



---

## REGIONAL GROUNDWATER MONITORING REPORT WATER YEAR 2020-2021

---

Central and West Coast Basins  
Los Angeles County, California

March 2022





# Water Replenishment District

## REGIONAL GROUNDWATER MONITORING REPORT CENTRAL BASIN AND WEST COAST BASIN LOS ANGELES COUNTY, CALIFORNIA WATER YEAR 2020 - 2021

MARCH 2022

### WRD BOARD OF DIRECTORS



Joy Langford  
*Division 1*

Robert Katherman  
*Division 2*

John D. S. Allen  
*Division 3*

Sergio Calderon  
*Division 4*

Vera Robles DeWitt  
*Division 5*

#### Management:

Stephan Tucker, MBA, PE, PMP  
Rob Beste, PE  
Brian Partington, PG, CHG

General Manager  
Assistant General Manager  
Manager of Hydrogeology

#### Prepared by:

Mat Kelliher, PG, CHG  
Everett Ferguson, Jr., PG, CHG  
Joseph Liles, PG, CHG  
Benny Chong  
Peter Piestrzeniewicz  
Moises Santillan  
Brittany Liu  
  
Josi Jenneskens  
Greg Osti

Senior Hydrogeologist  
Senior Hydrogeologist  
Hydrogeologist  
Associate Hydrogeologist  
Associate Hydrogeologist  
Associate Hydrogeologist  
Water Quality & Regulatory Compliance  
Specialist  
GIS Specialist  
Online Technology & Data Specialist

Cover photo – View north of Basin 1 at the Rio Hondo Spreading Grounds—January 5, 2022

## **Executive Summary**

The Water Replenishment District (WRD or the District) was formed in 1959 to manage the groundwater replenishment and groundwater quality activities for four 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 most of the Central Basin and nearly all of the West Coast Basin. These two basins currently supply over 40 percent of the water used by the population in the region. Our mission is to protect and preserve high-quality groundwater in the basins through innovative, cost-effective, and environmentally sensitive management practices for the benefit of residents and businesses within the WRD service area.

This year marks the 62<sup>nd</sup> year that WRD has been monitoring the CBWCB, 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. To that end, WRD has a dedicated Board and staff that engage in year-round activities to closely monitor groundwater conditions. The Regional Groundwater Monitoring Program (RGWMP) currently consists of a network of 347 monitoring wells at 62 locations throughout the District. WRD 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. It presents information on groundwater levels and groundwater quality over the past Water Year (WY), which runs from October 1 through September 30. This current report covers WY 2020-2021. Detailed information is presented in the body of the report with a summary below:

### **Groundwater Levels**

Across the WRD service area, water levels have decreased over the WY. On average water levels fell nearly four feet across the District in WY 2020-2021. In both the Central and West Coast Basins, changes in water levels have been variable in WY 2020-2021. Groundwater levels have increased in some areas, decreased in other areas, and

have remained unchanged elsewhere. Overall, there was a loss in groundwater storage of 66,900 acre-feet (AF); 56,000 AF of that loss in storage occurred in the unconfined Montebello Forebay. There was a loss in storage in the Los Angeles Forebay of about 7,600 AF; the Whittier Area experienced a loss of 2,300 AF; and 1,000 AF of storage was lost in the Central Basin Pressure Area (CBPA). No appreciable change in groundwater storage was calculated for the West Coast Basin.

### **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 CBWCB. The data for two new deep, nested groundwater monitoring wells are included in this report (i.e., Montebello #2 and Cerritos #3). By analyzing and reviewing the results on a regular basis, new and emerging water quality concerns can be identified and managed effectively.

Analysis for this report uses water quality maps and trend graphs to focus on 11 key water quality constituents to represent overall groundwater quality in the basins, including total dissolved solids (TDS), iron, manganese, chloride, nitrate, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, perchlorate, hexavalent chromium, and 1,4-dioxane. Beginning in WY 2018-19 and culminating in WY 2019-2020, WRD completed a District-wide assessment for the presence of per- and polyfluoroalkyl substance (PFAS) constituents, including perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), in WRD nested monitoring wells and CBWCB production wells. Data collected from the two-year PFAS assessment were included in a report published in March 2021, as are water quality maps illustrating the occurrence of PFOS and PFOA across the District. Overall, groundwater quality in the District remains very good, with only some areas facing poor water quality from natural or anthropogenic sources that WRD staff continue to monitor closely to determine increasing or decreasing trends.

This report also complies with the state's Recycled Water Policy to present information for the adopted Salt and Nutrient Management Plan (SNMP) for the CBWCB. Through the

RGWMP, 13 key WRD nested monitoring wells track salt and nutrient water quality trends throughout the District and in the most critical areas of the basins, including areas near 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 generally stable, and although a few individual well zones do show increasing trends, a comparable number show decreasing trends.

### **Future Activities**

WRD continues to advance toward developing a remote monitoring system capable of reporting water level data back to the District. Recent improvements and cost reductions in cellular telemetry equipment has allowed WRD to outfit several of its key monitoring wells with telemetry systems so that near real-time water level data can be sent from individual dataloggers back to the District. WRD anticipates expanding its network of telemetry equipped dataloggers to 26 of its nested well sites in WY 2020-2021 with the goal of remotely publishing near real-time water levels to district computers.

WRD remains committed to its statutory charge to protect and preserve groundwater resources in its service area. To that end, WRD added three new wells to its nested monitoring well network and began monitoring groundwater conditions within two of those new nested well sites in WY 2020-2021. Because the third new well site was installed near the end of the WY, groundwater monitoring was not conducted from those wells in WY 2020-2021. WRD will incorporate those new wells into its RGWMP in WY 2021-22, and the results of monitoring from those wells will be included in the WY 2021-22 RGWMP.

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 to improve the framework for understanding the groundwater system and for use



as a planning tool. WRD will use data from the RGWMP along with an update to the groundwater model that was developed and published by the United States Geological Survey (USGS) in 2021 as tools in its refinement of the conceptual model.

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.

# TABLE OF CONTENTS

## Glossary of Acronyms

Glossary of Acronyms Used in Report (following Table of Contents) .....	G-1
---	-----

### Section 1 Introduction

1.1	Background of the Regional Groundwater Monitoring Program .....	1-1
1.2	Conceptual Hydrogeologic Model .....	1-4
1.3	GIS Development and Implementation .....	1-5
1.4	Scope of Report.....	1-6

### Section 2 Groundwater Levels

2.1	Groundwater Elevation Contours .....	2-2
2.2	Changes in Groundwater Levels .....	2-2
2.3	Groundwater Level Hydrographs .....	2-4
2.4	Groundwater Levels in the Montebello Forebay .....	2-5
2.5	Groundwater Levels in the Los Angeles Forebay.....	2-7
2.6	Groundwater Levels in the Central Basin Pressure Area.....	2-7
2.7	Groundwater Levels in the Whittier Area.....	2-9
2.8	Groundwater Levels in the West Coast Basin .....	2-10

### Section 3 Groundwater and Replenishment Water Quality

3.1	Quality of Groundwater .....	3-2
3.1.1	Total Dissolved Solids .....	3-3
3.1.2	Iron .....	3-4
3.1.3	Manganese .....	3-5
3.1.4	Chloride.....	3-6
3.1.5	Nitrate .....	3-6
3.1.6	Trichloroethylene (TCE).....	3-8
3.1.7	Tetrachloroethylene (PCE) .....	3-9
3.1.8	Arsenic .....	3-9
3.1.9	Perchlorate .....	3-10
3.1.10	Hexavalent Chromium .....	3-11
3.1.11	1,4-Dioxane.....	3-12
3.2	Quality of Replenishment Water .....	3-13

3.2.1	Quality of Imported Water.....	3-13
3.2.2	Quality of Recycled Water.....	3-15
3.2.3	Quality of Stormwater.....	3-17
3.3	Mineral Characteristics of Groundwater in the CBWCB .....	3-18

**Section 4**  
**Salt and Nutrients in Groundwater**

4.1	Salt and Nutrient Monitoring Locations .....	4-2
4.2	Salt and Nutrient Monitoring Results and Evaluation .....	4-3
4.3	Implementation Measures to Manage Salt and Nutrient Loading .....	4-7

**Section 5**  
**Summary of Findings**

Summary of Findings .....	5-1
---------------------------	-----

**Section 6**  
**Future Activities**

Future Activities .....	6-1
-------------------------	-----

**Section 7**  
**References**

References .....	7-1
------------------	-----

## List of Tables

Table 1.1	Construction Information for WRD Nested Monitoring Wells
Table 1.2	Construction Information for Wells Used to Prepare Figures 2.1 and 2.2
Table 2.1	Groundwater Elevations, WY 2020-2021
Table 3.1	Central Basin Water Quality Results Regional Groundwater Monitoring - WY 2020-2021
Table 3.2	West Coast Basin Water Quality Results Regional Groundwater Monitoring - WY 2020-2021
Table 3.3	Quality of Replenishment Water
Table 3.4	Major Mineral Water Quality Groups

## List of Figures

Figure 1.1	Water Replenishment District Service Area
Figure 1.2	Nested Wells versus Production Wells for Aquifer-Specific Data
Figure 1.3	WRD Nested Monitoring Wells
Figure 1.4	Idealized Geologic Cross Section AA'
Figure 1.5	Idealized Geologic Cross Section BB'
Figure 2.1	Groundwater Elevation Contours Fall 2021
Figure 2.2	Changes in Groundwater Elevations Fall 2020 - Fall 2021
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 Key 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 2020 - 2021
Figure 3.2	TDS Concentrations from Groundwater Production Wells
Figure 3.3	Iron Concentrations in Groundwater: WRD Nested Monitoring Wells, Water Year 2020 - 2021
Figure 3.4	Iron Concentrations from Groundwater Production Wells
Figure 3.5	Manganese Concentrations in Groundwater: WRD Nested Monitoring Wells, Water Year 2020 - 2021
Figure 3.6	Manganese Concentrations from Groundwater Production Wells

Figure 3.7	Chloride Concentrations in Groundwater: WRD Nested Monitoring Wells, Water Year 2020 - 2021
Figure 3.8	Chloride Concentrations from Groundwater Production Wells
Figure 3.9	Nitrate Concentrations in Groundwater: WRD Nested Monitoring Wells, Water Year 2020 - 2021
Figure 3.10	Nitrate Concentrations from Groundwater Production Wells
Figure 3.11	TCE Concentrations in Groundwater: WRD Nested Monitoring Wells, Water Year 2020 - 2021
Figure 3.12	TCE Concentrations from Groundwater Production Wells
Figure 3.13	PCE Concentrations in Groundwater: WRD Nested Monitoring Wells, Water Year 2020 - 2021
Figure 3.14	PCE Concentrations from Groundwater Production Wells
Figure 3.15	Arsenic Concentrations in Groundwater: WRD Nested Monitoring Wells, Water Year 2020 - 2021
Figure 3.16	Arsenic Concentrations from Groundwater Production Wells
Figure 3.17	Perchlorate Concentrations in Groundwater: WRD Nested Monitoring Wells, Water Year 2020 - 2021
Figure 3.18	Perchlorate Concentrations from Groundwater Production Wells
Figure 3.19	Hexavalent Chromium Concentrations in Groundwater: WRD Nested Monitoring Wells, Water Year 2020 - 2021
Figure 3.20	Hexavalent Chromium Concentrations from Groundwater Production Wells
Figure 3.21	1,4-Dioxane Concentrations in Groundwater: WRD Nested Monitoring Wells, Water Year 2020 - 2021
Figure 3.22	1,4-Dioxane Concentrations from Groundwater Production Wells
Figure 4.1	TDS and Chloride in WRD Key Nested Monitoring Well–Rio Hondo #1
Figure 4.2	TDS and Chloride in WRD Key Nested Monitoring Well–Pico #2
Figure 4.3	TDS and Chloride in WRD Key Nested Monitoring Well–Norwalk #2
Figure 4.4	TDS and Chloride in WRD Key Nested Monitoring Well–Huntington Park #1
Figure 4.5	TDS and Chloride in WRD Key Nested Monitoring Well–South Gate #1
Figure 4.6	TDS and Chloride in WRD Key Nested Monitoring Well–Willowbrook #1
Figure 4.7	TDS and Chloride in WRD Key Nested Monitoring Well–Long Beach #6
Figure 4.8	TDS and Chloride in WRD Key Nested Monitoring Well–Seal Beach #1
Figure 4.9	TDS and Chloride in WRD Key Nested Monitoring Well–Whittier #1
Figure 4.10	TDS and Chloride in WRD Key Nested Monitoring Well–PM-4 Mariner
Figure 4.11	TDS and Chloride in WRD Key Nested Monitoring Well–Carson #1
Figure 4.12	TDS and Chloride in WRD Key Nested Monitoring Well–Manhattan Beach #1
Figure 4.13	TDS and Chloride in WRD Key Nested Monitoring Well–Wilmington #2



## GLOSSARY OF ACRONYMS

AF	acre-feet
ARC	Albert Robles Center for Water Recycling and Environmental Learning
AWTF	Advanced Water Treatment Facility
BGS	below ground surface
CASGEM	California Statewide Groundwater Elevation Monitoring
CECs	chemicals of emerging concern
CSDLAC	County Sanitation Districts of Los Angeles County
CBWCB	Central Basin and West Coast Basin
CBPA	Central Basin Pressure Area
DDW	State Water Resources Control Board, Division of Drinking Water
DME	Designated Monitoring Entity
DWR	California Department of Water Resources
ELWRF	Edward C. Little Water Recycling Facility
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
LAX	Los Angeles International Airport
MCL	Primary Maximum Contaminant Level
mg/L	milligram per liter
µg/L	microgram per liter
MSL	mean sea level
MWD	Metropolitan Water District of Southern California
NAVD88	North American Vertical Datum of 1988
NDMA	N-nitrosodimethylamine
ng/L	nanogram per liter
NL	Notification Level
OEHHA	Office of Environmental Health Hazard Assessment

## **GLOSSARY OF ACRONYMS (continued)**

PCE	tetrachloroethylene
PDF	Portable Document Format
PFAS	perfluoroalkyl and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PHG	Public Health Goal
RGWMP	Regional Groundwater Monitoring Program
RGWMR	Regional Groundwater Monitoring Report
RL	Response Level
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
UCMR	Unregulated Contaminant Monitoring Rule
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WBMWD	West Basin Municipal Water District
WQO	Water Quality Objective
WRD	Water Replenishment District
WRP	Water Reclamation Plant
WY	Water Year

## **SECTION 1**

### **INTRODUCTION**

The Water Replenishment District (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 most of the Central Basin and nearly 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 WRD’s service area, 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. Following its inception, WRD implemented the Regional Groundwater Monitoring Program (RGWMP) as a program designed to track groundwater levels and groundwater quality in the WRD service area in the effort to ensure the sustainability of groundwater as a reliable 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 waters from different aquifers into 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 RGWMPs are provided for a Water Year (WY), which occurs from October 1 to 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). The study provides the nucleus of WRD's ongoing RGWMP. In addition to compiling existing available data, that 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 that are used in the RGWMP. Currently, there are 347 wells at 62 locations; a few of these wells are used exclusively to monitor groundwater elevations, but most are used to monitor both groundwater elevations and water quality within the WRD service area. A listing and well construction details for the WRD nested wells used in the RGWMP are presented in **Table 1.1**. Listings and well construction details for other wells used to prepare the groundwater elevation contour and groundwater elevation change maps that are included in this report are presented in **Table 1.2**.

*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. WRD's RGWMP is published annually 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 (DME) 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 has changed 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 DWR document entitled *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 defined in Bulletin 104; however, in some cases WRD's in-house interpretation has resulted in aquifer classifications that differ from those predicted by that report. During WY 2017-18, WRD updated its interpretation of the aquifer classifications assigned to each well so that they more closely match those of Bulletin 104. This has resulted in changes to designations at some wells from those that have been previously used and published by WRD. **Table 1.1** lists the specific aquifer assigned to each well used in the RGWMP and indicates whether that designation follows Bulletin 104 or is the result of WRD's most current interpretation.

The locations of idealized geologic cross-sections A-A' and B-B' 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; however, 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 described above in Section 1.1. The GIS links spatially related information (e.g., well locations, geologic features, cultural features, and 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 (MSL) 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 North American Vertical Datum of 1988 (NAVD88) 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 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. In 2018, a major upgrade to this site was completed to enhance its capabilities, and in November 2019 further enhancements to the site were launched. 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 2020-2021 and discusses the status of the RGWMP. Section 1 provides an overview of the WRD and its RGWMP. Section 2 discusses district-wide groundwater levels for WY 2020-2021. 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 total dissolved solids (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 current WY 2020-2021 RGWMR, along with previously published reports for past WYs, can be viewed online and downloaded in Portable Document Format (PDF) form 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. Groundwater levels can identify areas of recharge and discharge from the basins. Differences in groundwater levels suggest which way 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. Groundwater levels are dependent on both regional precipitation and on the amount of water extracted by pumping.

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 MSL elevation at the measuring point of each well. **Table 2.1** presents manual groundwater level measurements collected from the District's nested monitoring wells during WY 2020-2021. 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 pumpers, DWR, and LACDPW who measure and collect water levels from their own 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 elevation map, and groundwater elevation hydrographs for selected wells were prepared 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 2021 is presented in **Figure 2.1**. Specific well zones used to develop the groundwater contour map are identified on **Table 2.1**. The fall 2021 Contour Map shows that in the Central Basin water levels range from highs in excess of 160 feet above MSL to lows deeper than 100 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 nearly 10 feet above MSL to lows of more than 40 feet below MSL. The highest water levels occur near the West Coast Basin Seawater Intrusion Barrier; they decrease to the east where they are generally at their lowest elevations in the Cities of Gardena and Carson near 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

**Figure 2.2** is a groundwater level change map that illustrates the difference between groundwater levels measured in fall 2020 and those measured in fall 2021. Specific well zones used to develop the groundwater level change map are identified on **Table 2.1**. During WY 2020-2021, changes in groundwater levels across the WRD service area have generally decreased, although in some areas they have increased, and in others they have remained unchanged.

In the Central Basin, groundwater levels have decreased nearly everywhere in WY 2020-2021. The greatest decrease in water levels in the Central Basin has occurred within the unconfined Montebello Forebay. The greatest changes in water levels are observed to the north and in close vicinity to the spreading grounds where they are as much as 20 feet lower



than they were the previous year (fall 2020). The decrease in water levels becomes less pronounced moving away from the spreading grounds; along the eastern reach of the Montebello Forebay, they are as much as 15 feet lower than they were in fall 2020, and along the western reach they are more than 10 feet lower than they were in fall 2020. Across the unconfined Los Angeles Forebay, water levels have decreased below those measured in fall 2020. Water levels in the western and eastern portions of the Los Angeles Forebay are about three feet lower than those measured in fall 2020, while those in the southern-central portion have decreased by more than six feet. Water levels in the Whittier Area have generally decreased from those measured in WY 2019-2020; in the west they are more than 15 feet lower, and in the east, they are relatively unchanged from those measured in fall 2020.

Water levels decreased across the rest of the Central Basin in WY 2020-2021. In the northern portion of the Central Basin Pressure Area (CBPA), and the area between the Los Angeles and Montebello Forebays, water levels have decreased by as much as nearly five feet from those measured in WY 2019-2020. Along the eastern border of the CBPA water levels range from about three feet lower in the north to more than 12 feet lower in the south than they were in fall 2020. Across the southern and western portions of the CBPA, near the Newport-Inglewood Uplift, water levels range from about two to three feet lower than those measured in WY 2019-2020.

In the West Coast Basin, changes in groundwater levels were somewhat variable in WY 2020-2021. Across much of the West Coast Basin water levels remain relatively unchanged this year from those measured in WY 2019-2020. However, in the northeastern portion of the basin near the cities of Gardena and Carson near the Newport-Inglewood Uplift, and in the Torrance-Redondo Beach-Los Angeles International Airport (LAX) area, water levels have decreased this year by as much as two feet compared to those measured in WY 2019-2020. And in the northeastern portion of the basin between the Newport-Inglewood and Charnock Faults, water levels have increased by as much as four feet this year compared to those measured in WY 2019-2020. In the western portion of the basin

near the seawater intrusion barrier water levels were relatively unchanged compared to those measured in fall 2019.

District-wide, groundwater levels decreased more nearly four feet in WY 2020–2021. Water levels decreased across the Central Basin; in the Montebello Forebay region water levels decreased an average of more than 12 feet, in the Los Angeles Forebay region they decreased an average of more than four feet, in the Whittier Area they decreased by an average of nearly five feet, and in the CBPA they decreased by nearly four feet. In the West Coast Basin, water levels decreased by less than one-half of one foot.

There was an overall loss in groundwater storage across the District of 66,900 acre-feet (AF) in WY 2020-2021, nearly all of which occurred in the Central Basin. In the unconfined Montebello Forebay, there was a loss in groundwater storage of 56,000 AF, in the Los Angeles Forebay a loss of 7,600 AF, in the Whittier Area a loss of 2,300 AF, and in the CBPA a loss of 1,000 AF. In the West Coast Basin there was no appreciable change in groundwater storage in WY 2020-2021.

### **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, CBPA, and West Coast Basin are presented in the annual WRD Engineering Survey and Report (ESR). In general, the hydrographs show that in the Central Basin, water levels were in steep decline through the 1930s and into the late 1950s as a result of excessive pumping (overdraft). Initiation of groundwater management policies in the late 1950s and early 1960s including formation of the WRD, adjudication of the basins, and installation of seawater barrier wells are evident on the hydrographs in the form of a distinct reversal in water level decline followed by a steady increase through the 1960s. Despite repeated fluctuation between periods of decreasing

and increasing trends, water levels in the Central Basin have generally been relatively stable since the 1960s, although over the past several years they have been in decline. In the West Coast Basin, the hydrographs show a similar steep decline in water levels in the 1930s through the 1950s as a result of overdraft, followed by stabilization and steady increase through the 1960s that continues to the present day. ESR hydrographs are not presented in this RGWMR; however, they can be viewed in the ESR reports online and downloaded from the WRD website at <http://www.wrd.org>.

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 hydrographs of 13 key WRD nested monitoring wells, including three in the Montebello Forebay, one in the Los Angeles Forebay, four in the CBPA, one in the Whittier Area, and four in the West Coast Basin. The 13 key nested monitoring well locations are shown on **Figure 1.3**. These hydrographs illustrate that 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), 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** is 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, from shallowest to deepest, in the Gardena, Hollydale, Silverado, and Sunnyside (two zones) Aquifers, and the Pico Formation, 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 each 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 nearly 12 feet this year compared to the previous WY.

**Figure 2.4** is a hydrograph for WRD's Pico #2 key nested monitoring well 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, from shallowest to deepest, in the Gaspar/Gage, Lynwood, Silverado, and Sunnyside (three deepest zones) Aquifers, with depths ranging from 100 to 1,200 feet BGS. Groundwater elevations are lowest in Zones 1, 2, and 3, all of which are screened in the Sunnyside Aquifer, suggesting that the Sunnyside Aquifer is the most heavily pumped in this area. Water levels in Zone 3 decreased nearly 11 feet over the previous WY, similar to levels last observed at this location in the fall of WY 2018-19.

**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): Gardena, Silverado, and Sunnyside (two zones) Aquifers, and the Pico Formation (two 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 CBPA. Unlike Rio Hondo #1 and Pico #2, water level responses to seasonal discharge and recharge influences are less pronounced at Norwalk #2, with seasonal swings of around 20 feet compared to the greater than 30-foot seasonal swings observed at Rio Hondo #1 and Pico #2. Groundwater elevations are deepest in Zones 3 and 4, which are both screened in the Sunnyside Aquifer, suggesting that this aquifer is the most heavily pumped in the area. Water levels

in Zones 3 and 4 decreased by more than seven feet over the previous WY, which is slightly above the recent historical lows observed in the winter of WY 2018-19.

## **2.5 GROUNDWATER LEVELS IN THE LOS ANGELES FOREBAY**

**Figure 2.6** is a hydrograph for WRD's Huntington Park #1 key nested monitoring well located in the Los Angeles Forebay near the intersection of Slauson Avenue and Alameda Street. There are five individual wells (zones) that are screened in the following aquifers (from shallowest to deepest): Gaspar, Gage, Hollydale, Lynwood, and Silverado, with depths ranging from 114 to 910 feet BGS. Only four of the zones are shown on the hydrograph because the shallowest well (screened from 114 to 134 feet BGS in the Gaspar Aquifer) is dry. 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 Gage Aquifer from the deeper aquifers. Water levels in the deepest two zones, the Lynwood and Silverado Aquifers, are generally similar and both decreased by about seven feet in WY 2020-2021 compared to the previous WY. Unlike the fluctuations between increasing and decreasing water levels typically observed in the Montebello Forebay, water levels in the Los Angeles Forebay have remained relatively stable over the past 20 years.

## **2.6 GROUNDWATER LEVELS IN THE CENTRAL BASIN PRESSURE AREA**

**Figure 2.7** is a hydrograph for WRD's South Gate #1 key nested monitoring well, which is located in the north-central portion of the CBPA, 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 (two deepest zones) Aquifers, 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 5 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. Water levels in the deepest three Aquifers at South Gate #1 decreased

by nearly four feet in WY 2020-2021 compared to the previous WY. Water levels are relatively unchanged in Zone 5 from the previous WY but have steadily decreased by about 20 feet over the past 15 years.

**Figure 2.8** is a hydrograph for WRD's Willowbrook #1 key nested monitoring well, which is located in the CBPA, about seven miles down-gradient of the Montebello Forebay. There are four individual wells (zones) that are screened, from shallowest to deepest, 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. Water levels in the upper three zones are typically shallower than those observed in Zone 1. The differences in water levels between Zones 1 and 2, and between Zones 2 and 3, indicate hydraulic separation, and thus suggest the presence of aquitards that separate these zones from one another. Water levels in Zones 3 and 4 track very closely which indicates there is little hydraulic separation between them. Water levels in Zone 1 decreased more than 2.5 feet from those measured in fall 2020, and in each of the overlying shallower zones water levels have decreased by as much as one foot. Water levels in Willowbrook #1 have generally declined over the past 22 years.

**Figure 2.9** is a hydrograph for key nested monitoring well Long Beach #6 located in the southern portion of the CBPA. There are six individual wells (zones) that are screened, from shallowest to deepest, in the Gage, Lynwood, Silverado, and Sunnyside (two zones) Aquifers, and the Pico Formation, with depths ranging from 220 to 1,510 feet BGS. Because this portion of the CBPA has multiple confined aquifers separated by substantial aquitards, and experiences heavy local seasonal pumping cycles, water level fluctuations can be larger here than in other areas. For example, water levels in Zones 4 and 5 are the deepest responders; they are screened in the Silverado and Lynwood Aquifers, can rise and fall by more than 100 feet through typical seasonal cycles, and have been recorded historically at elevations ranging from highs near sea level to lows deeper than 120 feet below sea level. Water levels in the other zones also show significant seasonal variation.

**Figure 2.9** shows that water levels in all six zones generally decrease during WY 2020-2021.

**Figure 2.10** is a hydrograph for key nested monitoring well Seal Beach #1, which is included as a key nested monitoring well for the CBPA due to its proximity inland of the Alamitos Gap Seawater Intrusion Barrier Recycled Water Project. There are seven individual wells (zones) that are screened, from shallowest to deepest, in the Artesia, Gage, Lynwood, Silverado, and Sunnyside (three deepest zones) Aquifers, 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 water levels within them have decreased by more than 11 feet over WY 2020-2021. Water levels in Zone 4 decreased by nearly 13 feet, and in Zone 5 by nearly seven feet during WY 2020-2021. Water levels within Zones 6 and 7 have decreased by between one and two feet over the WY; here they show a smaller seasonal response than the five deeper zones, with groundwater elevations at or slightly below sea level, suggesting partial isolation from the lower aquifer systems.

## **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 key nested monitoring well located in the eastern part of the Whittier Area. There are five individual wells (zones) that are screened, from shallowest to deepest, in the Jefferson, Silverado, and Sunnyside Aquifers, and the Pico Formation (two deepest 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 adjacent Montebello Forebay Area, which suggests limited groundwater discharge and recharge. Zones 1 through 4 have similar groundwater elevations and have tracked very closely over

time while the Zone 5 groundwater elevation is more than 80 feet higher than in the deeper zones suggesting substantial isolation by an aquitard(s). The Whittier #1 hydrograph indicates that groundwater levels in the Whittier Area have remained relatively unchanged over WY 2020-2021 and have decreased about 10 feet over the past 21 years.

## **2.8 GROUNDWATER LEVELS IN THE WEST COAST BASIN**

**Figure 2.12** is a hydrograph for WRD's PM-4 Mariner key 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, from shallowest to deepest, in the Gardena, Lynwood, Silverado, and Sunnyside Aquifers, with depths ranging from 200 to 710 feet BGS. All four zones respond similarly to seasonal fluctuations. Historically, water levels in Zone 1 (Sunnyside) have been the deepest and were consistently separated from Zone 2 (Silverado) water levels by one or two feet; however, since about April 2020 water levels within the two zones have converged and now fluctuate above and below one another. In Fall 2021 Zone 2 was observed to be about 0.5 feet deeper than Zone 1. Water levels in both zones have decreased by nearly one foot over WY 2020-2021. Water levels in Zones 3 and 4 (Lynwood and Gardena) are both about two feet higher than those in Zones 1 and 2 and are about two feet lower than those measured in the fall of 2020.

**Figure 2.13** is a hydrograph for WRD's Carson #1 key nested monitoring well, which is located in the inland region of the West Coast Basin. There are four individual wells (zones) that are screened, from shallowest to deepest, in the Gage, Lynwood, and Silverado (two deepest zones) Aquifers, with depths ranging from 250 to 1,010 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 30 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 have decreased nearly one foot over WY 2020-2021 but have generally increased about 30 feet over the past 22 years.

**Figure 2.14** is a hydrograph for WRD's Manhattan Beach #1 key nested monitoring well for the West Coast Basin located one half mile inland of the West Coast Basin Seawater Intrusion Barrier. There are seven individual wells (zones) at Manhattan Beach #1 that are screened, from shallowest to deepest, in the Gage, Silverado, and Sunnyside (two zones) Aquifers, and the Pico Formation (three deepest zones), with depths ranging from 180 to 1,990 feet BGS. Zone 3 is screened in the Pico Formation and has the deepest groundwater levels, as much as 30 feet lower than Zones 1, 2, 4, and 5 which all generally track together. Water levels in Zones 6 and 7 track together and are about six to eight feet higher than those in 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 previous WY. Water levels in Zone 3 have increased more than 0.5 feet over the previous WY and nearly 13 feet since this well was installed in WY 2010-11.

**Figure 2.15** is a hydrograph for WRD's Wilmington #2 key nested monitoring well, which is located in the West Coast Basin, inland of the Dominguez Gap Seawater Intrusion Barrier. There are five individual wells (zones) that are screened, from shallowest to deepest, in the Gage, Lynwood, Silverado (two zones), 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 5 has shallower water levels and shows less seasonal change than the deeper zones suggesting hydraulic separation from them. Wilmington #2 water levels show very little change over WY 2020-2021, but they have increased by as much as 30 feet over the past 23 years.



### **SECTION 3**

#### **GROUNDWATER AND REPLENISHMENT WATER QUALITY**

This section discusses the vertical and horizontal distribution of water quality constituents in WRD's service area 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.

Comparisons of water quality results to various regulatory standards are made throughout this section. A brief discussion of 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. 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 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 in 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 that these data provide the most valuable insight into CBWCB groundwater quality. Groundwater samples collected from WRD's nested wells are submitted immediately after collection to a State-certified laboratory for analysis for general water quality constituents, known or suspected natural and man-made contaminants, and other select constituents of interest.

Historically, WRD has performed groundwater sampling of its nested monitoring wells on a semi-annual schedule, and over the past few decades has compiled an enormous database of analytical results. In WY 2017-18, WRD conducted an intensive review of this database specifically to determine if the frequency of sampling could be reduced at some wells without compromising its current high-quality assessment of groundwater conditions in the CBWCB. Using criteria such as the length of time a well has been in service, and the nature of concentration trends within each zone at a nested monitoring well site, WRD was able to identify 11 nested wells where the sampling frequency could be reduced from semi-annual to annual. Commencing in WY 2017-18 and continuing into WY 2020-2021, semi-annual sampling was not conducted during fall sampling events at Bell Gardens #1, Carson #2, Cerritos #1, Commerce #1, Compton #2, Hawthorne #1, Lakewood #1, Long Beach #2, Long Beach #8, Norwalk #1, and Whittier #2. However, annual sampling was conducted at those wells each year during the spring sampling events. This reduction in sampling will produce a net cost savings without sacrificing the quality of data provided by WRD. As the quantity of data from each nested well site continues to increase, WRD will periodically review that data and where conditions allow, will reduce the sampling frequency at additional nested well sites. WRD will closely monitor the data collected from the reduced frequency wells to assure that conditions that allowed their reductions still exist; if they do not, sampling will be resumed on a semi-annual schedule.

**Table 3.1** presents water quality analytical results from 37 WRD nested monitoring wells (212 individual well zones) in the Central Basin during WY 2020-2021. Included in these results are data from the five newly installed individual well zones at the Montebello #2 nested well site, and from six of the seven newly installed well zones at the Cerritos #3 well site. **Table 3.2** presents water quality analytical results from 22 WRD nested monitoring wells (112 individual well zones) in the West Coast Basin during WY 2020-2021. Complementing the data from WRD's nested monitoring well network, data for CBWCB production wells were obtained from the DDW based on results submitted by purveyors for their DDW Title 22 drinking water compliance.

Water quality maps for nested monitoring wells for WY 2020-2021, and production wells for the three-year period spanning 2018-2021, are presented herein for 11 water quality constituents (**Figures 3.1 – 3.22**). The 11 constituents include total dissolved solids (TDS), iron, manganese, chloride, nitrate, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, perchlorate, hexavalent chromium, and 1,4-dioxane. The maps illustrate areal and vertical differences in water quality and compare the aquifer-specific water quality data from WRD's 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 2020-2021 indicate relatively low TDS concentrations for groundwater in the producing aquifers of the Central Basin. As shown on **Figure 3.1**, in the Central Basin, TDS was detected in WRD nested monitoring wells at concentrations above the SMCL in 20 out of 212 individual well zones (9%). In the West

Coast Basin, TDS was detected in WRD nested monitoring wells at concentrations above the SMCL in 37 out of 112 individual well zones (33%). Elevated TDS concentrations in the West Coast Basin were observed along the coast from Redondo Beach to LAX, in the Torrance area, Inglewood area, and Dominguez Gap area.

**Figure 3.2** presents DDW water quality data for the maximum TDS detection in production wells across the WRD service area for a three-year period spanning WYs 2018-2021. In the Central Basin, TDS was not detected above the Upper Level SMCL of 1,000 mg/L in any of the 176 production wells sampled for TDS during this period. In the West Coast Basin, TDS was detected at concentrations above the SMCL in three out of 24 production wells (12%). The elevated TDS levels detected in the West Coast Basin may be caused by seawater intrusion, connate brines, or perhaps 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. As shown on **Figure 3.3**, in the Central Basin, iron was detected in WRD nested monitoring wells at concentrations above the SMCL of 0.3 mg/L in 14 out of 212 individual well zones (7%). In the West Coast Basin, iron was detected in WRD nested monitoring wells at concentrations above the SMCL in 15 out of 112 individual well zones (13%).

**Figure 3.4** presents DDW water quality data for the maximum iron detection in production wells across the WRD service area for a three-year period spanning WYs 2018-2021. In the Central Basin, iron was detected at concentrations above the SMCL of 0.3 mg/L in 11 out of 181 production wells (6%). In the West Coast Basin, iron was detected at concentrations above the SMCL in two out of 27 production wells (7%).

### **3.1.3 Manganese**

Manganese is naturally occurring and in high concentrations may be objectionable in water in the same manner as is iron. Stains caused by manganese are black and are more unsightly and harder to remove than those caused by iron. While manganese is considered an essential nutrient for human health at low levels, an SMCL of 50 micrograms per liter ( $\mu\text{g/L}$ ) is established for manganese due to its undesirable aesthetic qualities; manganese also has an NL of 500  $\mu\text{g/L}$ .

Manganese concentrations in the WRD nested monitoring wells exhibit widespread vertical and horizontal variations across the WRD service area. In the southeast 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. As shown in **Figure 3.5**, in the Central Basin nested well sites, manganese concentrations exceed the SMCL of 50  $\mu\text{g/L}$  in 61 out of 212 individual well zones (29%), and in three of those 61 zones (5%) manganese was detected at concentrations above the NL of 500  $\mu\text{g/L}$ . In West Coast Basin nested well sites, manganese was detected at concentrations above the SMCL in 50 out of 112 individual well zones (45%), and in four of those 50 zones (8%) it was detected at concentrations above the NL.

**Figure 3.6** presents DDW water quality data for the maximum manganese detection in production wells across the WRD service area for a three-year period spanning WYs 2018-2021. Manganese was detected in Central Basin production wells at concentrations above the SMCL of 50  $\mu\text{g/L}$  in 30 out of 181 production wells (17%), and in one of those 30 wells (3%) manganese was detected at concentrations above the NL.

of 500 µg/L. Manganese was detected in West Coast Basin production wells at concentrations above the SMCL in 15 out of 27 production wells (56%) but was not detected at concentrations above the NL in any of those 27 wells.

#### **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 2020-2021. In the Central Basin, with only a few exceptions all 37 nested well sites generally have low chloride concentrations. As shown on Figure 3.7, chloride was detected in WRD nested monitoring wells in the Central Basin at concentrations above both the upper SMCL of 500 mg/L and the short term SMCL of 600 mg/L in five out of 212 individual well zones (2%). In the West Coast Basin, chloride was detected in WRD nested monitoring wells at concentrations above the upper SMCL of 500 mg/L in 26 out of 112 individual well zones (23%); in 24 of those 26 individual well zones (92%) chloride was at a concentration above the short term SMCL of 600 mg/L.

**Figure 3.8** presents DDW water quality data for the maximum chloride detection in production wells in the WRD service area for a three-year period spanning WYs 2018-2021. Chloride was not detected above the upper SMCL of 500 mg/L in any of the 176 Central Basin production wells sampled for chloride during this period. In the West Coast Basin, three of the 24 (12%) production wells tested, all of which are located on the west side of the basin near the coast, had chloride concentrations above both the upper SMCL of 500 mg/L and the short term SMCL of 600 mg/L.

#### **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 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 to 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 2020-2021. In the Central Basin, nitrate was detected in WRD nested monitoring well locations at concentrations above the MCL of 10 mg/L in two out of 212 individual well zones (1%). Both of those nitrate concentrations were detected in the shallowest zone of a nested monitoring well site; one of those nested well sites is located in the Los Angeles Forebay, and the other is in the CBPA near the District Boundary. In general, nested monitoring wells in the immediate vicinity of the Montebello and Los Angeles Forebays typically contain nitrate at concentrations below the MCL in the shallower 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. In the West Coast

Basin, nitrate was detected in WRD nested monitoring well locations at concentrations above the MCL in one out of 112 individual well zones (<1%).

**Figure 3.10** presents DDW water quality data for the maximum nitrate detection in production wells across the WRD service area for a three-year period spanning WYs 2018-2021. None of the 185 Central Basin production wells tested for nitrate contained nitrate above the MCL of 10 mg/L. None of the 26 production wells tested in the West Coast Basin for nitrate exceeded the MCL during WYs 2018-2021.

### **3.1.6 Trichloroethylene (TCE)**

TCE is a solvent used in metal degreasing, textile processing, and dry cleaning. In addition to its multiple, acute effects on health, TCE is also classified as a probable human carcinogen. The MCL for TCE in drinking water is 5 µg/L. If present in water, TCE can be removed easily by common treatment processes, including air stripping or vapor extraction utilizing granular activated carbon filtration media.

As shown on **Figure 3.11**, in the Central Basin TCE was detected in WRD nested monitoring well locations at concentrations above the MCL of 5 µg/L in seven out of 212 individual well zones (3%). In the West Coast Basin, TCE was detected in WRD nested monitoring well locations at concentrations above the MCL in one out of 112 individual well zones (<1%). Nested wells impacted by TCE are generally located in the northern portion of the Central Basin, within or near the Los Angeles Forebay.

**Figure 3.12** presents DDW water quality data for the maximum TCE detection in production wells across the WRD service area for a three-year period spanning WYs 2018-2021. As shown on Figure 3.12, in the Central Basin TCE was detected at concentrations above the MCL of 5 µg/L in 17 out of 186 production wells (9%). Wells impacted by TCE are generally located in the northern portion of the Central Basin, within or near the Montebello and Los Angeles Forebays. In the West Coast Basin, TCE was not detected in the 26 production wells tested for TCE during WYs 2018-2021.

### 3.1.7 Tetrachloroethylene (PCE)

PCE (also known as tetrachloroethylene, tetrachloroethene, perc, perclene, and perchlor) is a solvent used commonly in the dry-cleaning industry, as well as in metal degreasing and textile processing. The MCL for PCE in drinking water is 5 µg/L. In addition to its multiple acute health effects, PCE is also classified as a probable human carcinogen. If present in water, PCE can be removed easily by common treatment processes, including air stripping or vapor extraction utilizing granular activated carbon filtration media.

As shown on **Figure 3.13**, in the Central Basin PCE was detected in WRD nested monitoring well locations at a concentration above the MCL of 5 µg/L in one out of 212 individual well zones (<1%). PCE was not detected in any of the WRD nested monitoring well sites located in the West Coast Basin.

**Figure 3.14** presents DDW water quality data for the maximum PCE detection in production wells across the WRD service area for a three-year period spanning WYs 2018-2021. In the Central Basin, PCE was detected at concentrations above the MCL of 5 µg/L in 12 out of 186 production wells (6%). Production wells with detectable PCE concentrations are primarily located within the vicinity of the Los Angeles and Montebello Forebays and extend southward into the CBPA. PCE was not detected in any of the 26 West Coast Basin production wells tested for PCE.

### 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 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 2020-2021. In the Central Basin, arsenic was detected in WRD nested monitoring well locations at concentrations above the MCL of 10 µg/L in 20 out of 212 individual well zones (9%). In the West Coast Basin, arsenic was detected in WRD nested well locations at concentrations above the MCL at six out of 112 individual well zones (5%).

**Figure 3.16** presents DDW water quality data for the maximum arsenic detection in production wells across the WRD service area for a three-year period spanning WYs 2018-2021. In the Central Basin, arsenic was detected at concentrations above the MCL of 10 µg/L in six out of 178 (3%) production wells. In the West Coast Basin, arsenic was not detected at a concentration above the MCL in any of the 24 production wells tested for arsenic.

### **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 2020-2021. In the Central Basin, perchlorate was not detected in WRD nested monitoring well locations at concentrations above the MCL of 6 µg/L in any of the 212 individual well zones. In the West Coast Basin, perchlorate was detected in WRD

nested monitoring well locations at concentrations above the MCL in one out of 112 individual well zones (<1%).

**Figure 3.18** presents DDW water quality data for the maximum perchlorate detection in production wells across the WRD service area for a three-year period spanning WYs 2018-2021. In the Central Basin, perchlorate was detected at concentrations above the MCL of 6 µg/L in two out of 183 production wells (1%). Perchlorate was not detected in any of the 26 West Coast Basin production wells that were tested for perchlorate.

### **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. In 2014 California established an MCL of 10 µg/L for hexavalent chromium; however, on May 31, 2017, a judgment was issued by the Superior Court of California that invalidated the MCL for hexavalent chromium in drinking water. The Court has ordered the State Water Resources Control Board (SWRCB) to adopt a new MCL; in the meantime, the MCL for Total Chromium will remain in place. The SWRCB will use data collected since the standard was adopted in 2014 to help establish a new MCL; they note that it generally takes between 18 and 24 months to develop regulation. To remain consistent with prior reporting and aid in assessing concentration trends, WRD will continue to discuss hexavalent chromium results herein in terms of the historic MCL value of 10 µg/L until a new MCL is established by the SWRCB.

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 has recently been shown to increase the risk of cancer 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 at concentrations above the historic MCL value of 10 µg/L in three out of 212 individual well zones (1%). In the West Coast Basin, hexavalent chromium was not detected at concentrations above the MCL in any of the individual well zones.

**Figure 3.20** presents DDW water quality data for the maximum hexavalent chromium detection in production wells across the WRD service area for a three-year period spanning WYs 2018-2021. In the Central Basin, hexavalent chromium was detected at a concentration above the historic MCL of 10 µg/L in two out of 65 production wells (3%). Hexavalent chromium was not detected in any of the 11 West Coast Basin production wells that were tested for hexavalent chromium.

### **3.1.11 1,4-Dioxane**

1,4-dioxane is a synthetic organic compound. It is used as a stabilizer for solvents (in particular 1,1,1-trichloroethane) and as a solvent itself in a number of industrial and commercial applications. 1,4-dioxane is also found in trace amounts in some cosmetic and personal care products such as detergents and shampoos. 1,4-dioxane is highly soluble in water, does not readily bind to soils, readily leaches to groundwater, and is resistant to naturally occurring biodegradation processes. EPA classifies 1,4-dioxane as a probable human carcinogen and a known irritant, and as a result it is included in the Third Unregulated Contaminant Monitoring Rule (UCMR 3). In November 2010, the SWRCB established a drinking water NL of 1 µg/L, and a RL of 35 µg/L, for 1,4-dioxane.

**Figure 3.21** shows 1,4-dioxane concentrations in WRD nested monitoring wells in the WRD service area. In the Central Basin, 1,4-dioxane was detected at concentrations above the NL of 1 µg/L in 25 out of 212 individual well zones (12%). In the West Coast Basin, 1,4-dioxane was not detected above the NL of 1 µg/L in any of the 112 individual well zones. 1,4-dioxane was not detected at concentrations above the RL of 35 µg/L in any of the individual well zones in the CBWCB.

**Figure 3.22** presents DDW water quality data for the maximum 1,4-dioxane detection in production wells across the WRD service area for a three-year period spanning WYs 2018-2021. In the Central Basin 1,4-dioxane was detected at concentrations above the NL of 1 µg/L in 49 of the 69 (71%) production wells that were tested. In the West Coast Basin, 1,4-dioxane was not detected in any of the production wells. 1,4-dioxane was not detected at concentrations above the RL of 35 µg/L in any CBWCB production wells.

## **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 were also 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. Untreated imported water, when needed and available, is used for recharge at the Montebello Forebay Spreading Grounds. For groundwater recharge at the spreading grounds, Colorado River water deliveries have been suspended due to the potential presence of quagga mussels and there was no imported water received from the State Water Project for groundwater replenishment at the spreading grounds in WY 2020-2021. 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 is thus suitable for direct injection. For WY 2020-2021, approximately 10,782 AF of treated imported water

were injected into the West Coast Basin, Dominguez Gap, and Alamitos Gap Barrier Projects combined. Average water quality data for treated and untreated imported water are presented in **Table 3.3**.

In 2020, the average TDS concentration of untreated Colorado River water was 576 mg/L and the average TDS concentration of untreated water from the State Water Project was 278 mg/L.

In 2020, 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 0.5 mg/L. Recently and historically, both Colorado River and State Water Project nitrate concentrations have remained below the MCL.

In 2020, the average iron concentration in untreated Colorado River water was 106 µg/L. Manganese was not detected in untreated Colorado River water. Iron was not detected in untreated water from the State Water Project. Concentration of manganese in untreated water from the State Water Project was 27 µg/L. 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, hexavalent chromium, and perchlorate have not been detected in water from the Colorado River or State Water Project during calendar year 2020. Both Colorado River and State Water Project TCE, PCE, hexavalent chromium, and perchlorate concentrations have historically been below their respective MCLs.



### 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, which is comprised of the Rio Hondo Coastal Spreading Grounds and the San Gabriel Coastal Spreading Grounds, and for injection into the seawater barriers. In the Montebello Forebay, tertiary-treated recycled water produced by the County Sanitation Districts of Los Angeles County (CSDLAC) at their Whittier Narrows Water Reclamation Plant (WRP), San Jose Creek East WRP, San Jose Creek West WRP, and Pomona WRP facilities is diverted into the Montebello Forebay 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. 1,4-Dioxane concentrations in recycled water from the Whittier Narrows, San Jose Creek West, San Jose Creek East and Pomona WRPs are nearly at or above the NL of 1.0 µg/L, but they are well below the RL of 35 µg/L. N-Nitrosodimethylamine (NDMA) was detected above its NL of 10 ng/L in recycled water from the San Jose Creek West, San Jose Creek East, and Pomona 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 (ELWRF) are injected at the West Coast Basin Barrier to prevent the intrusion of seawater and replenish the groundwater basin. Treatment processes at the ELWRF include microfiltration, reverse osmosis, ultraviolet light, advanced oxidation with hydrogen peroxide, and chemical stabilization. The advanced treated recycled water complies with all drinking water standards and thus, is suitable for direct injection. The ELWRF was expanded in September 2013, and it is expected that ultimately advanced treated recycled water will replace nearly all the imported water used 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 ELWRF.

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 WRP 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 in 2014 to allow additional capacity and ultimately to replace nearly all the imported water used for injection at the Alamitos Gap Seawater Intrusion Barrier. The facility has been consistently operational during WY 2020-2021 and has provided approximately 55% of barrier demand. The facility is expected to run at near full capacity in the future. **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, ultraviolet light, and advanced oxidation using sodium hypochlorite. 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. Expansion of the TIWRP was completed in December 2016 and included the installation of an advanced oxidation process into the treatment train. In WY 2020-2021 various operational and maintenance issues prevented TIWRP from providing the optimal volume of recycled water to the barrier. Through September 2021 the TIWRP has delivered approximately 47% of barrier demand. It is anticipated that ultimately the advanced treated recycled water produced at the facility will replace nearly all the imported water used for injection into the Dominguez Gap Seawater

Intrusion Barrier. **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 typically performed by LACDPW and other entities; however, most of the constituents that are usually reported by LACDPW were not analyzed during WY 2019-2020, and therefore those results are not available for inclusion in this report. Average stormwater quality data for those constituents that were provided by LACDPW for WY 2019-2020 are presented on **Table 3.3**.

### 3.3 MINERAL CHARACTERISTICS OF GROUNDWATER IN THE CENTRAL BASIN AND WEST COAST BASIN

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 SWRCB adopted Resolution No. 2009-0011, which established a statewide Recycled Water 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 use of recycled water and stormwater for recharge.

A SNMP Workplan was jointly prepared by the CBWCB stakeholders and approved by the Los Angeles Regional Water Quality Control Board in December 2011. The SNMP for the CBWCB was finalized February 12, 2015 and adopted in July 2015. The full text of the “2015 Salt Nutrient Management Plan – 2015” can be found at <http://www.wrd.org/content/other-reports>

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 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 CBWCB is 700 mg/L and in the West Coast Basin it is 800 mg/L. The WQO for chloride in the Central Basin is 150 mg/L and 250 mg/L in the West Coast Basin. The MCL/WQO for nitrate (as nitrogen) is 10 mg/L in both the Central Basin and the West Coast Basin.

In accordance with the statewide Recycled Water Policy, the 13 selected nested well locations are in the most critical areas of the basins, based on 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 CBPA, 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 as a different symbol set on **Figure 1.3**. These locations include 69 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 (as nitrogen) for all WRD nested wells sampled during WY 2020-2021 are shown on maps (**Figures 3.1, 3.7, and 3.9**, respectively) and are summarized along with other monitored constituents identified in **Tables 3.1 and 3.2**. TDS, chloride, and nitrate (as nitrogen) concentrations in production wells, sampled during WYs 2018-2021 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 above 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 continues to be monitored as part of the RGWMP and is reported in **Section 3** of the annual RGWMPs.

For the Montebello Forebay, TDS and chloride concentration trends for the key well locations Rio Hondo #1 (six zones), Pico #2 (six zones), and Norwalk #2 (six zones) are presented on **Figures 4.1 through 4.3**, respectively.

- At Rio Hondo #1, TDS and chloride concentrations have historically been and remain below the WQOs and SMCLs.
- At Pico #2, TDS and chloride concentrations have generally remained below the SMCLs and WQOs, with the exception of a one-time detection in September 2008 of TDS in Zone 2 at a concentration slightly above the WQO (750 mg/L), and a

one-time detection in September 2018 of chloride in Zone 6 at the WQO of 150 mg/L. Chloride concentrations in Zone 4 began increasing slightly in 2015, but since 2017 they have remained stable and below the WQO.

- At Norwalk #2, TDS and chloride concentrations are below the WQOs and SMCLs.

For the Los Angeles Forebay, the key well is Huntington Park #1 (four zones). TDS and chloride concentration trend graphs are shown on **Figure 4.4**.

- At Huntington Park #1, the deeper two zones show stable trends for TDS and chloride at concentrations below the WQOs and SMCLs. The shallower two zones indicate a relatively stable trend in chloride concentrations that are below both the WQO and SMCL. TDS concentrations in the shallower two zones have increased slightly since the wells were first installed. Over the past 10 years TDS concentrations in the shallowest zone (Zone 4) are consistently above the WQO of 700 mg/L, and TDS concentrations in Zone 3 fluctuate just above and below the WQO. TDS concentrations in both of these shallow zones remain below the SMCL of 1,000 mg/L.

For the CBPA, key wells include South Gate #1 (five zones), Willowbrook #1 (four zones), Long Beach #6 (six zones), and Seal Beach #1 (seven 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 Zone 5 of South Gate #1 have increased somewhat since initial sampling but have remained relatively stable over the past 12 years and are below both the WQOs and SMCLs.
- At Willowbrook #1, all four zones show stable trends in TDS and chloride concentrations and are at values well below both the WQOs and SCMLs.
- At Long Beach #6, all six zones show stable chloride trends with concentrations well below both the WQO and SMCL. TDS concentrations in Zones 3, 4, 5 and 6 are stable and below both the WQO and SMCL. In Zone 1, the deepest zone of Long Beach #6, TDS is typically detected close to the WQO of 700 mg/L. TDS



concentrations in Zone 2 fluctuate by as much as 50% with historic highs near the WQO; however, over the past six years TDS concentrations have stabilized somewhat in Zone 2, are below the WQO, and show a generally decreasing trend.

- At Seal Beach #1, the deeper six zones have historically contained TDS and chloride at concentrations below the WQOs and SMCLs; however, chloride concentrations in Zone 5 have increased over the past five years and have been measured at concentrations above the WQO, but below the SMCL, for the past three years. TDS and chloride concentrations in Zone 7 increased for several years after the wells were first installed; however, concentrations of both constituents have since stabilized somewhat. TDS and chloride concentrations in Zone 7 are both at values well above the WQOs and SCMLs and are likely due to the effects of seawater intrusion.

For the Whittier Area, represented by key well Whittier #1 (five zones), TDS and chloride trends are shown on **Figure 4.9**.

- At Whittier #1, TDS concentrations in Zones 4 and 5 have been generally stable since the wells were installed and are below both the WQO and SMCL. TDS concentrations in Zones 1, 2, and 3 have historically exceeded the WQO and SMCL; however, TDS concentrations in Zones 1 and 2 have remained stable, and in Zone 3 after increasing for several years, TDS concentrations have remained stable for the past five years. Chloride concentrations in Zones 4 and 5 have been below both the WQO and SMCL since the wells were installed. Chloride concentrations in Zones 1, 2, and 3 have shown a stable trend since the wells were installed; however, although they have been well below the SCML, they have consistently exceeded the WQO.

For the West Coast Basin, key wells include PM-4 Mariner (four zones), Carson #1 (four zones), Manhattan Beach #1 (seven zones), and Wilmington #2 (five 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 WQOs and SMCLs. However, in Zone 2 TDS and chloride concentrations are well above the WQOs and SMCLs and both show generally increasing trends since monitoring began in 1998. These increasing concentration trends are 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 WQOs and SMCLs; here the three deeper zones show relatively stable TDS and chloride concentrations, while concentrations of both constituents in the shallow Zone 4 have decreased from those observed during few years of monitoring.
- At Manhattan Beach #1, groundwater in this coastal area shows evidence of impact by seawater intrusion. TDS concentrations in five of the seven zones exceed the WQO and SMCL, and in four zones the WQO and SMCL for chloride are exceeded. TDS and chloride concentrations in all seven of the zones at Manhattan Beach #1 appear to be rather stable.
- At Wilmington #2, TDS and chloride concentrations in Zones 1 and 3 have historically been below the WQOs and SMCLs but have increased to values that for the past several years have exceeded the WQOs. In Zones 2 and 5, TDS and chloride concentrations have been consistently above both the WQOs and SMCLs; in Zone 2 they have remained relatively stable, but in Zone 5 they have decreased to values well below those detected during the first years of sampling. In Zone 4, TDS and chloride concentrations initially exceeded both the WQOs and SMCLs, but they have decreased over time to the extent that they have been below both the WQOs and SMCLs for the past several years. Concentration decreases in Zone 4 are likely due to the implementation measures discussed in Section 4.3 below.

### **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, have generally fluctuated within the same concentration range since 1998. At the key well location in the Los Angeles Forebay, Huntington Park #1, the two shallower zones have variable TDS concentrations at and above the WQO, but the two deeper zones do not show increasing TDS levels. In the CBPA, TDS concentrations in the shallowest zone at key well location South Gate #1 fluctuate slightly but remain relatively stable, and chloride concentrations have remained relatively stable over the past 16 years. TDS and chloride concentrations in the four lower zones are stable. 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 Albert Robles Center for Water Recycling and Environmental Learning (ARC) formerly known as 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 either relatively stable or generally 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 Barrier 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 RGWMR was prepared by WRD to provide a comprehensive review of groundwater conditions in the WRD service area during WY 2020-2021. 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 MWD member agencies, tertiary-treated recycled water produced by the CSDLAC, and advanced treated recycled water produced by WBMWD, the City of Los Angeles, and WRD.
- Groundwater levels (heads) are monitored continuously in the 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 of up to 90 feet occur between zones above and within the producing aquifers. The greatest head differences between aquifers tend to occur in the southern area of the Central Basin (Long Beach) and the inland, eastern areas of the West Coast Basin (Gardena and Carson), while the smallest differences occur in the recharge area of the Montebello Forebay, and the southern area of the West Coast Basin (Torrance), which has merged and unconfined aquifers.
- Hydrographs and groundwater elevations measured in basinwide nested monitoring wells and key production wells in WY 2020-2021 indicate lower groundwater elevations across the CBWCB than were measured in WY 2019-2020. In the unconfined Montebello Forebay in the vicinity of the spreading grounds water levels are as much as 15 feet lower than they were in fall 2020. Across the unconfined Los Angeles Forebay, water levels have decreased by as much as six feet from those measured in fall 2020. Water levels in the Whittier Area have

either decreased or remain relatively unchanged from those measured in WY 2019-2020; in the west they are as much as 15 feet lower than, and in the east they are relatively unchanged from, those measured in fall 2020. In the CBPA, water levels have decreased everywhere; decreases range from nearly two feet to more than 12 feet lower than those measured in fall 2020.

- In the West Coast Basin water level changes were somewhat variable in WY 2020-2021. Across much of the West Coast Basin water levels remain relatively unchanged this year from those measured in WY 2019-2020. However, in the eastern portion of the basin near the cities of Gardena and Carson near the Newport-Inglewood Uplift, and in the Torrance-Redondo Beach-Los Angeles International Airport (LAX) area, water levels have decreased this year by as much as two feet compared to those measured in WY 2019-2020. And in the northeastern portion of the basin between the Newport-Inglewood and Charnock Faults, water levels have increased by as much as four feet this year compared to those measured in WY 2019-2020.
- District wide, groundwater levels decreased nearly four feet in WY 2020-2021, although across the Montebello Forebay region water levels decreased an average of more than 12 feet. There was an overall loss in groundwater storage across the District of 66,900 AF in WY 2020-2021, essentially all of which occurred in the Central Basin. In the unconfined Montebello Forebay there was a loss in storage of 56,000 AF, in the Los Angeles Forebay a loss of 7,600 AF, in the Whittier Area a loss of 2,300 AF, and in the CBPA a loss of 1,000 AF. In the West Coast Basin there was no appreciable change in groundwater storage in WY 2020-2021.
- For the RGWMP assessment of groundwater quality, WRD collected over 600 samples from its nested monitoring wells throughout the WY and obtained water quality data from potable wells in the District from the DDW database. WRD uses 11 chemical compounds to summarize overall water quality across the district although results for over 100 compounds are present in our databases for each sample collected for the RGWMP. A discussion of the 11 constituents used follows:

- TDS concentrations for 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 Torrance, Inglewood and Dominguez Gap areas. The elevated TDS concentrations (above the SMCL) may be caused by seawater intrusion, connate brines, or perhaps oil field brines.
- Iron is generally common at low concentrations across the WRD service area. In Central Basin nested wells, iron concentrations above the SMCL are observed in and just downgradient of the Los Angeles and Montebello Forebays, while in production wells iron concentrations above the SMCL extend further downgradient from the Forebays southward into the CBPA. Across the West Coast Basin in both nested and production well sites, iron is present at concentrations above the SMCL at numerous locations.
- Manganese is very common in groundwater across the CBWCB and was detected at all of the nested monitoring wells and more than one third of the production well sites. It is present in the Central Basin at concentrations above the SMCL in samples collected from nearly 30% of the nested monitoring wells and less than 20% of production wells but was only present above its NL in about 5% of either type of those wells. Manganese is even more widespread in the West Coast Basin, where it was detected above the SMCL in about 45% of nested monitoring well sites and about 55% of the production well sites. It was only detected above the NL in 8% of the nested monitoring well zones and was not detected above the NL in any of the production well sites in the West Coast Basin.
- Chloride concentrations are low in the Central Basin 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 concentrations in groundwater.
- 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

- shallowest zones at a given location and are likely due either to localized surface recharge, or isolated areas of shallow impacts from industrial operations. Nitrate concentrations in CBWCB production wells are below the MCL.
- TCE detections in Central Basin nested monitoring wells are restricted to within and in close proximity to the Los Angeles Forebay, but in Central Basin production wells elevated TCE concentrations are also observed within the Montebello Forebay and in wells in the vicinity and downgradient of both the Los Angeles and Montebello Forebays. In the West Coast Basin, TCE in nested monitoring wells is observed at a concentration above the MCL in just one individual well zone in the Hawthorne area, and it is not detected in any of the West Coast Basin production wells.
  - PCE was detected above the MCL in one of the Central Basin nested monitoring wells located in the Los Angeles Forebay, and detections below the MCL are observed within and in close proximity to the Los Angeles and Montebello Forebays. Elevated concentrations of PCE in Central Basin production wells are observed in the area between the Los Angeles and Montebello Forebays, as well as within and downgradient of the Montebello Forebay. In the West Coast Basin, PCE was not detected in any of the nested monitoring wells or production wells.
  - Arsenic is present at low concentrations in groundwater from most of the WRD nested monitoring well sites. With few exceptions, arsenic in nested monitoring wells at concentrations above the MCL is generally restricted to areas within the southeastern portion of the Central Basin and along the western area of the West Coast Basin. Arsenic is also common in Central Basin production wells; however, it was only detected at a concentration above the MCL in about 3% of the wells tested, and these wells are generally restricted to the southeastern portion of the Central Basin. In the West Coast Basin, Arsenic was detected at a concentration below the MCL in one of the 24 production wells tested.
  - Perchlorate is relatively common at low concentrations in the nested monitoring wells within and downgradient of the Los Angeles and Montebello Forebays in



the Central Basin but is rarely detected in West Coast Basin nested wells. Perchlorate in Central Basin production wells is restricted to within and just east of the Los Angeles Forebay, as well as in one well site within the Montebello Forebay; it is absent elsewhere in CBWCB production wells.

- Hexavalent chromium is present in the CBWCB at low concentrations at nearly every nested monitoring well site, but it is only found at concentrations above the historic MCL in two nested monitoring well sites, both located in the Los Angeles Forebay. In production wells, hexavalent chromium is present in a few wells located within and downgradient of the Los Angeles and Montebello Forebays in the Central Basin, and it is not observed in any of the West Coast Basin production wells. Hexavalent chromium was not detected at a concentration above its historic MCL in any of the CBWCB production wells.
- 1,4-dioxane is present at concentrations above the NL in Central Basin nested monitoring and production wells within and east of the Los Angeles Forebay and extending southward into the CBPA, as well as within the Montebello Forebay and southward in to the CBPA adjacent to the San Gabriel River. In the West Coast Basin, 1,4-dioxane was not detected above the NL in any of the nested monitoring wells, and it was not detected at all in any of the production wells tested.
- 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, hexavalent chromium, 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.
- A total of 13 WRD nested groundwater monitoring wells across the CBWCB are designated for salt and nutrient (specifically, TDS, chloride, and nitrate) sampling

and reporting as part of the SNMP monitoring program. 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. Nitrate concentrations remain below the MCL at all 13 monitoring locations.

- In the Central Basin, TDS concentrations have been generally stable but exceed the WQO in the two shallowest zones at Huntington Park #1, and they exceed both the WQO and SMCL in the three deepest zones at Whittier #1 and the shallowest zone at Seal Beach #1. Chloride concentrations have also been relatively stable but exceed the WQO in the three deepest zones at Whittier #1, and they exceed both the WQO and SMCL in the shallowest zone at Seal Beach #1. TDS and chloride concentrations have increased in Zone 5 at Seal Beach #1 in recent years, and chloride has been observed at concentrations in excess of the WQO in that zone for the past three years. In each of the remaining six key nested monitoring well sites located in the Central Basin, TDS and chloride concentrations have remained relatively stable within each of the individual monitoring wells at concentrations below both the WQOs and SMCLs.
- In the West Coast Basin, average TDS and chloride concentrations exceed WQOs and SMCLs locally due to historical seawater intrusion. However, these concentrations are in general either relatively stable or are decreasing slightly and are anticipated to achieve WQOs in the future as a result of current groundwater management practices.

As shown by the data presented herein, groundwater in the 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 for the RGWMP in the current WY 2021-22 are listed below.

- 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.
- WRD continues to advance towards developing a remote monitoring system capable of reporting data back to the District. Recent improvements and cost reductions in cellular telemetry equipment has allowed WRD to outfit several of its key monitoring wells with telemetry systems to enable near real-time water level data to be sent from dataloggers installed in individual wells electronically back to the District. WRD anticipates expanding its network of telemetry equipped dataloggers to 26 of its nested well sites in 2021-22 with the goal of near real-time display of water levels on District computers.
- 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. Three such wells were installed in WY 2020-21 including one within the spreading grounds in the City of Montebello (Montebello #2), and two others downgradient of the spreading grounds in the cities of Cerritos (Cerritos #3) and Paramount (Paramount #1). Monitoring was conducted at both Montebello #2 and Cerritos #3 during WY 2020-2021; however, installation of Paramount #1 was completed at the end of the water year and thus monitoring was not conducted at this location in WY 2020-2021. Monitoring of the nested wells at Paramount #1 will be incorporated into the RGWMP in WY 2021-22 and results will be included in the

WY 2021-22 RGWMR.

- 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 chemicals of emerging concern (CECs) that have not been comprehensively monitored in the past, WRD's nested monitoring well network is in good position to screen for emerging CECs in groundwater which may include pesticides, pharmaceuticals and personal care products, oil and gas field indicators, and other CECs.
- WRD will be working on refining the hydrogeologic conceptual model of the CBWCB to improve the framework for understanding the groundwater system and for use as a planning tool. WRD will use data from the RGWMP along with an update to the groundwater model that was developed and published by the USGS in 2021 as tools in its refinement of the conceptual model.
- 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 in place and will continue to be implemented. Existing and planned implementation measures are and will continue to be protective of groundwater quality and its beneficial uses.
- 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 monitor the quality of replenishment water sources to ensure the CBWCB are being recharged with high-quality water.
- WRD will continue to use the data generated by the RGWMP along with WRD's GIS capabilities to address current and potential water quality issues and groundwater replenishment in its service area.

## SECTION 7

### REFERENCES

- Bookman-Edmonston Engineering, Inc., *Report on Program of Water Quality Monitoring*, January 1973.
- California Department of Water Resources (DWR), *Bulletin No. 104: Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A—Ground Water Geology*, 1961.
- California Department of Water Resources (DWR), *Bulletin No. 104: Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix B—Safe Yield Determinations*, 1962.
- Hem, John D., *Study and Interpretation of the Chemical Characteristics of Natural Water, Third Edition*, U.S. Geological Survey Water-Supply Paper 2254, 1992.
- Metropolitan Water District of Southern California (MWD), *Annual Report to Member Agencies*, 2006.
- Montgomery Watson, *Report for West Coast Basin Desalinization Feasibility/Siting Study*, February 1997.
- Paulinski, S., ed.: *Development of a Groundwater-Simulation Model in the Los Angeles Coastal Plain, Los Angeles County, California*, United States Geological Survey Scientific Investigations Report 2021-5088; Reston, Virginia, 2021
- Reichard, Eric G.; Land, Michael; Crawford, Steven M.; Johnson, Tyler; Everett, Rhett; Kulshan, Trayle V.; Ponti, Daniel J.; Halford, Keith J.; Johnson, Theodore A.; Paybins, Katherine S.; and Nishikawa, Tracey: *Geohydrology, Geochemistry, and Ground-Water Simulation-Optimization of the Central and West Coast Basins, Los Angeles County, California*, United States Geological Survey Water Resources Investigations Report 03-4065; Sacramento, California, 2003.
- Trumpolt, Clayton, W.; Crain, Michael; Cullison, Geoffrey D.; Flanagan, Susan J. P.; Siegel, Lenny; Lathrop, Stephen: *Perchlorate: Sources, Uses, and Occurrence in the Environment*, Remediation, Wiley Periodicals., Inc., 2005.
- Water Replenishment District of Southern California (WRD), *Engineering Survey and Report*, 2015.
- Water Replenishment District of Southern California (WRD), *Alternative Analysis for the Central Basin – Los Angeles County, California*, December 16, 2016.

PAGE LEFT INTENTIONALLY BLANK

## **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 <sup>1</sup>
Bell #1	1	102041	1750	1730	1750	Pico Formation <sup>2</sup>
	2	102042	1215	1195	1215	Sunnyside
	3	102043	985	965	985	Sunnyside
	4	102044	635	615	635	Silverado
	5	102045	440	420	440	Jefferson
	6	102046	270	250	270	Gage
Bell Gardens #1	1	101954	1795	1775	1795	Sunnyside <sup>2</sup>
	2	101955	1410	1390	1410	Sunnyside <sup>2</sup>
	3	101956	1110	1090	1110	Sunnyside
	4	101957	875	855	875	Sunnyside
	5	101958	575	555	575	Silverado
	6	101959	390	370	390	Lynwood
Carson #1	1	100030	1010	990	1010	Silverado
	2	100031	760	740	760	Silverado
	3	100032	480	460	480	Lynwood
	4	100033	270	250	270	Gage <sup>2</sup>
Carson #2	1	101787	1250	1230	1250	Sunnyside <sup>2</sup>
	2	101788	870	850	870	Sunnyside <sup>2</sup>
	3	101789	620	600	620	Silverado
	4	101790	470	450	470	Silverado
	5	101791	250	230	250	Lynwood
Carson #3	1	102075	1800	1600	1620	Pico Formation <sup>2</sup>
	2	102076	1240	1220	1240	Sunnyside <sup>2</sup>
	3	102077	1100	1080	1100	Silverado <sup>2</sup>
	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 <sup>2</sup>
	2	100871	1020	1000	1020	Silverado <sup>2</sup>
	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 <sup>2</sup>
	2	101782	935	915	935	Silverado
	3	101783	760	740	760	Lynwood <sup>2</sup>
	4	101784	510	490	510	Hollydale
	5	101785	370	350	370	Gage
	6	101786	170	150	170	Artesia
Cerritos #3	1	103085	2120	2100	2120	Sunnyside
	2	103086	1670	1650	1670	Sunnyside
	3	103087	1395	1375	1395	Sunnyside
	4	103088	1050	1030	1050	Silverado
	5	103089	780	760	780	Hollydale
	6	103090	450	430	450	Hollydale
	7	103091	255	235	255	Gage

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.

2 - Aquifer designation is based on WRD's in-house interpretation.

**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 <sup>1</sup>
Chandler #3B	1	100082	363	341	363	Silverado <sup>2</sup>
Chandler #3A	2	100083	192	165	192	Lynwood <sup>2</sup>
Commerce #1	1	100881	1390	1330	1390	Pico Formation <sup>2</sup>
	2	100882	960	940	960	Sunnyside
	3	100883	780	760	780	Sunnyside <sup>2</sup>
	4	100884	590	570	590	Silverado
	5	100885	345	325	345	Jefferson
	6	100886	225	205	225	Hollydale
Compton #1	1	101809	1410	1370	1390	Sunnyside <sup>2</sup>
	2	101810	1170	1150	1170	Sunnyside <sup>2</sup>
	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	Pico Formation <sup>2</sup>
	2	101949	850	830	850	Sunnyside <sup>2</sup>
	3	101950	605	585	605	Silverado
	4	101951	400	380	400	Lynwood <sup>2</sup>
	5	101952	315	295	315	Hollydale <sup>2</sup>
	6	101953	170	150	170	Exposition
Downey #1	1	100010	1190	1170	1190	Sunnyside <sup>2</sup>
	2	100011	960	940	960	Sunnyside <sup>2</sup>
	3	100012	600	580	600	Silverado
	4	100013	390	370	390	Jefferson
	5	100014	270	250	270	Gage
	6	100015	110	90	110	Gaspur
Gardena #1	1	100020	990	970	990	Pico Formation <sup>2</sup>
	2	100021	465	445	465	Silverado
	3	100022	365	345	365	Lynwood <sup>2</sup>
	4	100023	140	120	140	Gage
Gardena #2	1	101804	1335	1275	1335	Pico Formation <sup>2</sup>
	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	Pico Formation <sup>2</sup>
	2	100888	730	710	730	Sunnyside <sup>2</sup>
	3	100889	540	520	540	Sunnyside <sup>2</sup>
	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	Lynwood
	3	100007	440	420	440	Hollydale
	4	100008	295	275	295	Gage
	5	100009	134	114	134	Gaspur

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.

2 - Aquifer designation is based on WRD's in-house interpretation.

**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 <sup>1</sup>
Inglewood #1	1	100091	1400	1380	1400	Pico Formation <sup>2</sup>
	2	100092	885	865	885	Pico Formation <sup>2</sup>
	3	100093	450	430	450	Silverado
	4	100094	300	280	300	Lynwood <sup>2</sup>
	5	100095	170	150	170	Gage
Inglewood #2	1	100824	860	800	840	Pico Formation <sup>2</sup>
	2	100825	470	450	470	Silverado <sup>2</sup>
	3	100826	350	330	350	Lynwood <sup>2</sup>
	4	100827	245	225	245	Gage <sup>2</sup>
Inglewood #3	1	102138	1940	1900	1940	Pico Formation <sup>2</sup>
	2	102139	1460	1440	1460	Pico Formation <sup>2</sup>
	3	102140	1275	1255	1275	Pico Formation <sup>2</sup>
	4	102141	910	890	910	Pico Formation <sup>2</sup>
	5	102142	560	540	560	Silverado
	6	102143	390	370	390	Lynwood
	7	102144	265	245	265	Gage
Lakewood #1	1	100024	1009	989	1009	Sunnyside
	2	100025	660	640	660	Lynwood
	3	100026	470	450	470	Hollydale
	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 <sup>2</sup>
	2	102152	1760	1740	1760	Sunnyside <sup>2</sup>
	3	102153	1320	1300	1320	Sunnyside <sup>2</sup>
	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 <sup>2</sup>
	3	100878	710	690	710	Lynwood <sup>2</sup>
	4	100879	490	470	490	Jefferson <sup>2</sup>
	5	100880	245	225	245	Gage
Lawndale #1	1	102171	1400	1360	1400	Pico Formation <sup>2</sup>
	2	102172	905	885	905	Sunnyside <sup>2</sup>
	3	102173	635	615	635	Silverado
	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	Pico Formation <sup>2</sup>
	2	100819	720	700	720	Silverado
	3	100820	570	550	570	Silverado
	4	100821	420	400	420	Lynwood
	5	100822	240	220	240	Gage <sup>2</sup>
	6	100823	120	100	120	Gage <sup>2</sup>

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.

2 - Aquifer designation is based on WRD's in-house interpretation.

**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 <sup>1</sup>
Long Beach #1	1	100920	1470	1430	1450	Sunnyside <sup>2</sup>
	2	100921	1250	1230	1250	Sunnyside
	3	100922	990	970	990	Silverado <sup>2</sup>
	4	100923	619	599	619	Lynwood <sup>2</sup>
	5	100924	420	400	420	Jefferson <sup>2</sup>
	6	100925	175	155	175	Artesia
Long Beach #2	1	101740	1090	970	990	Sunnyside
	2	101741	740	720	740	Silverado <sup>2</sup>
	3	101742	470	450	470	Silverado
	4	101743	300	280	300	Lynwood
	5	101744	180	160	180	Gage
	6	101745	115	95	115	Gaspur
Long Beach #3	1	101751	1390	1350	1390	Pico Formation <sup>2</sup>
	2	101752	1017	997	1017	Silverado
	3	101753	690	670	690	Silverado <sup>2</sup>
	4	101754	550	530	550	Silverado <sup>2</sup>
	5	101755	430	410	430	Lynwood
Long Beach #4	1	101759	1380	1200	1220	Pico Formation <sup>2</sup>
	2	101760	820	800	820	Sunnyside <sup>2</sup>
Long Beach #6	1	101792	1530	1490	1510	Pico Formation <sup>2</sup>
	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 <sup>2</sup>
	2	101820	1040	1020	1040	Sunnyside <sup>2</sup>
	3	101821	800	780	800	Silverado <sup>2</sup>
	4	101822	655	635	655	Silverado <sup>2</sup>
	5	101823	435	415	435	Silverado <sup>2</sup>
	6	101824	185	165	185	Lynwood <sup>2</sup>
Los Angeles #1	1	100926	1370	1350	1370	Sunnyside <sup>2</sup>
	2	100927	1100	1080	1100	Sunnyside
	3	100928	940	920	940	Sunnyside
	4	100929	660	640	660	Silverado
	5	100930	370	350	370	Lynwood <sup>2</sup>
Los Angeles #2	1	102003	1370	1330	1370	Pico Formation <sup>2</sup>
	2	102004	730	710	730	Sunnyside
	3	102005	525	505	525	Silverado
	4	102006	430	410	430	Lynwood
	5	102007	265	245	265	Hollydale <sup>2</sup>
	6	102008	155	135	155	Gardena

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.

2 - Aquifer designation is based on WRD's in-house interpretation.

**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 <sup>1</sup>
Los Angeles #3	1	102069	1570	1210	1230	Pico Formation <sup>2</sup>
	2	102070	895	875	895	Sunnyside <sup>2</sup>
	3	102071	725	705	725	Sunnyside <sup>2</sup>
	4	102072	570	550	570	Sunnyside
	5	102073	350	330	350	Silverado <sup>2</sup>
	6	102074	210	190	210	Gage <sup>2</sup>
Los Angeles #4	1	102131	1780	1740	1780	Pico Formation <sup>2</sup>
	2	102132	1230	1190	1230	Sunnyside <sup>2</sup>
	3	102133	740	720	740	Sunnyside
	4	102134	510	490	510	Silverado
	5	102135	375	355	375	Lynwood
	6	102136	255	235	255	Gage
Los Angeles #5	1	103029	2000	1960	2000	Pico Formation <sup>2</sup>
	2	103030	1255	1235	1255	Sunnyside <sup>2</sup>
	3	103031	770	750	770	Sunnyside
	4	103032	575	555	575	Sunnyside
	5	103033	450	430	450	Silverado
	6	103034	235	215	235	Lynwood <sup>2</sup>
	7	103035	105	95	105	Exposition
Los Angeles #6	1	103047	600	580	600	Pico Formation <sup>2</sup>
	2	103048	440	420	440	Sunnyside
	3	103049	365	345	365	Silverado
	4	103050	275	255	275	Lynwood
Lynwood #1	1	102211	2900	2880	2900	Pico Formation <sup>2</sup>
	2	102212	2450	2430	2450	Pico Formation <sup>2</sup>
	3	102213	1670	1650	1670	Sunnyside <sup>2</sup>
	4	102214	1465	1445	1465	Sunnyside <sup>2</sup>
	5	102215	1220	1200	1220	Silverado <sup>2</sup>
	6	102216	900	880	900	Silverado <sup>2</sup>
	7	102217	660	640	660	Lynwood
	8	102218	335	315	335	Gardena
	9	102219	180	160	180	Gaspur
Manhattan Beach #1	1	102081	1990	1950	1990	Pico Formation <sup>2</sup>
	2	102082	1590	1570	1590	Pico Formation <sup>2</sup>
	3	102083	1270	1250	1270	Pico Formation <sup>2</sup>
	4	102084	885	865	885	Sunnyside <sup>2</sup>
	5	102085	660	640	660	Sunnyside <sup>2</sup>
	6	102086	340	320	340	Silverado
	7	102087	200	180	200	Gage
Montebello #1	1	101770	980	900	960	Pico Formation <sup>2</sup>
	2	101771	710	690	710	Sunnyside
	3	101772	520	500	520	Sunnyside
	4	101773	390	370	390	Silverado
	5	101774	230	210	230	Lynwood
	6	101775	110	90	110	Gage

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.

2 - Aquifer designation is based on WRD's in-house interpretation.

**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 <sup>1</sup>
Montebello #2	1	103080	780	745	780	Pico Formation
	2	103081	435	415	435	Pico Formation
	3	103082	260	250	260	Sunnyside
	4	103083	200	180	200	Sunnyside
	5	103084	115	100	115	Gage
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	Hollydale
	5	101818	240	220	240	Gage
Norwalk #2	1	101942	1480	1460	1480	Pico Formation <sup>2</sup>
	2	101943	1280	1260	1280	Pico Formation <sup>2</sup>
	3	101944	980	960	980	Sunnyside <sup>2</sup>
	4	101945	820	800	820	Sunnyside <sup>2</sup>
	5	101946	500	480	500	Silverado
	6	101947	256	236	256	Gardena
Pico #1	1	100001	900	860	900	Pico Formation <sup>2</sup>
	2	100002	480	460	480	Silverado
	3	100003	400	380	400	Silverado
	4	100004	190	170	190	Gardena <sup>2</sup>
Pico #2	1	100085	1200	1180	1200	Sunnyside <sup>2</sup>
	2	100086	850	830	850	Sunnyside <sup>2</sup>
	3	100087	580	560	580	Sunnyside
	4	100088	340	320	340	Silverado
	5	100089	255	235	255	Lynwood
	6	100090	120	100	120	Gaspur/Gage <sup>2</sup>
PM-2 Police Station	1	102237	665	645	665	Sunnyside <sup>2</sup>
	2	102238	540	520	540	Silverado
	3	102239	390	370	390	Lynwood/Silverado <sup>2</sup>
	4	102240	260	240	260	Lynwood
PM-3 Madrid	1	100034	685	640	680	Sunnyside <sup>2</sup>
	2	100035	525	480	520	Silverado
	3	100036	285	240	280	Lynwood
	4	100037	190	145	185	Gardena
PM-4 Mariner	1	100038	720	670	710	Sunnyside <sup>2</sup>
	2	100039	550	500	540	Silverado
	3	100040	390	340	380	Lynwood
	4	100041	250	200	240	Gardena
PM-5 Columbia Park	1	102047	1480	1360	1380	Pico Formation <sup>2</sup>
	2	102048	960	940	960	Pico Formation <sup>2</sup>
	3	102049	790	770	790	Sunnyside <sup>2</sup>
	4	102050	600	580	600	Silverado
	5	102051	340	320	340	Lynwood <sup>2</sup>
	6	102052	160	140	160	Gardena

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.

2 - Aquifer designation is based on WRD's in-house interpretation.

**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 <sup>1</sup>
PM-6 Madrona Marsh	1	102053	1235	1195	1235	Pico Formation <sup>2</sup>
	2	102054	925	905	925	Sunnyside <sup>2</sup>
	3	102055	790	770	790	Sunnyside <sup>2</sup>
	4	102056	550	530	550	Silverado
	5	102057	410	390	410	Lynwood
	6	102058	260	240	260	Lynwood
Rio Hondo #1	1	100064	1150	1110	1130	Pico Formation <sup>2</sup>
	2	100065	930	910	930	Sunnyside <sup>2</sup>
	3	100066	730	710	730	Sunnyside
	4	100067	450	430	450	Silverado
	5	100068	300	280	300	Hollydale
	6	100069	160	140	160	Gardena
Seal Beach #1	1	102062	1485	1345	1365	Sunnyside <sup>2</sup>
	2	102063	1180	1160	1180	Sunnyside <sup>2</sup>
	3	102064	1040	1020	1040	Sunnyside <sup>2</sup>
	4	102065	795	775	795	Silverado
	5	102066	625	605	625	Lynwood <sup>2</sup>
	6	102067	235	215	235	Gage
	7	102068	70	60	70	Artesia
South Gate #1	1	100893	1460	1440	1460	Sunnyside <sup>2</sup>
	2	100894	1340	1320	1340	Sunnyside <sup>2</sup>
	3	100895	930	910	930	Silverado <sup>2</sup>
	4	100896	585	565	585	Lynwood
	5	100897	250	220	240	Exposition <sup>2</sup>
South Gate #2	1	102180	1760	1740	1760	Sunnyside <sup>2</sup>
	2	102181	1430	1410	1430	Sunnyside <sup>2</sup>
	3	102182	1082	1062	1082	Sunnyside
	4	102183	690	670	690	Silverado <sup>2</sup>
	5	102184	430	410	430	Hollydale
	6	102185	225	205	225	Gaspar <sup>2</sup>
Westchester #1	1	101776	860	740	760	Pico Formation <sup>2</sup>
	2	101777	580	560	580	Sunnyside <sup>2</sup>
	3	101778	475	455	475	Sunnyside <sup>2</sup>
	4	101779	330	310	330	Silverado
	5	101780	235	215	235	Silverado
Whittier #1	1	101735	1298	1180	1200	Pico Formation <sup>2</sup>
	2	101736	940	920	940	Pico Formation <sup>2</sup>
	3	101737	620	600	620	Sunnyside
	4	101738	470	450	470	Silverado
	5	101739	220	200	220	Jefferson
Whittier #2	1	101936	1390	1370	1390	Pico Formation <sup>2</sup>
	2	101937	1110	1090	1110	Pico Formation <sup>2</sup>
	3	101938	675	655	675	Sunnyside
	4	101939	445	425	445	Silverado
	5	101940	335	315	335	Silverado
	6	101941	170	150	170	Gage <sup>2</sup>

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.

2 - Aquifer designation is based on WRD's in-house interpretation.

**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 <sup>1</sup>
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	Lynwood
	8	100053	810	163	173	Gardena
	9	100054	810	95	104.5	Gaspur
Whittier Narrows #2	1	100055	720	659	678.4	Pico Formation <sup>2</sup>
	2	100056	720	579	598.2	Pico Formation <sup>2</sup>
	3	100057	720	469	488.2	Pico Formation <sup>2</sup>
	4	100058	720	419	428.2	Pico Formation <sup>2</sup>
	5	100059	720	329	338.3	Pico Formation <sup>2</sup>
	6	100060	720	263	273.3	Lynwood
	7	100061	720	214	223.3	Lynwood
	8	100062	720	136	145.3	Gardena <sup>2</sup>
	9	100063	720	91	100.3	Gardena
Willowbrook #1	1	100016	905	885	905	Sunnyside <sup>2</sup>
	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 <sup>2</sup>
	2	100071	800	780	800	Silverado
	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 <sup>2</sup>
	2	100076	775	755	775	Silverado
	3	100077	560	540	560	Silverado
	4	100078	410	390	410	Lynwood
	5	100079	140	120	140	Gage

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.

2 - Aquifer designation is based on WRD's in-house interpretation.



**TABLE 1.2  
CONSTRUCTION INFORMATION FOR WELLS USED TO PREPARE  
FIGURES 2.1 AND 2.2**

Well Name	Zone	WRD ID Number	Reference Point Elevation (feet msl)	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Date of Measurement	Groundwater Elevation (feet msl)	Aquifer Designation <sup>1</sup>
Hawkins #1	3	102233	147.75	296	286	296	9/14/2021	31.60	Lynwood
Koontz #1	1	102226	135.17	491	481	491	9/14/2021	20.50	Lynwood
LADWP-MH-MW1A	2	102251	133.91	580	510	560	9/15/2021	-16.02	Silverado
LHCWD-MW1	1	102164	151.00	570	540	560	9/14/2021	74.32	Sunnyside
LongBeach #7	2	101899	16.35	670	650	670	9/15/2021	-38.02	Silverado
Sepulveda #1	1	201058	90.00	550	370	530	9/15/2021	2.54	Silverado
Vernon #1	1	102241	210.45	530	520	530	8/2/2021	-28.12	Silverado

<sup>1</sup> - Aquifer designations are based on DWR's Bulletin 104.

PAGE LEFT INTENTIONALLY BLANK

**TABLE 2.1**  
**GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**  
Page 1 of 11

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
<b>Bell #1</b> <span style="float: right;">Reference Point Elevation: 149.25</span>									
Depth of Screen Interval	1730-1750	1195-1215	965-985	615-635	420-440	250-270			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside	Sunnyside	Silverado	Jefferson	Gage			
12/15/2020	-27.56	-26.63	-18.44	-20.74	-14.84	7.68			
3/11/2021	-25.50	-24.63	-16.87	-19.70	-12.23	8.27			
3/30/2021	-25.18	-24.49	-16.92	-21.82	-14.23	8.32			
6/14/2021	-30.54	-26.50	-20.60	-23.33	-17.40	6.84			
9/20/2021	-34.47	-35.80	-23.97	-27.61	-19.28	5.73			
<b>Bell Gardens #1</b> <span style="float: right;">Reference Point Elevation: 121.03</span>									
Depth of Screen Interval	1775-1795	1390-1410	1090-1110	855-875	555-575	370-390			
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside	Sunnyside	Silverado	Lynwood			
10/27/2020	1.40	-0.26	1.32	3.65	7.39	5.09			
12/16/2020	-0.30	-1.78	0.49	5.11	8.18	7.09			
3/17/2021	0.91	0.45	2.80	6.33	10.56	9.35			
4/7/2021	0.61	-0.28	1.74	5.28	9.21	7.62			
4/14/2021	0.32	-0.40	1.59	4.90	8.94	7.32			
6/10/2021	-1.97	-3.21	-0.57	3.15	6.78	5.03			
9/20/2021	-7.33	-7.16	-4.26	0.02	3.91	2.74			
<b>Carson #1</b> <span style="float: right;">Reference Point Elevation: 26.86</span>									
Depth of Screen Interval	990-1010	740-760	460-480	250-270					
Aquifer Name <sup>1</sup>	Silverado	Silverado	Lynwood	Gage <sup>2</sup>					
10/26/2020	-38.56	-37.98	-8.80	-7.55					
11/13/2020	-38.13	-37.53	-8.73	-7.53					
12/3/2020	-36.91	-36.09	-8.40	-7.28					
12/10/2020	-36.61	-35.88	-8.31	-7.17					
1/7/2021	-36.43	-35.62	-8.14	-7.07					
2/5/2021	-35.10	-34.40	-7.96	-6.88					
3/1/2021	-34.49	-33.63	-7.89	-6.77					
3/5/2021	-34.47	-33.79	-7.81	-6.78					
3/10/2021	-34.71	-34.02	-7.79	-6.70					
4/2/2021	-35.25	-34.62	-7.69	-6.61					
5/14/2021	-36.70	-36.07	-7.95	-6.84					
6/9/2021	-37.95	-37.39	-8.15	-6.96					
7/1/2021	-38.19	-37.51	-8.16	-6.91					
8/17/2021	-39.42	-38.76	-8.37	-7.05					
9/15/2021	-39.58	-38.88	-8.40	-7.15					
<b>Carson #2</b> <span style="float: right;">Reference Point Elevation: 43.04</span>									
Depth of Screen Interval	1230-1250	850-870	600-620	450-470	230-250				
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Silverado	Lynwood				
12/10/2020	-25.77	-21.53	-21.27	-18.32	-16.24				
3/10/2021	-24.62	-20.58	-20.32	-17.43	-15.38				
3/15/2021	-24.61	-20.56	-20.31	-17.44	-15.41				
6/9/2021	-26.26	-22.54	-22.23	-19.04	-16.79				
9/15/2021	-27.02	-22.79	-22.51	-19.36	-17.16				
<b>Carson #3</b> <span style="float: right;">Reference Point Elevation: 20.18</span>									
Depth of Screen Interval	1600-1620	1220-1240	1080-1100	870-890	620-640	360-380			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado <sup>2</sup>	Silverado	Silverado	Lynwood			
12/15/2020	-25.34	-30.84	-30.34	-31.98	-31.89	-10.75			
3/9/2021	-25.14	-30.19	-29.92	-31.48	-31.59	-10.45			
4/21/2021	-24.91	-30.10	-30.07	-32.24	-32.33	-10.31			
6/9/2021	-25.03	-31.03	-31.04	-33.78	-34.01	-10.82			
9/15/2021	-25.27	-31.53	-30.91	-33.34	-33.32	-10.82			

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.  
2 - Aquifer designation is based on WRD's in-house interpretation.  
- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.

**TABLE 2.1**  
**GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**  
Page 2 of 11

	<b>ZONE 1</b>	<b>ZONE 2</b>	<b>ZONE 3</b>	<b>ZONE 4</b>	<b>ZONE 5</b>	<b>ZONE 6</b>	<b>ZONE 7</b>	<b>ZONE 8</b>	<b>ZONE 9</b>
<b>Cerritos #1</b> <span style="float:right">Reference Point Elevation: 43.35</span>									
Depth of Screen Interval	1155-1175	1000-1020	610-630	270-290	180-200	125-135			
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Silverado <sup>2</sup>	Lynwood	Gage	Artesia	Artesia			
10/28/2020	-42.71	-48.1	-27.68	18.92	20.86	20.95			
12/2/2020	-36.63	-44.8	-24.22	18.6	21.28	21.36			
12/9/2020	-36.33	-44.56	-24.15	18.64	21.33	21.4			
3/9/2021	-32.70	-41.74	-15.25	22.15	23.25	23.32			
3/11/2021	-32.80	-41.10	-15.15	22.15	23.25	23.32			
6/7/2021	-44.21	-51.25	-27.59	19.76	21.51	21.61			
9/15/2021	-46.54	-51.82	-30.45	18.03	20.10	20.15			
<b>Cerritos #2</b> <span style="float:right">Reference Point Elevation: 76.47</span>									
Depth of Screen Interval	1350-1370	915-935	740-760	490-510	350-370	150-170			
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Silverado	Lynwood <sup>2</sup>	Hollydale	Gage	Artesia			
10/28/2020	-27.61	-32.86	-29.93	-7.02	15.14	22.52			
11/13/2020	-27.17	-31.04	-28.01	-6.43	15.24	22.58			
12/2/2020	-26.63	-31.69	-28.02	-6.15	15.40	22.71			
12/9/2020	-26.38	-32.96	-28.27	-6.35	15.45	22.76			
3/11/2021	-22.67	-29.01	-23.24	-2.37	16.84	23.51			
3/12/2021	-22.55	-28.91	-23.16	-2.31	16.85	23.54			
6/7/2021	-24.84	-36.63	-30.62	-7.73	15.44	22.85			
9/15/2021	-31.21	-39.28	-33.21	-9.83	14.22	21.95			
<b>Cerritos #3</b> <span style="float:right">Reference Point Elevation: 64.29</span>									
Depth of Screen Interval	2100-2120	1650-1670	1375-1395	1030-1050	760-780	430-450	235-255		
Aquifer Name <sup>1</sup>	Sunnyside	Sunnyside	Sunnyside	Silverado	Hollydale	Hollydale	Gage		
6/21/2021	17.46	-25.20	-23.89	-22.33	-47.72	-24.79	16.11		
6/23/2021	17.32	-25.39	-24.09	-22.37	-46.84	-24.44	16.10		
9/13/2021	14.97	-30.95	-27.01	-26.31	-32.92	12.35	15.18		
9/29/2021	14.54	-30.69	-26.71	-27.28	-31.54	10.71	15.06		
<b>Chandler #3</b> <span style="float:right">Reference Point Elevation: 156.01</span>									
Depth of Screen Interval	341-363	165-192							
Aquifer Name <sup>1</sup>	Silverado <sup>2</sup>	Lynwood <sup>2</sup>							
10/29/2020	-9.43	-9.23							
12/17/2020	-8.66	-8.60							
3/4/2021	-9.01	-8.88							
3/8/2021	-8.59	-8.52							
6/10/2021	-9.03	-8.90							
9/16/2021	-9.11	-9.04							
<b>Commerce #1</b> <span style="float:right">Reference Point Elevation: 159.31</span>									
Depth of Screen Interval	1330-1390	940-960	760-780	570-590	325-345	205-225			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside	Sunnyside <sup>2</sup>	Silverado	Jefferson	Hollydale			
10/29/2020	24.79	25.83	22.66	-13.68	-14.94	24.49			
12/17/2020	25.09	24.96	21.56	-14.44	-15.17	24.42			
3/17/2021	24.96	25.24	22.03	-11.33	-11.33	24.24			
4/21/2021	24.90	24.47	20.87	-12.98	-11.77	24.12			
6/10/2021	23.79	23.26	19.63	-16.39	-16.29	23.48			
9/22/2021	22.99	19.73	15.83	-19.37	-18.28	22.77			
<b>Compton #1</b> <span style="float:right">Reference Point Elevation: 68.84</span>									
Depth of Screen Interval	1370-1390	1150-1170	800-820	460-480	305-325				
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Hollydale	Gage				
10/29/2020	-59.88	-59.62	-28.43	-30.62	-16.31				
12/17/2020	-56.6	-56.39	-25.84	-17.16	-13.06				
3/9/2021	-56.43	-56.19	-24.08	-27.6	-12.37				
4/28/2021	-58.36	-57.65	-25.43	-28.63	-14.02				
6/8/2021	-59.47	-59.24	-26.61	-29.84	-15.57				
9/16/2021	-63.44	-63.20	-32.1	-32.44	-18.99				

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.  
2 - Aquifer designation is based on WRD's in-house interpretation.  
- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.

**TABLE 2.1**  
**GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**  
Page 3 of 11

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
<b>Compton #2</b> <span style="float:right">Reference Point Elevation: 76.97</span>									
Depth of Screen Interval	1479-1495	830-850	585-605	380-400	295-315	150-170			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Lynwood <sup>2</sup>	Hollydale <sup>2</sup>	Exposition			
10/26/2020	-25.61	-51.87	-47.97	-47.03	-39.96	-34.15			
12/18/2020	-27.39	-50.72	-47.03	-45.08	-36.67	-32.51			
3/9/2021	-27.32	-48.92	-46.28	-45.40	-38.06	-32.36			
4/23/2021	-27.46	-49.27	-48.11	-46.86	-37.85	-32.16			
6/7/2021	-28.07	-51.03	-48.06	-46.90	-38.86	-32.80			
9/17/2021	-30.95	-53.40	-49.93	-48.82	-40.79	-34.23			
<b>Downey #1</b> <span style="float:right">Reference Point Elevation: 99.39</span>									
Depth of Screen Interval	1170-1190	940-960	580-600	370-390	250-270	90-110			
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Jefferson	Gage	Gaspur			
12/14/2020	-6.91	-5.51	-0.90	-0.16	22.53	26.37			
3/10/2021	-4.75	-3.50	0.71	1.89	23.19	26.44			
3/17/2021	-4.59	-3.35	1.05	1.46	23.18	26.58			
6/14/2021	-7.61	-6.44	-4.63	-3.93	22.29	26.44			
9/22/2021	-13.56	-12.00	-7.56	-5.75	21.47	25.97			
<b>Gardena #1</b> <span style="float:right">Reference Point Elevation: 84.23</span>									
Depth of Screen Interval	970-990	445-465	345-365	120-140					
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Silverado	Lynwood <sup>2</sup>	Gage					
12/15/2020	-30.03	-33.90	-29.76	-3.20					
3/15/2021	-29.61	-33.81	-29.81	-2.63					
6/15/2021	-29.54	-34.54	-30.15	-2.53					
9/15/2021	-29.62	-32.56	-28.43	-2.40					
<b>Gardena #2</b> <span style="float:right">Reference Point Elevation: 29.45</span>									
Depth of Screen Interval	1275-1335	770-790	610-630	340-360	235-255				
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Silverado	Silverado	Lynwood	Gardena				
10/21/2020	-26.72	-38.33	-39.56	-11.34	-2.28				
12/18/2020	-26.75	-39.75	-41.26	-11.60	-2.31				
3/8/2021	-26.10	-40.70	-42.17	-11.65	-2.14				
3/16/2021	-26.20	-40.06	-41.37	-11.35	-1.87				
6/16/2021	-26.54	-44.29	-45.92	-12.55	-2.53				
9/15/2021	-26.82	-40.13	-41.59	-11.58	-2.38				
<b>Hawthorne #1</b> <span style="float:right">Reference Point Elevation: 88.98</span>									
Depth of Screen Interval	910-950	710-730	520-540	400-420	240-260	110-130			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Lynwood	Gage			
10/21/2020	-30.07	0.73	1.15	1.22	3.27	8.22			
12/2/2020	-30.12	-1.36	-1.14	-0.95	1.78	8.21			
12/9/2020	-30.09	-1.51	-1.14	-1.15	1.77	8.21			
3/12/2021	-29.99	-1.08	-0.66	-0.53	2.19	8.26			
3/16/2021	-30.12	-0.66	-0.18	-0.13	2.38	8.23			
6/7/2021	-31.17	-1.95	-0.56	-0.47	2.25	8.38			
9/15/2021	-26.99	1.13	1.48	1.60	3.61	8.58			
<b>Huntington Park #1</b> <span style="float:right">Reference Point Elevation: 179.44</span>									
Depth of Screen Interval	890-910	690-710	420-440	275-295	114-134				
Aquifer Name <sup>1</sup>	Silverado	Lynwood	Hollydale	Gage	Gaspur				
12/2/2020	-29.66	-34.13	-18.70	7.91	Dry				
12/17/2020	-29.17	-33.79	-20.37	8.61	Dry				
3/17/2021	-29.39	-33.17	-18.74	8.21	Dry				
4/13/2021	-31.72	-35.83	-19.57	7.75	Dry				
6/14/2021	-30.59	-31.91	-20.02	7.91	Dry				
9/20/2021	-31.96	-36.24	-20.66	7.06	Dry				

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.  
2 - Aquifer designation is based on WRD's in-house interpretation.  
- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.

**TABLE 2.1**  
**GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**  
Page 4 of 11

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
<b>Inglewood #1</b> Reference Point Elevation: 112.82									
Depth of Screen Interval	1380-1400	865-885	430-450	280-300	150-170				
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Silverado	Lynwood <sup>2</sup>	Gage				
10/28/2020	-27.48	-27.4	-18.76	-1.27	5.40				
12/2/2020	-27.38	-27.43	-18.68	-1.42	5.48				
12/10/2020	-27.39	-27.36	-18.63	-1.33	5.42				
3/16/2021	-27.08	-27	-16.91	-0.76	5.57				
4/15/2021	-26.86	-26.75	-17.35	-0.95	5.47				
6/14/2021	-27.42	-26.58	-17.38	-0.88	5.59				
9/20/2021	-26.20	-26.18	-16.14	-0.53	5.70				
<b>Inglewood #2</b> Reference Point Elevation: 219.82									
Depth of Screen Interval	800-840	450-470	330-350	225-245					
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Silverado <sup>2</sup>	Lynwood <sup>2</sup>	Gage <sup>2</sup>					
12/10/2020	-21.09	-14.78	-1.73	2.12					
3/17/2021	-21.40	-14.93	-1.48	2.29					
6/14/2021	-22.21	-14.98	-1.63	2.17					
9/20/2021	-22.48	-15.03	-1.68	2.17					
<b>Inglewood #3</b> Reference Point Elevation: 72.20									
Depth of Screen Interval	1900-1940	1440-1460	1255-1275	890-910	540-560	370-390	245-265		
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Silverado	Lynwood	Gage		
12/17/2020	-34.84	-26.64	-29.93	-31.84	-31.63	-4.11	6.22		
3/15/2021	-35.02	-26.48	-29.49	-30.23	-31.02	-2.43	6.49		
4/20/2021	-35.11	-26.34	-29.37	-31.09	-31.64	-2.56	6.49		
6/10/2021	-35.29	-26.27	-29.27	-31.53	-32.36	-2.51	6.41		
9/23/2021	-35.33	-26.23	-28.78	-27.91	-28.03	-1.16	6.75		
<b>Lakewood #1</b> Reference Point Elevation: 53.87 (Zones 5 and 6) and 53.14 (Zones 1, 2, 3 and 4)									
Depth of Screen Interval	989-1009	640-660	450-470	280-300	140-160	70-90			
Aquifer Name <sup>1</sup>	Sunnyside	Lynwood	Hollydale	Gage	Artesia	Bellflower			
12/16/2020	-152.34	-35.55	-32.96	-14.80	-0.67	21.74			
3/11/2021	-48.88	-33.34	-30.71	-13.30	1.68	22.30			
3/15/2021	-47.89	-33.19	-30.76	-13.19	1.92	22.39			
6/15/2021	-55.69	-36.53	-34.67	-16.99	-1.74	21.94			
9/16/2021	-165.26	-39.20	-37.23	-18.94	-3.20	21.21			
<b>Lakewood #2</b> Reference Point Elevation: 40.51									
Depth of Screen Interval	1960-2000	1740-1760	1300-1320	995-1015	690-710	555-575	255-275	110-120	
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Lynwood	Jefferson	Gage	Artesia	
12/8/2020	-26.72	-42.06	-44.34	-58.02	-27.99	-12.72	17.52	19.84	
3/9/2021	-22.30	-37.40	-40.15	-54.92	-23.11	-8.67	18.99	21.11	
4/27/2021	-23.30	-40.07	-43.62	-58.64	-27.08	-11.03	18.56	20.74	
6/15/2021	-27.57	-44.05	-47.99	-63.79	-30.46	-14.57	17.52	19.87	
9/14/2021	-33.52	-47.72	-50.10	-63.85	-33.54	-16.94	16.34	18.76	
<b>La Mirada #1</b> Reference Point Elevation: 78.30									
Depth of Screen Interval	1130-1150	965-985	690-710	470-490	225-245				
Aquifer Name <sup>1</sup>	Sunnyside	Silverado <sup>2</sup>	Lynwood <sup>2</sup>	Jefferson <sup>2</sup>	Gage				
10/27/2020	-10.90	-9.10	-25.15	-42.54	-9.55				
12/9/2020	-11.18	-9.51	-19.35	-33.80	-5.13				
3/11/2021	-6.26	-3.61	-16.49	-33.65	-0.73				
3/16/2021	-5.19	-3.60	-15.76	-32.25	0.03				
6/9/2021	-19.80	-12.00	-27.03	-45.67	-10.50				
9/14/2021	-20.60	-17.85	-32.34	-47.27	-12.72				

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.  
2 - Aquifer designation is based on WRD's in-house interpretation.  
- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.

**TABLE 2.1**  
**GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**  
Page 5 of 11

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
<b>Lawndale #1</b> <span style="float: right;">Reference Point Elevation: 48.93</span>									
Depth of Screen Interval	1360-1400	895-905	615-635	395-415	290-310	170-190			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Silverado	Lynwood	Gardena			
10/27/2020	-24.69	-36.48	-1.93	-1.48	-0.17	0.82			
11/13/2020	-24.76	-35.85	-2.27	-1.75	-0.25	1.59			
12/16/2020	-24.7	-37.57	-2.57	-2.1	-0.7	0.18			
1/7/2021	-24.66	-36.94	-2.16	-1.67	-0.05	1.91			
2/5/2021	-24.55	-39.28	-2.5	-1.97	-0.33	1.81			
3/5/2021	-24.51	-40.95	-2.39	-1.9	-0.25	1.66			
3/9/2021	-24.58	-41.05	-2.41	-1.86	-0.29	1.6			
4/2/2021	-24.48	-41.32	-2.34	-1.89	-0.48	-0.11			
4/29/2021	-24.48	-41.75	-2.44	-1.86	-0.51	-1.43			
5/14/2021	-24.38	-42.69	-2.64	-2.04	-0.48	0.79			
6/15/2021	-24.37	-43.76	-2.75	-2.26	-0.74	-1.97			
7/1/2021	-24.39	-39.81	-2.75	-2.14	-0.86	-2.44			
8/20/2021	-24.59	-38.63	-2.01	-1.40	-0.05	1.17			
9/22/2021	-24.58	-37.74	-2.19	-1.69	-0.49	0.51			
<b>Lomita #1</b> <span style="float: right;">Reference Point Elevation: 79.48</span>									
Depth of Screen Interval	1240-1260	700-720	550-570	400-420	220-240	100-120			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Silverado	Silverado	Lynwood	Gage <sup>2</sup>	Gage <sup>2</sup>			
12/15/2020	-17.02	-12.50	-8.44	-10.96	-8.18	-8.12			
3/2/2021	-17.24	-13.52	-8.01	-10.43	-7.99	-8.17			
3/8/2021	-19.37	-12.06	-9.21	-10.31	-7.99	-8.17			
6/10/2021	-18.29	-12.83	-8.38	-10.77	-7.93	-7.83			
9/21/2021	-19.05	-11.37	-8.68	-11.21	-8.06	-7.98			
<b>Long Beach #1</b> <span style="float: right;">Reference Point Elevation: 30.86</span>									
Depth of Screen Interval	1430-1450	1230-1250	970-990	599-619	400-420	155-175			
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside	Silverado <sup>2</sup>	Lynwood <sup>2</sup>	Jefferson <sup>2</sup>	Artesia			
12/17/2020	-34.86	-37.76	-60.69	-32.46	-28.77	-5.81			
3/8/2021	-34.65	-37.87	-55.89	-29.25	-25.72	-4.36			
3/9/2021	-34.68	-37.84	-58.02	-29.56	-26.25	-4.48			
6/7/2021	-39.63	-43.05	-66.72	-36.12	-33.19	-8.38			
9/20/2021	-44.66	-48.05	-76.54	-39.90	-35.91	-10.51			
<b>Long Beach #2</b> <span style="float: right;">Reference Point Elevation: 44.20</span>									
Depth of Screen Interval	970-990	720-740	450-470	280-300	160-180	95-115			
Aquifer Name <sup>1</sup>	Sunnyside	Silverado <sup>2</sup>	Silverado	Lynwood	Gage	Gaspur			
12/4/2020	-76.00	-48.94	-41.58	-14.24	-2.63	-0.47			
12/16/2020	-74.84	-48.65	-40.62	-14.09	-2.51	-0.35			
3/9/2021	-76.32	-46.69	-39.71	-13.62	-2.35	-0.24			
3/30/2021	-77.89	-45.12	-39.53	-13.41	-2.17	-0.02			
4/26/2021	-77.88	-47.86	-43.09	-13.85	-2.26	-0.09			
6/7/2021	-79.71	-48.14	-45.65	-14.34	-2.59	-0.34			
9/15/2021	-84.27	-50.68	-46.49	-15.49	-3.16	-0.69			
<b>Long Beach #3</b> <span style="float: right;">Reference Point Elevation: 26.67</span>									
Depth of Screen Interval	1350-1390	997-1017	670-690	530-550	410-430				
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Silverado	Silverado <sup>2</sup>	Silverado <sup>2</sup>	Lynwood				
10/28/2020	-29.31	-41.06	-41.08	-41.52	1.05				
11/13/2020	-29.45	-41.14	-41.10	-41.59	1.12				
12/2/2020	-29.39	-39.02	-38.98	-39.46	1.47				
12/15/2020	-29.34	-38.52	-38.53	-38.99	1.36				
3/9/2021	-28.73	-36.67	-36.65	-37.01	2.36				
4/19/2021	-28.29	-38.74	-38.68	-39.09	2.58				
6/9/2021	-28.63	-40.37	-40.38	-40.81	2.35				
9/16/2021	-29.45	-42.17	-42.18	-42.62	1.97				

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.  
2 - Aquifer designation is based on WRD's in-house interpretation.  
- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.

**TABLE 2.1  
GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**

Page 6 of 11

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
<b>Long Beach #4</b> <span style="float:right">Reference Point Elevation: 12.34</span>									
Depth of Screen Interval	1200-1220	800-820							
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>							
12/16/2020	-24.21	-6.53							
03/17/2021	-24.31	-7.3							
06/17/2021	-25.07	-7.46							
9/22/2021	-25.62	-8.01							
<b>Long Beach #6</b> <span style="float:right">Reference Point Elevation: 34.47</span>									
Depth of Screen Interval	1490-1510	930-950	740-760	480-500	380-400	220-240			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside	Sunnyside	Silverado	Lynwood	Gage			
12/8/2020	-52.45	-71.07	-73.15	-90.25	-91.28	-34.53			
1/11/2021	-51.28	-68.85	-70.81	-87.64	-88.68	-33.71			
2/5/2021	-50.90	-75.38	-79.95	-95.00	-95.93	-32.28			
3/5/2021	-51.96	-77.29	-81.62	-94.88	-95.78	-32.89			
3/10/2021	-52.16	-77.44	-81.82	-95.68	-96.56	-33.01			
3/15/2021	-52.16	-77.46	-81.87	-97.17	-98.15	-33.29			
4/2/2021	-52.82	-77.74	-82.26	-96.42	-97.41	-33.82			
5/14/2021	-55.05	-80.37	-84.80	-97.84	-98.78	-35.53			
6/7/2021	-56.96	-82.14	-86.53	-99.51	-100.44	-35.99			
7/1/2021	-58.34	-83.09	-87.32	-100.00	-100.92	-36.65			
8/20/2021	-60.99	-85.35	-89.50	-101.19	-102.10	-36.69			
9/14/2021	-61.82	-86.26	-90.42	-104.09	-105.01	-37.53			
<b>Long Beach #8</b> <span style="float:right">Reference Point Elevation: 21.20</span>									
Depth of Screen Interval	1435-1455	1020-1040	780-800	635-655	415-435	165-185			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado <sup>2</sup>	Silverado <sup>2</sup>	Silverado <sup>2</sup>	Lynwood <sup>2</sup>			
12/9/2020	-10.26	-23.94	-33.18	-31.24	-30.89	5.36			
3/12/2021	-10.25	-23.50	-30.94	-29.24	-28.90	5.45			
4/5/2021	-10.18	-23.29	-31.25	-29.52	-29.12	5.55			
6/14/2021	-10.05	-23.12	-33.84	-31.94	-31.55	5.54			
9/24/2021	-9.96	-23.71	-34.99	-32.84	-32.44	5.42			
<b>Los Angeles #1</b> <span style="float:right">Reference Point Elevation:176.21</span>									
Depth of Screen Interval	1350-1370	1080-1100	920-940	640-660	350-370				
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside	Sunnyside	Silverado	Lynwood <sup>2</sup>				
12/16/2020	-27.17	-20.88	-21.34	-21.4	-13.24				
3/17/2021	-26.22	-21	-21.76	-21.39	-12.52				
3/24/2021	-26.20	-21.24	-22.29	-21.65	-12.48				
6/16/2021	-27.38	-21.95	-22.26	-21.18	-13.06				
9/15/2021	-30.27	-23.07	-23.41	-23.02	-13.64				
<b>Los Angeles #2</b> <span style="float:right">Reference Point Elevation: 220.33</span>									
Depth of Screen Interval	1330-1370	710-730	505-525	410-430	245-265	135-155			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside	Silverado	Lynwood	Hollydale <sup>2</sup>	Gardena			
12/10/2020	43.77	-7.99	-8.48	-19.62	-25.02	Dry			
3/19/2021	43.61	-7.63	-8.04	-19.66	-25.62	Dry			
4/13/2021	not measured	-7.93	-8.39	-19.83	-25.61	Dry			
6/9/2021	43.30	-8.83	-9.28	-20.50	-26.26	Dry			
9/17/2021	42.01	-9.48	-9.97	-21.08	-26.69	Dry			
<b>Los Angeles #3</b> <span style="float:right">Reference Point Elevation: 145.35</span>									
Depth of Screen Interval	1210-1230	875-895	705-725	550-570	330-350	190-210			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside	Silverado <sup>2</sup>	Gage <sup>2</sup>			
12/14/2020	-18.28	-5.46	-9.72	-11.67	-8.89	5.26			
3/19/2021	-17.39	-7.08	-12.66	-12.29	-9.38	4.92			
5/4/2021	-17.74	-8.46	-14.23	-13.04	-9.76	4.72			
6/9/2021	-18.02	-6.63	-11.09	-12.36	-9.97	4.44			
9/15/2021	-19.87	-7.52	-13.14	-12.85	-10.01	4.48			

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.

2 - Aquifer designation is based on WRD's in-house interpretation.

- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.



**TABLE 2.1**  
**GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**  
Page 7 of 11

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
<b>Los Angeles #4</b> Reference Point Elevation: 136.04									
Depth of Screen Interval	1740-1780	1190-1230	720-740	490-510	355-375	235-255			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside	Silverado	Lynwood	Gage			
12/16/2020	-26.79	-33.00	-30.89	-26.04	-26.17	-16.45			
3/11/2021	-25.85	-32.05	-30.10	-25.64	-25.61	-16.25			
4/28/2021	-25.87	-34.32	-33.48	-26.47	-26.30	-16.58			
6/10/2021	-26.27	-35.67	-32.60	-25.75	-25.90	-16.76			
9/22/2021	-28.53	-36.09	-35.07	-27.59	-27.44	-17.26			
<b>Los Angeles #5</b> Reference Point Elevation: 104.11									
Depth of Screen Interval	1960-2000	1235-1255	750-770	555-575	430-450	215-235	95-105		
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside	Sunnyside	Silverado	Lynwood <sup>2</sup>	Exposition		
10/1/2020	6.88	9.44	11.33	9.81	6.90	33.97	not measured		
12/16/2020	6.92	8.99	10.83	9.28	5.95	33.8	63.50		
3/19/2021	9.05	8.87	13.47	9.06	5.45	33.75	63.21		
4/6/2021	9.1	9.03	11.47	8.99	5.40	33.77	63.21		
6/9/2021	6.93	7.97	9.23	8.65	4.99	33.46	63.17		
9/15/2021	6.90	8.32	8.97	8.64	4.93	33.27	62.90		
<b>Los Angeles #6</b> Reference Point Elevation: 213.59									
Depth of Screen Interval	580-600	420-440	345-365	255-275					
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside	Silverado	Lynwood					
12/14/2020	2.86	-2.75	-3.04	-3.57					
6/9/2021	2.70	-3.16	-3.45	-4.05					
9/15/2021	2.53	-3.36	-3.67	-4.19					
<b>Lynwood #1</b> Reference Point Elevation: 88.86 (Zones 3, 4, 5, 6, 7 and 9) and 89.29 (Zones 1, 2 and 8)									
Depth of Screen Interval	2880-2900	2430-2450	1650-1670	1445-1465	1200-1220	880-900	640-660	315-335	160-180
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado <sup>2</sup>	Silverado <sup>2</sup>	Lynwood	Gardena	Gaspur
12/18/2020	-22.07	-40.98	-48.34	-42.93	-31.53	-27.17	-28.22	-23.98	33.48
3/16/2021	-21.92	-40.01	-47.11	-41.44	-29.06	-25.44	-26.74	-22.1	33.58
5/19/2021	-22.28	-40.92	-49.85	-44.16	-32.3	-27.48	-28.92	-25.05	33.44
6/9/2021	-22.51	-41.61	-50.68	-45.00	-32.46	-28.18	-29.68	-26.09	33.16
9/22/2021	-25.47	-45.38	-54.31	-48.67	-36.27	-34.49	-35.58	-27.1	32.71
<b>Manhattan Beach #1</b> Reference Point Elevation: 128.71									
Depth of Screen Interval	1950-1990	1570-1590	1250-1270	865-885	640-660	320-340	180-200		
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Gage		
12/9/2020	0.79	-1.76	-24.01	3.27	0.27	8.24	10.12		
3/2/2021	0.66	-1.78	-23.78	2.42	0.79	9.24	10.99		
3/10/2021	0.66	-1.76	-23.91	2.97	0.69	9.34	11.07		
6/10/2021	0.74	-1.72	-23.78	2.95	-0.12	8.62	10.32		
9/15/2021	1.22	-1.30	-23.45	3.75	-0.17	8.58	10.34		
<b>Montebello #1</b> Reference Point Elevation: 193.11									
Depth of Screen Interval	900-960	690-710	500-520	370-390	210-230	90-110			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside	Sunnyside	Silverado	Lynwood	Gage			
10/29/2020	75.42	74.28	73.47	68.59	57.12	Dry			
12/2/2020	72.49	68.51	67.85	63.84	56.54	Dry			
12/17/2020	71.39	66.67	65.89	61.96	56.21	Dry			
3/17/2021	69.76	65.44	64.71	60.97	54.36	Dry			
4/7/2021	69.23	64.66	63.84	60.06	53.87	Dry			
4/14/2021	68.86	64.41	63.66	60.04	53.71	Dry			
6/8/2021	65.40	60.83	60.20	56.95	52.05	Dry			
9/20/2021	59.79	54.78	54.19	51.16	47.60	Dry			

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.  
2 - Aquifer designation is based on WRD's in-house interpretation.  
- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.

**TABLE 2.1**  
**GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**  
Page 8 of 11

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
<b>Montebello #2</b> <span style="float: right;">Reference Point Elevation: 182.95</span>									
Depth of Screen Interval	745-780	415-435	250-260	180-200	100-115				
Aquifer Name <sup>1</sup>	Pico Form.	Pico Form.	Sunnyside	Sunnyside	Gage				
3/22/2021	106.15	120.96	116.00	115.35	123.14				
3/26/2021	109.42	121.07	114.51	113.72	122.89				
5/26/2021	116.66	117.78	110.79	110.12	119.29				
6/8/2021	117.48	116.97	107.94	107.23	118.38				
6/17/2021	116.62	116.04	107.25	106.49	117.82				
6/18/2021	99.07	115.50	106.60	106.04	117.73				
9/13/2021	117.53	108.30	97.32	96.68	110.07				
<b>Norwalk #1</b> <span style="float: right;">Reference Point Elevation: 96.18</span>									
Depth of Screen Interval	1400-1420	990-1010	720-740	430-450	220-240				
Aquifer Name <sup>1</sup>	Sunnyside	Silverado	Lynwood	Hollydale	Gage				
10/28/2020	34.13	-26.00	4.60	-11.06	-8.09				
12/8/2020	32.54	-27.13	3.90	-10.11	-7.32				
3/9/2021	31.47	-25.00	5.73	-8.90	-5.20				
3/16/2021	31.53	-23.95	5.87	-8.43	-4.87				
6/9/2021	29.00	-19.80	3.75	-10.00	-7.12				
9/14/2021	26.33	-28.58	-0.62	-12.35	-8.94				
<b>Norwalk #2</b> <span style="float: right;">Reference Point Elevation: 116.73</span>									
Depth of Screen Interval	1460-1480	1260-1280	960-980	800-820	480-500	236-256			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Gardena			
10/28/2020	11.95	11.89	-0.22	3.32	9.67	14.63			
12/9/2020	10.18	10.18	-1.57	2.58	9.85	14.63			
3/10/2021	9.71	9.77	0.24	4.53	12.03	15.98			
5/5/2021	9.00	9.06	0.41	3.65	8.88	13.95			
6/9/2021	7.78	7.71	-1.30	2.04	7.28	13.13			
9/16/2021	3.41	3.37	-7.57	-4.17	4.33	10.98			
<b>Pico #1</b> <span style="float: right;">Reference Point Elevation: 182.89</span>									
Depth of Screen Interval	860-900	460-480	380-400	170-190					
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Silverado	Silverado	Gardena <sup>2</sup>					
12/15/2020	126.47	110.46	109.81	105.54					
3/15/2021	124.22	108.66	108.38	104.20					
3/18/2021	124.31	109.11	108.42	104.55					
6/15/2021	117.04	102.50	102.41	99.27					
9/15/2021	106.19	92.39	91.96	88.02					
<b>Pico #2</b> <span style="float: right;">Reference Point Elevation: 151.83</span>									
Depth of Screen Interval	1180-1200	830-850	560-580	320-340	235-255	100-120			
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside	Silverado	Lynwood	Gaspur/Gage <sup>2</sup>			
12/15/2020	55.95	51.66	57.76	72.74	73.34	76.59			
3/15/2021	52.37	55.99	60.41	78.91	81.76	86.23			
3/18/2021	56.43	55.18	60.18	79.76	80.76	87.75			
6/16/2021	52.62	48.72	56.04	73.21	78.26	83.26			
9/15/2021	45.32	41.82	50.56	70.20	71.35	76.60			
<b>PM-1 Columbia</b> <span style="float: right;">Reference Point Elevation: 81.39</span>									
Depth of Screen Interval	555-595	460-500	240-280	160-200					
Aquifer Name <sup>1</sup>	Silverado	Silverado	Lynwood	Gardena					
12/17/2020	-0.05	0.30	not measured	1.08					
3/11/2021	-0.11	0.39	not measured	1.39					
3/19/2021	0.09	0.42	not measured	0.99					
6/9/2021	-0.53	-0.41	16.69	0.99					
9/17/2021	-0.61	-0.48	not measured	0.79					

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.  
2 - Aquifer designation is based on WRD's in-house interpretation.  
- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.

**TABLE 2.1**  
**GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**  
Page 9 of 11

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
<b>PM-2 Police Station</b> <span style="float:right">Reference Point Elevation: 87.43</span>									
Depth of Screen Interval	635-655	520-540	370-390	240-260					
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Silverado	Silver/Lyn <sup>2</sup>	Lynwood					
12/16/2020	-4.38	1.48	1.93	2.05					
3/11/2021	-4.18	1.93	2.35	2.42					
5/7/2021	-4.71	1.08	1.42	1.58					
6/8/2021	-4.87	0.65	1.11	1.39					
9/16/2021	-4.74	0.60	1.09	1.18					
<b>PM-3 Madrid</b> <span style="float:right">Reference Point Elevation: 73.12</span>									
Depth of Screen Interval	640-680	480-520	240-280	145-185					
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Silverado	Lynwood	Gardena					
10/7/2020	-4.20	-1.80	-1.71	-1.70					
12/17/2020	-3.90	-1.59	-1.53	-1.56					
3/9/2021	-1.82	-1.54	-1.52	-1.54					
3/11/2021	-3.81	-1.60	-1.50	-1.52					
6/9/2021	-4.38	-2.06	-1.98	-1.98					
9/16/2021	-4.34	-1.98	-1.92	-1.92					
<b>PM-4 Mariner</b> <span style="float:right">Reference Point Elevation: 100.38</span>									
Depth of Screen Interval	670-710	500-540	340-380	200-240					
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Silverado	Lynwood	Gardena					
12/16/2020	0.51	0.45	3.93	3.97					
3/7/2021	0.67	0.79	4.53	4.52					
3/11/2021	0.76	0.59	4.22	4.28					
6/8/2021	0.14	-0.79	2.74	2.66					
9/16/2021	0.12	-1.22	1.40	1.46					
<b>PM-5 Columbia Park</b> <span style="float:right">Reference Point Elevation: 78.57</span>									
Depth of Screen Interval	1360-1380	940-960	770-790	580-600	320-340	140-160			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Lynwood <sup>2</sup>	Gardena			
12/10/2020	-24.29	-29.80	-1.76	-0.45	3.71	3.83			
3/11/2021	-24.15	-30.24	-1.72	-0.15	4.18	4.24			
3/23/2021	-24.02	-30.15	-1.31	-0.06	4.58	4.62			
6/8/2021	-24.11	-32.04	-2.31	-0.89	2.86	3.00			
9/21/2021	-23.36	-30.95	-2.28	-1.17	2.49	2.62			
<b>PM-6 Madrona Marsh</b> <span style="float:right">Reference Point Elevation: 80.88</span>									
Depth of Screen Interval	1195-1235	905-925	770-790	530-550	390-410	240-260			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Lynwood	Lynwood			
12/3/2020	-26.09	-6.70	-6.23	1.04	1.97	2.39			
12/16/2020	-26.12	-6.61	-6.22	1.22	2.18	2.64			
3/11/2021	-25.55	-6.21	-5.63	1.58	2.67	3.06			
5/6/2021	-26.16	-6.68	-5.97	1.30	2.42	2.66			
6/8/2021	-26.74	-7.05	-6.40	1.05	1.91	2.46			
9/21/2021	-26.62	-7.04	-6.56	0.76	1.78	2.17			
<b>Rio Hondo #1</b> <span style="float:right">Reference Point Elevation: 146.51</span>									
Depth of Screen Interval	1110-1130	910-930	710-730	430-450	280-300	140-160			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside	Silverado	Hollydale	Gardena			
10/28/2020	55.28	56.29	55.45	38.67	43.24	47.02			
12/2/2020	51.72	50.36	49.52	35.71	41.39	45.46			
12/17/2020	49.09	47.49	46.69	37.13	41.85	44.92			
4/26/2021	46.71	46.21	46.46	36.17	41.68	45.91			
6/16/2021	45.79	45.05	44.25	34.93	40.18	43.84			
9/16/2021	38.21	36.69	36.01	25.88	34.56	39.61			

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.  
2 - Aquifer designation is based on WRD's in-house interpretation.  
- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.

**TABLE 2.1**  
**GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**  
Page 10 of 11

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
<b>Seal Beach #1</b> <span style="float:right">Reference Point Elevation: 9.06</span>									
Depth of Screen Interval	1345-1365	1160-1180	1020-1040	775-795	605-625	215-235	60-70		
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Lynwood <sup>2</sup>	Gage	Artesia		
12/18/2020	-33.35	-33.55	-33.40	-53.39	-35.11	-0.01	3.25		
3/15/2021	-32.95	-33.13	-32.95	-49.18	-30.43	-1.77	2.45		
3/25/2021	-32.93	-33.16	-32.97	-51.45	-33.22	1.19	3.68		
6/7/2021	-37.23	-37.47	-37.30	-59.11	-39.08	-3.41	2.05		
9/20/2021	-42.39	-42.62	-42.45	-68.98	-44.09	-4.60	1.22		
<b>South Gate #1</b> <span style="float:right">Reference Point Elevation: 102.50</span>									
Depth of Screen Interval	1440-1460	1320-1340	910-930	565-585	220-240				
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado <sup>2</sup>	Lynwood	Exposition <sup>2</sup>				
10/29/2020	-12.36	-10.63	-7.37	-7.67	27.45				
12/14/2020	-11.31	-9.60	-5.60	-6.25	27.49				
3/12/2021	-9.55	-7.81	-3.55	-4.25	27.89				
5/3/2021	-11.67	-10.24	-5.91	-6.66	27.81				
6/17/2021	-13.10	-11.75	-8.08	-9.61	27.38				
9/22/2021	-17.04	-15.45	-10.20	-11.48	26.72				
<b>South Gate #2</b> <span style="float:right">Reference Point Elevation: 120.29</span>									
Depth of Screen Interval	1740-1760	1410-1430	1062-1082	670-690	410-430	205-225			
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside	Silverado <sup>2</sup>	Hollydale	Gaspur <sup>2</sup>			
9/17/2021	-33.90	-34.26	-35.97	-28.81	33.27	39.61			
<b>Westchester #1</b> <span style="float:right">Reference Point Elevation: 126.95</span>									
Depth of Screen Interval	740-760	560-580	455-475	310-330	215-235				
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Sunnyside <sup>2</sup>	Sunnyside <sup>2</sup>	Silverado	Jefferson				
12/14/2020	-0.20	8.90	9.35	10.50	9.73				
3/19/2021	0.03	8.84	9.24	9.46	9.65				
5/11/2021	-0.06	8.84	9.28	9.50	9.67				
6/9/2021	-0.13	8.82	9.15	9.34	9.55				
9/17/2021	0.37	8.82	9.16	9.36	9.54				
<b>Whittier #1</b> <span style="float:right">Reference Point Elevation: 217.35 (Zones 1, 2, 4 and 5) and 217.81 (Zone 3)</span>									
Depth of Screen Interval	1180-1200	920-940	600-620	450-470	200-220				
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Sunnyside	Silverado	Jefferson				
12/7/2020	102.55	102.56	98.36	96.76	196.25				
3/8/2021	102.81	102.74	97.74	96.60	196.29				
6/8/2021	102.97	102.97	97.71	96.40	195.85				
9/14/2021	103.01	102.96	97.28	95.89	195.21				
<b>Whittier #2</b> <span style="float:right">Reference Point Elevation: 167.55</span>									
Depth of Screen Interval	1370-1390	1090-1110	655-675	425-445	315-335	150-170			
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Sunnyside	Silverado	Silverado	Gage <sup>2</sup>			
10/27/2020	80.74	81.43	75.88	68.92	92.79	100.23			
12/7/2020	78.20	78.83	69.83	64.94	91.54	99.44			
3/8/2021	76.15	76.85	70.00	66.75	95.85	102.40			
3/29/2021	76.28	77.03	70.14	65.16	96.57	103.47			
4/5/2021	77.10	76.79	68.89	65.19	97.15	103.79			
4/5/2021	77.48	76.89	68.84	65.30	97.09	103.81			
6/8/2021	74.15	74.62	65.14	62.89	93.10	102.05			
9/13/2021	68.95	69.99	57.22	53.57	86.40	96.87			
<b>Whittier Narrows #1</b> <span style="float:right">Reference Point Elevation: 214.66</span>									
Depth of Screen Interval	749-769	610-629	463-483	393-402	334-344	273-283	234-243	163-173	95-105
Aquifer Name <sup>1</sup>	Sunnyside	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood	Lynwood	Gardena	Gaspur
3/17/2021	170.63	170.90	172.84	175.77	176.65	177.84	not measured	not measured	not measured
3/18/2021	not measured	not measured	not measured	not measured	not measured	not measured	178.05	177.70	179.65
9/15/2021	154.25	156.05	158.57	164.01	164.90	165.94	165.85	165.76	166.37

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.  
2 - Aquifer designation is based on WRD's in-house interpretation.  
- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.

**TABLE 2.1**  
**GROUNDWATER ELEVATIONS, WATER YEAR 2020 - 2021**  
Page 11 of 11

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
<b>Whittier Narrows #2</b> <span style="float: right;">Reference Point Elevation: 209.15</span>									
Depth of Screen Interval	659-678	579-598	469-488	419-428	328-338	263-273	214-223	136-145	91-100
Aquifer Name <sup>1</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Pico Form. <sup>2</sup>	Lynwood	Lynwood	Gardena <sup>2</sup>	Gardena
3/18/2021	-19.02	-18.74	-18.49	-12.51	not measured	not measured	not measured	not measured	not measured
3/19/2021	not measured	not measured	not measured	not measured	97.35	148.96	150.17	150.17	159.09
9/15/2021	-22.09	-21.77	-21.33	-13.62	81.9	126.79	127.73	131.16	153.54
<b>Willowbrook #1</b> <span style="float: right;">Reference Point Elevation: 98.87</span>									
Depth of Screen Interval	885-905	500-520	360-380	200-220					
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Silverado	Lynwood	Gage					
10/28/2020	-52.35	-41.76	-44.43	-43.59					
12/17/2020	-50.60	-41.38	-43.46	-42.71					
3/9/2021	-48.92	-40.73	-42.45	-41.74					
5/10/2021	-53.02	-41.34	-43.71	-42.71					
6/7/2021	-53.85	-41.81	-43.60	-42.45					
9/16/2021	-56.67	-42.59	-45.88	-44.61					
<b>Wilmington #1</b> <span style="float: right;">Reference Point Elevation: 40.74</span>									
Depth of Screen Interval	915-935	780-800	550-570	225-245	120-140				
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Silverado	Silverado	Lynwood	Gage				
12/15/2020	-34.40	-34.82	-34.98	-8.66	-5.79				
2/24/2021	-32.38	-32.83	-32.94	-7.95	-5.10				
3/9/2021	-32.55	-33.02	-33.10	-7.84	-5.04				
5/17/2021	-35.21	-35.70	-35.79	-8.42	-5.50				
6/15/2021	-36.38	-36.83	-36.89	-8.50	-5.40				
8/11/2021	-37.35	-37.88	-37.86	-8.98	-5.84				
9/22/2021	-36.90	-37.31	-37.38	-9.19	-6.16				
<b>Wilmington #2</b> <span style="float: right;">Reference Point Elevation: 32.30</span>									
Depth of Screen Interval	950-970	755-775	540-560	390-410	120-140				
Aquifer Name <sup>1</sup>	Sunnyside <sup>2</sup>	Silverado	Silverado	Lynwood	Gage				
12/15/2020	-22.80	-18.66	-14.69	-13.69	-0.77				
2/23/2021	-22.12	-18.17	-14.19	-13.31	-0.38				
3/9/2021	-21.46	-17.56	-13.76	-12.76	-0.51				
5/25/2021	-25.59	-19.30	-14.78	-13.72	-0.12				
6/8/2021	-23.67	-19.43	-15.15	-14.07	-0.22				
8/10/2021	-24.37	-19.90	-15.76	-14.68	-0.17				
9/21/2021	-24.06	-19.70	-15.65	-14.62	-0.42				

- 1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.
- 2 - Aquifer designation is based on WRD's in-house interpretation.
- Shaded cell indicates the zone and measurement used in Figures 2.1 and 2.2.

PAGE LEFT INTENTIONALLY BLANK

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 1 of 37

Constituents	Units	MCL	MCL Type	Bell #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/30/2021	8/3/2021	3/30/2021	8/3/2021	3/30/2021	8/3/2021	3/30/2021	8/3/2021	3/30/2021	8/3/2021	3/30/2021	8/3/2021
<b>General Minerals</b>															
Alkalinity	mg/l			600	600	170	180	160	170	180	190	180	190	280	280
Anion Sum	meq/l			17	17	5.6	6	5.2	5.6	5.8	6.3	7.6	8	12	12
Bicarbonate as HCO3	mg/l			730	730	200	220	200	210	220	230	220	240	340	340
Boron	mg/l	1	N	1.6	1.5	0.13	0.14	0.13	0.13	0.14	0.15	0.14	0.14	0.16	0.16
Bromide	ug/l			1400	1300	110	ND	150	ND	120	ND	180	ND	430	ND
Calcium, Total	mg/l			16	15.1	52	51.3	45	45.4	57	57.3	75	75	120	123
Carbon Dioxide	mg/l			6	5.83	2.6	2.24	2.6	ND	2.9	3.14	2.9	4.93	8.8	11.7
Carbonate as CO3	mg/l			9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			16	16	5.6	5.5	5.2	5.2	5.8	5.8	7.5	7.4	12	11
Chloride	mg/l	500	S	180	190	22	25	29	32	27	31	51	56	100	100
Fluoride	mg/l	2	P	0.42	0.25	0.24	0.16	0.42	0.29	0.45	0.3	0.4	0.27	0.39	0.25
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			260	270	44	16	44	24	36	19	2.6	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	9	9.2	6.4	6.6
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2	2.1	1.4	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			5.7	6.5	2.4	2.8	3.3	3.6	3.1	3.3	2.8	3	2.8	3
Sodium, Total	mg/l			340	340	48	47	46	46	41	40	49	49	60	57
Sulfate	mg/l	500	S	ND	ND	77	83	55	61	72	79	110	120	160	160
Total Dissolved Solid (TDS)	mg/l	1000	S	990	1000	360	340	330	320	360	350	480	460	690	710
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2	2.1	1.4	1.5
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	180	220	ND	4	ND	4	ND	4	ND	4	ND	4
Hardness (Total, as CaCO3)	mg/l			65	62.3	170	170	150	156	200	198	260	262	430	437
Lab pH	Units			8.3	8.03	8.1	7.91	8.1	7.94	8.1	7.91	8.1	7.83	7.8	7.7
Langelier Index	None			0.97	0.945	0.7	0.962	0.57	0.92	0.76	1.03	0.85	1.04	1	1.24
Odor	TON	3	S	4	4	1	ND	1	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	1600	1700	540	560	510	530	560	580	730	750	1100	1100
Turbidity	NTU	5	S	2.1	0.4	0.13	0.1	0.31	ND	0.28	0.1	0.38	0.15	0.97	1.4
<b>Metals</b>															
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	0.85	3.2	3	1.3	1.2
Barium, Total	ug/l	1000	P	20	18	38	36	38	35	80	75	240	230	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
Chromium, Total	ug/l	50	P	1.2	0.6	ND	ND	ND	ND	ND	2	1.5	4.1	4	
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.1	0.081	0.024	0.048	ND	ND	ND	2	1.8	4.2	4.6	
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.55
Iron, Total	mg/l	0.3	S	0.08	0.074	0.023	ND	ND	ND	0.02	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			6.1	6	10	10.1	10	10.3	13	13.2	18	18.2	32	32
Manganese, Total	ug/l	50	S	29	26	73	72	49	49	69	66	ND	1.8	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	3.3	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	5.1	4.7	5.1	4.4	
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
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	0.83
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
TBA	ug/l	12	N	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	2.1	1.7	45	43	
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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND	0.6	ND	0.15	
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	2.7	1.9	1.8	1.5	
Surfactants	mg/l	0.5	S	ND	0.079	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			18	12	1	0.78	0.97	0.6	0.86	1.5	0.79	0.38	1.5	0.66

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 2 of 37

Constituents	Units	MCL	MCL Type	Bell Gardens #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				4/14/2021	4/14/2021	4/14/2021	4/14/2021	4/14/2021	4/14/2021
<b>General Minerals</b>									
Alkalinity	mg/l			160	160	140	110	130	140
Anion Sum	meq/l			7.2	5.2	6.6	5.1	5.5	6.5
Bicarbonate as HCO3	mg/l			200	200	170	140	160	170
Boron	mg/l	1	N	0.051	0.12	0.17	0.12	0.13	0.14
Bromide	ug/l			130	120	130	82	120	120
Calcium, Total	mg/l			95	43	70	46	53	67
Carbon Dioxide	mg/l			2.1	2.1	2.8	2.3	4.2	4.4
Carbonate as CO3	mg/l			2	2	ND	ND	ND	ND
Cation Sum	meq/l			7.1	5.2	6.7	4.9	5.4	6.4
Chloride	mg/l	500	S	48	34	61	46	47	66
Fluoride	mg/l	2	P	0.17	0.25	0.28	0.35	0.19	0.31
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			9	16	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	9.6	9.4	10	13
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2.2	2.1	2.3	2.9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2	2.2	3.2	2.8	2.8	3.2
Sodium, Total	mg/l			28	53	51	42	42	44
Sulfate	mg/l	500	S	120	46	93	63	64	77
Total Dissolved Solid (TDS)	mg/l	1000	S	450	300	410	310	350	410
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	2.2	2.1	2.3	2.9
<b>General Physical Properties</b>									
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			290	140	220	150	170	220
Lab pH	Units			8.2	8.2	8	8	7.8	7.8
Langelier Index	None			1	0.63	0.61	0.34	0.31	0.46
Odor	TON	3	S	1	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	690	500	670	510	550	650
Turbidity	NTU	5	S	0.27	0.46	0.13	0.24	0.4	0.41
<b>Metals</b>									
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	3.6	ND	2.6	2.2	ND	1.7
Barium, Total	ug/l	1000	P	110	74	120	54	63	67
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	0.5	0.51	0.65	0.56
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.039	0.018	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			13	8.2	12	8.2	10	12
Manganese, Total	ug/l	50	S	27	42	ND	ND	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>									
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 (Methyl Chloride)	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
TBA	ug/l	12	N						
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.51	0.87
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	0.57	0.78	2
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
<b>Others</b>									
1,4-Dioxane	ug/l	1	N	2.6	ND	1.1	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	0.68	0.61	0.6	0.58
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.88	0.41	0.34	0.3	0.32	0.31

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 3 of 37

Constituents	Units	MCL	MCL Type	Cerritos #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021	3/9/2021
<b>General Minerals</b>									
Alkalinity	mg/l			160	160	170	180	180	190
Anion Sum	meq/l			4.7	4.2	5.2	4.8	4.5	4.5
Bicarbonate as HCO3	mg/l			200	190	210	220	220	230
Boron	mg/l	1	N	0.084	0.056	0.088	0.085	0.084	0.078
Bromide	ug/l			46	40	68	48	39	51
Calcium, Total	mg/l			36	37	44	46	40	46
Carbon Dioxide	mg/l			ND	2	2.2	2.3	2.3	2.4
Carbonate as CO3	mg/l			3.3	2	2.2	2.3	2.3	2.4
Cation Sum	meq/l			4.7	4.2	5.2	4.9	4.6	4.6
Chloride	mg/l	500	S	14	11	19	13	9.8	9.1
Fluoride	mg/l	2	P	0.27	0.33	0.38	0.53	0.46	0.34
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			14	26	41	27	21	90
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			1.9	1.9	1.9	1.7	1.7	1.8
Sodium, Total	mg/l			56	42	58	39	40	34
Sulfate	mg/l	500	S	49	31	61	42	28	24
Total Dissolved Solid (TDS)	mg/l	1000	S	250	220	300	260	240	240
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>									
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			110	120	140	160	140	150
Lab pH	Units			8.4	8.2	8.2	8.2	8.2	8.2
Langelier Index	None			0.76	0.64	0.72	0.75	0.72	0.81
Odor	TON	3	S	ND	ND	ND	1	ND	1
Specific Conductance	umho/cm	1600	S	460	400	510	460	430	430
Turbidity	NTU	5	S	ND	0.16	0.17	0.16	0.19	0.36
<b>Metals</b>									
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	<b>14</b>	<b>11</b>	<b>19</b>	5.3	9.4	<b>36</b>
Barium, Total	ug/l	1000	P	54	110	140	66	86	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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	0.021	0.031	0.086	0.063	0.1
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			4.7	5.7	6.2	10	9.4	8.8
Manganese, Total	ug/l	50	S	25	34	44	<b>80</b>	<b>110</b>	<b>150</b>
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>									
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 (Methyl Chloride)	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
TBA	ug/l	12	N						
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
<b>Others</b>									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.51	0.53	1.2	1.4	1.5	1.4

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 4 of 37

Constituents	Units	MCL	MCL Type	Cerritos #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/12/2021	7/28/2021	3/12/2021	7/28/2021	3/12/2021	7/28/2021	3/12/2021	7/28/2021	3/12/2021	7/28/2021	3/12/2021	7/28/2021
<b>General Minerals</b>															
Alkalinity	mg/l			150	170	170	180	160	170	180	190	180	190	340	360
Anion Sum	meq/l			3.6	3.9	7.9	8.1	3.8	4	4.2	4.4	4.1	4.3	12	12
Bicarbonate as HCO3	mg/l			180	200	200	220	200	210	220	230	220	230	410	430
Boron	mg/l	1	N	0.055	0.059	0.17	0.18	0.062	0.066	0.076	0.08	0.075	0.079	0.11	0.11
Bromide	ug/l			24	ND	150	ND	17	ND	25	ND	20	ND	230	ND
Calcium, Total	mg/l			43	43	87	87	46	46.3	53	52.5	52	52.3	150	150
Carbon Dioxide	mg/l			ND	2.21	3.3	6.63	2.1	2.65	2.3	3.09	2.3	3.09	11	21.2
Carbonate as CO3	mg/l			ND	ND	ND	ND	2	ND	2.3	ND	2.3	ND	ND	ND
Cation Sum	meq/l			3.7	3.7	8	8	3.9	3.9	4.3	4.3	4.2	4.2	12	12
Chloride	mg/l	500	S	5.6	6.5	73	75	4.9	5.6	6.6	6.6	5.3	6.3	68	75
Fluoride	mg/l	2	P	0.28	0.23	0.37	0.31	0.29	0.24	0.42	0.36	0.35	0.3	0.35	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			1.8	ND	8	3	5	3.2	6.6	3.7	6.1	4.3	25	11
Nitrate (as NO3)	mg/l	45	P	ND	ND	12	13	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2.7	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			2.5	2.8	4.1	4.5	2.2	2.6	2.5	2.7	2.6	2.8	4.2	4.5
Sodium, Total	mg/l			25	25	52	51	24	23	21	21	22	21	48	48
Sulfate	mg/l	500	S	20	20	110	100	16	16	17	17	15	15	150	150
Total Dissolved Solid (TDS)	mg/l	1000	S	210	220	470	520	220	240	240	240	230	240	700	740
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	2.7	3	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	4	ND	4	ND	4	ND	10
Hardness (Total, as CaCO3)	mg/l			130	128	280	283	140	140	170	165	160	160	490	492
Lab pH	Units			8.2	7.67	8	7.65	8.2	8	8.2	7.91	8.2	7.92	7.8	7.43
Langelier Index	None			0.6	0.658	0.8	0.886	0.77	1.02	0.82	1.03	0.81	1.04	1.2	1.16
Odor	TON	3	S	ND	ND	ND	ND	1	2	ND	2	ND	4	ND	2
Specific Conductance	umho/cm	1600	S	350	360	790	820	360	380	400	410	390	410	1100	1100
Turbidity	NTU	5	S	ND	ND	ND	ND	0.22	0.15	0.16	0.1	0.28	0.15	1.1	2
<b>Metals</b>															
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	2.2	2	1.9	3.1	3	7.1	6.9	<b>17</b>	<b>16</b>	4	3.7
Barium, Total	ug/l	1000	P	110	100	130	130	120	120	170	160	180	180	130	120
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	0.28	ND	0.66	ND	ND	ND	ND	ND	ND	ND	29
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.2	0.29	0.6	0.68	ND	0.036	ND	0.042	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	0.57	ND	0.75	ND	ND	ND	ND	ND	ND	ND	0.87
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	0.016	ND	0.039	0.041	0.074	0.078	<b>0.4</b>	<b>0.57</b>
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			5.3	5.3	16	16	6	6	8.3	8.4	7.2	7.12	29	29.2
Manganese, Total	ug/l	50	S	5.7	5.1	ND	1.1	40	39	<b>92</b>	<b>95</b>	<b>110</b>	<b>110</b>	<b>300</b>	<b>310</b>
Mercury	ug/l	2	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	48
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
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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
TBA	ug/l	12	N												
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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	ND	ND	<b>2.6</b>	<b>3.2</b>	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	0.73	ND	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.22	ND	0.48	0.43	ND	ND	ND	ND	0.27	ND	0.89	0.89

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 5 of 37

Constituents	Units	MCL	MCL Type	Cerritos #3						
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
				9/29/2021	9/29/2021	9/29/2021	9/29/2021	9/29/2021	not sampled	9/29/2021
<b>General Minerals</b>										
Alkalinity	mg/l			240	180	150	210	210	---	190
Anion Sum	meq/l			7.3	4.2	5.6	6	6.4	---	6.3
Bicarbonate as HCO3	mg/l			280	210	170	250	250	---	230
Boron	mg/l	1	N	0.25	0.12	0.11	0.16	0.18	---	0.093
Bromide	ug/l			ND	ND	ND	ND	ND	---	ND
Calcium, Total	mg/l			12.1	9.55	13.2	14.9	10.6	---	45.8
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	---	2.73
Carbonate as CO3	mg/l			7.1	7.9	5.1	4.4	11	---	ND
Cation Sum	meq/l			6.9	4	5.3	5.7	5.9	---	6.1
Chloride	mg/l	500	S	59	20	30	34	41	---	43
Fluoride	mg/l	2	P	0.19	0.49	0.52	0.36	0.24	---	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	---	ND
Iodide	ug/l			60	18	24	36	44	---	20
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			1.5	1.3	1.8	2.6	2.3	---	4.8
Sodium, Total	mg/l			140	79	100	110	120	---	70
Sulfate	mg/l	500	S	46	4.5	89	39	47	---	61
Total Dissolved Solid (TDS)	mg/l	1000	S	400	230	330	360	630	---	360
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	---	ND
<b>General Physical Properties</b>										
Apparent Color	ACU	15	S	7.5	<b>30</b>	5	15	7.5	---	4
Hardness (Total, as CaCO3)	mg/l			40.8	27.5	36.5	46.3	34	---	148
Lab pH	Units			8.37	8.49	8.46	8.35	8.5	---	8.06
Langelier Index	None			0.9	0.842	0.84	0.923	0.86	---	0.563
Odor	TON	3	S	ND	ND	ND	ND	ND	---	ND
Specific Conductance	umho/cm	1600	S	670	380	530	550	590	---	580
Turbidity	NTU	5	S	0.1	0.35	0.1	<b>24</b>	<b>310</b>	---	0.35
<b>Metals</b>										
Aluminum, Total	ug/l	1000	P	ND	ND	ND	100	77	---	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	---	ND
Arsenic, Total	ug/l	10	P	ND	0.53	<b>12</b>	1.8	<b>17</b>	---	<b>41</b>
Barium, Total	ug/l	1000	P	10	3.7	22	8.1	11	---	27
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	---	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	---	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	---	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.059	0.088	0.023	0.058	0.04	---	0.053
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	---	ND
Iron, Total	mg/l	0.3	S	ND	ND	ND	0.04	0.031	---	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	---	ND
Magnesium, Total	mg/l			2.59	0.897	0.863	2.19	1.8	---	8.09
Manganese, Total	ug/l	50	S	4.1	4.3	5.6	16	30	---	39
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	---	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	---	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	---	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	---	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	---	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	---	ND
<b>Volatile Organic Compounds</b>										
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>										
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	---	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	---	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	---	ND
Total Organic Carbon	mg/l			1.1	2	0.58	1.1	0.76	---	0.9

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 6 of 37

Constituents	Units	MCL	MCL Type	Commerce #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				4/21/2021	4/21/2021	4/21/2021	4/21/2021	4/21/2021	4/21/2021
<b>General Minerals</b>									
Alkalinity	mg/l			480	310	240	190	180	200
Anion Sum	meq/l			250	11	8.2	8.2	10	8.7
Bicarbonate as HCO3	mg/l			590	380	300	230	220	240
Boron	mg/l	1	N	7	0.7	0.23	0.24	0.23	0.13
Bromide	ug/l			49000	1000	530	320	820	370
Calcium, Total	mg/l			200	46	59	45	63	84
Carbon Dioxide	mg/l			15	3.9	3.1	3	4.5	3.9
Carbonate as CO3	mg/l			2.4	3.9	3.1	ND	ND	ND
Cation Sum	meq/l			220	11	8.2	8.2	10	8.8
Chloride	mg/l	500	S	<b>8500</b>	160	100	82	170	92
Fluoride	mg/l	2	P	0.16	0.38	0.34	0.45	0.33	0.36
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			11000	320	220	96	160	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	17	40
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	3.9	9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			52	6.1	3.6	3.7	2.8	2.2
Sodium, Total	mg/l			4500	150	80	99	120	55
Sulfate	mg/l	500	S	0.99	2.7	24	97	62	67
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>14000</b>	600	430	470	570	490
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	3.9	9
<b>General Physical Properties</b>									
Apparent Color	ACU	15	S	<b>70</b>	<b>30</b>	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			1200	200	230	190	240	320
Lab pH	Units			7.8	8.2	8.2	8.1	7.9	8
Langelier Index	None			1.5	0.97	1	0.7	0.62	0.85
Odor	TON	3	S	<b>4</b>	3	3	ND	2	ND
Specific Conductance	umho/cm	1600	S	<b>24000</b>	1100	790	800	1000	850
Turbidity	NTU	5	S	<b>15</b>	0.35	0.32	0.12	0.27	0.79
<b>Metals</b>									
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	<b>30</b>	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	760	71	87	230	71	79
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	7	11
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.12	0.027	ND	6.6	<b>11</b>
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	<b>1.2</b>	ND	0.019	0.091	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			160	21	20	18	19	26
Manganese, Total	ug/l	50	S	<b>130</b>	8.5	47	<b>58</b>	16	ND
Mercury	ug/l	2	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	<b>120</b>	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>									
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 (Methyl Chloride)	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
TBA	ug/l	12	N						
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	1.1	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	0.87
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	4.1	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
<b>Others</b>									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	<b>5.3</b>	<b>1.5</b>	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	2.7	4.6
Surfactants	mg/l	0.5	S	<b>0.54</b>	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			7.8	4.8	1.1	0.77	0.82	0.35

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 7 of 37

Constituents	Units	MCL	MCL Type	Compton #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/28/2021	9/7/2021	4/28/2021	9/7/2021	4/28/2021	9/7/2021	4/28/2021	9/7/2021
<b>General Minerals</b>											
Alkalinity	mg/l			120	120	140	150	160	160	170	180
Anion Sum	meq/l			4.2	4.4	4.6	4.8	5.1	5.3	5.6	5.8
Bicarbonate as HCO3	mg/l			150	150	170	180	200	200	210	220
Boron	mg/l	1	N	0.15	0.15	0.097	0.099	0.11	0.11	0.088	0.091
Bromide	ug/l			100	ND	110	ND	130	ND	110	ND
Calcium, Total	mg/l			22	21.9	37	37.3	49	49.7	60	62
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	2.2	ND
Carbonate as CO3	mg/l			2.4	ND	2.2	ND	2.6	ND	2.2	ND
Cation Sum	meq/l			4	4	4.4	4.5	5	5	5.4	5.6
Chloride	mg/l	500	S	20	21	22	24	24	26	22	23
Fluoride	mg/l	2	P	0.3	0.23	0.35	0.28	0.29	0.24	0.27	0.22
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			33	16	43	19	35	23	38	17
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			1.3	1.5	1.4	1.6	2.4	2.5	2.2	2.4
Sodium, Total	mg/l			63	63	53	53	41	41	43	43
Sulfate	mg/l	500	S	59	63	52	56	58	61	73	75
Total Dissolved Solid (TDS)	mg/l	1000	S	260	260	280	280	310	300	340	310
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>											
Apparent Color	ACU	15	S	10	20	ND	10	ND	5	ND	5
Hardness (Total, as CaCO3)	mg/l			62	62	100	106	160	160	170	181
Lab pH	Units			8.4	8.31	8.3	8.25	8.3	8.12	8.2	8.03
Langelier Index	None			0.43	0.837	0.68	1.1	0.84	1.12	0.88	1.17
Odor	TON	3	S	2	ND	1	ND	ND	ND	2	ND
Specific Conductance	umho/cm	1600	S	430	430	450	460	500	500	540	530
Turbidity	NTU	5	S	0.16	0.1	0.25	0.1	0.27	0.25	0.59	0.3
<b>Metals</b>											
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	16	15
Barium, Total	ug/l	1000	P	8.1	7.5	13	11	66	62	160	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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.029	0.03	ND	0.021	ND	0.02	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.011	ND	0.01	ND	0.018	ND	0.063	0.064
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			1.7	1.75	3	3.1	8.5	8.66	6.1	6.29
Manganese, Total	ug/l	50	S	8.6	7.7	16	15	48	46	73	70
Mercury	ug/l	2	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
<b>Volatile Organic Compounds</b>											
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.3	1.9	0.78	0.91	0.56	2.5	0.25	1.4

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 8 of 37

Constituents	Units	MCL	MCL Type	Compton #2					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				4/23/2021	4/23/2021	4/23/2021	4/23/2021	4/23/2021	4/23/2021
<b>General Minerals</b>									
Alkalinity	mg/l			480	280	160	180	190	190
Anion Sum	meq/l			9.9	6	5	6.3	6.4	8
Bicarbonate as HCO3	mg/l			580	340	200	220	230	230
Boron	mg/l	1	N	0.66	0.18	0.1	0.12	0.12	0.16
Bromide	ug/l			210	110	100	140	140	290
Calcium, Total	mg/l			12	26	45	68	66	83
Carbon Dioxide	mg/l			3.8	4.4	2.1	2.9	3	4.7
Carbonate as CO3	mg/l			9.5	2.8	2	ND	ND	ND
Cation Sum	meq/l			9.2	5.8	4.9	6.2	6.3	7.9
Chloride	mg/l	500	S	13	13	20	33	34	64
Fluoride	mg/l	2	P	0.42	0.26	0.23	0.22	0.34	0.4
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			68	19	28	41	42	2
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	4.1
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	0.93
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.9	4.1	2.2	2.3	3.6	3.8
Sodium, Total	mg/l			190	91	47	42	42	51
Sulfate	mg/l	500	S	0.54	ND	54	83	82	110
Total Dissolved Solid (TDS)	mg/l	1000	S	590	350	310	390	390	520
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	0.93
<b>General Physical Properties</b>									
Apparent Color	ACU	15	S	<b>110</b>	<b>20</b>	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			39	85	140	220	220	280
Lab pH	Units			8.4	8.1	8.2	8.1	8.1	7.9
Langelier Index	None			0.78	0.58	0.74	0.87	0.85	0.72
Odor	TON	3	S	1	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	920	560	490	610	620	770
Turbidity	NTU	5	S	<b>5.4</b>	0.51	0.15	0.1	<b>6.1</b>	1.6
<b>Metals</b>									
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	1.4	ND	ND	ND	1.2	4
Barium, Total	ug/l	1000	P	14	16	32	36	97	90
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.091	0.04	0.021	ND	ND	0.48
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.045	0.04	0.016	0.035	0.028	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			2.1	4.9	6.5	11	14	18
Manganese, Total	ug/l	50	S	13	30	30	45	<b>110</b>	21
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	5.5
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
<b>Volatile Organic Compounds</b>									
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 (Methyl Chloride)	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
TBA	ug/l	12	N						
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
<b>Others</b>									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	0.6
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			14	3.1	0.65	0.32	0.28	0.36

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 9 of 37

Constituents	Units	MCL	MCL Type	Downey #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/17/2021	9/8/2021	3/17/2021	9/8/2021	3/17/2021	9/8/2021	3/17/2021	9/8/2021	3/17/2021	9/8/2021	3/17/2021	9/8/2021
<b>General Minerals</b>															
Alkalinity	mg/l			150	160	150	160	180	190	190	200	220	220	390	410
Anion Sum	meq/l			3.6	3.8	6.1	6.3	8.2	8.4	9	9.1	7.8	8	17	18
Bicarbonate as HCO3	mg/l			190	200	190	190	220	230	230	240	260	270	480	500
Boron	mg/l	1	N	0.056	0.061	0.061	0.067	0.11	0.12	0.19	0.19	0.09	0.096	0.25	0.25
Bromide	ug/l			18	ND	94	ND	140	ND	170	ND	140	ND	440	ND
Calcium, Total	mg/l			42	40.7	80	78.1	100	98.8	97	96.2	100	101	200	199
Carbon Dioxide	mg/l			2	2.23	2	2.23	ND	4.02	3.8	5.36	3.4	5.36	12	22.3
Carbonate as CO3	mg/l			2	ND	2	ND	2.8	ND	ND	ND	2.1	ND	2	ND
Cation Sum	meq/l			3.7	3.7	6.2	6.1	8.4	8.1	9	9	7.9	7.9	18	18
Chloride	mg/l	500	S	4.8	5.7	38	39	70	73	81	81	45	48	110	120
Fluoride	mg/l	2	P	0.33	0.25	0.27	0.23	0.41	0.26	0.47	0.31	0.43	0.3	0.4	0.24
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			ND	ND	ND	ND	ND	ND	6.2	1.8	9.4	3.1	6.8	2.3
Nitrate (as NO3)	mg/l	45	P	ND	ND	9.1	9.3	15	16	8	7.8	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2.1	2.1	3.5	3.7	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	3	3.3	3.7	3.6	3.9	4.4	4.6	3.7	4	6.8	6.9
Sodium, Total	mg/l			25	25	26	26	38	37	56	57	28	28	100	100
Sulfate	mg/l	500	S	17	19	88	89	110	110	130	130	100	100	300	280
Total Dissolved Solid (TDS)	mg/l	1000	S	190	200	360	380	470	580	520	560	430	480	1000	<b>1100</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	2.1	2.1	3.5	3.7	1.8	1.8	ND	ND	ND	ND
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			130	125	250	245	320	319	320	319	330	328	660	659
Lab pH	Units			8.2	7.96	8.2	7.9	8.3	7.84	8	7.69	8.1	7.77	7.8	7.56
Langelier Index	None			0.63	0.908	0.96	1.07	1.2	1.14	0.87	1.01	1.1	1.17	1.4	1.42
Odor	TON	3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	350	350	600	590	790	790	870	860	730	730	1500	<b>1700</b>
Turbidity	NTU	5	S	0.16	0.1	0.17	0.15	0.33	0.1	ND	0.15	1.2	0.35	0.49	0.45
<b>Metals</b>															
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	2.9	2.1	2	2.7	2.7	1.7	1.8	3.8	3.8	2.4	2.3
Barium, Total	ug/l	1000	P	97	93	160	150	120	120	81	80	230	230	75	74
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	4	3.7	2	1.9	1.3	1.2	ND	0.32	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	3.9	4.3	2	2.2	1.2	1.4	0.34	0.44	ND	0.08	ND	0.074
Copper, Total	ug/l	1300	P	ND	0.69	ND	0.51	ND	0.72	ND	0.81	ND	ND	ND	0.71
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	0.054	ND	ND	ND	ND	0.016	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			5.8	5.64	12	12.1	18	17.5	19	19	19	18.6	39	39.5
Manganese, Total	ug/l	50	S	ND	ND	ND	ND	ND	ND	ND	1.5	<b>110</b>	<b>110</b>	<b>120</b>	<b>130</b>
Mercury	ug/l	2	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	0.61	ND	1	ND	0.83	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
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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
TBA	ug/l	12	N												
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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	ND	ND	<b>4.3</b>	<b>5.4</b>	<b>6.8</b>	<b>8.2</b>	<b>2.2</b>	<b>3.3</b>	<b>1.1</b>	<b>1.3</b>	<b>1.1</b>	<b>1.3</b>
Perchlorate	ug/l	6	P	ND	ND	2.7	2.4	1.7	1.5	ND	0.31	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	ND	ND	0.28	0.3	0.46	0.41	0.27	0.3	0.87	0.84

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 10 of 37

Constituents	Units	MCL	MCL Type	Huntington Park #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/13/2021	9/1/2021	4/13/2021	9/1/2021	4/13/2021	9/1/2021	4/13/2021	9/1/2021
<b>General Minerals</b>											
Alkalinity	mg/l			180	180	190	190	250	250	380	380
Anion Sum	meq/l			6.2	6.3	6.5	6.7	11	11	14	14
Bicarbonate as HCO3	mg/l			220	220	230	230	310	310	460	460
Boron	mg/l	1	N	0.13	0.14	0.14	0.14	0.2	0.2	0.19	0.19
Bromide	ug/l			110	ND	130	ND	450	ND	1600	1700
Calcium, Total	mg/l			61	61.6	66	65.7	120	122	150	151
Carbon Dioxide	mg/l			3.6	4.91	3	3.12	5.1	4.91	9.5	17
Carbonate as CO3	mg/l			ND	ND	ND	ND	2	ND	2.4	ND
Cation Sum	meq/l			6	6.1	6.4	6.4	11	11	14	14
Chloride	mg/l	500	S	23	25	29	31	91	96	79	89
Fluoride	mg/l	2	P	0.4	0.39	0.39	0.33	0.32	0.26	0.33	0.26
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			46	23	ND	ND	52	21	16	7.8
Nitrate (as NO3)	mg/l	45	P	ND	ND	3.3	2.7	1.9	1.8	24	28
Nitrate as Nitrogen	mg/l	10	P	ND	ND	0.75	0.6	0.44	0.42	5.4	6.3
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3	3.4	3.1	3.5	4.1	4.4	5.2	5.3
Sodium, Total	mg/l			38	39	40	41	56	57	64	62
Sulfate	mg/l	500	S	90	93	89	94	170	170	160	170
Total Dissolved Solid (TDS)	mg/l	1000	S	370	370	400	380	710	730	820	840
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	0.75	0.6	0.44	0.42	5.4	6.3
<b>General Physical Properties</b>											
Apparent Color	ACU	15	S	ND	10	ND	ND	ND	4	ND	ND
Hardness (Total, as CaCO3)	mg/l			210	215	230	229	410	422	540	537
Lab pH	Units			8	7.54	8.1	7.67	8	7.62	7.9	7.42
Langelier Index	None			0.68	0.665	0.86	0.843	1.2	1.11	1.3	1.16
Odor	TON	3	S	1	ND	ND	ND	3	8	2	ND
Specific Conductance	umho/cm	1600	S	580	590	630	630	1000	1100	1200	1300
Turbidity	NTU	5	S	1.8	1.1	0.1	0.1	0.47	0.1	ND	ND
<b>Metals</b>											
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	0.75	ND	0.6	ND	0.47	ND	0.52
Barium, Total	ug/l	1000	P	66	59	82	75	100	95	99	87
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
Chromium, Total	ug/l	50	P	ND	ND	ND	0.77	ND	ND	3	3.7
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	0.79	0.94	0.072	0.11	2.9	4.8
Copper, Total	ug/l	1300	P	ND	ND	ND	1.3	2	1.1	2.6	1.4
Iron, Total	mg/l	0.3	S	0.27	0.3	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			14	14.8	16	15.8	28	28.5	39	38.9
Manganese, Total	ug/l	50	S	48	44	ND	ND	6.3	5.5	6.3	4.1
Mercury	ug/l	2	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	1.6	ND	ND	5.2	3
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
<b>Volatile Organic Compounds</b>											
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	1.2	1.2	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	<b>6.1</b>	<b>6.1</b>	<b>19</b>	<b>16</b>
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 (Methyl Chloride)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	1.3	0.95	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	84	71
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
TBA	ug/l	12	N	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	1	0.95	0.95	1.3
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	0.62
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	<b>17</b>	<b>16</b>	4.7	<b>6</b>
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
<b>Others</b>											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	0.17	ND	0.31
Perchlorate	ug/l	6	P	ND	ND	ND	0.12	1.2	0.88	5.7	4.7
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	<b>1.6</b>	0.32	ND	ND
Total Organic Carbon	mg/l			0.3	ND	0.6	ND	5.9	4.9	1.4	0.57

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 11 of 37

Constituents	Units	MCL	MCL Type	Lakewood #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021	3/11/2021
<b>General Minerals</b>									
Alkalinity	mg/l			96	140	160	170	180	180
Anion Sum	meq/l			2.8	3.5	3.6	4.6	4.2	9.2
Bicarbonate as HCO3	mg/l			120	180	190	210	220	230
Boron	mg/l	1	N	0.053	0.054	0.068	0.071	0.09	0.086
Bromide	ug/l			110	35	45	160	59	960
Calcium, Total	mg/l			10	39	42	53	52	120
Carbon Dioxide	mg/l			ND	ND	ND	ND	2.9	4.7
Carbonate as CO3	mg/l			3.9	2.3	2.5	2.7	ND	ND
Cation Sum	meq/l			2.8	3.7	3.9	4.8	4.6	9.2
Chloride	mg/l	500	S	19	6.6	8.4	29	11	160
Fluoride	mg/l	2	P	0.46	0.26	0.32	0.33	0.52	0.21
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			64	10	19	51	21	100
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			ND	1.8	2.1	4.2	2.4	4.4
Sodium, Total	mg/l			52	32	32	36	26	45
Sulfate	mg/l	500	S	14	17	13	13	14	45
Total Dissolved Solid (TDS)	mg/l	1000	S	170	220	240	290	240	540
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>									
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			26	110	120	160	170	350
Lab pH	Units			8.7	8.3	8.3	8.3	8.1	7.9
Langelier Index	None			0.32	0.7	0.74	0.87	0.73	0.93
Odor	TON	3	S	1	ND	ND	2	1	1
Specific Conductance	umho/cm	1600	S	290	340	350	440	400	930
Turbidity	NTU	5	S	0.26	0.58	0.55	0.7	0.36	0.84
<b>Metals</b>									
Aluminum, Total	ug/l	1000	P	ND	55	40	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	<b>13</b>	<b>16</b>	1.6	7.8	3.1	<b>28</b>
Barium, Total	ug/l	1000	P	16	26	33	180	120	360
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.043	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	0.012	0.021	0.048	0.1	0.15
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			0.35	3.9	4.8	6.3	9.2	12
Manganese, Total	ug/l	50	S	3.7	19	25	<b>69</b>	<b>56</b>	<b>300</b>
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	33	ND	ND	ND
<b>Volatile Organic Compounds</b>									
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 (Methyl Chloride)	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
TBA	ug/l	12	N						
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
<b>Others</b>									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	0.16
Total Organic Carbon	mg/l			1.2	0.79	0.97	1.6	1.1	1.8

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 13 of 37

Constituents	Units	MCL	MCL Type	La Mirada #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/16/2021	8/26/2021	3/16/2021	8/26/2021	3/16/2021	8/26/2021	3/16/2021	8/26/2021	3/16/2021	8/26/2021
<b>General Minerals</b>													
Alkalinity	mg/l			150	170	140	160	180	210	190	220	190	210
Anion Sum	meq/l			5.9	6.4	4.2	4.7	5.5	6.1	8.1	8.8	13	14
Bicarbonate as HCO <sub>3</sub>	mg/l			180	200	170	190	220	260	240	270	230	260
Boron	mg/l	1	N	0.14	0.14	0.1	0.099	0.15	0.15	0.13	0.14	0.16	0.16
Bromide	ug/l			88	ND	45	ND	70	ND	320	ND	610	670
Calcium, Total	mg/l			15	14	10	9.3	22	20.2	58	57	100	110
Carbon Dioxide	mg/l			ND	ND	ND	ND	2.3	ND	3.9	3.59	6	4.04
Carbonate as CO <sub>3</sub>	mg/l			2.3	3.4	2.8	6.6	2.3	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.7	5.4	4.2	4.1	5.5	5.3	7.9	8.1	13	13
Chloride	mg/l	500	S	27	29	14	16	20	20	72	76	220	240
Fluoride	mg/l	2	P	0.83	0.66	0.6	0.44	0.7	0.55	0.55	0.4	0.42	0.25
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			29	15	10	5	28	14	40	26	7.4	1.9
Nitrate (as NO <sub>3</sub> )	mg/l	45	P	ND	ND	ND	ND	ND	ND	2.1	1.8	<b>58</b>	<b>71</b>
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.47	0.41	<b>13</b>	<b>16</b>
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			1.8	2.3	1.2	1.8	2	2.7	2.7	3.4	3.6	4.6
Sodium, Total	mg/l			100	100	81	79	87	84	74	80	100	110
Sulfate	mg/l	500	S	100	100	48	51	59	61	100	110	110	110
Total Dissolved Solid (TDS)	mg/l	1000	S	330	340	250	180	310	290	440	420	700	830
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.47	0.41	<b>13</b>	<b>16</b>
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	5	ND	ND	ND	ND
Hardness (Total, as CaCO <sub>3</sub> )	mg/l			52	48.8	31	28.7	82	78	230	228	400	423
Lab pH	Units			8.3	8.19	8.4	8.43	8.2	8.13	8	7.91	7.8	7.7
Langelier Index	None			0.33	0.651	0.22	0.739	0.47	0.859	0.68	1.07	0.78	1.03
Odor	TON	3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	590	610	420	430	530	550	780	830	1300	1600
Turbidity	NTU	5	S	0.18	0.1	0.18	0.1	0.31	0.1	0.24	0.1	0.14	0.15
<b>Metals</b>													
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	5.4	5.1	7.6	7.8	4.9	5	3.2	3.5	1.4	1.3
Barium, Total	ug/l	1000	P	46	46	25	26	43	42	58	59	94	110
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.66
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.022	0.061	ND	0.06	0.023	0.046	ND	0.043	0.41	0.78
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	1	ND	0.86	ND	0.89
Iron, Total	mg/l	0.3	S	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
Magnesium, Total	mg/l			3.6	3.4	1.4	1.34	6.7	6.7	20	21	36	39
Manganese, Total	ug/l	50	S	10	10	2.9	2.9	16	17	30	27	35	25
Mercury	ug/l	2	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	0.7	7.3	6.8	9.2	8.9	8.9
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
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	0.12	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	5.2	5.2	5.2
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	0.11	ND	ND
Total Organic Carbon	mg/l			0.28	1.9	ND	0.3	0.5	ND	1.2	ND	1.4	1.2

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 14 of 37

Constituents	Units	MCL	MCL Type	Long Beach #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/8/2021	7/19/2021	3/8/2021	7/19/2021	3/8/2021	7/19/2021	3/8/2021	7/19/2021	3/8/2021	7/19/2021	3/8/2021	7/19/2021
<b>General Minerals</b>															
Alkalinity	mg/l			160	170	150	160	120	130	130	130	140	250	260	
Anion Sum	meq/l			3.7	4	3.5	3.7	3	3.2	3.6	3.7	12	17	16	
Bicarbonate as HCO3	mg/l			190	190	180	180	140	140	160	160	170	300	310	
Boron	mg/l	1	N	0.18	0.18	0.17	0.17	0.084	0.091	0.058	0.064	0.15	0.16	0.12	
Bromide	ug/l			120	ND	84	ND	44	ND	37	ND	340	550	ND	
Calcium, Total	mg/l			3.8	3.54	2.5	2.53	5.3	5.3	23	23	50	49	180	
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	2.38	4.9	10.4	
Carbonate as CO3	mg/l			6.2	20	9.3	16	4.6	14	2.6	ND	2.1	ND	ND	
Cation Sum	meq/l			3.7	3.7	3.4	3.5	2.9	3	3.6	3.7	11	11	17	
Chloride	mg/l	500	S	16	18	14	15	11	13	12	13	150	150	200	
Fluoride	mg/l	2	P	0.56	0.5	0.56	0.52	0.63	0.56	0.4	0.35	0.3	0.25	0.26	
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iodide	ug/l			32	26	22	16	7.5	6.2	4.9	4.3	11	12	51	
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			ND	0.73	ND	0.54	ND	0.64	ND	1.3	2.8	2.9	4.2	
Sodium, Total	mg/l			79	80	75	76	60	62	53	55	180	190	100	
Sulfate	mg/l	500	S	1.6	0.78	ND	ND	15	14	35	33	230	250	310	
Total Dissolved Solid (TDS)	mg/l	1000	S	200	250	200	220	170	200	200	220	700	740	990	
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	<b>100</b>	<b>120</b>	<b>80</b>	<b>120</b>	<b>30</b>	<b>30</b>	ND	5	ND	5	ND	
Hardness (Total, as CaCO3)	mg/l			11	8.83	6.7	6.32	14	13.2	65	65.3	150	151	580	
Lab pH	Units			8.7	8.83	8.9	8.94	8.7	8.8	8.4	8.36	8.3	8.02	8	
Langelier Index	None			0.13	0.708	0.1	0.65	0.16	0.754	0.5	0.953	0.74	0.851	1.3	
Odor	TON	3	S	<b>3</b>	<b>12</b>	<b>2</b>	<b>8</b>	ND	<b>8</b>	ND	<b>8</b>	ND	<b>8</b>	<b>2</b>	
Specific Conductance	umho/cm	1600	S	360	390	340	350	300	310	360	380	1200	1200	1500	
Turbidity	NTU	5	S	0.25	ND	0.24	ND	0.19	ND	0.31	ND	0.27	0.25	0.73	
<b>Metals</b>															
Aluminum, Total	ug/l	1000	P	28	28	25	26	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	ND	ND	ND	ND	ND	ND	ND	ND	0.7	7	6.6	
Barium, Total	ug/l	1000	P	2.9	2.7	2	1.9	ND	1.4	9.4	8.5	44	42	180	
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	
Chromium, Total	ug/l	50	P	ND	0.53	ND	0.3	ND	ND	ND	ND	ND	ND	ND	
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.12	0.1	0.12	0.12	0.11	0.38	0.025	0.029	ND	ND	ND	
Copper, Total	ug/l	1300	P	ND	0.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iron, Total	mg/l	0.3	S	0.029	ND	0.014	ND	ND	ND	ND	0.03	ND	0.18	0.18	
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Magnesium, Total	mg/l			0.33	ND	0.12	ND	0.24	ND	1.9	2.01	7.1	7.1	32	
Manganese, Total	ug/l	50	S	4.2	4	ND	1	2.3	2.3	18	17	<b>53</b>	50	<b>410</b>	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	28	ND	ND	ND	ND	
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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	
TBA	ug/l	12	N												
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	
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	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	
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	ND	
Total Organic Carbon	mg/l			4.5		3.1		1.7		0.53		1.3		1.3	

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 15 of 37

Constituents	Units	MCL	MCL Type	Long Beach #2					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				4/26/2021	4/26/2021	4/26/2021	4/26/2021	4/26/2021	4/26/2021
<b>General Minerals</b>									
Alkalinity	mg/l			310	190	160	150	280	310
Anion Sum	meq/l			6.9	4.4	3.8	6.6	16	19
Bicarbonate as HCO3	mg/l			380	230	190	180	350	380
Boron	mg/l	1	N	0.52	0.19	0.14	0.092	0.29	0.24
Bromide	ug/l			210	140	140	230	900	840
Calcium, Total	mg/l			7	14	13	58	160	220
Carbon Dioxide	mg/l			ND	ND	ND	ND	9.1	9.9
Carbonate as CO3	mg/l			9.8	3.8	3.9	ND	ND	ND
Cation Sum	meq/l			6.5	4.2	3.6	6.4	15	18
Chloride	mg/l	500	S	22	20	23	63	120	150
Fluoride	mg/l	2	P	0.58	0.43	0.48	0.26	0.18	0.24
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			7.9	39	42	61	42	53
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			2.4	1.4	ND	3	5.1	5.6
Sodium, Total	mg/l			140	77	67	66	100	97
Sulfate	mg/l	500	S	ND	ND	ND	83	310	400
Total Dissolved Solid (TDS)	mg/l	1000	S	410	270	230	420	960	<b>1200</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>									
Apparent Color	ACU	15	S	<b>350</b>	<b>35</b>	<b>25</b>	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			23	41	37	170	510	690
Lab pH	Units			8.6	8.4	8.5	8.2	7.8	7.8
Langelier Index	None			0.58	0.47	0.39	0.82	1.1	1.2
Odor	TON	3	S	<b>4</b>	ND	ND	2	1	3
Specific Conductance	umho/cm	1600	S	640	420	370	650	1400	1600
Turbidity	NTU	5	S	0.24	0.44	0.33	0.34	1	1.2
<b>Metals</b>									
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	ND	ND	ND	ND	4.3	5.3
Barium, Total	ug/l	1000	P	7	10	5.4	39	59	78
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	1.3	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.074	0.043	0.056	ND	ND	ND
Copper, Total	ug/l	1300	P	2.2	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.12	0.025	0.013	0.03	0.22	0.24
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			1.4	1.5	1.1	6.3	26	34
Manganese, Total	ug/l	50	S	15	16	7	28	<b>180</b>	<b>390</b>
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	0.58	4.4
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	1.3
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 (Methyl Chloride)	ug/l			ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	4.5	<b>11</b>
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	13	<b>15</b>
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND
TBA	ug/l	12	N	ND	ND	ND	12	<b>86</b>	<b>300</b>
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	1.3
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	0.56
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
<b>Others</b>									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	<b>2.8</b>	<b>11</b>
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			9.1	4.2	2.3	1.4	1.3	1.4

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 16 of 37

Constituents	Units	MCL	MCL Type	Long Beach #6											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/15/2021	8/5/2021	3/15/2021	8/5/2021	3/15/2021	8/5/2021	3/15/2021	8/5/2021	3/15/2021	8/5/2021	3/15/2021	8/5/2021
<b>General Minerals</b>															
Alkalinity	mg/l			540	540	320	350	170	180	120	140	120	130	130	140
Anion Sum	meq/l			11	11	6.9	7.6	3.8	4.1	3.2	3.5	3.1	3.4	4.8	5.1
Bicarbonate as HCO <sub>3</sub>	mg/l			660	650	390	400	200	200	150	160	140	150	160	170
Boron	mg/l	1	N	1.1	1.1	0.55	0.6	0.25	0.24	0.093	0.094	0.084	0.083	0.05	0.049
Bromide	ug/l			340	ND	210	ND	130	ND	52	ND	92	ND	390	ND
Calcium, Total	mg/l			8	7.9	5.6	6.2	5.4	5.53	10	10.2	12	12	53	50.4
Carbon Dioxide	mg/l			4.3	ND	2.5	ND	ND	ND	ND	ND	ND	ND	ND	2.24
Carbonate as CO <sub>3</sub>	mg/l			11	7.1	6.4	17	6.5	18	4.9	8.2	3.6	ND	ND	ND
Cation Sum	meq/l			11	11	6.6	7.3	3.8	3.8	3.3	3.2	3.1	3	5.1	4.8
Chloride	mg/l	500	S	17	21	18	21	16	19	12	14	18	21	64	67
Fluoride	mg/l	2	P	0.7	0.55	0.64	0.51	0.61	0.5	0.58	0.48	0.54	0.43	0.24	0.17
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			130	84	64	52	37	26	12	8.4	37	21	120	66
Nitrate (as NO <sub>3</sub> )	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			1.5	2	ND	1.4	ND	0.77	ND	1.1	ND	1.2	1.8	2.3
Sodium, Total	mg/l			240	240	140	160	81	80	63	60	57	54	44	41
Sulfate	mg/l	500	S	0.88	ND	ND	ND	ND	ND	15	17	8.8	11	19	21
Total Dissolved Solid (TDS)	mg/l	1000	S	660	700	410	480	240	240	190	190	190	190	280	280
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	220	310	180	250	120	150	30	40	45	40	ND	5
Hardness (Total, as CaCO <sub>3</sub> )	mg/l			26	26.2	17	19.4	14	13.8	28	28	33	32	150	146
Lab pH	Units			8.4	8.36	8.4	8.47	8.7	8.73	8.7	8.58	8.6	8.5	8.2	8.01
Langelier Index	None			0.67	0.993	0.29	0.851	0.31	0.834	0.42	0.864	0.38	0.809	0.69	0.963
Odor	TON	3	S	8	4	8	4	2	2	ND	ND	ND	2	ND	ND
Specific Conductance	umho/cm	1600	S	1000	1100	620	710	370	380	310	320	290	320	490	520
Turbidity	NTU	5	S	0.48	1.6	0.38	0.35	0.34	0.1	0.15	0.15	0.18	0.2	0.2	0.1
<b>Metals</b>															
Aluminum, Total	ug/l	1000	P	26	ND	20	ND	46	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.7	2.3	ND	0.5	ND	ND	ND	ND	ND	ND	2.2	1.9
Barium, Total	ug/l	1000	P	6.6	6.4	6.3	6	4	4	7	6.4	2.5	2.2	22	21
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
Chromium, Total	ug/l	50	P	ND	0.35	ND	0.49	ND	ND	ND	0.25	3.9	0.22	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.07	0.13	0.06	0.1	0.057	0.11	0.056	0.094	0.055	0.1	ND	0.023
Copper, Total	ug/l	1300	P	ND	ND	ND	0.62	ND	0.62	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.08	0.077	0.062	0.065	0.033	0.031	0.011	ND	0.014	ND	0.06	0.053
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			1.6	1.6	0.85	0.96	0.21	ND	0.62	0.622	0.76	0.751	5.1	4.84
Manganese, Total	ug/l	50	S	13	13	12	11	3.4	3.3	15	14	4.3	3.8	55	53
Mercury	ug/l	2	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
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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
TBA	ug/l	12	N												
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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	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
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			21	14	13	7.9	1.4	3.3	1.9	1.3	2	1.2	0.73	0.65

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 17 of 37

Constituents	Units	MCL	MCL Type	Los Angeles #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/24/2021	9/15/2021	3/24/2021	9/15/2021	3/24/2021	9/15/2021	3/24/2021	9/15/2021	3/24/2021	9/15/2021
<b>General Minerals</b>													
Alkalinity	mg/l			180	190	180	190	190	190	200	210	220	230
Anion Sum	meq/l			5.9	6.1	6	6.3	6.2	6.4	7.5	7.7	10	11
Bicarbonate as HCO <sub>3</sub>	mg/l			220	230	220	230	230	230	240	250	270	280
Boron	mg/l	1	N	0.15	0.15	0.14	0.14	0.15	0.15	0.16	0.15	0.2	0.19
Bromide	ug/l			120	ND	100	ND	110	ND	160	ND	310	ND
Calcium, Total	mg/l			57	56.5	61	61.1	62	61.8	79	76.4	110	108
Carbon Dioxide	mg/l			2.9	ND	3.6	6.7	3	6.7	2.5	4.91	4.4	16.1
Carbonate as CO <sub>3</sub>	mg/l			ND	ND	ND	ND	ND	ND	2.5	ND	ND	ND
Cation Sum	meq/l			5.9	5.8	6	6	6.2	6.1	7.7	7.4	10	10
Chloride	mg/l	500	S	23	25	22	24	23	25	36	38	75	77
Fluoride	mg/l	2	P	0.32	0.21	0.52	0.38	0.43	0.33	0.47	0.36	0.44	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			33	18	33	15	ND	ND	24	12	ND	ND
Nitrate (as NO <sub>3</sub> )	mg/l	45	P	ND	ND	ND	ND	ND	ND	14	12	<b>63</b>	<b>60</b>
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	3.1	2.8	<b>14</b>	<b>14</b>
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.8	3.9	3.2	3.2	3.2	3.2	3.8	3.7	4.5	4.3
Sodium, Total	mg/l			45	43	39	38	41	39	47	44	58	54
Sulfate	mg/l	500	S	74	77	83	85	85	88	110	110	140	140
Total Dissolved Solid (TDS)	mg/l	1000	S	370	320	360	350	380	370	460	470	640	620
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	3.1	2.8	<b>14</b>	<b>14</b>
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	4
Hardness (Total, as CaCO <sub>3</sub> )	mg/l			190	192	210	212	220	216	280	269	390	383
Lab pH	Units			8.1	7.98	8	7.72	8.1	7.75	8.2	7.71	8	7.59
Langelier Index	None			0.77	1.1	0.68	0.87	0.76	0.899	0.99	0.969	1	1.01
Odor	TON	3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	560	560	580	570	590	580	720	710	1000	1000
Turbidity	NTU	5	S	0.37	0.1	0.97	0.6	0.35	0.1	0.17	0.1	0.19	0.2
<b>Metals</b>													
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	0.62	1.1	1.1	ND	0.61
Barium, Total	ug/l	1000	P	30	30	52	50	78	73	100	97	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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	0.31	<b>63</b>	<b>53</b>	<b>300</b>	<b>260</b>
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.032	0.053	0.024	0.042	0.28	0.29	<b>65</b>	<b>52</b>	<b>310</b>	<b>260</b>
Copper, Total	ug/l	1300	P	ND	0.93	ND	ND	ND	ND	ND	0.89	ND	1.1
Iron, Total	mg/l	0.3	S	ND	ND	0.19	0.18	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			12	12.4	15	14.4	16	15.1	20	19	29	27.5
Manganese, Total	ug/l	50	S	15	13	48	49	6.1	6	2	2	ND	ND
Mercury	ug/l	2	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	0.59	ND	0.68	ND	3.4
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
<b>Volatile Organic Compounds</b>													
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	0.57
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	<b>0.55</b>	ND	<b>1.4</b>	<b>1.5</b>
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methyl Chloride)	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
TBA	ug/l	12	N										
Tetrachloroethylene (PCE)	ug/l	5	P	1.3	1.2	ND	ND	ND	ND	0.74	0.59	2.6	2.8
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	0.62	0.66
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	3.4	3	ND	ND	ND	ND	<b>7.8</b>	<b>6.3</b>	<b>33</b>	<b>33</b>
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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	ND	0.079	ND	ND	ND	ND	ND	ND	ND	0.16
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	0.81	0.67	4.2	3.2
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.83	0.39	0.68	ND	0.74	ND	1	0.48	1	0.43

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 18 of 37

Constituents	Units	MCL	MCL Type	Los Angeles #2							
				Zone 2		Zone 3		Zone 4		Zone 5	
				4/13/2021	9/1/2021	4/13/2021	9/1/2021	4/13/2021	9/1/2021	4/13/2021	9/1/2021
<b>General Minerals</b>											
Alkalinity	mg/l			320	330	320	320	340	350	310	310
Anion Sum	meq/l			19	16	19	18	19	18	22	21
Bicarbonate as HCO3	mg/l			390	400	380	400	420	430	370	380
Boron	mg/l	1	N	0.23	0.24	0.23	0.23	0.27	0.27	0.4	0.41
Bromide	ug/l			630	520	570	ND	800	670	720	650
Calcium, Total	mg/l			190	195	190	192	190	181	210	209
Carbon Dioxide	mg/l			8	18.3	9.9	25.9	11	34.8	12	29.4
Carbonate as CO3	mg/l			2	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			18	19	18	18	18	18	22	22
Chloride	mg/l	500	S	260	180	260	230	220	210	160	160
Fluoride	mg/l	2	P	0.19	0.14	0.29	0.23	0.32	0.25	0.29	0.22
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			94	62	89	40	100	48	60	32
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			10	10	7	7.1	7.5	7.5	9.6	9.3
Sodium, Total	mg/l			94	98	96	99	110	120	140	140
Sulfate	mg/l	500	S	280	200	250	220	290	270	570	510
Total Dissolved Solid (TDS)	mg/l	1000	S	1200	1200	1100	1200	1200	1200	1500	1500
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>											
Apparent Color	ACU	15	S	ND	5	ND	20	25	25	ND	4
Hardness (Total, as CaCO3)	mg/l			680	701	680	681	660	641	760	759
Lab pH	Units			7.9	7.35	7.8	7.01	7.8	7.13	7.7	7.02
Langelier Index	None			1.3	1.09	1.2	0.732	1.2	0.865	1.2	0.731
Odor	TON	3	S	2	ND	1	ND	ND	ND	3	8
Specific Conductance	umho/cm	1600	S	1800	1900	1800	650	1800	650	2000	750
Turbidity	NTU	5	S	1.9	0.85	11	6.7	13	12	74	3.2
<b>Metals</b>											
Aluminum, Total	ug/l	1000	P	43	ND	27	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	11	17
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	2.9	2.4
Barium, Total	ug/l	1000	P	90	84	130	130	95	87	50	48
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	0.96
Iron, Total	mg/l	0.3	S	0.2	0.18	1.1	1.2	1.2	1.2	0.12	0.07
Lead, Total	ug/l	15	P	ND	ND	ND	0.54	ND	ND	ND	ND
Magnesium, Total	mg/l			51	52.2	49	48.9	46	45.9	58	57.6
Manganese, Total	ug/l	50	S	380	360	180	170	100	96	490	510
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	3.3
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	150	160
<b>Volatile Organic Compounds</b>											
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 (Methyl Chloride)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	0.54	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	0.76	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
TBA	ug/l	12	N	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
<b>Others</b>											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	0.11	1.4	1.4	ND	0.49
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.7	0.61	0.66	0.62	1.5	0.65	2	1.4

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 19 of 37

Constituents	Units	MCL	MCL Type	Los Angeles #3											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/4/2021	9/16/2021	5/4/2021	9/16/2021	5/4/2021	9/16/2021	5/4/2021	9/16/2021	5/4/2021	9/16/2021	5/4/2021	9/16/2021
<b>General Minerals</b>															
Alkalinity	mg/l			240	250	180	180	180	190	190	200	200	210	230	250
Anion Sum	meq/l			6.5	6.6	5.9	6.1	6	6.2	6.5	6.8	8.9	9.2	12	13
Bicarbonate as HCO3	mg/l			300	300	220	220	220	230	230	240	250	260	280	310
Boron	mg/l	1	N	0.34	0.34	0.13	0.14	0.14	0.14	0.15	0.15	0.2	0.19	0.19	0.19
Bromide	ug/l			250	ND	150	ND	110	ND	200	ND	260	ND	550	ND
Calcium, Total	mg/l			16	15.9	57	57.3	60	59.1	65	65.7	91	89.7	140	138
Carbon Dioxide	mg/l			2.5	ND	2.9	2.23	4.5	3.57	4.7	3.57	6.5	4.91	4.6	5.8
Carbonate as CO3	mg/l			3.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.1	6.3	5.7	5.8	6	5.9	6.4	6.5	8.8	8.7	12	12
Chloride	mg/l	500	S	38	40	26	27	22	24	38	41	60	62	120	120
Fluoride	mg/l	2	P	0.29	0.25	0.44	0.27	0.46	0.37	0.39	0.35	0.34	0.27	0.34	0.25
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			77	54	32	23	30	20	44	30	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	41	42	28	30
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	9.2	9.6	6.3	6.8
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			4.2	4.4	3.3	3.7	3.6	3.8	3.9	4.1	4.1	4.3	4.3	4.5
Sodium, Total	mg/l			110	110	40	40	40	40	43	43	53	53	60	62
Sulfate	mg/l	500	S	24	26	74	77	78	81	77	81	120	120	180	190
Total Dissolved Solid (TDS)	mg/l	1000	S	380	380	340	320	350	330	380	370	520	530	750	750
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	9.2	9.6	6.3	6.8
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	<b>20</b>	<b>20</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			63	63.6	200	199	210	204	220	226	320	314	480	479
Lab pH	Units			8.3	8.18	8.1	7.97	7.9	7.85	7.9	7.86	7.8	7.78	8	7.74
Langelier Index	None			0.5	0.854	0.72	1.08	0.62	0.991	0.68	1.06	0.75	1.1	1.1	1.28
Odor	TON	3	S	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	620	610	560	570	570	580	620	640	850	870	1200	1200
Turbidity	NTU	5	S	0.17	0.1	0.34	0.2	0.44	0.15	0.34	0.15	0.2	0.1	0.19	0.1
<b>Metals</b>															
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	0.71	ND	ND	ND	0.48	ND	ND
Barium, Total	ug/l	1000	P	10	8.7	24	20	47	42	80	66	140	120	130	120
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	2.2	1.7	6.1	5.1
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.05	0.071	ND	0.074	ND	0.061	ND	ND	1.9	1.8	5.6	5.5
Copper, Total	ug/l	1300	P	ND	0.52	ND	ND	ND	ND	ND	ND	ND	0.84	ND	0.83
Iron, Total	mg/l	0.3	S	ND	ND	0.03	0.032	ND	ND	0.06	0.061	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			5.6	5.81	13	13.6	14	13.7	14	15	22	21.9	31	32.6
Manganese, Total	ug/l	50	S	24	22	<b>94</b>	<b>82</b>	49	44	43	39	ND	ND	ND	ND
Mercury	ug/l	2	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	1.5	9.9	9.1
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
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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
TBA	ug/l	12	N												
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51	4.5	<b>6.9</b>
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	0.61	0.71	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	<b>6.1</b>	<b>6</b>	1	1.2
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.26	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	1.6	1.4	1.3	0.96
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.8	1.6	1	0.39	0.98	ND	0.92	ND	1.2	0.35	1.2	0.64

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 20 of 37

Constituents	Units	MCL	MCL Type	Los Angeles #4											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/28/2021	8/17/2021	4/28/2021	8/17/2021	4/28/2021	8/17/2021	4/28/2021	8/17/2021	4/28/2021	8/17/2021	4/28/2021	8/17/2021
<b>General Minerals</b>															
Alkalinity	mg/l			1600	2500	440	450	180	190	180	190	180	180	170	180
Anion Sum	meq/l			33	52	9.1	9.2	5.7	6	5.8	6.1	5.7	6	6.6	6.9
Bicarbonate as HCO3	mg/l			1900	3100	540	550	210	230	220	230	210	220	210	220
Boron	mg/l	1	N	5.9	5.9	0.52	0.53	0.12	0.13	0.12	0.13	0.13	0.14	0.14	0.15
Bromide	ug/l			610	ND	67	ND	98	ND	100	ND	94	ND	190	ND
Calcium, Total	mg/l			12	12	18	18	55	55	56	56.2	57	56.5	64	62.3
Carbon Dioxide	mg/l			12	8.93	8.8	2.68	2.2	ND	2.3	4.46	2.2	ND	2.7	3.12
Carbonate as CO3	mg/l			31	ND	3.5	ND	2.2	ND	2.3	ND	2.2	ND	ND	ND
Cation Sum	meq/l			33	31	8.6	8.8	5.6	5.5	5.7	5.7	5.6	5.6	6.4	6.3
Chloride	mg/l	500	S	37	36	7.4	8.7	20	22	20	23	21	23	46	53
Fluoride	mg/l	2	P	0.36	0.35	0.23	0.19	0.3	0.23	0.38	0.31	0.31	0.27	0.23	0.15
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			83	120	13	12	20	14	33	17	25	12	3.8	1.8
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.6	8.3
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	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			14	18	12	12	2.8	3.2	3.4	3.8	3.4	3.7	3.2	3.5
Sodium, Total	mg/l			720	670	160	160	42	41	40	40	39	39	47	49
Sulfate	mg/l	500	S	ND	ND	ND	ND	78	78	76	78	77	80	82	84
Total Dissolved Solid (TDS)	mg/l	1000	S	2000	2000	520	470	340	320	340	330	340	320	390	350
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	1.9
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	1300	1500	65	80	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			57	56.4	76	75	180	182	190	193	190	190	210	203
Lab pH	Units			8.4	8.05	8	7.95	8.2	7.96	8.2	7.74	8.2	7.87	8.1	7.66
Langelier Index	None			1.3	1.38	0.51	0.9	0.87	1.07	0.82	0.859	0.82	0.97	0.82	0.795
Odor	TON	3	S	2	12	3	2	ND	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	2900	3100	840	870	550	560	560	570	550	560	650	660
Turbidity	NTU	5	S	0.82	0.1	1.6	0.4	0.21	0.1	0.19	0.1	0.53	0.65	0.75	0.15
<b>Metals</b>															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	37
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.7	1.9	6.6	6.1	ND	ND	1.9	1.8	1.2	1.1	1.6	1.4
Barium, Total	ug/l	1000	P	38	34	38	34	16	16	70	66	64	59	67	61
Beryllium, Total	ug/l	4	P	ND	0.12	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
Chromium, Total	ug/l	50	P	ND	2.2	ND	0.65	ND	ND	ND	ND	ND	ND	ND	0.81
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.092	ND	0.022	0.083	ND	0.07	ND	0.07	ND	0.067	0.95	1.1
Copper, Total	ug/l	1300	P	ND	1	ND	0.51	ND	ND	ND	ND	ND	ND	ND	0.66
Iron, Total	mg/l	0.3	S	0.64	0.58	0.13	0.13	0.012	ND	0.019	ND	0.059	0.06	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			6.5	6.4	7.6	7.6	11	11.2	12	13	12	12	12	12
Manganese, Total	ug/l	50	S	18	15	48	45	38	37	44	43	62	59	65	60
Mercury	ug/l	2	P	ND	0.057	ND	0.05	ND	ND	ND	0.052	ND	ND	ND	0.053
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	1.2
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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
TBA	ug/l	12	N												
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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	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
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			170	7.5	7	5.7	0.23	ND	0.22	ND	0.26	ND	0.23	ND

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 21 of 37

Constituents	Units	MCL	MCL Type	Los Angeles #5											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/7/2021	9/22/2021	4/6/2021	9/21/2021	4/6/2021	9/21/2021	4/6/2021	9/21/2021	4/6/2021	9/21/2021	4/6/2021	9/21/2021
<b>General Minerals</b>															
Alkalinity	mg/l			860	890	970	950	170	180	230	240	230	240	190	200
Anion Sum	meq/l			120	120	29	31	5.4	5.7	10	10	8.6	8.8	7.1	7.3
Bicarbonate as HCO3	mg/l			1000	1100	1200	1200	200	210	280	300	280	290	230	240
Boron	mg/l	1	N	7.6	7.5	2.7	2.6	0.12	0.13	0.27	0.31	0.15	0.15	0.14	0.14
Bromide	ug/l			34000	35000	3000	3900	120	ND	1400	1300	820	740	160	ND
Calcium, Total	mg/l			44	42.3	21	21.9	52	52.4	99	105	85	89.3	73	73.4
Carbon Dioxide	mg/l			16	6.25	16	10.7	2.6	ND	5.8	8.93	3.6	3.12	3.8	4.02
Carbonate as CO3	mg/l			6.5	ND	9.8	ND	ND	ND	ND	ND	2.3	ND	ND	ND
Cation Sum	meq/l			110	110	29	31	5.4	5.6	9.8	11	8.3	8.7	7	7.1
Chloride	mg/l	500	S	<b>3600</b>	<b>3500</b>	360	410	21	23	190	190	120	130	32	35
Fluoride	mg/l	2	P	0.11	ND	0.23	0.15	0.25	0.2	0.26	0.19	0.27	0.24	0.38	0.31
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			12000	9200	900	720	24	17	370	310	180	140	37	23
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			39	56	16	22	3	4.1	5.2	6.2	4.3	5.1	3	3.6
Sodium, Total	mg/l			2300	2400	600	640	43	47	64	68	52	55	46	47
Sulfate	mg/l	500	S	ND	ND	ND	ND	70	73	13	9.3	20	17	110	110
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>6100</b>	<b>6800</b>	<b>1700</b>	<b>1800</b>	330	290	630	610	480	500	420	430
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	<b>150</b>	<b>200</b>	<b>700</b>	<b>300</b>	ND	ND	ND	5	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			320	310	100	110	170	173	350	369	290	310	250	250
Lab pH	Units			8	7.85	8.1	8.05	8.1	7.98	7.9	7.78	8.1	7.94	8	7.79
Langelier Index	None			1.2	1.08	1.1	1.24	0.72	1.06	0.88	1.2	0.99	1.32	0.76	1.02
Odor	TON	3	S	<b>8</b>	<b>4</b>	<b>4</b>	ND	1	2	3	4	ND	2	ND	ND
Specific Conductance	umho/cm	1600	S	<b>12000</b>	<b>13000</b>	<b>2800</b>	<b>3100</b>	520	540	1000	1100	840	850	680	680
Turbidity	NTU	5	S	1.5	0.2	0.94	0.15	0.2	0.35	1.2	1.4	0.59	0.45	0.48	0.15
<b>Metals</b>															
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	<b>21</b>	0.44	1.9	ND	ND	ND	1	0.86	ND	ND	ND	0.4
Barium, Total	ug/l	1000	P	66	65	25	27	25	25	89	88	95	92	64	58
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
Chromium, Total	ug/l	50	P	ND	2.8	1.4	1	ND	ND	ND	ND	ND	ND	ND	0.58
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	0.15	ND	ND	0.065	ND	ND	ND	ND	ND	0.15
Copper, Total	ug/l	1300	P	ND	ND	ND	0.64	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	<b>0.38</b>	<b>0.36</b>	0.26	0.23	0.032	0.047	0.28	<b>0.32</b>	0.17	0.18	0.025	0.03
Lead, Total	ug/l	15	P	ND	0.21	ND	ND	ND	0.35	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			50	49.6	12	13.5	10	10.3	24	25.9	20	21.2	16	16.3
Manganese, Total	ug/l	50	S	36	32	47	46	41	48	<b>150</b>	<b>140</b>	<b>140</b>	<b>140</b>	33	32
Mercury	ug/l	2	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	<b>100</b>	ND	8.1	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
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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
TBA	ug/l	12	N												
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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	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
Surfactants	mg/l	0.5	S	0.5	0.052	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			33	36	34	23	0.83	0.43	1.5	0.69	0.4	0.39	0.94	0.64

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 22 of 37

Constituents	Units	MCL	MCL Type	Los Angeles #6			
				Zone 1	Zone 2	Zone 3	Zone 4
				9/9/2021	9/9/2021	9/9/2021	9/9/2021
<b>General Minerals</b>							
Alkalinity	mg/l			280	220	290	260
Anion Sum	meq/l			14	8.4	13	11
Bicarbonate as HCO3	mg/l			350	270	350	320
Boron	mg/l	1	N	0.43	0.26	0.37	0.24
Bromide	ug/l			2300	780	2400	540
Calcium, Total	mg/l			11	42.4	68.9	107
Carbon Dioxide	mg/l			ND	ND	4.46	11.2
Carbonate as CO3	mg/l			ND	ND	ND	ND
Cation Sum	meq/l			14	8	14	11
Chloride	mg/l	500	S	280	120	250	110
Fluoride	mg/l	2	P	0.17	0.2	0.16	0.31
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND
Iodide	ug/l			740	190	690	58
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND
Potassium, Total	mg/l			16	7.7	11	5.7
Sodium, Total	mg/l			280	110	200	77
Sulfate	mg/l	500	S	1	28	1.8	140
Total Dissolved Solid (TDS)	mg/l	1000	S	820	470	820	680
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND
<b>General Physical Properties</b>							
Apparent Color	ACU	15	S	22	5	7.5	ND
Hardness (Total, as CaCO3)	mg/l			53.4	152	241	375
Lab pH	Units			8.16	8.01	7.91	7.61
Langelier Index	None			0.632	1.03	1.2	1.06
Odor	TON	3	S	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	1500	860	1500	1100
Turbidity	NTU	5	S	0.35	0.15	0.2	0.3
<b>Metals</b>							
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	0.47	ND	ND	1.5
Barium, Total	ug/l	1000	P	27	34	77	75
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.056	ND	ND
Copper, Total	ug/l	1300	P	0.78	ND	ND	2.3
Iron, Total	mg/l	0.3	S	0.046	ND	0.072	0.075
Lead, Total	ug/l	15	P	ND	ND	ND	ND
Magnesium, Total	mg/l			6.31	11.3	16.7	26.2
Manganese, Total	ug/l	50	S	24	46	<b>68</b>	<b>120</b>
Mercury	ug/l	2	P	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND
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
<b>Volatile Organic Compounds</b>							
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 (Methyl Chloride)	ug/l			ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	<b>13</b>
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
TBA	ug/l	12	N	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	<b>9.1</b>
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND
<b>Others</b>							
1,4-Dioxane	ug/l	1	N	ND	ND	ND	0.13
Perchlorate	ug/l	6	P	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.9	1	1.8	0.65

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 24 of 37

Constituents	Units	MCL	MCL Type	Montebello #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/14/2021	8/10/2021	4/14/2021	8/10/2021	4/14/2021	8/10/2021	4/14/2021	8/10/2021	4/14/2021	8/10/2021
<b>General Minerals</b>													
Alkalinity	mg/l			890	900	570	560	180	200	190	200	190	200
Anion Sum	meq/l			37	35	15	15	7.8	8.4	8.3	8.8	7.5	8
Bicarbonate as HCO3	mg/l			1100	1100	700	690	220	240	230	240	230	240
Boron	mg/l	1	N	<b>6.4</b>	<b>6.6</b>	<b>2.2</b>	<b>2.2</b>	0.13	0.16	0.12	0.13	0.19	0.2
Bromide	ug/l			4200	4300	800	750	190	ND	200	ND	150	ND
Calcium, Total	mg/l			14	13.3	18	17.3	92	89	94	92.1	71	73
Carbon Dioxide	mg/l			5.7	9.82	4.6	5.36	2.3	2.68	2.4	3.57	3	10.3
Carbonate as CO3	mg/l			23	ND	11	ND	2.3	ND	2.4	ND	ND	ND
Cation Sum	meq/l			35	36	14	15	7.9	7.8	8.3	8.2	7.4	7.6
Chloride	mg/l	500	S	<b>690</b>	<b>590</b>	120	120	59	64	63	68	63	68
Fluoride	mg/l	2	P	0.42	0.3	0.3	0.23	0.16	0.13	0.2	0.15	0.32	0.27
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			1200	830	240	190	49	20	51	26	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	14	17
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	3.2	3.9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			7	11	5.2	6.6	3.4	4	3.6	4	3	3.6
Sodium, Total	mg/l			770	800	280	310	46	48	52	53	59	62
Sulfate	mg/l	500	S	ND	ND	ND	ND	120	120	130	140	82	91
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>2100</b>	<b>2200</b>	880	900	500	500	530	540	470	460
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	3.2	3.9
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	<b>550</b>	<b>500</b>	<b>220</b>	<b>220</b>	ND	5	ND	4	ND	ND
Hardness (Total, as CaCO3)	mg/l			59	58.4	74	73.4	290	282	300	291	230	241
Lab pH	Units			8.5	8.14	8.4	8.1	8.2	7.78	8.2	7.81	8.1	7.48
Langelier Index	None			1.2	1.05	1	1.06	1.1	1.08	1	1.11	0.82	0.699
Odor	TON	3	S	<b>8</b>	<b>8</b>	<b>3</b>	<b>2</b>	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	<b>3600</b>	<b>4100</b>	1400	1500	750	790	800	840	740	780
Turbidity	NTU	5	S	1.6	0.1	0.74	0.1	0.71	0.15	0.18	0.1	0.26	0.1
<b>Metals</b>													
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	5.4	3.2	ND	ND	ND	ND	1.8	1.8	1.6	1.5
Barium, Total	ug/l	1000	P	37	39	24	24	46	42	90	88	63	58
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
Chromium, Total	ug/l	50	P	1.7	1.4	1	0.7	ND	ND	ND	ND	ND	0.2
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.2	ND	0.077	ND	ND	ND	0.021	0.02	0.16	0.25
Copper, Total	ug/l	1300	P	ND	1	ND	0.76	ND	ND	ND	ND	ND	0.53
Iron, Total	mg/l	0.3	S	0.15	0.15	0.2	0.2	0.029	ND	0.011	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			5.9	6.1	7.2	7.32	15	15	15	15	14	15
Manganese, Total	ug/l	50	S	8.4	8	28	27	<b>81</b>	<b>76</b>	<b>52</b>	<b>51</b>	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	10	ND	ND	ND	ND	ND	ND	ND	ND	2.1
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
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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	0.5
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	<b>5.4</b>	<b>5.7</b>	<b>6</b>	<b>6</b>	ND	0.61
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	0.78	0.64
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			34	23	29	17	0.95	0.77	0.96	0.54	0.49	0.46

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 25 of 37

Constituents	Units	MCL	MCL Type	Montebello #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				6/17/2021	9/13/2021	6/17/2021	9/13/2021	6/17/2021	9/13/2021	6/17/2021	9/13/2021	6/17/2021	9/13/2021
<b>General Minerals</b>													
Alkalinity	mg/l			1000	1100	200	310	220	240	160	170	120	140
Anion Sum	meq/l			32	34	6.9	7.7	7.1	7.4	6.4	6.4	4.8	5.5
Bicarbonate as HCO3	mg/l			1200	1400	240	370	270	290	190	210	150	170
Boron	mg/l	1	N	<b>6.9</b>	7.2	0.2	0.68	0.25	0.27	0.17	0.17	0.13	0.14
Bromide	ug/l			1900	2100	630	ND	460	ND	100	ND	74	ND
Calcium, Total	mg/l			16	11.7	47	25.9	44	44	63	58.9	42	44.4
Carbon Dioxide	mg/l			7.8	13.4	3.9	3.12	4.4	2.23	3.1	6.7	4.9	11.2
Carbonate as CO3	mg/l			20	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			32	31	7	7.2	6.9	7.1	6.6	6.2	4.9	5.2
Chloride	mg/l	500	S	410	400	88	49	74	72	51	46	34	42
Fluoride	mg/l	2	P	0.61	0.41	0.36	0.28	0.35	0.28	0.47	0.4	0.35	0.31
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			180	ND	120	14	110	66	4.4	3.5	1.7	4.2
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	15	17	13	13
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	3.4	3.7	2.9	3
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			23	18	7.5	8.5	4.9	5.7	3	3.2	3.6	3.9
Sodium, Total	mg/l			700	670	71	110	78	83	53	51	44	47
Sulfate	mg/l	500	S	14	4.9	21	6.5	26	26	71	68	52	61
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>2000</b>	<b>2000</b>	420	430	420	410	400	370	270	320
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	3.4	3.7	2.9	3
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	<b>250</b>	<b>25</b>	ND	<b>20</b>	ND	5	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			77	62.9	190	107	170	169	210	195	150	153
Lab pH	Units			8.4	8.07	8	8.01	8	7.87	8	7.66	7.7	7.41
Langelier Index	None			1.3	1.03	0.66	0.977	0.6	0.962	0.61	0.74	0.1	0.298
Odor	TON	3	S	<b>8</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>8</b>	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	<b>2900</b>	<b>3500</b>	720	710	710	710	650	610	490	530
Turbidity	NTU	5	S	<b>5.2</b>	0.5	0.58	1	0.38	0.25	0.34	0.15	4.3	0.25
<b>Metals</b>													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	3	1.2	ND	0.69	2.2	2.5	2	2	1.8	1.7
Barium, Total	ug/l	1000	P	68	59	60	39	64	57	78	71	56	55
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
Chromium, Total	ug/l	50	P	ND	0.82	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.24	ND	ND	0.084	ND	0.085	0.038	0.1	0.08	0.094
Copper, Total	ug/l	1300	P	ND	1	ND	ND	ND	ND	ND	ND	ND	0.66
Iron, Total	mg/l	0.3	S	0.089	0.11	0.036	0.054	0.032	0.051	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			9	8.17	17	10.2	14	14.4	13	11.7	10	10.3
Manganese, Total	ug/l	50	S	46	41	<b>130</b>	<b>120</b>	<b>130</b>	<b>150</b>	<b>90</b>	<b>60</b>	<b>97</b>	<b>120</b>
Mercury	ug/l	2	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	2
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
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	0.38	ND	ND	0.23
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			31	23	3.6	4.8	2.5	2.5	1.5	1.1	1.5	0.88

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 26 of 37

Constituents	Units	MCL	MCL Type	Norwalk #1				
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
				3/16/2021	3/16/2021	3/16/2021	3/16/2021	3/16/2021
<b>General Minerals</b>								
Alkalinity	mg/l			280	180	150	130	190
Anion Sum	meq/l			7.7	5.2	5.7	3.7	7.6
Bicarbonate as HCO3	mg/l			340	210	180	160	240
Boron	mg/l	1	N	0.38	0.2	0.067	0.052	0.077
Bromide	ug/l			280	260	460	140	550
Calcium, Total	mg/l			12	9.5	39	32	69
Carbon Dioxide	mg/l			5.6	ND	ND	ND	5
Carbonate as CO3	mg/l			2.2	5.4	ND	ND	ND
Cation Sum	meq/l			7.7	5	5.5	3.8	7.5
Chloride	mg/l	500	S	64	59	89	31	130
Fluoride	mg/l	2	P	0.53	0.61	0.25	0.34	0.33
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND
Iodide	ug/l			95	110	120	33	110
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.1	ND	2.2	1.4	3.2
Sodium, Total	mg/l			150	100	74	38	62
Sulfate	mg/l	500	S	18	ND	8.5	6.7	5.4
Total Dissolved Solid (TDS)	mg/l	1000	S	460	290	300	190	390
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND
<b>General Physical Properties</b>								
Apparent Color	ACU	15	S	20	25	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			53	29	110	100	240
Lab pH	Units			8	8.6	8.2	8.2	7.9
Langelier Index	None			0.15	0.41	0.62	0.44	0.65
Odor	TON	3	S	8	2	2	ND	4
Specific Conductance	umho/cm	1600	S	790	510	580	370	760
Turbidity	NTU	5	S	0.17	0.28	0.31	0.81	20
<b>Metals</b>								
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	5.2	17	9.8
Barium, Total	ug/l	1000	P	11	7.3	130	130	280
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.11	0.05	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	0.011	0.04	0.04	0.1
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			5.6	1.2	3.6	6.2	16
Manganese, Total	ug/l	50	S	2.6	7.1	27	46	130
Mercury	ug/l	2	P	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>								
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	3.3
Chloromethane (Methyl Chloride)	ug/l			ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND
TBA	ug/l	12	N					
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND
<b>Others</b>								
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	0.23
Total Organic Carbon	mg/l			3.7	3.4	0.67	0.51	1.5

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 27 of 37

Constituents	Units	MCL	MCL Type	Norwalk #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/5/2021	9/24/2021	5/5/2021	9/24/2021	5/5/2021	9/24/2021	5/5/2021	9/24/2021	5/5/2021	9/24/2021	5/5/2021	9/24/2021
<b>General Minerals</b>															
Alkalinity	mg/l			190	200	190	190	150	150	160	170	160	170	180	180
Anion Sum	meq/l			7	7.3	5.1	5.3	4.3	4.5	5.9	6.1	7.7	8.2	7.4	7.9
Bicarbonate as HCO3	mg/l			240	240	230	230	180	190	200	200	200	200	210	220
Boron	mg/l	1	N	0.26	0.26	0.23	0.23	ND	0.038	0.056	0.055	0.18	0.18	0.17	0.17
Bromide	ug/l			320	ND	160	ND	48	ND	76	ND	150	ND	130	ND
Calcium, Total	mg/l			23	21	13	13.5	45	45.7	69	69	79	80.7	73	73.6
Carbon Dioxide	mg/l			2.5	ND	ND	ND	ND	ND	3.3	ND	3.3	2.23	5.4	2.68
Carbonate as CO3	mg/l			2.5	ND	3.8	2	2.3	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.6	6.9	4.8	5	4.2	4.4	5.8	5.9	7.7	8	7.4	7.5
Chloride	mg/l	500	S	66	71	36	40	15	17	31	33	74	81	59	65
Fluoride	mg/l	2	P	0.35	0.25	0.44	0.32	0.2	0.15	0.35	0.21	0.25	0.2	0.36	0.27
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			84	58	49	36	9.6	5.4	ND	ND	2.4	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	6.3	6.2	10	11	9.3	9.9
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	1.4	1.4	2.4	2.6	2.1	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			3.4	3.9	2.3	2.9	2.4	2.9	3.2	3.5	4.2	4.5	3.8	4.1
Sodium, Total	mg/l			120	120	89	94	35	36	31	31	55	57	55	56
Sulfate	mg/l	500	S	58	63	15	17	43	47	78	82	110	120	100	110
Total Dissolved Solid (TDS)	mg/l	1000	S	420	430	300	300	260	250	360	360	480	490	450	440
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	1.4	1.4	2.4	2.6	2.1	2.2
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	5	12	15	15	ND	4	ND	4	ND	4	ND	4
Hardness (Total, as CaCO3)	mg/l			75	69.2	43	44.3	130	136	220	221	260	269	240	247
Lab pH	Units			8.2	8.08	8.4	8.26	8.3	8.1	8	7.9	8	7.82	7.8	7.68
Langelier Index	None			0.49	0.765	0.49	0.765	0.73	1.05	0.66	1.05	0.77	1.01	0.57	0.863
Odor	TON	3	S	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	700	700	490	520	410	420	570	570	760	780	710	730
Turbidity	NTU	5	S	0.51	0.25	0.3	0.1	0.18	0.1	0.26	0.3	0.15	0.35	0.44	0.2
<b>Metals</b>															
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	3.6	3.5	ND	ND	ND	ND	2	1.9	2	2	1.4	1.3
Barium, Total	ug/l	1000	P	32	30	13	13	33	31	160	150	71	71	54	50
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	3.1	3.2	ND	0.88	1	0.97
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.044	0.023	0.046	0.025	ND	0.056	3	3.2	0.8	0.84	0.92	0.96
Copper, Total	ug/l	1300	P	ND	0.74	ND	ND	ND	ND	ND	0.65	ND	0.58	ND	0.67
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	0.014	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
Magnesium, Total	mg/l			4.3	4.09	2.5	2.58	5.2	5.43	12	11.8	16	16.3	15	15.5
Manganese, Total	ug/l	50	S	9.4	8.6	18	18	21	21	ND	ND	ND	ND	ND	ND
Mercury	ug/l	2	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	0.91	ND	ND	1.1	ND	2.5
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
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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
TBA	ug/l	12	N												
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.74	0.68	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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	0.37	2.7	2.3	ND	0.26
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	2.2	1.8	0.84	0.62	0.8	0.7
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.7	1.5	1.4	1.1	0.6	0.39	0.54	0.43	0.71	0.44	0.64	0.42

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 28 of 37

Constituents	Units	MCL	MCL Type	Pico #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/18/2021	3/18/2021	8/13/2021	3/18/2021	8/13/2021	3/18/2021	8/13/2021	
<b>General Minerals</b>											
Alkalinity	mg/l			300	160	170	260	210	220	230	
Anion Sum	meq/l			6.1	4.9	5	11	9.6	10	11	
Bicarbonate as HCO3	mg/l			360	190	210	310	250	260	280	
Boron	mg/l	1	N	0.64	0.067	0.072	0.12	0.12	0.25	0.25	
Bromide	ug/l			26	48	ND	190	ND	200	ND	
Calcium, Total	mg/l			8.6	61	58	120	121	98	99.6	
Carbon Dioxide	mg/l			2.4	2.5	4.02	5.1	12.5	4.3	14.7	
Carbonate as CO3	mg/l			5.9	ND	ND	2	ND	ND	ND	
Cation Sum	meq/l			5.7	4.9	4.7	9.7	9.5	10	11	
Chloride	mg/l	500	S	2.9	16	14	88	86	110	110	
Fluoride	mg/l	2	P	0.27	0.28	0.22	0.31	0.23	0.28	0.19	
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	
Iodide	ug/l			7.8	4.8	1.3	15	4	ND	ND	
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	14	16	
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	3.1	3.6	
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	
Potassium, Total	mg/l			3.7	2.6	2.9	4.3	4.5	5.4	5.6	
Sodium, Total	mg/l			110	21	21	41	40	87	89	
Sulfate	mg/l	500	S	ND	61	54	150	150	140	140	
Total Dissolved Solid (TDS)	mg/l	1000	S	360	270	280	530	580	580	680	
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	3.1	3.6	
<b>General Physical Properties</b>											
Apparent Color	ACU	15	S	30	ND	5	10	15	ND	ND	
Hardness (Total, as CaCO3)	mg/l			34	200	185	380	384	320	325	
Lab pH	Units			8.4	8.1	7.74	8	7.52	8	7.32	
Langelier Index	None			0.47	0.76	0.838	1.1	0.955	0.95	0.691	
Odor	TON	3	S	2	ND	ND	2	ND	ND	ND	
Specific Conductance	umho/cm	1600	S	560	470	460	920	940	1000	1100	
Turbidity	NTU	5	S	5.9	1.9	1	5.6	3.7	0.12	0.15	
<b>Metals</b>											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	
Arsenic, Total	ug/l	10	P	5	ND	0.5	ND	0.54	2.6	2.3	
Barium, Total	ug/l	1000	P	18	79	70	89	81	65	63	
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	
Chromium, Total	ug/l	50	P	ND	ND	0.23	ND	0.23	ND	0.93	
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.027	ND	ND	ND	ND	0.73	0.84	
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	
Iron, Total	mg/l	0.3	S	0.083	0.27	0.26	<b>0.51</b>	<b>0.5</b>	ND	ND	
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	
Magnesium, Total	mg/l			3	11	9.9	20	20	18	19	
Manganese, Total	ug/l	50	S	33	21	19	16	15	ND	ND	
Mercury	ug/l	2	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	3	
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	
<b>Volatile Organic Compounds</b>											
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 (Methyl Chloride)	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	
TBA	ug/l	12	N								
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	
<b>Others</b>											
1,4-Dioxane	ug/l	1	N	ND	ND	0.18	ND	0.6	ND	0.34	
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	0.63	ND	
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	
Total Organic Carbon	mg/l			4.2	0.96	ND	1.2	0.52	0.46	0.37	

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 29 of 37

Constituents	Units	MCL	MCL Type	Pico #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/18/2021	8/19/2021	3/18/2021	8/19/2021	3/18/2021	8/19/2021	3/18/2021	8/19/2021	3/18/2021	8/19/2021	3/18/2021	8/19/2021
<b>General Minerals</b>															
Alkalinity	mg/l			190	210	200	200	190	200	150	160	130	140	97	110
Anion Sum	meq/l			8.7	9	10	10	9	9.2	9.1	8.6	7.3	7.6	4.2	5.4
Bicarbonate as HCO3	mg/l			230	260	250	250	230	240	180	190	160	170	120	130
Boron	mg/l	1	N	0.058	0.063	0.15	0.16	0.16	0.17	0.26	0.26	0.22	0.22	0.12	0.11
Bromide	ug/l			180	ND	200	ND	160	ND	150	ND	120	ND	59	ND
Calcium, Total	mg/l			120	118	120	121	100	104	72	65.2	49	49.1	31	36.8
Carbon Dioxide	mg/l			4.8	5.8	5.2	9.82	4.7	7.59	3.7	8.03	4.2	10.3	3.9	10.7
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			8.9	8.9	9.9	10	8.9	9.1	8.7	8.2	7.1	7.2	4.2	5
Chloride	mg/l	500	S	66	66	100	100	87	87	120	110	98	97	40	65
Fluoride	mg/l	2	P	0.24	0.18	0.26	0.18	0.31	0.22	0.29	0.22	0.34	0.26	0.32	0.21
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			ND	ND	ND	ND	ND	ND	2.4	ND	1.9	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	14	15	14	15	16	17	24	22	16	18	14	13
Nitrate as Nitrogen	mg/l	10	P	3.2	3.4	3.2	3.5	3.5	3.8	5.4	5.1	3.5	4	3.1	3
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.7	4.2	4	4.5	4.2	4.8	4.5	4.8	4.7	5	5.9	6.9
Sodium, Total	mg/l			26	26	42	43	46	47	85	84	78	80	42	47
Sulfate	mg/l	500	S	130	130	140	140	120	120	100	95	81	83	45	54
Total Dissolved Solid (TDS)	mg/l	1000	S	530	580	580	660	510	570	510	540	430	440	250	300
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	3.2	3.4	3.2	3.5	3.5	3.8	5.4	5.1	3.5	4	3.1	3
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3
Hardness (Total, as CaCO3)	mg/l			390	384	400	403	330	345	240	222	180	181	110	138
Lab pH	Units			8	7.37	7.9	7.51	7.9	7.56	7.9	7.39	7.8	7.25	7.7	7.12
Langelier Index	None			1.1	0.794	0.95	0.908	0.85	0.91	0.56	0.447	0.27	-0.368	-0.17	-0.692
Odor	TON	3	S	ND	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	840	870	960	1000	870	900	910	870	740	770	440	530
Turbidity	NTU	5	S	0.11	ND	0.24	ND	0.18	0.1	0.27	0.1	0.15	0.1	0.3	1.2
<b>Metals</b>															
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	0.5
Arsenic, Total	ug/l	10	P	1.4	1.4	2.1	1.9	1.6	1.5	2.4	2.2	ND	0.9	7.8	7.2
Barium, Total	ug/l	1000	P	100	100	96	95	90	90	70	64	84	82	82	100
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	1	1.1	ND	0.84	1.2	1.3	ND	0.54	ND	1	ND	0.32
Hexavalent Chromium (Cr VI)	ug/l	10	P	1	1.3	0.85	1.1	1.2	1.6	0.38	0.82	0.5	0.68	0.2	0.36
Copper, Total	ug/l	1300	P	ND	0.9	ND	0.74	ND	0.69	ND	0.99	3.7	1.4	ND	1.6
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	0.21	ND	ND	ND	ND	ND	0.78
Magnesium, Total	mg/l			21	21.6	24	24.7	20	20.9	15	14.3	14	14.1	9	11.3
Manganese, Total	ug/l	50	S	ND	ND	ND	ND	ND	ND	ND	ND	31	15	ND	ND
Mercury	ug/l	2	P	ND	ND	ND	0.051	ND	0.052	ND	0.061	ND	0.057	ND	0.054
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	2.1	ND	2.6	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	1.1	ND	1.2	ND	1.1	ND	0.85	ND	1.7	ND	0.81
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
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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
TBA	ug/l	12	N												
Tetrachloroethylene (PCE)	ug/l	5	P	0.66	0.71	0.68	0.64	1.9	1.8	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	0.93	1.1	0.9	1.1	2	2.5	ND	2.2	1.8	5.5
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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	2.6	2.7	ND	0.66	1.4	1.5	ND	0.69	ND	0.53	ND	0.27
Perchlorate	ug/l	6	P	1.6	ND	0.54	ND	0.91	ND	ND	ND	0.3	3.5	1	
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.29	ND	1.2	ND	1.1	ND	1.2	0.44	1.1	0.5	1.3	0.55

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 30 of 37

Constituents	Units	MCL	MCL Type	Rio Hondo #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/26/2021	8/11/2021	4/26/2021	8/11/2021	4/26/2021	8/11/2021	4/26/2021	8/11/2021	4/26/2021	8/11/2021	4/26/2021	8/11/2021
<b>General Minerals</b>															
Alkalinity	mg/l			140	160	160	190	190	200	110	120	110	120	100	110
Anion Sum	meq/l			4.4	4.9	6.8	7.3	8.2	8.6	4.8	5.1	5.1	5.2	3.4	4.2
Bicarbonate as HCO <sub>3</sub>	mg/l			180	200	200	230	230	240	140	150	140	150	120	140
Boron	mg/l	1	N	0.061	0.07	0.053	0.057	0.15	0.16	0.14	0.14	0.15	0.15	0.11	0.11
Bromide	ug/l			98	ND	120	ND	150	ND	92	ND	85	ND	41	ND
Calcium, Total	mg/l			40	41.5	87	88	92	94	40	39	43	42	25	30
Carbon Dioxide	mg/l			ND	ND	3.3	5.8	3.8	5.8	2.9	4.46	3.6	8.03	3.1	8.03
Carbonate as CO <sub>3</sub>	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			4.4	4.6	6.8	6.8	8.2	8.3	4.8	4.7	5	4.9	3.4	3.9
Chloride	mg/l	500	S	17	20	43	45	73	77	38	38	48	45	18	33
Fluoride	mg/l	2	P	0.24	0.2	0.21	0.17	0.28	0.22	0.33	0.28	0.28	0.23	0.38	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			36	23	9.2	3	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO <sub>3</sub> )	mg/l	45	P	ND	ND	ND	ND	9.8	11	6.9	7.5	10	11	6.9	9.3
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	2.2	2.5	1.6	1.7	2.3	2.5	1.6	2.1
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.5	3.1	3.2	3.6	3.9	4.3	2.9	3.2	3	3.4	2.7	3.4
Sodium, Total	mg/l			39	40	25	25	48	49	47	47	47	47	36	39
Sulfate	mg/l	500	S	47	51	110	110	110	110	65	70	62	65	33	42
Total Dissolved Solid (TDS)	mg/l	1000	S	270	260	430	440	500	520	310	280	310	300	210	230
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	2.2	2.5	1.6	1.7	2.3	2.5	1.6	2.1
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	ND	ND	ND	4	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO <sub>3</sub> )	mg/l			130	137	280	283	300	303	130	128	140	139	89	105
Lab pH	Units			8.2	7.93	8	7.65	8	7.67	7.9	7.53	7.8	7.39	7.8	7.32
Langelier Index	None			0.62	0.864	0.85	0.934	0.85	0.986	0.16	0.307	0.095	-0.331	-0.16	-0.562
Odor	TON	3	S	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	430	450	640	680	800	850	490	500	520	520	340	420
Turbidity	NTU	5	S	0.72	0.15	0.36	0.15	0.2	ND	0.34	0.1	0.36	0.15	0.76	0.3
<b>Metals</b>															
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	0.67	2.1	2	2.8	2.5	1.7	1.6	1.3	1.3
Barium, Total	ug/l	1000	P	20	18	53	49	140	120	55	47	58	50	56	61
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	0.55	ND	0.65	ND	0.69	ND	0.65
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.023	0.035	0.021	ND	0.56	0.77	0.69	0.91	0.68	0.85	0.66	0.8
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	0.75	ND	0.62	ND	0.64	ND	0.65
Iron, Total	mg/l	0.3	S	ND	ND	0.066	0.067	ND	ND	ND	ND	ND	ND	0.014	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			8	8.21	15	15.3	17	17	7.7	7.5	9	8.65	6.5	7.5
Manganese, Total	ug/l	50	S	25	21	28	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
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	0.68	ND	0.78	ND	1	ND	1	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
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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
TBA	ug/l	12	N												
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	1.6	1.5	0.66	2.7
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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	ND	ND	4	4.4	1.1	1.1	ND	0.14	ND	0.19	ND	0.11
Perchlorate	ug/l	6	P	ND	ND	ND	ND	0.36	ND	ND	ND	ND	ND	0.57	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.34	ND	0.32	ND	0.38	0.35	0.39	0.34	0.31	ND	0.32	ND

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

**TABLE 3.1  
CENTRAL BASIN WATER QUALITY RESULTS  
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021  
Page 31 of 37**

Constituents	Units	MCL	MCL Type	Seal Beach #1													
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				3/25/2021	8/18/2021	3/25/2021	8/18/2021	3/25/2021	8/18/2021	3/25/2021	8/18/2021	3/25/2021	8/18/2021	3/25/2021	8/18/2021	3/25/2021	8/18/2021
<b>General Minerals</b>																	
Alkalinity	mg/l			230	230	160	160	150	160	180	190	73	88	100	120	210	220
Anion Sum	meq/l			5.1	5.2	3.6	3.8	3.5	3.7	4.1	4.4	8.6	9.1	7.2	7.9	33	29
Bicarbonate as HCO3	mg/l			270	290	190	180	180	180	210	230	89	110	120	150	250	270
Boron	mg/l	1	N	0.24	0.26	0.14	0.15	0.19	0.2	0.22	0.25	0.062	0.068	0.16	0.18	0.19	0.19
Bromide	ug/l			180	ND	99	ND	84	ND	130	ND	740	740	94	ND	3000	3200
Calcium, Total	mg/l			5.5	5.84	3.6	3.79	3.6	3.79	5.5	6.01	51	58.6	64	70.9	300	301
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20	8.03
Carbonate as CO3	mg/l			11	ND	12	20	12	21	6.8	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			4.9	5.3	3.5	3.7	3.4	3.6	4	4.4	8.1	9.3	7.1	7.8	32	33
Chloride	mg/l	500	S	17	19	14	16	13	15	17	19	230	230	71	77	<b>820</b>	<b>710</b>
Fluoride	mg/l	2	P	0.4	0.29	0.52	0.37	0.58	0.42	0.77	0.63	0.28	0.19	0.33	0.24	0.3	0.51
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			58	40	18	18	23	14	41	23	9	4.9	12	3.8	210	89
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	0.93	ND	0.73	ND	0.68	ND	0.99	2	2.6	2.1	2.7	7.5	7.8
Sodium, Total	mg/l			100	110	76	81	73	77	84	94	120	140	67	73	250	280
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	36	40	150	160	270	230
Total Dissolved Solid (TDS)	mg/l	1000	S	330	340	240	210	220	210	260	260	550	570	450	480	<b>2100</b>	<b>2200</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>																	
Apparent Color	ACU	15	S	<b>180</b>	<b>300</b>	<b>100</b>	<b>220</b>	<b>100</b>	<b>120</b>	<b>150</b>	<b>200</b>	ND	ND	ND	ND	5	
Hardness (Total, as CaCO3)	mg/l			15	14.6	10	9.46	9.8	9.46	16	17.6	140	160	200	227	1000	1020
Lab pH	Units			8.8	8.65	9	8.9	9	8.91	8.7	8.6	8.3	8.13	8.2	8	7.3	7.74
Langelier Index	None			0.5	0.856	0.42	0.792	0.42	0.801	0.36	0.761	0.47	0.87	0.64	0.979	0.74	1.4
Odor	TON	3	S	3	2	2	2	3	2	2	4	2	ND	2	ND	ND	ND
Specific Conductance	umho/cm	1600	S	480	490	350	360	340	340	400	400	940	1000	720	760	<b>3200</b>	<b>3600</b>
Turbidity	NTU	5	S	0.67	0.25	0.42	0.15	0.31	0.15	1.1	0.4	1.4	0.8	0.18	0.15	1.2	0.95
<b>Metals</b>																	
Aluminum, Total	ug/l	1000	P	32	31	34	31	28	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	ND	ND
Arsenic, Total	ug/l	10	P	ND	0.63	ND	ND	ND	ND	ND	0.52	ND	0.43	ND	0.49	2.3	1.9
Barium, Total	ug/l	1000	P	8	8.2	4.5	4.1	3.6	3.6	4.8	5.1	54	58	110	120	98	98
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
Chromium, Total	ug/l	50	P	ND	0.82	ND	0.41	ND	0.38	ND	0.85	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.099	0.022	0.077	0.17	0.064	0.14	0.083	0.12	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	0.83	ND	0.98	ND	ND	ND	0.8	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.05	0.052	0.024	ND	0.021	ND	0.039	0.041	ND	ND	0.026	ND	0.25	0.25
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			0.42	ND	0.31	ND	0.21	ND	0.56	0.622	3	3.35	11	12.2	64	66
Manganese, Total	ug/l	50	S	6.5	6.3	3.9	3.6	2.2	2.3	7.7	7.9	22	21	<b>92</b>	<b>100</b>	<b>690</b>	<b>700</b>
Mercury	ug/l	2	P	ND	0.063	ND	0.053	ND	0.052	ND	0.053	ND	ND	ND	0.055	ND	0.051
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	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
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
<b>Volatile Organic Compounds</b>																	
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 (Methyl Chloride)	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
TBA	ug/l	12	N		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
<b>Others</b>																	
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.098	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			11	6.3	5	2.6	4.1	2.2	7.3	3.8	0.45	0.36	1.1	1.1	1.1	0.55

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 32 of 37

Constituents	Units	MCL	MCL Type	South Gate #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/3/2021	9/14/2021	5/3/2021	9/14/2021	5/3/2021	9/14/2021	5/3/2021	9/14/2021	5/3/2021	9/14/2021
<b>General Minerals</b>													
Alkalinity	mg/l			170	170	140	140	160	160	180	180	210	220
Anion Sum	meq/l			5.1	5.3	6.4	6.6	6.5	6.8	7.5	7.9	9.5	9.8
Bicarbonate as HCO3	mg/l			200	210	170	180	190	190	210	220	260	270
Boron	mg/l	1	N	0.11	0.11	0.14	0.14	0.12	0.12	0.16	0.16	0.14	0.14
Bromide	ug/l			100	ND	120	ND	110	ND	150	ND	440	ND
Calcium, Total	mg/l			48	49.9	66	65.2	71	71.9	78	78.9	98	99
Carbon Dioxide	mg/l			2.1	ND	2.2	ND	2.5	2.68	3.4	5.36	4.3	5.36
Carbonate as CO3	mg/l			2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			5	5.1	6.3	6.3	6.5	6.6	7.4	7.4	9.3	9.3
Chloride	mg/l	500	S	21	23	52	56	45	50	57	62	100	100
Fluoride	mg/l	2	P	0.29	0.23	0.3	0.24	0.36	0.29	0.37	0.3	0.41	0.32
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			28	16	10	6	ND	ND	ND	ND	110	65
Nitrate (as NO3)	mg/l	45	P	ND	ND	9	10	8.7	9.7	6.9	7.8	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2	2.2	2	2.2	1.6	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			2.2	2.3	3.1	3.1	2.6	2.7	3.2	3.2	2.8	2.9
Sodium, Total	mg/l			44	44	46	45	39	39	51	50	52	52
Sulfate	mg/l	500	S	53	57	91	97	94	100	110	110	120	120
Total Dissolved Solid (TDS)	mg/l	1000	S	300	290	390	400	410	420	460	460	550	580
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	2	2.2	2	2.2	1.6	1.8	ND	ND
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	5	ND
Hardness (Total, as CaCO3)	mg/l			150	157	210	211	230	240	260	259	350	352
Lab pH	Units			8.2	8.06	8.1	7.87	8.1	7.88	8	7.75	8	7.83
Langelier Index	None			0.72	1.09	0.72	0.901	0.81	1.01	0.77	0.958	0.98	1.2
Odor	TON	3	S	ND	ND	1	ND	ND	ND	ND	ND	ND	2
Specific Conductance	umho/cm	1600	S	470	490	650	630	660	640	740	730	920	900
Turbidity	NTU	5	S	0.22	0.1	0.26	0.1	0.16	0.15	0.17	0.1	0.5	0.3
<b>Metals</b>													
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	2.1	3.2	2.6	2.9	2.6	2	1.7	2.3	2
Barium, Total	ug/l	1000	P	140	130	100	84	150	140	79	74	240	220
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	0.77	ND	0.56	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	0.041	0.75	0.82	0.54	0.58	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	0.76	ND	0.75	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.034	0.032	ND	ND	ND	ND	ND	ND	0.12	0.11
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			7.5	7.78	12	11.7	14	14.6	15	15.2	25	25.4
Manganese, Total	ug/l	50	S	42	42	3.3	3.1	ND	ND	ND	ND	<b>120</b>	<b>120</b>
Mercury	ug/l	2	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	0.63	ND	0.96	ND	1.2	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
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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	0.57	0.5	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
TBA	ug/l	12	N		ND		ND		ND		ND		ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	3.3	3.7	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	0.97	1.4	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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	ND	ND	<b>1.6</b>	<b>1.8</b>	<b>3</b>	<b>3.3</b>	<b>1.4</b>	<b>1.8</b>	ND	ND
Perchlorate	ug/l	6	P	ND	ND	0.65	0.62	1.6	1.4	ND	0.37	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.055
Total Organic Carbon	mg/l			0.33	0.33	0.33	0.3	0.3	ND	0.33	0.38	0.9	0.94

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 33 of 37

Constituents	Units	MCL	MCL Type	South Gate #2					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				9/20/2021	9/20/2021	9/20/2021	9/20/2021	9/20/2021	9/20/2021
<b>General Minerals</b>									
Alkalinity	mg/l			180	190	180	180	180	200
Anion Sum	meq/l			5.9	6	5.8	5.9	6.5	6.4
Bicarbonate as HCO3	mg/l			220	230	220	220	210	250
Boron	mg/l	1	N	0.13	0.13	0.1	0.13	0.14	0.14
Bromide	ug/l			ND	ND	ND	ND	ND	ND
Calcium, Total	mg/l			57.5	58.5	58.3	57.1	62.8	63
Carbon Dioxide	mg/l			2.68	ND	ND	2.68	4.91	5.8
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.7	5.8	5.6	5.8	6.3	6.3
Chloride	mg/l	500	S	22	22	22	22	34	25
Fluoride	mg/l	2	P	0.32	0.31	0.2	0.34	0.36	0.41
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			16	16	19	16	ND	9.8
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	2.4	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	0.54	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.4	3.5	2.2	3.3	3.5	2.9
Sodium, Total	mg/l			39	41	44	42	42	43
Sulfate	mg/l	500	S	80	79	77	81	94	81
Total Dissolved Solid (TDS)	mg/l	1000	S	340	350	290	340	370	340
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	0.54	ND
<b>General Physical Properties</b>									
Apparent Color	ACU	15	S	ND	3	4	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			197	199	184	192	221	220
Lab pH	Units			7.95	7.92	8.03	7.87	7.78	7.74
Langelier Index	None			1.05	1.05	1.15	0.969	0.912	0.928
Odor	TON	3	S	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	540	550	540	550	600	590
Turbidity	NTU	5	S	0.1	0.2	0.1	0.15	0.1	0.1
<b>Metals</b>									
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	ND	1.9	1.7	0.71	0.78	0.68
Barium, Total	ug/l	1000	P	56	67	93	96	74	93
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	2	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	2.1	0.02
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	0.7	1
Iron, Total	mg/l	0.3	S	0.047	0.13	0.038	ND	ND	0.032
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			13.1	12.8	9.38	12	15.7	15.2
Manganese, Total	ug/l	50	S	<b>56</b>	39	<b>88</b>	22	5.8	<b>54</b>
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	1.8	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>									
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	0.25	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.32	0.3	ND	ND	0.3	ND

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 34 of 37

Constituents	Units	MCL	MCL Type	Whitter #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/8/2021	9/14/2021	3/8/2021	9/14/2021	3/8/2021	9/14/2021	3/8/2021	9/14/2021	3/8/2021	9/14/2021
<b>General Minerals</b>													
Alkalinity	mg/l			260	270	280	290	290	300	260	270	230	240
Anion Sum	meq/l			42	35	40	34	32	29	12	12	11	12
Bicarbonate as HCO <sub>3</sub>	mg/l			320	340	350	360	360	370	320	330	280	300
Boron	mg/l	1	N	0.86	0.85	0.95	0.92	0.71	0.72	0.19	0.2	0.15	0.16
Bromide	ug/l			1300	1200	1200	1100	1000	900	290	ND	310	ND
Calcium, Total	mg/l			190	187	190	179	190	177	80	79.1	81	80.2
Carbon Dioxide	mg/l			10	18.3	11	13.8	12	9.37	10	13.8	9.2	5.36
Carbonate as CO <sub>3</sub>	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			39	39	37	36	32	31	11	11	11	11
Chloride	mg/l	500	S	280	230	240	210	220	190	80	82	87	90
Fluoride	mg/l	2	P	0.28	0.2	0.29	0.22	0.46	0.34	0.21	0.15	0.3	0.25
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			190	120	210	100	130	91	95	63	1.9	ND
Nitrate (as NO <sub>3</sub> )	mg/l	45	P	ND	ND	ND	ND	ND	ND	18	19	24	26
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	4	4.3	5.5	5.9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			13	12	12	11	6.6	8.6	4.2	4.3	3.4	3.7
Sodium, Total	mg/l			420	430	400	390	310	310	100	100	85	86
Sulfate	mg/l	500	S	<b>1400</b>	<b>1100</b>	<b>1300</b>	<b>1100</b>	<b>950</b>	<b>850</b>	190	190	180	180
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>2700</b>	<b>2700</b>	<b>2500</b>	<b>2600</b>	<b>2100</b>	<b>2100</b>	690	720	680	710
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	4	4.3	5.5	5.9
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	15	<b>20</b>	10	<b>20</b>	10	12	ND	ND	ND	ND
Hardness (Total, as CaCO <sub>3</sub> )	mg/l			1000	999	1000	949	890	860	340	341	360	358
Lab pH	Units			7.7	7.59	7.7	7.63	7.7	7.63	7.7	7.66	7.7	7.63
Langelier Index	None			1	1.1	1	1.15	1	1.2	0.68	0.993	0.63	0.919
Odor	TON	3	S	2	ND	2	ND	2	ND	3	ND	ND	ND
Specific Conductance	umho/cm	1600	S	<b>3400</b>	<b>4000</b>	<b>3200</b>	<b>3900</b>	<b>2700</b>	<b>3200</b>	1100	1100	1000	1000
Turbidity	NTU	5	S	4.5	2.9	3.2	2.1	2.8	2	ND	0.1	0.27	0.1
<b>Metals</b>													
Aluminum, Total	ug/l	1000	P	31	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	1.4	1.4	ND	0.8
Barium, Total	ug/l	1000	P	17	18	17	17	25	25	32	34	27	29
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	3.6	3.6
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	0.02	0.026	3.7	3.9
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	<b>0.57</b>	<b>0.56</b>	<b>0.45</b>	<b>0.43</b>	<b>0.36</b>	<b>0.36</b>	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			130	129	130	122	100	102	35	34.7	39	38.4
Manganese, Total	ug/l	50	S	49	50	<b>66</b>	<b>65</b>	<b>76</b>	<b>75</b>	22	22	2.7	2.7
Mercury	ug/l	2	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	11	11	17	16
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	52	ND	ND	ND	330	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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
TBA	ug/l	12	N										
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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	1.2	1.2	2.5	2.3
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.9	1.8	2.7	2.2	2.4	1.8	0.81	0.3	0.27	0.34

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



**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 35 of 37

Constituents	Units	MCL	MCL Type	Whittier #2					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				3/29/2021	3/29/2021	3/29/2021	3/29/2021	3/29/2021	3/29/2021
<b>General Minerals</b>									
Alkalinity	mg/l			220	160	210	400	230	350
Anion Sum	meq/l			12	4.2	13	28	12	17
Bicarbonate as HCO3	mg/l			270	190	250	490	280	430
Boron	mg/l	1	N	0.69	0.21	0.24	0.81	0.2	0.36
Bromide	ug/l			1200	140	620	960	340	280
Calcium, Total	mg/l			35	24	87	120	120	150
Carbon Dioxide	mg/l			7	2.5	4.1	20	4.6	11
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			11	4.1	12	27	11	16
Chloride	mg/l	500	S	190	23	130	230	120	110
Fluoride	mg/l	2	P	0.42	0.34	0.31	0.52	0.27	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			220	38	30	130	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	3.2	11	21	29
Nitrate as Nitrogen	mg/l	10	P	ND	ND	0.73	2.4	4.8	6.6
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.3	2.1	4.1	4.4	4.7	5
Sodium, Total	mg/l			170	58	110	330	77	130
Sulfate	mg/l	500	S	81	19	230	<b>630</b>	160	300
Total Dissolved Solid (TDS)	mg/l	1000	S	670	260	770	<b>1700</b>	710	1000
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	0.73	2.4	4.8	6.6
<b>General Physical Properties</b>									
Apparent Color	ACU	15	S	<b>25</b>	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			160	76	360	630	390	530
Lab pH	Units			7.8	8.1	8	7.6	8	7.8
Langelier Index	None			0.31	0.32	0.93	0.92	1	1.1
Odor	TON	3	S	2	1	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	1200	410	1200	<b>2400</b>	1100	1500
Turbidity	NTU	5	S	3.9	0.42	0.28	ND	0.45	0.26
<b>Metals</b>									
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	5.5	ND	1.1	ND	1.1	1.3
Barium, Total	ug/l	1000	P	20	27	56	14	76	30
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	3.7	ND	2.4	4.5
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	3.3	0.08	2.2	4.5
Copper, Total	ug/l	1300	P	ND	ND	ND	2.1	ND	ND
Iron, Total	mg/l	0.3	S	<b>1.1</b>	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			17	3.9	36	81	23	37
Manganese, Total	ug/l	50	S	<b>140</b>	40	26	<b>120</b>	ND	ND
Mercury	ug/l	2	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	5.9	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>									
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 (Methyl Chloride)	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
TBA	ug/l	12	N						
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	0.71
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	0.59	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
<b>Others</b>									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	<b>2.4</b>	ND
Perchlorate	ug/l	6	P	ND	ND	1.7	1.9	2.6	2.5
Surfactants	mg/l	0.5	S	ND	0.2	ND	ND	ND	ND
Total Organic Carbon	mg/l			1	1.1	1.3	2	0.71	0.5

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 36 of 37

Constituents	Units	MCL	MCL Type	Whittier Narrows #1								
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
				3/17/2021	3/17/2021	3/17/2021	3/17/2021	3/17/2021	3/17/2021	3/18/2021	3/18/2021	3/18/2021
<b>General Minerals</b>												
Alkalinity	mg/l			93	110	140	160	150	170	150	130	160
Anion Sum	meq/l			22	3.2	7.6	8.8	8.7	8.8	7.8	7	9.7
Bicarbonate as HCO3	mg/l			110	130	170	200	190	200	190	150	190
Boron	mg/l	1	N	1.5	0.15	0.097	0.2	0.18	0.24	0.24	0.2	0.27
Bromide	ug/l			6400	190	180	190	180	200	170	170	160
Calcium, Total	mg/l			61	10	100	100	99	80	64	57	74
Carbon Dioxide	mg/l			9	ND	2.2	2.6	2.5	2.1	ND	ND	ND
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	2	2.5	2.4	3.9
Cation Sum	meq/l			19	3.1	7.7	9	8.6	8.7	7.9	7.4	9.5
Chloride	mg/l	500	S	700	26	89	110	110	110	93	89	130
Fluoride	mg/l	2	P	0.9	0.43	0.23	0.25	0.24	0.27	0.29	0.29	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			130	50	ND	11	12	16	8.3	11	11
Nitrate (as NO3)	mg/l	45	P	ND	ND	6.9	6.3	10	6.4	12	13	26
Nitrate as Nitrogen	mg/l	10	P	ND	ND	1.6	1.4	2.3	1.4	2.8	3	5.9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	0.45	ND	ND	ND
Potassium, Total	mg/l			3.2	1.2	2.9	4.7	4.7	5.2	5	4.9	9.2
Sodium, Total	mg/l			340	58	38	64	55	81	84	82	89
Sulfate	mg/l	500	S	ND	11	100	110	110	100	89	84	120
Total Dissolved Solid (TDS)	mg/l	1000	S	1200	180	450	520	490	500	460	440	570
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	1.6	1.4	2.3	1.8	2.8	3	5.9
<b>General Physical Properties</b>												
Apparent Color	ACU	15	S	150	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			200	27	290	300	300	250	200	180	270
Lab pH	Units			7.3	8.3	8.1	8.1	8.1	8.2	8.3	8.4	8.5
Langelier Index	None			-0.34	-0.039	0.89	0.99	0.91	1	0.9	0.92	1.2
Odor	TON	3	S	3	ND	ND	ND	ND	2	ND	ND	3
Specific Conductance	umho/cm	1600	S	2300	320	720	880	860	870	790	740	970
Turbidity	NTU	5	S	140	0.72	2	1.4	0.79	1.5	9.5	0.79	1.2
<b>Metals</b>												
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	6.8	2.2	ND	1.4	1.1	1.5	2	1.3	ND
Barium, Total	ug/l	1000	P	490	23	150	150	200	100	76	62	98
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
Chromium, Total	ug/l	50	P	2.2	8.6	6.9	13	6.8	3.8	5.1	8.8	8.7
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.034	0.43	0.035	0.14	0.032	0.037	0.042	0.04
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	2	2.4	3	8.6
Iron, Total	mg/l	0.3	S	10	0.055	0.059	0.02	0.013	ND	0.032	0.022	0.022
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			13	0.44	10	12	14	12	11	10	20
Manganese, Total	ug/l	50	S	660	14	3.4	15	22	20	22	22	280
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	5.3	13	12	8	13	7.7	22	32
Selenium, Total	ug/l	50	P	11	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	36	ND	ND	ND	21	ND	ND	60	67
<b>Volatile Organic Compounds</b>												
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 (Methyl Chloride)	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
TBA	ug/l	12	N									
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
<b>Others</b>												
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	0.12	ND	ND	ND	ND	0.1	ND	ND	0.14
Total Organic Carbon	mg/l			12	0.82	0.53	0.85	0.77	1.1	1.1	1.2	2.1

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

**TABLE 3.1**  
**CENTRAL BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 37 of 37

Constituents	Units	MCL	MCL Type	Willowbrook #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				5/10/2021	8/25/2021	5/10/2021	8/25/2021	5/10/2021	8/25/2021	5/10/2021	8/25/2021
<b>General Minerals</b>											
Alkalinity	mg/l			230	260	190	210	180	200	190	220
Anion Sum	meq/l			5.4	6	5.1	5.5	5.9	6.4	6	6.6
Bicarbonate as HCO3	mg/l			280	300	230	250	220	240	230	260
Boron	mg/l	1	N	0.16	0.16	0.12	0.12	0.13	0.13	0.13	0.13
Bromide	ug/l			100	ND	98	ND	98	ND	130	ND
Calcium, Total	mg/l			39	39.2	51	50.8	60	59.9	62	62.7
Carbon Dioxide	mg/l			3.6	ND	2.4	ND	ND	4.04	2.4	3.59
Carbonate as CO3	mg/l			2.3	8.4	2.4	5.4	2.8	4.1	2.4	5.3
Cation Sum	meq/l			5.4	5.5	5.1	5.1	5.9	5.9	6.1	6.1
Chloride	mg/l	500	S	18	20	20	22	23	24	32	33
Fluoride	mg/l	2	P	0.32	0.23	0.31	0.23	0.38	0.32	0.35	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			30	17	28	15	32	13	37	23
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			4.1	4.4	2.4	2.8	3.4	3.6	3	3.2
Sodium, Total	mg/l			63	63	40	41	40	40	46	46
Sulfate	mg/l	500	S	12	16	34	29	79	79	61	62
Total Dissolved Solid (TDS)	mg/l	1000	S	300	290	290	270	350	300	340	310
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>											
Apparent Color	ACU	15	S	5	10	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			130	131	160	165	200	203	200	202
Lab pH	Units			8.1	7.8	8.2	7.99	8.3	7.83	8.2	7.85
Langelier Index	None			0.7	0.911	0.77	1.13	1	1.01	0.9	1.09
Odor	TON	3	S	3	ND	ND	ND	ND	ND	2	ND
Specific Conductance	umho/cm	1600	S	490	530	480	490	560	580	570	590
Turbidity	NTU	5	S	0.32	2.7	0.12	0.1	0.41	0.25	9.7	12
<b>Metals</b>											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	150	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	4	3.9	ND	ND	3.1	2.9	5.2	4.7
Barium, Total	ug/l	1000	P	45	44	52	52	82	76	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
Chromium, Total	ug/l	50	P	1.1	0.35	ND	ND	ND	ND	1.6	1.3
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.044	0.047	0.033	0.08	0.021	0.036	0.024	0.033
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.075	0.07	0.014	ND	0.085	0.084	0.22	0.075
Lead, Total	ug/l	15	P	ND	0.22	ND	ND	ND	ND	ND	0.46
Magnesium, Total	mg/l			7.7	7.98	9	9.19	13	13	11	11
Manganese, Total	ug/l	50	S	53	53	46	45	29	28	99	98
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	11
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
<b>Volatile Organic Compounds</b>											
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.2	1	0.93	ND	0.99	ND	1.1	ND

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

PAGE LEFT INTENTIONALLY BLANK

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 1 of 22

Constituents	Units	MCL	MCL Type	Carson #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/1/2021	7/22/2021	3/1/2021	7/22/2021	3/1/2021	7/22/2021	3/1/2021	7/22/2021
<b>General Minerals</b>											
Alkalinity	mg/l			140	160	170	180	170	180	190	200
Anion Sum	meq/l			3.5	3.7	4	4.3	5.3	5.4	6.7	6.8
Bicarbonate as HCO3	mg/l			180	190	210	220	200	220	230	240
Boron	mg/l	1	N	0.094	0.1	0.1	0.11	0.1	0.11	0.12	0.13
Bromide	ug/l			100	ND	100	ND	110	ND	250	ND
Calcium, Total	mg/l			20	21	33	33	45	45	56	56.3
Carbon Dioxide	mg/l			3.7	ND	3.4	ND	2.1	ND	3.8	5.13
Carbonate as CO3	mg/l			ND	ND	ND	ND	2	ND	ND	ND
Cation Sum	meq/l			3.4	3.6	4	4.1	5.2	5.3	6.6	6.8
Chloride	mg/l	500	S	20	21	21	22	23	23	50	49
Fluoride	mg/l	2	P	0.24	0.21	0.2	0.17	0.28	0.24	0.36	0.32
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			26	21	29	21	41	24	73	59
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	3	2.2	2.6	2.8	3.1	3.6	3.9
Sodium, Total	mg/l			46	50	41	42	44	45	56	59
Sulfate	mg/l	500	S	ND	ND	ND	ND	61	57	74	69
Total Dissolved Solid (TDS)	mg/l	1000	S	210	220	230	240	290	320	380	410
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>											
Apparent Color	ACU	15	S	ND	5	ND	5	ND	3	ND	4
Hardness (Total, as CaCO3)	mg/l			66	68.1	110	110	160	162	200	206
Lab pH	Units			7.9	8.15	8	8.11	8.2	8.04	8	7.75
Langelier Index	None			-0.0056	0.795	0.36	0.998	0.72	1.04	0.66	0.87
Odor	TON	3	S	3	ND	2	ND	ND	ND	1	8
Specific Conductance	umho/cm	1600	S	340	360	380	410	500	530	640	670
Turbidity	NTU	5	S	0.29	ND	0.16	ND	0.27	ND	0.64	0.5
<b>Metals</b>											
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	0.65	ND	ND	ND	ND	ND	0.54
Barium, Total	ug/l	1000	P	14	14	36	36	64	66	160	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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.029	ND	0.036	ND	0.023	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.019	ND	0.023	ND	0.013	ND	0.087	0.088
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			3.8	4	6.7	6.82	12	12.5	15	16
Manganese, Total	ug/l	50	S	17	18	13	14	27	29	<b>100</b>	<b>100</b>
Mercury	ug/l	2	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	0.23	ND	0.24	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
<b>Volatile Organic Compounds</b>											
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.89	0.71	0.89	ND	0.54	ND	1.1	0.43

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 2 of 22

Constituents	Units	MCL	MCL Type	Carson #2				
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
				3/15/2021	3/15/2021	3/15/2021	3/15/2021	3/15/2021
<b>General Minerals</b>								
Alkalinity	mg/l			170	190	180	180	180
Anion Sum	meq/l			3.8	4.5	4.8	4.3	4.6
Bicarbonate as HCO3	mg/l			200	230	220	220	210
Boron	mg/l	1	N	0.14	0.13	0.12	0.11	0.11
Bromide	ug/l			120	100	100	110	99
Calcium, Total	mg/l			2.6	14	33	35	43
Carbon Dioxide	mg/l			ND	ND	ND	2.3	2.2
Carbonate as CO3	mg/l			3.3	4.7	2.8	2.3	2.2
Cation Sum	meq/l			3.9	4.3	4.8	4.4	4.6
Chloride	mg/l	500	S	18	20	21	21	20
Fluoride	mg/l	2	P	0.35	0.26	0.3	0.23	0.31
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND
Iodide	ug/l			35	27	28	31	23
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND
Potassium, Total	mg/l			1.4	4	4.1	3.4	2.8
Sodium, Total	mg/l			85	72	50	39	38
Sulfate	mg/l	500	S	ND	0.62	29	ND	23
Total Dissolved Solid (TDS)	mg/l	1000	S	230	260	280	250	270
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND
<b>General Physical Properties</b>								
Apparent Color	ACU	15	S	30	5	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			8.2	55	130	130	140
Lab pH	Units			8.4	8.5	8.3	8.2	8.2
Langelier Index	None			-0.36	0.56	0.76	0.61	0.76
Odor	TON	3	S	2	ND	2	ND	ND
Specific Conductance	umho/cm	1600	S	370	420	460	410	440
Turbidity	NTU	5	S	0.31	0.27	0.3	0.21	0.46
<b>Metals</b>								
Aluminum, Total	ug/l	1000	P	20	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	ND	7.6	16	17	27
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.038	0.04	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.019	ND	0.018	0.014	0.053
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			0.41	4.8	11	11	9.2
Manganese, Total	ug/l	50	S	2.7	7.8	14	8.8	43
Mercury	ug/l	2	P	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>								
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND
Chloromethane (Methyl Chloride)	ug/l			ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND
TBA	ug/l	12	N	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND
<b>Others</b>								
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.7	1.7	1.5	1.4	1.2

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 3 of 22

Constituents	Units	MCL	MCL Type	Carson #3											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/21/2021	8/25/2021	4/21/2021	8/25/2021	4/21/2021	8/25/2021	4/21/2021	8/25/2021	4/21/2021	8/25/2021	4/21/2021	8/25/2021
<b>General Minerals</b>															
Alkalinity	mg/l			360	360	150	170	160	170	170	180	190	180	190	
Anion Sum	meq/l			7.6	7.5	3.9	4.2	3.9	4.1	3.9	4.1	4.2	4.4	5.5	
Bicarbonate as HCO3	mg/l			440	440	190	200	200	210	200	210	220	230	230	
Boron	mg/l	1	N	0.64	0.68	0.1	0.11	0.1	0.11	0.091	0.095	0.11	0.12	0.13	
Bromide	ug/l			340	ND	110	ND	110	ND	100	ND	100	ND	99	
Calcium, Total	mg/l			8	8.44	20	20.5	17	17.6	26	25	33	32.3	50	
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbonate as CO3	mg/l			11	ND	3.1	ND	3.3	ND	2.6	ND	3.6	ND	2.8	
Cation Sum	meq/l			6.9	7.6	3.8	4	3.8	4	3.9	4.3	4.3	5.4	5.4	
Chloride	mg/l	500	S	12	13	20	22	21	22	21	22	21	23	21	
Fluoride	mg/l	2	P	0.52	0.43	0.23	0.17	0.28	0.2	0.24	0.19	0.24	0.19	0.34	
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iodide	ug/l			160	76	39	17	29	18	29	17	36	18	28	
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			2.5	2.9	3	3.3	3.2	3.5	3.7	3.9	2.9	3.2	3.4	
Sodium, Total	mg/l			140	160	56	58	61	63	47	47	43	44	41	
Sulfate	mg/l	500	S	ND	ND	10	11	ND	ND	ND	ND	ND	ND	52	
Total Dissolved Solid (TDS)	mg/l	1000	S	420	480	200	210	210	220	200	210	220	220	300	
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	90	150	ND	5	ND	15	ND	5	ND	5	ND	
Hardness (Total, as CaCO3)	mg/l			29	30.5	65	66.7	55	56.6	92	88.4	120	115	170	
Lab pH	Units			8.6	8.37	8.4	8.32	8.4	8.29	8.3	8.19	8.4	8.16	8.3	
Langelier Index	None			0.68	0.9	0.54	0.989	0.5	0.889	0.58	0.947	0.77	1.07	0.86	
Odor	TON	3	S	4	2	ND	ND	4	ND	1	ND	ND	ND	ND	
Specific Conductance	umho/cm	1600	S	690	700	370	380	370	390	370	390	390	420	500	
Turbidity	NTU	5	S	0.46	0.2	0.3	0.4	0.3	0.2	0.18	0.2	0.15	0.15	0.39	
<b>Metals</b>															
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	ND	ND	ND	ND	ND	0.71	ND	0.58	ND	ND	1.4	
Barium, Total	ug/l	1000	P	7.4	7	15	17	19	20	23	24	29	29	68	
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	
Chromium, Total	ug/l	50	P	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.07	0.11	0.033	0.032	0.03	0.03	ND	0.03	ND	ND	ND	
Copper, Total	ug/l	1300	P	ND	0.58	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iron, Total	mg/l	0.3	S	0.046	0.046	ND	ND	0.01	ND	0.019	ND	0.016	ND	0.036	
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Magnesium, Total	mg/l			2.1	2.28	3.7	3.77	3	3.07	6.5	6.34	8.2	8.22	12	
Manganese, Total	ug/l	50	S	15	14	14	16	34	34	46	46	24	24	52	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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	
TBA	ug/l	12	N	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	
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	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	
Surfactants	mg/l	0.5	S	ND	0.055	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total Organic Carbon	mg/l			12	7.6	0.82	0.66	1.1	0.8	0.66	0.48	0.53	0.32	0.31	

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 4 of 22

Constituents	Units	MCL	MCL Type	Chandler #3			
				Zone 1		Zone 2	
				3/4/2021	8/12/2021	3/4/2021	8/12/2021
<b>General Minerals</b>							
Alkalinity	mg/l			360	370	360	390
Anion Sum	meq/l			12	12	14	15
Bicarbonate as HCO3	mg/l			440	450	440	480
Boron	mg/l	1	N	0.2	0.21	0.26	0.28
Bromide	ug/l			650	580	660	ND
Calcium, Total	mg/l			94	91	130	135
Carbon Dioxide	mg/l			11	15.2	23	33.9
Carbonate as CO3	mg/l			ND	ND	ND	ND
Cation Sum	meq/l			12	12	14	15
Chloride	mg/l	500	S	140	150	180	170
Fluoride	mg/l	2	P	0.2	0.16	0.16	0.12
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND
Iodide	ug/l			ND	54	1.4	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	25	36
Nitrate as Nitrogen	mg/l	10	P	ND	ND	5.7	8.2
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND
Potassium, Total	mg/l			4.3	4.6	3.9	4.6
Sodium, Total	mg/l			110	120	92	100
Sulfate	mg/l	500	S	38	37	59	100
Total Dissolved Solid (TDS)	mg/l	1000	S	670	690	800	890
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	5.7	8.2
<b>General Physical Properties</b>							
Apparent Color	ACU	15	S	ND	7.5	ND	ND
Hardness (Total, as CaCO3)	mg/l			340	333	480	507
Lab pH	Units			7.8	7.58	7.5	7.42
Langelier Index	None			0.95	1.12	0.81	1.12
Odor	TON	3	S	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	1200	1200	1300	1600
Turbidity	NTU	5	S	1.2	0.85	2.8	<b>18</b>
<b>Metals</b>							
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	3.1	2.1	2	1.7
Barium, Total	ug/l	1000	P	28	28	130	130
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	1	2.9
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	0.2	3.5
Copper, Total	ug/l	1300	P	ND	ND	ND	1.6
Iron, Total	mg/l	0.3	S	0.23	0.22	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND
Magnesium, Total	mg/l			27	26	39	41.3
Manganese, Total	ug/l	50	S	<b>76</b>	<b>69</b>	14	9.5
Mercury	ug/l	2	P	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	<b>130</b>	78
Selenium, Total	ug/l	50	P	ND	ND	22	12
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
<b>Volatile Organic Compounds</b>							
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>							
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	1.2	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.2	1.1	2	0.69

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



**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 5 of 22

Constituents	Units	MCL	MCL Type	Gardena #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/15/2021	9/16/2021	3/15/2021	9/16/2021	3/15/2021	9/16/2021	3/15/2021	9/16/2021
<b>General Minerals</b>											
Alkalinity	mg/l			270	280	190	200	170	170	230	250
Anion Sum	meq/l			5.9	6.2	4.9	5	5.4	5.6	37	29
Bicarbonate as HCO3	mg/l			330	340	230	240	200	210	280	300
Boron	mg/l	1	N	0.35	0.34	0.13	0.13	0.12	0.12	0.15	0.14
Bromide	ug/l			130	ND	120	ND	100	ND	2600	2300
Calcium, Total	mg/l			14	13.3	49	43.3	53	51.3	380	366
Carbon Dioxide	mg/l			5.4	ND	3.8	ND	2.6	3.12	14	33
Carbonate as CO3	mg/l			2.1	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.7	5.5	5.3	4.8	5.4	5.3	36	34
Chloride	mg/l	500	S	18	20	28	33	22	24	<b>1000</b>	<b>760</b>
Fluoride	mg/l	2	P	0.21	0.14	0.44	0.35	0.4	0.35	0.14	ND
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			38	25	30	22	26	17	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	<b>100</b>	<b>78</b>
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	<b>24</b>	<b>18</b>
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			11	11	3.2	3.4	2.9	3.2	8.1	7.5
Sodium, Total	mg/l			95	92	45	42	41	40	140	130
Sulfate	mg/l	500	S	ND	ND	14	4.9	65	70	70	78
Total Dissolved Solid (TDS)	mg/l	1000	S	340	340	290	270	320	280	<b>1900</b>	<b>2300</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	<b>24</b>	<b>18</b>
<b>General Physical Properties</b>											
Apparent Color	ACU	15	S	<b>20</b>	<b>30</b>	ND	5	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			65	61.8	160	146	180	174	1500	1380
Lab pH	Units			8	8.12	8	7.98	8.1	7.94	7.5	7.17
Langelier Index	None			0.18	0.777	0.64	1.03	0.67	0.986	1.1	0.962
Odor	TON	3	S	2	ND	1	<b>8</b>	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	560	570	480	480	520	530	<b>3600</b>	<b>3800</b>
Turbidity	NTU	5	S	1.2	0.85	1.2	3.9	0.53	0.25	1.2	2.8
<b>Metals</b>											
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	1.2	ND
Arsenic, Total	ug/l	10	P	<b>17</b>	<b>16</b>	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	16	15	44	38	45	41	500	470
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	0.22	ND	ND	ND	ND	8.2	8.2
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.026	0.042	ND	ND	ND	7.9	8.3
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.16	0.15	0.01	ND	0.057	0.054	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			7.4	6.93	10	9.17	11	11.1	130	114
Manganese, Total	ug/l	50	S	39	40	35	33	<b>59</b>	<b>52</b>	ND	ND
Mercury	ug/l	2	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	5.2	2.3
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
<b>Volatile Organic Compounds</b>											
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	0.099
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	<b>10</b>	<b>8.3</b>
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.15	0.061
Total Organic Carbon	mg/l			2.5	2.4	0.46	0.42	0.28	0.38	0.34	0.95

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 6 of 22

Constituents	Units	MCL	MCL Type	Gardena #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/8/2021	8/17/2021	3/8/2021	8/17/2021	3/8/2021	8/17/2021	3/8/2021	8/17/2021	3/8/2021	8/17/2021
<b>General Minerals</b>													
Alkalinity	mg/l			280	290	180	190	180	190	170	180	190	200
Anion Sum	meq/l			6	6.3	5.5	5.8	5.3	5.7	4	4.3	5.3	5.5
Bicarbonate as HCO3	mg/l			340	360	220	230	210	230	210	220	230	240
Boron	mg/l	1	N	0.31	0.31	0.15	0.16	0.13	0.13	0.095	0.1	0.12	0.13
Bromide	ug/l			120	ND	100	ND	100	ND	110	ND	170	ND
Calcium, Total	mg/l			16	15.5	41	40.1	49	48.2	30	29.5	51	49.2
Carbon Dioxide	mg/l			4.4	ND	2.3	ND	2.2	ND	3.4	ND	3	ND
Carbonate as CO3	mg/l			2.8	ND	2.3	ND	2.2	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.8	5.8	5.4	5.4	5.4	5.3	4.1	4.1	5.5	5.3
Chloride	mg/l	500	S	13	15	22	24	22	24	21	23	52	53
Fluoride	mg/l	2	P	0.25	0.18	0.26	0.19	0.38	0.28	0.28	0.21	0.29	0.22
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			35	24	30	16	33	17	35	19	34	20
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			5.5	5.8	5.8	6.2	3.7	4.1	3.1	3.4	2.9	3.2
Sodium, Total	mg/l			100	100	49	49	43	43	41	41	44	43
Sulfate	mg/l	500	S	ND	ND	61	64	55	58	ND	ND	1.2	1.2
Total Dissolved Solid (TDS)	mg/l	1000	S	320	340	310	310	310	290	230	230	290	300
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	<b>20</b>	<b>30</b>	ND	4	ND	ND	ND	5	ND	ND
Hardness (Total, as CaCO3)	mg/l			65	63.3	160	155	170	168	110	109	170	167
Lab pH	Units			8.1	8.15	8.2	7.93	8.2	7.95	8	8	8.1	7.97
Langelier Index	None			0.37	0.889	0.74	0.908	0.82	1.01	0.35	0.847	0.73	1.06
Odor	TON	3	S	2	2	2	ND	ND	ND	2	ND	2	2
Specific Conductance	umho/cm	1600	S	530	590	520	550	500	530	380	400	520	550
Turbidity	NTU	5	S	0.4	0.35	0.12	0.1	0.28	0.15	0.94	0.1	5	0.65
<b>Metals</b>													
Aluminum, Total	ug/l	1000	P	ND	46	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	0.4	ND	ND
Barium, Total	ug/l	1000	P	19	20	18	18	20	20	35	34	97	94
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.041	0.086	0.021	0.066	ND	0.049	0.021	0.036	0.021	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.028	ND	0.033	0.034	0.038	0.037	0.072	0.071	0.02	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			6	6	13	13.2	12	12	8.6	8.7	11	11
Manganese, Total	ug/l	50	S	25	25	25	25	32	32	46	44	44	42
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05
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
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	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
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	0.051	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.3	2.7	0.52	0.44	0.36	0.32	1.1	0.59	0.29	0.37

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 7 of 22

Constituents	Units	MCL	MCL Type	Hawthorne #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				3/12/2021	3/12/2021	3/12/2021	3/12/2021	3/12/2021	3/12/2021
<b>General Minerals</b>									
Alkalinity	mg/l			700	670	410	320	200	280
Anion Sum	meq/l			15	15	9.8	7.6	12	21
Bicarbonate as HCO3	mg/l			850	820	500	390	240	340
Boron	mg/l	1	N	<b>1.3</b>	<b>1.1</b>	0.5	0.4	0.12	0.21
Bromide	ug/l			270	310	310	230	750	1000
Calcium, Total	mg/l			15	16	36	32	110	180
Carbon Dioxide	mg/l			11	8.5	6.5	4	3.1	8.8
Carbonate as CO3	mg/l			7	8.4	4.1	4	2	ND
Cation Sum	meq/l			14	15	9.6	7.6	12	21
Chloride	mg/l	500	S	42	42	54	41	280	360
Fluoride	mg/l	2	P	0.12	0.24	0.22	0.38	0.29	0.27
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			77	100	76	68	48	130
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			21	16	14	9.3	7.6	6.1
Sodium, Total	mg/l			260	290	130	100	75	180
Sulfate	mg/l	500	S	ND	1	ND	ND	28	230
Total Dissolved Solid (TDS)	mg/l	1000	S	860	860	530	420	750	<b>1200</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>									
Apparent Color	ACU	15	S	<b>100</b>	<b>350</b>	<b>25</b>	15	ND	ND
Hardness (Total, as CaCO3)	mg/l			87	81	190	140	420	650
Lab pH	Units			8.1	8.2	8.1	8.2	8.1	7.8
Langelier Index	None			0.78	0.86	0.9	0.88	1.1	1.2
Odor	TON	3	S	ND	ND	ND	ND	ND	1
Specific Conductance	umho/cm	1600	S	1300	1300	920	730	1200	<b>2000</b>
Turbidity	NTU	5	S	0.35	0.41	0.15	0.28	0.11	0.47
<b>Metals</b>									
Aluminum, Total	ug/l	1000	P	210	44	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	1.5
Barium, Total	ug/l	1000	P	31	30	34	28	120	54
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	1.1	1.7	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.028	0.06	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.14	0.15	0.16	0.1	0.019	0.1
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			12	10	24	15	36	49
Manganese, Total	ug/l	50	S	13	<b>57</b>	<b>56</b>	33	<b>96</b>	<b>500</b>
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	59	21	ND	ND	95	ND
<b>Volatile Organic Compounds</b>									
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 (Methyl Chloride)	ug/l			ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	5.1
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	<b>44</b>
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND
TBA	ug/l	12	N						
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	0.96
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	<b>16</b>
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
<b>Others</b>									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	0.13
Total Organic Carbon	mg/l			13	15	4	2.8	0.88	1.5

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 8 of 22

Constituents	Units	MCL	MCL Type	Inglewood #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/15/2021	8/24/2021	4/15/2021	8/24/2021	4/15/2021	8/24/2021	4/15/2021	8/24/2021	4/15/2021	8/24/2021
<b>General Minerals</b>													
Alkalinity	mg/l			1500	2500	860	850	340	350	240	250	250	250
Anion Sum	meq/l			76	78	30	27	22	21	15	15	22	21
Bicarbonate as HCO3	mg/l			1800	3000	1000	1000	420	430	290	300	300	310
Boron	mg/l	1	N	<b>10</b>	<b>11</b>	<b>2.3</b>	<b>2.3</b>	0.44	0.52	0.18	0.21	0.21	0.24
Bromide	ug/l			18000	9700	3400	2900	4200	4200	1400	1300	2400	2500
Calcium, Total	mg/l			40	36.8	57	53.5	150	162	110	125	180	195
Carbon Dioxide	mg/l			19	24.2	16	14.4	8.7	17	4.8	10.8	12	30.9
Carbonate as CO3	mg/l			18	ND	6.5	ND	2.2	ND	ND	ND	ND	ND
Cation Sum	meq/l			72	73	27	28	20	23	14	15	20	23
Chloride	mg/l	500	S	<b>1600</b>	<b>1000</b>	450	370	430	380	290	270	470	430
Fluoride	mg/l	2	P	0.3	ND	0.24	0.16	0.43	0.32	0.36	0.28	0.23	0.18
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			5700	4900	780	510	1200	680	110	54	2.6	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	28	34
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	6.3	7.7
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			38	39	22	19	8.6	9.8	9.8	11	8.7	9.9
Sodium, Total	mg/l			1500	1600	500	520	180	210	90	100	130	150
Sulfate	mg/l	500	S	ND	ND	2.3	1.3	150	160	100	110	130	130
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>4400</b>	<b>4400</b>	<b>1700</b>	<b>1600</b>	<b>1300</b>	<b>1400</b>	910	1000	<b>1400</b>	<b>1700</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	0.17	ND	ND	ND	ND	6.3	7.7
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	<b>450</b>	<b>450</b>	<b>150</b>	<b>220</b>	ND	15	ND	12	ND	ND
Hardness (Total, as CaCO3)	mg/l			230	222	250	237	620	682	470	532	710	793
Lab pH	Units			8.2	7.77	8	7.73	7.9	7.46	8	7.62	7.6	7.11
Langelier Index	None			1.6	1.45	1.3	1.28	1.2	1.12	1.1	1.07	0.94	0.678
Odor	TON	3	S	<b>8</b>	<b>12</b>	<b>8</b>	<b>8</b>	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	<b>7200</b>	<b>8100</b>	<b>2900</b>	<b>3000</b>	<b>2200</b>	<b>2500</b>	1500	<b>1700</b>	<b>2200</b>	<b>2500</b>
Turbidity	NTU	5	S	1.2	0.3	3.4	1.2	3	2.6	1.7	2.4	0.2	0.2
<b>Metals</b>													
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	<b>11</b>	0.44	10	7.9	1.7	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	150	150	120	100	60	58	140	130	140	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
Chromium, Total	ug/l	50	P	1.4	0.88	ND	0.62	ND	ND	ND	ND	ND	0.2
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.054	ND	0.027	ND	ND	ND	ND	ND	0.11	0.054
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	0.52	ND	ND	ND	1.9
Iron, Total	mg/l	0.3	S	<b>1.4</b>	<b>1.3</b>	<b>1.1</b>	<b>1.1</b>	<b>0.52</b>	<b>0.59</b>	<b>0.38</b>	<b>0.43</b>	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			32	31.5	26	25.1	59	67.1	47	53.4	64	74.5
Manganese, Total	ug/l	50	S	35	30	<b>75</b>	<b>64</b>	<b>400</b>	<b>400</b>	<b>240</b>	<b>240</b>	4.5	4.2
Mercury	ug/l	2	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	49	0.48	8.9	ND	9.1	ND	ND	ND	9.3	5.7
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
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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	0.67	0.9
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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	0.97	ND	0.071
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	2.6	2.2
Surfactants	mg/l	0.5	S	0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			78	67	24	15	2.7	1.6	0.69	0.63	0.6	0.62

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 9 of 22

Constituents	Units	MCL	MCL Type	Inglewood #3													
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				4/20/2021	9/30/2021	4/20/2021	9/30/2021	4/20/2021	9/30/2021	4/20/2021	9/30/2021	4/20/2021	9/30/2021	4/20/2021	9/30/2021	4/20/2021	9/30/2021
<b>General Minerals</b>																	
Alkalinity	mg/l			690	730	1100	1200	550	570	780	810	460	460	200	210	240	240
Anion Sum	meq/l			47	48	24	25	11	12	16	17	12	12	8.3	8.5	18	18
Bicarbonate as HCO3	mg/l			840	890	1300	1400	670	690	950	990	560	570	250	260	290	300
Boron	mg/l	1	N	4.1	4.2	5.2	5	1.1	1.1	2.2	2.2	0.64	0.61	0.11	0.12	0.11	0.11
Bromide	ug/l			9000	8400	1700	ND	150	ND	170	ND	590	540	460	ND	1100	1300
Calcium, Total	mg/l			20	19.7	12	11.1	5.8	5.74	16	15.2	54	54.8	69	72.4	180	175
Carbon Dioxide	mg/l			8.7	ND	8.5	7.29	5.5	ND	6.2	10.9	4.6	7.29	2.6	2.73	3.8	5.47
Carbonate as CO3	mg/l			8.6	ND	21	ND	8.7	5.3	16	ND	7.3	ND	2.6	ND	2.4	ND
Cation Sum	meq/l			41	42	22	21	10	11	16	16	11	11	7.8	8.1	17	17
Chloride	mg/l	500	S	<b>1200</b>	<b>1200</b>	58	57	16	17	29	29	95	97	140	140	430	410
Fluoride	mg/l	2	P	0.43	ND	0.48	ND	0.21	ND	0.2	ND	0.23	0.18	0.29	0.25	0.32	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			2300	2400	580	360	18	ND	ND	ND	120	46	38	30	91	50
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	23	15	17	8	8.3	19	21	13	13	6.8	7.4	7.5	7.6
Sodium, Total	mg/l			880	900	480	460	220	240	320	310	160	160	55	57	88	90
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.9	10	48	54
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>2600</b>	<b>2600</b>	<b>1500</b>	<b>1500</b>	680	690	990	1000	660	640	470	480	<b>1100</b>	<b>1300</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>																	
Apparent Color	ACU	15	S	<b>180</b>	<b>220</b>	<b>1400</b>	<b>1100</b>	<b>450</b>	<b>380</b>	<b>600</b>	<b>620</b>	<b>30</b>	<b>25</b>	ND	5	ND	5
Hardness (Total, as CaCO3)	mg/l			91	92.9	57	53.2	27	26.8	81	79.5	200	210	260	273	670	652
Lab pH	Units			8.2	7.98	8.4	8.13	8.3	8.2	8.4	8	8.3	7.86	8.2	7.86	8.1	7.79
Langelier Index	None			0.99	0.946	1.2	1.15	0.44	0.721	1.1	1.05	1.3	1.28	1	1.09	1.3	1.33
Odor	TON	3	S	ND	4	4	4	2	4	4	4	2	ND	1	4	4	17
Specific Conductance	umho/cm	1600	S	<b>4600</b>	<b>5100</b>	<b>2100</b>	<b>2200</b>	1000	1000	1400	1500	1100	1100	820	820	<b>1800</b>	<b>1900</b>
Turbidity	NTU	5	S	0.93	0.1	0.96	0.2	0.84	0.25	0.62	0.25	0.11	0.15	0.16	0.1	0.47	0.75
<b>Metals</b>																	
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	34	36	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	6.6	1.1	2	0.75	1.7	1.7	3.1	2.7	ND	ND	ND	0.59	1.8	1.2
Barium, Total	ug/l	1000	P	60	61	25	24	13	13	45	44	59	57	79	79	280	260
Beryllium, Total	ug/l	4	P	ND	ND	ND	0.1	ND	ND	ND	0.11	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
Chromium, Total	ug/l	50	P	ND	0.44	5	4.6	1.9	1.7	3	2.8	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.027	ND	0.2	ND	0.087	ND	0.1	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	2.9	3.6	2	2.1	2.5	2.4	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.22	0.21	<b>0.49</b>	<b>0.46</b>	0.14	0.15	<b>0.39</b>	<b>0.37</b>	0.12	0.14	0.024	ND	0.13	0.15
Lead, Total	ug/l	15	P	ND	ND	ND	0.48	ND	ND	ND	0.37	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			10	10.6	6.5	6.19	3	3.03	10	10.1	17	17.8	21	22.4	53	52.2
Manganese, Total	ug/l	50	S	<b>58</b>	<b>54</b>	22	21	22	21	39	39	48	<b>55</b>	<b>120</b>	<b>120</b>	<b>330</b>	<b>310</b>
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	25	ND	ND	0.47	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
<b>Volatile Organic Compounds</b>																	
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	1.7
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 (Methyl Chloride)	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	<b>46</b>	<b>37</b>
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
TBA	ug/l	12	N		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6		<b>37</b>
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	9.6	8.4
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	<b>0.93</b>	<b>0.78</b>
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Others</b>																	
1,4-Dioxane	ug/l	1	N	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	0.74	ND	ND	ND
Surfactants	mg/l	0.5	S	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	ND	<b>0.78</b>	0.19
Total Organic Carbon	mg/l			25	22	92	74	15	7.8	34	13	3.9	3.3	1.2	1.5	4.5	4.7

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 10 of 22

Constituents	Units	MCL	MCL Type	Lawndale #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/29/2021	9/8/2021	4/29/2021	9/8/2021	4/29/2021	9/8/2021	4/29/2021	9/8/2021	4/29/2021	9/8/2021	4/29/2021	9/8/2021
<b>General Minerals</b>															
Alkalinity	mg/l			460	470	620	620	240	250	200	200	190	200	290	270
Anion Sum	meq/l			9.6	10	13	13	5.6	5.8	7	6.9	7	7.2	28	24
Bicarbonate as HCO3	mg/l			560	580	750	750	300	300	240	240	230	240	360	330
Boron	mg/l	1	N	0.84	0.82	<b>1.2</b>	<b>1.1</b>	0.18	0.18	0.11	0.12	0.098	0.1	0.29	0.27
Bromide	ug/l			400	ND	210	ND	130	ND	240	ND	240	ND	1700	1500
Calcium, Total	mg/l			11	11	4.7	4.32	1.7	17.5	58	57.2	55	54.4	230	221
Carbon Dioxide	mg/l			3.6	ND	4.9	ND	2.5	ND	3.1	ND	3	2.68	15	15.6
Carbonate as CO3	mg/l			9.1	ND	12	ND	3.9	ND	2	ND	ND	ND	ND	ND
Cation Sum	meq/l			9	9.1	12	12	5.4	5.4	6.7	6.6	6.7	6.7	25	25
Chloride	mg/l	500	S	15	18	34	35	26	28	67	63	68	70	<b>660</b>	<b>530</b>
Fluoride	mg/l	2	P	0.41	0.38	0.3	0.22	0.32	0.24	0.36	0.29	0.41	0.32	0.21	0.15
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			140	97	49	56	36	26	49	22	39	23	9.9	6.1
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	18
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.3	4.1
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	10	9.3	9	9.1	4.3	4.4	5	5.2	9.7	9.2
Sodium, Total	mg/l			180	190	260	260	80	80	49	49	56	56	200	200
Sulfate	mg/l	500	S	ND	ND	ND	ND	1.1	0.89	53	53	60	63	150	160
Total Dissolved Solid (TDS)	mg/l	1000	S	560	580	760	760	320	310	400	390	400	410	<b>1900</b>	<b>1700</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.3	4.1
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	<b>80</b>	<b>100</b>	<b>180</b>	<b>250</b>	ND	12	ND	5	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			41	41.2	26	24.8	83	84.7	220	217	210	207	820	790
Lab pH	Units			8.4	8.25	8.4	8.24	8.3	8.17	8.1	8	8.1	8.03	7.6	7.57
Langelier Index	None			0.73	0.991	0.5	0.662	0.52	0.906	0.81	1.13	0.8	1.13	1.1	1.22
Odor	TON	3	S	3	4	1	4	1	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	880	890	1200	1200	530	540	670	660	680	690	<b>2700</b>	<b>2100</b>
Turbidity	NTU	5	S	0.37	0.15	0.56	0.25	0.25	0.15	0.29	0.15	0.2	0.15	0.21	0.15
<b>Metals</b>															
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	0.5	1.4	1.1	ND	ND	2	1.4	ND	ND	1.7	1.1
Barium, Total	ug/l	1000	P	12	12	12	11	16	15	39	35	110	95	130	110
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	0.25	1.1	0.66	ND	ND	ND	ND	ND	ND	ND	0.36
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.028	0.036	0.054	0.039	ND	ND	ND	ND	ND	ND	0.49	0.33
Copper, Total	ug/l	1300	P	ND	0.54	ND	1.6	ND	ND	ND	ND	ND	ND	ND	0.81
Iron, Total	mg/l	0.3	S	0.068	0.056	0.14	0.1	0.045	0.041	0.075	0.071	0.037	0.037	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	0.39	ND	ND	ND	ND
Magnesium, Total	mg/l			3.4	3.36	3.6	3.4	9.9	9.99	19	18.1	17	17.1	61	58.2
Manganese, Total	ug/l	50	S	13	12	29	28	<b>52</b>	47	<b>74</b>	<b>68</b>	<b>78</b>	<b>73</b>	<b>58</b>	43
Mercury	ug/l	2	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	1.7
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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	2.4	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
TBA	ug/l	12	N												
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.63	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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.89
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9	2.9
Surfactants	mg/l	0.5	S	ND	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			12	7	7.7	5.4	1.5	1.3	0.61	0.42	0.57	0.47	0.57	0.66

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 11 of 22

Constituents	Units	MCL	MCL Type	Lomita #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/2/2021	7/20/2021	3/2/2021	7/20/2021	3/2/2021	7/20/2021	3/2/2021	7/20/2021	3/2/2021	7/20/2021
<b>General Minerals</b>													
Alkalinity	mg/l			280	280	270	270	280	280	230	250	280	280
Anion Sum	meq/l			29	24	28	24	15	16	13	15	34	29
Bicarbonate as HCO3	mg/l			340	340	330	330	340	340	280	300	330	340
Boron	mg/l	1	N	0.57	0.57	0.54	0.6	0.45	0.52	0.38	0.51	0.73	0.76
Bromide	ug/l			8000	8500	7700	8200	2700	3200	2600	3700	9700	10000
Calcium, Total	mg/l			220	220	210	220	91	110	87	121	270	270
Carbon Dioxide	mg/l			7	14.5	6.8	14.9	5.6	11.2	3.6	5.59	8.6	12.1
Carbonate as CO3	mg/l			ND	ND	ND	ND	2.2	ND	2.3	ND	ND	ND
Cation Sum	meq/l			27	27	26	27	15	17	12	17	31	32
Chloride	mg/l	500	S	<b>830</b>	<b>660</b>	<b>800</b>	<b>660</b>	320	330	280	350	<b>1000</b>	<b>810</b>
Fluoride	mg/l	2	P	0.14	ND	0.15	ND	0.21	0.13	0.24	0.16	0.095	ND
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			2000	1800	1600	1700	680	780	650	860	1900	1800
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	0.76	ND	ND	ND	0.56
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	0.17	ND	ND	ND	0.13
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			18	17	17	17	11	11	9.3	11	20	19
Sodium, Total	mg/l			220	230	220	240	170	190	130	170	250	270
Sulfate	mg/l	500	S	16	12	18	20	31	46	3.4	6.7	24	25
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>1800</b>	<b>1800</b>	<b>1700</b>	<b>1800</b>	850	1000	740	1000	<b>2200</b>	<b>2200</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	0.17	ND	ND	ND	0.13
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	ND	5	15	12	ND	15	<b>25</b>	15	ND	7.5
Hardness (Total, as CaCO3)	mg/l			820	805	780	812	340	401	320	446	1000	995
Lab pH	Units			7.9	7.47	7.9	7.46	8	7.49	8.1	7.46	7.8	7.93
Langelier Index	None			1.3	1.12	1.2	1.1	1	0.926	1.1	0.9	1.3	1.64
Odor	TON	3	S	<b>8</b>	ND	<b>4</b>	ND	<b>3</b>	<b>8</b>	<b>2</b>	ND	<b>2</b>	ND
Specific Conductance	umho/cm	1600	S	<b>2900</b>	<b>3000</b>	<b>2800</b>	<b>3000</b>	1500	<b>1800</b>	1300	<b>1800</b>	<b>3400</b>	<b>3600</b>
Turbidity	NTU	5	S	<b>16</b>	<b>31</b>	1.3	1.6	4.5	1.5	0.29	0.2	1.1	0.6
<b>Metals</b>													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	6.9	0.63	6.4	ND	2.9	0.69	2.3	ND	8	ND
Barium, Total	ug/l	1000	P	150	140	130	130	47	64	48	72	150	170
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	0.02	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	<b>0.53</b>	<b>0.55</b>	0.2	0.2	0.053	0.041	0.12	0.043	0.16	0.17
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			65	64.1	62	65	28	33	25	35	78	79
Manganese, Total	ug/l	50	S	<b>440</b>	<b>440</b>	<b>410</b>	<b>400</b>	<b>92</b>	<b>85</b>	<b>130</b>	<b>200</b>	<b>440</b>	<b>490</b>
Mercury	ug/l	2	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	6	ND	5.3	ND	ND	ND	ND	ND	6.2	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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
TBA	ug/l	12	N		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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	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
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.17	ND
Total Organic Carbon	mg/l			2.4	1.8	2.2	1.8	2.6	1.9	2.4	1.7	1.9	1.8

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



**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 12 of 22

Constituents	Units	MCL	MCL Type	Long Beach #3									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/19/2021	8/4/2021	4/19/2021	8/4/2021	4/19/2021	8/4/2021	4/19/2021	8/4/2021	4/19/2021	8/4/2021
<b>General Minerals</b>													
Alkalinity	mg/l			370	370	140	150	150	160	120	130	150	160
Anion Sum	meq/l			7.9	8	3.8	4.1	3.8	4.1	31	26	29	24
Bicarbonate as HCO3	mg/l			450	460	170	180	180	200	150	160	190	190
Boron	mg/l	1	N	0.38	0.36	0.12	0.13	0.12	0.12	0.12	0.11	0.11	0.11
Bromide	ug/l			230	ND	120	ND	170	ND	6200	8500	5200	7200
Calcium, Total	mg/l			12	11.5	16	17	17	19	310	310	270	270
Carbon Dioxide	mg/l			4.6	ND	ND	ND	ND	ND	3.9	6.73	3.9	5.83
Carbonate as CO3	mg/l			4.6	ND	2.8	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			7.6	7.7	3.6	3.7	3.5	3.7	29	29	25	25
Chloride	mg/l	500	S	19	20	20	22	26	29	<b>960</b>	<b>780</b>	<b>840</b>	<b>680</b>
Fluoride	mg/l	2	P	0.46	0.39	0.36	0.26	0.31	0.26	0.12	ND	0.14	0.11
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			69	48	36	23	55	38	2100	1900	2000	2000
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.7	3.7	1.8	2.1	2.1	2.4	16	16	11	11
Sodium, Total	mg/l			150	160	58	60	54	57	140	150	130	140
Sulfate	mg/l	500	S	ND	ND	22	24	ND	ND	76	79	85	87
Total Dissolved Solid (TDS)	mg/l	1000	S	460	470	240	240	230	230	<b>2100</b>	<b>2100</b>	<b>2000</b>	<b>1900</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	<b>70</b>	<b>75</b>	15	<b>20</b>	15	<b>22</b>	ND	7.5	ND	7.5
Hardness (Total, as CaCO3)	mg/l			44	42.6	51	53.2	54	59.6	1100	1100	940	937
Lab pH	Units			8.2	8.29	8.4	8.33	8.2	8.13	7.8	7.58	7.9	7.61
Langelier Index	None			0.49	0.97	0.4	0.846	0.24	0.729	1	1.03	1.1	1.1
Odor	TON	3	S	<b>4</b>	<b>2</b>	ND	<b>2</b>	ND	<b>2</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>4</b>
Specific Conductance	umho/cm	1600	S	740	780	370	390	360	390	<b>3100</b>	<b>3600</b>	<b>2800</b>	<b>3100</b>
Turbidity	NTU	5	S	0.22	0.1	0.25	0.1	0.13	0.1	1.1	0.85	1.1	0.65
<b>Metals</b>													
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	4.2	0.46	3.6	0.69
Barium, Total	ug/l	1000	P	8.8	8.7	14	13	7.4	7.3	100	93	140	120
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
Chromium, Total	ug/l	50	P	ND	0.21	ND	ND	ND	0.34	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.038	0.064	0.029	0.034	0.024	0.034	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.04	0.036	ND	ND	0.03	0.034	0.23	0.23	0.22	0.22
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			3.4	3.4	2.6	2.71	2.8	3.1	81	80.4	64	64.1
Manganese, Total	ug/l	50	S	11	11	7.4	6.8	9.2	9.2	<b>250</b>	<b>230</b>	<b>290</b>	<b>270</b>
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	3	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	20	ND	16	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
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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
TBA	ug/l	12	N	ND	ND	ND	ND	ND	ND	11	8.8	9.4	8.1
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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	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
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.1	ND
Total Organic Carbon	mg/l			7.2	5.7	1.2	1.1	1.9	1.8	0.74	1.3	0.82	1.2

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



**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 13 of 22

Constituents	Units	MCL	MCL Type	Long Beach #8					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				4/5/2021	4/5/2021	4/5/2021	4/5/2021	4/5/2021	4/5/2021
<b>General Minerals</b>									
Alkalinity	mg/l			520	450	610	400	300	210
Anion Sum	meq/l			11	10	15	24	19	18
Bicarbonate as HCO3	mg/l			640	550	740	480	370	250
Boron	mg/l	1	N	<b>1.1</b>	0.75	<b>1.3</b>	<b>1.1</b>	0.59	0.19
Bromide	ug/l			350	440	720	4400	3400	1600
Calcium, Total	mg/l			7.4	9.3	10	48	64	110
Carbon Dioxide	mg/l			5.3	4.5	6.1	7.9	6.1	6.5
Carbonate as CO3	mg/l			8.3	7.1	9.6	3.1	2.4	ND
Cation Sum	meq/l			10	9.2	14	22	18	17
Chloride	mg/l	500	S	23	36	88	<b>580</b>	450	480
Fluoride	mg/l	2	P	0.87	0.87	0.57	0.22	0.18	0.48
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			100	110	120	1000	900	78
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			1.6	3.7	7.7	12	9.5	7.1
Sodium, Total	mg/l			220	190	290	390	280	190
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	21
Total Dissolved Solid (TDS)	mg/l	1000	S	670	590	890	<b>1300</b>	<b>1100</b>	<b>1100</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>									
Apparent Color	ACU	15	S	<b>700</b>	<b>280</b>	<b>450</b>	<b>70</b>	<b>50</b>	10
Hardness (Total, as CaCO3)	mg/l			26	36	45	260	280	420
Lab pH	Units			8.3	8.3	8.3	8	8	7.8
Langelier Index	None			0.57	0.52	0.7	0.93	0.94	0.73
Odor	TON	3	S	<b>17</b>	<b>8</b>	<b>8</b>	<b>4</b>	<b>3</b>	<b>4</b>
Specific Conductance	umho/cm	1600	S	1000	930	1400	<b>2500</b>	<b>2000</b>	<b>1900</b>
Turbidity	NTU	5	S	0.85	2	0.84	0.53	1.2	<b>5.1</b>
<b>Metals</b>									
Aluminum, Total	ug/l	1000	P	27	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.4	ND	1.5	2.2	1.8	ND
Barium, Total	ug/l	1000	P	9.5	9.5	14	22	20	120
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.078	0.13	0.2	0.043	0.027	ND
Copper, Total	ug/l	1300	P	2.2	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.17	0.14	0.2	0.19	0.22	<b>0.69</b>
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			1.9	3.1	4.9	34	28	35
Manganese, Total	ug/l	50	S	16	23	22	14	45	<b>310</b>
Mercury	ug/l	2	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	9.4	6.8	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>									
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 (Methyl Chloride)	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
TBA	ug/l	12	N						
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
<b>Others</b>									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			25	22	35	21	14	1.4

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 14 of 22

Constituents	Units	MCL	MCL Type	Manhattan Beach #1													
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				3/3/2021	7/21/2021	3/2/2021	7/20/2021	3/3/2021	7/21/2021	3/2/2021	7/20/2021	3/2/2021	7/20/2021	3/2/2021	7/20/2021	3/2/2021	7/20/2021
<b>General Minerals</b>																	
Alkalinity	mg/l			570	580	440	450	920	930	480	480	130	140	160	170	140	160
Anion Sum	meq/l			130	120	50	40	22	22	11	11	420	360	140	130	11	11
Bicarbonate as HCO3	mg/l			700	700	540	540	1100	1100	590	590	160	170	200	210	170	190
Boron	mg/l	1	N	<b>16</b>	<b>15</b>	<b>7.5</b>	<b>6.8</b>	<b>3.7</b>	<b>3.8</b>	0.4	0.43	0.58	0.53	0.13	0.11	0.18	0.19
Bromide	ug/l			27000	26000	9900	11000	2300	ND	340	ND	44000	ND	14000	16000	400	ND
Calcium, Total	mg/l			51	48.9	38	33	16	16.2	27	27.5	2000	1930	940	930	53	55
Carbon Dioxide	mg/l			11	15.4	5.6	16.8	11	21	4.8	4.66	10	20	8.2	10.3	2.2	ND
Carbonate as CO3	mg/l			4.5	ND	5.6	ND	11	16	7.6	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			120	120	49	42	20	20	10	11	390	700	130	130	10	11
Chloride	mg/l	500	S	<b>4200</b>	<b>3900</b>	<b>1500</b>	<b>1100</b>	120	130	35	38	<b>14000</b>	<b>12000</b>	<b>4400</b>	<b>3900</b>	140	140
Fluoride	mg/l	2	P	0.74	ND	0.62	0.46	0.37	ND	0.22	0.15	0.089	0.28	0.16	ND	0.2	0.13
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			6600	870	2800	4600	1000	1400	150	98	180	190	28	26	36	39
Nitrate (as NO3)	mg/l	45	P	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	15
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.2	3.3
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			23	31	21	22	29	31	11	11	100	160	55	49	5.9	5.9
Sodium, Total	mg/l			2500	2600	1000	890	410	400	180	200	4700	4800	1400	1400	150	160
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	<b>1700</b>	<b>1400</b>	<b>560</b>	<b>540</b>	190	190
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>7100</b>	<b>7800</b>	<b>2700</b>	<b>2800</b>	<b>1200</b>	<b>1300</b>	590	640	<b>28000</b>	<b>27000</b>	<b>10000</b>	<b>9800</b>	670	690
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.2	3.3
<b>General Physical Properties</b>																	
Apparent Color	ACU	15	S	<b>120</b>	<b>150</b>	<b>150</b>	<b>190</b>	<b>350</b>	<b>310</b>	<b>40</b>	<b>50</b>	<b>60</b>	<b>5</b>	<b>45</b>	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			280	273	160	136	93	93.4	110	113	9100	24600	3400	3400	190	196
Lab pH	Units			8	7.74	8.2	8.04	8.2	8.08	8.3	6.84	7.4	7.18	7.6	7.2	8.1	7.99
Langelier Index	None			1.1	0.341	1.1	1	1	1.18	1.1	-0.535	1.4	1.24	1.5	-1.64	0.66	0.939
Odor	TON	3	S	<b>8</b>	<b>12</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>1</b>	ND	<b>4</b>	ND	<b>1</b>	ND	ND	ND
Specific Conductance	umho/cm	1600	S	<b>13000</b>	<b>14000</b>	<b>5000</b>	<b>5700</b>	<b>2000</b>	<b>2200</b>	970	1000	<b>34000</b>	<b>34000</b>	<b>13000</b>	<b>14000</b>	1100	1200
Turbidity	NTU	5	S	1	0.15	1	0.1	0.72	0.1	0.23	0.15	<b>24</b>	<b>37</b>	<b>15</b>	<b>17</b>	0.48	0.1
<b>Metals</b>																	
Aluminum, Total	ug/l	1000	P	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
Arsenic, Total	ug/l	10	P	<b>14</b>	1.5	5.4	0.53	1.7	0.59	1	0.57	<b>26</b>	0.48	<b>12</b>	0.43	6.4	4.6
Barium, Total	ug/l	1000	P	650	740	190	200	94	94	42	41	200	190	220	220	36	37
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
Chromium, Total	ug/l	50	P	ND	0.36	ND	ND	2	1.8	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	0.068	0.081	0.023	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND	ND	ND	0.58
Iron, Total	mg/l	0.3	S	<b>0.82</b>	<b>0.49</b>	0.19	0.16	0.23	0.22	0.083	0.087	<b>4.2</b>	<b>4</b>	<b>1.8</b>	<b>1.8</b>	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			37	36.6	15	13.2	13	13	10	11	1000	4800	270	264	14	14.4
Manganese, Total	ug/l	50	S	49	47	43	41	44	42	<b>59</b>	<b>59</b>	<b>830</b>	<b>810</b>	<b>890</b>	<b>970</b>	77	<b>88</b>
Mercury	ug/l	2	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	11	ND	5.1	ND	ND	ND
Selenium, Total	ug/l	50	P	<b>62</b>	ND	24	ND	5	0.58	ND	ND	30	ND	10	ND	ND	1.9
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	0.27	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
<b>Volatile Organic Compounds</b>																	
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 (Methyl Chloride)	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
TBA	ug/l	12	N		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
<b>Others</b>																	
1,4-Dioxane	ug/l	1	N	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	1.2	1
Surfactants	mg/l	0.5	S	<b>0.54</b>	0.076	0.28	0.066	0.16	ND	ND	ND	0.46	ND	0.28	ND	ND	ND
Total Organic Carbon	mg/l			12	9.3	26	26	42	0.75	6	4.2	1.5	1.5	0.44	0.54	0.88	0.94

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 15 of 22

Constituents	Units	MCL	MCL Type	PM-2 Police Station							
				Zone 1		Zone 2		Zone 3		Zone 4	
				5/7/2021	8/31/2021	5/7/2021	8/31/2021	5/7/2021	8/31/2021	5/7/2021	8/31/2021
<b>General Minerals</b>											
Alkalinity	mg/l			120	120	160	160	130	130	140	160
Anion Sum	meq/l			200	110	48	37	14	13	11	11
Bicarbonate as HCO3	mg/l			150	150	190	200	160	160	180	190
Boron	mg/l	1	N	ND	0.15	0.23	0.23	0.3	0.3	0.33	0.32
Bromide	ug/l			22000	11000	5100	5600	660	570	720	780
Calcium, Total	mg/l			1200	1130	410	385	84	84.1	60	60.4
Carbon Dioxide	mg/l			7.8	10.7	7.8	13.4	2.6	2.68	2.3	2.23
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			190	180	43	43	13	13	10	11
Chloride	mg/l	500	S	<b>6500</b>	<b>3500</b>	<b>1500</b>	<b>1100</b>	240	210	150	160
Fluoride	mg/l	2	P	0.11	ND	0.53	0.46	0.31	0.27	0.32	0.27
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			98	55	130	89	22	13	90	67
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			85	97	20	19	8.6	8.5	7.1	7.3
Sodium, Total	mg/l			1800	1800	270	290	150	150	130	140
Sulfate	mg/l	500	S	<b>680</b>	420	65	66	220	210	190	180
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>13000</b>	<b>18000</b>	<b>3800</b>	<b>4800</b>	860	850	660	660
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>											
Apparent Color	ACU	15	S	ND	10	<b>40</b>	<b>40</b>	ND	5	ND	5
Hardness (Total, as CaCO3)	mg/l			5400	5140	1600	1480	320	319	230	230
Lab pH	Units			7.5	7.09	7.6	7.31	8	7.86	8.1	7.97
Langelier Index	None			1.3	0.805	1.1	0.806	0.71	0.879	0.7	0.967
Odor	TON	3	S	ND	ND	2	<b>8</b>	ND	4	ND	2
Specific Conductance	umho/cm	1600	S	<b>17000</b>	<b>19000</b>	<b>4600</b>	<b>5400</b>	1400	1400	1100	1100
Turbidity	NTU	5	S	0.78	1.3	<b>5.3</b>	<b>6.7</b>	0.16	0.1	0.2	0.1
<b>Metals</b>											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	9.2	ND	5	2.9	1.7	1.3	1.1	0.88
Barium, Total	ug/l	1000	P	260	250	300	300	36	36	34	35
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	0.03
Copper, Total	ug/l	1300	P	3.1	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	<b>0.33</b>	<b>0.31</b>	<b>1.3</b>	<b>1.2</b>	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			590	564	130	126	27	26.4	19	19.3
Manganese, Total	ug/l	50	S	<b>400</b>	<b>360</b>	<b>600</b>	<b>470</b>	<b>140</b>	<b>130</b>	<b>54</b>	<b>55</b>
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	15	ND	5.4	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	45	ND	8.4	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
<b>Volatile Organic Compounds</b>											
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	0.43	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.68	0.78	1.3	1	1.7	1.3	1.6	1.2

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 16 of 22

Constituents	Units	MCL	MCL Type	PM-3 Madrid							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/9/2021	7/30/2021	3/9/2021	7/30/2021	3/9/2021	7/30/2021	3/9/2021	7/30/2021
<b>General Minerals</b>											
Alkalinity	mg/l			310	330	190	200	190	200	190	200
Anion Sum	meq/l			6.8	7.2	8.8	9	13	12	15	14
Bicarbonate as HCO3	mg/l			380	400	230	240	230	240	240	240
Boron	mg/l	1	N	0.35	0.37	0.16	0.18	0.22	0.23	0.4	0.43
Bromide	ug/l			130	ND	970	840	1900	1800	2100	2000
Calcium, Total	mg/l			12	12	74	77	110	110	120	114
Carbon Dioxide	mg/l			2.5	ND	3.8	3.98	6	4.86	5	7.07
Carbonate as CO3	mg/l			6.2	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.7	6.9	8.6	9.1	13	13	15	15
Chloride	mg/l	500	S	22	26	180	180	290	270	340	310
Fluoride	mg/l	2	P	0.31	0.26	0.32	0.26	0.32	0.28	0.33	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			50	30	140	100	230	190	220	200
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			13	14	4.4	5.4	6.2	7	6.9	7.9
Sodium, Total	mg/l			120	120	70	74	110	110	140	150
Sulfate	mg/l	500	S	ND	ND	ND	ND	23	29	90	89
Total Dissolved Solid (TDS)	mg/l	1000	S	360	400	510	550	760	900	880	1000
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>											
Apparent Color	ACU	15	S	ND	<b>30</b>	ND	7.5	ND	5	ND	<b>20</b>
Hardness (Total, as CaCO3)	mg/l			67	67.9	280	285	400	392	440	426
Lab pH	Units			8.4	8.17	8	7.67	7.8	7.67	7.9	7.4
Langelier Index	None			0.56	0.833	0.84	0.891	0.7	0.965	0.93	0.717
Odor	TON	3	S	3	ND	2	ND	2	ND	3	ND
Specific Conductance	umho/cm	1600	S	640	680	900	970	1300	1400	1600	1600
Turbidity	NTU	5	S	0.62	0.35	0.92	0.35	0.5	0.8	<b>5.6</b>	3.1
<b>Metals</b>											
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	8.8	8.3
Barium, Total	ug/l	1000	P	19	19	28	29	80	79	83	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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.038	0.14	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.037	0.036	0.25	0.25	0.091	0.098	<b>0.63</b>	<b>0.63</b>
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			9.1	9.3	22	23	31	31.5	33	34.2
Manganese, Total	ug/l	50	S	20	20	48	<b>51</b>	<b>61</b>	<b>63</b>	<b>340</b>	<b>360</b>
Mercury	ug/l	2	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
<b>Volatile Organic Compounds</b>											
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	1.6	1.8	0.69	0.65
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 (Methyl Chloride)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	0.6	0.59	2.7	1.9
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
TBA	ug/l	12	N	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	1.2	0.97
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
<b>Others</b>											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	0.099
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.3	0.47	1.5	0.31	1.3	0.43	1.2	0.41

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 17 of 22

Constituents	Units	MCL	MCL Type	PM-4 Mariner							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/7/2021	9/12/2021	3/7/2021	9/12/2021	3/7/2021	9/12/2021	3/7/2021	9/12/2021
<b>General Minerals</b>											
Alkalinity	mg/l			260	260	150	160	140	150	210	220
Anion Sum	meq/l			5.9	6.2	220	210	9.2	9.4	11	11
Bicarbonate as HCO <sub>3</sub>	mg/l			310	320	180	190	180	190	260	270
Boron	mg/l	1	N	0.17	0.18	ND	0.22	0.22	0.22	0.24	0.24
Bromide	ug/l			160	ND	24000	22000	220	ND	410	ND
Calcium, Total	mg/l			28	27.9	1500	1450	46	46.4	76	78.4
Carbon Dioxide	mg/l			3.2	3.12	12	12.1	2.3	ND	3.4	ND
Carbonate as CO <sub>3</sub>	mg/l			3.2	ND	ND	ND	ND	ND	2.1	ND
Cation Sum	meq/l			5.8	6	220	210	8.7	8.8	11	11
Chloride	mg/l	500	S	26	30	<b>7200</b>	<b>6600</b>	96	99	130	130
Fluoride	mg/l	2	P	0.36	0.28	0.11	ND	0.4	0.3	0.26	0.18
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			79	41	68	35	29	14	59	33
Nitrate (as NO <sub>3</sub> )	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			7.2	7.6	58	76	5.6	6.1	6.5	7.1
Sodium, Total	mg/l			76	79	2200	2300	120	120	120	120
Sulfate	mg/l	500	S	ND	ND	<b>900</b>	<b>960</b>	170	170	150	150
Total Dissolved Solid (TDS)	mg/l	1000	S	330	350	<b>15000</b>	<b>19000</b>	550	580	650	680
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>											
Apparent Color	ACU	15	S	ND	12	ND	7.5	ND	12	ND	5
Hardness (Total, as CaCO <sub>3</sub> )	mg/l			120	118	5800	5570	160	166	270	280
Lab pH	Units			8.2	8.03	7.4	7.38	8.1	8.13	8.1	8.02
Langelier Index	None			0.66	0.974	1.4	1.33	0.59	0.999	0.91	1.26
Odor	TON	3	S	ND	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	550	560	<b>20000</b>	<b>22000</b>	910	930	1100	1100
Turbidity	NTU	5	S	0.15	0.15	1.6	1.3	0.33	0.3	0.43	0.3
<b>Metals</b>											
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	<b>11</b>	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	20	19	220	210	76	75	59	59
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.065	ND	ND	ND	0.11	ND	0.057
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.056	0.058	0.23	0.2	0.018	ND	0.13	0.13
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			12	11.7	490	472	12	12.3	20	20.6
Manganese, Total	ug/l	50	S	29	29	<b>960</b>	<b>880</b>	33	34	<b>74</b>	<b>74</b>
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	15	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	<b>56</b>	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
<b>Volatile Organic Compounds</b>											
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	0.094	ND	0.15
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	0.45	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.3	1.5	0.87	0.99	1.7	1.3	1.3	0.99

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 18 of 22

Constituents	Units	MCL	MCL Type	PM-5 Columbia Park											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/23/2021	8/2/2021	3/23/2021	8/2/2021	3/23/2021	8/2/2021	3/23/2021	8/2/2021	3/23/2021	8/2/2021	3/23/2021	8/2/2021
<b>General Minerals</b>															
Alkalinity	mg/l			690	680	910	910	410	420	300	300	180	200	220	230
Anion Sum	meq/l			17	17	18	19	9.1	9.3	6.9	6.9	34	30	12	13
Bicarbonate as HCO3	mg/l			840	840	1100	1100	500	510	360	360	220	240	260	280
Boron	mg/l	1	N	2.5	2.6	1.9	1.6	0.32	0.38	0.18	0.2	0.2	0.23	0.2	0.22
Bromide	ug/l			1600	1600	210	ND	270	ND	200	ND	2300	2200	660	580
Calcium, Total	mg/l			13	13	7.3	5.52	12	14	27	27	250	260	92	92
Carbon Dioxide	mg/l			8.7	13.9	7.2	18.8	5.2	ND	3.7	2.69	3.6	8.97	2.7	ND
Carbonate as CO3	mg/l			8.6	ND	18	ND	5.1	ND	3.7	ND	ND	ND	2.7	ND
Cation Sum	meq/l			16	15	18	19	7.9	9.1	6.7	6.9	30	32	12	13
Chloride	mg/l	500	S	100	110	15	17	31	33	32	35	<b>760</b>	<b>660</b>	160	160
Fluoride	mg/l	2	P	0.62	0.44	0.31	0.21	0.28	0.2	0.31	0.23	0.18	0.12	0.32	0.23
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			690	500	110	69	160	85	79	40	28	13	130	35
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			13	16	10	11	14	17	11	12	12	14	6.4	7.2
Sodium, Total	mg/l			320	320	380	420	150	170	92	95	280	300	130	140
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	410	370	180	180
Total Dissolved Solid (TDS)	mg/l	1000	S	1000	1000	<b>1100</b>	<b>1100</b>	540	520	400	380	<b>2100</b>	<b>2100</b>	770	770
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	<b>300</b>	<b>380</b>	<b>650</b>	<b>880</b>	<b>65</b>	<b>70</b>	15	<b>25</b>	ND	5	ND	4
Hardness (Total, as CaCO3)	mg/l			57	56.8	40	30.9	56	64.3	120	122	880	919	320	318
Lab pH	Units			8.2	8.02	8.4	8.13	8.2	8.21	8.2	8.07	8	7.5	8.2	7.95
Langelier Index	None			0.82	0.918	0.86	0.775	0.56	1.01	0.79	1.05	1.3	1.06	1.2	1.27
Odor	TON	3	S	<b>8</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>4</b>	ND	<b>2</b>	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	1600	1600	1600	<b>1700</b>	850	880	650	670	<b>3200</b>	<b>3500</b>	1200	1300
Turbidity	NTU	5	S	0.52	0.1	0.86	0.1	0.48	0.1	0.14	0.1	0.4	0.25	0.11	0.1
<b>Metals</b>															
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	1.2	0.47	3.3	2.8	ND	0.61	ND	0.51	1	0.86	ND	ND
Barium, Total	ug/l	1000	P	93	88	22	18	25	24	23	22	94	91	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
Chromium, Total	ug/l	50	P	1.4	0.84	3.1	2.1	ND	0.33	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.06	0.053	0.11	0.13	0.041	0.03	0.021	0.026	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	0.81	2.4	1.5	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.2	0.19	0.29	0.23	0.043	0.047	0.033	0.036	0.09	0.096	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			6	6.01	5.2	4.15	6.4	7.4	13	13.3	62	67.5	21	22
Manganese, Total	ug/l	50	S	43	42	27	22	33	32	24	24	<b>230</b>	<b>220</b>	<b>120</b>	<b>120</b>
Mercury	ug/l	2	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
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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
TBA	ug/l	12	N	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
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.088
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			39	23	42	2	7.6	4.5	3.8	2.6	1.8	1.5	2	1.1

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 19 of 22

Constituents	Units	MCL	MCL Type	PM-6 Madrona Marsh											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/6/2021	9/2/2021	5/6/2021	9/2/2021	5/6/2021	9/2/2021	5/6/2021	9/2/2021	5/6/2021	9/2/2021	5/6/2021	9/2/2021
<b>General Minerals</b>															
Alkalinity	mg/l			400	430	120	130	100	89	230	240	160	170	160	
Anion Sum	meq/l			64	60	86	87	210	180	6.9	7.3	45	35	9.1	
Bicarbonate as HCO3	mg/l			490	530	150	160	120	110	280	300	200	200	200	
Boron	mg/l	1	N	0.75	0.78	0.56	0.6	ND	0.25	0.23	0.25	0.38	0.39	0.17	
Bromide	ug/l			7000	7100	11000	13000	25000	26000	340	ND	4100	4300	320	
Calcium, Total	mg/l			300	250	230	217	1200	1210	21	21.8	220	207	59	
Carbon Dioxide	mg/l			13	15.2	4.9	ND	16	7.58	2.9	2.68	4.1	5.8	3.3	
Carbonate as CO3	mg/l			2	ND	ND	ND	ND	ND	2.9	ND	ND	ND	ND	
Cation Sum	meq/l			63	57	80	83	200	200	6.5	6.9	43	41	8.8	
Chloride	mg/l	500	S	<b>2000</b>	<b>1800</b>	<b>3000</b>	<b>3000</b>	<b>7300</b>	<b>6400</b>	78	84	<b>1200</b>	<b>920</b>	120	
Fluoride	mg/l	2	P	0.35	0.26	0.07	ND	0.1	ND	0.49	0.38	0.16	ND	0.24	
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iodide	ug/l			170	120	470	760	250	180	61	47	72	46	45	
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			37	38	48	63	100	120	5.7	6.6	17	22	5.2	
Sodium, Total	mg/l			680	630	1400	1400	1700	1700	98	100	590	570	100	
Sulfate	mg/l	500	S	4.2	2.1	ND	ND	110	74	ND	ND	360	290	110	
Total Dissolved Solid (TDS)	mg/l	1000	S	<b>4000</b>	<b>4500</b>	<b>4800</b>	<b>5900</b>	<b>11000</b>	<b>11000</b>	380	390	<b>2500</b>	<b>2900</b>	540	
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
<b>General Physical Properties</b>															
Apparent Color	ACU	15	S	<b>220</b>	<b>300</b>	ND	10	ND	10	10	<b>20</b>	15	<b>22</b>	ND	
Hardness (Total, as CaCO3)	mg/l			1600	1410	1000	999	6200	6200	100	112	840	803	210	
Lab pH	Units			7.8	7.71	7.7	7.61	7.1	7.15	8.2	8.09	7.9	7.43	8	
Langelier Index	None			1.6	1.46	0.75	0.733	0.82	0.778	0.51	0.881	1.1	0.767	0.62	
Odor	TON	3	S	3	4	ND	2	4	<b>12</b>	ND	ND	ND	ND	ND	
Specific Conductance	umho/cm	1600	S	<b>6300</b>	<b>6600</b>	<b>8900</b>	<b>9600</b>	<b>19000</b>	<b>21000</b>	680	690	<b>4500</b>	<b>4900</b>	920	
Turbidity	NTU	5	S	4.7	1.9	0.22	0.3	<b>55</b>	0.15	0.23	0.1	3.8	3	0.43	
<b>Metals</b>															
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	5.4	ND	1.4	ND	9.3	0.53	ND	ND	3	2	1.8	
Barium, Total	ug/l	1000	P	780	680	630	600	<b>3000</b>	<b>2600</b>	26	26	130	120	16	
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	
Chromium, Total	ug/l	50	P	1.6	1.1	ND	ND	ND	0.21	ND	ND	ND	ND	ND	
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Copper, Total	ug/l	1300	P	2.3	1.4	ND	ND	3.3	ND	ND	ND	ND	ND	ND	
Iron, Total	mg/l	0.3	S	ND	0.059	0.14	0.14	0.11	0.088	0.089	0.094	<b>0.67</b>	<b>0.7</b>	0.2	
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Magnesium, Total	mg/l			210	190	110	111	780	774	13	13.9	70	69.5	16	
Manganese, Total	ug/l	50	S	9.8	7.5	<b>190</b>	<b>180</b>	<b>73</b>	<b>68</b>	<b>63</b>	<b>62</b>	<b>500</b>	<b>460</b>	<b>78</b>	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nickel, Total	ug/l	100	P	7.1	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	
Selenium, Total	ug/l	50	P	25	ND	5.9	ND	48	ND	ND	ND	ND	ND	ND	
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
<b>Volatile Organic Compounds</b>															
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 (Methyl Chloride)	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	
TBA	ug/l	12	N												
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	
<b>Others</b>															
1,4-Dioxane	ug/l	1	N	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	
Surfactants	mg/l	0.5	S	ND	0.057	0.19	ND	0.22	ND	ND	ND	ND	ND	ND	
Total Organic Carbon	mg/l			4.9	4.3	1.2	1.7	0.92	1.7	2.7	1.6	2.1	1.8	2	

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



**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 20 of 22

Constituents	Units	MCL	MCL Type	Westchester #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/11/2021	9/10/2021	5/11/2021	9/10/2021	5/11/2021	9/10/2021	5/11/2021	9/10/2021	5/11/2021	9/10/2021
<b>General Minerals</b>													
Alkalinity	mg/l			690	740	530	550	430	440	340	350	280	290
Anion Sum	meq/l			17	19	13	13	11	11	10	11	9.3	9.6
Bicarbonate as HCO3	mg/l			840	910	650	670	520	540	420	430	340	350
Boron	mg/l	1	N	1.4	1.5	0.79	0.8	0.38	0.4	0.23	0.24	0.22	0.23
Bromide	ug/l			750	670	480	ND	390	ND	340	ND	330	ND
Calcium, Total	mg/l			55	52.5	31	30.8	59	56	72	70.8	64	63.5
Carbon Dioxide	mg/l			11	10.7	8.5	4.46	6.8	4.91	4.3	3.57	4.4	3.57
Carbonate as CO3	mg/l			6.9	ND	5.3	ND	4.2	ND	4.3	ND	2.8	ND
Cation Sum	meq/l			18	18	12	12	11	11	10	10	9.2	9.2
Chloride	mg/l	500	S	100	110	73	74	64	67	65	69	68	71
Fluoride	mg/l	2	P	0.28	0.19	0.26	0.18	0.26	0.18	0.26	0.2	0.32	0.23
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			170	ND	120	87	82	65	71	50	64	43
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			16	16	16	16	11	12	9.6	9.7	7.3	7.6
Sodium, Total	mg/l			300	300	200	210	120	130	95	94	87	87
Sulfate	mg/l	500	S	27	25	ND	ND	19	16	77	81	83	86
Total Dissolved Solid (TDS)	mg/l	1000	S	1000	1100	700	700	590	570	570	600	520	520
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	350	380	70	62	20	22	5	12	5	12
Hardness (Total, as CaCO3)	mg/l			230	221	150	148	250	237	300	293	260	259
Lab pH	Units			8.1	7.98	8.1	8.01	8.1	7.94	8.2	7.89	8.1	7.86
Langelier Index	None			1.3	1.51	0.92	1.24	1.1	1.36	1.2	1.31	1	1.17
Odor	TON	3	S	2	2	1	4	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	1600	1700	1100	1200	990	1000	960	970	880	880
Turbidity	NTU	5	S	1.4	0.55	1.2	0.25	0.41	0.3	0.38	0.25	0.56	0.45
<b>Metals</b>													
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	0.66	ND	ND	ND	0.47
Barium, Total	ug/l	1000	P	100	97	120	110	74	68	81	75	74	65
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
Chromium, Total	ug/l	50	P	2.3	1.6	1	0.2	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	0.13	ND	0.04	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	0.68	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.18	0.17	0.12	0.15	0.25	0.24	0.14	0.14	0.28	0.27
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			23	21.8	17	17.3	24	23.6	29	28.3	25	24.4
Manganese, Total	ug/l	50	S	94	85	46	43	140	130	120	110	130	120
Mercury	ug/l	2	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
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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
TBA	ug/l	12	N										
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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	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
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			17	15	7.7	5.8	3.6	3	2.4	1.6	2	1.2

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



**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 21 of 22

Constituents	Units	MCL	MCL Type	Wilmington #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				2/24/2021	8/11/2021	2/24/2021	8/11/2021	2/24/2021	8/11/2021	2/24/2021	8/11/2021	2/24/2021	8/11/2021
<b>General Minerals</b>													
Alkalinity	mg/l			130	130	160	160	180	180	130	130	140	150
Anion Sum	meq/l			12	12	29	27	32	32	14	14	13	13
Bicarbonate as HCO <sub>3</sub>	mg/l			160	160	200	200	220	220	160	160	170	180
Boron	mg/l	1	N	0.25	0.25	0.22	0.24	0.29	0.3	0.22	0.22	0.2	0.2
Bromide	ug/l			2400	2500	3600	3400	4200	4300	990	1000	800	930
Calcium, Total	mg/l			69	76	200	180	180	200	64	69	90	94
Carbon Dioxide	mg/l			2.6	2.6	6.5	5.2	9.1	9.1	2.6	2.6	3.5	3.7
Carbonate as CO <sub>3</sub>	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			11	12	26	25	28	31	13	14	12	14
Chloride	mg/l	500	S	340	350	<b>860</b>	<b>790</b>	<b>1000</b>	<b>980</b>	310	300	230	250
Fluoride	mg/l	2	P	0.13	0.13	0.059	0.07	0.068	0.069	0.16	0.16	0.15	0.15
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			850	890	340	600	480	620	25	40	48	91
Nitrate (as NO <sub>3</sub> )	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			9.5	9.8	10	9.9	9.9	10	6.3	6.4	6.9	7.1
Sodium, Total	mg/l			130	140	250	250	360	390	180	190	130	140
Sulfate	mg/l	500	S	ND	ND	76	84	29	26	150	140	170	160
Total Dissolved Solid (TDS)	mg/l	1000	S	720	920	<b>1800</b>	<b>1800</b>	<b>2000</b>	<b>2200</b>	840	920	780	850
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO <sub>3</sub> )	mg/l			270	290	720	660	630	700	250	280	340	360
Lab pH	Units			8	8	7.7	7.8	7.6	7.6	8	8	7.9	7.9
Langelier Index	None			0.64	0.67	0.85	0.9	0.73	0.77	0.53	0.59	0.67	0.72
Odor	TON	3	S	<b>4</b>	<b>100</b>	<b>4</b>	<b>4</b>	<b>40</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>8</b>	<b>100</b>
Specific Conductance	umho/cm	1600	S	1300	1400	<b>2900</b>	<b>2700</b>	<b>3200</b>	<b>3400</b>	1500	1500	1300	1400
Turbidity	NTU	5	S	0.19	0.23	0.3	0.6	0.12	ND	0.2	0.12	ND	0.28
<b>Metals</b>													
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	1	1.6	1.3	2.1	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	13	15	15	15	26	28	28	28	74	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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	ND	ND	ND	0.032	ND	ND	ND	ND	0.02
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.014	0.015	0.05	0.05	ND	ND	0.014	0.014	0.023	0.038
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			23	25	53	50	43	48	23	25	29	31
Manganese, Total	ug/l	50	S	25	30	24	25	5.9	6.2	11	12	36	47
Mercury	ug/l	2	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	5.5	7.6	6.3	11	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
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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			6.7	6.9	16	19	7.9	7.3	ND	ND	3.1	3.6
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	4.6	5.2	<b>32</b>	<b>24</b>
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
TBA	ug/l	12	N	<b>84</b>	<b>94</b>	<b>75</b>	<b>85</b>	<b>70</b>	<b>61</b>	<b>13</b>	<b>20</b>	<b>42</b>	<b>57</b>
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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	ND	---	ND	---	ND	---	ND	---	ND	---
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	<b>0.62</b>	0.45	<b>0.53</b>	0.5	0.49	0.43	0.15	0.17	0.38	0.45
Total Organic Carbon	mg/l			3.6	3.1	3.7	2.8	2.8	2.2	2.4	2	3.6	3.6

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

**TABLE 3.2**  
**WEST COAST BASIN WATER QUALITY RESULTS**  
**REGIONAL GROUNDWATER MONITORING - WATER YEAR 2020-2021**  
 Page 22 of 22

Constituents	Units	MCL	MCL Type	Wilmington #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				2/23/2021	8/10/2021	2/23/2021	8/10/2021	2/23/2021	8/10/2021	2/23/2021	8/10/2021	2/23/2021	8/10/2021
<b>General Minerals</b>													
Alkalinity	mg/l			250	240	480	460	140	140	270	270	160	160
Anion Sum	meq/l			16	17	26	24	15	16	10	10	67	67
Bicarbonate as HCO3	mg/l			300	300	580	560	180	180	330	330	200	200
Boron	mg/l	1	N	0.54	0.54	<b>1.8</b>	<b>1.7</b>	0.18	0.18	0.62	0.62	0.5	0.51
Bromide	ug/l			1600	1700	4000	3800	3300	3400	1200	1200	6700	6600
Calcium, Total	mg/l			8.6	9.3	26	23	80	84	19	19	190	190
Carbon Dioxide	mg/l			ND	ND	6	4.6	3	2.3	3.4	3.4	4.1	5.2
Carbonate as CO3	mg/l			6.2	6.2	6	7.3	ND	ND	3.4	3.4	ND	ND
Cation Sum	meq/l			15	16	23	23	14	15	9.7	9.9	61	61
Chloride	mg/l	500	S	400	440	<b>570</b>	<b>520</b>	430	450	180	180	<b>2000</b>	<b>2000</b>
Fluoride	mg/l	2	P	0.6	0.57	0.54	0.5	0.17	0.16	0.77	0.74	0.22	0.21
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			120	140	1200	1000	1200	1100	330	420	45	59
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			9.9	9.9	13	12	9.8	10	5.7	5.4	23	22
Sodium, Total	mg/l			320	340	460	470	170	180	180	180	1000	1000
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	330	330
Total Dissolved Solid (TDS)	mg/l	1000	S	950	990	<b>1400</b>	<b>1400</b>	880	910	580	620	<b>3800</b>	<b>3800</b>
Nitrate + Nitrite, as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>General Physical Properties</b>													
Apparent Color	ACU	15	S	<b>70</b>	<b>55</b>	<b>130</b>	<b>100</b>	ND	ND	<b>100</b>	<b>90</b>	10	10
Hardness (Total, as CaCO3)	mg/l			49	53	140	130	320	340	82	82	860	860
Lab pH	Units			8.5	8.5	8.2	8.3	8	8.1	8.2	8.2	7.9	7.8
Langelier Index	None			0.46	0.46	0.93	0.94	0.72	0.82	0.6	0.56	1	0.89
Odor	TON	3	S	<b>4</b>	<b>100</b>	<b>4</b>	<b>100</b>	2	ND	3	<b>8</b>	3	<b>100</b>
Specific Conductance	umho/cm	1600	S	<b>1700</b>	<b>1800</b>	<b>2500</b>	<b>2400</b>	1600	1600	1100	1100	<b>6700</b>	<b>6700</b>
Turbidity	NTU	5	S	0.29	0.18	0.78	0.82	0.31	0.18	1.1	0.72	0.4	0.36
<b>Metals</b>													
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	1.8	ND	1.2	1.7	ND	ND	2.6	3.3
Barium, Total	ug/l	1000	P	7.2	ND	40	35	23	25	15	15	67	66
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
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l	10	P	ND	0.053	0.061	0.12	ND	ND	0.064	0.13	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.02	0.017	0.064	0.049	0.038	0.039	0.029	0.02	0.013	0.013
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	mg/l			6.8	7.3	19	17	30	32	8.5	8.5	94	93
Manganese, Total	ug/l	50	S	4.4	ND	7.9	ND	13	15	5.6	ND	44	46
Mercury	ug/l	2	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	7.9	ND	5.8	7.8	ND	ND	12	15
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Volatile Organic Compounds</b>													
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 (Methyl Chloride)	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
TBA	ug/l	12	N	ND	2.2	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
<b>Others</b>													
1,4-Dioxane	ug/l	1	N	ND	---	ND	---	ND	---	ND	---	ND	---
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	0.14	0.12	ND	ND	ND	ND	0.15	0.18
Total Organic Carbon	mg/l			4.1	4	18	17	1.8	1.6	7.5	8.9	1.4	1

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

PAGE LEFT INTENTIONALLY BLANK

**TABLE 3.3**  
**QUALITY OF REPLENISHMENT WATER**

Page 1 of 2

Constituent	Units	Regulatory Limit	IMPORTED WATER			RECYCLED WATER							LOCAL WATER
			Treated Blend of Colorado River & State Water Project <sup>A</sup>	Untreated Colorado River <sup>B</sup>	Untreated State Water Project <sup>C</sup>	WBMWD ELWRF <sup>D</sup>	LADWP TIWRP <sup>E</sup>	WRD LVL AWTF <sup>F</sup>	SDLAC Pomona WRP <sup>G</sup>	SDLAC San Jose Creek East WRP <sup>G</sup>	SDLAC San Jose Creek West WRP <sup>G</sup>	SDLAC Whittier Narrows WRP <sup>G</sup>	Stormwater <sup>H</sup>
			2020	2020	2020	2020	2020	2021	2020-2021	2020-2021	2020-2021	2020-2021	2019-2020
Arsenic	µg/L	MCL = 10	ND/ND	2.1	ND	ND	0.09	ND	0.513	1.03	0.305	ND	NA
Chloride	mg/L	SMCL = 500	94 <sup>1</sup> / 64 <sup>1</sup>	90 <sup>1</sup>	77 <sup>1</sup>	7.4	119 <sup>J</sup>	64	138	152	122	118	NA
Hexavalent Chromium	µg/L	MCL = 10	ND / ND	ND	ND	0.29	ND	0.24	0.06	0.14	0.10	0.10	NA
Iron	µg/L	SMCL = 300	ND / ND	106	ND	ND	19	ND	23.6	44	95	28.7	NA
Manganese	µg/L	SMCL = 50	ND / ND	ND	27	ND	2.28	1.9	4.51	15.7	5.4	3.03	NA
Nitrate (as N)	mg/L	MCL = 10	ND / ND	ND	0.5	0.30	0.88	1.6	6.62	5.0	4.52	6.98	NA
Perchlorate	µg/L	MCL = 6	ND / ND	ND	ND	ND	ND	ND	0.50	0.2	0.50	0.30	NA
Tetrachloroethylene (PCE)	µg/L	MCL = 5	ND / ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Trichloroethylene (TCE)	µg/L	MCL = 5	ND / ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Total Dissolved Solids (TDS)	mg/L	SMCL = 1,000	564 <sup>1</sup> / 288 <sup>1</sup>	576 <sup>1</sup>	278 <sup>1</sup>	68	353 <sup>J</sup>	180	568	678	590	602	NA
Alkalinity	mg/L	None	121 <sup>1</sup> / 88 <sup>1</sup>	130 <sup>1</sup>	85 <sup>1</sup>	58	NA	NA	159	184	177	166	NA
Boron	µg/L	NL = 1,000	130/170	120	150	250	615 <sup>J</sup>	280	300	320	340	270	NA
Chromium, Total	µg/L	MCL = 50	ND / ND	ND	ND	ND	1.29	0.24	0.82	0.85	1.0	1.0	NA
Copper, Total	µg/L	SMCL = 1,000	ND / ND	ND	ND	3.9	2.12	ND	5.2	3.5	5.1	3.16	14.7
1,4-Dioxane	µg/L	NL = 1	NA	NA	NA	ND	ND	ND	1.0	1.3	1.0	0.99	NA
Hardness	mg/L	None	258 <sup>1</sup> / 113 <sup>1</sup>	272 <sup>1</sup>	100 <sup>1</sup>	40	94	64	204	230	215	220	86.8
Lead, Total	µg/L	AL = 15	ND / ND	ND	ND	ND	0.15	NA	0.27	0.17	0.078	0.021	7.1
Methyl tertiary butyl ether (MTBE)	µg/L	SMCL = 5	ND / ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Nitrite (as N)	mg/L	MCL = 1	ND / ND	ND	ND	0.08	0.03	0.028	0.093	ND	0.095	0.09	NA
n-Nitrosodimethylamine (NDMA)	ng/L	NL = 10	3.1 / 2.0	NA	NA	1.4	1.2	0.19	42	125	22	6.2	NA
pH	pH Units	None	8.1 / 8.4	8.2	8.2	7.4	8.1	8.4	7.4	7.2	7.6	7.4	NA
Selenium	µg/L	MCL = 50	ND / ND	ND	ND	ND	0.43	ND	ND	ND	ND	ND	NA
Specific Conductance	µS/cm	SMCL = 1,600	934 <sup>1</sup> / 511 <sup>1</sup>	945 <sup>1</sup>	509 <sup>1</sup>	55	468	322	954	1,135	986	982	NA
Sulfate	mg/L	SMCL = 500	201 <sup>1</sup> / 57 <sup>1</sup>	208 <sup>1</sup>	41 <sup>1</sup>	0.19	18 <sup>J</sup>	0.52	78.1	124	105	115	NA
Total Organic Carbon (TOC)	mg/L	None <sup>K</sup>	2.7 / 2.3	3.05 <sup>1</sup>	3.15 <sup>1</sup>	0.28	0.22	0.32	6.78	6.34	6.07	5.28	NA
Turbidity	NTU	SMCL = 5	0.03 <sup>1</sup> / 0.04 <sup>1</sup>	1.9 <sup>1</sup>	0.74 <sup>1</sup>	0.05	ND	0.31	0.28	0.70	0.55	0.05	NA

See footnotes on following page.

**TABLE 3.3**  
**QUALITY OF REPLENISHMENT WATER**  
Page 2 of 2

**Notes:**

A = Used at the seawater intrusion barriers: generally, Diemer Plant effluent / Jensen Plant effluent (Data Source #1).

B = Used at the Montebello Forebay spreading grounds (Lake Mathews) (Data Source #1).

C = Used at the Montebello Forebay spreading grounds (Silverwood Lake) (Data Source #1).

D = Effluent of Edward C. Little Water Recycling Facility (ELWRF) before blending with treated water from Colorado River/State Water Project; used at the West Coast Basin Seawater Intrusion Barrier (Data Source #4).

E = Effluent of Terminal Island Water Reclamation Plant/Advanced Water Treatment Facilities (TIWRP) before blending with treated water from Colorado River/State Water Project; used at the Dominguez Gap Seawater Intrusion Barrier. Estimated values used where reported as "detected, but not quantified" [DNQ] (Data Source #6).

F = Effluent of Leo J. Vander Lans Advanced Water Treatment Facility (LVL AWTF) before blending with treated water from Colorado River/State Water Project; used at the Alamitos Gap Seawater Intrusion Barrier (Data Source #7).

G = Effluent of water reclamation plants (WRPs); used at the Montebello Forebay spreading grounds (Data Source #3).

H = Average concentration of water samples collected from LACDPW San Gabriel River Monitoring Station S14 from July 2019 through June 2020 (four storm events total) (Data Source #5).

I = Average concentration for Water Year October 2020 through September 2021 (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 Dominguez Gap Seawater Intrusion Barrier (Data Source #6).

K = 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) 2020 Water Quality Report to MWD Member Agencies (Metropolitan Water District of Southern California, March 2021)

(2) Table D, Monthly Analyses of the District Water Supplies (Metropolitan Water District of Southern California, October 2020 - September 2021)

(3) October 2020 - September 2021 Annual Monitoring Report, Montebello Forebay Groundwater Recharge (County Sanitation Districts of Los Angeles County [SDLAC], December 15, 2021)

(4) Annual West Coast Basin Barrier Project Monitoring Report for 2020, Edward C. Little Water Recycling Facility (West Basin Municipal Water District [WBMWD], March 26, 2021)

(5) Annual stormwater monitoring data provided by Los Angeles County (Los Angeles County Department of Public Works [LACDPW])

(6) Annual Monitoring Report - January-December 2020, Harbor Water Recycling/Dominguez Gap Barrier Project (City of Los Angeles, Bureau of Sanitation)

(7) 2021 Annual Summary Report, Alamitos Barrier Recycled Water Project, Leo J. Vander Lans Water Treatment Facility (Water Replenishment District of Southern California [WRD], April 2022).

**TABLE 3.4  
MAJOR MINERAL WATER QUALITY GROUPS**

NESTED MONITORING WELL LOCATIONS	GROUP A ZONES	GROUP B ZONES	GROUP C ZONES	GROUP D ZONES
	Generally Calcium Bicarbonate or Calcium Bicarbonate/Sulfate Dominant	Generally Calcium-Sodium-Bicarbonate or Sodium-Bicarbonate Dominant	Generally Sodium-Chloride Dominant	Generally Different Than Groups A, B, and C
<b>CENTRAL BASIN</b>				
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			
Cerritos #3		1, 2, 4, 5		3, 7
Commerce #1	3, 4, 5, 6		1	2
Compton #1	2, 3, 4, 5	1		
Compton #2	2, 3, 4, 5	1		6
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		
Los Angeles #5			1, 2	3, 4, 5, 6
Los Angeles #6		2	1, 3	4
Lynwood #1	3, 4, 5, 6, 7, 8, 9	1, 2		
Montebello #1	3, 4, 5	2		1
Montebello #2		1		2, 3, 4, 5
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	
<b>WEST COAST BASIN</b>				
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-2 Police Station			1,2,4	3
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	

Note - Values shown above represent the various zones at each nested well location classified by major mineral water quality group.

## **FIGURES**



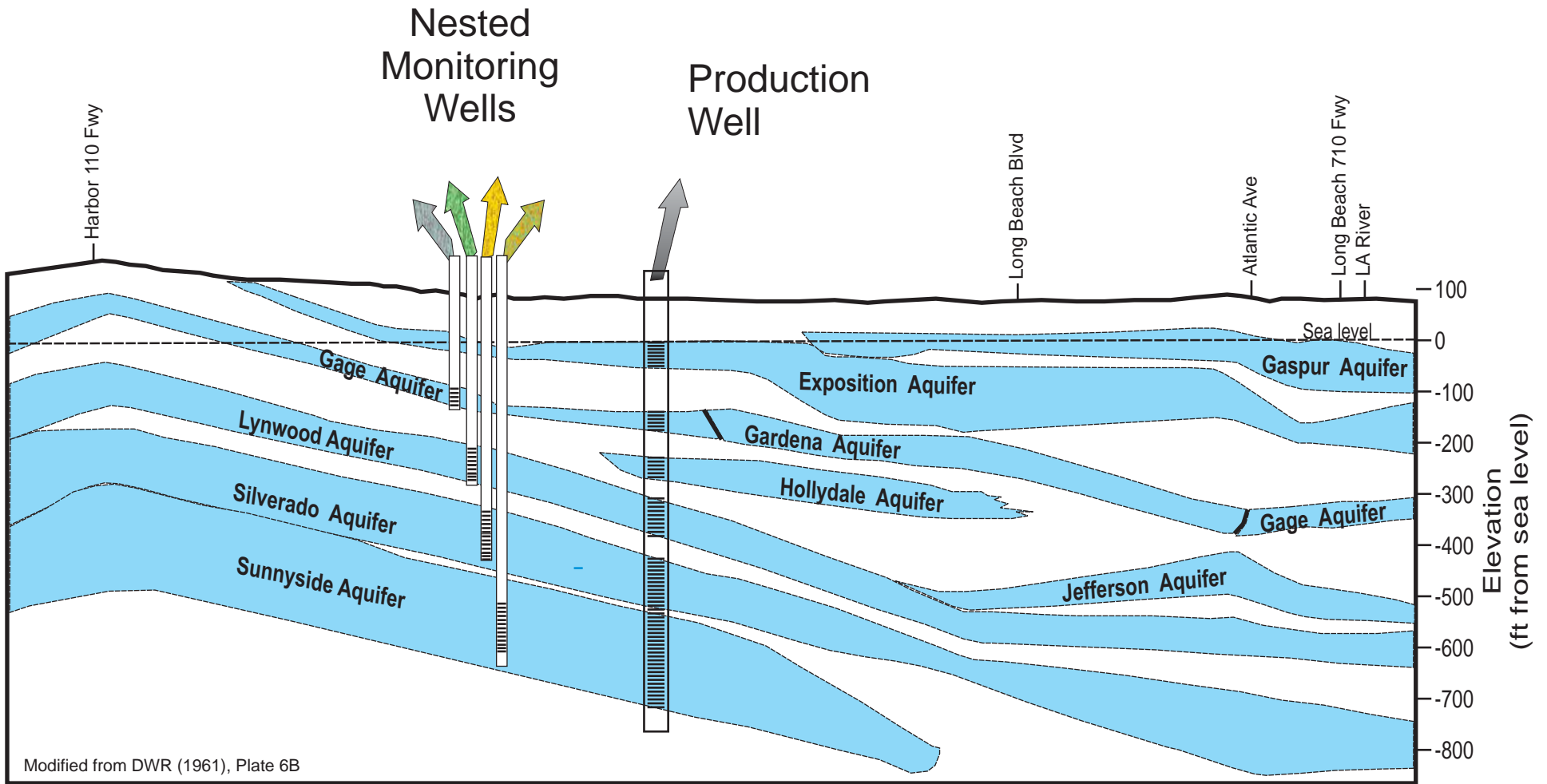




**Figure 1.1**  
**Water Replenishment District**  
**Service Area**

4040 Paramount Blvd  
 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.



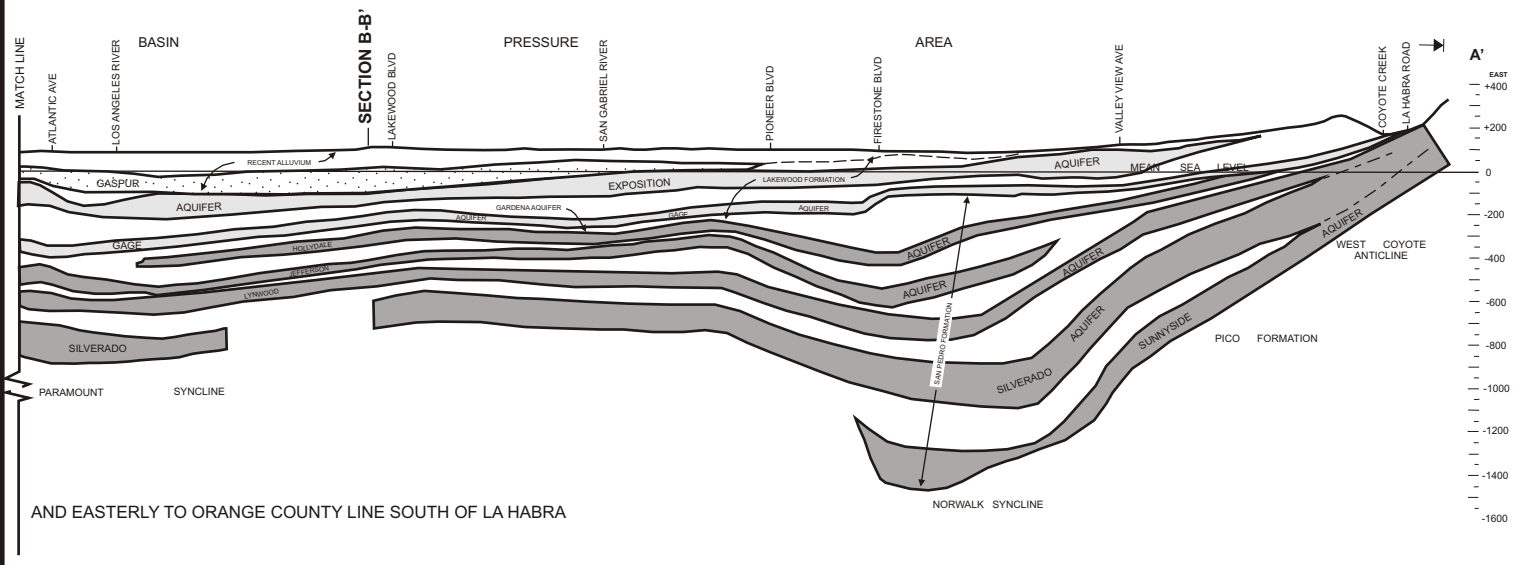
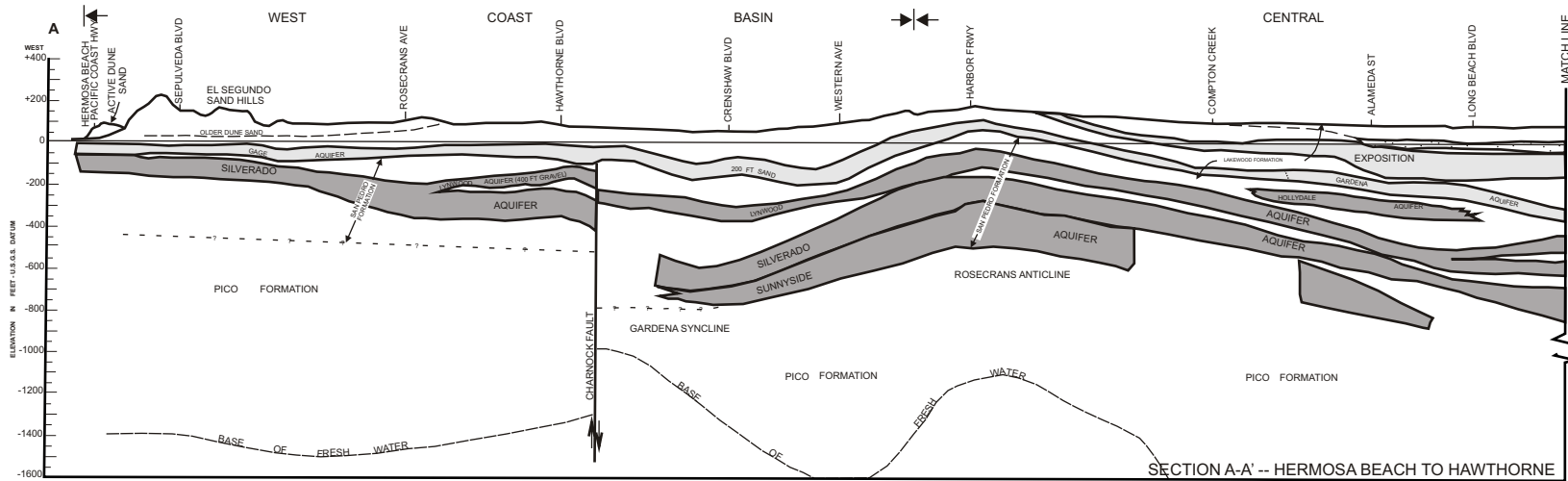


**Figure 1.3**  
**WRD Nested Monitoring Wells**

- Key Well**
- WRD Key Nested Monitoring Well\*
  - WRD Nested Monitoring Well
- A' Location of Cross Section (Figure 1.4)
- B' Location of Cross Section (Figure 1.5)

\*WRD Key Monitoring Wells used for Hydrograph Figures (Section 2) and for Salt and Nutrient Monitoring (Section 4).

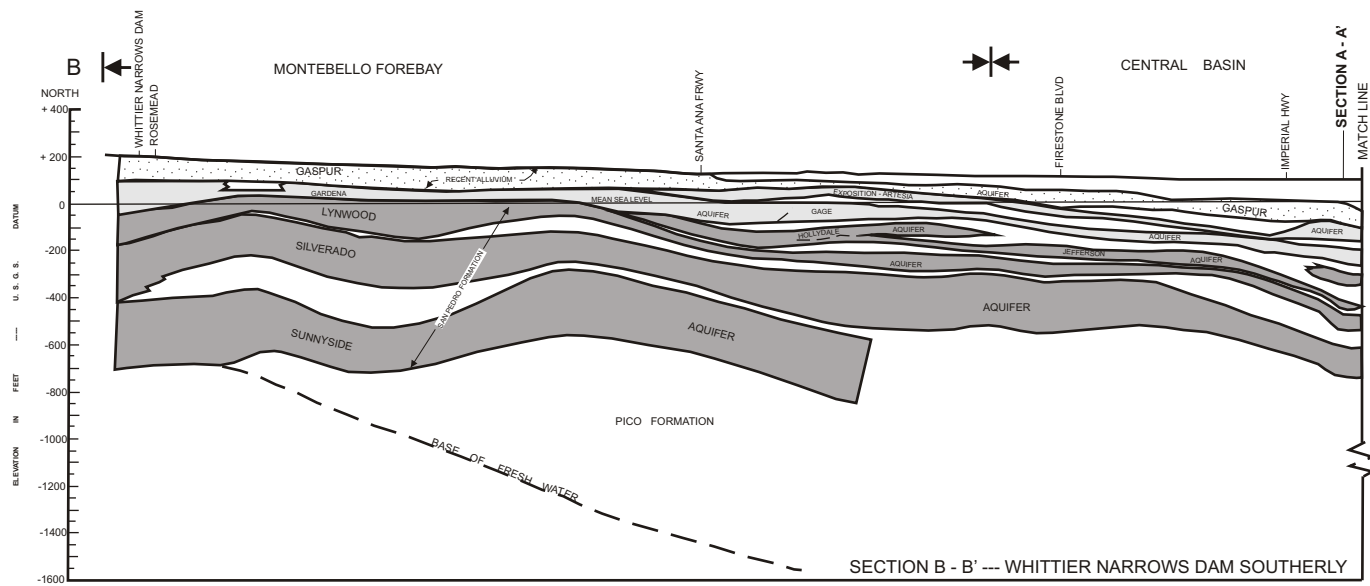
- Seawater Intrusion Barrier
  - WRD Service Area Boundary
  - Central Basin Sub-Area Boundary
- (See Figure 1.1 for Detail)







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

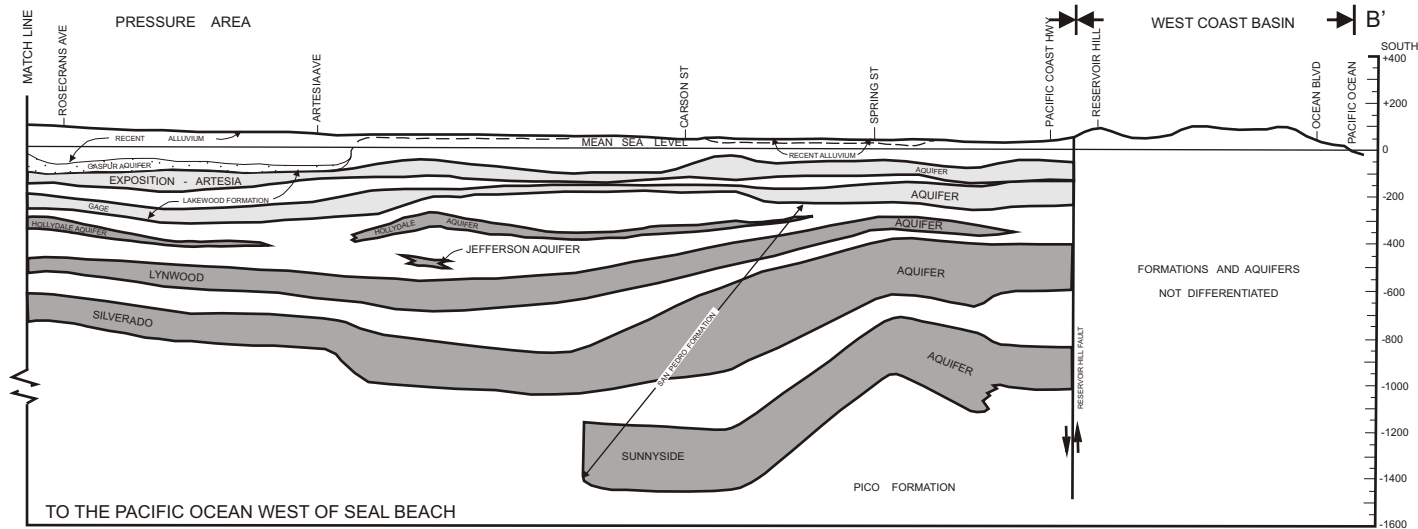
AND EASTERLY TO ORANGE COUNTY LINE SOUTH OF LA HABRA

**IDEALIZED GEOLOGIC CROSS SECTION AA'**  
 Adapted from  
 CDWR Bull. 104 App. B  
**FIGURE 1.4**



**LEGEND**

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

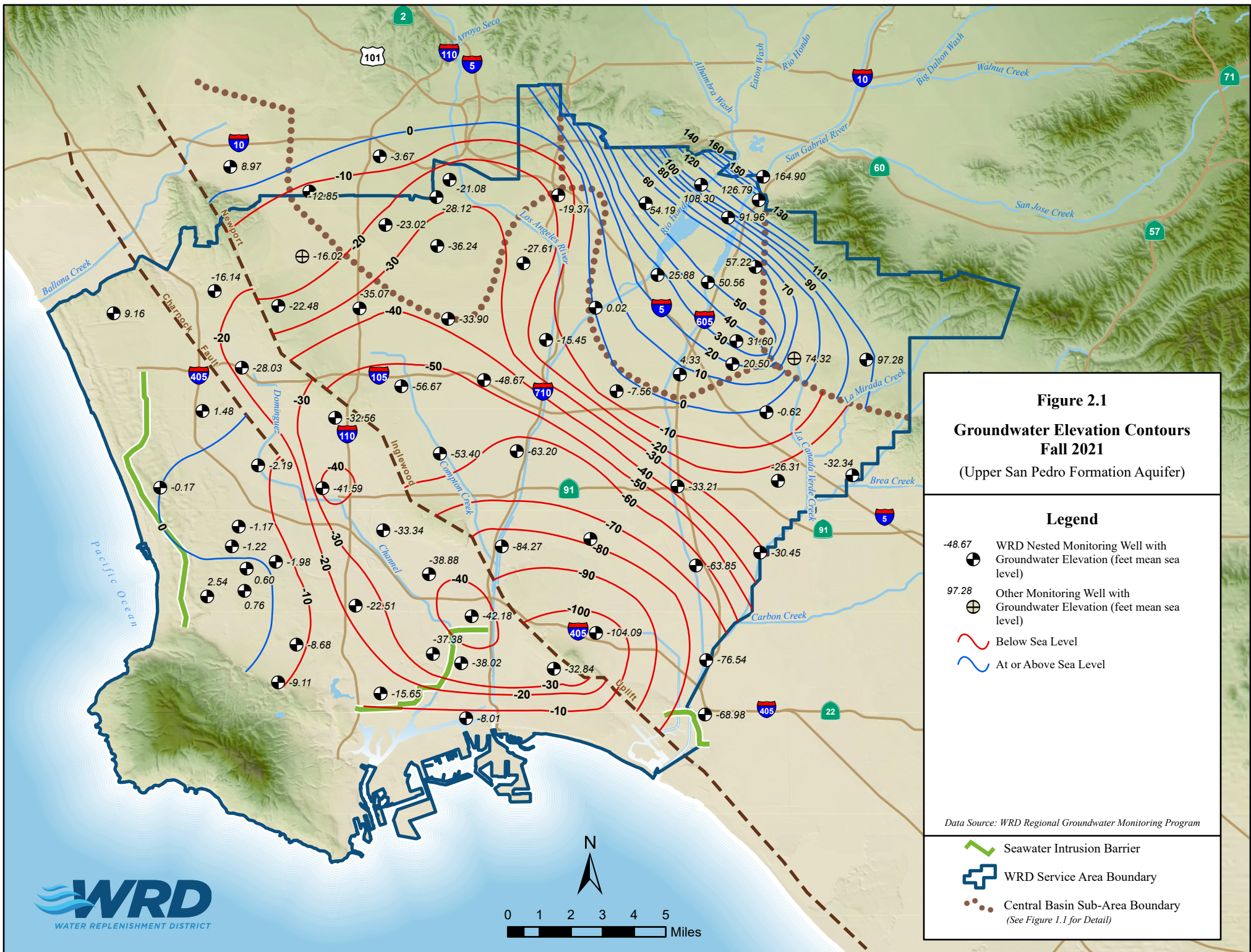


**IDEALIZED GEOLOGIC CROSS SECTION BB'**

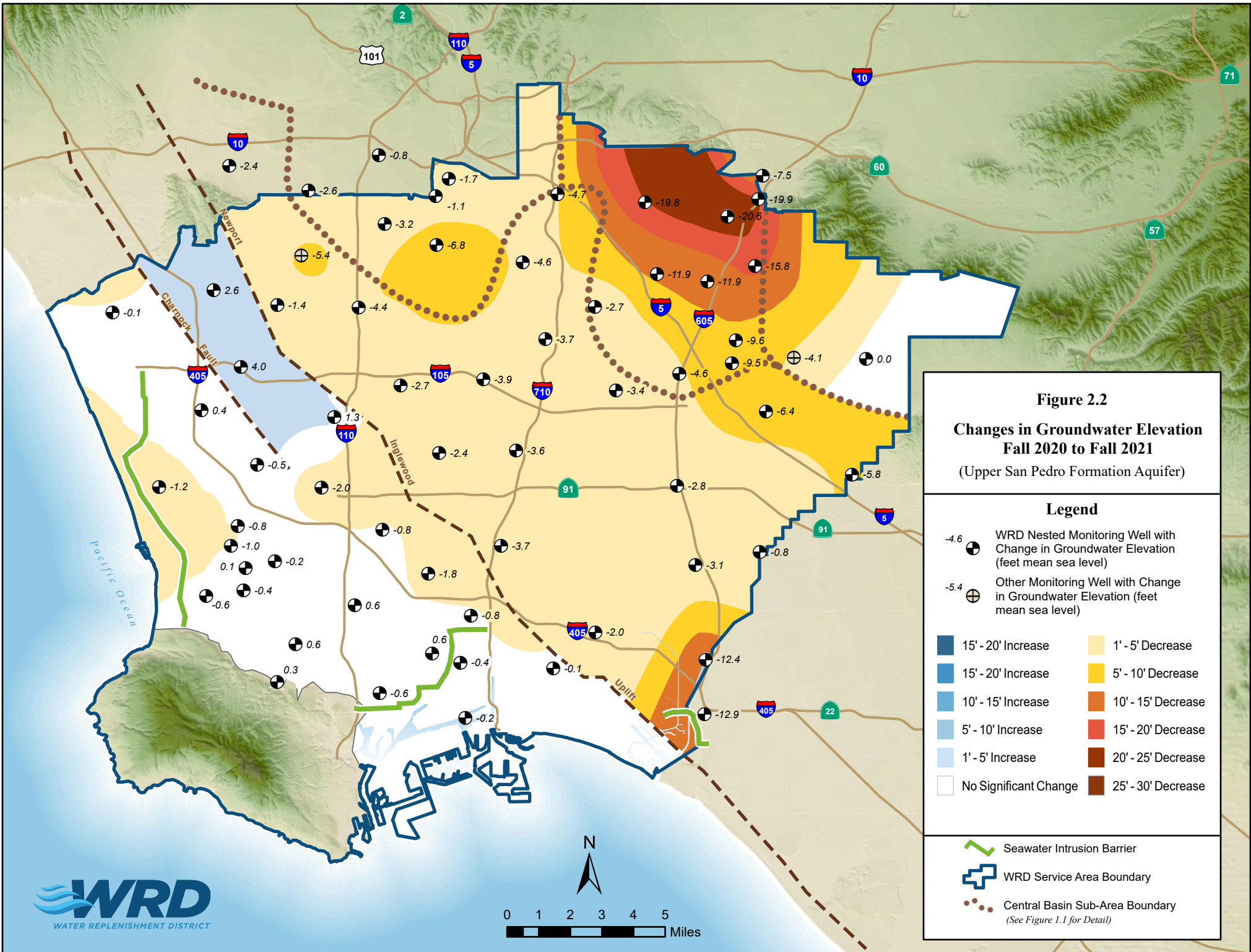
Adapted from  
CDWR Bull. 104 App. B

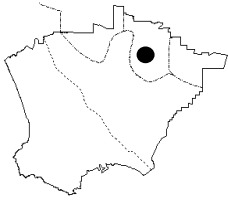
**FIGURE 1.5**



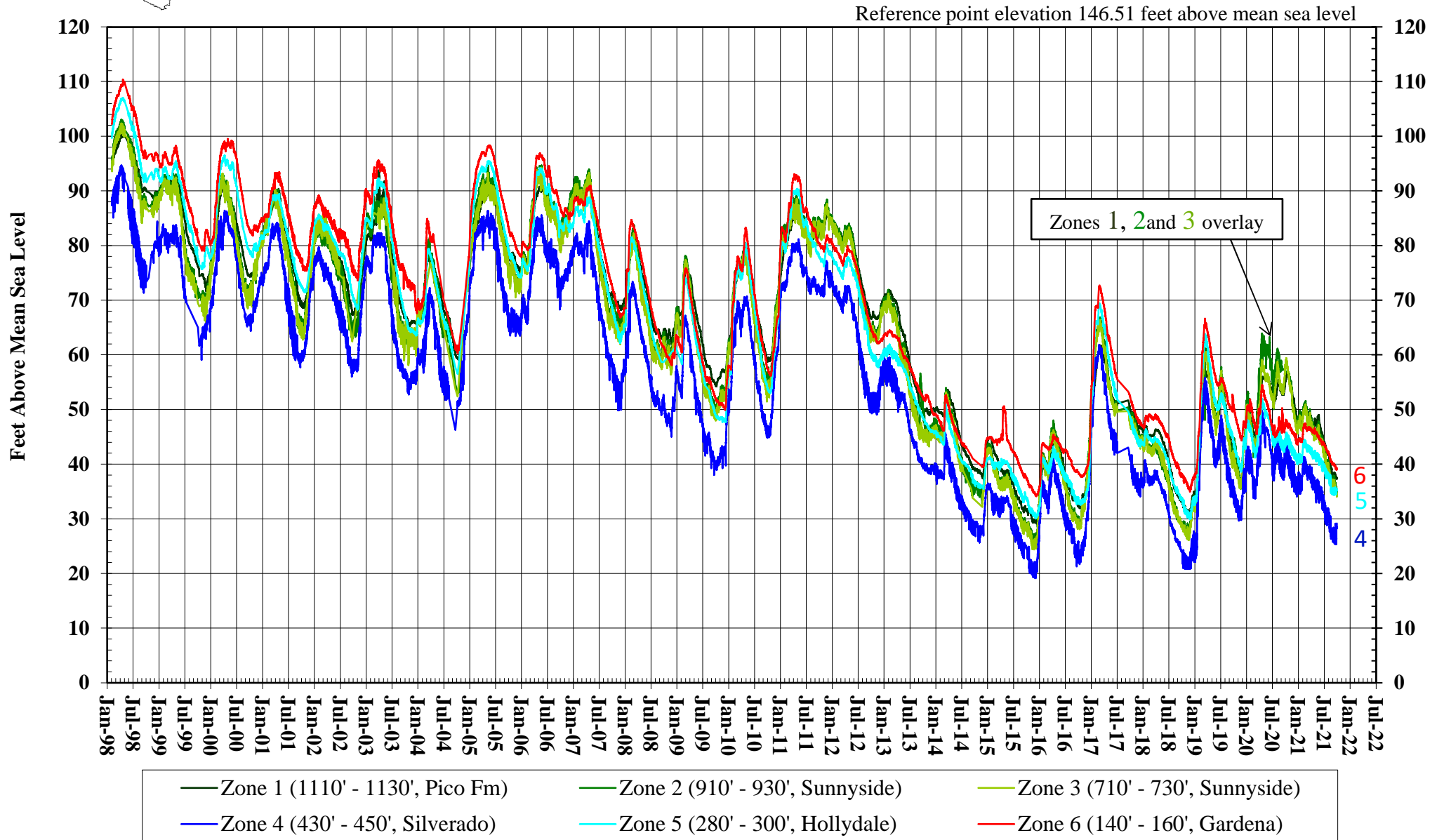




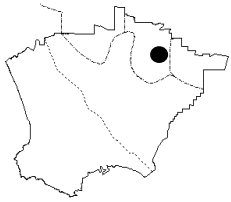




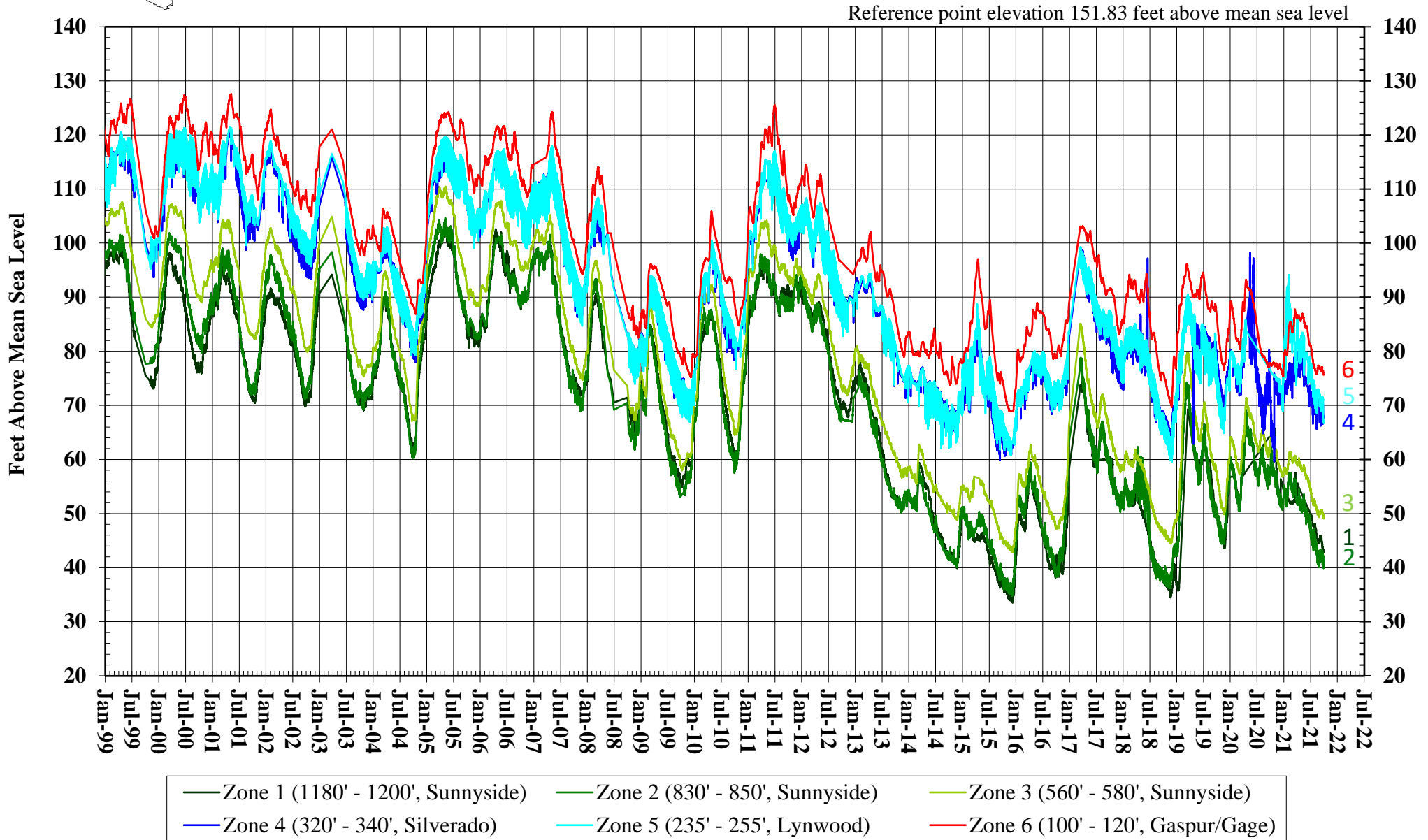
**FIGURE 2.3**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL RIO HONDO #1**

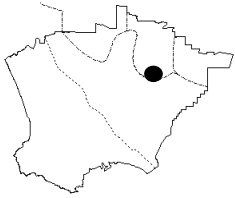




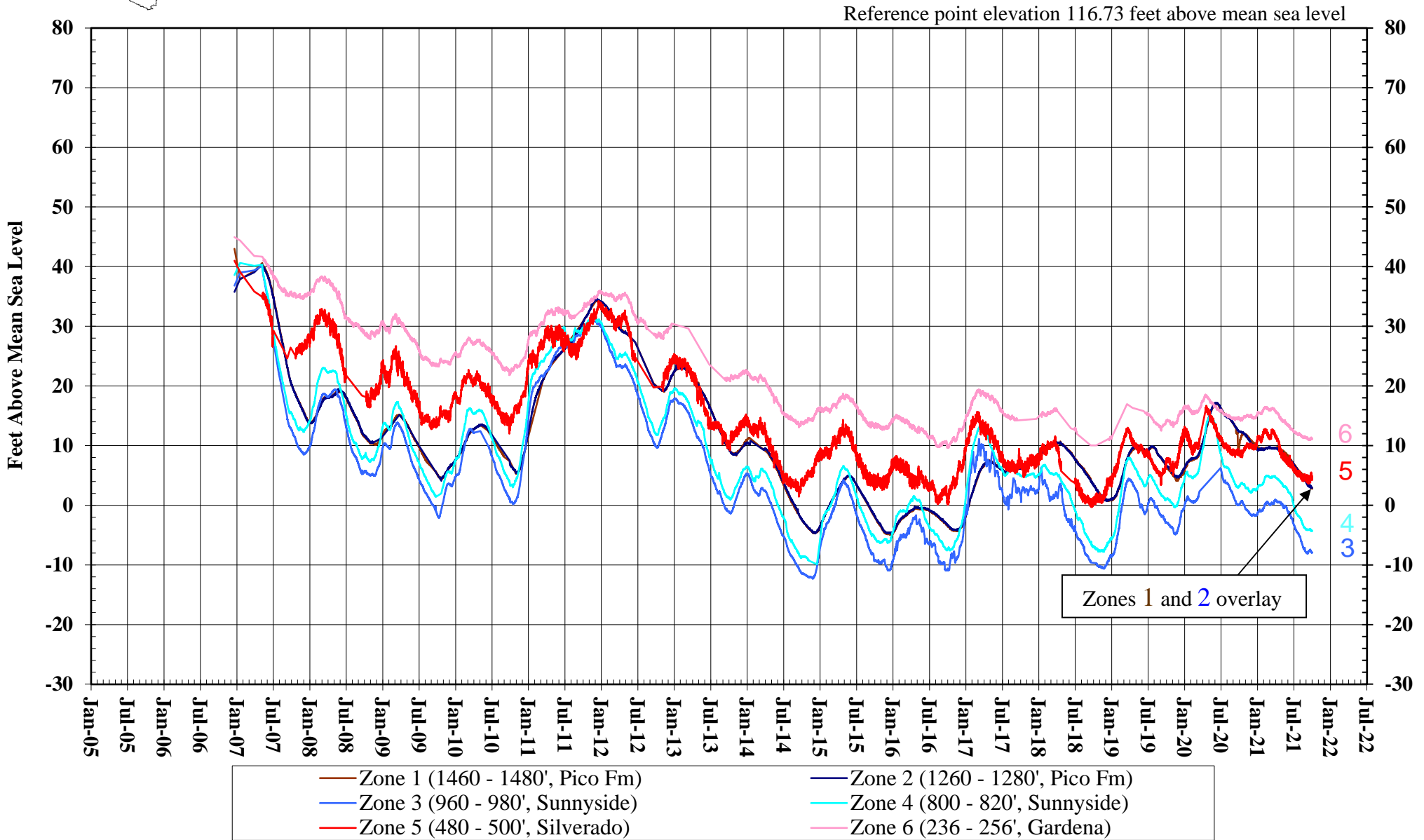


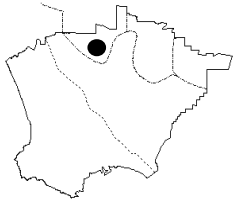
**FIGURE 2.4**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL PICO #2**



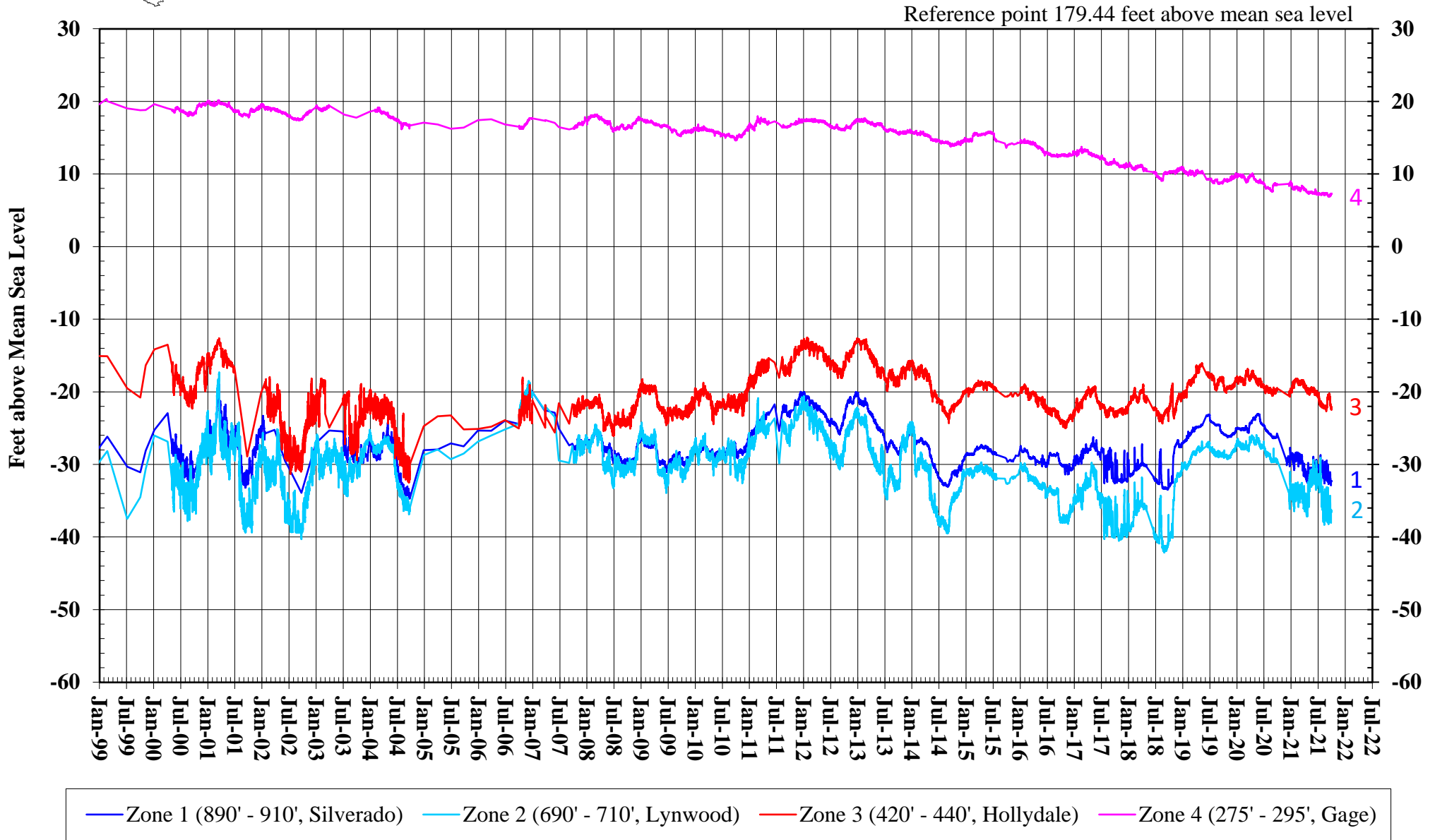


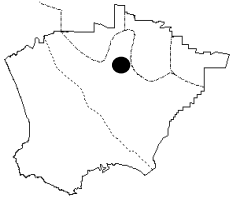
**FIGURE 2.5**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL NORWALK #2**



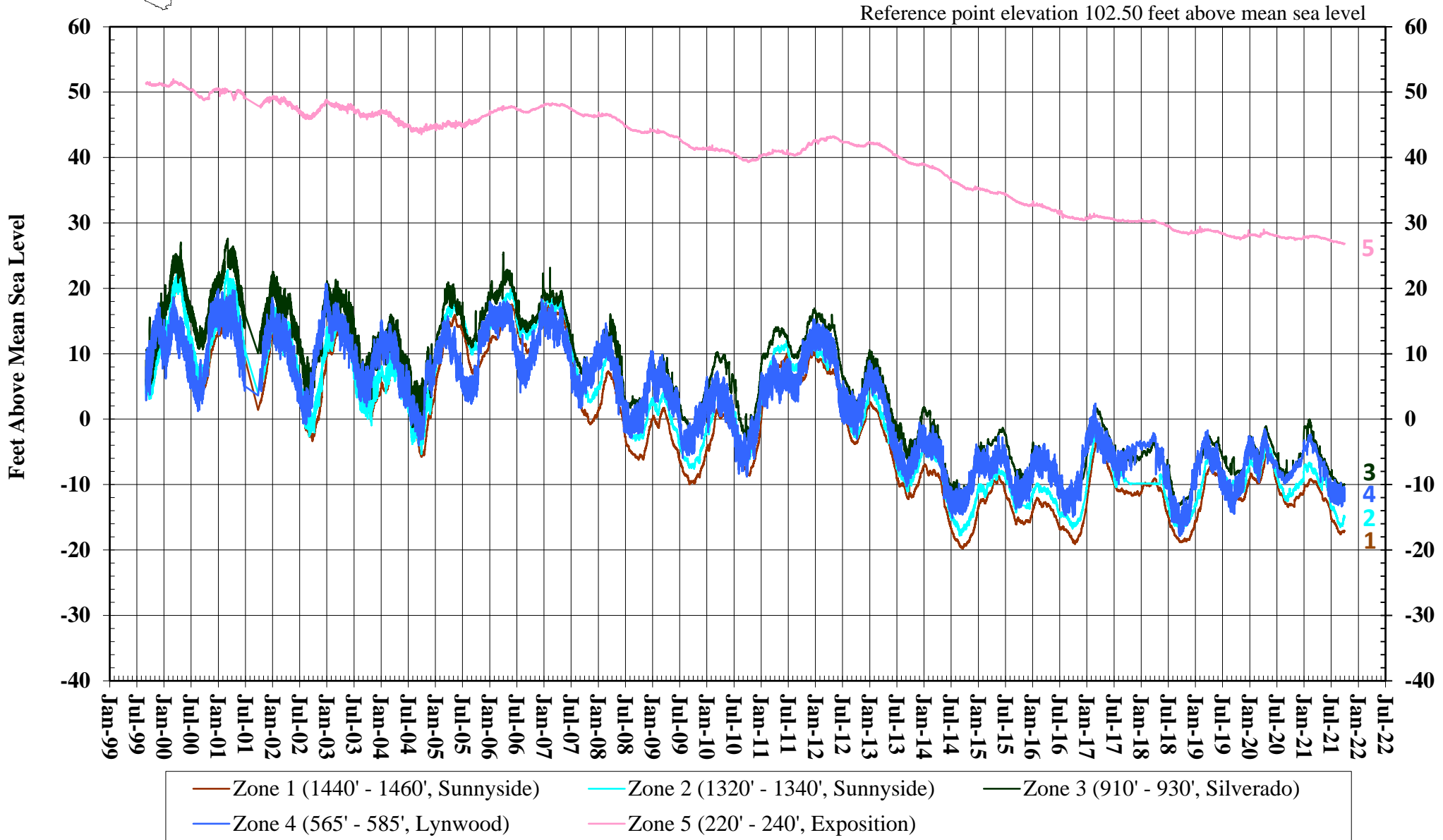


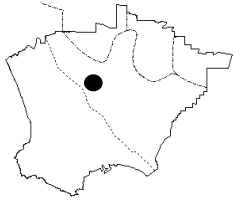
**FIGURE 2.6**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL HUNTINGTON PARK #1**



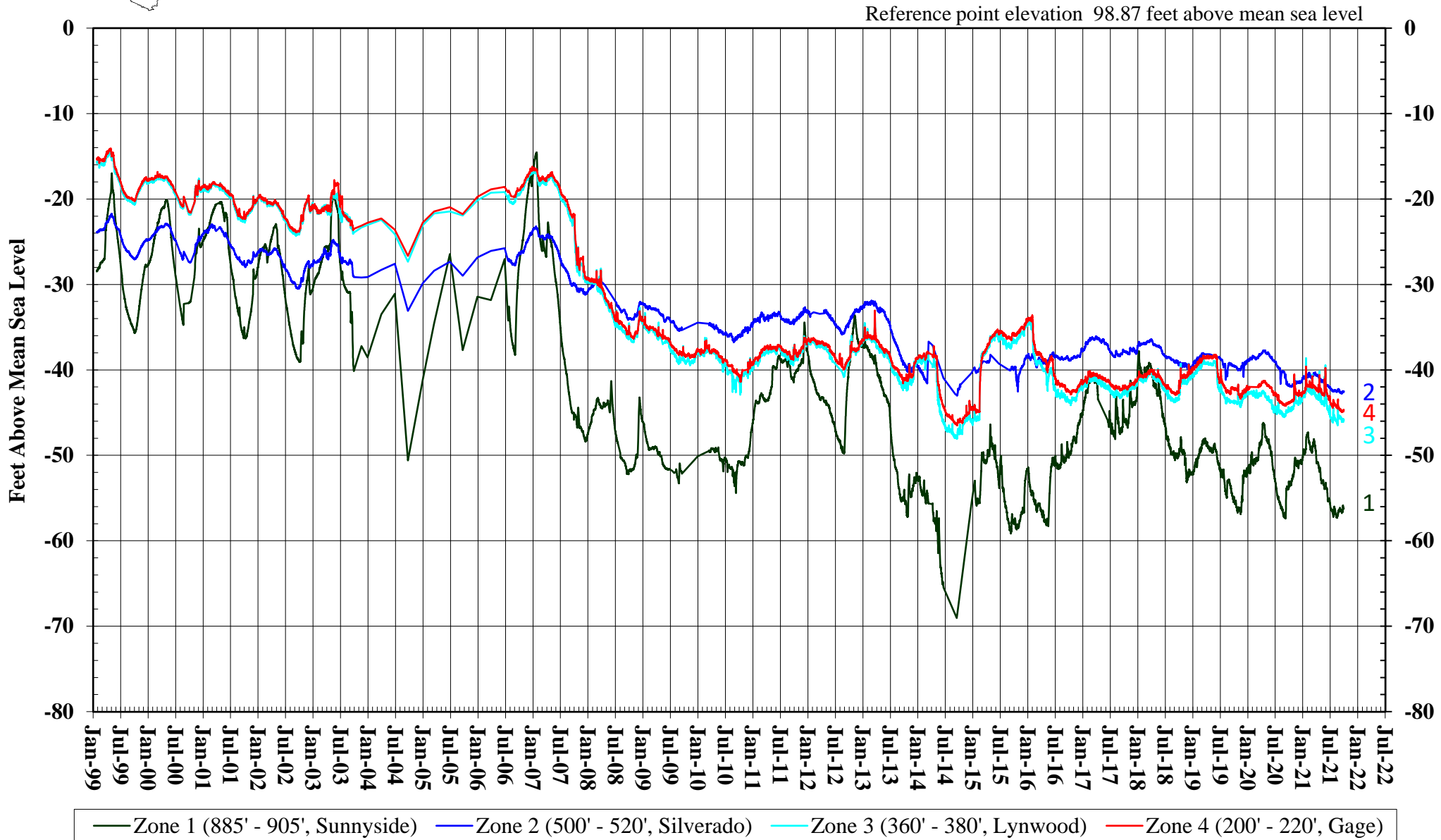


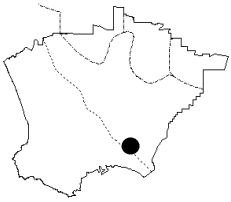
**FIGURE 2.7**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL SOUTH GATE #1**



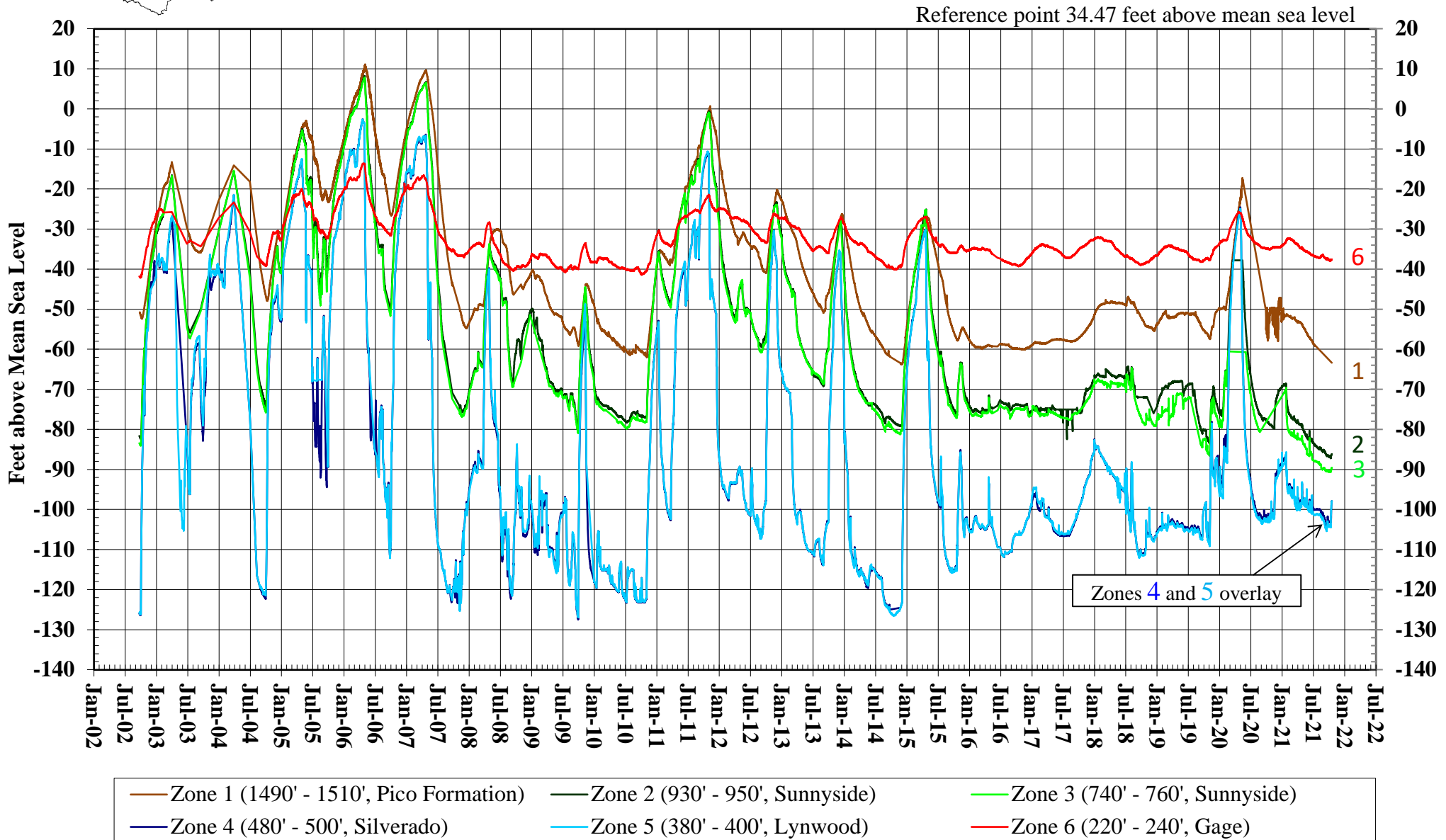


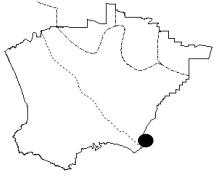
**FIGURE 2.8**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL WILLOWBROOK #1**



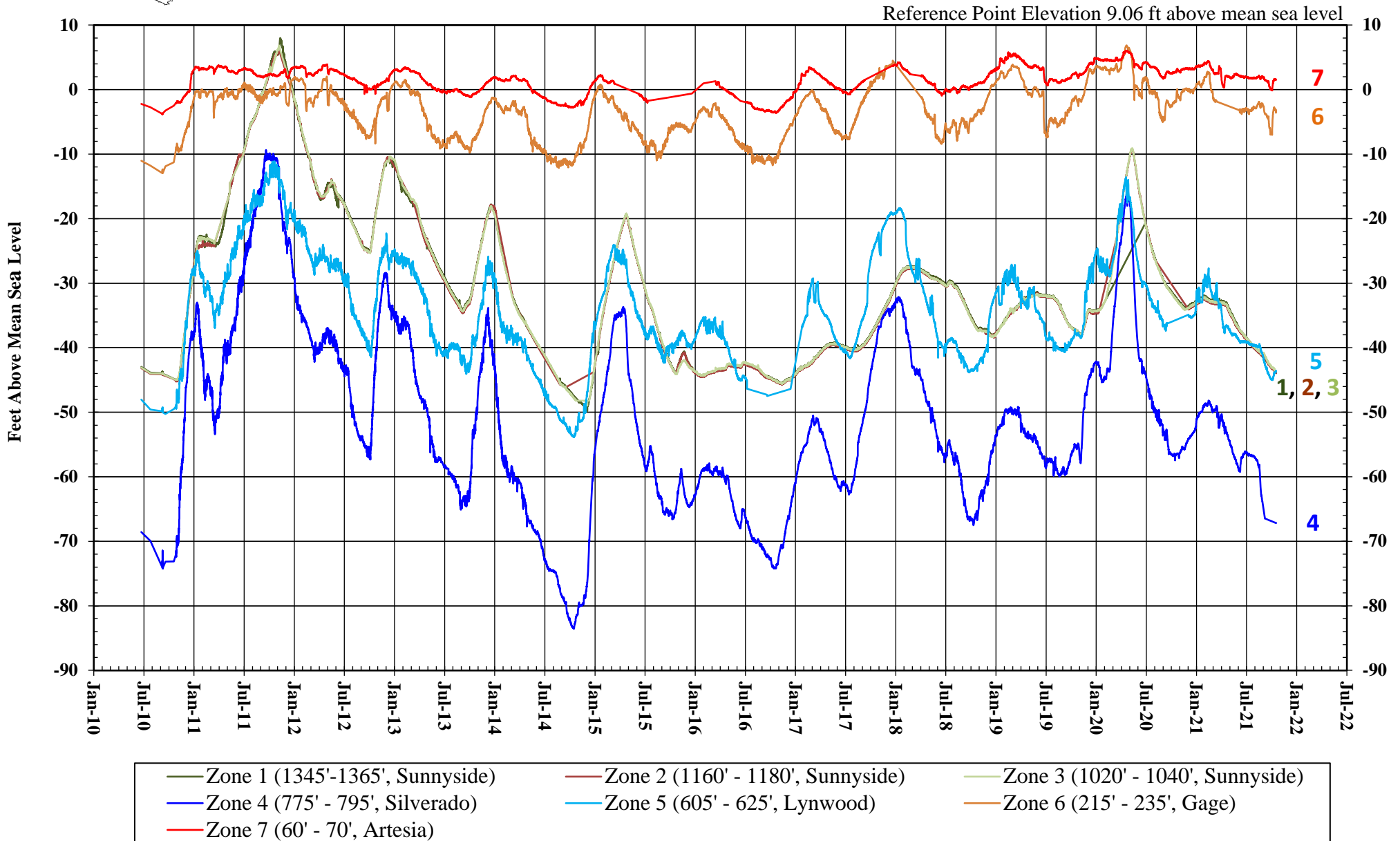


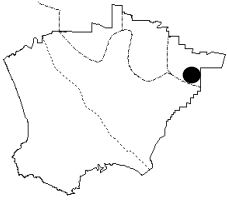
**FIGURE 2.9**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL LONG BEACH #6**



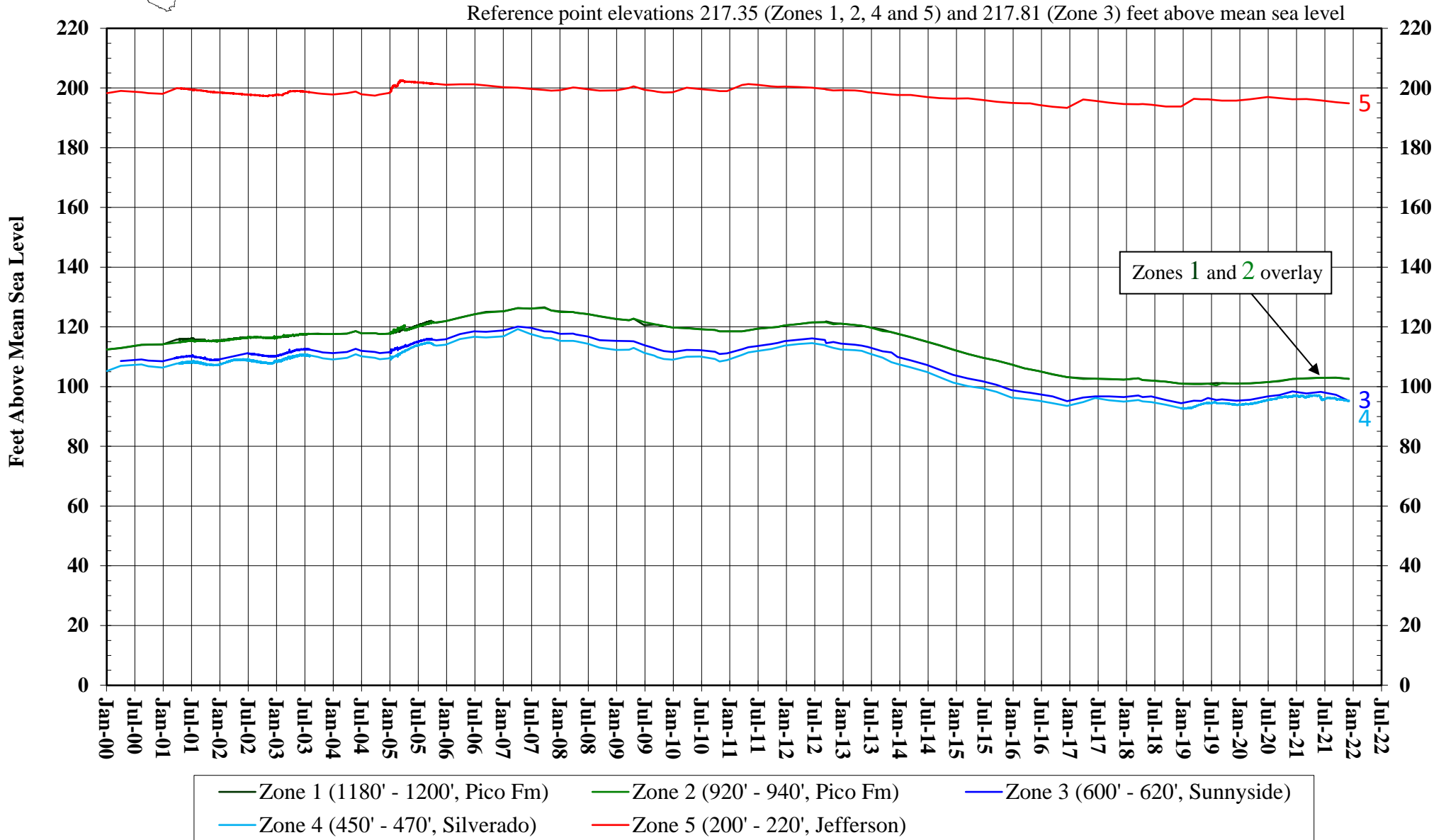


**FIGURE 2.10**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL SEAL BEACH #1**

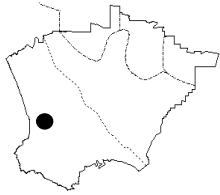




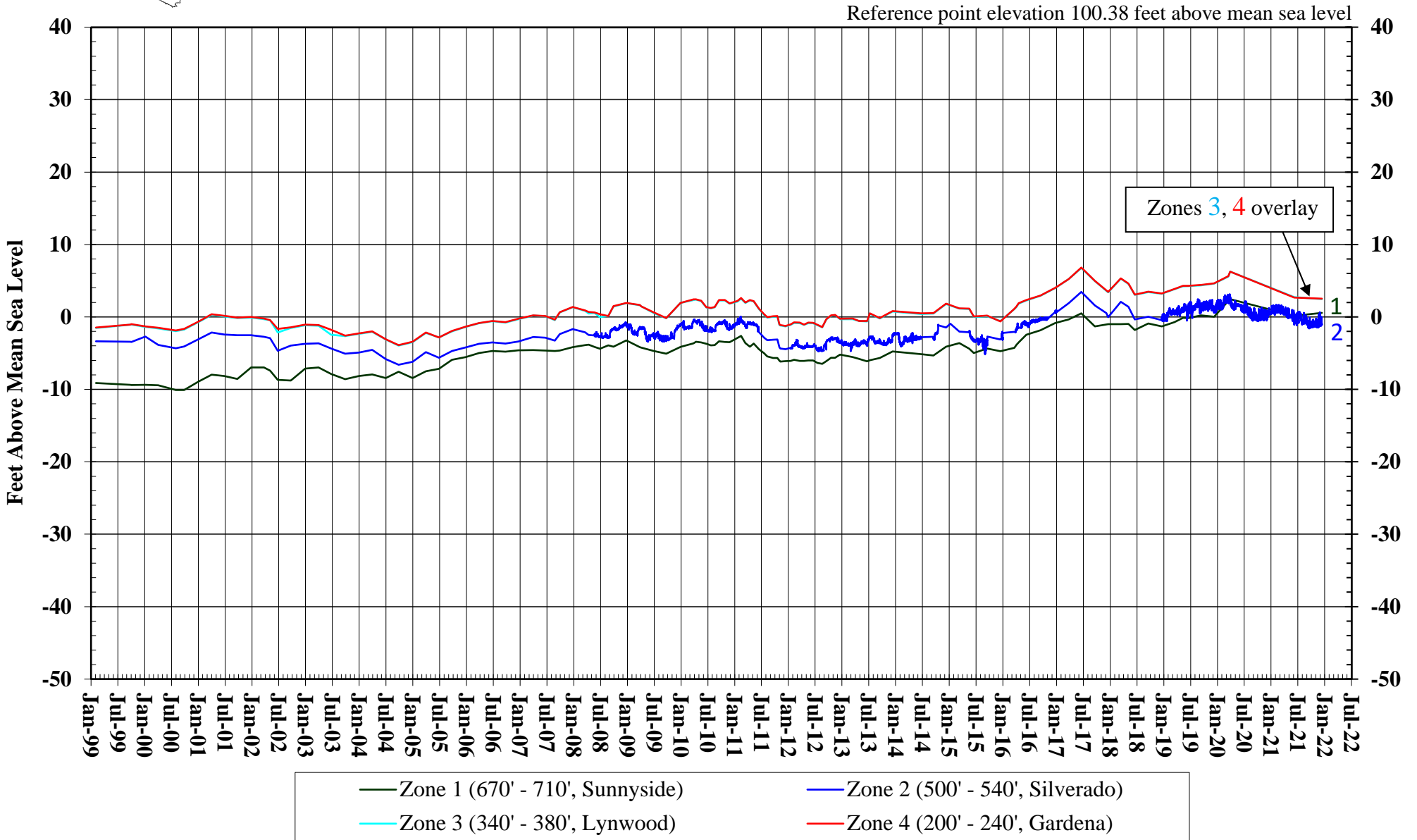
**FIGURE 2.11**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL WHITTIER #1**

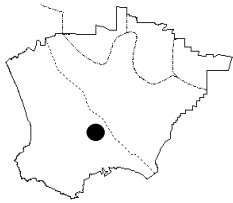




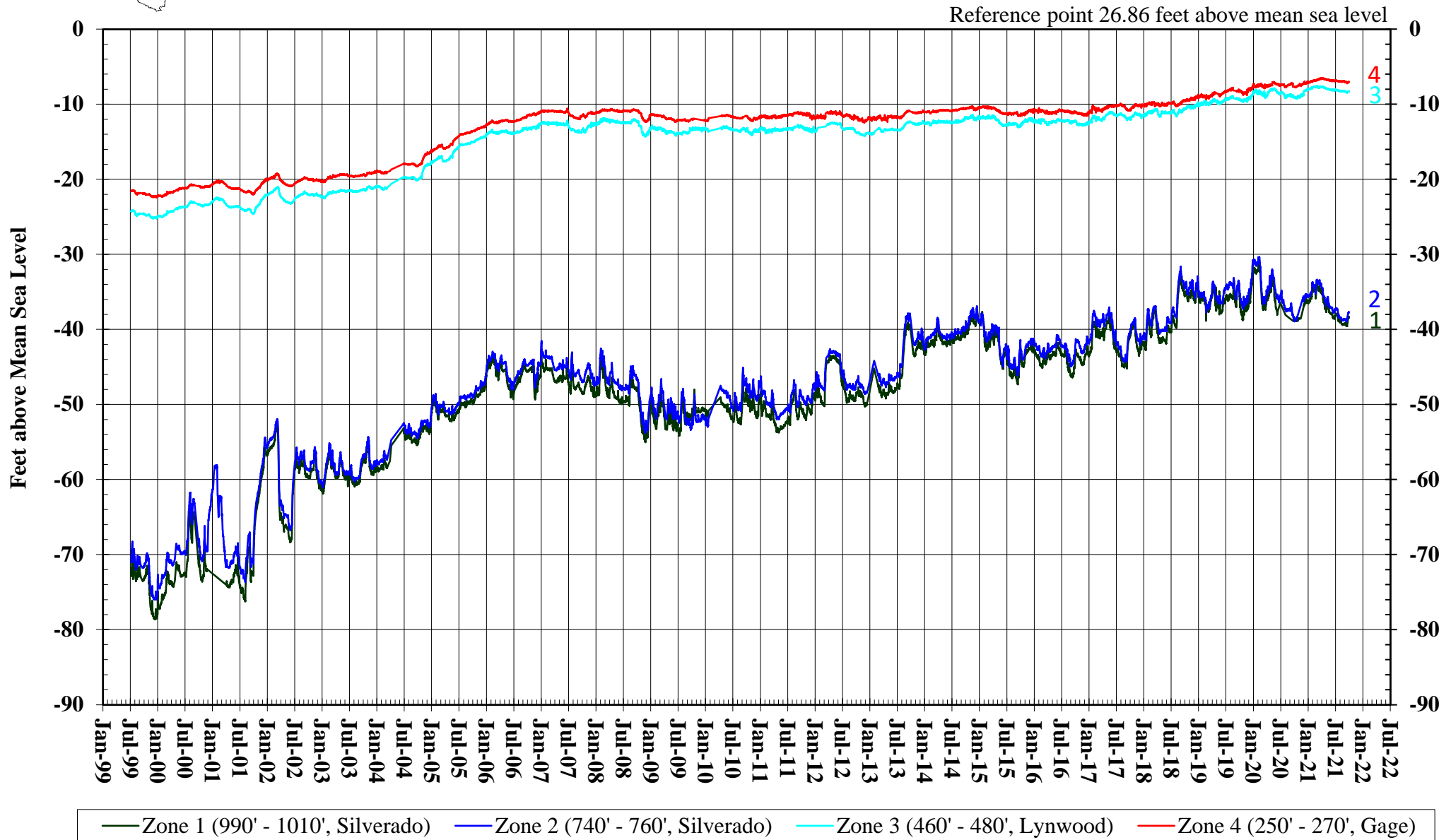


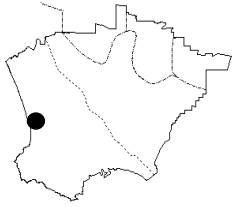
**FIGURE 2.12**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL PM-4 MARINER**



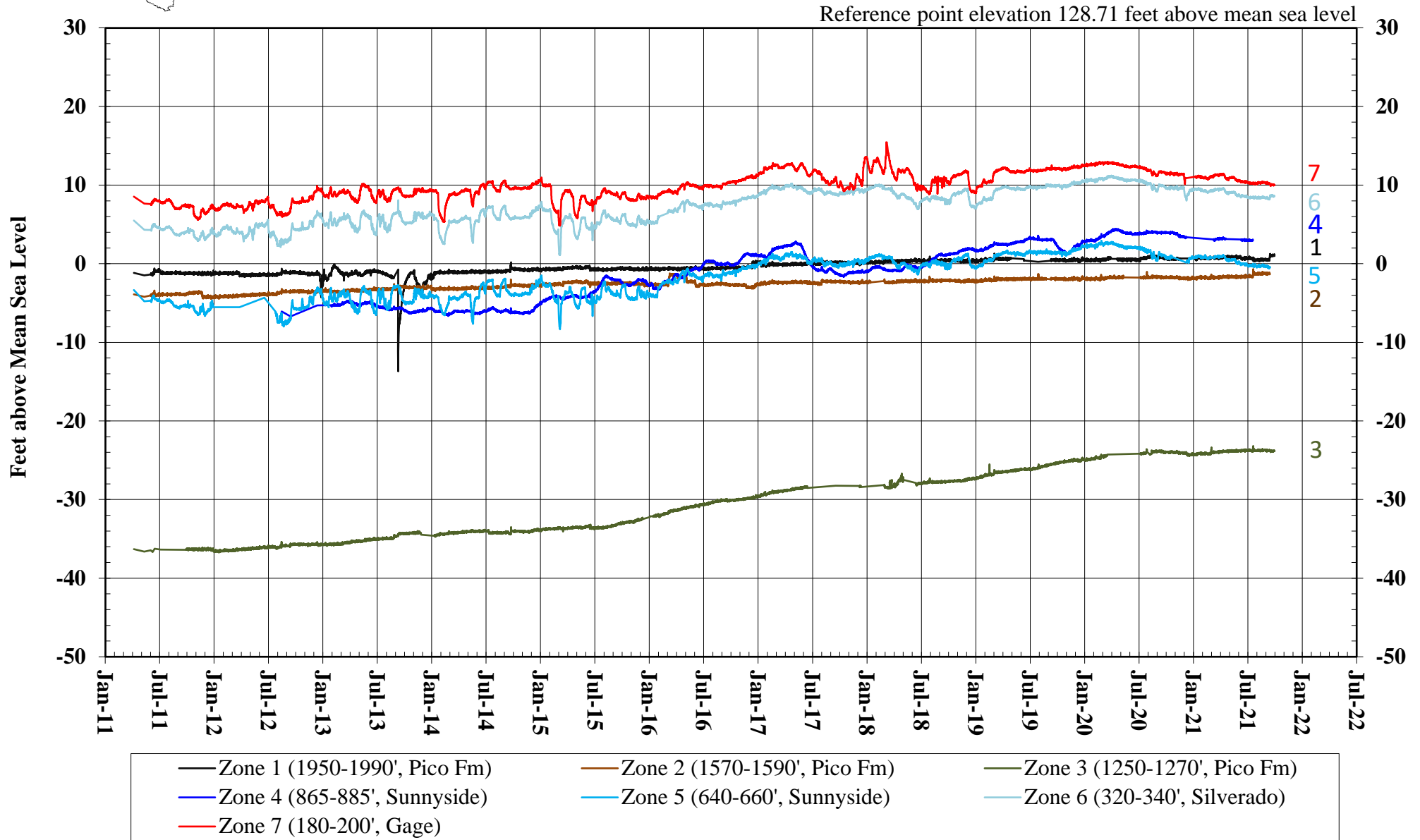


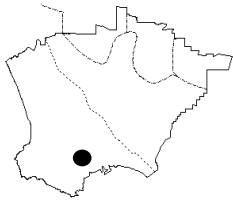
**FIGURE 2.13**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL CARSON #1**



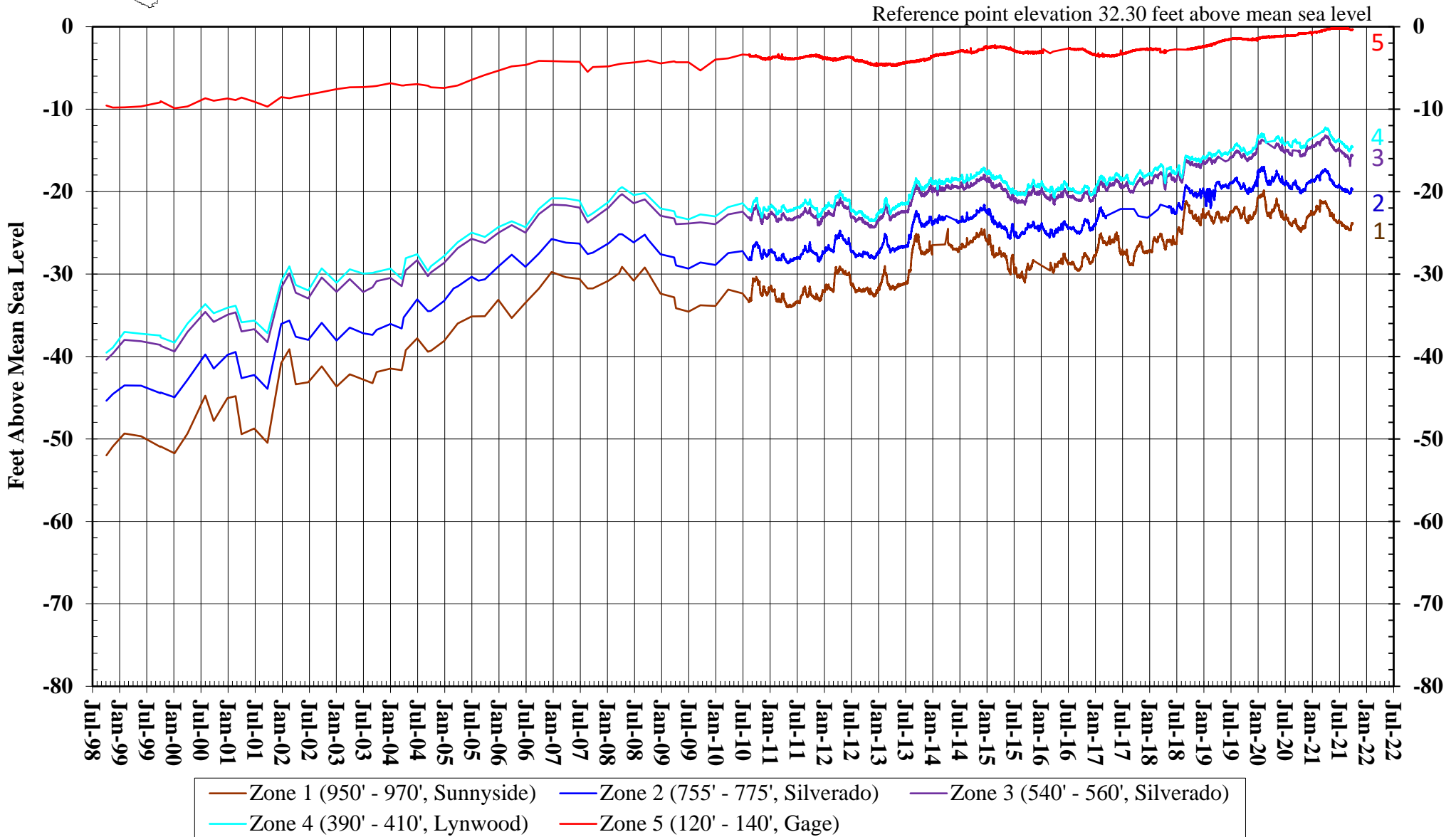


**FIGURE 2.14**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL MANHATTAN BEACH #1**

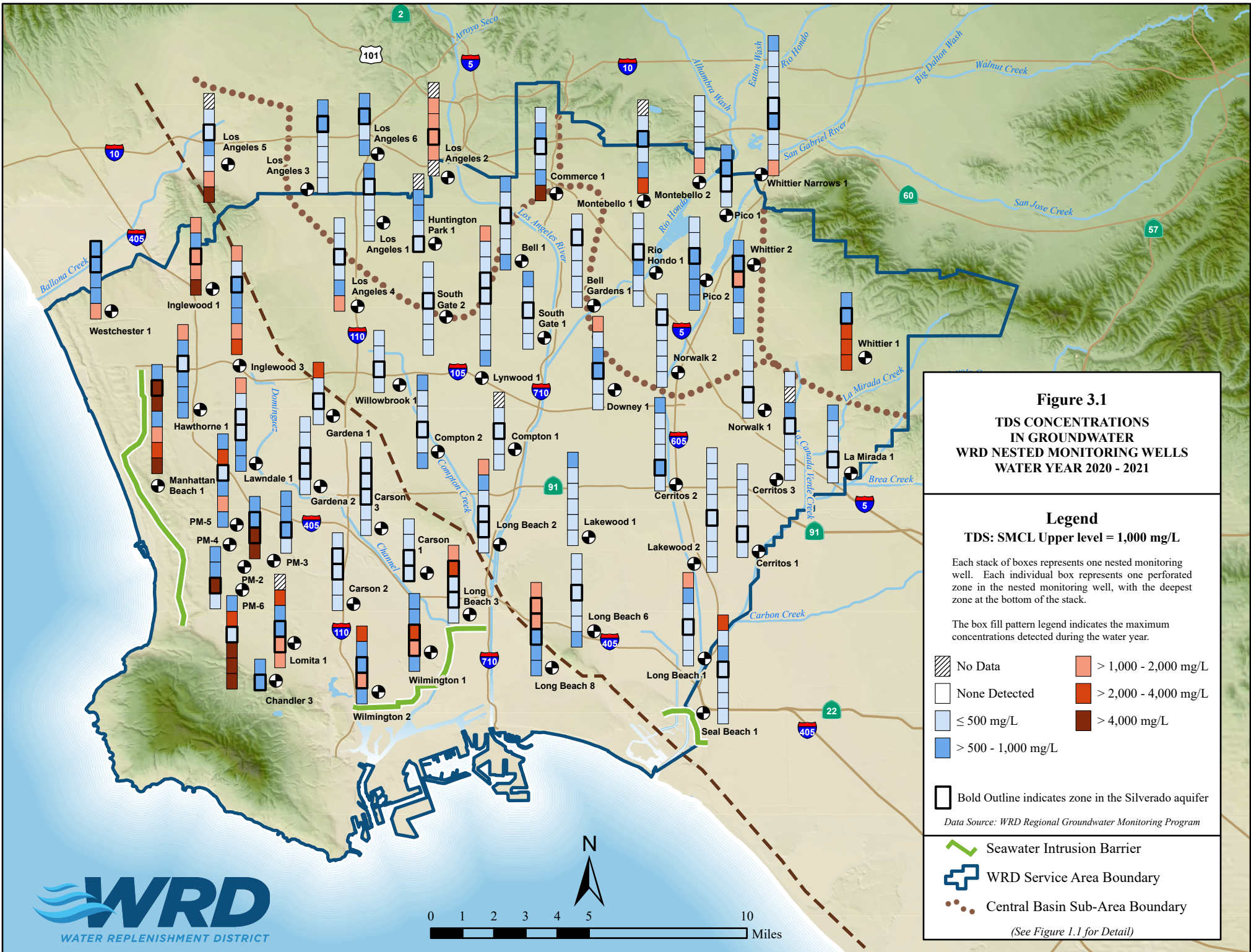




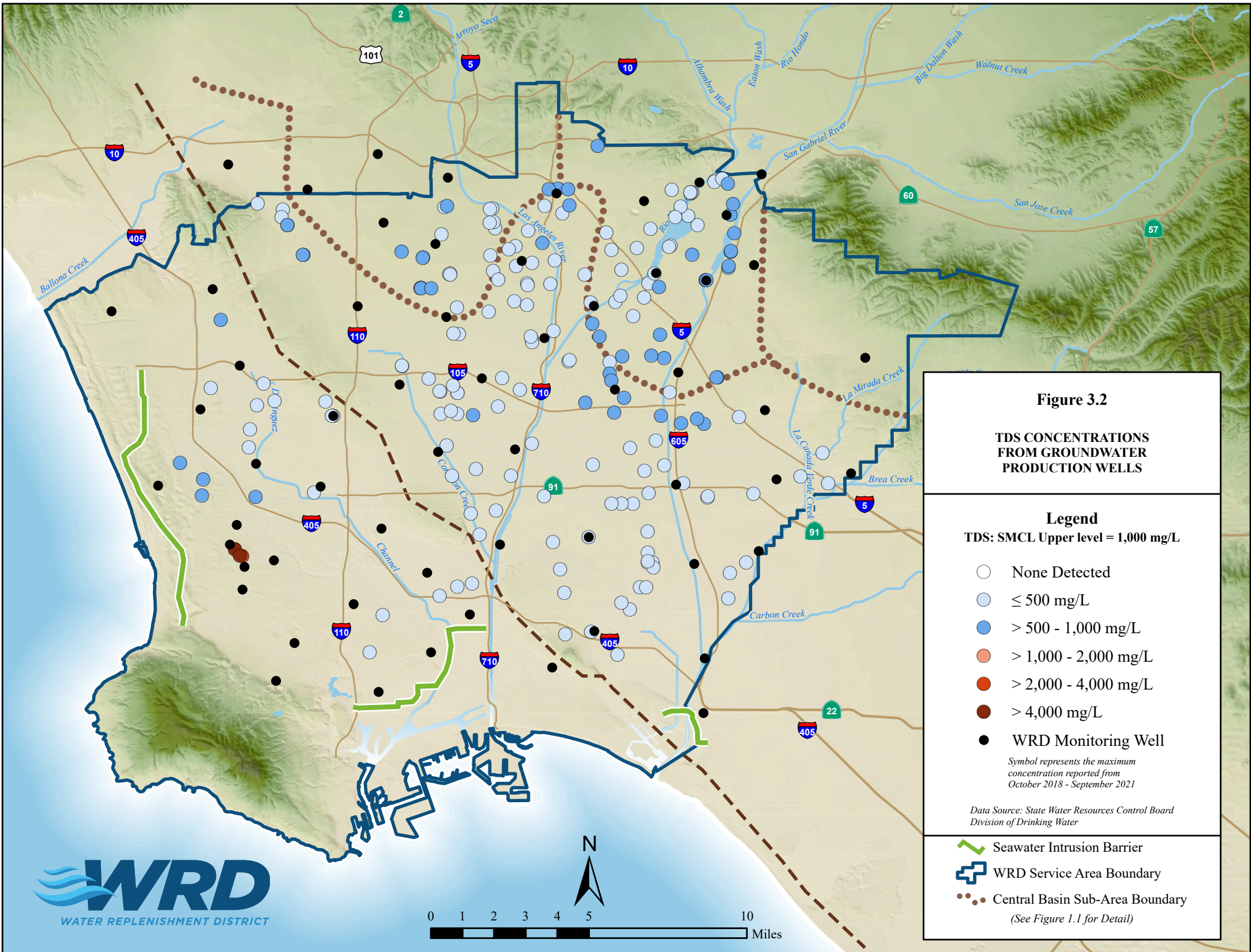
**FIGURE 2.15**  
**WATER LEVELS IN WRD KEY NESTED**  
**MONITORING WELL WILMINGTON #2**



PAGE LEFT INTENTIONALLY BLANK







**Figure 3.2**

**TDS CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS**

**Legend**

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

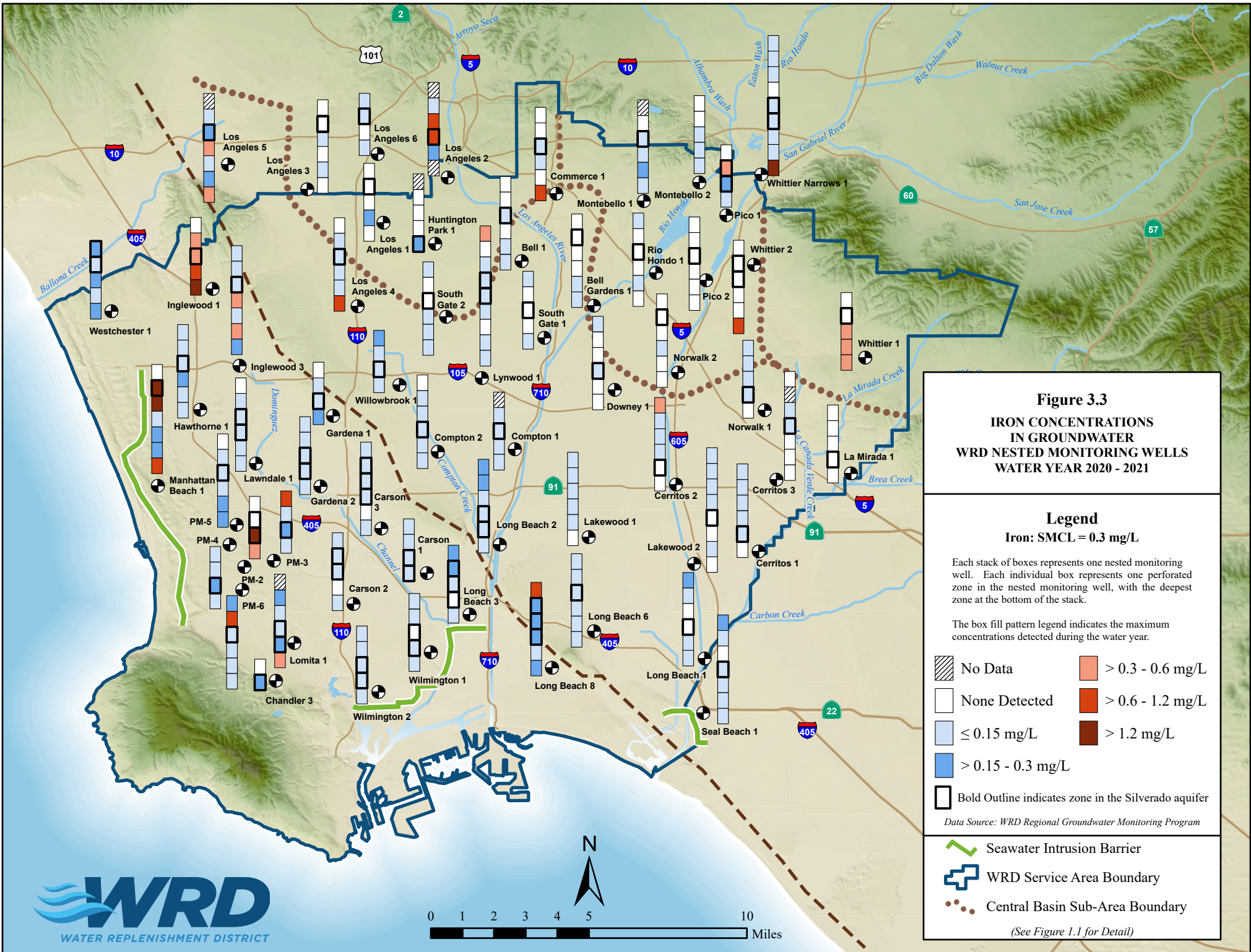
- None Detected
- ≤ 500 mg/L
- > 500 - 1,000 mg/L
- > 1,000 - 2,000 mg/L
- > 2,000 - 4,000 mg/L
- > 4,000 mg/L
- WRD Monitoring Well

*Symbol represents the maximum concentration reported from October 2018 - September 2021*

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

- Seawater Intrusion Barrier
- WRD Service Area Boundary
- Central Basin Sub-Area Boundary  
*(See Figure 1.1 for Detail)*





**Figure 3.3**  
**IRON CONCENTRATIONS**  
**IN GROUNDWATER**  
**WRD NESTED MONITORING WELLS**  
**WATER YEAR 2020 - 2021**

**Legend**  
**Iron: SMCL = 0.3 mg/L**

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

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

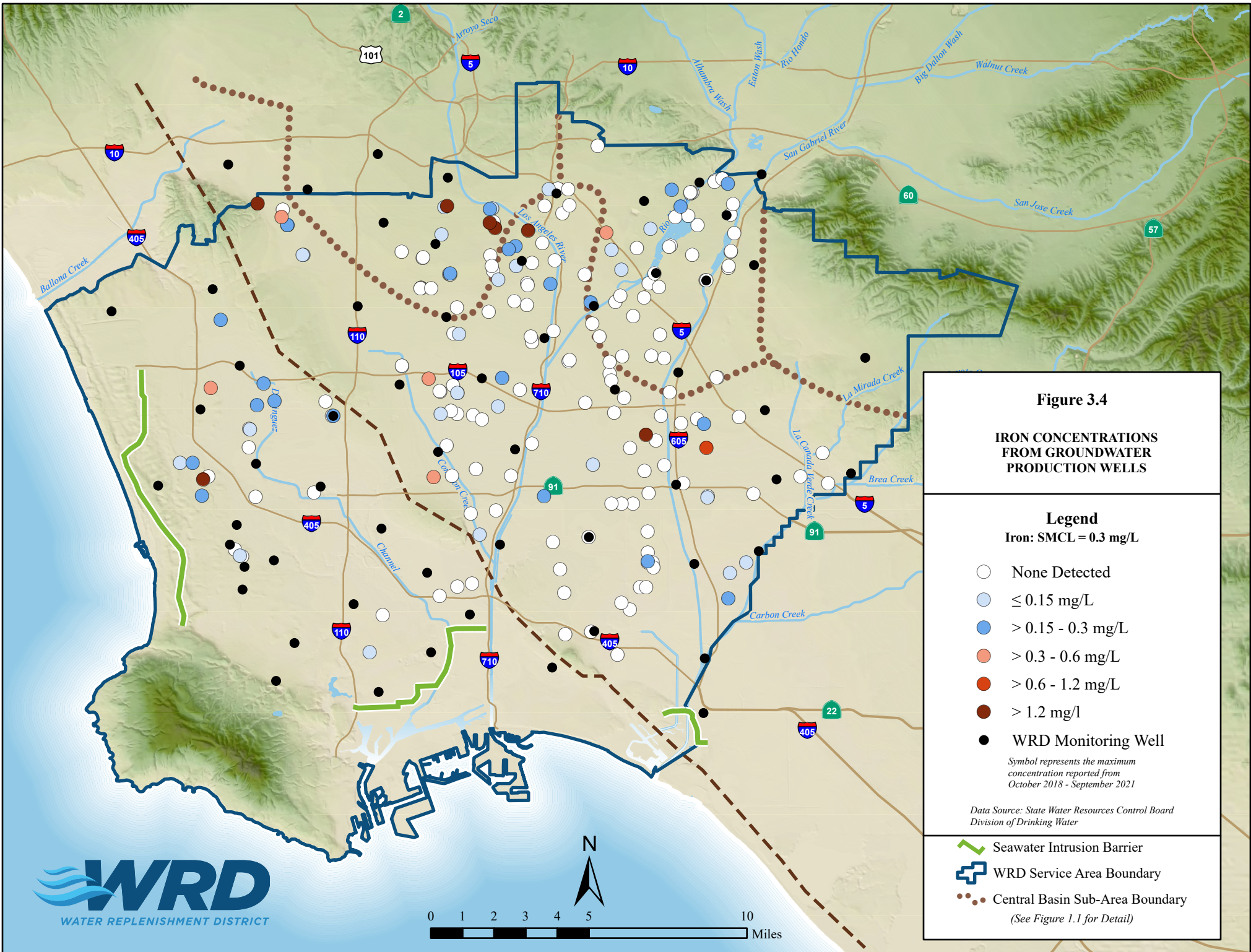
- |  |  |  |                  |
|--|--|--|------------------|
|  | No Data  |  | > 0.3 - 0.6 mg/L |
|  | None Detected  |  | > 0.6 - 1.2 mg/L |
|  | ≤ 0.15 mg/L  |  | > 1.2 mg/L       |
|  | > 0.15 - 0.3 mg/L                                    |  |                  |
|  | Bold Outline indicates zone in the Silverado aquifer |  |                  |

Data Source: WRD Regional Groundwater Monitoring Program

- Seawater Intrusion Barrier
- WRD Service Area Boundary
- Central Basin Sub-Area Boundary

(See Figure 1.1 for Detail)





**Figure 3.4**

**IRON CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS**

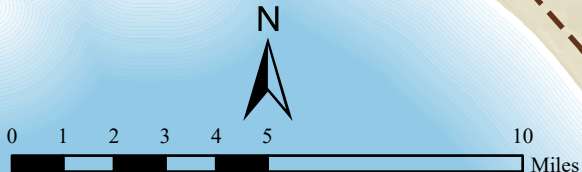
**Legend**  
 Iron: SMCL = 0.3 mg/L

- 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
- WRD Monitoring Well

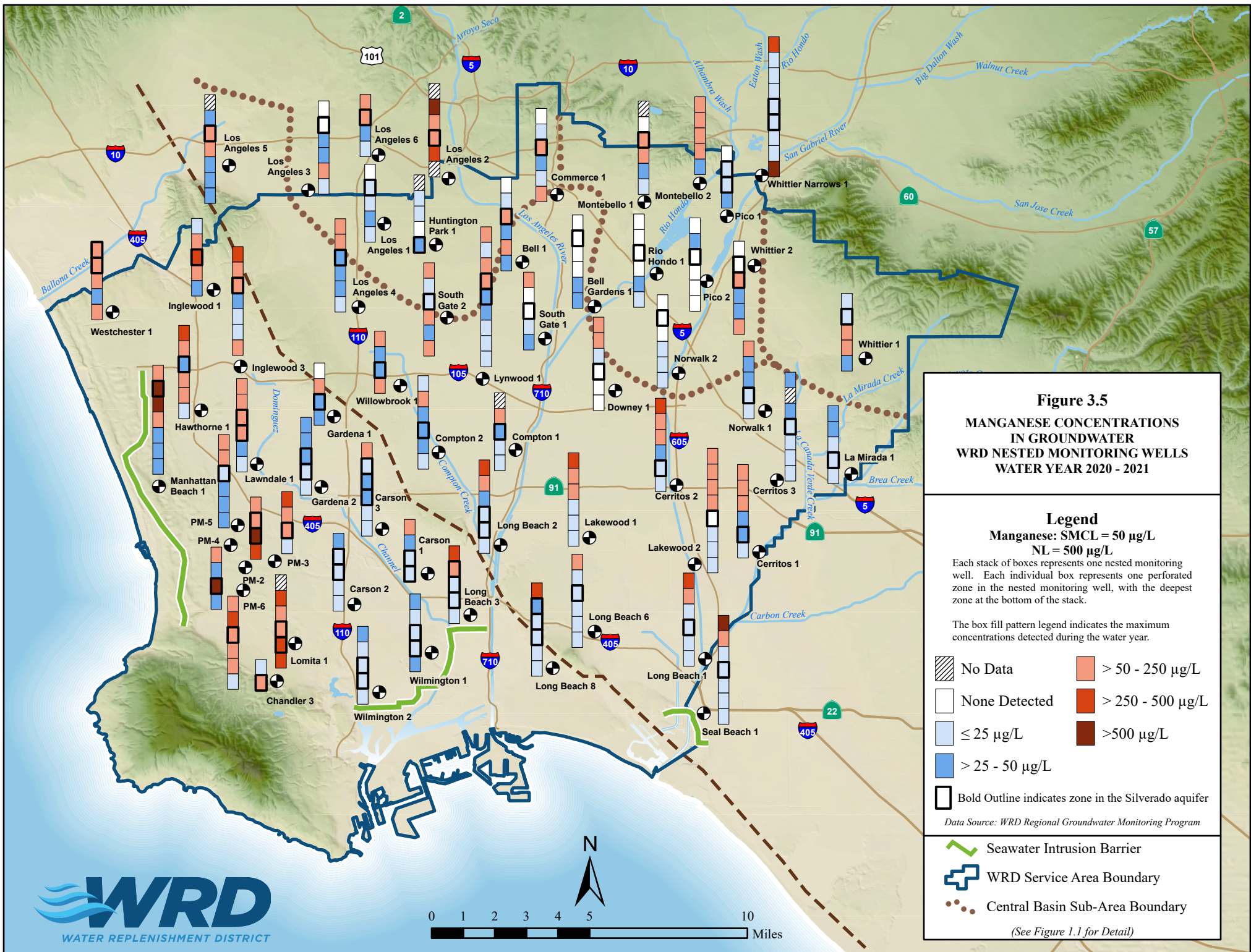
*Symbol represents the maximum concentration reported from October 2018 - September 2021*

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

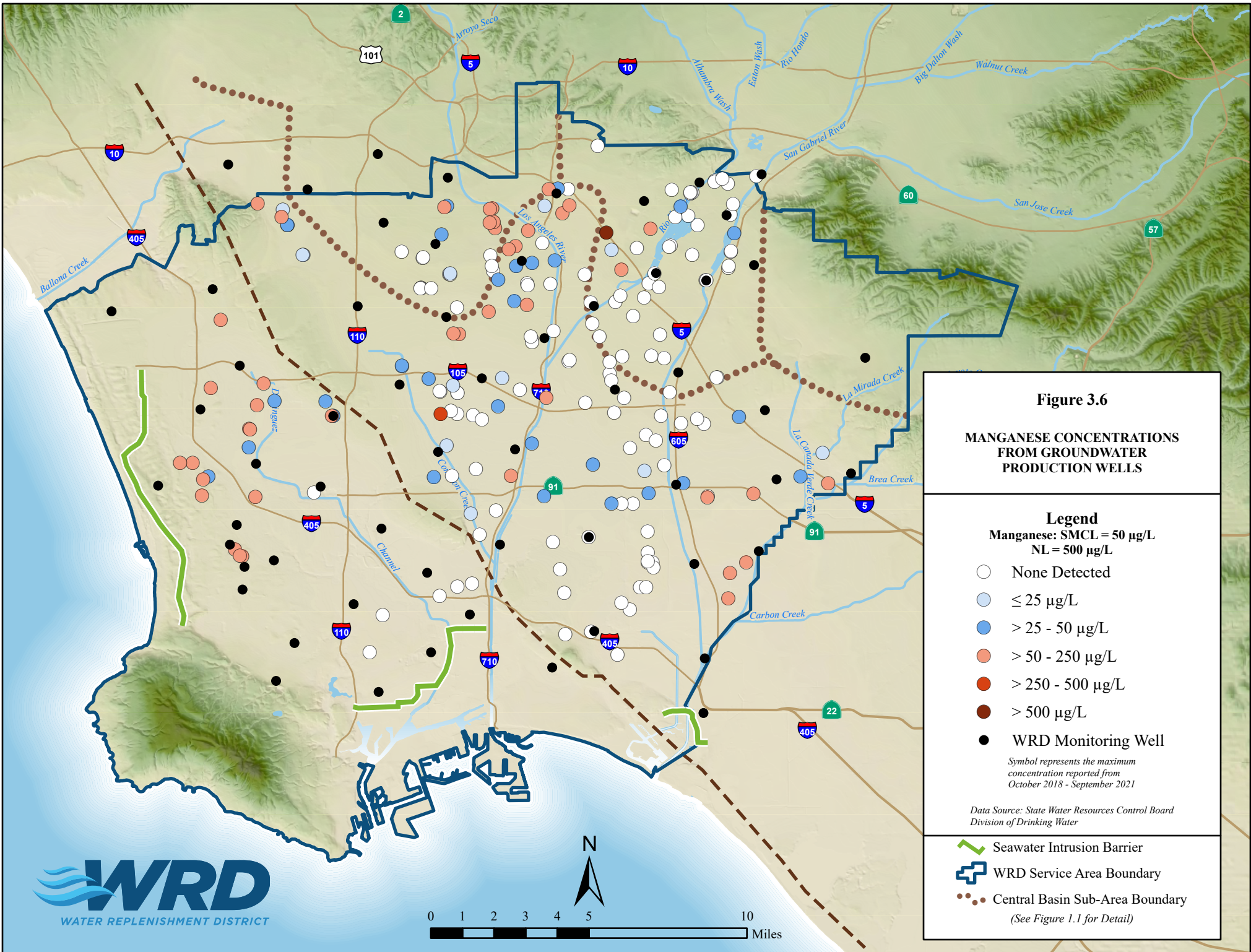
- Seawater Intrusion Barrier
- WRD Service Area Boundary
- Central Basin Sub-Area Boundary  
*(See Figure 1.1 for Detail)*











**Figure 3.6**

**MANGANESE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS**

**Legend**

Manganese: SMCL = 50 µg/L  
NL = 500 µg/L

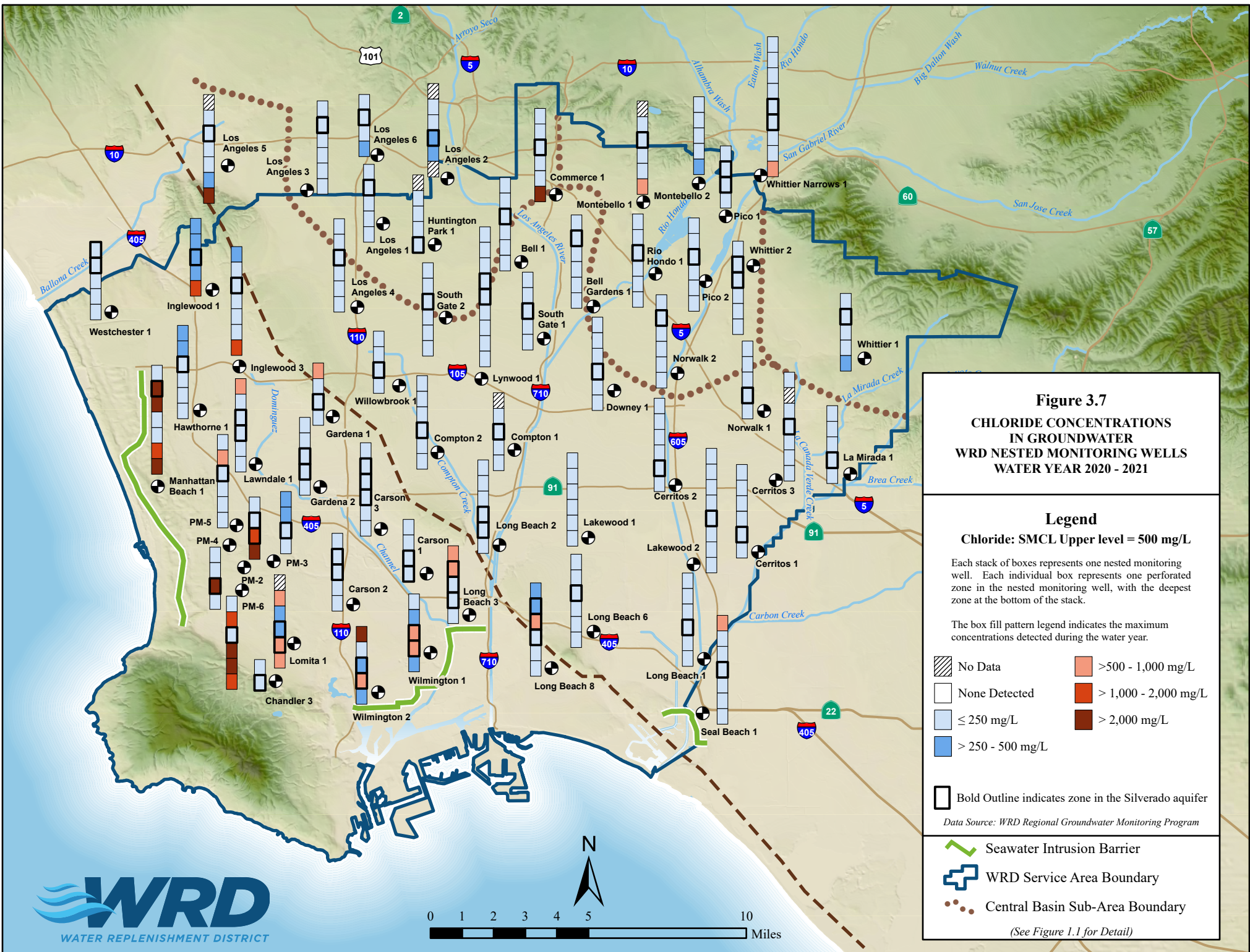
- None Detected
- ≤ 25 µg/L
- > 25 - 50 µg/L
- > 50 - 250 µg/L
- > 250 - 500 µg/L
- > 500 µg/L
- WRD Monitoring Well

*Symbol represents the maximum concentration reported from October 2018 - September 2021*

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

- Seawater Intrusion Barrier
  - WRD Service Area Boundary
  - Central Basin Sub-Area Boundary
- (See Figure 1.1 for Detail)*





**Figure 3.7**  
**CHLORIDE CONCENTRATIONS**  
**IN GROUNDWATER**  
**WRD NESTED MONITORING WELLS**  
**WATER YEAR 2020 - 2021**

**Legend**

**Chloride: SMCL Upper level = 500 mg/L**

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

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

	No Data		>500 - 1,000 mg/L
	None Detected		> 1,000 - 2,000 mg/L
	≤ 250 mg/L		> 2,000 mg/L
	> 250 - 500 mg/L		

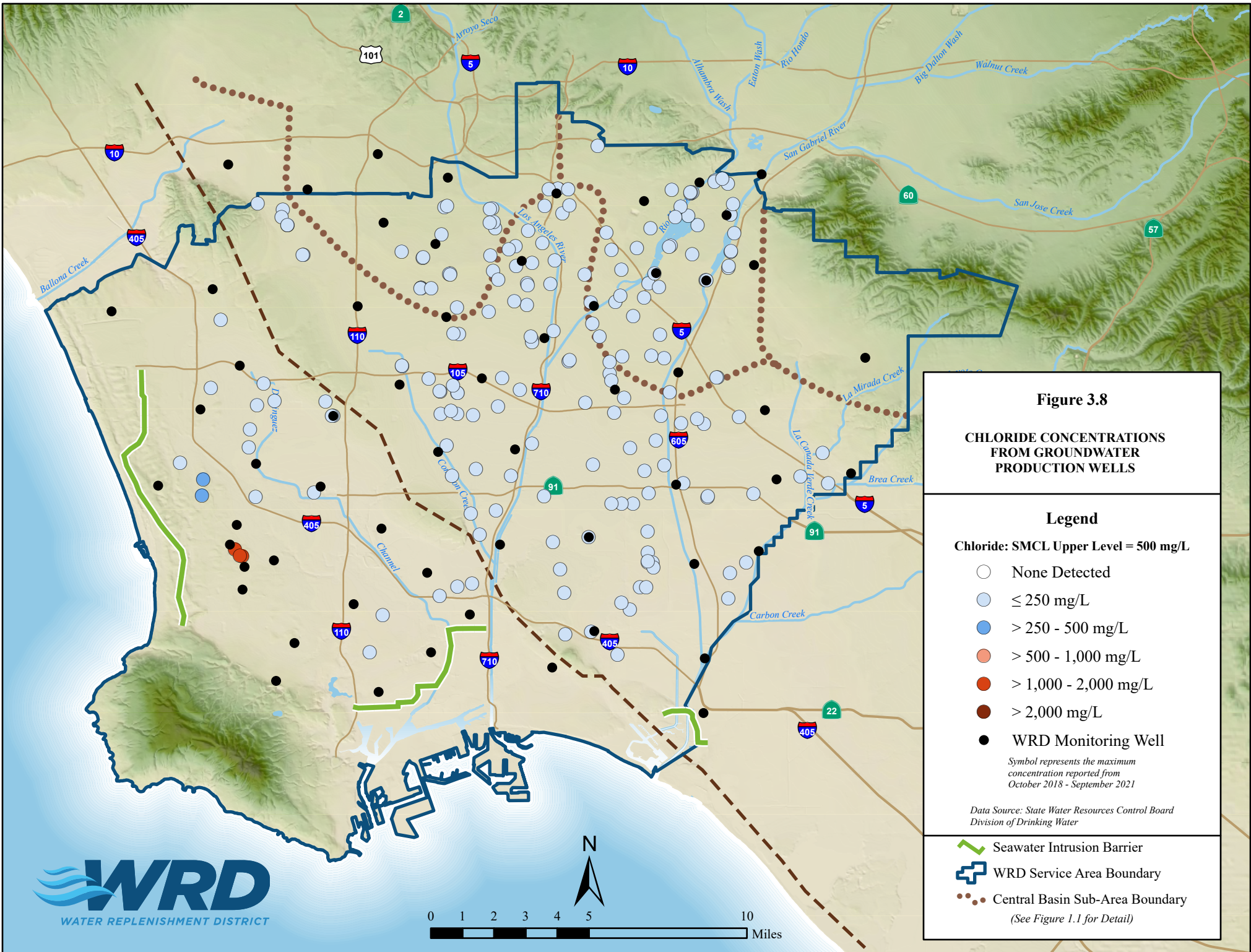
Bold Outline indicates zone in the Silverado aquifer

*Data Source: WRD Regional Groundwater Monitoring Program*

- Seawater Intrusion Barrier
- WRD Service Area Boundary
- Central Basin Sub-Area Boundary

*(See Figure 1.1 for Detail)*





**Figure 3.8**

**CHLORIDE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS**

**Legend**

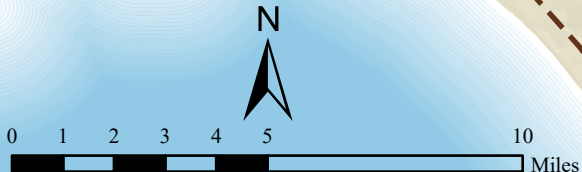
Chloride: SMCL Upper Level = 500 mg/L

- None Detected
- ≤ 250 mg/L
- > 250 - 500 mg/L
- > 500 - 1,000 mg/L
- > 1,000 - 2,000 mg/L
- > 2,000 mg/L
- WRD Monitoring Well

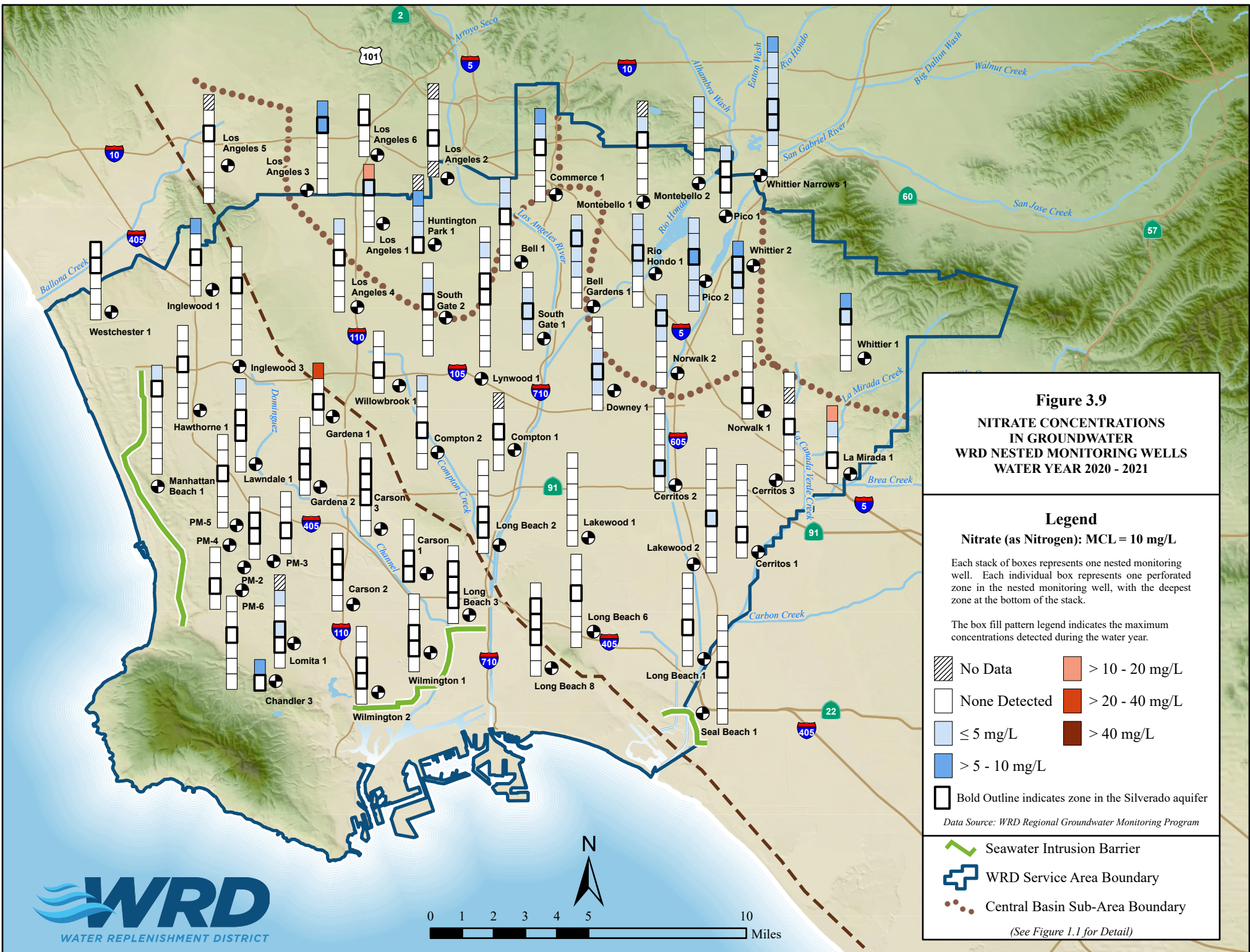
*Symbol represents the maximum concentration reported from October 2018 - September 2021*

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

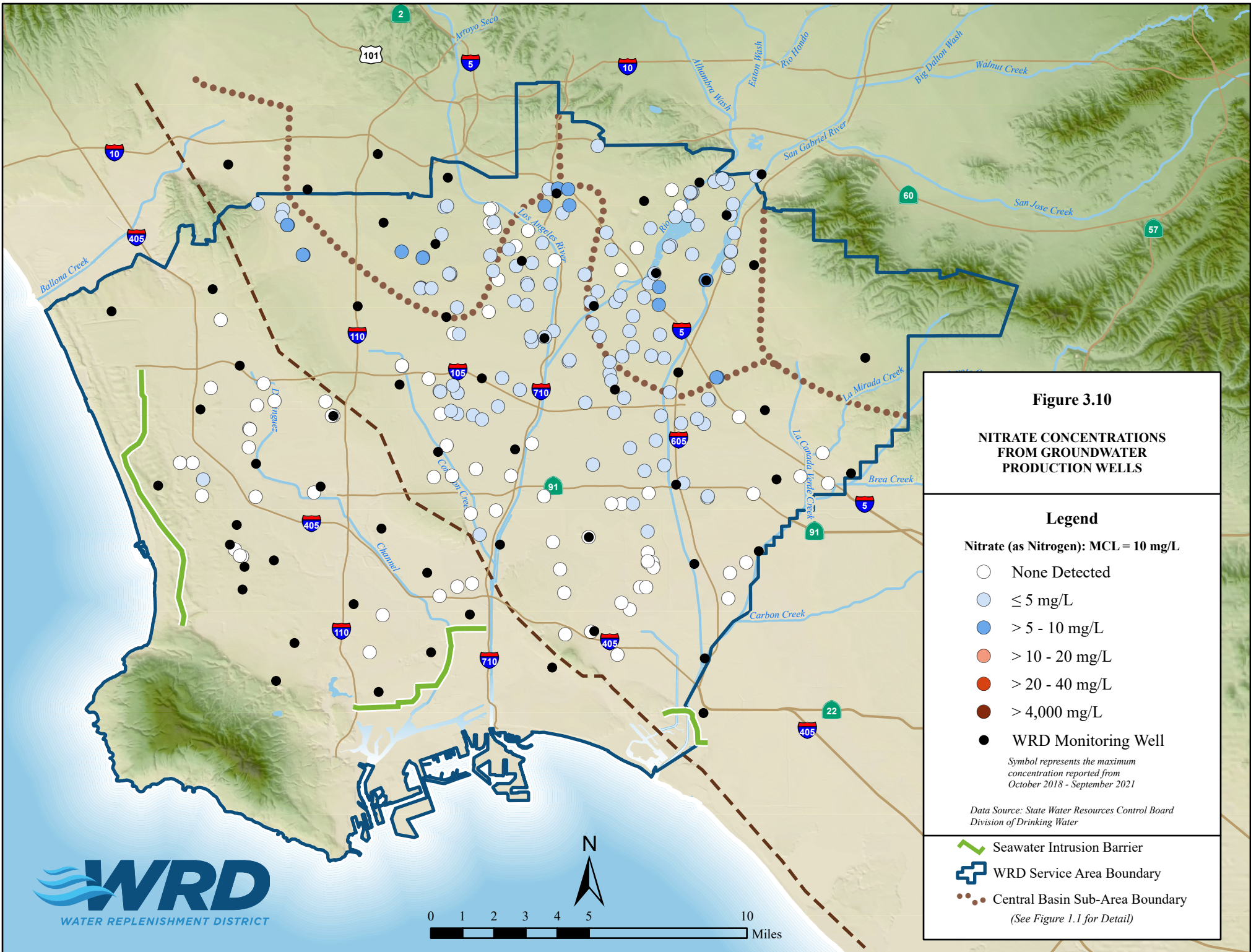
- Seawater Intrusion Barrier
  - WRD Service Area Boundary
  - Central Basin Sub-Area Boundary
- (See Figure 1.1 for Detail)*



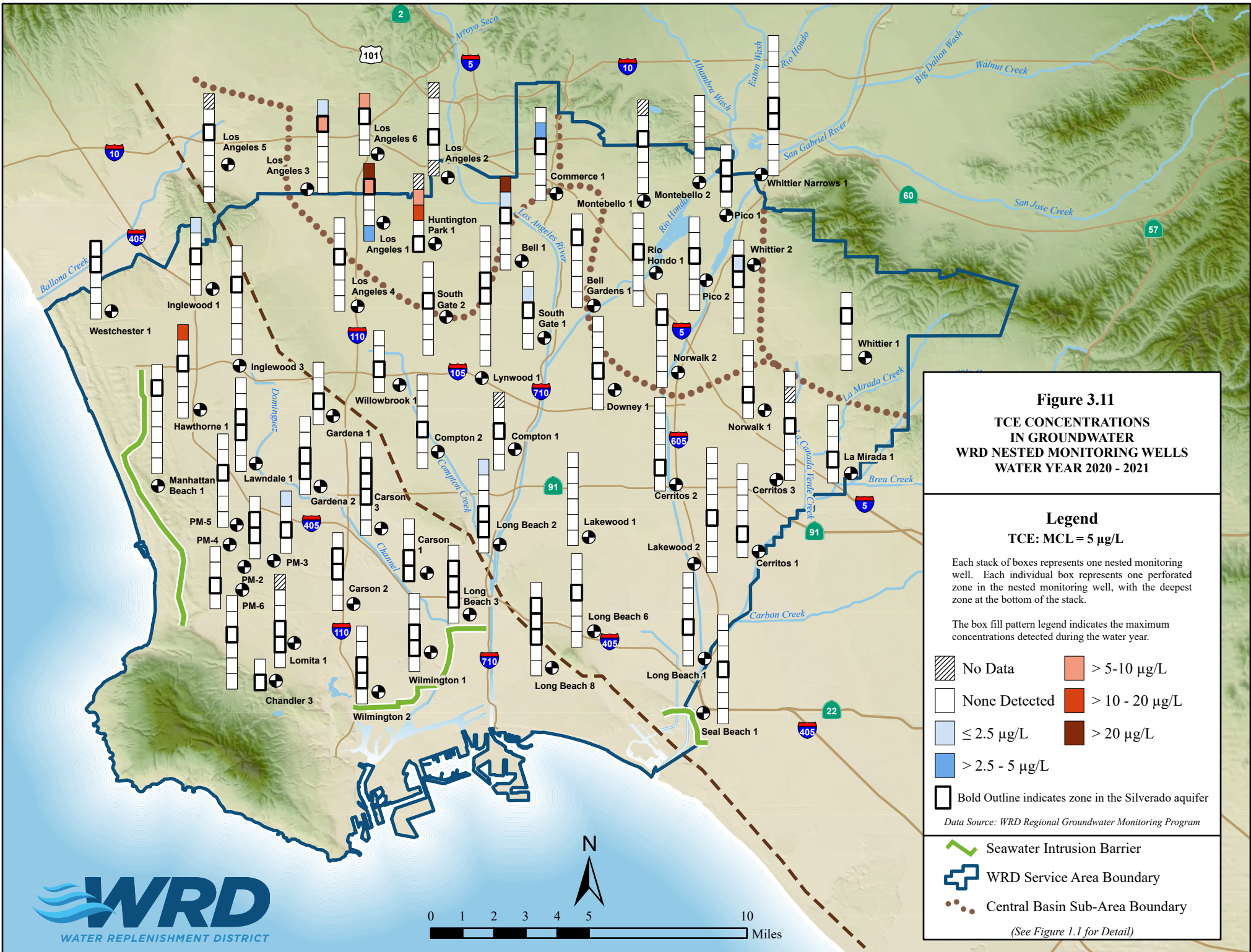












**Figure 3.11**  
**TCE CONCENTRATIONS**  
**IN GROUNDWATER**  
**WRD NESTED MONITORING WELLS**  
**WATER YEAR 2020 - 2021**

**Legend**  
TCE: MCL = 5 µg/L

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

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

	No Data		> 5-10 µg/L
	None Detected		> 10 - 20 µg/L
	≤ 2.5 µg/L		> 20 µg/L
	> 2.5 - 5 µg/L		
	Bold Outline indicates zone in the Silverado aquifer		

*Data Source: WRD Regional Groundwater Monitoring Program*

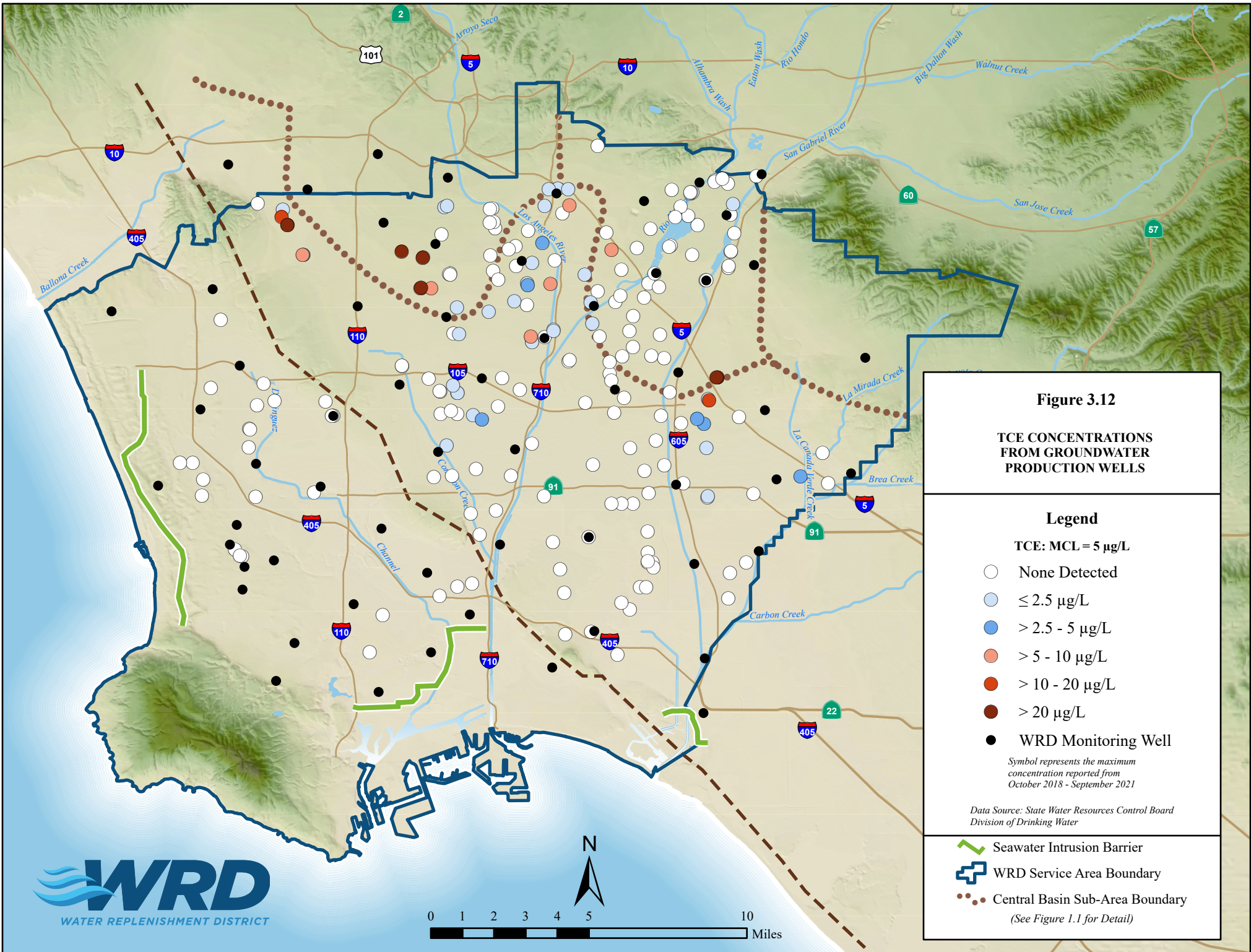
Seawater Intrusion Barrier

WRD Service Area Boundary

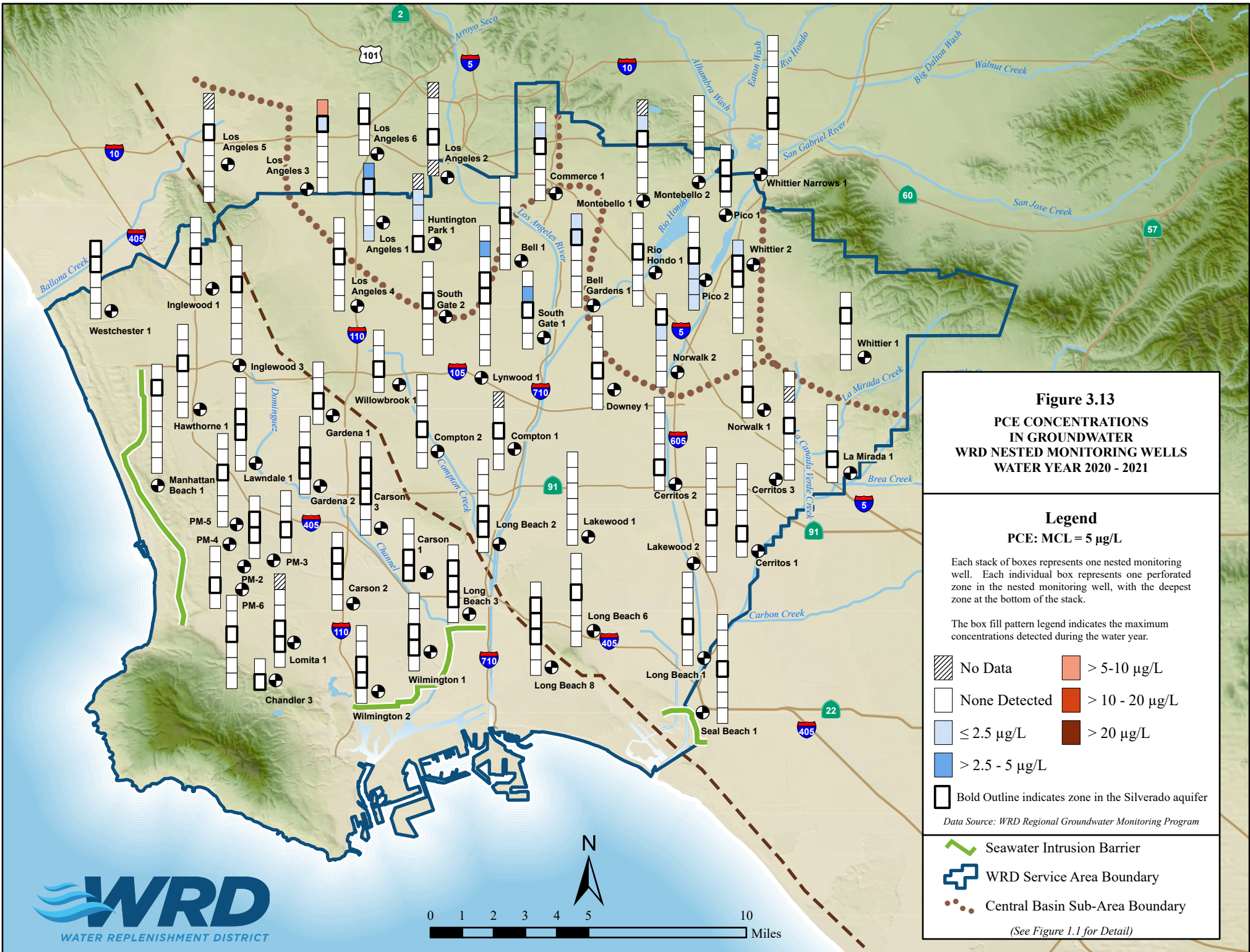
Central Basin Sub-Area Boundary

*(See Figure 1.1 for Detail)*

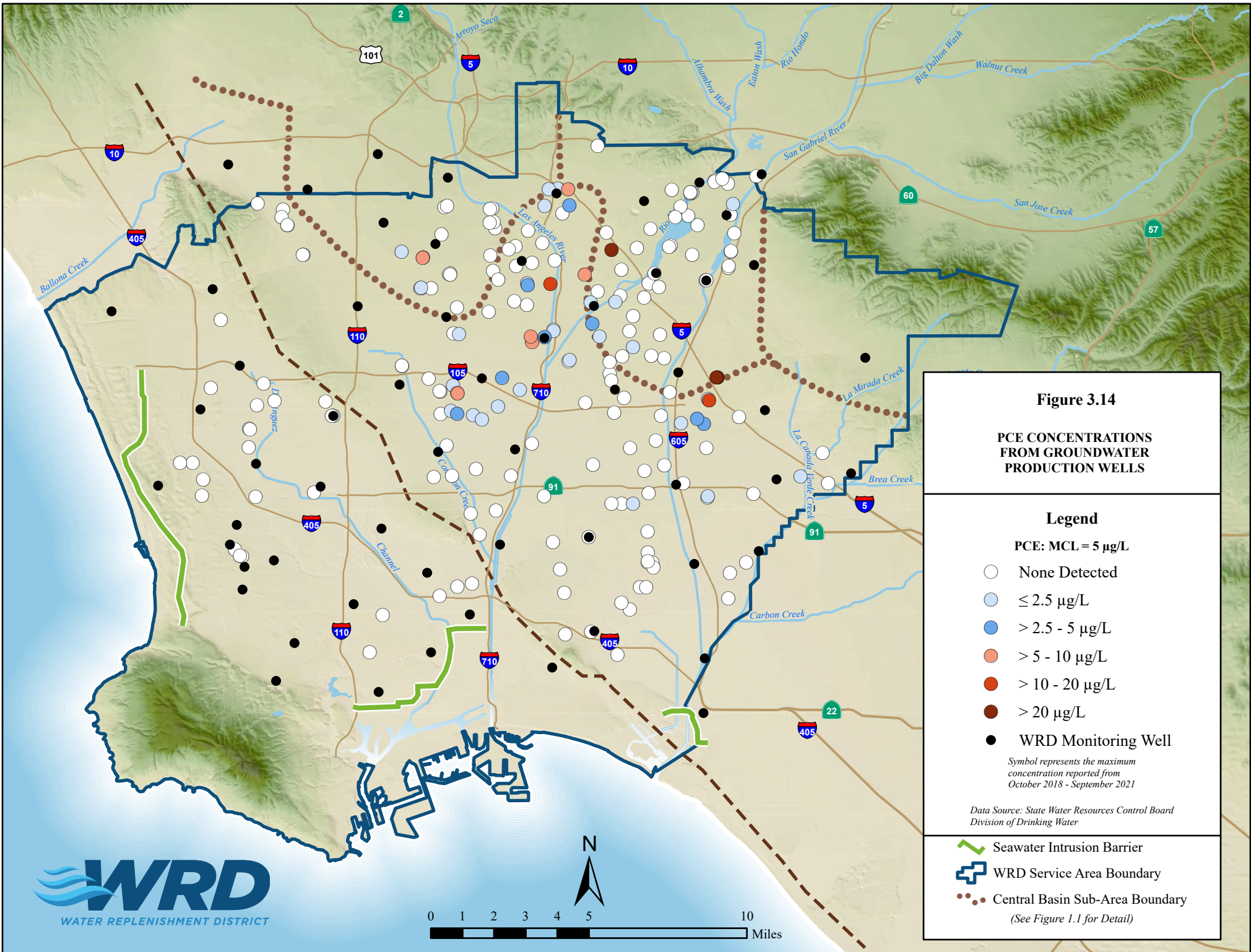




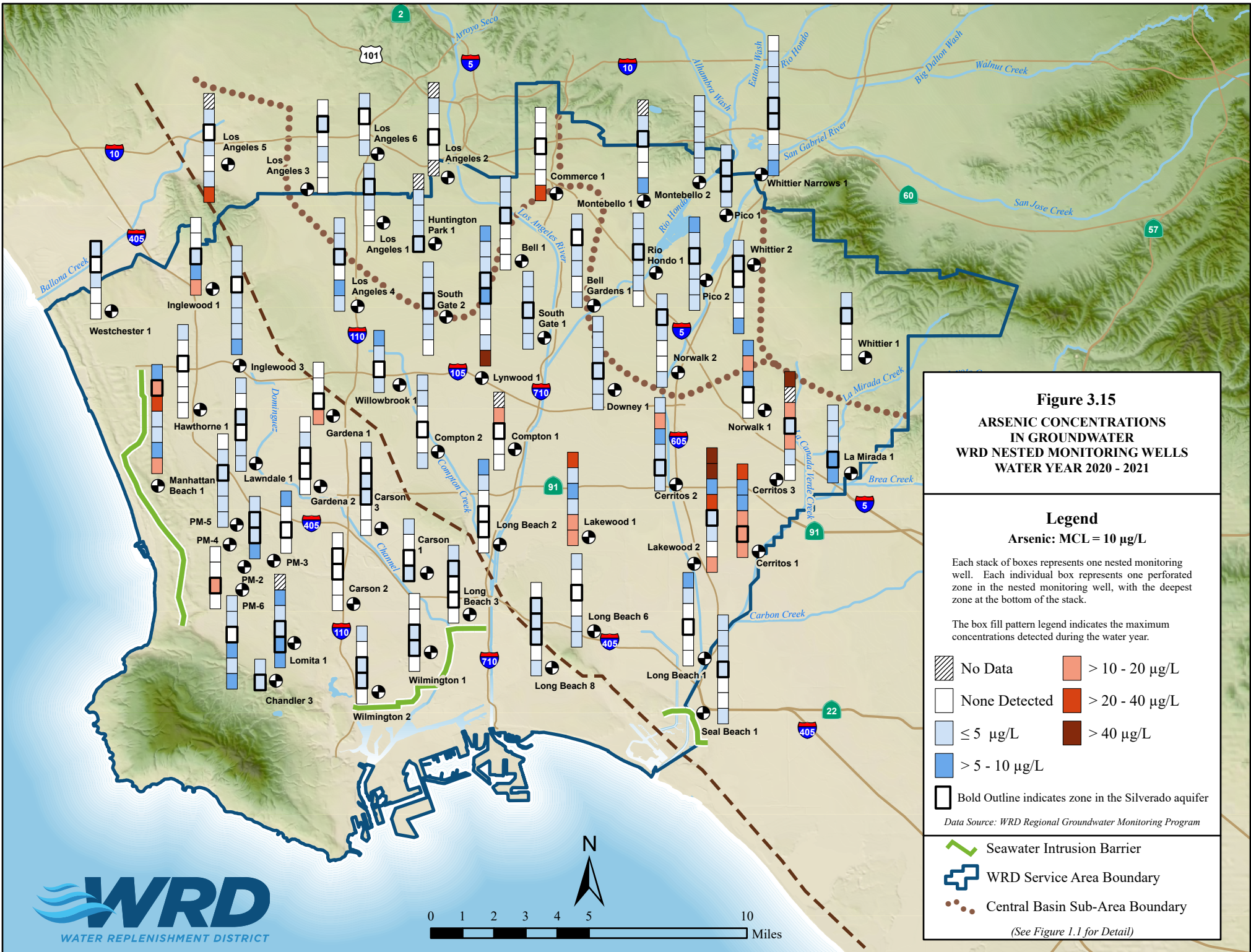












**Figure 3.15**  
**ARSENIC CONCENTRATIONS**  
**IN GROUNDWATER**  
**WRD NESTED MONITORING WELLS**  
**WATER YEAR 2020 - 2021**

**Legend**

**Arsenic: MCL = 10 µg/L**

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

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

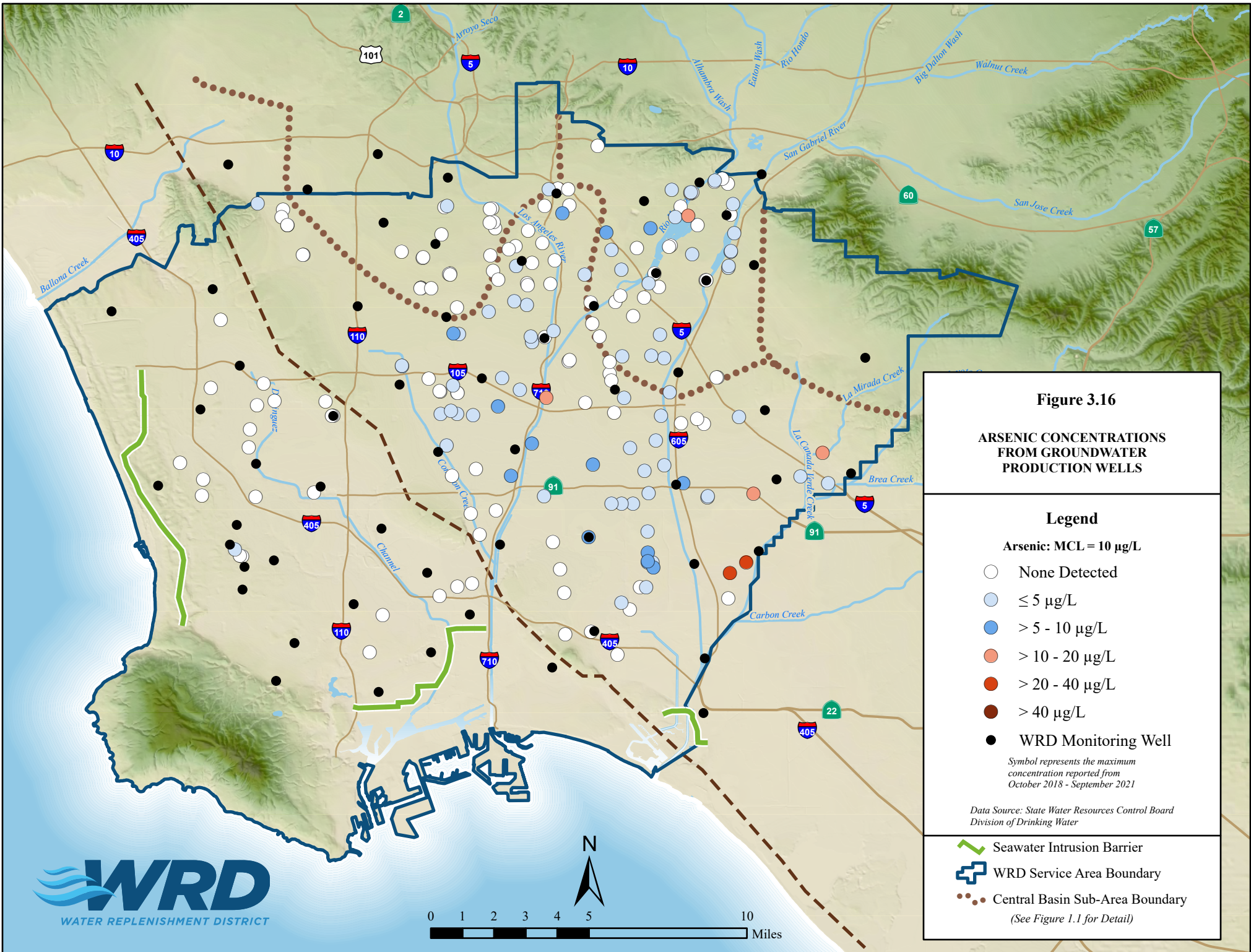
	No Data		> 10 - 20 µg/L
	None Detected		> 20 - 40 µg/L
	≤ 5 µg/L		> 40 µg/L
	> 5 - 10 µg/L		
	Bold Outline indicates zone in the Silverado aquifer		

*Data Source: WRD Regional Groundwater Monitoring Program*

- Seawater Intrusion Barrier
- WRD Service Area Boundary
- Central Basin Sub-Area Boundary

*(See Figure 1.1 for Detail)*





**Figure 3.16**

**ARSENIC CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS**

**Legend**

Arsenic: MCL = 10 µg/L

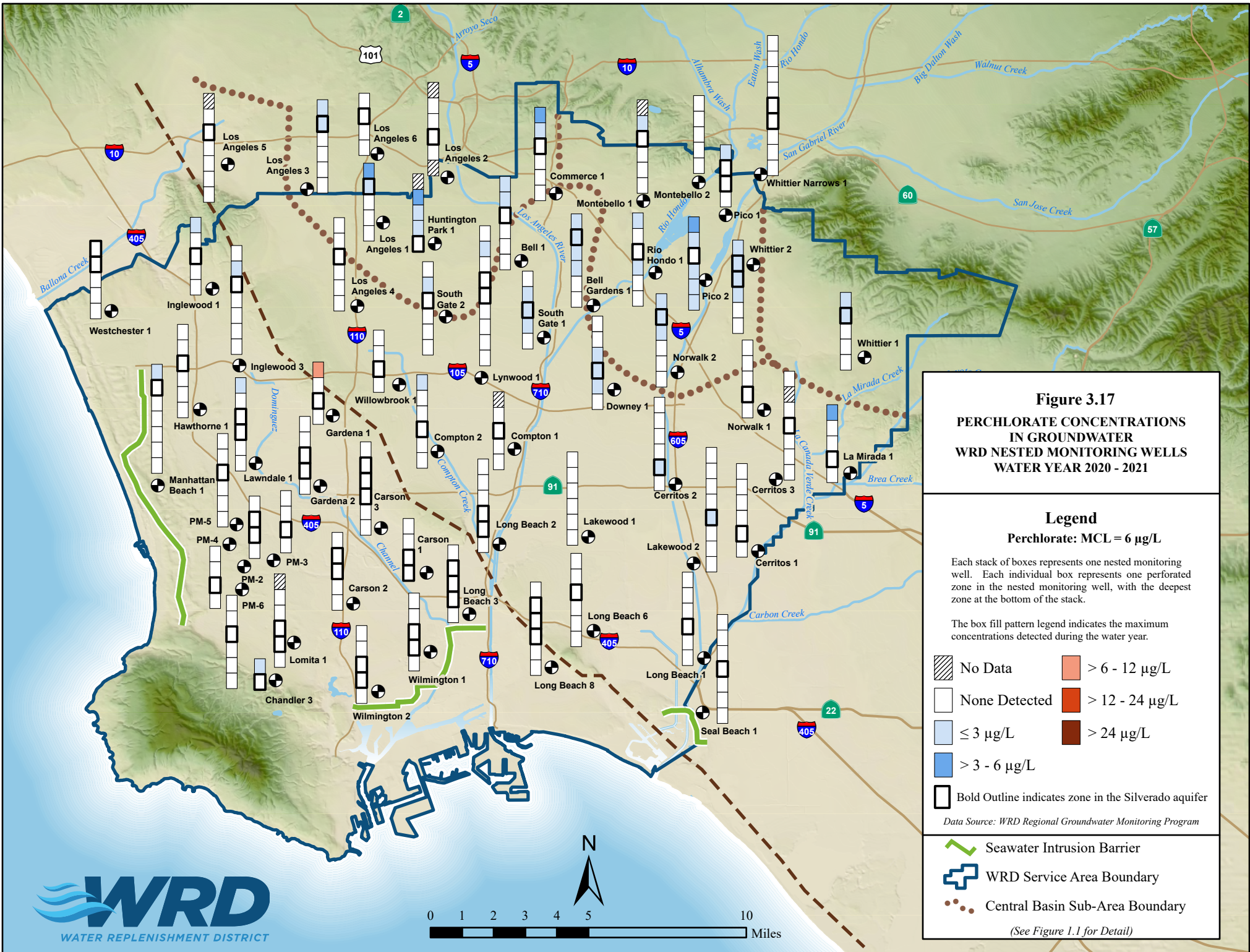
- None Detected
- ≤ 5 µg/L
- > 5 - 10 µg/L
- > 10 - 20 µg/L
- > 20 - 40 µg/L
- > 40 µg/L
- WRD Monitoring Well

*Symbol represents the maximum concentration reported from October 2018 - September 2021*

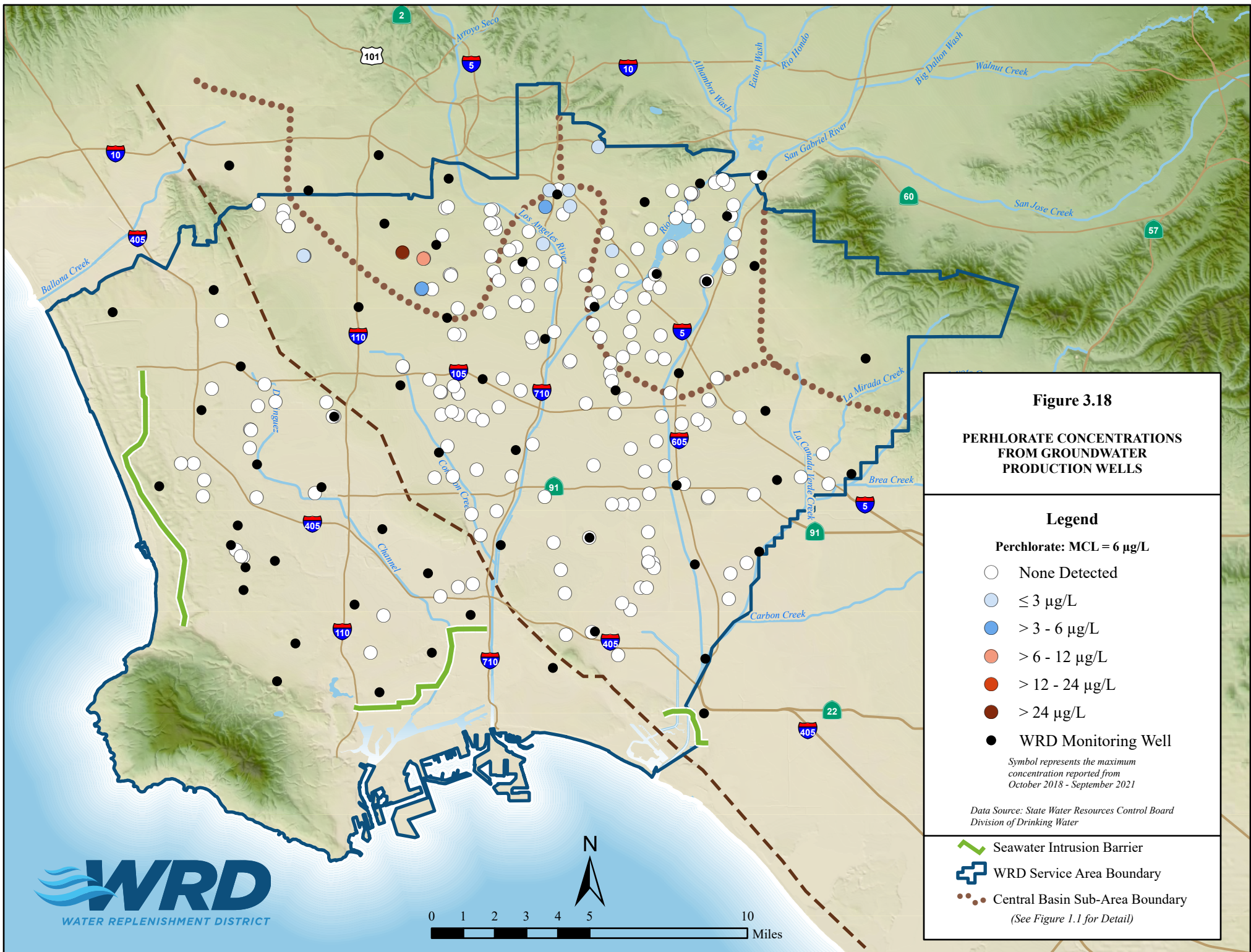
*Data Source: State Water Resources Control Board  
Division of Drinking Water*

- Seawater Intrusion Barrier
  - WRD Service Area Boundary
  - Central Basin Sub-Area Boundary
- (See Figure 1.1 for Detail)*









**Figure 3.18**

**PERCHLORATE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS**

**Legend**

Perchlorate: MCL = 6 µg/L

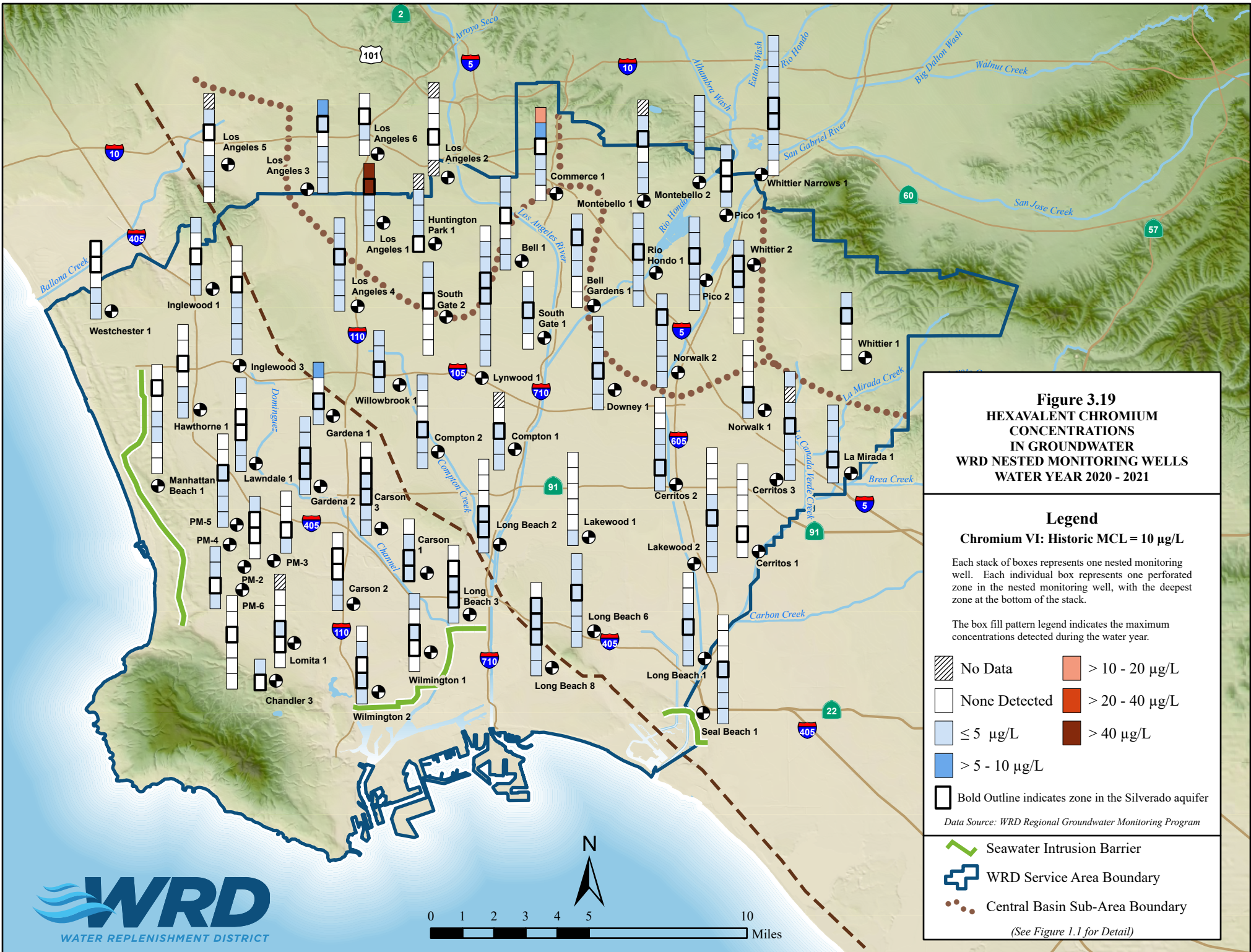
- None Detected
- ≤ 3 µg/L
- > 3 - 6 µg/L
- > 6 - 12 µg/L
- > 12 - 24 µg/L
- > 24 µg/L
- WRD Monitoring Well

*Symbol represents the maximum concentration reported from October 2018 - September 2021*

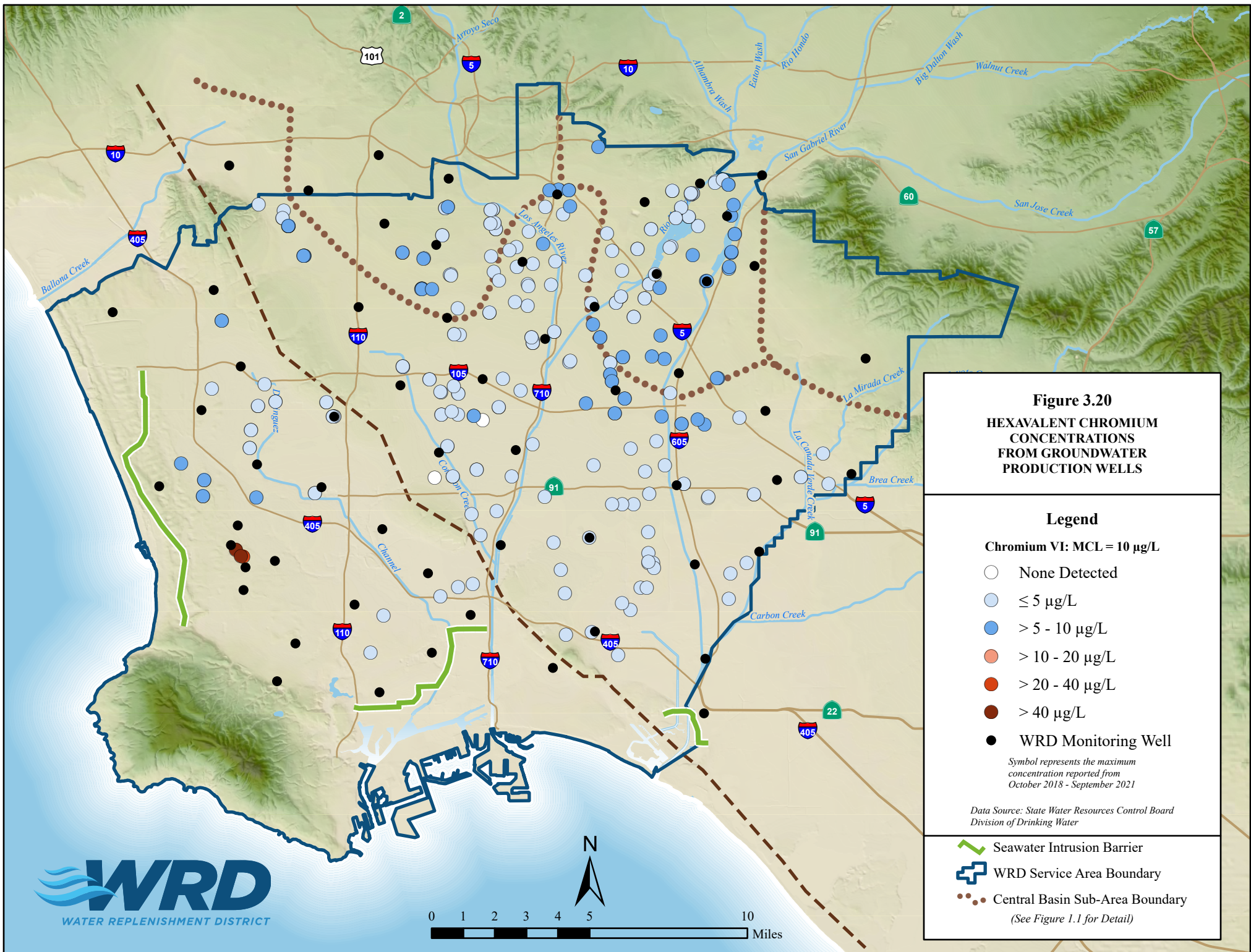
*Data Source: State Water Resources Control Board  
Division of Drinking Water*

- Seawater Intrusion Barrier
  - WRD Service Area Boundary
  - Central Basin Sub-Area Boundary
- (See Figure 1.1 for Detail)*

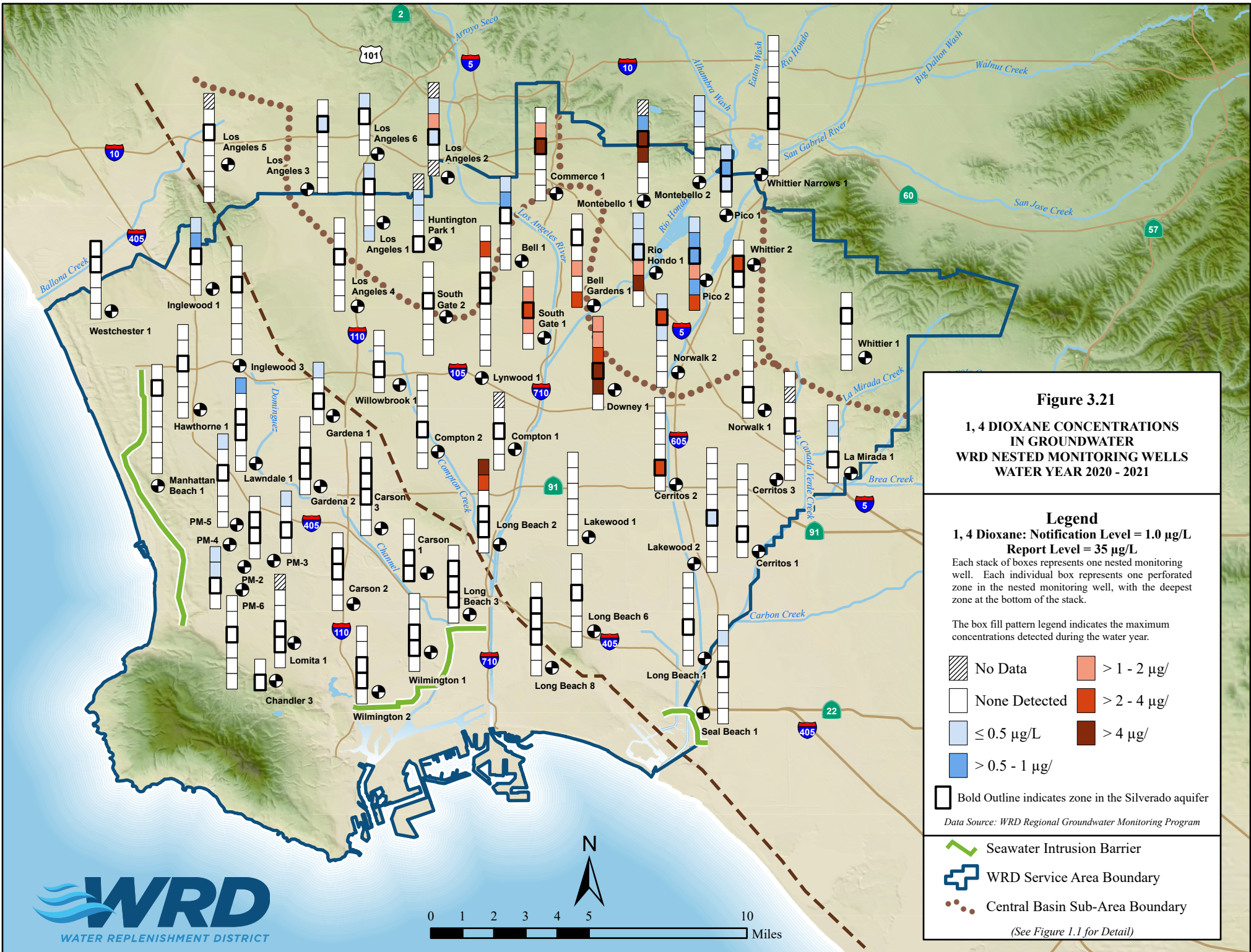




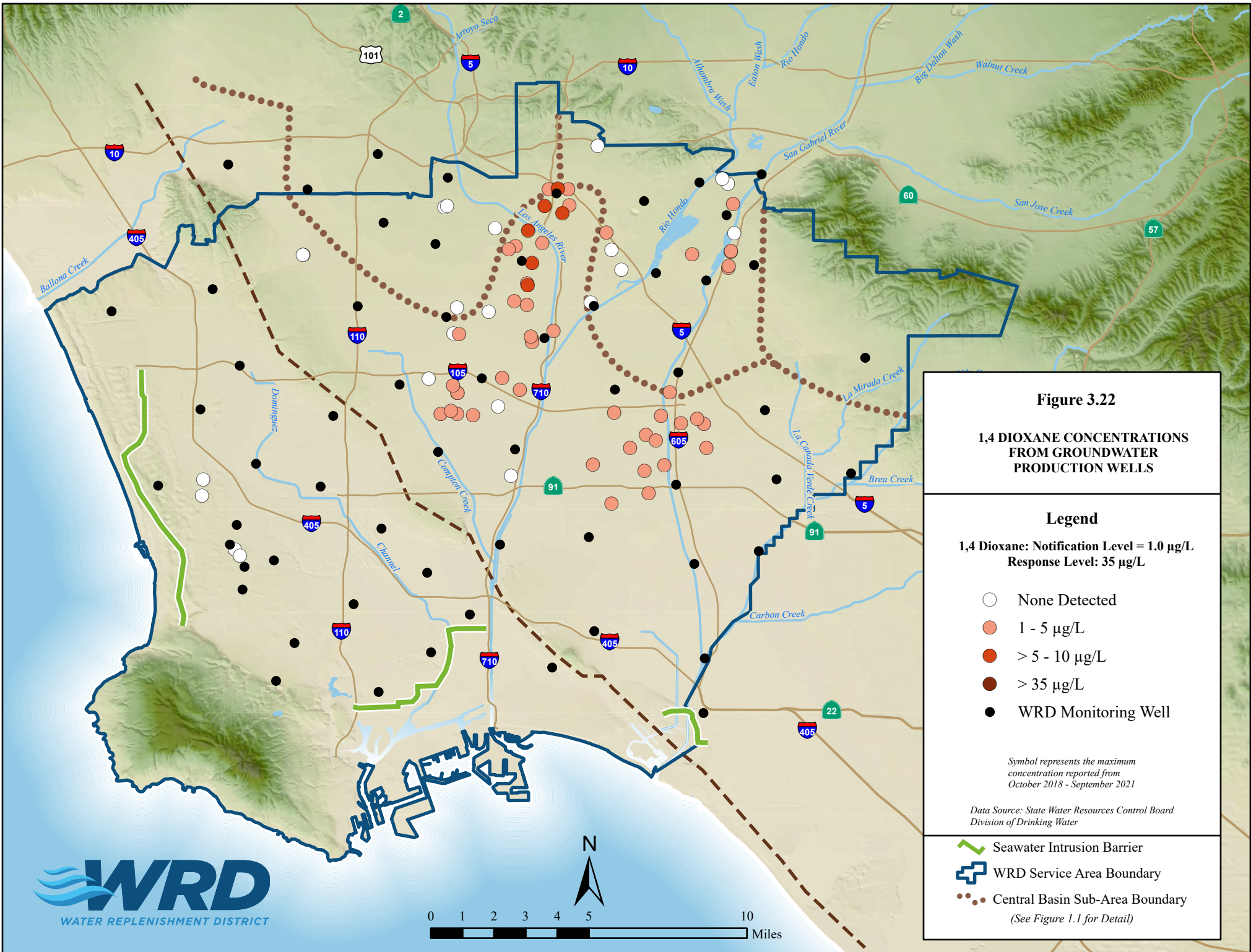












**Figure 3.22**

**1,4 DIOXANE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS**

**Legend**

1,4 Dioxane: Notification Level = 1.0 µg/L  
Response Level: 35 µg/L

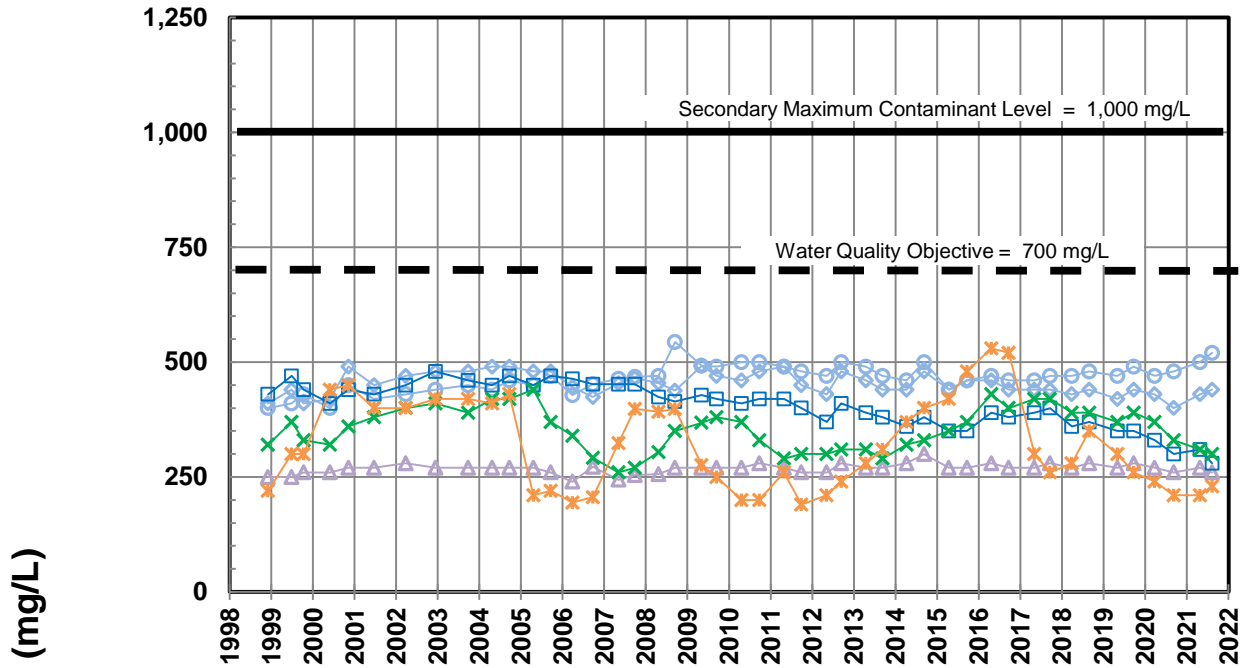
- None Detected
- 1 - 5 µg/L
- > 5 - 10 µg/L
- > 35 µg/L
- WRD Monitoring Well

*Symbol represents the maximum concentration reported from October 2018 - September 2021*

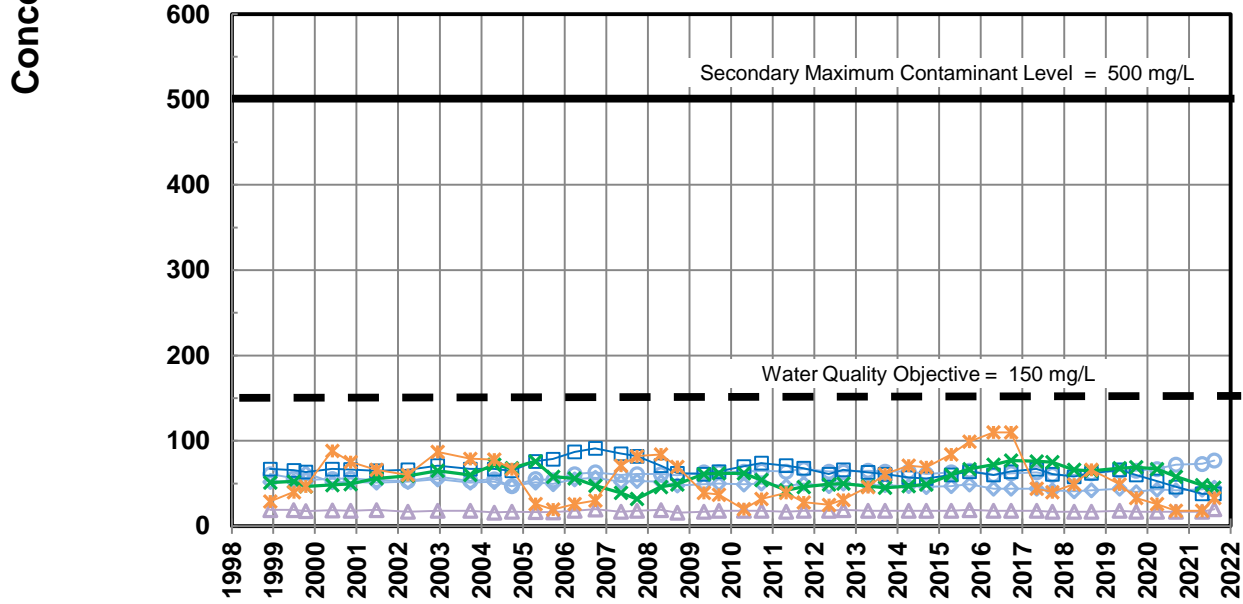
*Data Source: State Water Resources Control Board  
Division of Drinking Water*

- Seawater Intrusion Barrier
- WRD Service Area Boundary
- Central Basin Sub-Area Boundary  
*(See Figure 1.1 for Detail)*

# Total Dissolved Solids



# Chloride

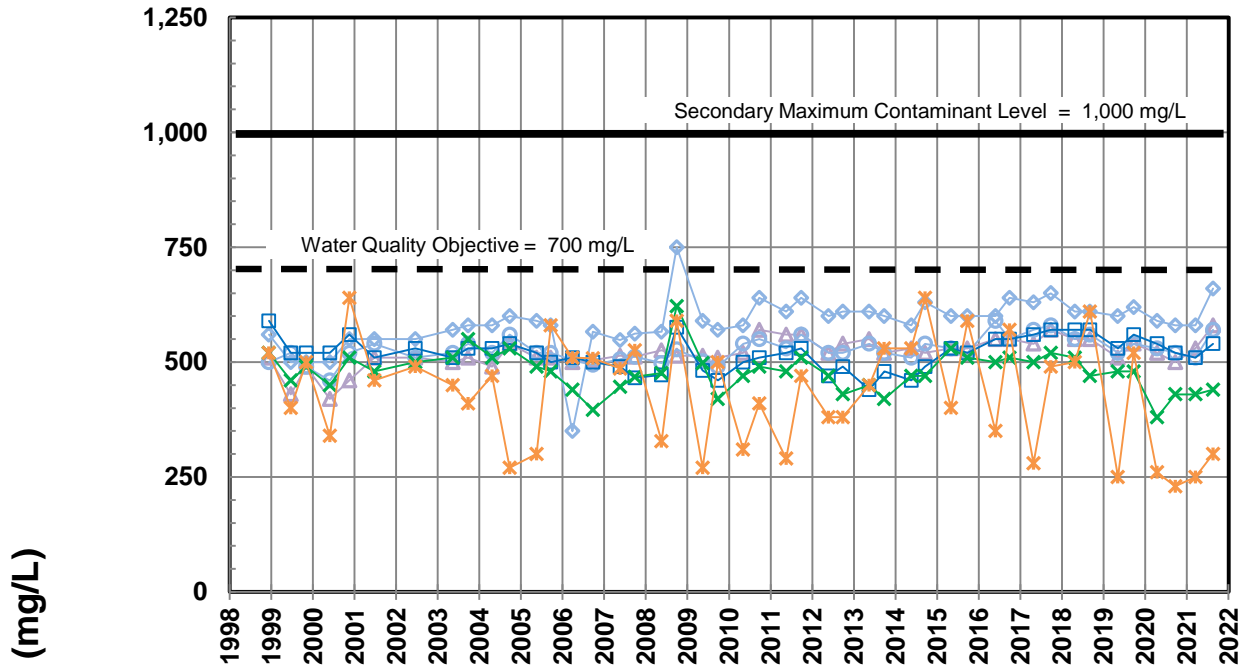


- ▲ Zone 1 (1110'-1130', Pico Formation)
 ◆ Zone 2 (910'-930', Sunnyside)
- Zone 3 (710'-730', Sunnyside)
 ◻ Zone 4 (430'-450', Silverado)
- ✕ Zone 5 (280'-300', Hollydale)
 ✱ Zone 6 (140'-160', Gardena)

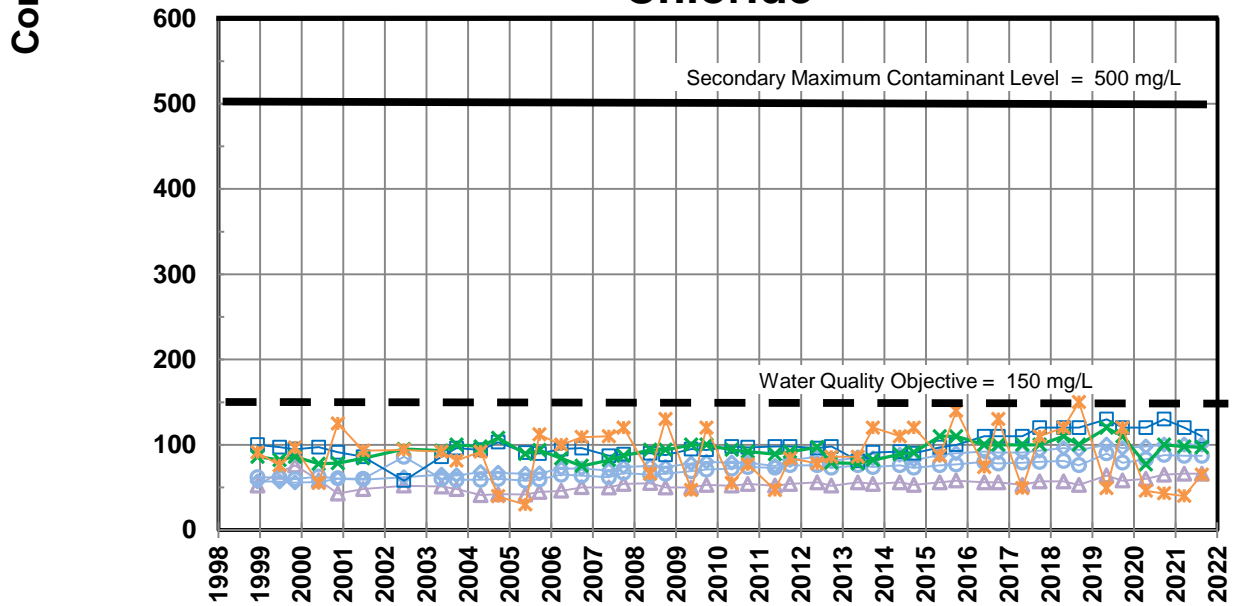
**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL RIO HONDO #1**

**FIGURE 4.1**

# Total Dissolved Solids



# Chloride

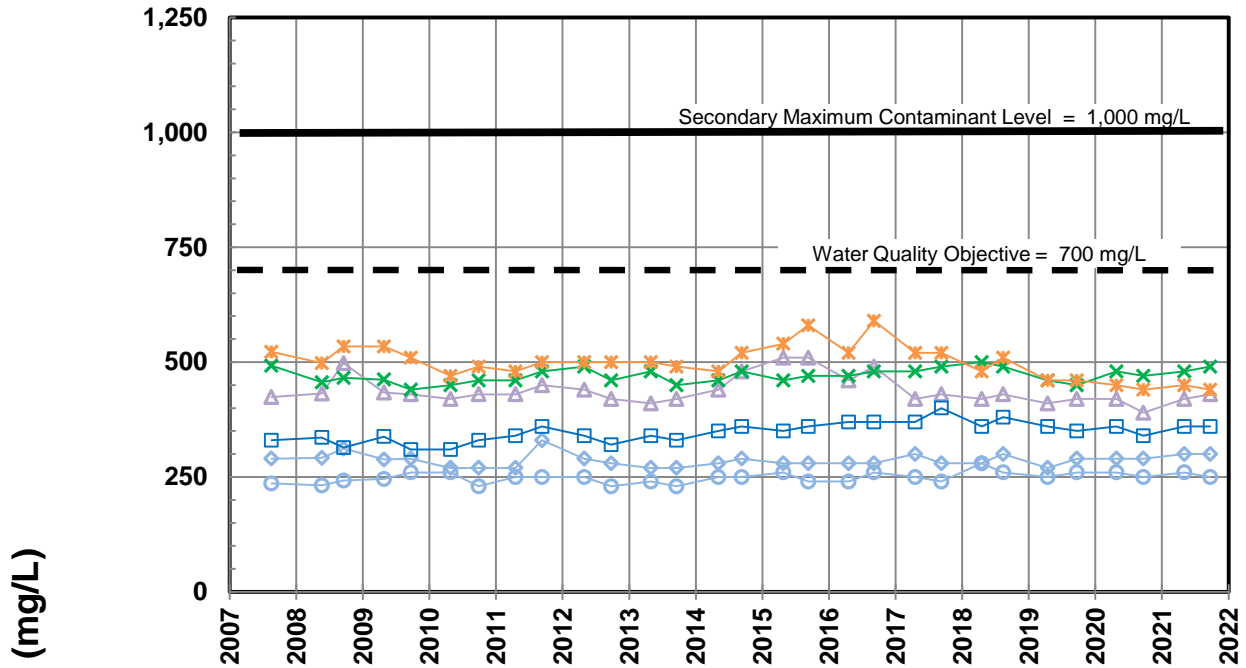


- Zone 1 (1180'-1200', Pico Formation)
- Zone 2 (830'-850', Sunnyside)
- Zone 3 (560'-580', Sunnyside)
- Zone 4 (320'-340', Silverado)
- Zone 5 (235'-255', Lynwood)
- Zone 6 (100'-120', Gaspar/Gage)

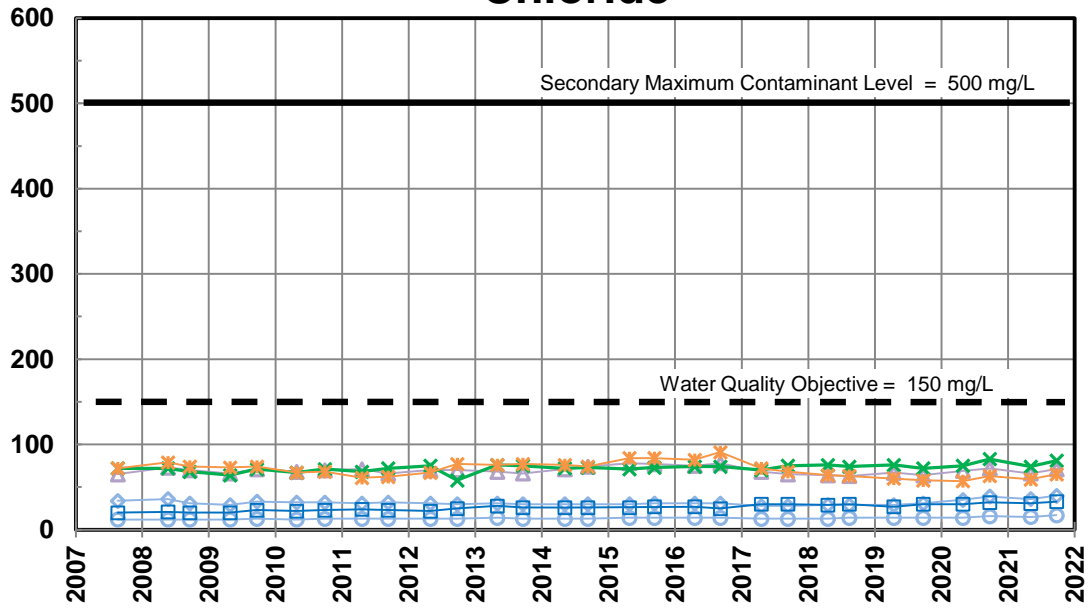
**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL PICO #2**

**FIGURE 4.2**

# Total Dissolved Solids



# Chloride



Concentration (mg/L)



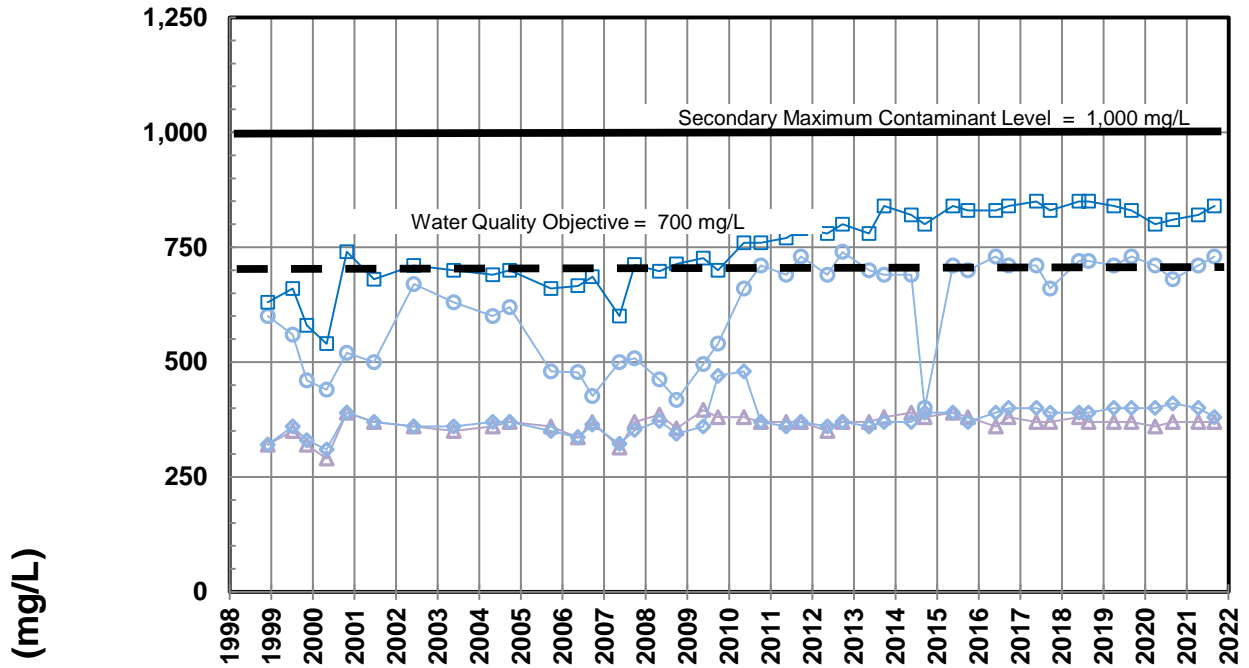
- ▲ Zone 1 (1460'-1480', Pico Formation)
 ◆ Zone 2 (1260'-1280', Pico Formation)
- Zone 3 (960'-980', Sunnyside)
 ◻ Zone 4 (800'-820', Sunnyside)
- ✱ Zone 5 (480'-500', Silverado)
 ✱ Zone 6 (236'-256', Gardena)

**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL NORWALK #2**

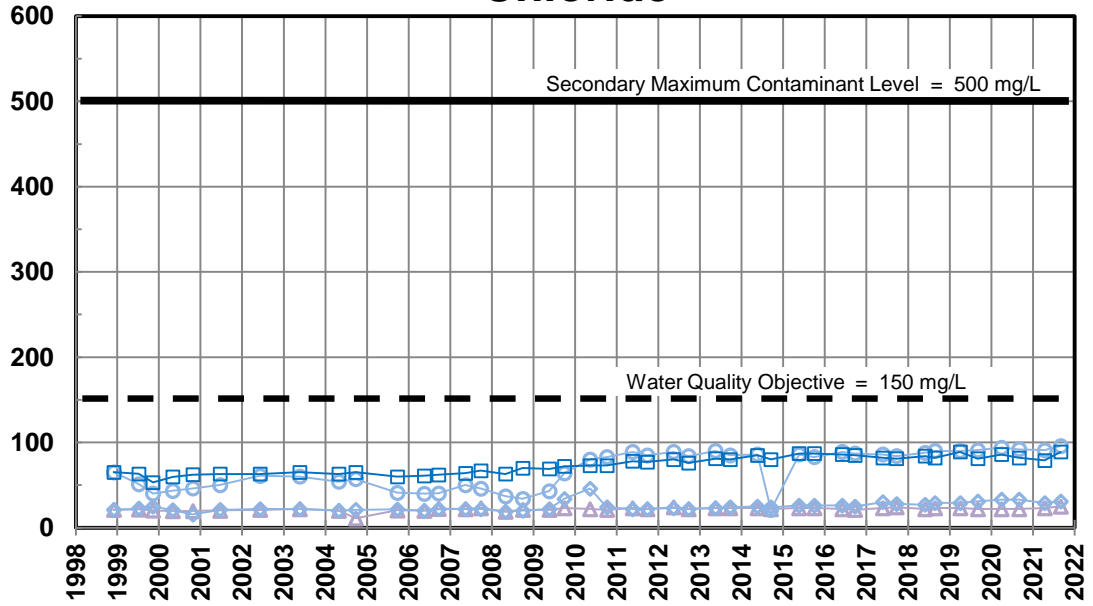
**FIGURE 4.3**



# Total Dissolved Solids



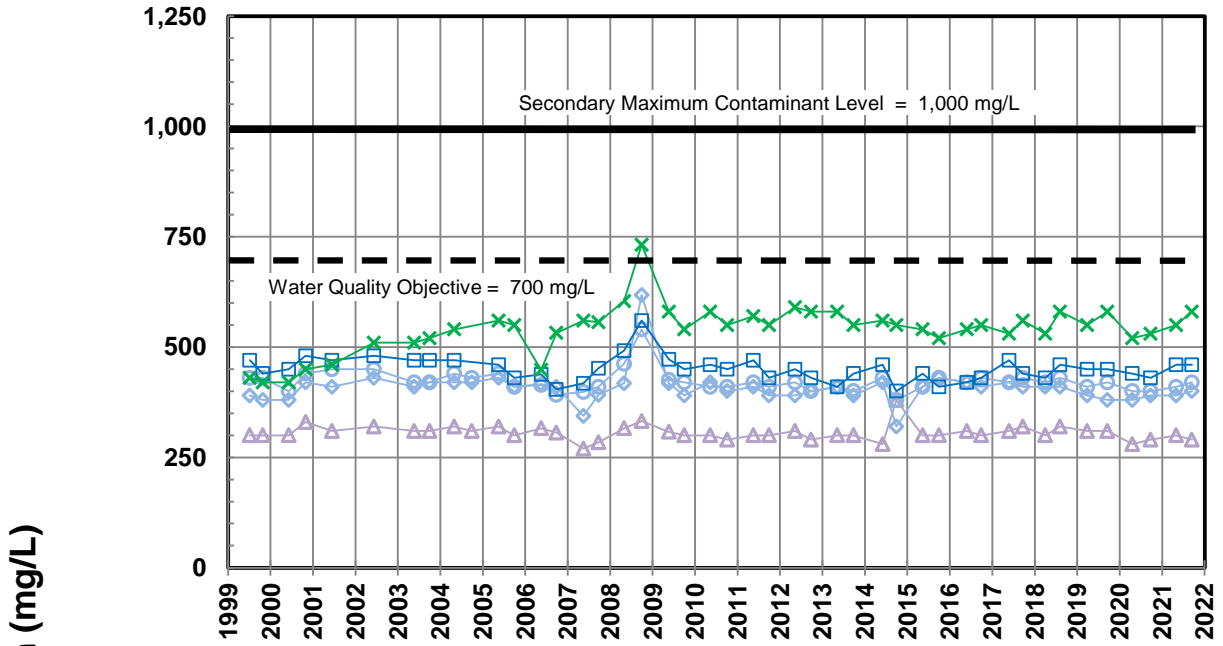
# Chloride



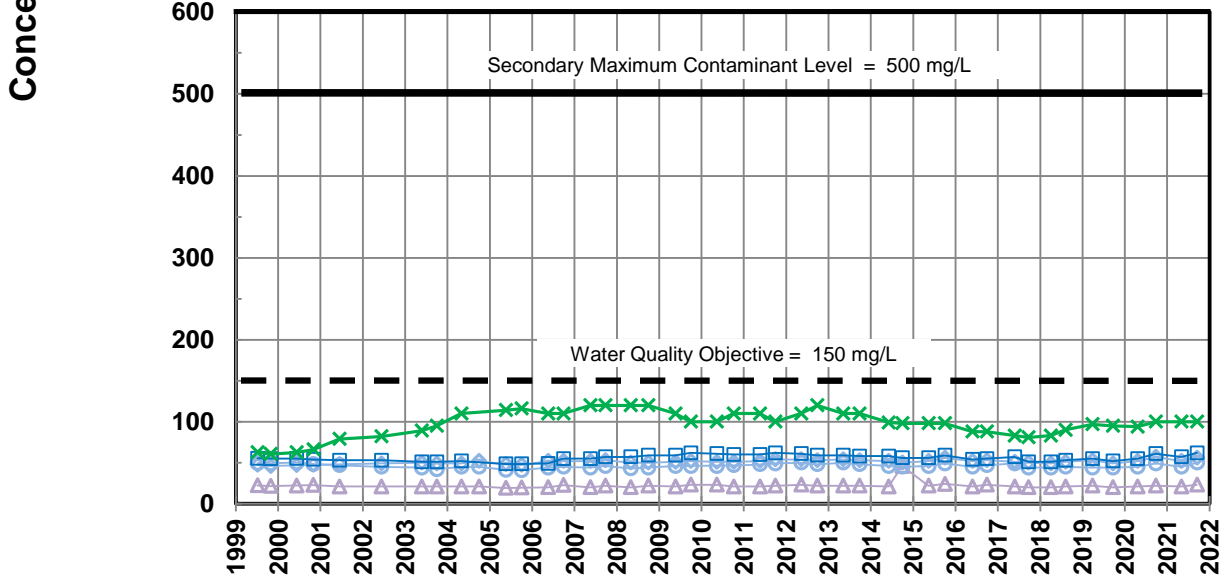
**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL HUNTINGTON PARK #1**

**FIGURE 4.4**

# Total Dissolved Solids



# Chloride

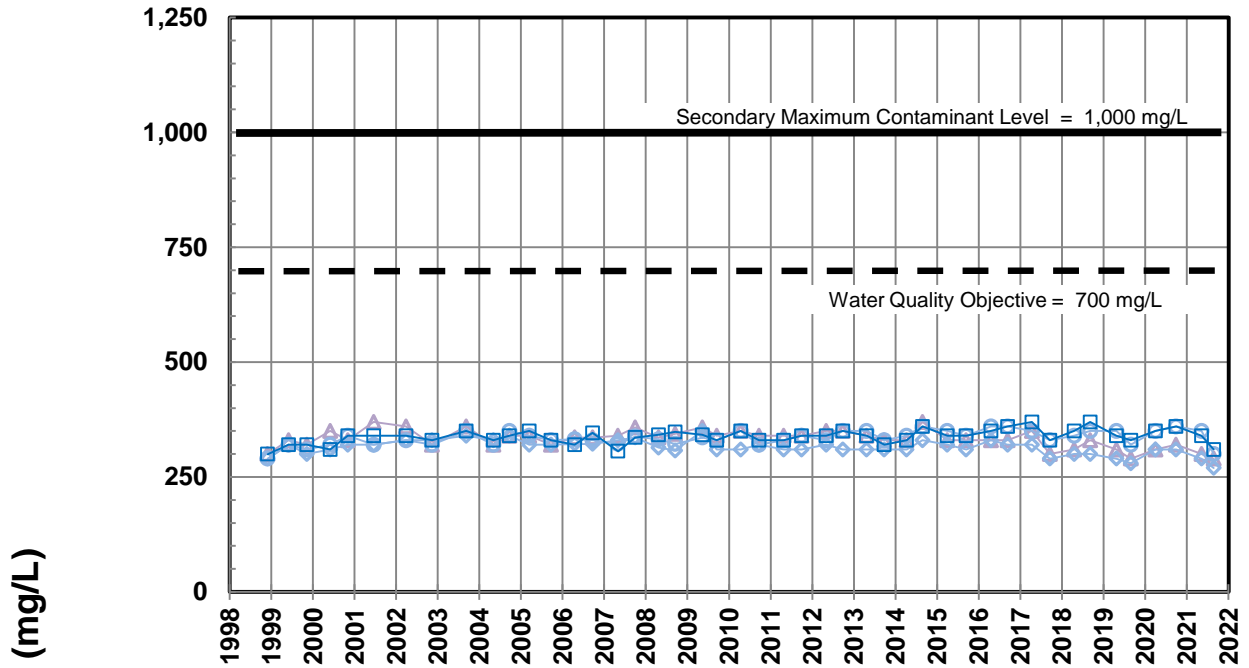


- ▲— Zone 1 (1440'-1460', Sunnyside)
 —◇— Zone 2 (1320'-1340', Sunnyside)
- Zone 3 (910'-930', Silverado)
 —□— Zone 4 (565'-585', Lynwood)
- x— Zone 5 (220'-240', Exposition)

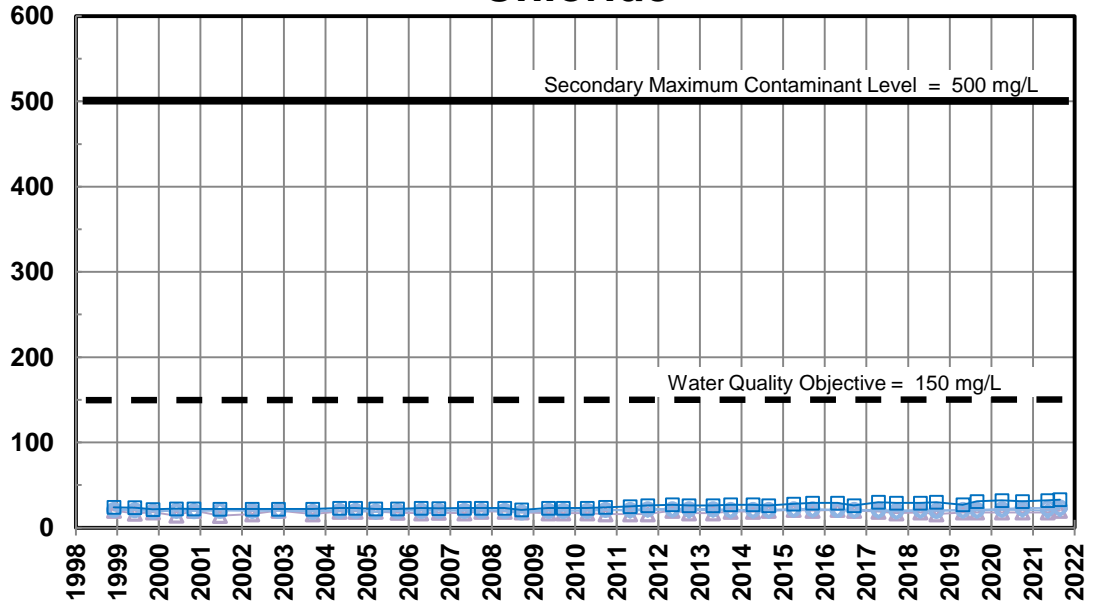
**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL SOUTH GATE #1**

**FIGURE 4.5**

# Total Dissolved Solids



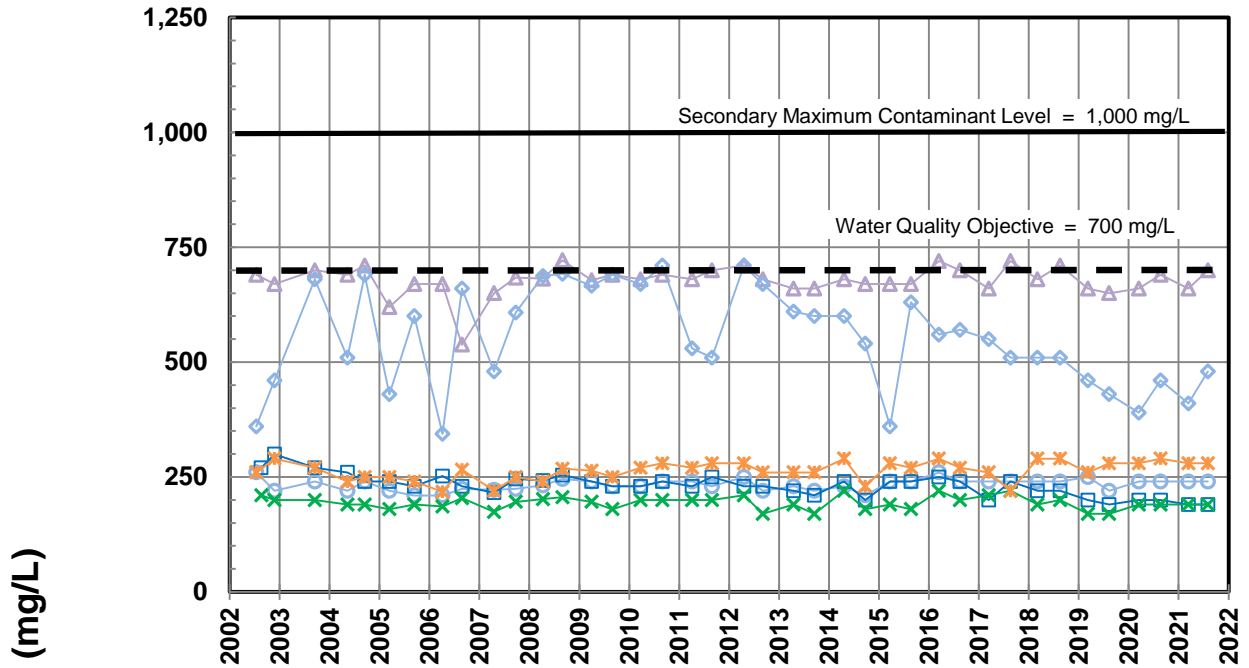
# Chloride



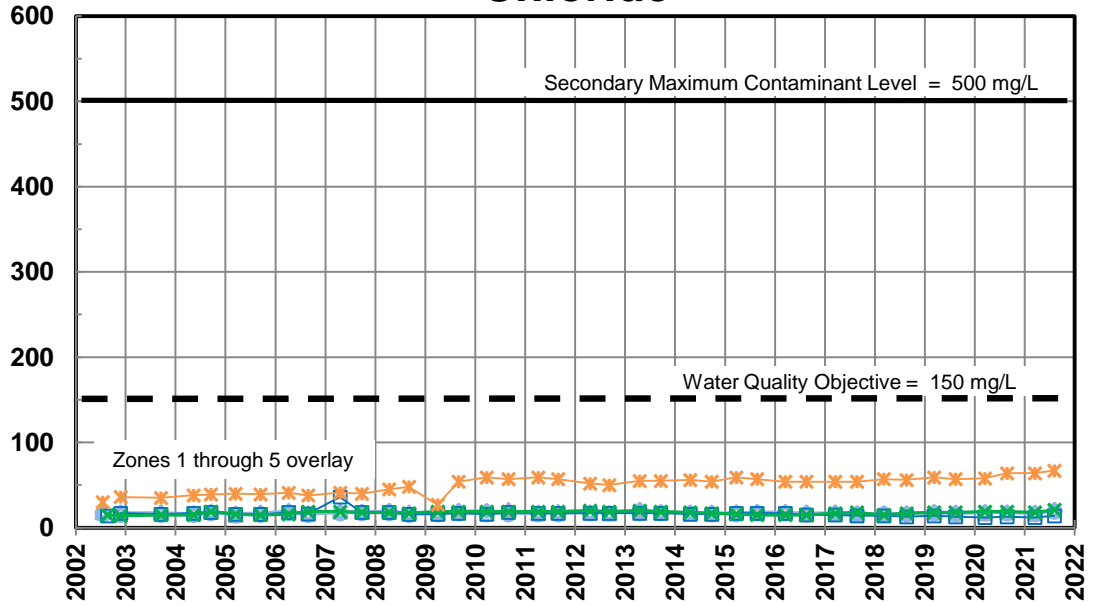
- ▲— Zone 1 (885'-905', Sunnyside)
- ◆— Zone 2 (500'-520', Silverado)
- Zone 3 (360'-380', Lynwood)
- Zone 4 (200'-220', Gage)

**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL WILLOWBROOK #1**

# Total Dissolved Solids



# Chloride



Concentration (mg/L)

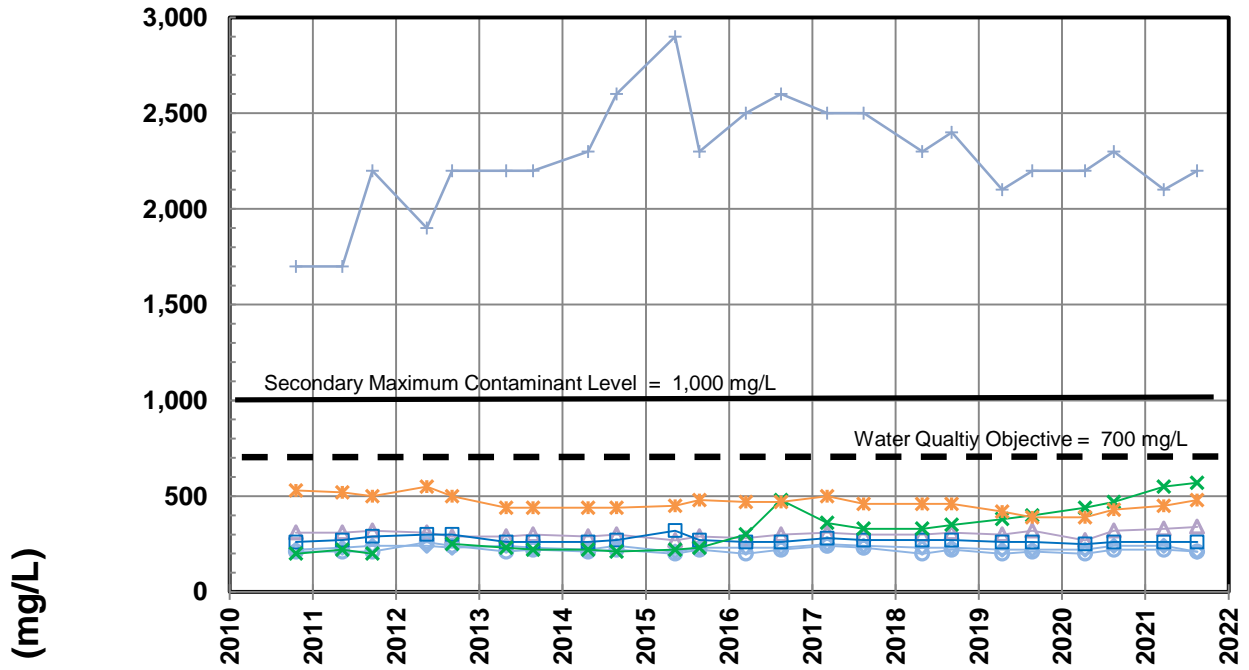


- ▲ Zone 1 (1490'-1510', Pico Formation)
 ◆ Zone 2 (930'-950', Sunnyside)
- Zone 3 (740'-760', Sunnyside)
 ◻ Zone 4 (480'-500', Silverado)
- ✱ Zone 5 (380'-400', Lynwood)
 ✱ Zone 6 (220'-240', Gage)

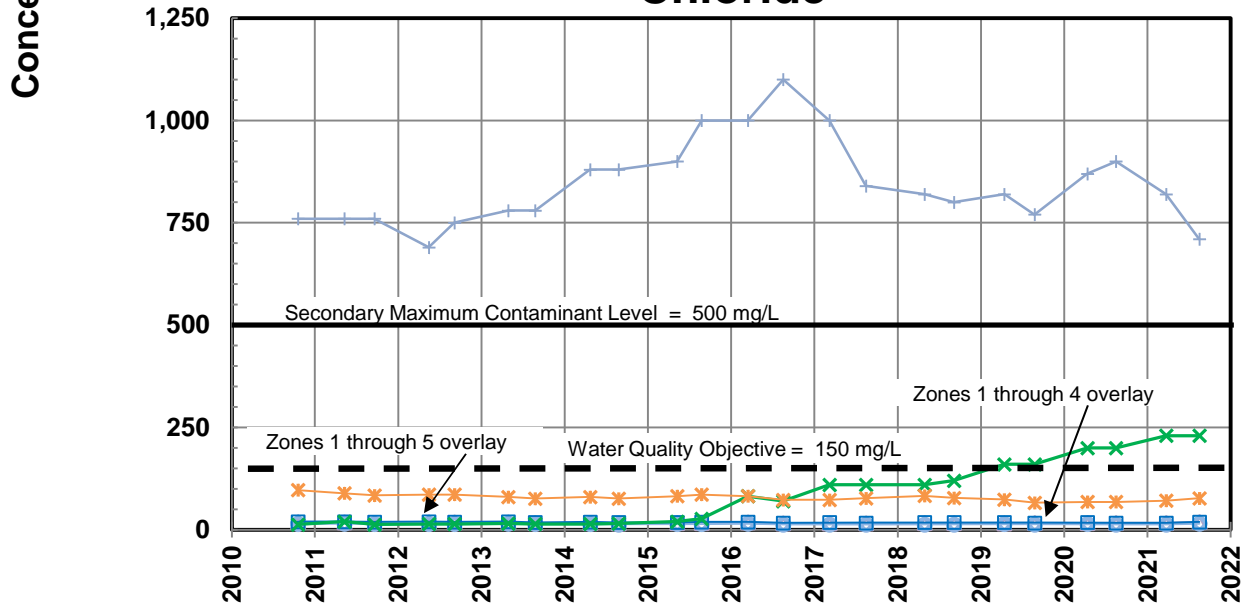
**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL LONG BEACH #6**

**FIGURE 4.7**

# Total Dissolved Solids



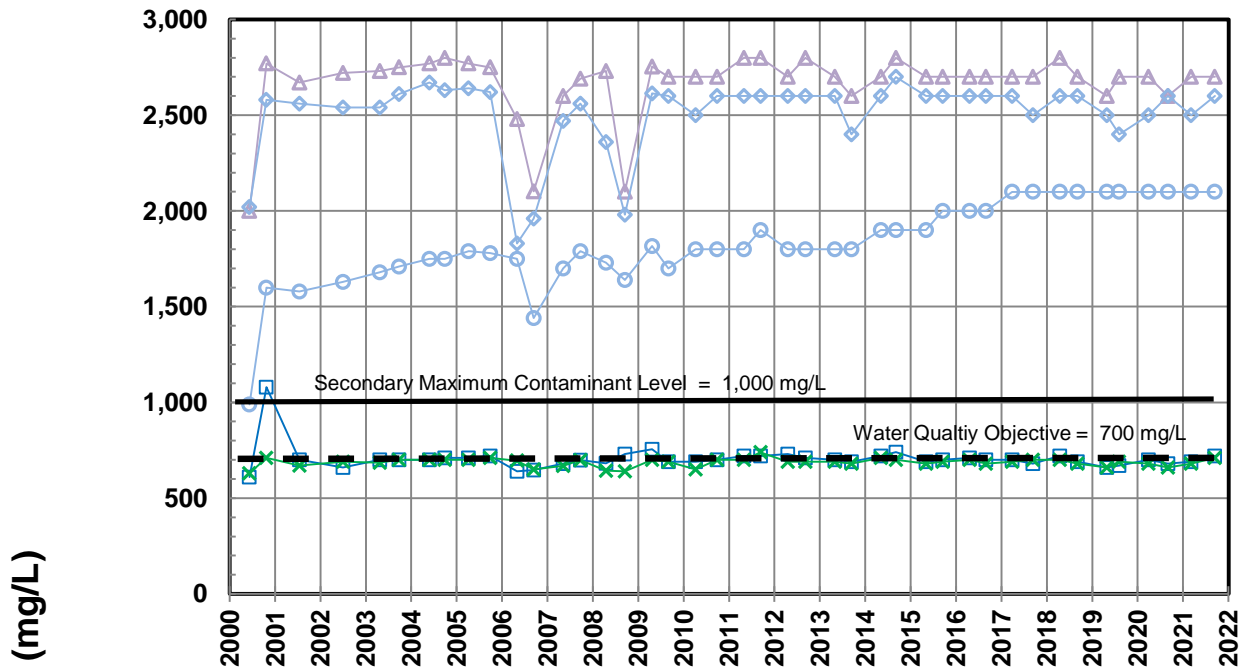
# Chloride



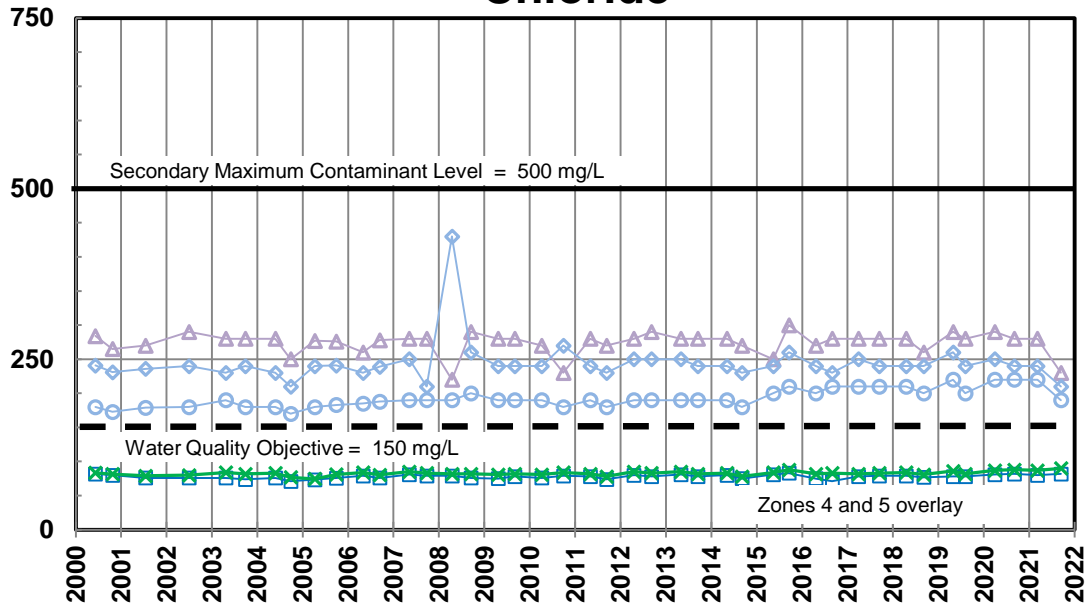
- ▲— Zone 1 (1345'-1365', Sunnyside)
 —◇— Zone 2 (1160'-1180', Sunnyside)
- Zone 3 (1020'-1040', Sunnyside)
 —□— Zone 4 (775'-795', Silverado)
- ×— Zone 5 (605'-625', Lynwood)
 —\*— Zone 6 (215'-235', Gage)
- +— Zone 7 (60'-70', Artesia)

**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL SEAL BEACH #1**

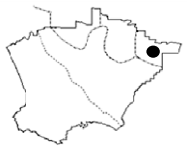
# Total Dissolved Solids



# Chloride



Concentration (mg/L)



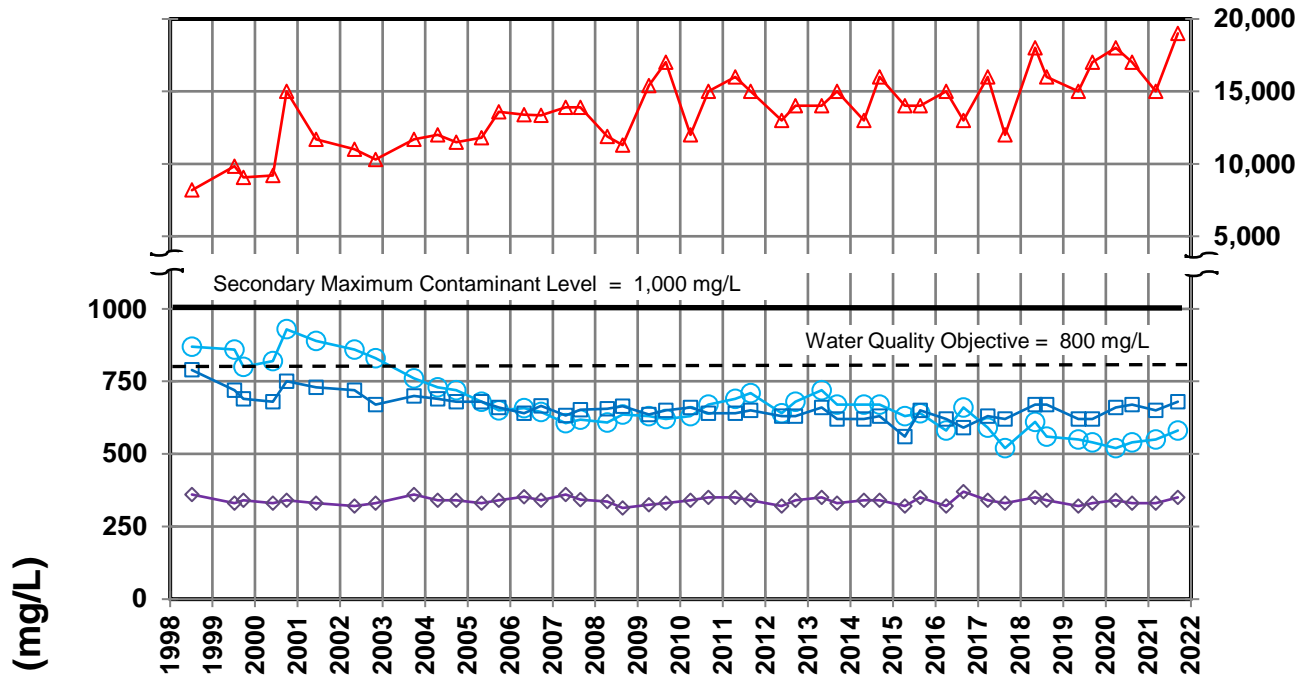
- ▲— Zone 1 (1180'-1200', Pico Formation)
- ◇— Zone 2 (920'-940', Pico Formation)
- Zone 3 (770'-790', Sunnyside)
- Zone 4 (450'-470', Silverado)
- ×— Zone 5 (200'-220', Jefferson)

**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL WHITTIER #1**

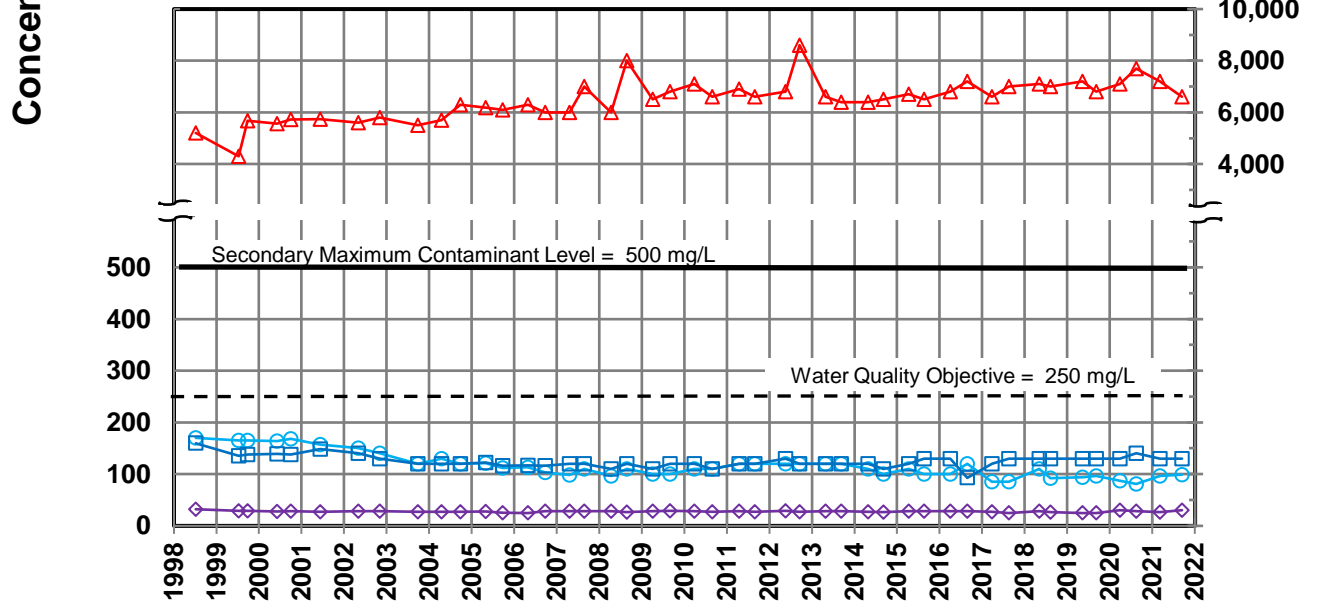
**FIGURE 4.9**



# Total Dissolved Solids



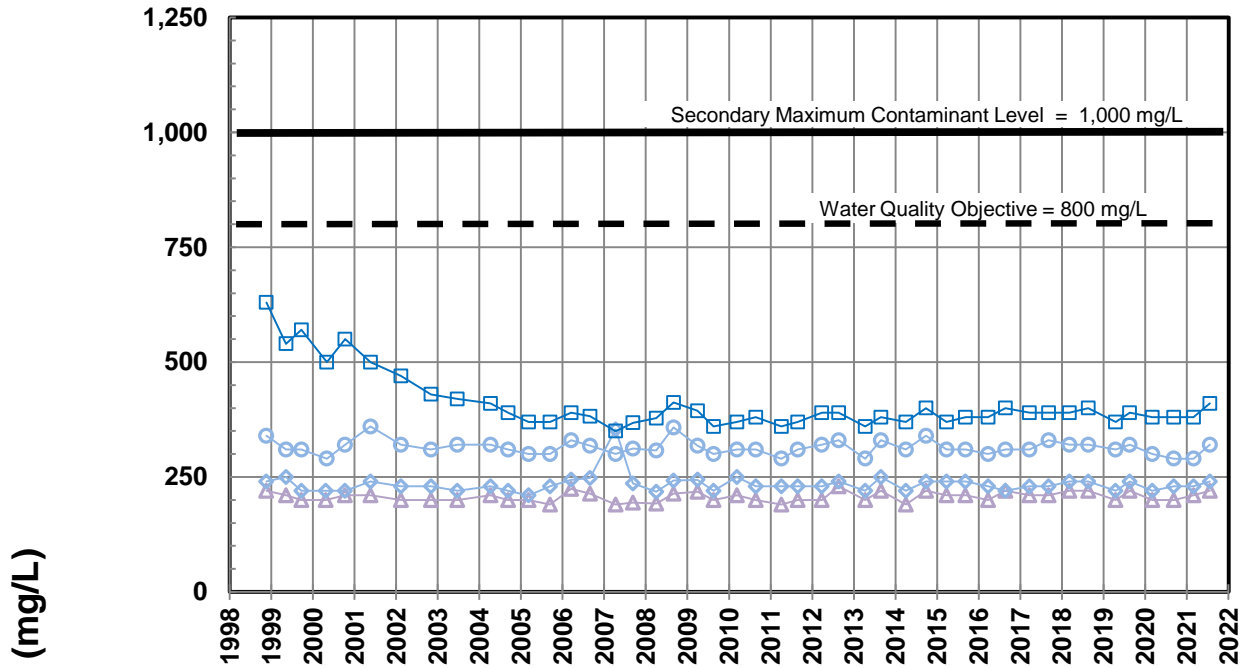
# Chloride



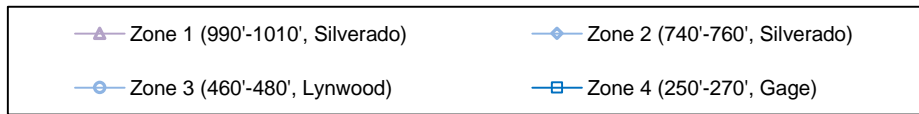
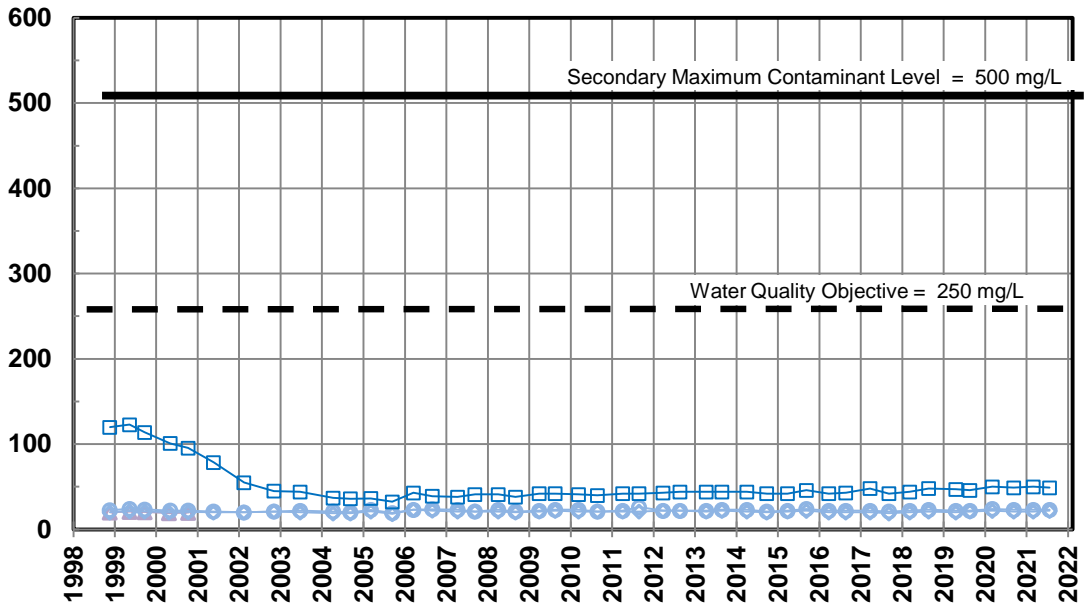
- ◆ Zone 1 (670'-710', Sunnyside)
- ◆ Zone 2 (500'-540', Silverado)
- Zone 3 (340'-380', Lynwood)
- Zone 4 (200'-240', Gardena)

**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL PM-4 MARINER**

# Total Dissolved Solids



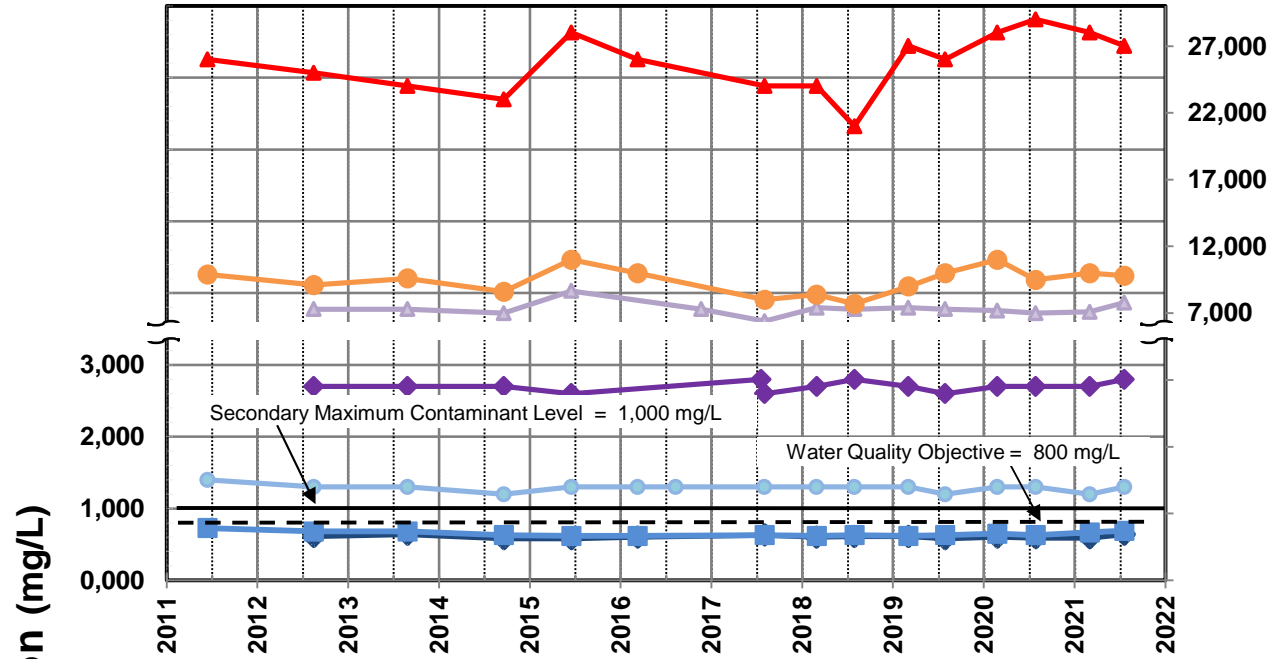
# Chloride



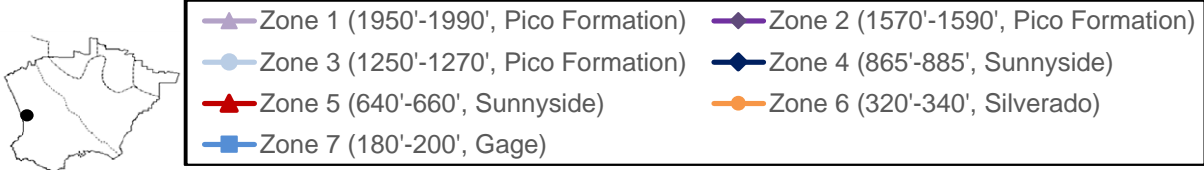
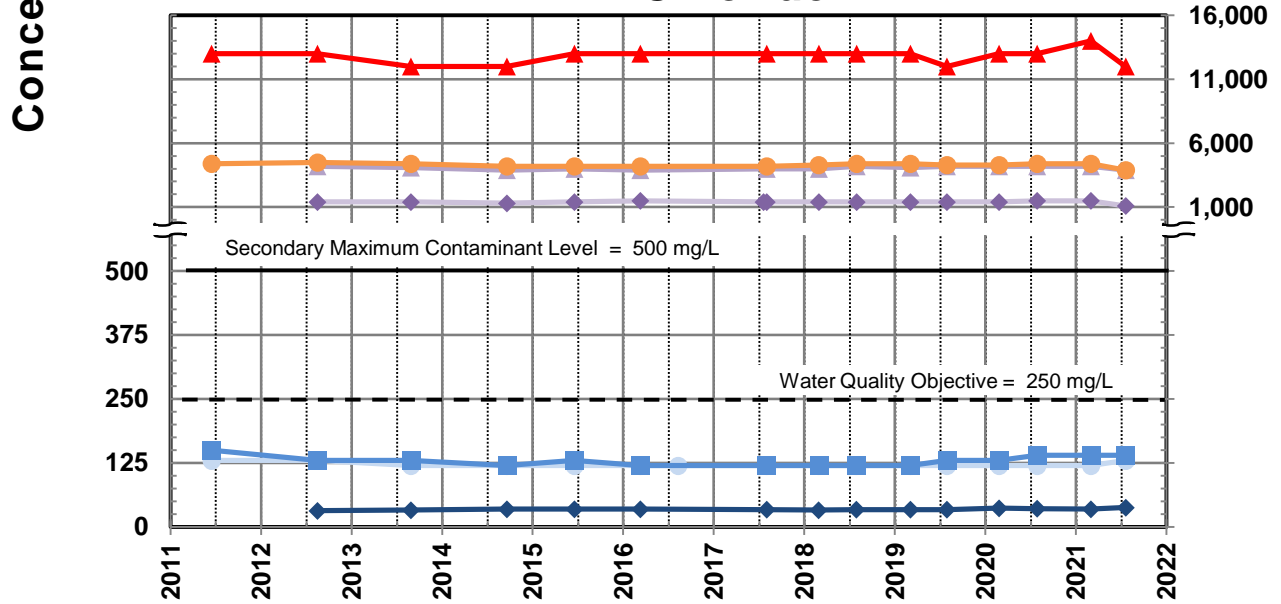
**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL CARSON #1**

**FIGURE 4.11**

# Total Dissolved Solids



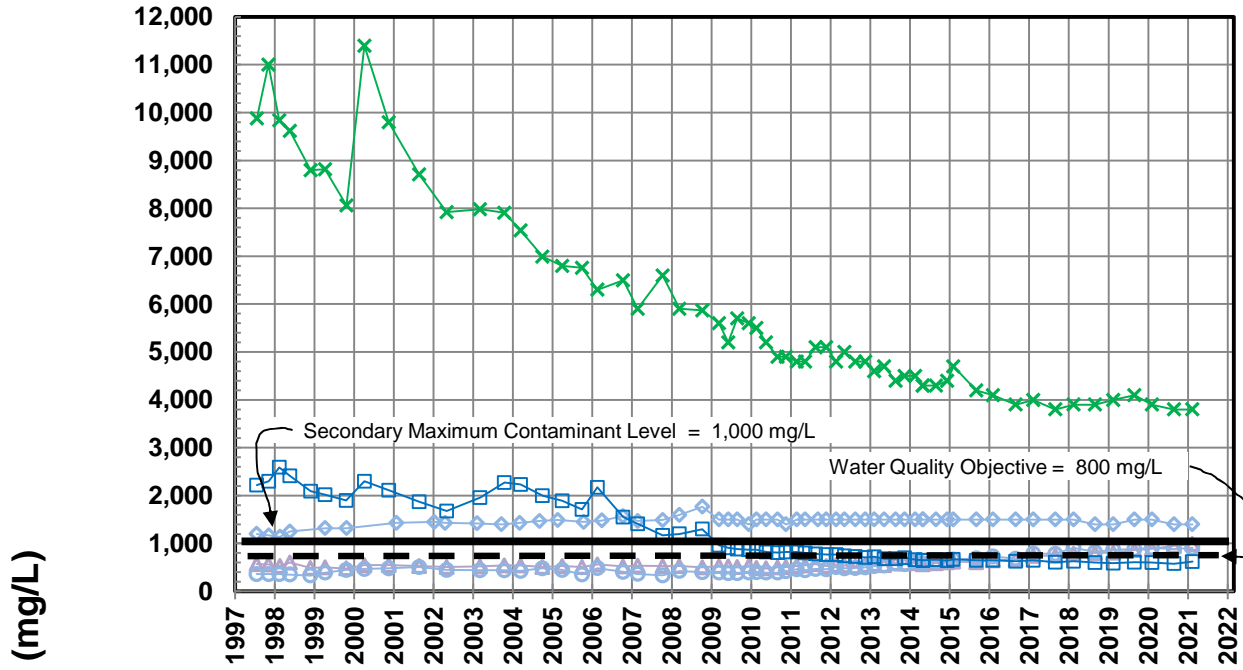
# Chloride



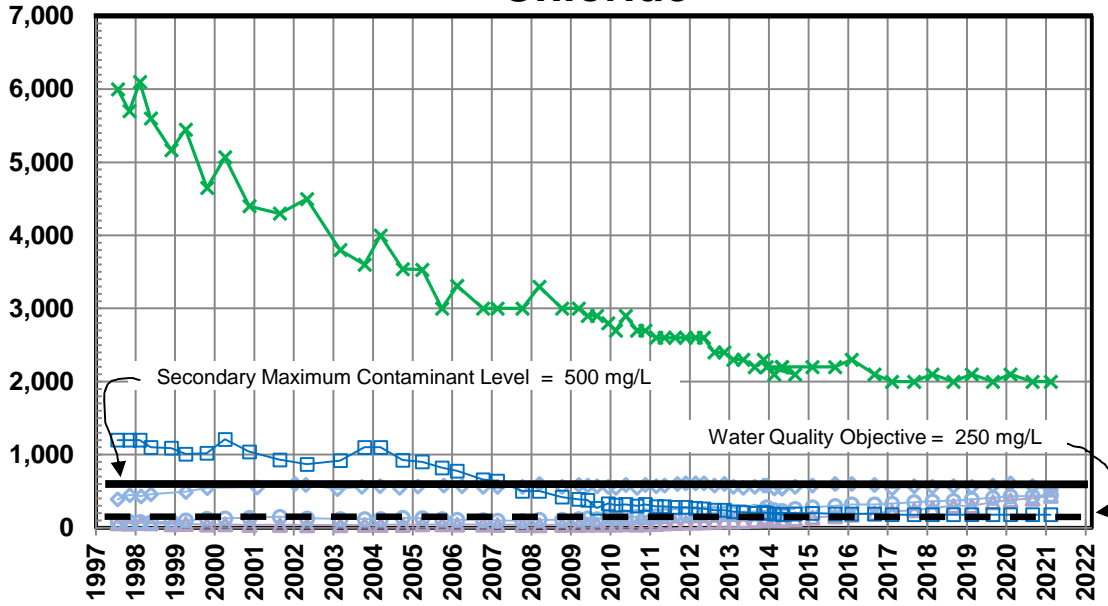
**TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL MANHATTAN BEACH #1**

**FIGURE 4.12**

# Total Dissolved Solids



# Chloride



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

**TDS AND CHLORIDE IN WRD KEY NESTED 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.”*



Water Replenishment District  
of Southern California  
4040 Paramount Boulevard  
Lakewood, CA 90712  
Tel. (562) 921-5521  
Fax (562) 921-6101  
[www.wrd.org](http://www.wrd.org)