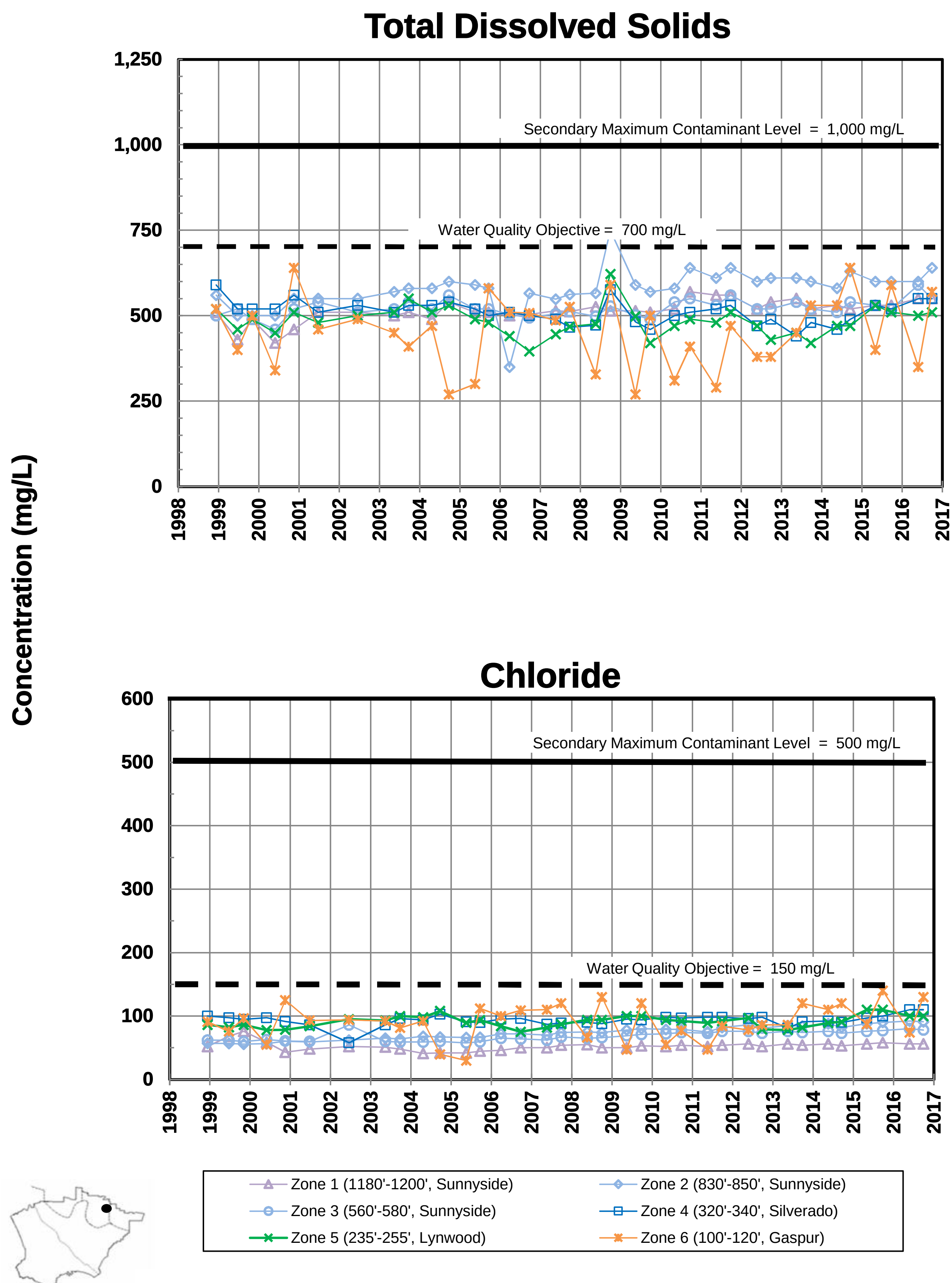


Figure 3.20
HEXAVALENT CHROMIUM CONCENTRATIONS IN GROUNDWATER FROM PRODUCTION WELLS
LEGEND
Chromium VI: MCL = 10 µg/L
None Detected
≤ 5 µg/L
5 - 10 µg/L
Symbol represents the maximum concentration reported from October 2013 - September 2016
Data Source: State Water Resources Control Board, Division of Drinking Water
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)
WRD
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
0 1 2 3 4 5 10 Miles
N
S
W
E
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Dominguez Channel
Compton Creek
Los Angeles River
Coyote Creek
Carbon Creek
San Jose Creek
Ballona Creek
NEWPORT INGLEWOOD UPLIFT



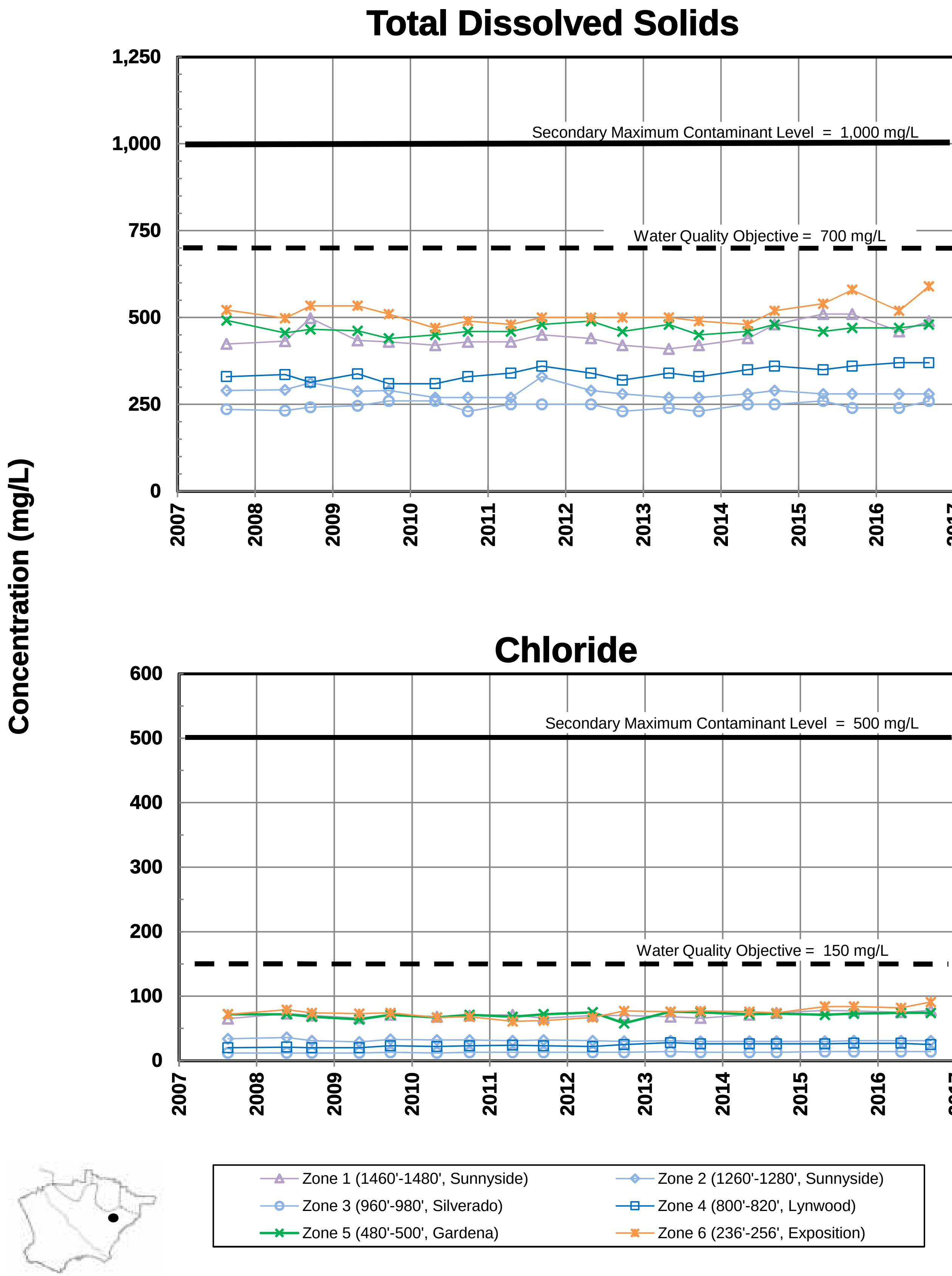
WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL RIO HONDO #1

FIGURE 4.1



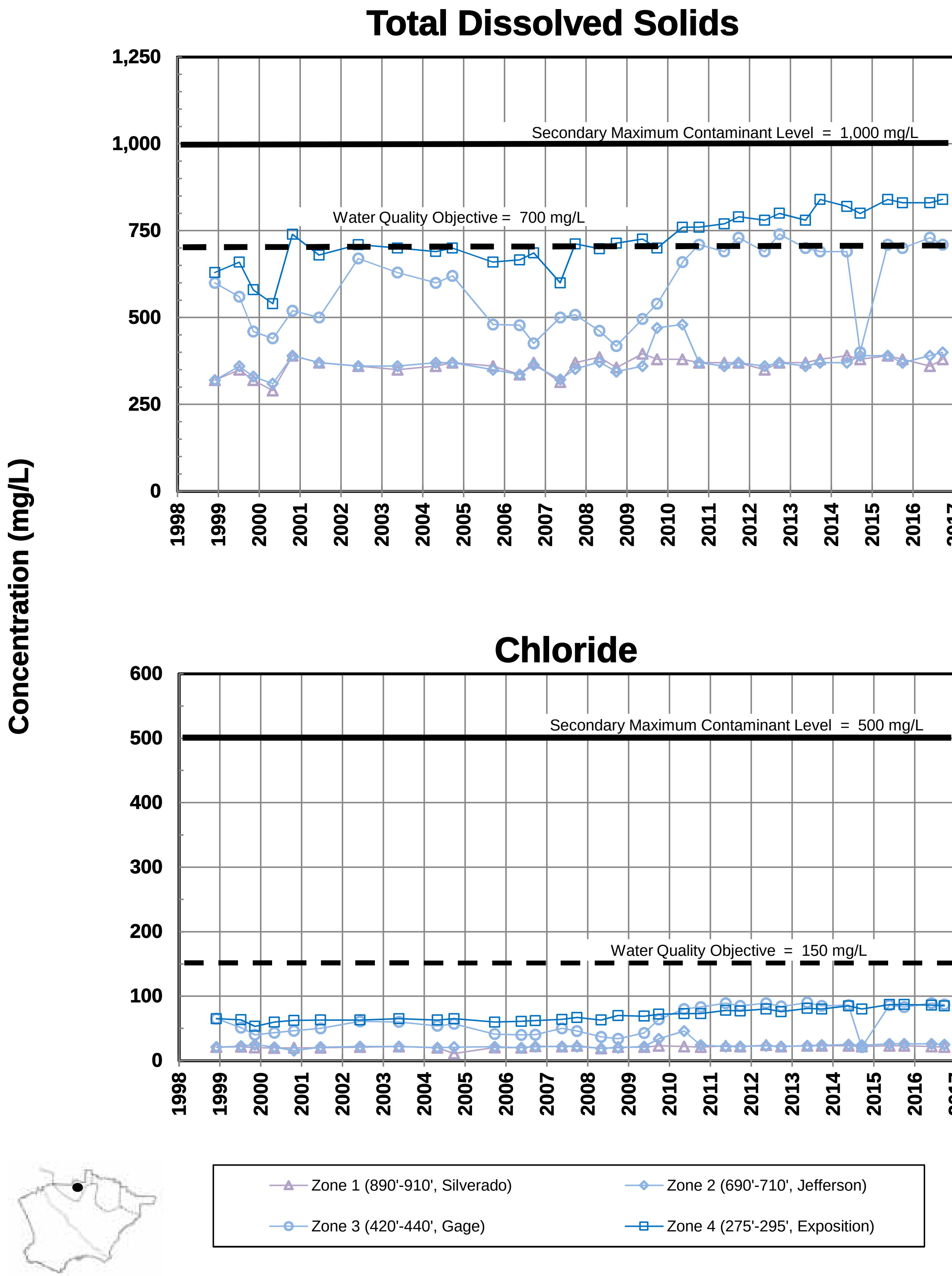
WATER QUALITY CONCENTRATIONS IN WRD KEY MONITORING WELL PICO #2

FIGURE 4.2



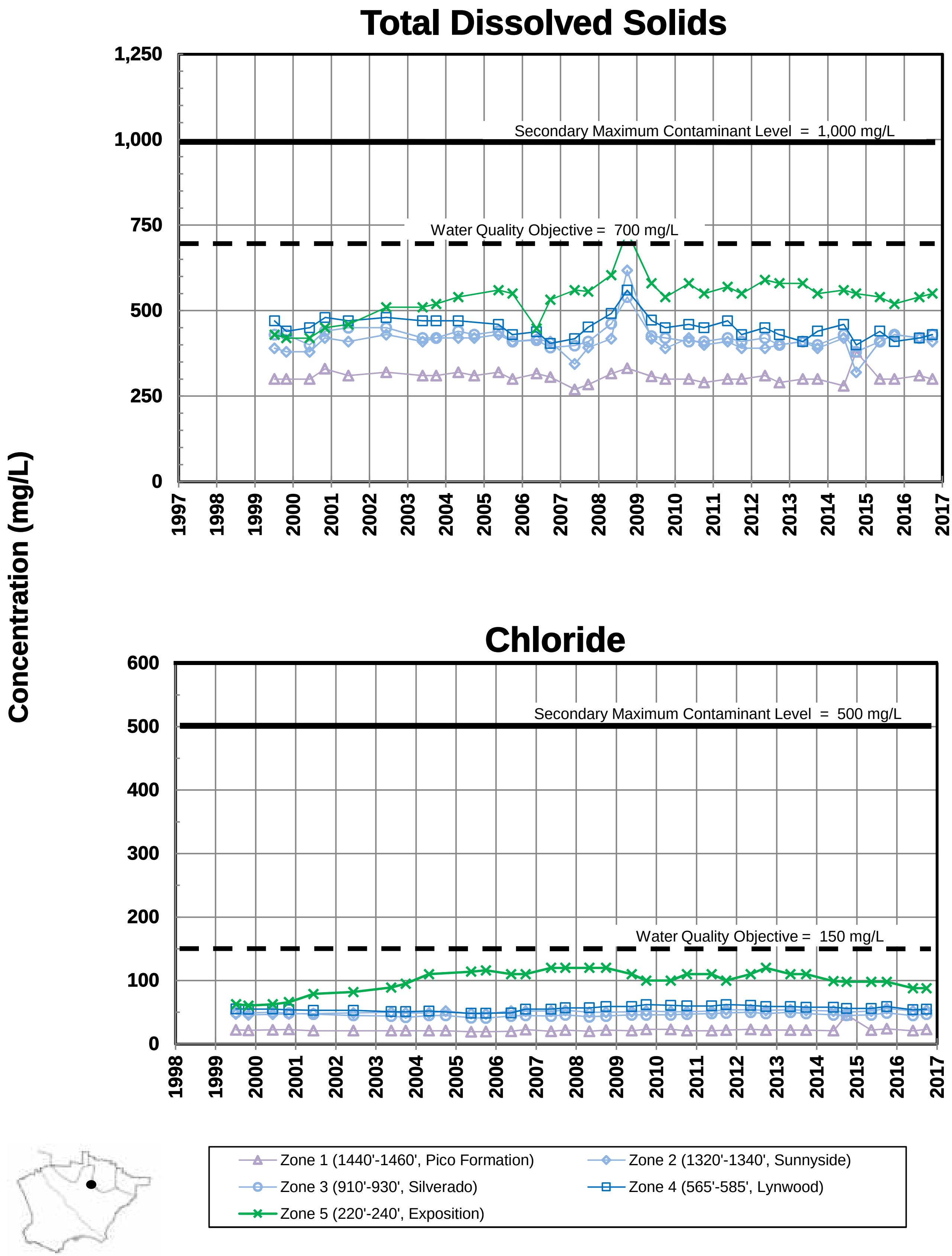
WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL NORWALK #2

FIGURE 4.3



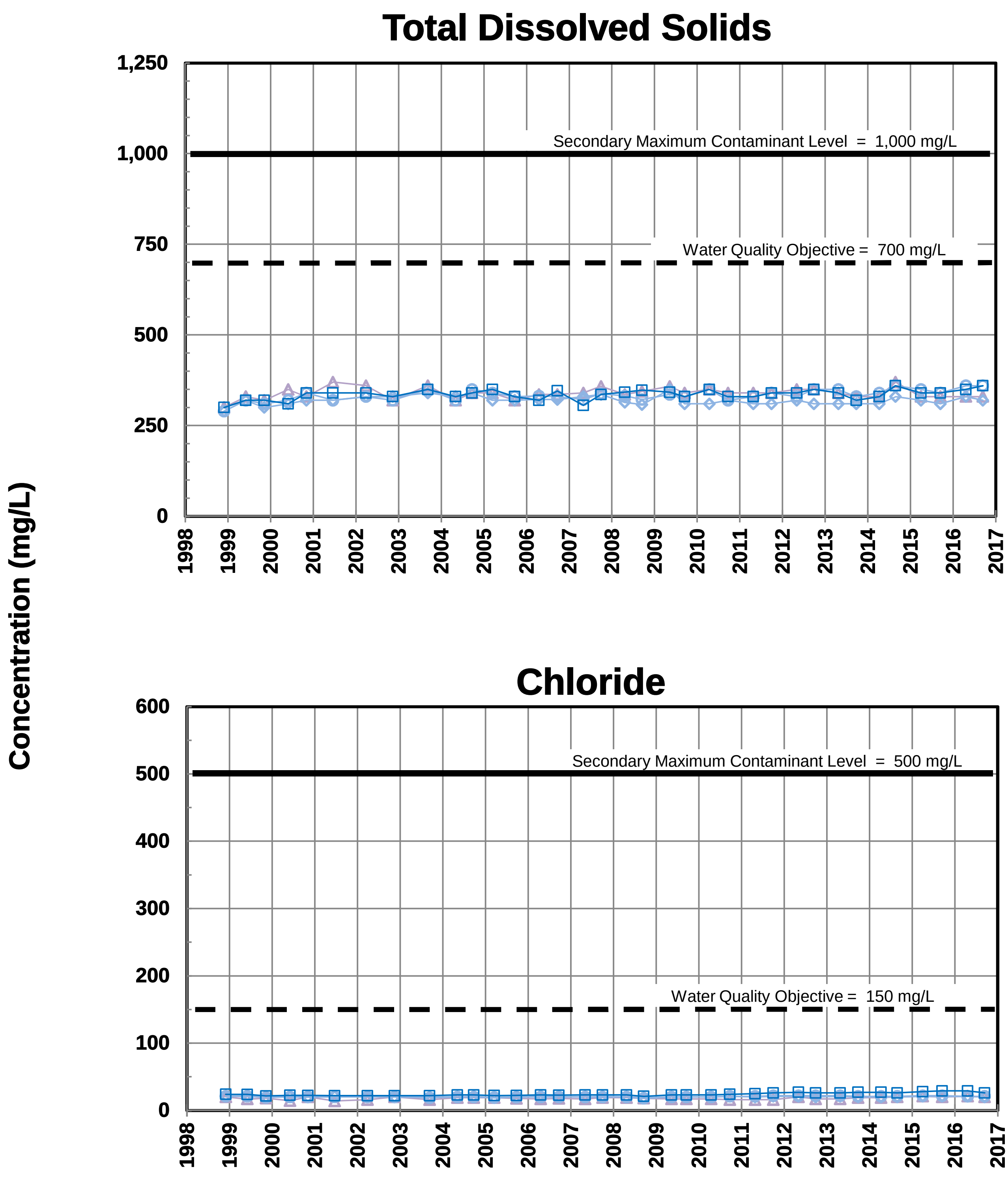
WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL HUNTINGTON PARK #1

FIGURE 4.4



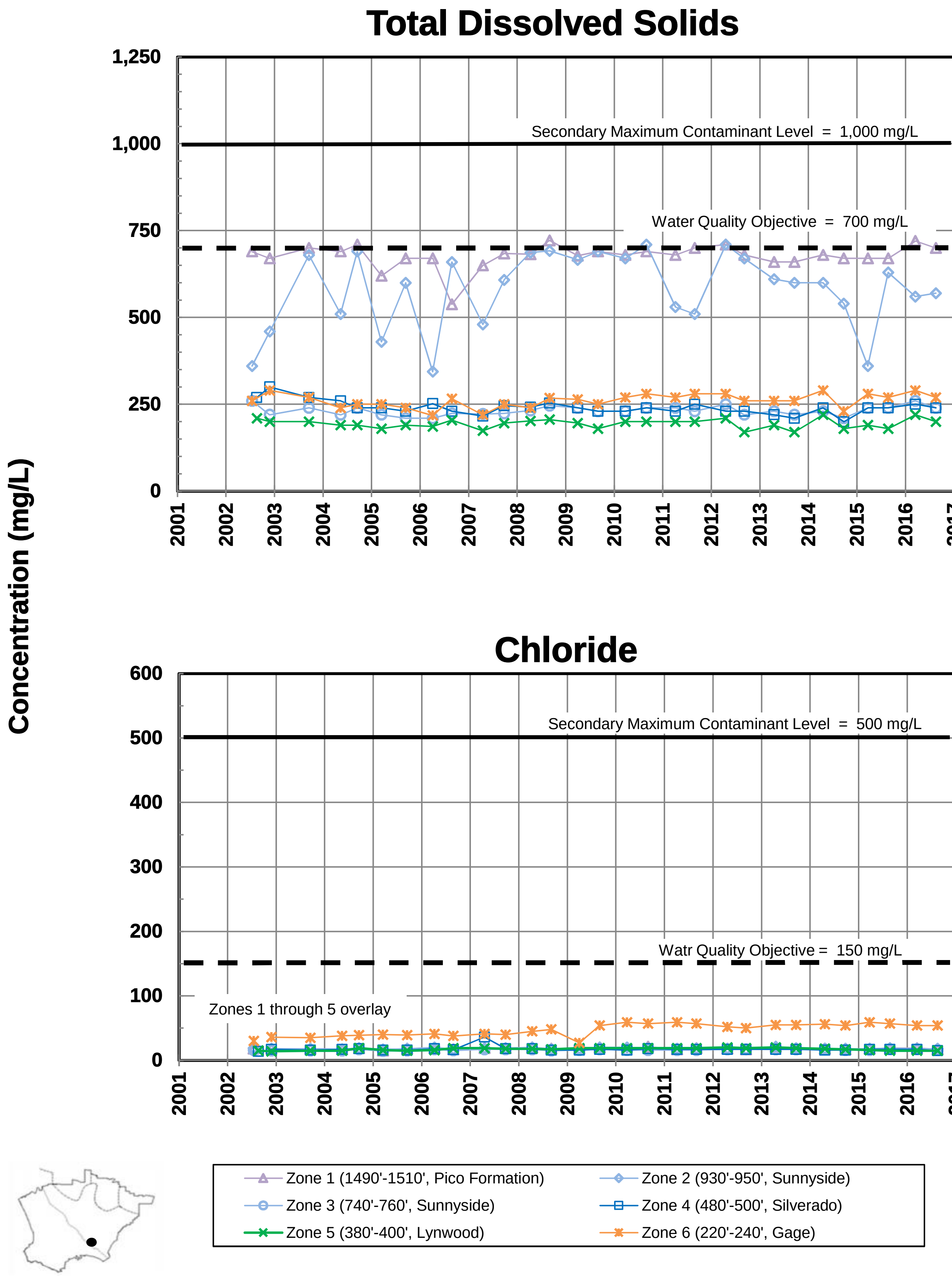
WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL SOUTH GATE #1

FIGURE 4.5



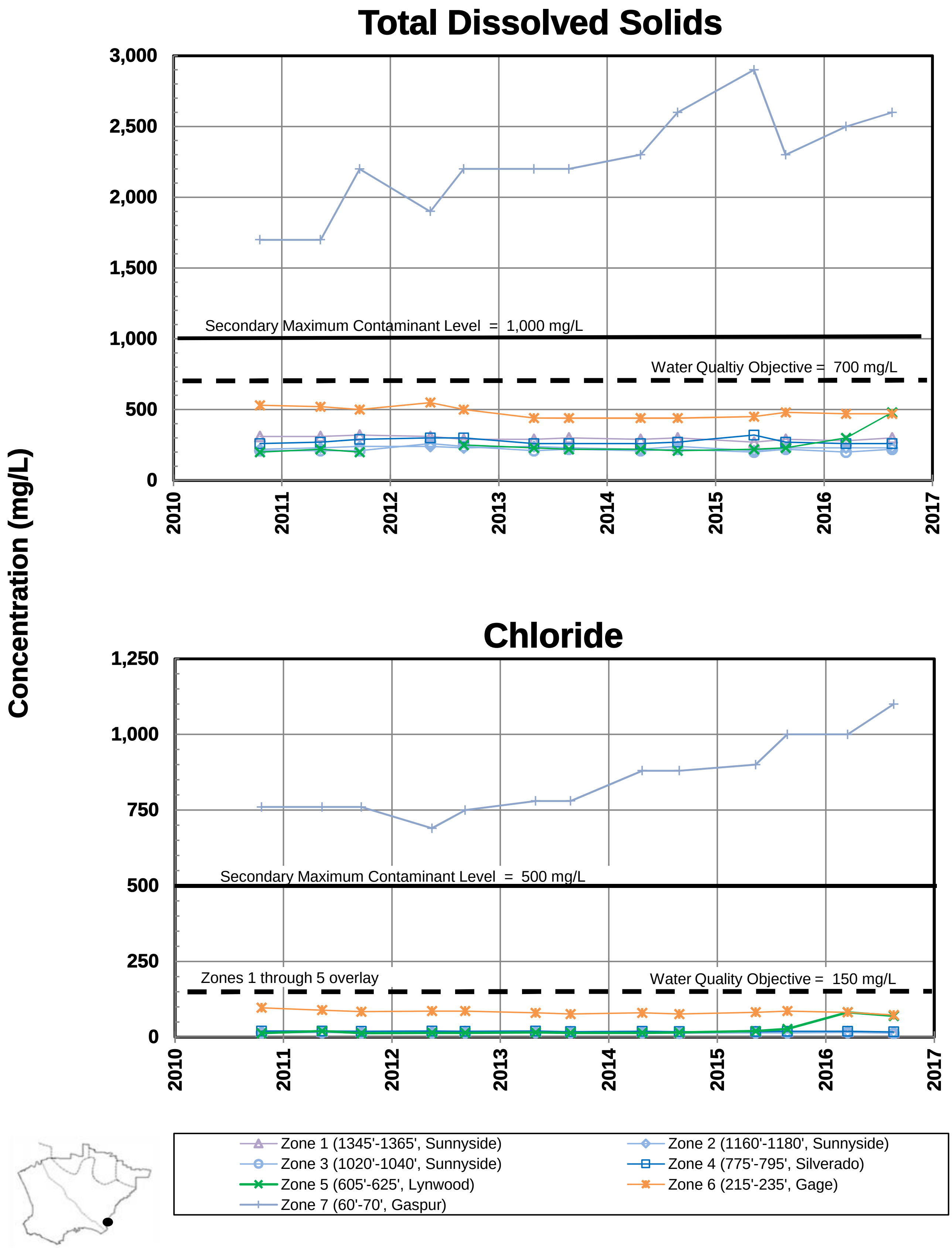
WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL WILLOWBROOK #1

FIGURE 4.6



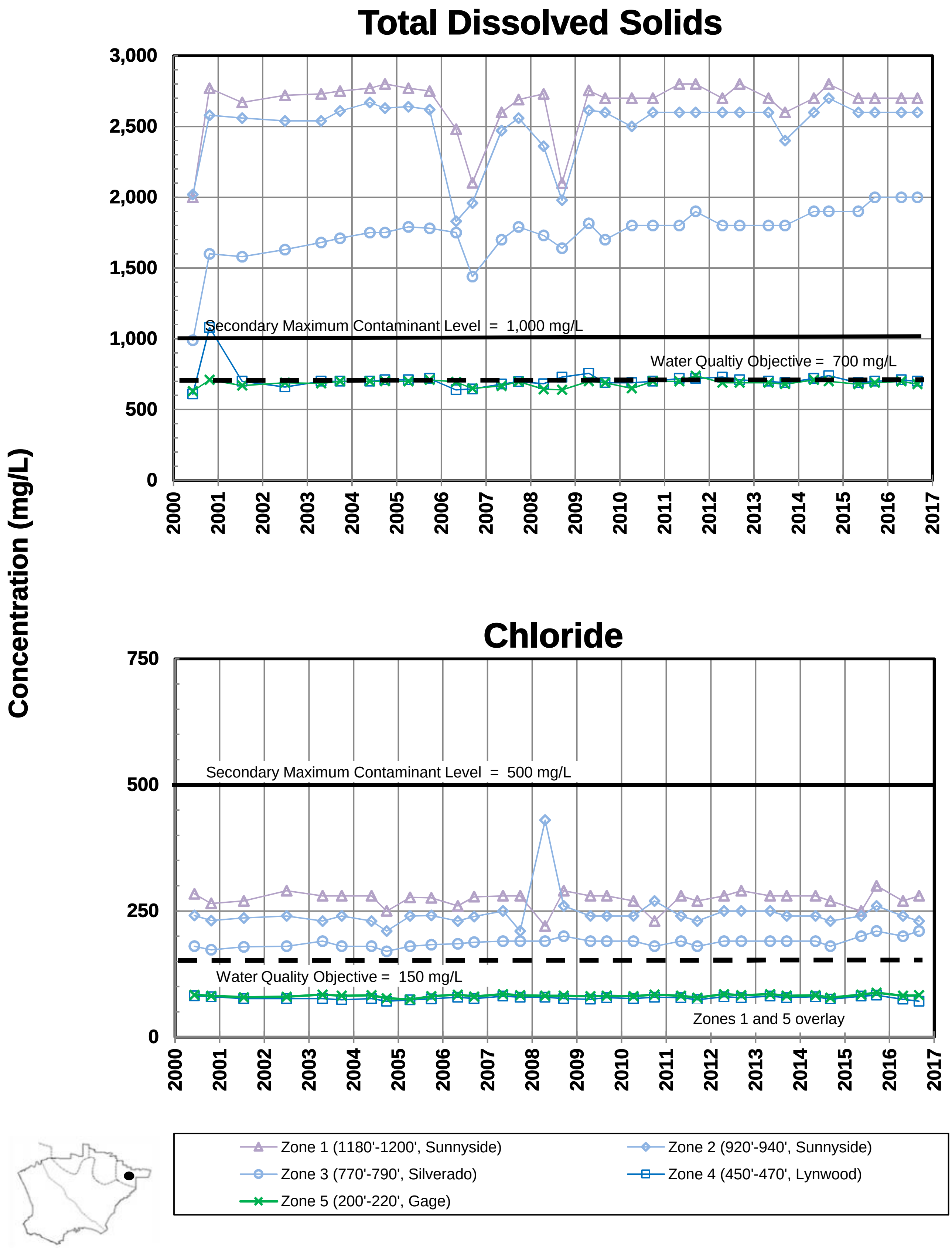
WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL LONG BEACH #6

FIGURE 4.7



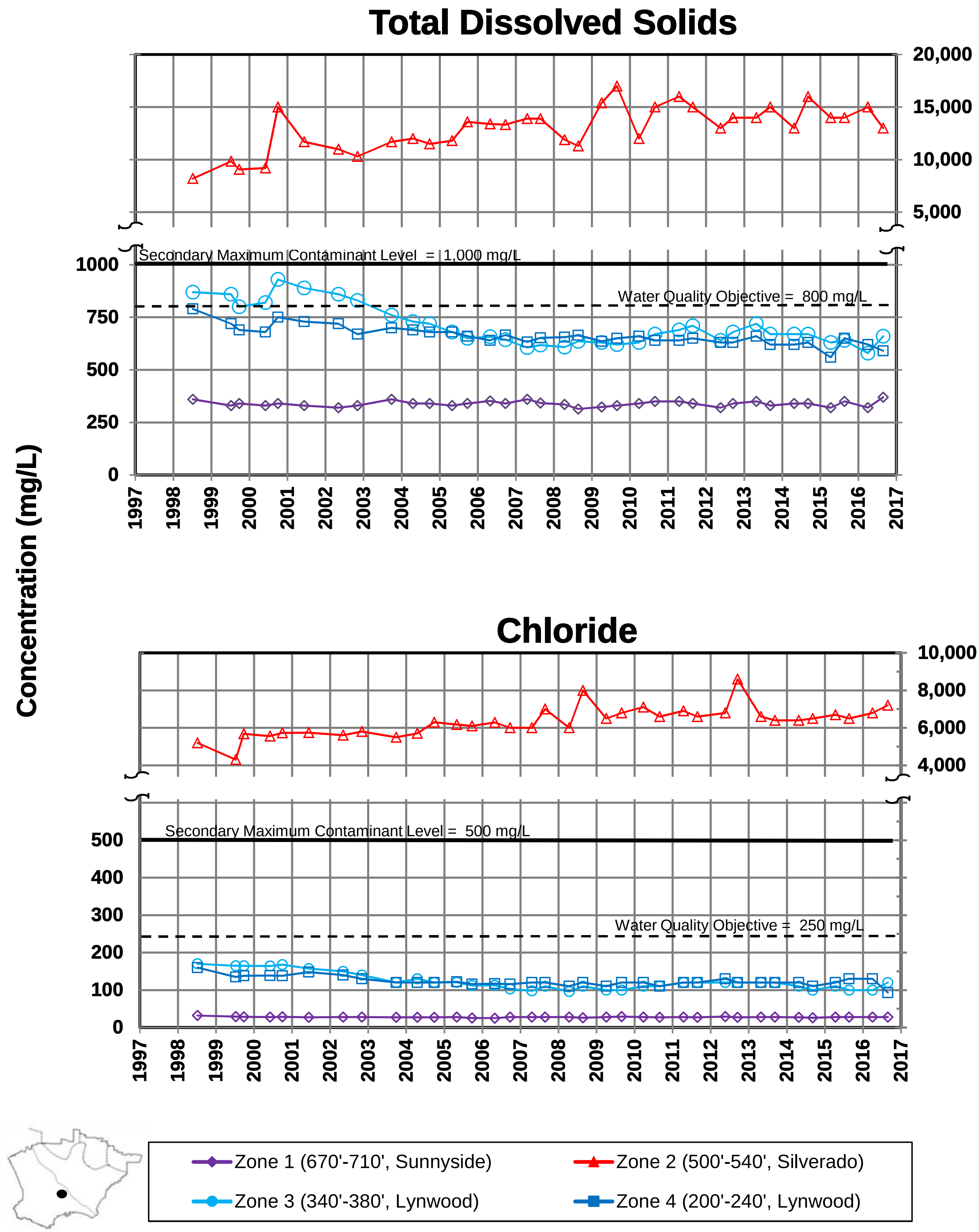
WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL SEAL BEACH #1

FIGURE 4.8



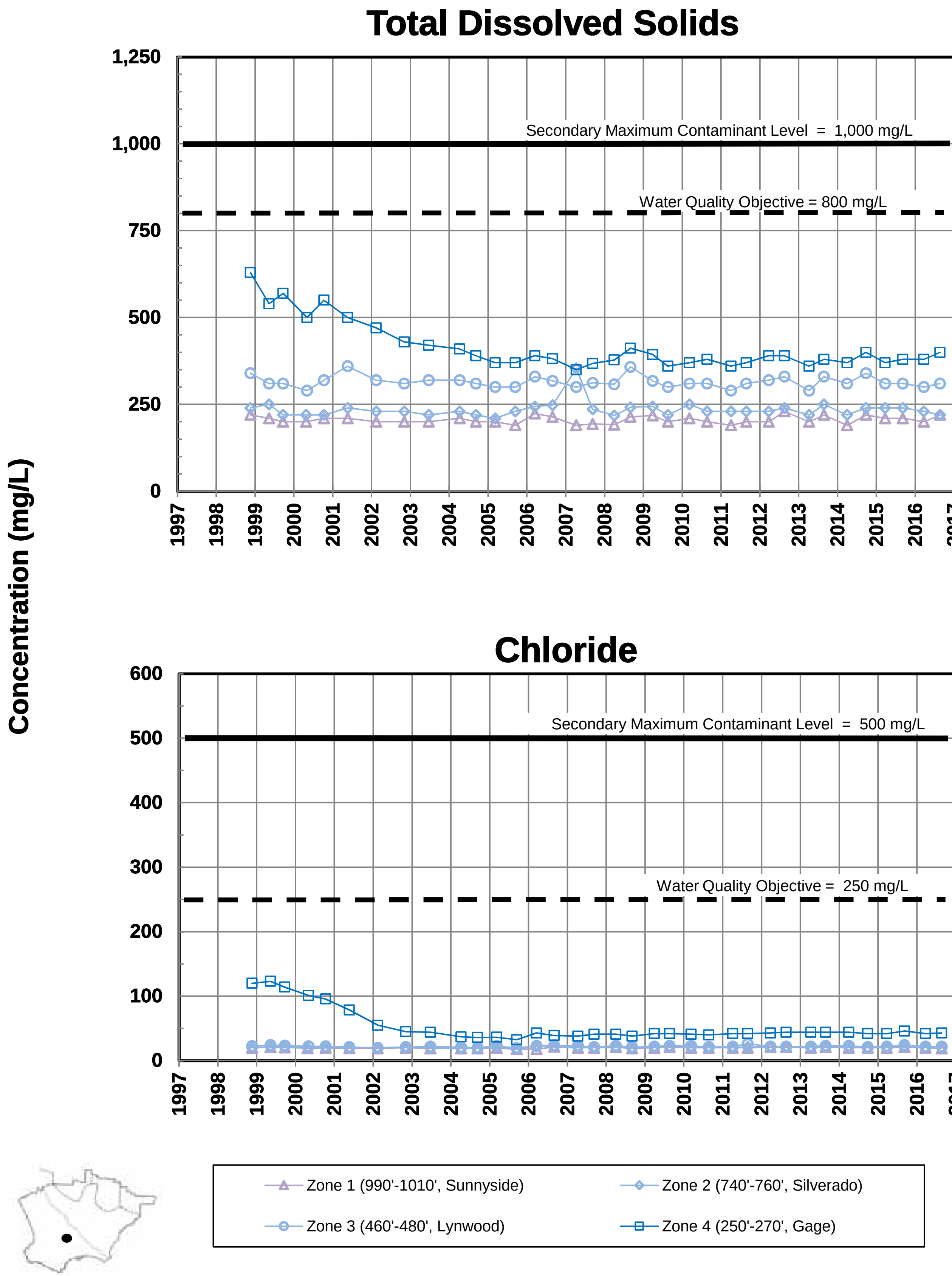
WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL WHITTIER #1

FIGURE 4.9



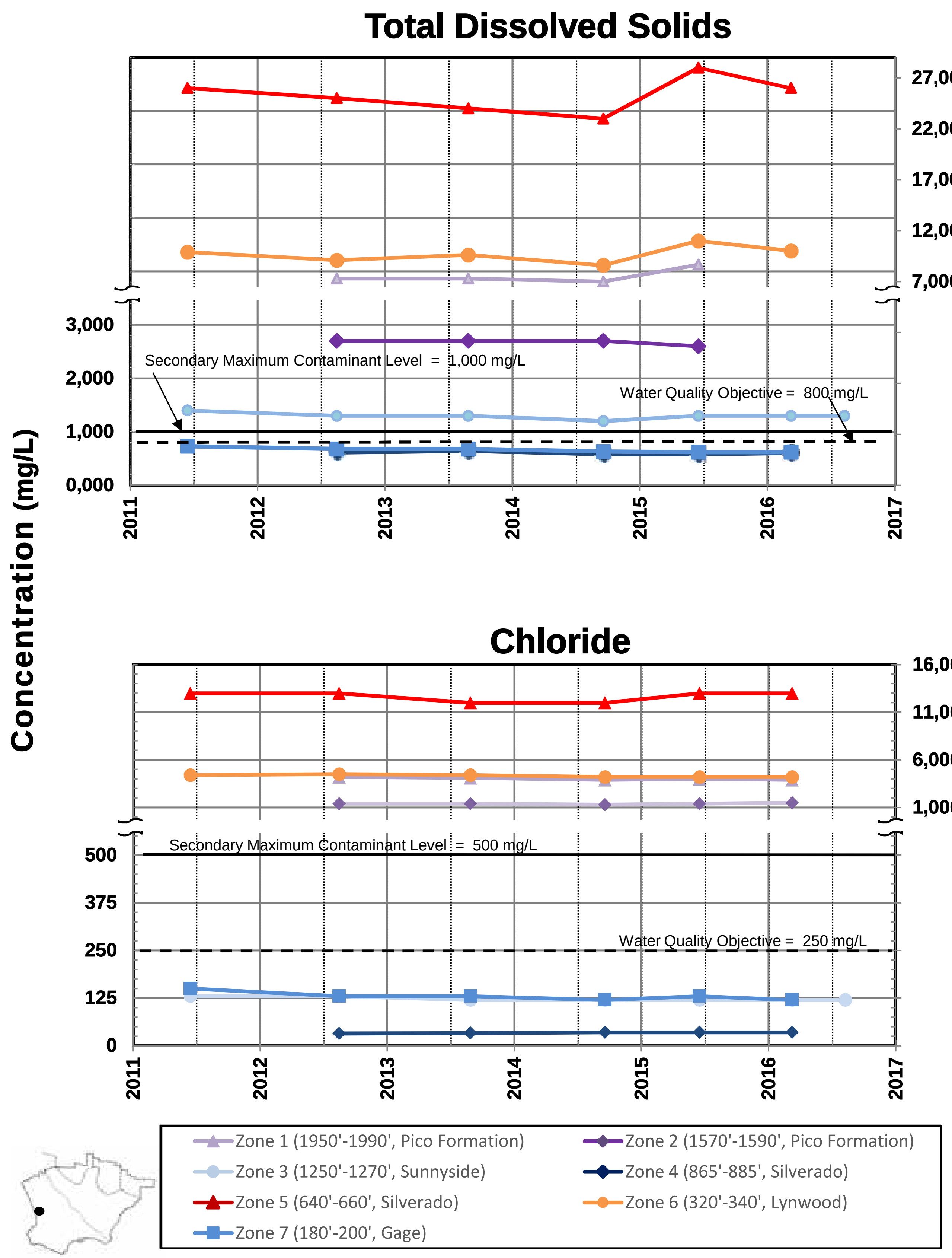
WATER QUALITY CONCENTRATIONS IN WRD KEY MONITORING WELL PM-4 MARINER

FIGURE 4.10



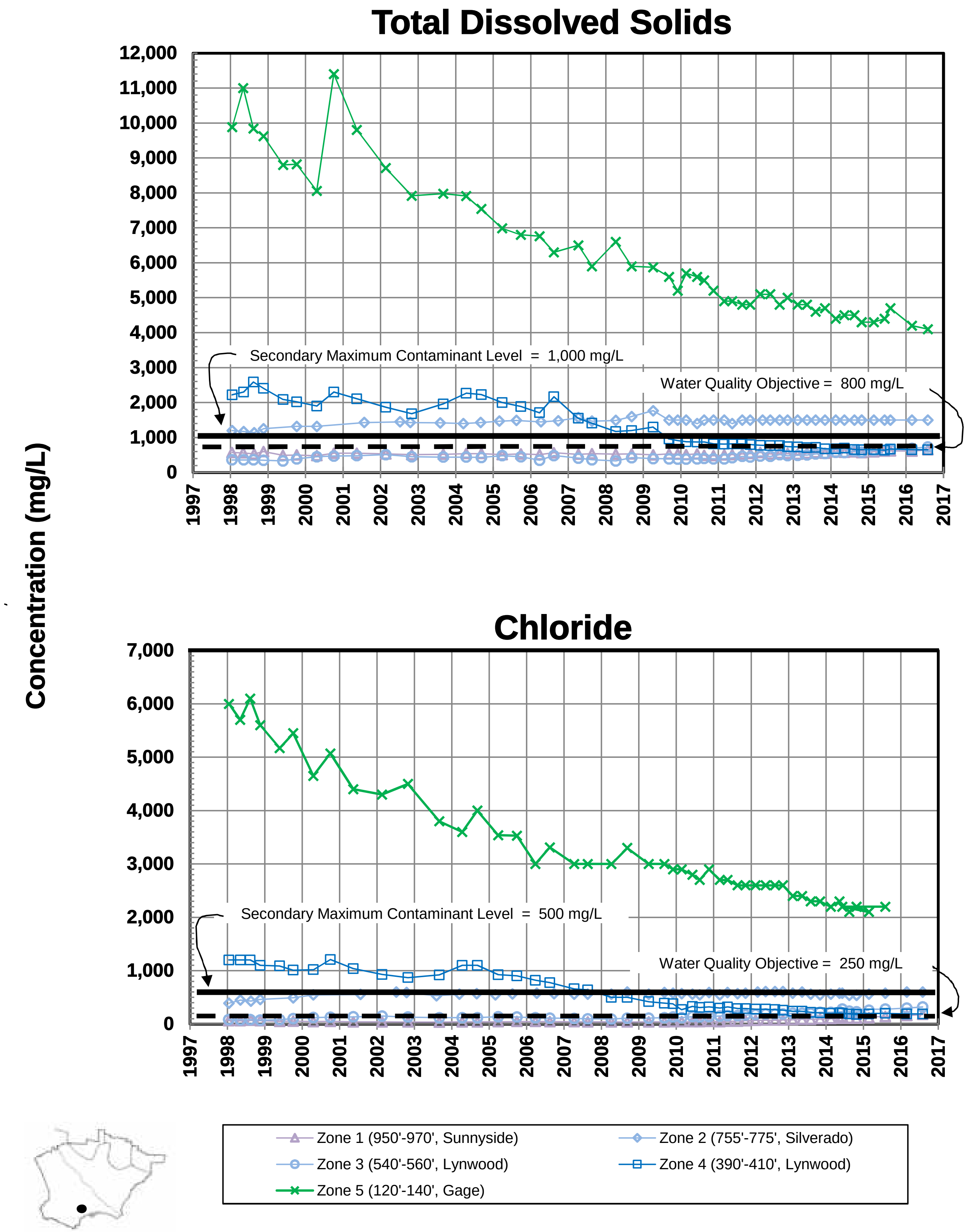
WATER QUALITY CONCENTRATIONS IN WRD KEY MONITORING WELL CARSON #1

FIGURE 4.11



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

FIGURE 4.12



WATER QUALITY CONCENTRATIONS IN
WRD KEY MONITORING WELL WILMINGTON #2

FIGURE 4.13

Mission:

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

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