Water Replenishment District
of Southern California

REGIONAL GROUNDWATER MONITORING REPORT
WATER YEAR 2019-2020

Central and West Coast Basins
Los Angeles County, California

March 2021

WRD
WATER REPLENISHMENT DISTRICT

Water Replenishment District

REGIONAL GROUNDWATER MONITORING REPORT
CENTRAL BASIN AND WEST COAST BASIN
LOS ANGELES COUNTY, CALIFORNIA
WATER YEAR 2019 - 2020

MARCH 2021

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Cover photo – View northwest across the San Gabriel River Spreading Grounds and the Rio Hondo Spreading Grounds to downtown Los Angeles.

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 61st 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 335 monitoring wells at 60 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 2019-2020. Detailed information is presented in the body of the report with a summary below:

Groundwater Levels

Across the WRD service area, water levels have generally increased over the WY. On average this year water levels rose nearly one and three-quarter feet across the District. In both the Central and West Coast Basins, changes in water levels have been variable in WY 2019-2020. Groundwater levels have increased in some areas, decreased in other

areas, and have remained unchanged elsewhere. Overall groundwater storage gain across the District was 24,200 acre-feet (AF); 24,200 AF of that gain in storage occurred in the unconfined Montebello Forebay. There was a loss in groundwater storage in the Los Angeles Forebay of about 1,300 AF; the Whittier Area experienced a gain of 1,100 AF; and 300 AF of storage was gained in the Central Basin Pressure Area (CBPA). In the West Coast Basin there was a loss in storage of 100 AF.

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. 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 are included in this report, 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 remains committed to its statutory charge to protect and preserve groundwater resources in its service area. To that end, WRD plans to add to its groundwater monitoring well network in the CBWCB to fill data gaps and enhance the tracking of replenishment water by installing three new wells within and downgradient of the Montebello Forebay Spreading Grounds.

WRD will continue to use the data generated by the RGWMP along with WRD's Geographic Information System (GIS) capabilities to address current and potential upcoming issues related to water quality and groundwater replenishment in its service area. WRD staff will be working on refining the hydrogeologic conceptual model of the CBWCB using data from the RGWMP along with an update to the groundwater model, developed by the United States Geological Survey (USGS) and expected to be published in 2021, to improve the framework for understanding the groundwater system and for use as a planning tool.

Further information is available on the WRD web site at *http://www.wrd.org*, or by calling WRD at (562) 921-5521. WRD welcomes any comments or suggestions to this RGWMR.

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GLOSSARY OF ACRONYMS

AF	acre-feet
AFFF	aqueous film forming foam
ARC	Albert Robles Center for Water Recycling and Environmental Learning
AWTF	Advanced Water Treatment Facility
BGS	below ground surface
BOP	bottom of perforation
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
TOP	top of perforation
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 RGWMRs 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 335 wells at 60 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 RGWMR 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 2019-2020 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 2019-2020. 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 2019-2020 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 2019-2020. 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 2020 is presented in **Figure 2.1**. Specific well zones used to develop the groundwater contour map are identified on **Table 2.1**. The fall 2020 Contour Map shows that in the Central Basin water levels range from highs in excess of 170 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 City of Gardena between the Charnock Fault and Newport-Inglewood Uplift, both of which are geologic structural features that partially restrict groundwater flow.

2.2 CHANGES IN GROUNDWATER LEVELS

Figure 2.2 is a groundwater level change map that illustrates the difference between groundwater levels measured in fall 2019 and those measured in fall 2020. Specific well zones used to develop the groundwater level change map are identified on **Table 2.1**. During WY 2019-2020, changes in groundwater levels across the WRD service area have been variable. Groundwater levels have increased in some areas, decreased in other areas, and have remained unchanged elsewhere.

In the Central Basin, changes in groundwater levels were variable in WY 2019-2020. Across the unconfined Montebello Forebay water levels have increased. The greatest increases in water levels are observed to the north and in close vicinity to the spreading grounds where they are as much as 17 feet higher than they were the previous

year (fall 2019). The increase 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 nine feet higher than they were in fall 2019, and along the western reach they are relatively unchanged or slightly lower than they were in fall 2019. Across the unconfined Los Angeles Forebay, water levels have either decreased slightly or remain relatively unchanged from those measured in fall 2019. Water levels in the western portion of the Los Angeles Forebay are relatively unchanged from those measured in fall 2019, while those in the eastern portion have decreased by as much as about three feet. Water levels in the Whittier Area have generally increased from those measured in WY 2018-19; in the west they are as much as nine feet higher, and in the east they are relatively unchanged from those measured in fall 2019.

Water level changes were also variable across the rest of the Central Basin in WY 2019-2020. In the northern portion of the Central Basin Pressure Area (CBPA), the area between the Los Angeles and Montebello Forebays, water levels have decreased by as much as about three feet from those measured in WY 2018-19. Along the eastern border of the CBPA water levels range from nearly three feet lower in the north to more than eight feet higher in the south than they were in fall 2019. Across the southern and western portions of the CBPA, near the Newport-Inglewood Uplift, water levels range from nearly five feet higher in the south to relatively unchanged in the west compared to those measured in WY 2018-19.

In the West Coast Basin, changes in groundwater levels were variable in WY 2019-2020. In the general Carson-Wilmington-Long Beach area groundwater levels have decreased by as much as about five feet from those measured in fall 2019. In the coastal area near the Long Beach Harbor groundwater levels are relatively unchanged from those measured in WY 2018-19, while those in the San Pedro and Lomita areas have increased by nearly two feet. Water levels in the coastal plain near Torrance-Redondo Beach-Los Angeles International Airport (LAX) have remained relatively unchanged from those measured in fall 2019. In the Gardena area between the Newport-Inglewood and Charnock Faults, and in the Hawthorne area just west of the Charnock Fault, water levels have generally

increased and range from relatively unchanged to as much as four feet higher than they were in fall 2019.

District-wide, groundwater levels increased by nearly one and three-quarter feet in WY 2019-2020, although across the Montebello Forebay region water levels increased by an average of more than five feet. Overall groundwater storage gain across the District was 24,200 acre-feet (AF); 24,200 AF of that gain in storage occurred in the unconfined Montebello Forebay. There was a loss in groundwater storage in the Los Angeles Forebay of about 1,300 AF; the Whittier Area experienced a gain of 1,100 AF; and 300 AF of storage was gained in the CBPA. In the West Coast Basin there was a loss in storage of 100 AF.

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 increased by more than two feet over 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 Gaspur/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 increased nearly four feet over the previous WY, similar to levels last observed at this location in the fall of WY 2017-18.

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. The water level in Zone 3 increased by more than two feet over the previous WY, bringing it to about the level last observed here in the fall of WY 2017-18.

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): Gaspur, 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 Gaspur 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 one foot in WY 2019-2020 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. South Gate #1 water levels decreased by about 1.5 feet in the deepest three Aquifers and increased by more than five feet in Zone 4 from the previous WY. Water levels are relatively unchanged in Zone 5 from the previous WY but have 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 are essentially unchanged from those measured in fall 2019 and have decreased by between one and two feet in each of the overlying shallower zones. Water levels in Willowbrook #1 have generally declined over the past 20 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 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 Zones 4 and 5 have fluctuated dramatically due to the temporary in-lieu program where nearby production wells were turned off in WY 2019-2020; from about late fall 2019 through spring 2020, they increased by nearly 90 feet. Since spring 2020 however, they have decreased nearly 80 feet, and in fall 2020 they were observed at elevations a few feet higher than were measured in fall 2019. Water levels in

the other zones also show significant seasonal variation. **Figure 2.9** shows that water levels in all six zones generally increased slightly during WY 2019-2020.

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 have historically overlain one another on the hydrograph, however measurements from Zone 2 are missing for several months this year due to equipment malfunction. Water levels in Zones 1 and 3 have increased by about five feet over WY 2019-2020. Zones 6 and 7 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. Three months of measurements are also missing from Zone 4 due to equipment malfunction; however, groundwater levels measured in late June 2020 are about 15 feet higher than they were in fall 2019.

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 2019-2020 and have decreased about 10 feet over the past 20 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. Water levels in Zone 1 (Sunnyside) are deepest and have historically been separated from Zone 2 (Silverado) water levels by one or two feet; however, over the last half of WY 2019-2020 they are within 0.25 feet of one another. Water levels in Zones 3 and 4 (Lynwood and Gardena) are both more than three feet higher than those in Zone 2. Water levels measured in each of the four zones at PM-4 Mariner in the fall of 2020 were essentially the same as those measured in the fall of 2019.

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 25 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 by about two feet over WY 2019-2020 but have generally increased about 30 feet over the past 21 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 nearly two feet over the previous WY and more than 12 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 2019-2020, but they have increased by as much as 30 feet over the past 21 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 this WY (WY 2019-2020), 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 34 of WRD's 35 nested monitoring wells (195 of 201 individual well zones) in the Central Basin during WY 2019-2020. One of WRD's Central Basin nested wells, South Gate #2 (6 individual well zones), was not sampled in WY 2019-2020 due to access restraints related to the COVID-19 pandemic. **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 2019-2020. **Table 3.3** presents the results of detected constituents analyzed during the 2019 and 2020 sampling events for per- and polyfluoroalkly substances (PFAS) from readily available WRD nested monitoring wells (56 nested wells, 307 individual well zones) in the CBWCB. Complementing the data from the 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 2019-2020, and production wells for the three-year period spanning 2017-2020, 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. Water quality maps have also been prepared for nested monitoring wells and production wells illustrating the maximum concentration of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) detected between January 2019 and September 2020 PFAS sampling (**Figures 3.23 - 3.26**). 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 2019-2020 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 195 individual well zones (10%). In the West Coast Basin, TDS was detected in WRD nested monitoring wells at concentrations above the SMCL in 34 out of 112 individual well zones (30%). 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 2017-2020. In the Central Basin, TDS was not detected above the Upper Level SMCL of 1,000 mg/L in any of the 211 production wells sampled for TDS during this period. In the West Coast Basin, TDS was detected at concentrations above the SMCL in four out of 28 production wells (14%). 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 195 individual well zones (7%). In the West Coast Basin, iron was detected in WRD nested monitoring wells at concentrations above the SMCL in 16 out of 112 individual well zones (14%).

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 2017-2020. In the Central Basin, iron was detected at concentrations above the SMCL of 0.3 mg/L in 17 out of 217 production wells (8%). In the West Coast Basin, iron was detected at concentrations above the SMCL in eight out of 32 production wells (25%).

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 (µg/L) is established for manganese due to its undesirable aesthetic qualities; manganese also has an NL of 500 µg/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 µg/L in 55 out of 195 individual well zones (28%), and in three of those 55 zones (5%) manganese was detected at concentrations above the NL of 500 µg/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 six of those 50 zones (12%) 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 2017-2020. Manganese was detected in Central Basin production wells at concentrations above the SMCL of 50 µg/L in 42 out of 216 production wells (19%), and in two of those 42 wells (5%) 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 18 out of 32 production wells (56%) but was not detected at concentrations above the NL in any of those 32 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 2019-2020. In the Central Basin, with only a few exceptions all 34 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 195 individual well zones (3%). 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 25 of those 26 individual well zones (96%) 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 2017-2020. Chloride was not detected above the upper SMCL of 500 mg/L in any

of the 211 Central Basin production wells sampled for chloride during this period. In the West Coast Basin, four of the 28 (14%) production wells tested, all of which are located on the west side of the basin near the coast, had chloride concentrations above 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 total nitrogen, has an MCL of 10 mg/L. These constituents are regulated because they present possible acute health risks and can cause anoxia in infants. When consumed in excess of the MCLs, they reduce the uptake of oxygen causing shortness of breath, lethargy, and a bluish skin color.

Nitrate concentrations in groundwater are also a concern because their presence indicates that a degree of contamination has occurred due to the degradation of organic matter. Native groundwater typically does not contain nitrate. It can be introduced into groundwater from agricultural practices such as fertilization of crops or lawns and leaching of animal wastes. Low concentrations of nitrogen compounds, including nitrate and nitrite, are present in treated recycled water below regulatory and permitted limits and may be a source of nitrate loading to groundwater. Typically, organic nitrogen and ammonia are the initial byproducts of the decomposition of human or animal wastes. Upon oxidation, the organic nitrogen and ammonia are converted first to nitrite and then 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 2019-2020. 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 195 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 2017-2020. One of the 221 (<1%) Central Basin production wells tested for nitrate, located in the Los Angeles Forebay, contained nitrate above the MCL of 10 mg/L. None of the 30 production wells tested in the West Coast Basin for nitrate exceeded the MCL during WYs 2017-2020.

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 six out of 195 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 2017-2020. As shown on Figure 3.12, in the Central Basin TCE was detected at concentrations above the MCL of 5 µg/L in 20 out of 224 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 31 production wells tested for TCE during WYs 2017-2020.

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**, PCE was not detected at concentrations above the MCL of 5 µg/L in any of the WRD nested monitoring well sites located in the CBWCB.

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 2017-2020. In the Central Basin, PCE was detected at concentrations above the MCL of 5 µg/L in 12 out of 224 production wells (5%). 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 31 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 also causes other health effects, such as high blood pressure and diabetes. The DDW established an MCL of 10 µg/L for arsenic.

Figure 3.15 presents water quality data for arsenic in WRD nested monitoring wells during WY 2019-2020. In the Central Basin, arsenic was detected in WRD nested monitoring well locations at concentrations above the MCL of 10 µg/L in 18 out of 195 individual well zones (9%). In the West Coast Basin, arsenic was detected in WRD nested well locations at concentrations above the MCL at five out of 112 individual well zones (4%).

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 2017-2020. In the Central Basin, arsenic was detected at concentrations above the MCL of 10 µg/L in nine out of 215 (4%) production wells. In the West Coast Basin, arsenic was not detected at a concentration above the MCL in any of the 27 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 2019-2020. In the Central Basin, perchlorate was detected in WRD nested monitoring well locations at concentrations above the MCL of 6 µg/L in one out of 195 individual well zones (<1%). 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 2017-2020. In the Central Basin, perchlorate was detected at concentrations above the MCL of 6 µg/L in two out of 219 production wells (<1%). Perchlorate was not detected in any of the 27 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 judgement 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 195 individual well zones (2%). 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 2017-20. Hexavalent chromium was not detected at a concentration above the historic MCL of 10 µg/L in any of the production wells that were tested for hexavalent chromium in either the Central Basin or West Coast Basin.

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 195 individual well zones (13%). 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 2017-2020. In the Central Basin 1,4-dioxane was detected at concentrations above the NL of 1 µg/L in 54 of the 78 (69%) 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.

3.1.12 Per- and Polyfluoroalkyl Substances (PFAS)

PFAS are a large group of man-made compounds including the most commonly used PFOA and PFOS. They have been used for several decades all over the world in industrial manufacturing, firefighting foams (aqueous film forming foam [AFFF]), and several consumer products including fast food wrappers, pizza boxes, stain resistant carpets, non-stick cookware (Teflon™), clothing (Gore-Tex ®), and fabric protectant (Scotchgard™). However, PFOA and PFOS have been phased out of products made in the United States since the 2000's.

In May 2016, the USEPA issued a lifetime health advisory of 70 nanograms per liter (ng/L) for the combined concentration of PFOS and PFOA. In August 2019, California (through DDW) established drinking water NLs of 5.1 ng/L for PFOA and 6.5 ng/L for PFOS, and in February 2020 the DDW established a RL of 10 ng/L for PFOA and 40 ng/L for PFOS.

In WY 2018-19, WRD began evaluating the presence of PFAS constituents in the Central Basin. In that initial assessment WRD collected samples from 20 nested monitoring wells (124 individual well zones) in and around the Montebello Forebay Spreading Grounds and analyzed them for 32 distinct PFAS constituents, including PFOS and PFOA. Two rounds

of sampling were conducted in that initial investigation to confirm the consistency of the results obtained, and the findings were reported in WRD's 2018-19 RGWMR.

In WY 2019-2020, WRD expanded the initial investigation to include PFAS analysis from its entire nested monitoring well network across the CBWCB. PFAS sampling in WY 2019-2020 focused on 18 distinct PFAS constituents, including PFOS and PFOA, each of which are considered to be likely candidates of future regulatory interest. During the first round of sampling in the spring of 2020, samples were collected from each of WRD's nested monitoring wells (58 nested wells, 318 individual well zones). During the final round of sampling in 2020, PFAS samples were collected from select nested well sites to confirm detections in spring 2020. **Table 3.3** presents the complete results for those constituents that were detected in the initial 2019 and the expanded 2020 PFAS investigations. A discussion is provided below for the two most commonly detected constituents and those with current NLs and RLs (i.e., PFOS and PFOA).

Figure 3.23 shows the maximum PFOS concentration detected within each of the 318 individual well zones that comprise WRD's nested monitoring well network during 2019 and 2020 sampling. PFOS was detected in 53 out of 318 individual well zones (17%); 41 of those 53 detections (77%) were at concentrations above the NL of 6.5 ng/L and 11 of the 53 (21%) were at concentrations above the RL of 40 ng/L.

Figure 3.24 presents DDW water quality data for the maximum PFOS detection in production wells across the WRD service area in 2019 and 2020. In the Central Basin, PFOS was detected in 61 out of 89 production wells (69%) tested; concentrations were above the NL of 6.5 ng/L in 58 out of those 61 wells (95%), and 20 wells (33%) had concentrations above the RL of 40 ng/L. In the West Coast Basin, only one of 14 wells tested (7%) had a detectable concentration of PFOS; it was below both the NL and RL.

Figure 3.25 shows the maximum PFOA concentration detected within each of the 318 individual well zones that comprise WRD's nested monitoring well network during 2019 and 2020 sampling. PFOA was detected in 51 out of 318 individual well

zones (16%); 39 of those 51 detections (76%) were at concentrations above the NL of 5.1 ng/L and 26 (51%) were at concentrations above the RL of 10 ng/L.

Figure 3.26 presents DDW water quality data received by WRD for the maximum PFOA detection in production wells across the WRD service area in 2019 and 2020. In the Central Basin, PFOA was detected in 59 out of 89 production wells (66%) tested, concentrations were above the NL of 5.1 ng/L in 52 out of those 59 wells (88%), and 38 wells (64%) had concentrations above the RL of 10 ng/L. In the West Coast Basin, PFOA was not detected in any of the 14 wells tested.

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 2019-20. 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 2019-20, approximately 8,984 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 3.4.**

In 2019, 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 221 mg/L.

In 2019, 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 0.4 mg/L. Recently and historically, both Colorado River and State Water Project nitrate concentrations have remained below the MCL.

In 2019, the average iron and manganese concentrations in untreated Colorado River water were below detection limits. Manganese was not detected in untreated water obtained from the State Water Project, and the average iron concentration in that water was 237 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 2019. 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 3.4**.

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 all slightly 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 µg/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 3.4** 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. A lack of source water and system maintenance kept the Vander Lans AWTF offline for about the first half of WY 2019-2020. Since about July 2020 the facility has been consistently operational, and it is expected to run at near full capacity in the future. **Table 3.4** 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. TIWRP has been consistently operational since July 2019 and through about June of 2020 has delivered approximately 80% of barrier demand. It is anticipated that ultimately the advanced treated recycled water produced there will replace nearly all the imported water used for injection into the Dominguez Gap Seawater Intrusion Barrier.

Table 3.4 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, several of the constituents that are usually reported by LACDPW were not analyzed during WY 2018-19, 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 2018-19 are presented on **Table 3.4**.

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 3.5**). 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 3.5** 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 3.5**, 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 recycled water and stormwater recharge.

A SNMP Workplan was jointly prepared by the CBWCB stakeholders and approved by the Los Angeles Regional Water Quality Control Board 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 2019-2020 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 2017-2020 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 RGWMRs.

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 historically been and remain below the SMCLs and WQOs, with a one-time exception in the shallow zone at Pico #2, where chloride concentrations were detected during the fall 2018 sampling

round at the WQO of 150 mg/L. Zone 4 at Pico #2 shows a very slightly increasing trend in chloride concentration over the past several years, but it remains below the WQO.

- At Norwalk #2, TDS and chloride concentrations have historically been and remain 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 15 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 five years TDS concentrations have stabilized somewhat in Zone 2 and show a 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 four years and have been measured at concentrations above the WQO, but below the SMCL, for the past two 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 three 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 shallow zones have variable TDS concentrations at and above the WQO, but 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 2019-2020. 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 indicate variable changes in groundwater elevations across the CBWCB during WY 2019-2020. In the unconfined Montebello Forebay, water levels have increased in WY 2019-2020; in the vicinity of the spreading grounds water levels are as much as 17 feet higher than they were in WY 2018-19. Across the unconfined Los Angeles Forebay, water levels have

either decreased by as much as three feet or have remained relatively unchanged from those measured in fall 2019. Water levels in the Whittier Area have generally increased from those measured in WY 2018-19; in the west they are as much as nine feet higher, and in the east, they are relatively unchanged from, those measured in fall 2019. In the CBPA, water levels have increased by as much as eight feet in some areas, have decreased by as much as three feet in other areas, and have remained relatively unchanged in other areas over WY 2019-2020.

- In the West Coast Basin water level changes have also been variable. In the general Carson-Wilmington-Long Beach area groundwater levels have decreased by as much as about five feet from those measured in fall 2019. In the coastal area near the Long Beach Harbor groundwater levels are relatively unchanged in WY 2019-2020, while those in the San Pedro and Lomita areas have increased by as much as two feet. Water levels in the coastal plain near Torrance-Redondo Beach-LAX have remained relatively unchanged from those measured in fall 2019, however along the western coast water levels have decreased slightly. In the Gardena area between the Newport-Inglewood and Charnock Faults, and in the Hawthorne area just west of the Charnock Fault, water levels have generally increased and range from relatively unchanged to as much as four feet higher than they were in fall 2019.
- District wide, groundwater levels increased by nearly one and three-quarter feet in WY 2019-2020, although across the Montebello Forebay region water levels increased by an average of more than five feet. Overall groundwater storage gain across the District was 24,200 AF; 24,200 AF of that gain in storage occurred in the unconfined Montebello Forebay. There was a loss in groundwater storage in the Los Angeles Forebay of about 1,300 AF; the Whittier Area experienced a gain of 1,100 AF; and 300 AF of storage was gained in the CBPA. In the West Coast Basin there was a loss in storage of 100 AF.
- 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 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 about 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 12% 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.
- 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 not detected above the MCL in any of the Central Basin nested monitoring wells, and detections below the MCL are only observed within and in close proximity to the Los Angeles and Montebello Forebays. Elevated concentrations of PCE in Central Basin production wells are observed within and downgradient of the Los Angeles and Montebello Forebays. 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 4% 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 27 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; 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 only present at low concentrations 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 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 in any of the nested monitoring wells or production wells tested.

- Beginning in WY 2018-19 and culminating in WY 2019-2020, WRD completed a District-wide assessment for the presence of PFAS constituents in WRD nested monitoring wells and CBWCB production wells. Data collected from the two-year PFAS assessment are included in this report, as are water quality maps. PFOS and PFOA, two PFAS constituents for which NLs have been established, were used to summarize WRD's findings, they are discussed below.
  - PFOS and PFOA detections in Central Basin nested monitoring wells and production wells are generally restricted to the vicinity of the Montebello Forebay; they occur within the Montebello Forebay, immediately adjacent and to its west, as well as downgradient along the Los Angeles and San Gabriel

Rivers. In the West Coast Basin, PFOS and PFOA detections in nested monitoring wells are relatively sparse; they occur above their respective NLs in the Torrance area, and inland in the shallow zone of one nested well site in the Lawndale area. PFOS and PFOA were not detected in any of the West Coast Basin production wells that were 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 and SMCL in the three deepest zones at Whittier #1 and 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 two 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 2020-21 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. Telemetry technology is being implemented to send real-time water level data to WRD from several locations with a goal of real-time display of water levels on the WRD website.
- WRD continually evaluates the need to fill data gaps in water level data, water quality data, and the hydrogeologic conceptual model with additional geologic data provided from drilling, construction, and monitoring of nested wells. Three such wells are planned for installation in WY 2020-21 including one within the spreading grounds in the City of Montebello, and two others downgradient of the spreading grounds in the Cities of Paramount and Cerritos. The additional wells will provide additional water quality data and will enhance tracking of replenishment water.
- 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 using data from the RGWMP along with an update to the groundwater model, developed and expected to be published by the USGS in 2021, to improve the framework for understanding the groundwater system and for use as a planning tool.

- 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.

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.

State Water Resources Control Board (SWRCB), *Per-and Polyfluoroalkyl Substances (PFAS)*, https://www.waterboards.ca.gov/pfas/ - December 9, 2019 update

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.

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TABLES

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation [1]
Bell #1	1	102041	1750	1730	1750	Pico Formation [2]
	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 [2]
	2	101955	1410	1390	1410	Sunnyside [2]
	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 [2]
Carson #2	1	101787	1250	1230	1250	Sunnyside [2]
	2	101788	870	850	870	Sunnyside [2]
	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 [2]
	2	102076	1240	1220	1240	Sunnyside [2]
	3	102077	1100	1080	1100	Silverado [2]
	4	102078	890	870	890	Silverado
	5	102079	640	620	640	Silverado
	6	102080	380	360	380	Lynwood
Cerritos #1	1	100870	1215	1155	1175	Sunnyside [2]
	2	100871	1020	1000	1020	Silverado [2]
	3	100872	630	610	630	Lynwood
	4	100873	290	270	290	Gage
	5	100874	200	180	200	Artesia
	6	100875	135	125	135	Artesia
Cerritos #2	1	101781	1470	1350	1370	Sunnyside [2]
	2	101782	935	915	935	Silverado
	3	101783	760	740	760	Lynwood [2]
	4	101784	510	490	510	Hollydale
	5	101785	370	350	370	Gage
	6	101786	170	150	170	Artesia
Chandler #3B	1	100082	363	341	363	Silverado [2]
Chandler #3A	2	100083	192	165	192	Lynwood [2]
Commerce #1	1	100881	1390	1330	1390	Pico Formation [2]
	2	100882	960	940	960	Sunnyside
	3	100883	780	760	780	Sunnyside [2]
	4	100884	590	570	590	Silverado
	5	100885	345	325	345	Jefferson
	6	100886	225	205	225	Hollydale

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 [1]
Compton #1	1	101809	1410	1370	1390	Sunnyside [2]
	2	101810	1170	1150	1170	Sunnyside [2]
	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 [2]
	2	101949	850	830	850	Sunnyside [2]
	3	101950	605	585	605	Silverado
	4	101951	400	380	400	Lynwood [2]
	5	101952	315	295	315	Hollydale [2]
	6	101953	170	150	170	Exposition
Downey #1	1	100010	1190	1170	1190	Sunnyside [2]
	2	100011	960	940	960	Sunnyside [2]
	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 [2]
	2	100021	465	445	465	Silverado
	3	100022	365	345	365	Lynwood [2]
	4	100023	140	120	140	Gage
Gardena #2	1	101804	1335	1275	1335	Pico Formation [2]
	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 [2]
	2	100888	730	710	730	Sunnyside [2]
	3	100889	540	520	540	Sunnyside [2]
	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
Inglewood #1	1	100091	1400	1380	1400	Pico Formation [2]
	2	100092	885	865	885	Pico Formation [2]
	3	100093	450	430	450	Silverado
	4	100094	300	280	300	Lynwood [2]
	5	100095	170	150	170	Gage
Inglewood #2	1	100824	860	800	840	Pico Formation [2]
	2	100825	470	450	470	Silverado [2]
	3	100826	350	330	350	Lynwood [2]
	4	100827	245	225	245	Gage [2]

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 [1]
Inglewood #3	1	102138	1940	1900	1940	Pico Formation [2]
	2	102139	1460	1440	1460	Pico Formation [2]
	3	102140	1275	1255	1275	Pico Formation [2]
	4	102141	910	890	910	Pico Formation [2]
	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 [2]
	2	102152	1760	1740	1760	Sunnyside [2]
	3	102153	1320	1300	1320	Sunnyside [2]
	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 [2]
	3	100878	710	690	710	Lynwood [2]
	4	100879	490	470	490	Jefferson [2]
	5	100880	245	225	245	Gage
Lawndale #1	1	102171	1400	1360	1400	Pico Formation [2]
	2	102172	905	885	905	Sunnyside [2]
	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 [2]
	2	100819	720	700	720	Silverado
	3	100820	570	550	570	Silverado
	4	100821	420	400	420	Lynwood
	5	100822	240	220	240	Gage [2]
	6	100823	120	100	120	Gage [2]
Long Beach #1	1	100920	1470	1430	1450	Sunnyside [2]
	2	100921	1250	1230	1250	Sunnyside
	3	100922	990	970	990	Silverado [2]
	4	100923	619	599	619	Lynwood [2]
	5	100924	420	400	420	Jefferson [2]
	6	100925	175	155	175	Artesia
Long Beach #2	1	101740	1090	970	990	Sunnyside
	2	101741	740	720	740	Silverado [2]
	3	101742	470	450	470	Silverado
	4	101743	300	280	300	Lynwood
	5	101744	180	160	180	Gage
	6	101745	115	95	115	Gaspur

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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 [1]
Long Beach #3	1	101751	1390	1350	1390	Pico Formation [2]
	2	101752	1017	997	1017	Silverado
	3	101753	690	670	690	Silverado [2]
	4	101754	550	530	550	Silverado [2]
	5	101755	430	410	430	Lynwood
Long Beach #4	1	101759	1380	1200	1220	Pico Formation [2]
	2	101760	820	800	820	Sunnyside [2]
Long Beach #6	1	101792	1530	1490	1510	Pico Formation [2]
	2	101793	950	930	950	Sunnyside
	3	101794	760	740	760	Sunnyside
	4	101795	500	480	500	Silverado
	5	101796	400	380	400	Lynwood
	6	101797	240	220	240	Gage
Long Beach #8	1	101819	1495	1435	1455	Pico Formation [2]
	2	101820	1040	1020	1040	Sunnyside [2]
	3	101821	800	780	800	Silverado [2]
	4	101822	655	635	655	Silverado [2]
	5	101823	435	415	435	Silverado [2]
	6	101824	185	165	185	Lynwood [2]
Los Angeles #1	1	100926	1370	1350	1370	Sunnyside [2]
	2	100927	1100	1080	1100	Sunnyside
	3	100928	940	920	940	Sunnyside
	4	100929	660	640	660	Silverado
	5	100930	370	350	370	Lynwood [2]
Los Angeles #2	1	102003	1370	1330	1370	Pico Formation [2]
	2	102004	730	710	730	Sunnyside
	3	102005	525	505	525	Silverado
	4	102006	430	410	430	Lynwood
	5	102007	265	245	265	Hollydale [2]
	6	102008	155	135	155	Gardena
Los Angeles #3	1	102069	1570	1210	1230	Pico Formation [2]
	2	102070	895	875	895	Sunnyside [2]
	3	102071	725	705	725	Sunnyside [2]
	4	102072	570	550	570	Sunnyside
	5	102073	350	330	350	Silverado [2]
	6	102074	210	190	210	Gage [2]
Los Angeles #4	1	102131	1780	1740	1780	Pico Formation [2]
	2	102132	1230	1190	1230	Sunnyside [2]
	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 [2]
	2	103030	1255	1235	1255	Sunnyside [2]
	3	103031	770	750	770	Sunnyside
	4	103032	575	555	575	Sunnyside
	5	103033	450	430	450	Silverado
	6	103034	235	215	235	Lynwood [2]
	7	103035	105	95	105	Exposition

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.
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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 [1]
Los Angeles #6	1	103047	600	580	600	Pico Formation [2]
	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 [2]
	2	102212	2450	2430	2450	Pico Formation [2]
	3	102213	1670	1650	1670	Sunnyside [2]
	4	102214	1465	1445	1465	Sunnyside [2]
	5	102215	1220	1200	1220	Silverado [2]
	6	102216	900	880	900	Silverado [2]
	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 [2]
	2	102082	1590	1570	1590	Pico Formation [2]
	3	102083	1270	1250	1270	Pico Formation [2]
	4	102084	885	865	885	Sunnyside [2]
	5	102085	660	640	660	Sunnyside [2]
	6	102086	340	320	340	Silverado
	7	102087	200	180	200	Gage
Montebello #1	1	101770	980	900	960	Pico Formation [2]
	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
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 [2]
	2	101943	1280	1260	1280	Pico Formation [2]
	3	101944	980	960	980	Sunnyside [2]
	4	101945	820	800	820	Sunnyside [2]
	5	101946	500	480	500	Silverado
	6	101947	256	236	256	Gardena
Pico #1	1	100001	900	860	900	Pico Formation [2]
	2	100002	480	460	480	Silverado
	3	100003	400	380	400	Silverado
	4	100004	190	170	190	Gardena [2]
Pico #2	1	100085	1200	1180	1200	Sunnyside [2]
	2	100086	850	830	850	Sunnyside [2]
	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 [2]

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 [1]
PM-2 Police Station	1	102237	665	645	665	Sunnyside [2]
	2	102238	540	520	540	Silverado
	3	102239	390	370	390	Lynwood/Silverado [2]
	4	102240	260	240	260	Lynwood
PM-3 Madrid	1	100034	685	640	680	Sunnyside [2]
	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 [2]
	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 [2]
	2	102048	960	940	960	Pico Formation [2]
	3	102049	790	770	790	Sunnyside [2]
	4	102050	600	580	600	Silverado
	5	102051	340	320	340	Lynwood [2]
	6	102052	160	140	160	Gardena
PM-6 Madrona Marsh	1	102053	1235	1195	1235	Pico Formation [2]
	2	102054	925	905	925	Sunnyside [2]
	3	102055	790	770	790	Sunnyside [2]
	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 [2]
	2	100065	930	910	930	Sunnyside [2]
	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 [2]
	2	102063	1180	1160	1180	Sunnyside [2]
	3	102064	1040	1020	1040	Sunnyside [2]
	4	102065	795	775	795	Silverado
	5	102066	625	605	625	Lynwood [2]
	6	102067	235	215	235	Gage
	7	102068	70	60	70	Artesia
South Gate #1	1	100893	1460	1440	1460	Sunnyside [2]
	2	100894	1340	1320	1340	Sunnyside [2]
	3	100895	930	910	930	Silverado [2]
	4	100896	585	565	585	Lynwood
	5	100897	250	220	240	Exposition [2]
South Gate #2	1	102180	1760	1740	1760	Sunnyside [2]
	2	102181	1430	1410	1430	Sunnyside [2]
	3	102182	1082	1062	1082	Sunnyside
	4	102183	690	670	690	Silverado [2]
	5	102184	430	410	430	Hollydale
	6	102185	225	205	225	Gaspur [2]

1 - Unless otherwise noted, aquifer designations are based on DWR's Bulletin 104.
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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 [1]
Westchester #1	1	101776	860	740	760	Pico Formation [2]
	2	101777	580	560	580	Sunnyside [2]
	3	101778	475	455	475	Sunnyside [2]
	4	101779	330	310	330	Silverado
	5	101780	235	215	235	Silverado
Whittier #1	1	101735	1298	1180	1200	Pico Formation [2]
	2	101736	940	920	940	Pico Formation [2]
	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 [2]
	2	101937	1110	1090	1110	Pico Formation [2]
	3	101938	675	655	675	Sunnyside
	4	101939	445	425	445	Silverado
	5	101940	335	315	335	Silverado
	6	101941	170	150	170	Gage [2]
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 [2]
	2	100056	720	579	598.2	Pico Formation [2]
	3	100057	720	469	488.2	Pico Formation [2]
	4	100058	720	419	428.2	Pico Formation [2]
	5	100059	720	329	338.3	Pico Formation [2]
	6	100060	720	263	273.3	Lynwood
	7	100061	720	214	223.3	Lynwood
	8	100062	720	136	145.3	Gardena [2]
	9	100063	720	91	100.3	Gardena
Willowbrook #1	1	100016	905	885	905	Sunnyside [2]
	2	100017	520	500	520	Silverado
	3	100018	380	360	380	Lynwood
	4	100019	220	200	220	Gage
Wilmington #1	1	100070	1040	915	935	Sunnyside [2]
	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 [2]
	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 [1]
Hawkins #1	3	102233	147.75	296	286	296	9/15/2020	41.21	Lynwood
Koontz #1	1	102226	135.17	491	481	491	9/15/2020	29.97	Lynwood
LADWP-MH-MW1A	2	102251	133.91	580	510	560	10/22/2020	-9.47	Silverado
LHCWD-MW1	1	102164	151.00	570	540	560	9/14/2020	78.45	Sunnyside
LongBeach #7	2	101899	16.35	670	650	670	9/22/2020	-37.67	Silverado
Sepulveda #1	1	201058	90.00	550	370	530	9/23/2020	3.19	Silverado
Vernon #1	1	102241	210.45	530	520	530	10/5/2020	-26.96	Silverado

1 - Aquifer designations are based on DWR's Bulletin 104.

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2019 - 2020

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Bell #1									Reference Point Elevation: 149.25
Depth of Screen Interval	1730-1750	1195-1215	965-985	615-635	420-440	250-270			
Aquifer Name [1]	Pico Form. [2]	Sunnyside	Sunnyside	Silverado	Jefferson	Gage			
12/12/2019	-31.20	-33.83	-17.70	-17.75	-12.14	9.63			
3/9/2020	-30.72	-33.11	-16.66	-18.27	-12.68	8.88			
4/21/2020	-26.77	-26.47	-12.18	-14.54	-9.86	10.24			
9/23/2020	-32.38	-32.03	-18.70	-22.97	-15.83	7.03			
Bell Gardens #1									Reference Point Elevation: 121.03
Depth of Screen Interval	1775-1795	1390-1410	1090-1110	855-875	555-575	370-390			
Aquifer Name [1]	Sunnyside [2]	Sunnyside [2]	Sunnyside	Sunnyside	Silverado	Lynwood			
12/16/2019	-2.63	-1.12	1.64	5.31	9.15	7.18			
1/16/2020	-0.41	0.62	3.61	7.11	10.34	7.88			
3/11/2020	-0.41	0.35	2.92	5.98	8.74	5.95			
4/22/2020	6.24	7.26	9.36	9.88	12.52	9.19			
9/23/2020	0.86	-1.49	-0.47	2.69	6.20	3.73			
Carson #1									Reference Point Elevation: 26.86
Depth of Screen Interval	990-1010	740-760	460-480	250-270					
Aquifer Name [1]	Silverado	Silverado	Lynwood	Gage [2]					
10/4/2019	-36.60	-35.26	-9.29	-8.13					
11/21/2019	-37.44	-36.08	-9.31	-8.21					
12/9/2019	-36.15	-34.82	-9.29	-8.13					
1/7/2020	-31.83	-30.87	-8.54	-7.58					
2/5/2020	-31.39	-30.56	-8.33	-7.36					
3/4/2020	-37.08	-35.85	-8.57	-7.52					
3/19/2020	-37.21	-35.84	-8.74	-7.59					
5/7/2020	-32.56	-32.03	-8.29	-7.29					
6/30/2020	-36.44	-35.54	-8.49	-7.36					
8/13/2020	-38.08	-37.36	-8.84	-7.60					
9/10/2020	-37.86	-37.12	-8.57	-7.40					
9/21/2020	-38.83	-38.06	-8.84	-7.62					
Carson #2									Reference Point Elevation: 43.04
Depth of Screen Interval	1230-1250	850-870	600-620	450-470	230-250				
Aquifer Name [1]	Sunnyside [2]	Sunnyside [2]	Silverado	Silverado	Lynwood				
12/10/2019	-25.22	-20.18	-19.94	-17.70	-16.15				
3/19/2020	-24.93	-21.29	-21.06	-18.20	-16.26				
9/21/2020	-26.16	-23.48	-23.06	-19.14	-16.79				
Carson #3									Reference Point Elevation: 20.18
Depth of Screen Interval	1600-1620	1220-1240	1080-1100	870-890	620-640	360-380			
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]	Silverado [2]	Silverado	Silverado	Lynwood			
12/10/2019	-26.00	-30.60	-28.71	-27.90	-27.00	-11.29			
3/3/2020	-27.00	-31.25	-30.98	-31.03	-30.76	-12.29			
3/18/2020	-24.99	-29.32	-29.36	-31.34	-31.33	-10.97			
8/12/2020	-24.95	-30.57	-30.04	-31.89	-31.65	-10.77			
9/21/2020	-25.06	-30.82	-30.33	-32.52	-32.40	-10.99			
Cerritos #1									Reference Point Elevation: 43.35
Depth of Screen Interval	1155-1175	1000-1020	610-630	270-290	180-200	125-135			
Aquifer Name [1]	Sunnyside [2]	Silverado [2]	Lynwood	Gage	Artesia	Artesia			
12/16/2019	-30.86	-37.75	-20.43	19.13	20.94	21.02			
3/11/2020	-26.65	-47.46	-15.99	20.76	22.17	22.26			
6/29/2020	-38.42	-45.75	-24.38	20.56	22.24	22.37			
9/16/2020	-44.19	-50.50	-29.68	19.22	21.17	21.30			

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

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

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2019 - 2020

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Cerritos #2									Reference Point Elevation: 76.47
Depth of Screen Interval	1350-1370	915-935	740-760	490-510	350-370	150-170			
Aquifer Name [1]	Sunnyside [2]	Silverado	Lynwood [2]	Hollydale	Gage	Artesia			
12/19/2019	-23.13	-29.94	-27.08	-5.70	15.27	22.49			
3/9/2020	-17.03	-26.38	-24.48	-3.95	16.04	23.05			
4/16/2020	-12.77	-17.04	-18.11	0.03	17.16	23.58			
6/29/2020	-20.06	-32.43	-28.76	-6.56	15.86	23.28			
9/17/2020	-26.63	-34.63	-30.41	-8.16	15.07	22.68			
Chandler #3									Reference Point Elevation: 156.01
Depth of Screen Interval	341-363	165-192							
Aquifer Name [1]	Silverado [2]	Lynwood [2]							
12/13/2019	-9.87	-9.80							
3/16/2020	-9.11	-9.00							
7/9/2020	-9.70	-9.38							
8/27/2020	-9.53	-9.41							
9/23/2020	-9.39	-9.31							
Commerce #1									Reference Point Elevation: 159.31
Depth of Screen Interval	1330-1390	940-960	760-780	570-590	325-345	205-225			
Aquifer Name [1]	Pico Form. [2]	Sunnyside	Sunnyside [2]	Silverado	Jefferson	Hollydale			
12/9/2019	24.49	21.45	18.10	-11.12	-9.57	26.09			
3/9/2020	24.79	22.48	19.11	-13.58	-10.49	25.57			
4/29/2020	25.20	25.22	22.15	-11.11	-12.92	25.54			
7/1/2020	25.33	24.69	21.85	-13.06	-14.03	25.23			
9/16/2020	24.86	24.75	21.26	-14.68	-15.19	24.58			
Compton #1									Reference Point Elevation: 68.84
Depth of Screen Interval	1370-1390	1150-1170	800-820	460-480	305-325				
Aquifer Name [1]	Sunnyside [2]	Sunnyside [2]	Silverado	Hollydale	Gage				
10/17/2019	-60.92	-60.66	-29.48	-32.17	-18.64				
12/16/2019	-55.79	-55.58	-26.90	-27.89	-13.55				
3/19/2020	-37.60	-37.50	-23.73	-27.06	-13.40				
4/20/2020	-28.74	-28.68	-21.37	-24.85	not measured				
8/24/2020	-58.59	-58.39	-28.90	-26.69	not measured				
9/18/2020	-59.78	-59.56	-28.84	-31.42	-17.37				
Compton #2									Reference Point Elevation: 76.97
Depth of Screen Interval	1479-1495	830-850	585-605	380-400	295-315	150-170			
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]	Silverado	Lynwood [2]	Hollydale [2]	Exposition			
12/17/2019	-29.43	-49.24	-45.45	-45.91	-38.91	-33.33			
3/19/2020	-27.53	-43.18	-43.75	-44.09	-37.79	-32.67			
4/24/2020	-23.41	-39.75	-42.81	-43.22	-37.29	-32.09			
9/18/2020	-23.31	-50.99	-49.29	-48.26	-40.41	-33.98			
Downey #1									Reference Point Elevation: 99.39
Depth of Screen Interval	1170-1190	940-960	580-600	370-390	250-270	90-110			
Aquifer Name [1]	Sunnyside [2]	Sunnyside [2]	Silverado	Jefferson	Gage	Gaspur			
12/11/2019	-6.85	-5.59	-1.46	0.61	23.03	26.54			
3/13/2020	-3.84	-3.01	-0.92	1.27	23.11	26.64			
5/11/2020	2.63	1.28	2.62	0.43	23.35	26.80			
9/22/2020	-8.92	-8.39	-4.15	-3.34	22.20	26.47			
9/24/2020	-8.91	-8.42	-4.30	-3.38	22.24	26.49			

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

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2019 - 2020

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Gardena #1									Reference Point Elevation: 84.23
Depth of Screen Interval	970-990	445-465	345-365	120-140					
Aquifer Name [1]	Pico Form. [2]	Silverado	Lynwood [2]	Gage					
12/15/2019	-33.49	-35.87	-32.57	-4.47					
3/15/2020	-29.67	-64.40	-39.00	-3.98					
4/2/2020	-29.96	-66.73	-41.49	-3.64					
9/9/2020	-30.16	-33.88	-29.93	-3.30					
9/15/2020	-30.17	-33.90	-29.82	-3.37					
Gardena #2									Reference Point Elevation: 29.45
Depth of Screen Interval	1275-1335	770-790	610-630	340-360	235-255				
Aquifer Name [1]	Pico Form. [2]	Silverado	Silverado	Lynwood	Gardena				
12/16/2019	-27.47	-24.34	-24.21	-9.53	-3.05				
3/18/2020	-25.28	-38.41	-39.91	-10.35	-1.65				
3/25/2020	-25.46	-39.16	-40.58	-10.54	-1.66				
8/26/2020	-26.55	-37.75	-38.99	-11.10	-2.25				
Hawthorne #1									Reference Point Elevation: 88.98
Depth of Screen Interval	910-950	710-730	520-540	400-420	240-260	110-130			
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]	Sunnyside [2]	Silverado	Lynwood	Gage			
12/18/2019	-35.65	-1.61	-1.30	-1.26	1.45	7.28			
3/11/2020	-30.98	-0.64	-0.32	-0.24	2.13	7.60			
3/19/2020	-30.89	-0.23	0.07	0.14	2.41	7.46			
8/11/2020	-31.74	0.71	1.09	1.19	3.20	8.07			
9/22/2020	-30.37	0.78	1.13	1.27	3.22	8.03			
Huntington Park #1									Reference Point Elevation: 179.44
Depth of Screen Interval	890-910	690-710	420-440	275-295	114-134				
Aquifer Name [1]	Silverado	Lynwood	Hollydale	Gage	Gaspur				
12/13/2019	-25.86	-28.21	-19.18	9.49	Dry				
3/13/2020	-25.51	-27.98	-17.09	9.04	Dry				
3/30/2020	-24.22	-26.82	-18.22	9.63	Dry				
4/22/2020	-23.59	-26.58	-17.76	9.65	Dry				
7/1/2020	-24.64	-26.75	-19.48	8.71	Dry				
8/31/2020	-26.14	-29.41	-20.15	8.22	Dry				
9/29/2020	-25.57	-29.40	-19.82	8.32	Dry				
Inglewood #1									Reference Point Elevation: 112.82
Depth of Screen Interval	1380-1400	865-885	430-450	280-300	150-170				
Aquifer Name [1]	Pico Form. [2]	Pico Form. [2]	Silverado	Lynwood [2]	Gage				
10/17/2019	-28.50	-27.71	-20.07	-1.07	5.87				
12/10/2019	-28.28	-27.97	-20.81	-1.48	5.44				
1/7/2020	-28.15	-28.07	-20.52	-1.52	5.54				
3/11/2020	-27.97	-28.48	-16.58	1.27	4.57				
3/24/2020	-27.79	-28.35	-16.75	-0.11	5.52				
8/19/2020	-27.31	-27.48	-18.51	-0.69	5.59				
9/22/2020	-27.59	-27.49	-18.72	-1.19	5.37				
Inglewood #2									Reference Point Elevation: 219.82
Depth of Screen Interval	800-840	450-470	330-350	225-245					
Aquifer Name [1]	Pico Form. [2]	Silverado [2]	Lynwood [2]	Gage [2]					
12/10/2019	-21.40	-15.78	-2.03	1.72					
3/11/2020	-21.60	-14.88	-1.78	2.07					
9/22/2020	-21.10	-14.73	-1.88	1.97					

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

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2019 - 2020

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Inglewood #3									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 [1]	Pico Form. [2]	Pico Form. [2]	Pico Form. [2]	Pico Form. [2]	Silverado	Lynwood	Gage		
12/18/2019	-34.06	-28.01	-32.18	-37.48	-37.76	-6.02	5.28		
3/9/2020	-34.46	-27.79	-31.50	-32.60	-33.36	-3.48	5.77		
4/23/2020	-34.57	-27.50	-31.08	-30.28	-30.49	-1.57	6.18		
8/20/2020	-34.61	-27.38	-30.49	-32.86	-32.54	-3.13	6.22		
9/24/2020	-34.78	-26.91	-30.38	-32.23	-32.03	-3.28	6.12		
Lakewood #1									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 [1]	Sunnyside	Lynwood	Hollydale	Gage	Artesia	Bellflower			
12/15/2019	-53.33	-35.60	-32.02	-16.88	-1.79	20.80			
3/17/2020	-30.53	-26.68	-25.34	-12.91	1.16	21.60			
4/22/2020	-21.96	-24.19	-22.14	-9.49	3.86	22.25			
6/30/2020	-40.01	-31.74	-28.42	-14.88	0.27	22.21			
9/22/2020	-56.38	-36.10	-33.53	-15.54	-1.69	21.76			
Lakewood #2									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 [1]	Sunnyside [2]	Sunnyside [2]	Sunnyside [2]	Silverado	Lynwood	Jefferson	Gage	Artesia	
12/16/2019	-25.51	-38.95	-37.48	-45.72	-24.91	-11.41	17.08	19.43	
3/19/2020	-14.87	-21.84	-23.71	-31.66	-14.05	-3.82	18.54	20.76	
4/29/2020	-5.55	-19.85	-20.10	-30.64	-12.73	-2.60	19.25	21.44	
6/30/2020	-13.42	-34.82	-40.15	-58.11	-29.23	-13.02	18.32	20.70	
9/15/2020	-22.82	-42.40	-46.14	-60.78	-33.33	-17.25	17.55	20.00	
9/22/2020	-23.55	-42.54	-46.10	-60.31	-34.03	-17.37	17.36	19.88	
La Mirada #1									Reference Point Elevation: 78.30
Depth of Screen Interval	1130-1150	965-985	690-710	470-490	225-245				
Aquifer Name [1]	Sunnyside	Silverado [2]	Lynwood [2]	Jefferson [2]	Gage				
12/17/2019	-13.95	-8.69	-13.20	-29.61	-4.43				
3/13/2020	-8.31	-3.51	-11.89	-30.35	-1.13				
3/24/2020	-5.45	-0.95	-8.25	-24.83	1.33				
6/30/2020	-4.23	0.83	-14.03	-39.66	-6.19				
9/15/2020	-7.66	-5.91	-26.56	-46.55	-11.15				
9/28/2020	-9.01	-7.20	-27.41	-45.00	-10.75				
Lawndale #1									Reference Point Elevation: 48.93
Depth of Screen Interval	1360-1400	895-905	615-635	395-415	290-310	170-190			
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]	Silverado	Silverado	Lynwood	Gardena			
10/4/2019	-25.77	-31.60	-6.06	-5.67	-4.05	0.41			
11/21/2019	-25.60	-32.20	-3.72	-3.19	-1.75	0.18			
12/18/2019	-25.68	-25.92	-2.55	-2.08	-0.71	1.16			
1/7/2020	-25.51	-24.21	-2.16	-1.73	-0.35	1.62			
2/5/2020	-25.35	-27.08	-2.96	-2.46	-0.93	1.25			
3/18/2020	-24.75	-35.85	-0.07	0.53	1.58	3.02			
4/7/2020	-24.76	-38.04	-0.88	-0.39	0.96	2.65			
5/14/2020	-24.72	-39.15	-2.52	-1.94	-0.35	2.08			
8/13/2020	-24.66	-36.20	-2.01	-1.44	-0.29	-1.59			
9/24/2020	-24.41	-36.05	-1.66	-1.10	-0.02	-1.80			

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2019 - 2020

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Lomita #1									Reference Point Elevation: 79.48
Depth of Screen Interval	1240-1260	700-720	550-570	400-420	220-240	100-120			
Aquifer Name [1]	Pico Form. [2]	Silverado	Silverado	Lynwood	Gage [2]	Gage [2]			
12/13/2019	-19.85	-12.92	-9.46	-11.47	-9.16	-9.06			
3/18/2020	-18.21	-12.28	-8.54	-10.92	-8.35	-8.32			
4/15/2020	-19.09	-14.06	-8.76	-10.95	-8.70	not measured			
4/22/2020	-18.91	-12.59	-9.67	-10.93	-8.63	-9.01			
8/25/2020	-16.90	-13.92	-8.87	-10.97	-8.77	not measured			
9/24/2020	-17.80	-12.75	-9.23	-11.14	-8.44	-8.39			
Long Beach #1									Reference Point Elevation: 30.86
Depth of Screen Interval	1430-1450	1230-1250	970-990	599-619	400-420	155-175			
Aquifer Name [1]	Sunnyside [2]	Sunnyside	Silverado [2]	Lynwood [2]	Jefferson [2]	Artesia			
12/17/2019	-35.97	-38.94	-52.80	-27.00	-22.90	-2.93			
3/19/2020	-21.57	-23.20	-29.69	-18.68	-14.78	0.68			
5/7/2020	-8.51	-9.85	-20.56	-14.90	-12.49	0.22			
6/29/2020	-22.79	-25.98	-53.78	-28.97	-26.70	-5.30			
8/27/2020	-31.10	-34.52	-62.75	-34.06	-32.31	-8.55			
9/22/2020	-33.14	-36.40	-64.15	-34.83	-32.25	-8.94			
Long Beach #2									Reference Point Elevation: 44.20
Depth of Screen Interval	970-990	720-740	450-470	280-300	160-180	95-115			
Aquifer Name [1]	Sunnyside	Silverado [2]	Silverado	Lynwood	Gage	Gaspur			
12/9/2019	-74.11	-47.68	-40.41	-15.22	-3.78	-1.58			
3/17/2020	-44.35	-39.80	-36.78	-13.55	-2.90	-0.92			
3/24/2020	-39.72	-38.78	-36.55	-13.22	-2.74	-0.81			
4/16/2020	-31.32	-35.36	-37.30	-12.72	-2.42	-0.52			
8/18/2020	-78.63	-49.93	-45.96	-14.71	-2.76	-0.43			
9/21/2020	-80.56	-50.85	-43.85	-14.81	-2.78	-0.60			
Long Beach #3									Reference Point Elevation: 26.67
Depth of Screen Interval	1350-1390	997-1017	670-690	530-550	410-430				
Aquifer Name [1]	Pico Form. [2]	Silverado	Silverado [2]	Silverado [2]	Lynwood				
11/7/2019	-29.17	-38.77	-38.75	-39.42	-1.65				
12/9/2019	-28.97	-37.99	-38.02	-38.62	-1.48				
3/17/2020	-27.65	-38.58	-38.53	-39.12	-0.13				
4/17/2020	-27.64	-36.74	-36.71	-37.27	0.26				
8/4/2020	-28.51	-40.60	-40.59	-40.94	-2.65				
9/21/2020	-28.98	-41.43	-41.43	-41.88	0.39				
Long Beach #4									Reference Point Elevation: 12.34
Depth of Screen Interval	1200-1220	800-820							
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]							
12/18/2019	-24.55	-8.35							
03/19/2020	-22.91	-6.76							
9/23/2020	-25.01	-7.83							
Long Beach #6									Reference Point Elevation: 34.47
Depth of Screen Interval	1490-1510	930-950	740-760	480-500	380-400	220-240			
Aquifer Name [1]	Pico Form. [2]	Sunnyside	Sunnyside	Silverado	Lynwood	Gage			
12/16/2019	-50.34	-73.41	-76.43	-87.15	-87.11	-34.42			
12/27/2019	-49.86	-75.35	-79.35	-93.54	-94.21	-33.94			
3/17/2020	-37.44	-38.18	-38.17	-40.75	-40.75	-28.40			
3/17/2020	-37.06	-37.81	-37.94	-40.66	-40.65	-28.45			
6/29/2020	-34.24	-65.98	-70.93	-92.25	-93.09	-31.90			
8/24/2020	-46.25	-76.30	-81.07	-101.71	-102.56	-34.18			
9/24/2020	-49.66	-77.40	-82.29	-102.05	-102.98	-34.76			

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2019 - 2020

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Long Beach #8									Reference Point Elevation: 21.20
Depth of Screen Interval	1435-1455	1020-1040	780-800	635-655	415-435	165-185			
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]	Silverado [2]	Silverado [2]	Silverado [2]	Lynwood [2]			
12/16/2019	-10.90	-23.68	-31.92	-29.91	-29.12	4.73			
3/19/2020	-10.24	-22.63	-32.13	-30.53	-30.04	5.00			
6/23/2020	-10.28	-22.87	-32.84	-30.94	-30.59	5.28			
9/22/2020	-10.11	-23.67	-34.73	-32.75	-32.30	5.16			
Los Angeles #1									Reference Point Elevation:176.21
Depth of Screen Interval	1350-1370	1080-1100	920-940	640-660	350-370				
Aquifer Name [1]	Sunnyside [2]	Sunnyside	Sunnyside	Silverado	Lynwood [2]				
12/18/2019	-28.89	-20.34	-20.49	-19.71	-12.43				
3/18/2020	-28.85	-19.90	-20.01	-19.05	-11.46				
9/17/2020	-27.80	-20.23	-20.44	-19.80	-12.26				
Los Angeles #2									Reference Point Elevation: 220.33
Depth of Screen Interval	1330-1370	710-730	505-525	410-430	245-265	135-155			
Aquifer Name [1]	Pico Form. [2]	Sunnyside	Silverado	Lynwood	Hollydale [2]	Gardena			
12/16/2019	44.50	-8.61	-9.07	-19.62	-24.69	Dry			
3/9/2020	45.03	-8.33	-8.77	-19.45	-24.50	Dry			
3/25/2020	not measured	-8.56	-8.99	-19.57	-24.76	Dry			
9/28/2020	44.06	-8.47	-8.91	-19.35	-24.65	Dry			
Los Angeles #3									Reference Point Elevation: 145.35
Depth of Screen Interval	1210-1230	875-895	705-725	550-570	330-350	190-210			
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]	Sunnyside [2]	Sunnyside	Silverado [2]	Gage [2]			
12/17/2019	-18.78	-4.76	-8.65	-10.47	-7.99	5.16			
3/11/2020	-19.24	-4.47	-8.27	-9.49	-7.10	5.44			
4/15/2020	-18.46	-4.16	-7.86	-9.87	-7.23	5.61			
8/26/2020	-16.63	-4.24	-8.12	-9.80	-7.17	5.86			
9/16/2020	-18.11	-4.50	-8.42	-10.27	-7.63	5.63			
Los Angeles #4									Reference Point Elevation: 136.04
Depth of Screen Interval	1740-1780	1190-1230	720-740	490-510	355-375	235-255			
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]	Sunnyside	Silverado	Lynwood	Gage			
12/10/2019	-26.95	-33.37	-30.31	-25.14	-25.55	-16.26			
3/9/2020	-27.74	-31.27	-28.67	-24.45	-24.79	-15.60			
3/26/2020	-27.39	-30.60	-27.92	-24.27	-25.81	-15.65			
9/1/2020	-25.27	-32.20	-30.70	-25.14	-25.62	-15.88			
9/25/2020	-25.92	-33.03	-30.69	-25.44	-25.77	-15.99			
Los Angeles #5									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 [1]	Pico Form. [2]	Sunnyside [2]	Sunnyside	Sunnyside	Silverado	Lynwood [2]	Exposition		
12/17/2019	7.12	9.09	12.68	9.11	6.7	33.52	63.52		
3/9/2020	6.95	9.45	13.61	9.52	7.2	33.71	63.56		
4/14/2020	6.99	9.64	14.12	9.64	7.25	33.81	not measured		
4/15/2020	7.22	not measured	not measured	not measured	not measured	not measured	not measured		
8/25/2020	7.00	9.60	11.67	10.05	7.53	34.07	not measured		
8/26/2020	7.01	not measured	not measured	not measured	not measured	not measured	not measured		
10/1/2020	6.88	9.44	11.33	9.81	6.90	33.97	63.56		

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2019 - 2020

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Los Angeles #6									Reference Point Elevation: 213.59
Depth of Screen Interval	580-600	420-440	345-365	255-275					
Aquifer Name [1]	Pico Form. [2]	Sunnyside	Silverado	Lynwood					
12/16/2019	3.19	-2.75	-3.07	-3.63					
3/9/2020	3.23	-2.60	-2.88	-3.40					
4/16/2020	not measured	3.18	-2.52	-2.79					
9/16/2020	3.05	-2.68	-2.89	-3.50					
Lynwood #1									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 [1]	Pico Form. [2]	Pico Form. [2]	Sunnyside [2]	Sunnyside [2]	Silverado [2]	Silverado [2]	Lynwood	Gardena	Gaspur
12/17/2019	-23.92	-41.46	-47.85	-42.29	-30.32	-27.87	-28.96	-21.62	34.33
3/12/2020	-23.47	-37.06	-39.49	-35.34	-27.87	-27.23	-28.84	-23.61	34.36
5/12/2020	-19.94	-25.63	-30.85	-27.32	-23.59	-25.33	-27.29	-23.52	34.17
9/21/2020	-20.24	-39.24	-50.49	-44.79	-33.17	-30.74	-32.03	-28.56	33.59
9/29/2020	-20.45	-39.6	-50.49	-44.80	-32.75	-30.76	-32.24	-26.67	33.61
Manhattan Beach #1									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 [1]	Pico Form. [2]	Pico Form. [2]	Pico Form. [2]	Sunnyside [2]	Sunnyside [2]	Silverado	Gage		
12/11/2019	0.50	-1.91	-25.00	2.38	1.94	10.15	12.29		
2/25/2020	0.42	not measured	not measured	not measured	not measured	not measured	not measured		
2/26/2020	0.57	-2.03	not measured	not measured	not measured	not measured	not measured		
2/27/2020	not measured	not measured	-24.59	3.4	2.52	10.97	12.81		
3/18/2020	0.71	-1.65	-24.29	3.92	2.85	11.23	12.96		
7/28/2020	0.60	-1.81	-24.12	3.87	1.63	10.20	12.06		
9/22/2020	0.63	-1.79	-24.10	3.84	1.01	9.82	11.62		
Montebello #1									Reference Point Elevation: 193.11
Depth of Screen Interval	900-960	690-710	500-520	370-390	210-230	90-110			
Aquifer Name [1]	Pico Form. [2]	Sunnyside	Sunnyside	Silverado	Lynwood	Gage			
12/16/2019	59.73	55.10	54.48	52.15	52.36	Dry			
1/16/2020	64.06	62.69	62.08	58.61	53.43	Dry			
3/18/2020	62.72	61.35	60.83	57.33	52.30	Dry			
3/26/2020	64.17	64.08	63.57	59.81	52.28	Dry			
8/27/2020	73.54	73.46	72.73	67.96	56.11	Dry			
9/28/2020	73.98	74.61	73.99	69.04	56.28	Dry			
Norwalk #1									Reference Point Elevation: 96.18
Depth of Screen Interval	1400-1420	990-1010	720-740	430-450	220-240				
Aquifer Name [1]	Sunnyside	Silverado	Lynwood	Hollydale	Gage				
12/19/2019	26.43	-22.89	3.09	-10.44	-8.42				
3/13/2020	29.21	-19.60	6.36	-8.75	-6.65				
4/21/2020	31.68	-13.31	10.64	-5.93	-5.13				
6/29/2020	35.73	-14.29	10.33	-9.32	-6.52				
9/14/2020	35.03	-21.47	5.83	-10.97	-8.03				
Norwalk #2									Reference Point Elevation: 116.73
Depth of Screen Interval	1460-1480	1260-1280	960-980	800-820	480-500	236-256			
Aquifer Name [1]	Pico Form. [2]	Pico Form. [2]	Sunnyside [2]	Sunnyside [2]	Silverado	Gardena			
12/11/2019	4.95	4.98	-2.07	2.11	10.42	15.43			
3/16/2020	8.63	8.68	2.53	6.39	11.11	16.08			
4/28/2020	14.05	14.12	11.06	14.46	15.52	18.16			
6/29/2020	16.36	16.34	6.31	8.81	11.05	16.07			
9/15/2020	12.90	12.82	0.29	3.18	8.93	14.45			
9/23/2020	12.57	12.55	0.08	3.12	9.04	14.42			

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GROUNDWATER ELEVATIONS, WATER YEAR 2019 - 2020

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Pico #1									Reference Point Elevation: 182.89
Depth of Screen Interval	860-900	460-480	380-400	170-190					
Aquifer Name [1]	Pico Form. [2]	Silverado	Silverado	Gardena [2]					
12/15/2019	113.29	96.97	102.72	93.45					
3/15/2020	120.94	104.08	103.50	100.69					
4/28/2020	126.74	116.50	115.98	113.29					
9/15/2020	129.10	112.46	112.56	110.83					
9/22/2020	not measured	115.32	114.71	110.97					
Pico #2									Reference Point Elevation: 151.83
Depth of Screen Interval	1180-1200	830-850	560-580	320-340	235-255	100-120			
Aquifer Name [1]	Sunnyside [2]	Sunnyside [2]	Sunnyside	Silverado	Lynwood	Gaspur/Gage [2]			
12/15/2019	49.92	54.53	56.83	76.19	74.89	81.94			
3/15/2020	54.34	55.00	58.64	76.39	77.36	83.05			
4/16/2020	66.01	67.63	69.98	82.49	81.38	92.74			
9/15/2020	not measured	57.30	62.43	76.51	not measured	77.58			
9/22/2020	62.98	56.34	60.95	72.78	71.15	77.17			
PM-1 Columbia									Reference Point Elevation: 81.39
Depth of Screen Interval	555-595	460-500	240-280	160-200					
Aquifer Name [1]	Silverado	Silverado	Lynwood	Gardena					
12/11/2019	-0.62	-0.15	not measured	0.98					
3/23/2020	0.95	-2.91	not measured	-2.51					
9/23/2020	-0.41	-0.58	not measured	-2.37					
9/29/2020	-0.52	-0.76	not measured	not measured					
PM-2 Police Station									Reference Point Elevation: 87.43
Depth of Screen Interval	635-655	520-540	370-390	240-260					
Aquifer Name [1]	Sunnyside [2]	Silverado	Silver/Lyn [2]	Lynwood					
12/11/2019	-4.63	1.87	2.14	2.27					
3/4/2020	-3.70	3.24	2.87	2.95					
3/17/2020	-3.47	3.08	3.08	3.24					
8/14/2020	-4.23	2.22	1.91	1.86					
9/21/2020	-4.67	0.46	0.95	1.06					
PM-3 Madrid									Reference Point Elevation: 73.12
Depth of Screen Interval	640-680	480-520	240-280	145-185					
Aquifer Name [1]	Sunnyside [2]	Silverado	Lynwood	Gardena					
12/13/2019	-5.04	-3.02	-2.27	-2.17					
3/16/2020	-3.30	-0.93	-0.94	-0.98					
3/23/2020	-3.13	-0.84	-0.84	-0.87					
8/6/2020	-3.66	-1.30	-1.23	-1.25					
10/7/2020	-4.20	-1.80	-1.71	-1.70					
PM-4 Mariner									Reference Point Elevation: 100.38
Depth of Screen Interval	670-710	500-540	340-380	200-240					
Aquifer Name [1]	Sunnyside [2]	Silverado	Lynwood	Gardena					
12/11/2019	0.02	0.66	4.59	4.64					
3/16/2020	2.21	2.14	5.58	5.63					
3/29/2020	2.47	2.84	6.24	6.27					
8/16/2020	0.79	0.42	3.73	3.77					
9/23/2020	0.36	-0.24	3.28	3.33					

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

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2019 - 2020

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
PM-5 Columbia Park									Reference Point Elevation: 78.57
Depth of Screen Interval	1360-1380	940-960	770-790	580-600	320-340	140-160			
Aquifer Name [1]	Pico Form. [2]	Pico Form. [2]	Sunnyside [2]	Silverado	Lynwood [2]	Gardena			
12/11/2019	-25.15	-24.68	-2.55	-1.51	4.36	4.50			
3/9/2020	-24.58	-25.85	2.06	1.45	5.46	5.61			
3/16/2020	-24.39	-26.39	0.57	1.76	5.57	5.74			
8/5/2020	-24.16	-29.05	-1.07	0.06	4.15	4.23			
9/21/2020	-24.22	-29.15	-1.55	-0.34	3.51	3.67			
PM-6 Madrona Marsh									Reference Point Elevation: 80.88
Depth of Screen Interval	1195-1235	905-925	770-790	530-550	390-410	240-260			
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]	Sunnyside [2]	Silverado	Lynwood	Lynwood			
12/13/2019	-24.13	-6.77	-6.37	1.21	2.33	2.76			
3/17/2020	-24.67	-6.04	-5.42	2.03	3.15	3.53			
3/27/2020	-25.03	-5.63	-5.20	2.22	3.40	3.73			
8/13/2020	-25.78	-6.33	-5.67	1.59	2.75	3.13			
9/21/2020	-26.00	-6.69	-6.15	1.12	2.19	2.55			
Rio Hondo #1									Reference Point Elevation: 146.51
Depth of Screen Interval	1110-1130	910-930	710-730	430-450	280-300	140-160			
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]	Sunnyside	Silverado	Hollydale	Gardena			
12/16/2019	43.79	44.79	44.12	38.78	44.72	47.68			
3/11/2020	46.18	44.74	44.00	36.78	42.45	45.94			
3/25/2020	47.94	50.51	49.91	42.70	46.16	48.84			
9/8/2020	53.51	54.23	53.50	37.82	43.03	47.32			
9/18/2020	52.80	54.24	53.54	37.82	42.43	46.57			
Seal Beach #1									Reference Point Elevation: 9.06
Depth of Screen Interval	1345-1365	1160-1180	1020-1040	775-795	605-625	215-235	60-70		
Aquifer Name [1]	Sunnyside [2]	Sunnyside [2]	Sunnyside [2]	Silverado	Lynwood [2]	Gage	Artesia		
12/18/2019	-34.30	-34.50	-34.32	-43.58	-28.55	2.49	3.96		
3/17/2020	-22.66	-22.81	-22.72	-29.63	-23.01	3.52	4.85		
4/13/2020	-15.21	-15.29	-15.23	-18.87	-15.10	5.38	5.66		
6/29/2020	-20.64	-20.84	-20.69	-43.82	-30.18	1.81	4.17		
8/17/2020	-27.90	-28.10	-27.90	-50.60	-34.55	-2.16	2.80		
9/22/2020	-31.00	-31.25	-31.05	-56.07	-37.13	-2.18	2.58		
South Gate #1									Reference Point Elevation: 102.50
Depth of Screen Interval	1440-1460	1320-1340	910-930	565-585	220-240				
Aquifer Name [1]	Sunnyside [2]	Sunnyside [2]	Silverado [2]	Lynwood	Exposition [2]				
12/9/2019	-10.99	-9.07	-5.17	-5.37	28.17				
3/16/2020	-9.20	-7.65	-4.45	-5.41	28.15				
4/20/2020	-5.33	-4.12	-1.03	-1.79	28.51				
9/16/2020	-13.43	-11.75	-8.53	-8.36	27.52				
9/24/2020	-13.47	-11.72	-8.61	-8.76	27.56				
South Gate #2									Reference Point Elevation: 120.29
Depth of Screen Interval	1740-1760	1410-1430	1062-1082	670-690	410-430	205-225			
Aquifer Name [1]	Sunnyside [2]	Sunnyside [2]	Sunnyside	Silverado [2]	Hollydale	Gaspur [2]			
1/10/2020	-26.52	-27.28	-25.48	-20.56	35.07	41.16			
Westchester #1									Reference Point Elevation: 126.95
Depth of Screen Interval	740-760	560-580	455-475	310-330	215-235				
Aquifer Name [1]	Pico Form. [2]	Sunnyside [2]	Sunnyside [2]	Silverado	Jefferson				
12/18/2019	-0.63	8.91	9.36	9.60	9.66				
3/11/2020	-0.15	9.04	9.47	9.70	9.85				
3/19/2020	0.18	9.14	9.59	9.69	9.88				
7/31/2020	0.16	9.12	9.59	9.84	9.98				
9/23/2020	0.16	8.87	9.27	9.49	9.71				

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

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2019 - 2020

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8	ZONE 9
Whittier #1					Reference Point Elevation: 217.35 (Zones 1, 2, 4 and 5) and 217.81 (Zone 3)				
Depth of Screen Interval	1180-1200	920-940	600-620	450-470	200-220				
Aquifer Name [1]	Pico Form. [2]	Pico Form. [2]	Sunnyside	Silverado	Jefferson				
12/11/2019	101.02	100.97	95.29	93.92	195.77				
3/9/2020	101.11	101.06	95.58	94.29	196.24				
3/30/2020	101.12	101.06	95.63	94.38	196.63				
6/30/2020	101.52	101.52	96.70	95.57	196.96				
9/2/2020	101.90	101.89	97.25	96.26	196.69				
9/14/2020	101.83	101.94	97.21	96.43	196.60				
Whittier #2									Reference Point Elevation: 167.55
Depth of Screen Interval	1370-1390	1090-1110	655-675	425-445	315-335	150-170			
Aquifer Name [1]	Pico Form. [2]	Pico Form. [2]	Sunnyside	Silverado	Silverado	Gage [2]			
12/18/2019	69.68	70.57	64.68	68.01	88.35	95.86			
3/18/2020	72.39	73.28	67.68	70.33	92.49	98.94			
4/30/2020	77.90	78.64	79.00	77.74	100.01	104.13			
9/14/2020	79.50	80.15	73.04	66.45	92.70	100.70			
Whittier Narrows #1									Reference Point Elevation: 214.66
Depth of Screen Interval	749-769	610-629	463-483	393-402	334-344	273-283	234-243	163-173	95-105
Aquifer Name [1]	Sunnyside	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood	Lynwood	Gardena	Gaspur
10/30/2019	158.39	159.91	162.10	166.78	167.74	169.04	168.78	168.88	not measured
10/31/2019	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	169.90
4/30/2020	178.52	179.63	181.38	184.31	185.18	186.18	not measured	not measured	not measured
5/1/2020	not measured	not measured	not measured	not measured	not measured	not measured	186.71	186.48	186.44
9/17/2020	164.81	165.91	167.50	171.52	172.43	173.59	173.47	173.40	174.45
Whittier Narrows #2									Reference Point Elevation: 209.15
Depth of Screen Interval	659-678	579-598	469-488	419-428	328-338	263-273	214-223	136-145	91-100
Aquifer Name [1]	Pico Form. [2]	Pico Form. [2]	Pico Form. [2]	Pico Form. [2]	Pico Form. [2]	Lynwood	Lynwood	Gardena [2]	Gardena
10/31/2019	-19.67	-19.48	-19.02	-11.03	90.05	136.79	137.59	138.99	155.39
4/14/2020	-19.78	-17.73	-17.45	-11.15	101.23	not measured	not measured	not measured	not measured
4/15/2020	not measured	not measured	not measured	not measured	not measured	161.38	162.83	162.94	168.65
9/17/2020	-18.93	-18.58	-18.12	-11.1	90.17	146.65	147.38	148.23	159.45
Willowbrook #1									Reference Point Elevation: 98.87
Depth of Screen Interval	885-905	500-520	360-380	200-220					
Aquifer Name [1]	Sunnyside [2]	Silverado	Lynwood	Gage					
12/18/2019	-52.22	-39.33	-43.36	-42.31					
3/11/2020	-50.46	-38.61	-42.94	-42.05					
4/1/2020	-48.52	-38.10	-42.57	-41.65					
9/22/2020	-54.01	-41.81	-44.87	-43.93					
9/29/2020	-53.71	-41.84	-44.79	-43.88					
Wilmington #1									Reference Point Elevation: 40.74
Depth of Screen Interval	915-935	780-800	550-570	225-245	120-140				
Aquifer Name [1]	Sunnyside [2]	Silverado	Silverado	Lynwood	Gage				
12/10/2019	-33.30	-33.73	-33.92	-9.56	-6.85				
2/24/2020	-32.48	-32.92	-33.13	-8.62	-5.90				
3/17/2020	-33.54	-34.00	-34.19	-8.79	-5.97				
8/5/2020	-36.65	-37.04	-37.26	-9.75	-6.91				
9/22/2020	-37.36	-37.77	-37.98	-9.31	-6.26				
Wilmington #2									Reference Point Elevation: 32.30
Depth of Screen Interval	950-970	755-775	540-560	390-410	120-140				
Aquifer Name [1]	Sunnyside [2]	Silverado	Silverado	Lynwood	Gage				
12/10/2019	-22.68	-19.13	-15.52	-14.68	-1.64				
2/25/2020	-21.15	-18.15	-14.81	-14.01	-1.21				
3/17/2020	-22.58	-18.87	-14.97	-14.02	-1.18				
7/14/2020	-23.33	-19.10	-15.05	-14.10	-1.10				
8/4/2020	-24.01	-16.67	-15.52	-14.49	-1.07				
9/29/2020	-24.26	-19.51	-15.10	-14.07	-0.86				

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TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Bell #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/21/2020	9/9/2020	4/21/2020	9/9/2020	4/21/2020	9/9/2020	4/21/2020	9/9/2020	4/21/2020	9/9/2020	4/21/2020	9/9/2020
General Minerals															
Alkalinity	mg/l			600	600	170	160	160	160	180	180	180	180	280	270
Anion Sum	meq/l			17	17	5.5	5.6	5.2	5.3	5.8	5.9	7.7	7.6	12	12
Bicarbonate as HCO3	mg/l			720	730	200	200	200	190	210	210	220	220	340	330
Boron	mg/l	1	N	**1.5**	**1.5**	0.12	0.13	0.12	0.12	0.14	0.14	0.13	0.13	0.16	0.16
Bromide	ug/l			1300	1300	130	110	170	150	120	130	190	180	410	420
Calcium, Total	mg/l			19	16	50	52	44	45	57	57	74	74	120	120
Carbon Dioxide	mg/l			5.9	6	2.6	ND	2.1	2	2.2	2.2	2.9	4.5	5.6	8.6
Carbonate as CO3	mg/l			9.3	9.5	ND	2.6	2	2	2.2	2.2	ND	ND	2.2	ND
Cation Sum	meq/l			15	15	5.3	5.5	5.1	5.2	5.8	5.8	7.4	7.4	11	12
Chloride	mg/l	500	S	170	180	21	23	29	30	26	29	52	52	100	100
Fluoride	mg/l	2	P	0.39	0.39	0.23	0.22	0.4	0.4	0.42	0.4	0.36	0.37	0.35	0.35
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			310	420	27	32	33	44	29	29	1.6	1.6	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	9.5	9.2	6.6	6.9
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2.2	2.1	1.5	1.6
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			5.1	5.5	2.2	2.4	3.1	3.3	3	3.1	2.6	2.8	2.6	2.8
Sodium, Total	mg/l			310	320	45	47	45	46	41	41	48	49	58	59
Sulfate	mg/l	500	S	1.8	0.74	78	79	56	57	73	75	110	110	160	160
Total Dissolved Solid (TDS)	mg/l	1000	S	960	990	330	320	310	290	320	330	480	450	700	690
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2.2	2.1	1.5	1.6
General Physical Properties															
Apparent Color	ACU	15	S	**150**	**180**	ND	ND	ND	ND	ND	ND	ND	ND	5	ND
Hardness (Total, as CaCO3)	mg/l			74	64	160	170	150	150	200	200	260	260	430	430
Lab pH	Units			8.3	8.3	8.1	8.3	8.2	8.2	8.2	8.2	8.1	7.9	8	7.8
Langelier Index - 25 degree	None			0.95	0.9	0.68	0.84	0.68	0.67	0.84	0.79	0.87	0.71	1.1	0.99
Odor	TON	3	S	2	**8**	1	1	1	ND	1	ND	1	ND	1	ND
Specific Conductance	umho/cm	1600	S	1600	1600	540	530	510	520	560	560	740	720	1100	1000
Turbidity	NTU	5	S	0.57	0.63	0.13	ND	0.18	0.13	0.14	0.14	0.2	0.2	3.5	2.8
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	3.2	3.1	1.3	1.1
Barium, Total	ug/l	1000	P	25	20	38	37	38	36	86	80	250	230	140	140
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.3	ND	ND	ND	ND	ND	ND	2.2	2.1	4.2	4.5
Hexavalent Chromium (Cr VI)	ug/l			0.088	0.044	0.021	ND	ND	ND	ND	ND	2.3	1.8	4.2	4.1
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.08	0.069	0.021	0.022	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			6.4	5.9	9.8	10	10	10	13	13	18	18	32	32
Manganese, Total	ug/l	50	S	38	29	**74**	**70**	50	49	**68**	**66**	ND	2.1	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	ND	5	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.73**
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	0.83	0.9
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	2.2	1.8	**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
Others															
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	2.3	2.3	1.7	1.8
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			16	14	0.31	0.42	0.38	0.54	ND	0.32	ND	0.3	0.34	0.54

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 2019-2020

Constituents	Units	MCL	MCL Type	Bell Gardens #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				4/22/2020	4/22/2020	4/22/2020	4/22/2020	4/22/2020	4/22/2020
General Minerals									
Alkalinity	mg/l			160	160	140	110	130	140
Anion Sum	meq/l			7.3	5.3	6.8	5.1	5.4	6.3
Bicarbonate as HCO3	mg/l			200	200	170	140	160	170
Boron	mg/l	1	N	ND	0.12	0.17	0.12	0.13	0.13
Bromide	ug/l			120	120	130	82	130	110
Calcium, Total	mg/l			95	43	70	46	50	63
Carbon Dioxide	mg/l			2.1	ND	2.2	2.3	3.3	2.8
Carbonate as CO3	mg/l			2	2.6	ND	ND	ND	ND
Cation Sum	meq/l			7.1	5.1	6.8	4.9	5.1	6.1
Chloride	mg/l	500	S	48	35	63	47	43	63
Fluoride	mg/l	2	P	0.2	0.27	0.31	0.39	0.24	0.31
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			7.8	14	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	9.9	8.8	9.4	12
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2.2	2	2.1	2.8
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			1.9	2.2	3.2	2.7	2.6	3.1
Sodium, Total	mg/l			28	52	50	42	40	43
Sulfate	mg/l	500	S	120	49	98	66	65	77
Total Dissolved Solid (TDS)	mg/l	1000	S	420	290	410	300	310	350
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	2.2	2	2.1	2.8
General Physical Properties									
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			290	140	220	150	160	210
Lab pH	Units			8.2	8.3	8.1	8	7.9	8
Langelier Index - 25 degree	None			1	0.75	0.7	0.39	0.36	0.54
Odor	TON	3	S	1	1	2	1	1	1
Specific Conductance	umho/cm	1600	S	690	510	680	510	530	630
Turbidity	NTU	5	S	0.19	0.38	0.12	0.16	0.15	0.12
Metals									
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	3.2	ND	2.6	2.2	1.1	1.4
Barium, Total	ug/l	1000	P	110	78	120	55	62	64
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			0.026	0.021	0.48	0.54	0.69	0.57
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.037	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			13	8.2	12	8.3	9.8	12
Manganese, Total	ug/l	50	S	28	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
Volatile Organic Compounds									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND
Chloromethane (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
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.52	0.84
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	0.53	1.6
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
Others									
1,4-Dioxane	ug/l	1	N	**2.6**	ND	**1.4**	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	0.57	ND	0.55	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	ND	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Cerritos #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020	3/11/2020
General Minerals									
Alkalinity	mg/l			160	160	170	180	180	190
Anion Sum	meq/l			4.8	4.2	5.2	4.9	4.6	4.6
Bicarbonate as HCO3	mg/l			200	190	200	220	220	230
Boron	mg/l	1	N	0.087	0.056	0.085	0.085	0.084	0.076
Bromide	ug/l			45	47	75	49	40	62
Calcium, Total	mg/l			37	37	42	47	40	46
Carbon Dioxide	mg/l			2.1	2	2.6	3.6	3.6	3.8
Carbonate as CO3	mg/l			2	2	ND	ND	ND	ND
Cation Sum	meq/l			4.8	4.3	5.1	4.9	4.6	4.6
Chloride	mg/l	500	S	14	12	20	14	11	9.9
Fluoride	mg/l	2	P	0.28	0.33	0.41	0.54	0.44	0.33
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			9.2	16	27	21	18	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2	1.8	1.8	1.7	1.6	1.8
Sodium, Total	mg/l			57	44	56	38	40	34
Sulfate	mg/l	500	S	50	32	61	43	30	25
Total Dissolved Solid (TDS)	mg/l	1000	S	270	250	310	280	260	260
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND
General Physical Properties									
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			110	120	130	160	140	150
Lab pH	Units			8.2	8.2	8.1	8	8	8
Langelier Index - 25 degree	None			0.66	0.57	0.57	0.55	0.48	0.56
Odor	TON	3	S	1	1	1	1	1	**8**
Specific Conductance	umho/cm	1600	S	460	410	480	450	430	420
Turbidity	NTU	5	S	0.19	ND	0.19	0.34	0.19	0.38
Metals									
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	**14**	10	**19**	5.6	8.9	**34**
Barium, Total	ug/l	1000	P	51	110	140	62	83	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			0.12	0.17	0.12	0.11	0.15	0.12
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	0.13	0.029	0.085	0.064	0.084
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			4.9	5.8	6.2	11	9.6	9
Manganese, Total	ug/l	50	S	25	32	45	**78**	**120**	**140**
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
Volatile Organic Compounds									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others									
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			ND	ND	ND	ND	ND	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 2019-2020

Constituents	Units	MCL	MCL Type	Cerritos #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/9/2020	9/17/2020	3/9/2020	9/17/2020	3/9/2020	9/17/2020	3/9/2020	9/17/2020	3/9/2020	9/17/2020	3/9/2020	9/17/2020
General Minerals															
Alkalinity	mg/l			150	150	170	160	160	160	180	180	180	180	330	340
Anion Sum	meq/l			3.6	3.6	8.1	8.2	3.7	3.8	4.2	4.2	4.1	4.1	12	12
Bicarbonate as HCO3	mg/l			180	180	200	200	200	200	220	220	220	220	410	410
Boron	mg/l	1	N	0.053	ND	0.16	0.15	0.058	0.051	0.074	0.063	0.072	0.061	0.11	0.094
Bromide	ug/l			23	23	150	150	18	20	22	20	21	23	220	230
Calcium, Total	mg/l			42	42	86	84	45	47	52	52	52	51	150	150
Carbon Dioxide	mg/l			3	ND	5.2	4.1	2.6	2.1	3.6	2.9	3.6	2.9	13	11
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			3.7	3.6	7.9	7.8	3.8	3.9	4.3	4.2	4.2	4.1	12	12
Chloride	mg/l	500	S	5.8	6.4	76	81	4.9	5.6	5.9	6.4	5.5	6.2	72	78
Fluoride	mg/l	2	P	0.28	0.28	0.38	0.37	0.29	0.29	0.41	0.41	0.34	0.35	0.35	0.34
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			2	1.9	5.3	7.2	5.3	5.6	6.6	6.4	7.1	5.6	20	20
Nitrate (as NO3)	mg/l	45	P	ND	ND	13	13	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2.9	2.9	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.4	2.5	4	4.1	2.2	2.3	2.4	2.5	2.5	2.6	4.1	4.2
Sodium, Total	mg/l			24	24	50	50	23	24	21	20	21	21	49	48
Sulfate	mg/l	500	S	21	21	110	120	16	17	18	18	16	16	160	170
Total Dissolved Solid (TDS)	mg/l	1000	S	190	210	460	480	200	230	230	230	230	230	640	720
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	2.9	2.9	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			130	130	280	280	140	140	160	160	160	160	490	490
Lab pH	Units			8	8.2	7.8	7.9	8.1	8.2	8	8.1	8	8.1	7.7	7.8
Langelier Index - 25 degree	None			0.47	0.61	0.58	0.7	0.59	0.69	0.65	0.73	0.61	0.71	1	1.1
Odor	TON	3	S	2	ND	1	ND	2	2	2	2	2	2	2	2
Specific Conductance	umho/cm	1600	S	350	340	760	790	340	340	380	400	390	380	1100	1100
Turbidity	NTU	5	S	0.12	0.22	0.18	0.23	0.67	1.1	0.22	0.16	0.21	0.19	2.7	2.5
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.3	2.4	1.9	2.1	3.1	3.2	7.5	7.4	**17**	**18**	3.8	3.8
Barium, Total	ug/l	1000	P	110	110	130	130	120	120	170	170	180	180	120	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.33	0.24	0.72	0.65	0.18	ND	0.15	ND	0.11	ND	0.07	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.036	0.034	0.072	0.068	**0.38**	**0.38**
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND
Magnesium, Total	None			5.2	5.2	16	16	5.8	6	8.3	8.2	7.2	7	29	29
Manganese, Total	ug/l	50	S	5.8	5.7	ND	ND	38	39	**88**	**94**	**110**	**120**	**280**	**290**
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
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others															
1,4-Dioxane	ug/l	1	N	ND	ND	**3.1**	**3.4**	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	0.67	0.69	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			ND	ND	0.44	0.48	ND	0.21	ND	0.26	ND	0.23	0.98	0.92

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 2019-2020

Constituents	Units	MCL	MCL Type	Commerce #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				7/8/2020	4/29/2020	4/29/2020	4/29/2020	4/29/2020	4/29/2020
General Minerals									
Alkalinity	mg/l			460	310	240	190	170	200
Anion Sum	meq/l			210	11	8.4	8.1	7.7	8.4
Bicarbonate as HCO3	mg/l			560	380	300	230	210	240
Boron	mg/l	1	N	**6.1**	0.66	0.25	0.23	0.16	0.12
Bromide	ug/l			44000	1000	580	330	410	340
Calcium, Total	mg/l			180	43	54	42	61	77
Carbon Dioxide	mg/l			18	5	3.9	3	4.3	5
Carbonate as CO3	mg/l			ND	3.1	2.4	ND	ND	ND
Cation Sum	meq/l			190	10	8.1	7.7	7.6	8.2
Chloride	mg/l	500	S	**7200**	170	110	80	94	87
Fluoride	mg/l	2	P	0.19	0.4	0.34	0.48	0.34	0.42
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			9400	300	150	66	40	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	18	39
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	4.1	8.9
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			42	5.6	3.4	3.2	2.1	1.8
Sodium, Total	mg/l			3900	140	86	96	70	53
Sulfate	mg/l	500	S	3.5	3.6	23	94	62	64
Total Dissolved Solid (TDS)	mg/l	1000	S	**12000**	610	480	490	470	510
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	4.1	8.9
General Physical Properties									
Apparent Color	ACU	15	S	**65**	**25**	5	3	ND	ND
Hardness (Total, as CaCO3)	mg/l			1000	190	210	170	220	290
Lab pH	Units			7.7	8.1	8.1	8.1	7.9	7.9
Langelier Index - 25 degree	None			1.2	0.84	0.84	0.6	0.54	0.76
Odor	TON	3	S	**8**	**17**	2	2	2	2
Specific Conductance	umho/cm	1600	S	**21000**	1100	840	810	780	840
Turbidity	NTU	5	S	**64**	0.22	0.1	0.17	0.18	0.47
Metals									
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	**22**	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	640	72	88	230	62	80
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	6.9	12
Hexavalent Chromium (Cr VI)	ug/l			ND	0.11	0.033	0.022	7.2	11
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	**0.62**	ND	0.021	0.091	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			140	20	19	17	17	24
Manganese, Total	ug/l	50	S	**120**	8.8	48	**56**	6.2	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	**88**	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND
Chloromethane (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
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.84	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	1
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	4.5	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
Others									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	**5.8**	**1.6**	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	3.4	5.1
Surfactants	mg/l	0.5	S	0.26	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			13	4.6	1.2	0.69	0.36	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 2019-2020

Constituents	Units	MCL	MCL Type	Compton #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/20/2020	8/24/2020	4/20/2020	8/24/2020	4/20/2020	8/24/2020	4/20/2020	8/24/2020
General Minerals											
Alkalinity	mg/l			120	120	140	140	160	160	170	170
Anion Sum	meq/l			4.2	4.2	4.6	4.6	5.1	5.1	5.6	5.5
Bicarbonate as HCO3	mg/l			150	140	170	170	190	190	210	200
Boron	mg/l	1	N	0.15	ND	0.097	0.097	0.1	ND	0.087	ND
Bromide	ug/l			100	100	120	110	140	140	100	100
Calcium, Total	mg/l			21	27	38	37	49	56	61	67
Carbon Dioxide	mg/l			ND	ND	ND	ND	2	2	2.7	2.6
Carbonate as CO3	mg/l			2.4	ND	2.2	2.2	2	2	ND	ND
Cation Sum	meq/l			3.9	4.9	4.5	4.5	4.9	5.8	5.5	6.1
Chloride	mg/l	500	S	19	20	22	22	24	24	22	22
Fluoride	mg/l	2	P	0.31	0.3	0.37	0.36	0.3	0.3	0.28	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			28	25	30	29	35	36	29	28
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			1.2	ND	1.4	1.6	2.3	ND	2.2	ND
Sodium, Total	mg/l			62	75	53	54	40	50	44	50
Sulfate	mg/l	500	S	56	57	53	53	58	58	74	74
Total Dissolved Solid (TDS)	mg/l	1000	S	240	260	260	280	290	300	320	330
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	**20**	ND	5	5	5	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			59	81	110	100	160	180	180	200
Lab pH	Units			8.4	8.3	8.3	8.3	8.2	8.2	8.1	8.1
Langelier Index - 25 degree	None			0.45	0.48	0.7	0.66	0.75	0.79	0.79	0.81
Odor	TON	3	S	2	1	1	ND	1	1	2	ND
Specific Conductance	umho/cm	1600	S	420	410	450	450	500	500	530	520
Turbidity	NTU	5	S	0.13	0.21	0.15	0.16	0.2	0.42	0.44	0.26
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	**16**	**16**
Barium, Total	ug/l	1000	P	8.8	7.6	11	26	68	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			0.042	0.03	0.021	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	ND	ND	ND	ND	ND	ND	0.064	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			1.7	3.4	3	3.1	8.4	10	6.1	7
Manganese, Total	ug/l	50	S	8.9	7.4	16	21	49	46	**76**	**62**
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
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others											
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			1.5	1.4	0.86	0.88	0.56	0.59	ND	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 2019-2020

Constituents	Units	MCL	MCL Type	Compton #2					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				4/24/2020	4/24/2020	4/24/2020	4/24/2020	4/24/2020	4/24/2020
General Minerals									
Alkalinity	mg/l			480	280	160	180	190	190
Anion Sum	meq/l			10	6	4.9	6.3	6.5	8.1
Bicarbonate as HCO3	mg/l			580	340	200	220	230	230
Boron	mg/l	1	N	0.65	0.17	0.099	0.11	0.12	0.16
Bromide	ug/l			200	95	100	130	130	280
Calcium, Total	mg/l			12	26	45	68	67	81
Carbon Dioxide	mg/l			3	2.8	ND	2.3	ND	3.8
Carbonate as CO3	mg/l			12	4.4	2.6	2.3	3	ND
Cation Sum	meq/l			9	5.7	4.8	6.2	6.4	7.8
Chloride	mg/l	500	S	15	13	19	30	34	66
Fluoride	mg/l	2	P	0.41	0.27	0.22	0.23	0.31	0.38
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			64	22	26	29	29	1.6
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	0.92
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.6	3.9	2.1	2.2	3.6	3.7
Sodium, Total	mg/l			190	89	45	41	42	50
Sulfate	mg/l	500	S	0.55	ND	54	83	84	110
Total Dissolved Solid (TDS)	mg/l	1000	S	530	330	270	360	370	460
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	0.92
General Physical Properties									
Apparent Color	ACU	15	S	**70**	**20**	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			38	85	140	220	220	280
Lab pH	Units			8.5	8.3	8.3	8.2	8.3	8
Langelier Index - 25 degree	None			0.92	0.85	0.8	0.99	1	0.86
Odor	TON	3	S	2	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	900	560	460	600	620	780
Turbidity	NTU	5	S	0.34	0.24	0.11	0.36	0.92	0.46
Metals									
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.2	ND	ND	ND	1	4.2
Barium, Total	ug/l	1000	P	13	19	31	38	98	84
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			0.082	0.042	0.021	ND	ND	0.5
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.045	0.041	ND	0.034	0.027	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			2	4.9	6.4	11	14	18
Manganese, Total	ug/l	50	S	12	32	27	46	**110**	22
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	5.8
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others									
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			14	3	0.54	ND	ND	ND

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

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Downey #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/11/2020	9/22/2020	5/11/2020	9/22/2020	5/11/2020	9/22/2020	5/11/2020	9/22/2020	5/11/2020	9/22/2020	5/11/2020	9/22/2020
General Minerals															
Alkalinity	mg/l			150	150	150	150	180	180	190	190	220	210	400	380
Anion Sum	meq/l			3.6	3.6	6	6.2	8.1	8.3	8.9	9.1	8	7.6	17	17
Bicarbonate as HCO3	mg/l			190	180	190	180	220	220	230	230	260	260	480	470
Boron	mg/l	1	N	0.053	ND	0.057	0.052	0.1	0.1	0.18	0.18	0.084	0.078	0.24	0.23
Bromide	ug/l			18	19	79	100	140	140	180	160	160	140	420	490
Calcium, Total	mg/l			40	41	75	78	96	100	92	94	100	95	190	190
Carbon Dioxide	mg/l			2.5	3	3.1	3	4.5	3.6	7.5	7.5	6.8	6.8	16	15
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			3.6	3.7	5.8	6.1	7.8	8.2	8.5	8.8	7.8	7.6	17	17
Chloride	mg/l	500	S	4.8	5	34	39	71	74	79	83	48	44	110	110
Fluoride	mg/l	2	P	0.32	0.32	0.3	0.29	0.34	0.32	0.39	0.37	0.39	0.38	0.33	0.31
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	4.2	4.9	6.9	7.6	5.1	5.4
Nitrate (as NO3)	mg/l	45	P	ND	ND	8.8	9.3	15	16	7.7	8	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2	2.1	3.5	3.6	1.7	1.8	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.4	2.7	3.1	3.4	3.2	3.7	4	4.4	3.6	3.7	6.3	6.8
Sodium, Total	mg/l			25	25	25	26	35	37	54	56	28	28	95	97
Sulfate	mg/l	500	S	17	18	85	90	110	110	130	140	110	99	300	300
Total Dissolved Solid (TDS)	mg/l	1000	S	190	200	350	370	460	460	530	520	480	430	**1100**	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	2	2.1	3.5	3.6	1.7	1.8	ND	ND	ND	ND
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			120	120	240	240	310	320	300	310	320	310	630	630
Lab pH	Units			8.1	8	8	8	7.9	8	7.7	7.7	7.8	7.8	7.7	7.7
Langelier Index - 25 degree	None			0.51	0.45	0.67	0.7	0.77	0.86	0.57	0.61	0.77	0.76	1.2	1.2
Odor	TON	3	S	1	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	350	330	600	580	800	750	860	860	760	700	1600	1500
Turbidity	NTU	5	S	ND	ND	0.14	0.19	0.11	0.15	0.12	0.18	1.3	0.93	0.51	0.61
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.9	3	2.4	2.4	2.8	2.7	1.8	1.8	4.2	3.8	2.6	2.6
Barium, Total	ug/l	1000	P	98	100	160	170	120	130	85	86	240	240	77	76
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	3.7	3.7	1.7	1.8	1	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			4	3.9	2	1.9	1.2	1.1	0.36	0.34	0.025	ND	0.026	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			5.5	5.7	12	12	17	18	18	19	18	18	37	37
Manganese, Total	ug/l	50	S	ND	ND	ND	ND	ND	ND	ND	ND	**120**	**100**	**120**	**120**
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
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others															
1,4-Dioxane	ug/l	1	N	ND	ND	**5**	**5.1**	**8.7**	**8.4**	**3.1**	**3**	**1.2**	**1.2**	**1.4**	**1.4**
Perchlorate	ug/l	6	P	ND	ND	3.1	2.5	1.7	1.5	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			ND	0.25	ND	0.27	ND	0.32	0.44	0.5	0.33	0.36	0.84	0.88

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Huntington Park #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/30/2020	8/31/2020	3/30/2020	8/31/2020	3/30/2020	8/31/2020	3/30/2020	8/31/2020
General Minerals											
Alkalinity	mg/l			180	180	190	190	250	250	380	370
Anion Sum	meq/l			6.1	6	6.8	6.8	11	11	14	14
Bicarbonate as HCO3	mg/l			220	220	230	230	300	300	460	450
Boron	mg/l	1	N	0.14	0.14	0.14	0.14	0.2	0.2	0.19	0.19
Bromide	ug/l			96	100	140	130	450	430	1400	1400
Calcium, Total	mg/l			62	62	68	70	120	120	150	150
Carbon Dioxide	mg/l			4.5	4.5	4.7	4.7	6.2	6.2	15	12
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.1	6.2	6.7	6.9	11	11	14	14
Chloride	mg/l	500	S	22	22	33	33	94	92	86	82
Fluoride	mg/l	2	P	0.5	0.47	0.42	0.4	0.35	0.33	0.35	0.33
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			38	50	ND	ND	37	44	15	16
Nitrate (as NO3)	mg/l	45	P	ND	ND	4.6	5.1	2.7	2.4	25	24
Nitrate as Nitrogen	mg/l	10	P	ND	ND	1	1.2	0.61	0.55	5.7	5.3
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.1	3.2	3.3	3.5	4.2	4.4	5.2	5.4
Sodium, Total	mg/l			39	40	42	44	58	60	62	64
Sulfate	mg/l	500	S	90	89	93	92	180	170	170	160
Total Dissolved Solid (TDS)	mg/l	1000	S	360	370	400	410	710	680	800	810
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	1	1.2	0.61	0.55	5.7	5.3
General Physical Properties											
Apparent Color	ACU	15	S	5	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			220	220	240	240	410	410	540	540
Lab pH	Units			7.9	7.9	7.9	7.9	7.9	7.9	7.7	7.8
Langelier Index - 25 degree	None			0.58	0.56	0.68	0.7	1	1	1.1	1.1
Odor	TON	3	S	1	ND	1	ND	2	3	1	2
Specific Conductance	umho/cm	1600	S	590	550	630	620	1000	1000	1200	1200
Turbidity	NTU	5	S	1.2	1.8	0.19	0.18	0.3	0.21	0.19	0.15
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	68	67	86	94	100	110	98	99
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	2	ND
Hexavalent Chromium (Cr VI)	ug/l			0.032	ND	0.85	0.74	0.2	0.11	2	2.4
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	2
Iron, Total	mg/l	0.3	S	0.28	0.28	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			15	15	16	17	28	28	39	39
Manganese, Total	ug/l	50	S	47	45	ND	ND	6.9	6.9	5	5.7
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	5.4	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	1.1	1.2	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	**7**	**7.3**	**34**	**24**
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	1.2	1.3	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	120	94
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.9	1	0.71	0.68
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	**24**	**22**	3.9	4.2
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	0.31	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Others											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	1.6	1.6	4.7	4.9
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	**1.1**	**1.7**	ND	ND
Total Organic Carbon	mg/l			ND	0.31	ND	0.37	6	5.6	0.71	0.75

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 2019-2020

Constituents	Units	MCL	MCL Type	Lakewood #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				4/22/2020	4/22/2020	4/22/2020	4/22/2020	4/22/2020	4/22/2020
General Minerals									
Alkalinity	mg/l			96	150	160	170	180	180
Anion Sum	meq/l			2.8	3.5	3.7	4.4	4.2	9.2
Bicarbonate as HCO3	mg/l			120	180	190	210	220	220
Boron	mg/l	1	N	ND	ND	0.06	0.064	0.079	0.079
Bromide	ug/l			110	28	45	120	57	950
Calcium, Total	mg/l			9.9	36	39	46	48	120
Carbon Dioxide	mg/l			ND	ND	ND	ND	2.3	3.6
Carbonate as CO3	mg/l			3.9	2.9	2.5	2.7	2.3	ND
Cation Sum	meq/l			2.7	3.4	3.7	4.3	4.2	8.7
Chloride	mg/l	500	S	20	6.6	8.5	22	12	160
Fluoride	mg/l	2	P	0.45	0.26	0.31	0.32	0.48	0.2
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			48	9.3	18	31	19	98
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	1.7	1.9	3.8	2.2	4.1
Sodium, Total	mg/l			50	30	31	34	24	42
Sulfate	mg/l	500	S	17	17	14	13	14	43
Total Dissolved Solid (TDS)	mg/l	1000	S	160	190	200	240	230	650
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND
General Physical Properties									
Apparent Color	ACU	15	S	10	ND	ND	ND	ND	3
Hardness (Total, as CaCO3)	mg/l			26	100	120	140	150	350
Lab pH	Units			8.7	8.4	8.3	8.3	8.2	8
Langelier Index - 25 degree	None			0.29	0.74	0.76	0.81	0.73	0.97
Odor	TON	3	S	1	1	1	1	1	1
Specific Conductance	umho/cm	1600	S	280	320	340	420	400	920
Turbidity	NTU	5	S	0.33	0.76	0.64	1.3	0.32	0.9
Metals									
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	**14**	**17**	1.5	7.8	3.2	**28**
Barium, Total	ug/l	1000	P	16	27	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			0.063	0.021	0.022	0.026	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	ND	0.038	0.092	0.14
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			0.33	3.6	4.4	5.4	8.5	12
Manganese, Total	ug/l	50	S	4.1	19	25	**67**	**58**	**300**
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
Volatile Organic Compounds									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others									
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			0.7	ND	ND	0.37	ND	0.78

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 2019-2020

Constituents	Units	MCL	MCL Type	Lakewood #2															
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7		Zone 8	
				4/29/2020	9/15/2020	4/29/2020	9/15/2020	4/29/2020	9/15/2020	4/29/2020	9/15/2020	4/29/2020	9/15/2020	4/29/2020	9/15/2020	4/29/2020	9/15/2020	4/29/2020	9/15/2020
General Minerals																			
Alkalinity	mg/l			100	100	140	130	130	130	180	180	170	170	180	180	180	180	210	200
Anion Sum	meq/l			3.4	3.4	3.1	3.1	3	3	4.8	4.8	4	3.9	4	4	4	4	4.5	4.4
Bicarbonate as HCO3	mg/l			130	120	160	160	160	160	220	220	210	210	220	220	220	210	250	250
Boron	mg/l	1	N	0.054	ND	ND	ND	ND	ND	0.065	0.06	0.054	ND	0.06	0.054	0.06	0.054	0.072	0.067
Bromide	ug/l			46	46	26	26	28	30	33	34	20	24	18	31	20	28	36	33
Calcium, Total	mg/l			12	12	26	27	26	26	60	61	41	43	47	48	53	53	55	57
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	2.3	2.9	ND	2.2	2.3	2.3	2.9	2.2	3.2	2.6
Carbonate as CO3	mg/l			3.4	3.1	2.6	2.6	2.6	2.6	2.3	ND	2.7	2.2	2.3	2.3	ND	2.2	2	2.6
Cation Sum	meq/l			3.2	3.4	3.1	3.2	3	3	4.7	4.8	3.9	4	4.1	4.1	4	4.1	4.4	4.6
Chloride	mg/l	500	S	12	13	5.2	5.5	5.4	5.6	11	12	5.4	5.7	4.9	5.3	5.2	5.5	6.3	6.8
Fluoride	mg/l	2	P	0.42	0.42	0.33	0.32	0.28	0.28	0.42	0.41	0.27	0.28	0.33	0.32	0.23	0.23	0.35	0.35
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			19	20	11	12	14	16	ND	ND	6.9	7.7	5.9	8.4	8.8	11	27	29
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	0.95	1.1	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.22	0.24	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			ND	ND	1.9	2	1.3	1.5	2.8	3	2.2	2.4	2.5	2.7	2.1	2.2	2.5	2.6
Sodium, Total	mg/l			61	63	34	35	33	35	21	22	32	32	25	26	24	24	24	25
Sulfate	mg/l	500	S	46	48	13	14	8.7	8.9	37	38	17	17	8.6	9.2	14	15	6.4	6.9
Total Dissolved Solid (TDS)	mg/l	1000	S	220	220	190	200	180	190	280	290	230	250	220	240	240	250	260	280
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.22	0.24	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties																			
Apparent Color	ACU	15	S	5	ND	ND	ND	5	ND	ND	ND	5	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			32	32	79	82	74	74	190	190	120	130	140	150	150	150	160	170
Lab pH	Units			8.6	8.6	8.4	8.4	8.4	8.4	8.2	8.1	8.3	8.2	8.2	8.2	8.1	8.2	8.1	8.2
Langelier Index - 25 degree	None			0.34	0.3	0.56	0.55	0.59	0.58	0.87	0.8	0.77	0.67	0.76	0.8	0.75	0.8	0.77	0.89
Odor	TON	3	S	2	1	ND	ND	1	ND	2	ND	2	ND	2	ND	2	ND	2	ND
Specific Conductance	umho/cm	1600	S	350	340	300	300	290	280	460	450	380	380	360	380	380	380	420	400
Turbidity	NTU	5	S	0.12	0.13	ND	ND	ND	0.12	ND	0.13	**8.5**	3.4	0.16	0.16	0.21	0.4	0.19	0.29
Metals																			
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	**14**	**15**	ND	ND	1.4	1.7	2.9	3.6	**22**	**23**	7.4	9	**40**	**43**	**41**	**44**
Barium, Total	ug/l	1000	P	15	16	7.3	8.2	9.4	10	110	100	120	120	72	68	140	130	120	120
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.044	0.032	0.021	ND	0.027	ND	0.48	0.49	0.02	ND	0.021	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	0.037	0.036	0.056	0.055	0.074	0.076	0.068	0.069
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			0.38	0.38	3.5	3.5	2.2	2.2	8.9	9.1	4.8	4.9	6.7	6.8	3.6	3.6	6.8	6.9
Manganese, Total	ug/l	50	S	4.4	5	13	14	15	17	ND	ND	**92**	**98**	**160**	**170**	**100**	**110**	**190**	**200**
Mercury	ug/l	2	P	0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																			
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methyl Chloride)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Others																			
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.4	0.63	0.32	0.49	0.47	0.68	ND	0.25	ND	0.44	0.32	0.51	ND	0.5	0.3	0.45

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 2019-2020

Constituents	Units	MCL	MCL Type	La Mirada #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/24/2020	9/28/2020	3/24/2020	9/28/2020	3/24/2020	9/28/2020	3/24/2020	9/28/2020	3/24/2020	9/28/2020
General Minerals													
Alkalinity	mg/l			150	150	140	140	190	180	200	200	200	190
Anion Sum	meq/l			5.9	5.9	4.2	4.2	5.5	5.5	8.1	8	17	15
Bicarbonate as HCO3	mg/l			180	180	170	170	230	210	240	240	240	230
Boron	mg/l	1	N	0.14	0.13	0.092	0.086	0.14	0.13	0.12	0.12	0.16	0.15
Bromide	ug/l			92	88	44	44	66	69	330	290	870	760
Calcium, Total	mg/l			18	15	9.5	9.6	24	20	60	55	130	110
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	2.5	3.9	3.9	6
Carbonate as CO3	mg/l			2.9	2.9	3.5	2.8	3.8	2.7	2.5	ND	ND	ND
Cation Sum	meq/l			6.8	5.7	3.9	4.1	5.2	5.4	8	7.8	16	14
Chloride	mg/l	500	S	28	27	14	14	18	19	74	65	320	280
Fluoride	mg/l	2	P	0.8	0.74	0.58	0.57	0.76	0.75	0.52	0.53	0.34	0.36
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			28	34	7.7	12	23	32	37	49	2.5	5.4
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	2.5	1.8	**89**	**76**
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.57	0.4	**20**	**17**
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			1.8	2	1.2	1.4	2.1	2.2	2.8	2.9	4.1	4.2
Sodium, Total	mg/l			120	100	75	80	76	89	73	78	130	110
Sulfate	mg/l	500	S	99	100	47	48	55	65	100	110	120	110
Total Dissolved Solid (TDS)	mg/l	1000	S	360	350	250	250	330	310	470	450	**1100**	890
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	0.57	0.4	**20**	**17**
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			68	53	29	30	91	75	240	220	510	440
Lab pH	Units			8.4	8.4	8.5	8.4	8.4	8.3	8.2	8	8	7.8
Langelier Index - 25 degree	None			0.48	0.35	0.23	0.19	0.65	0.44	0.89	0.66	1	0.79
Odor	TON	3	S	2	ND	1	ND	1	ND	1	ND	ND	ND
Specific Conductance	umho/cm	1600	S	580	600	410	410	520	520	800	770	1600	1400
Turbidity	NTU	5	S	0.18	0.25	0.25	0.27	0.15	0.2	0.17	0.22	0.12	0.37
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	5.5	5.8	7.7	8.2	4.8	4.9	3.1	3.4	1.5	1.6
Barium, Total	ug/l	1000	P	37	44	25	26	47	39	62	59	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	ND	ND	ND	ND	ND	ND	ND	ND	1.3
Hexavalent Chromium (Cr VI)	ug/l			0.17	0.022	0.17	ND	0.18	ND	0.15	0.023	1.1	0.78
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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	None			5.6	3.7	1.3	1.4	7.6	6.1	21	20	45	40
Manganese, Total	ug/l	50	S	12	10	3.4	3.4	18	15	31	34	29	43
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	9	6.2	12	9.8
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others													
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	**7.2**	**6.6**
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.12	ND
Total Organic Carbon	mg/l			ND	0.34	ND	0.31	0.42	0.39	ND	0.32	0.47	0.45

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 2019-2020

Constituents	Units	MCL	MCL Type	Long Beach #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/7/2020	8/27/2020	5/7/2020	8/27/2020	5/7/2020	8/27/2020	5/7/2020	8/27/2020	5/7/2020	8/27/2020	5/7/2020	8/27/2020
General Minerals															
Alkalinity	mg/l			160	160	150	150	120	120	130	130	130	130	260	250
Anion Sum	meq/l			3.8	3.7	3.5	3.5	3	3	3.8	3.6	12	12	17	17
Bicarbonate as HCO3	mg/l			190	190	180	180	140	140	160	160	160	160	310	310
Boron	mg/l	1	N	0.17	0.18	0.16	0.16	0.08	0.085	0.055	0.069	0.14	0.15	0.11	0.12
Bromide	ug/l			110	120	85	82	42	45	37	40	370	350	520	510
Calcium, Total	mg/l			4.9	3.4	2.4	2.4	5.1	5.5	22	21	52	53	180	190
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1	6.4	6.4
Carbonate as CO3	mg/l			12	9.8	12	12	5.7	5.7	2.6	2.6	ND	ND	ND	ND
Cation Sum	meq/l			3.6	3.6	3.3	3.3	2.9	3	3.6	3.6	11	11	16	17
Chloride	mg/l	500	S	17	16	14	14	11	12	13	12	160	160	200	200
Fluoride	mg/l	2	P	0.52	0.58	0.58	0.52	0.64	0.6	0.36	0.39	0.27	0.28	0.26	0.24
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			32	37	22	21	9	8.3	6.2	7.6	14	12	66	54
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			ND	ND	ND	ND	ND	ND	ND	1	2.7	2.9	4.1	4.4
Sodium, Total	mg/l			76	78	74	73	61	62	52	56	180	170	100	100
Sulfate	mg/l	500	S	1.7	ND	ND	ND	14	14	37	32	230	230	310	310
Total Dissolved Solid (TDS)	mg/l	1000	S	220	230	210	210	180	180	220	220	690	700	1000	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties															
Apparent Color	ACU	15	S	**100**	**120**	**80**	**70**	**35**	**40**	5	ND	3	ND	5	ND
Hardness (Total, as CaCO3)	mg/l			14	9.7	6.5	6.5	14	15	63	59	160	160	580	610
Lab pH	Units			9	8.9	9	9	8.8	8.8	8.4	8.4	8.2	8.1	7.9	7.9
Langelier Index - 25 degree	None			0.5	0.3	0.23	0.16	0.21	0.23	0.47	0.44	0.67	0.6	1.2	1.2
Odor	TON	3	S	1	2	1	1	2	1	1	1	1	ND	2	ND
Specific Conductance	umho/cm	1600	S	360	360	340	330	300	290	350	340	1200	1200	1600	1500
Turbidity	NTU	5	S	0.28	0.46	0.22	0.19	0.35	0.27	0.34	0.26	1.1	0.55	0.72	0.69
Metals															
Aluminum, Total	ug/l	1000	P	29	30	26	25	ND	20	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.7	7.4
Barium, Total	ug/l	1000	P	3.5	2.8	2	2	ND	ND	8.4	8.5	45	53	180	190
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.29	0.11	0.3	0.091	0.33	0.082	0.16	0.02	0.18	ND	0.11	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.026	0.026	ND	ND	ND	ND	ND	ND	0.032	0.029	0.18	0.19
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			0.44	0.29	0.12	0.12	0.24	0.23	1.9	1.7	7.4	7	32	32
Manganese, Total	ug/l	50	S	5.1	4	ND	ND	2.4	2.2	17	14	**58**	**64**	**410**	**410**
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
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others															
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	0.11	ND
Total Organic Carbon	mg/l			3.7	4.3	2.7	3.3	1.7	1.8	0.53	0.82	1.2	1.4	1.4	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 2019-2020

Constituents	Units	MCL	MCL Type	Long Beach #2					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				3/24/2020	3/24/2020	3/24/2020	3/24/2020	3/24/2020	3/24/2020
General Minerals									
Alkalinity	mg/l			310	190	160	150	280	300
Anion Sum	meq/l			6.8	4.4	3.8	6.5	16	19
Bicarbonate as HCO3	mg/l			380	230	190	180	340	370
Boron	mg/l	1	N	0.51	0.19	0.14	0.092	0.3	0.25
Bromide	ug/l			210	140	140	240	960	900
Calcium, Total	mg/l			6.8	15	13	58	180	230
Carbon Dioxide	mg/l			3.9	ND	ND	ND	7	7.6
Carbonate as CO3	mg/l			3.9	3	3.9	2.3	ND	ND
Cation Sum	meq/l			6.9	4.4	3.6	6.4	17	20
Chloride	mg/l	500	S	22	20	23	63	120	150
Fluoride	mg/l	2	P	0.61	0.44	0.51	0.27	0.18	0.25
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			42	32	31	43	31	44
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	1.3	ND	2.9	5.1	5.6
Sodium, Total	mg/l			150	79	67	66	130	120
Sulfate	mg/l	500	S	ND	ND	ND	81	320	400
Total Dissolved Solid (TDS)	mg/l	1000	S	390	260	220	400	990	**1100**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND
General Physical Properties									
Apparent Color	ACU	15	S	**200**	**35**	**25**	3	3	5
Hardness (Total, as CaCO3)	mg/l			23	44	37	170	560	720
Lab pH	Units			8.2	8.3	8.5	8.3	7.9	7.9
Langelier Index - 25 degree	None			0.21	0.42	0.44	0.88	1.2	1.4
Odor	TON	3	S	**4**	2	1	**4**	2	2
Specific Conductance	umho/cm	1600	S	640	410	360	650	1400	**1700**
Turbidity	NTU	5	S	0.64	0.21	0.12	0.34	1.3	1.4
Metals									
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	4.4	5.6
Barium, Total	ug/l	1000	P	5.8	10	5.6	40	63	81
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			0.28	0.18	0.3	0.091	0.055	0.067
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.088	0.026	ND	0.027	0.23	0.24
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			1.4	1.6	1.1	6.2	27	35
Manganese, Total	ug/l	50	S	13	15	7.2	27	**180**	**370**
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
Volatile Organic Compounds									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	2.5
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	0.85
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	3.4	**9.6**
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	13
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	1.1
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
Others									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	**2.3**	**10**
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	0.11
Total Organic Carbon	mg/l			11	3.8	2.3	1.3	1.2	1.3

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Long Beach #6											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/17/2020	8/24/2020	3/17/2020	8/24/2020	3/17/2020	8/24/2020	3/17/2020	8/24/2020	3/17/2020	8/24/2020	3/17/2020	8/24/2020
General Minerals															
Alkalinity	mg/l			540	540	300	350	170	170	120	120	120	120	130	130
Anion Sum	meq/l			11	11	6.5	7.5	3.8	3.8	3.2	3.2	3.1	3.1	4.6	4.8
Bicarbonate as HCO3	mg/l			660	650	360	420	200	200	150	150	140	140	160	160
Boron	mg/l	1	N	**1.1**	**1.1**	0.54	0.6	0.23	0.23	0.09	0.09	0.081	ND	ND	ND
Bromide	ug/l			340	330	200	240	130	130	55	58	89	81	350	370
Calcium, Total	mg/l			7.7	7.6	4.8	5.8	5.2	5.2	9.2	9.5	11	13	49	56
Carbon Dioxide	mg/l			3.4	2.7	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND
Carbonate as CO3	mg/l			14	17	9.3	11	8.2	8.2	3.9	3.9	3.6	3.6	ND	ND
Cation Sum	meq/l			11	10	6.6	6.9	3.6	3.6	3	3.1	3	3.4	4.6	5.5
Chloride	mg/l	500	S	17	18	19	18	17	17	12	13	19	19	58	64
Fluoride	mg/l	2	P	0.69	0.7	0.67	0.65	0.6	0.61	0.56	0.58	0.51	0.54	0.22	0.23
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			23	110	65	71	39	40	15	12	29	28	93	95
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			1.6	1.7	ND	1	ND	ND	ND	ND	ND	ND	1.9	ND
Sodium, Total	mg/l			230	220	140	150	76	77	59	60	54	62	40	50
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	15	16	9.3	9.6	17	19
Total Dissolved Solid (TDS)	mg/l	1000	S	660	690	390	460	240	240	200	200	190	190	280	290
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties															
Apparent Color	ACU	15	S	**200**	**450**	**150**	**250**	**120**	**150**	**40**	**35**	**45**	**40**	ND	ND
Hardness (Total, as CaCO3)	mg/l			25	25	15	18	14	14	25	26	30	37	140	170
Lab pH	Units			8.5	8.6	8.6	8.6	8.8	8.8	8.6	8.6	8.6	8.6	8.1	8.2
Langelier Index - 25 degree	None			0.72	0.8	0.39	0.55	0.36	0.37	0.31	0.33	0.3	0.37	0.54	0.75
Odor	TON	3	S	2	**4**	2	2	2	2	2	1	2	1	2	1
Specific Conductance	umho/cm	1600	S	1000	1000	620	700	360	380	320	320	310	310	480	480
Turbidity	NTU	5	S	0.48	0.92	0.78	0.47	0.41	0.3	0.19	0.27	0.19	0.22	0.18	0.14
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.7	2.5	ND	ND	ND	ND	ND	ND	ND	ND	2.4	2.1
Barium, Total	ug/l	1000	P	6.5	6.2	5.3	6.3	4.1	3.9	7	6.6	2.5	2.2	21	20
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	1	ND	ND	ND	1	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.28	0.063	0.32	0.061	0.3	0.062	0.29	0.044	0.26	0.06	0.09	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.081	0.076	0.064	0.066	0.038	0.032	ND	ND	ND	ND	0.053	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			1.5	1.5	0.76	0.92	0.2	0.2	0.55	0.56	0.71	1.2	4.6	6.5
Manganese, Total	ug/l	50	S	14	13	11	12	3.8	3.3	15	15	3.9	4	**52**	**52**
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	14	ND	10	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others															
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			22	22	13	10	6.1	5	2	1.6	1.8	1.7	0.64	0.86

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 2019-2020

Constituents	Units	MCL	MCL Type	Los Angeles #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/18/2020	9/17/2020	3/18/2020	9/17/2020	3/18/2020	9/17/2020	3/18/2020	9/17/2020	3/18/2020	9/17/2020
General Minerals													
Alkalinity	mg/l			180	180	180	180	180	180	200	200	220	220
Anion Sum	meq/l			5.9	6	6	6.1	6.1	6.2	7.8	7.6	10	11
Bicarbonate as HCO3	mg/l			220	220	220	220	220	220	240	240	270	270
Boron	mg/l	1	N	0.14	0.13	0.14	0.13	0.15	0.14	0.15	0.14	0.18	0.17
Bromide	ug/l			130	120	100	100	110	110	170	160	310	310
Calcium, Total	mg/l			56	56	62	61	62	61	80	76	100	110
Carbon Dioxide	mg/l			3.6	2.9	5.7	4.5	4.5	4.5	6.2	5	11	7
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.8	5.8	6	6	6.1	6.1	7.7	7.4	10	10
Chloride	mg/l	500	S	24	25	22	24	23	25	40	38	76	80
Fluoride	mg/l	2	P	0.3	0.29	0.48	0.46	0.41	0.4	0.45	0.42	0.42	0.4
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			24	29	19	24	ND	ND	12	19	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	20	13	**65**	**64**
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	4.4	3	**15**	**14**
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	3.1	3.3	3	3.2	3.6	3.8	4.3	4.4
Sodium, Total	mg/l			43	44	38	39	39	40	46	45	55	55
Sulfate	mg/l	500	S	76	76	83	84	85	86	110	110	140	140
Total Dissolved Solid (TDS)	mg/l	1000	S	360	370	360	350	360	360	460	430	620	630
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	4.4	3	**15**	**14**
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	3	ND
Hardness (Total, as CaCO3)	mg/l			190	190	210	210	220	210	280	270	360	380
Lab pH	Units			8	8.1	7.8	7.9	7.9	7.9	7.8	7.9	7.6	7.8
Langelier Index - 25 degree	None			0.64	0.77	0.53	0.63	0.59	0.59	0.66	0.69	0.65	0.84
Odor	TON	3	S	2	ND	1	ND	1	ND	2	ND	1	ND
Specific Conductance	umho/cm	1600	S	550	560	580	580	580	550	730	670	970	940
Turbidity	NTU	5	S	0.1	0.1	1	0.34	ND	0.16	0.2	0.25	0.13	0.14
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	1.1	ND	ND
Barium, Total	ug/l	1000	P	31	31	52	51	76	75	110	98	150	150
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	**110**	**64**	**380**	**340**
Hexavalent Chromium (Cr VI)	ug/l			0.095	ND	0.051	ND	0.34	0.32	110	66	390	320
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.19	0.19	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			12	12	14	14	15	15	20	19	28	27
Manganese, Total	ug/l	50	S	14	15	47	48	7.3	6.2	ND	ND	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	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	23	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	**1**	**0.92**
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
Tetrachloroethylene (PCE)	ug/l	5	P	1.4	1.2	ND	ND	ND	ND	0.93	0.55	2	2.5
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	0.62	0.61
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	4.5	3.3	ND	ND	ND	ND	**9.6**	**6**	**30**	**32**
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
Others													
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	1.3	0.95	3.9	4.2
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.47	0.55	ND	0.45	ND	0.4	0.33	0.51	0.4	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 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Los Angeles #2							
				Zone 2		Zone 3		Zone 4		Zone 5	
				3/25/2020	9/28/2020	3/25/2020	9/28/2020	3/25/2020	9/28/2020	3/25/2020	9/28/2020
General Minerals											
Alkalinity	mg/l			310	310	310	310	340	340	310	310
Anion Sum	meq/l			19	20	19	20	20	20	24	24
Bicarbonate as HCO3	mg/l			380	380	380	380	410	420	370	370
Boron	mg/l	1	N	0.25	0.24	0.24	0.22	0.28	0.27	0.46	0.42
Bromide	ug/l			600	700	560	570	740	800	720	730
Calcium, Total	mg/l			210	200	210	200	210	200	250	220
Carbon Dioxide	mg/l			6.2	12	12	12	13	17	7.6	15
Carbonate as CO3	mg/l			2.5	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			20	19	20	19	21	19	26	23
Chloride	mg/l	500	S	260	260	270	280	240	240	160	170
Fluoride	mg/l	2	P	0.21	0.2	0.33	0.32	0.35	0.35	0.31	0.31
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			76	100	65	81	73	94	45	57
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	11	7.3	7.3	8	8	11	10
Sodium, Total	mg/l			100	100	120	100	140	120	160	140
Sulfate	mg/l	500	S	280	290	250	260	290	310	**620**	**610**
Total Dissolved Solid (TDS)	mg/l	1000	S	**1100**	**1100**	**1100**	**1100**	**1200**	**1200**	**1500**	**1400**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	ND	ND	**25**	**20**	**25**	**20**	10	ND
Hardness (Total, as CaCO3)	mg/l			750	720	740	700	730	700	900	800
Lab pH	Units			8	7.7	7.7	7.7	7.7	7.6	7.9	7.6
Langelier Index - 25 degree	None			1.4	1.2	1.2	1.1	1.2	1.1	1.4	1.1
Odor	TON	3	S	1	1	2	1	1	1	**4**	**8**
Specific Conductance	umho/cm	1600	S	**1800**	**1800**	**1800**	**1800**	**1800**	**1800**	**1900**	**2000**
Turbidity	NTU	5	S	1.9	1.6	**13**	**12**	**15**	**14**	**13**	**24**
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	**7.2**	4.9
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	3.2	3.6
Barium, Total	ug/l	1000	P	86	85	140	140	97	97	55	50
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.068	ND	ND	ND	ND	ND	0.08	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.19	0.18	**1.2**	**1.2**	**1.4**	**1.3**	0.11	0.19
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			55	54	52	50	51	49	68	61
Manganese, Total	ug/l	50	S	**360**	**350**	**180**	**170**	**110**	**97**	**540**	**530**
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	6.8	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	570	470
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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	0.63	0.61
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Others											
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	**1.2**	**1.3**	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			0.58	0.68	0.67	0.68	0.68	0.76	1.4	1.5

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Los Angeles #3											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/15/2020	8/26/2020	4/15/2020	8/26/2020	4/15/2020	8/26/2020	4/15/2020	8/26/2020	4/15/2020	8/26/2020	4/15/2020	8/26/2020
General Minerals															
Alkalinity	mg/l			240	240	180	180	190	180	190	190	210	210	220	ND
Anion Sum	meq/l			6.4	6.4	5.8	5.9	6	6	6.5	6.5	9	9	12	7.4
Bicarbonate as HCO3	mg/l			300	290	220	220	230	220	240	230	260	250	270	ND
Boron	mg/l	1	N	0.33	0.34	0.13	0.14	0.14	0.14	0.14	0.14	0.2	0.2	0.18	0.18
Bromide	ug/l			230	260	130	140	110	100	190	180	240	250	520	520
Calcium, Total	mg/l			16	16	58	58	60	61	65	65	92	92	130	130
Carbon Dioxide	mg/l			2.5	2.4	2.9	3.6	4.7	4.5	3.9	4.7	5.4	6.5	5.6	ND
Carbonate as CO3	mg/l			3.9	3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.6	6	5.8	5.9	5.9	6	6.4	6.4	8.8	8.8	11	11
Chloride	mg/l	500	S	37	37	25	27	22	22	37	37	56	59	120	120
Fluoride	mg/l	2	P	0.32	0.31	0.33	0.31	0.46	0.44	0.43	0.42	0.34	0.33	0.35	0.34
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			74	80	35	40	29	29	42	50	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	42	42	28	28
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	9.6	9.6	6.4	6.4
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			4	4.2	3.4	3.5	3.4	3.6	3.8	3.9	4.1	4.2	4.1	4.2
Sodium, Total	mg/l			120	110	40	41	40	41	42	43	52	53	58	59
Sulfate	mg/l	500	S	24	24	73	74	77	79	75	77	120	120	160	170
Total Dissolved Solid (TDS)	mg/l	1000	S	380	390	340	340	340	350	400	380	540	530	700	680
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	9.6	9.6	6.4	6.4
General Physical Properties															
Apparent Color	ACU	15	S	15	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			63	63	200	200	210	210	220	220	320	320	440	440
Lab pH	Units			8.3	8.3	8.1	8	7.9	7.9	8	7.9	7.9	7.8	7.9	5.7
Langelier Index - 25 degree	None			0.54	0.5	0.72	0.68	0.61	0.62	0.72	0.65	0.8	0.74	0.97	-3.7
Odor	TON	3	S	1	ND	ND	ND	ND	ND	1	ND	ND	ND	1	ND
Specific Conductance	umho/cm	1600	S	590	600	530	540	540	570	590	620	820	850	1000	ND
Turbidity	NTU	5	S	ND	0.12	0.25	0.28	0.2	0.18	0.25	0.25	0.2	0.12	0.28	0.19
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	9.5	9.7	22	23	46	47	74	77	140	140	120	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	ND	ND	ND	ND	ND	ND	ND	ND	2.1	2.2	6	6
Hexavalent Chromium (Cr VI)	ug/l			0.14	ND	0.13	ND	0.12	ND	0.13	ND	2.2	2	6	5.9
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.028	0.03	ND	ND	0.056	0.057	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			5.5	5.5	13	13	14	14	14	14	22	22	29	29
Manganese, Total	ug/l	50	S	24	24	**97**	**96**	**52**	**52**	44	43	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	ND	11	11
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.53	2.9	2.9
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	0.8	0.75	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	4.2	**7**	ND	0.52
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
Others															
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	1.7	1.4	0.98	0.88
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.8	1.8	ND	0.31	ND	0.29	ND	0.29	0.39	0.51	0.33	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 2019-2020

Constituents	Units	MCL	MCL Type	Los Angeles #4											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/26/2020	9/1/2020	3/26/2020	9/1/2020	3/26/2020	9/1/2020	3/26/2020	9/1/2020	3/26/2020	9/1/2020	3/26/2020	9/1/2020
General Minerals															
Alkalinity	mg/l			1600	1600	450	440	170	170	180	180	170	170	170	170
Anion Sum	meq/l			32	32	9.2	9.1	5.6	5.6	5.8	5.8	5.7	5.7	6.6	6.6
Bicarbonate as HCO3	mg/l			1900	1900	540	540	210	210	220	210	210	210	200	200
Boron	mg/l	1	N	**5.6**	**5.6**	0.5	0.5	0.13	0.12	0.12	0.12	0.13	0.13	0.15	0.14
Bromide	ug/l			600	590	65	64	99	96	99	96	98	96	200	180
Calcium, Total	mg/l			12	12	17	17	58	56	55	56	59	58	69	65
Carbon Dioxide	mg/l			20	25	5.6	7	2.2	2.7	2.9	3.4	2.2	3.4	2.6	4.1
Carbonate as CO3	mg/l			20	16	5.6	4.4	2.2	ND	ND	ND	2.2	ND	ND	ND
Cation Sum	meq/l			33	31	8.7	8.3	5.8	5.7	5.5	5.7	5.8	5.7	6.8	6.5
Chloride	mg/l	500	S	30	31	7.1	7.5	20	21	20	21	20	21	48	48
Fluoride	mg/l	2	P	0.38	0.36	0.27	0.26	0.3	0.29	0.38	0.38	0.36	0.34	0.22	0.22
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			150	210	14	21	20	28	ND	38	25	32	3.4	4.4
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	8.7
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.7	2
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			13	13	11	11	2.8	3	3.3	3.5	3.4	3.6	3.4	3.4
Sodium, Total	mg/l			720	670	160	150	43	43	39	41	40	40	51	49
Sulfate	mg/l	500	S	ND	ND	ND	ND	77	78	76	77	78	79	81	82
Total Dissolved Solid (TDS)	mg/l	1000	S	**2100**	**2100**	500	520	320	340	330	340	330	340	390	380
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.7	2
General Physical Properties															
Apparent Color	ACU	15	S	**1500**	**1500**	**60**	**70**	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			55	55	73	72	190	180	190	190	200	190	220	210
Lab pH	Units			8.2	8.1	8.2	8.1	8.2	8.1	8.1	8	8.2	8	8.1	7.9
Langelier Index - 25 degree	None			1.1	1	0.73	0.63	0.86	0.75	0.72	0.59	0.83	0.68	0.76	0.62
Odor	TON	3	S	**4**	**8**	**4**	**8**	1	ND	1	ND	2	ND	1	ND
Specific Conductance	umho/cm	1600	S	**2800**	**2700**	840	840	540	520	550	520	530	520	650	640
Turbidity	NTU	5	S	0.74	0.31	0.52	0.52	0.14	0.19	0.13	0.36	0.28	0.42	0.67	0.8
Metals															
Aluminum, Total	ug/l	1000	P	20	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	2.2	6.5	6.9	ND	ND	1.8	2	1.2	1.2	1.6	1.7
Barium, Total	ug/l	1000	P	34	34	36	35	16	ND	70	68	61	62	65	64
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	2.4	2.5	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND
Hexavalent Chromium (Cr VI)	ug/l			0.4	0.18	0.12	0.036	0.08	ND	0.08	ND	0.072	ND	1.1	0.96
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	**0.65**	**0.58**	0.12	0.12	ND	ND	ND	0.02	0.059	0.078	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			6.2	6.1	7.4	7.3	12	11	12	12	12	12	13	12
Manganese, Total	ug/l	50	S	21	16	48	46	39	ND	46	42	**63**	**62**	**73**	**66**
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
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others															
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			140	130	7.9	7.4	ND	0.32	ND	0.29	ND	0.26	ND	0.3

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 2019-2020

Constituents	Units	MCL	MCL Type	Los Angeles #5											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/15/2020	8/26/2020	4/14/2020	8/25/2020	4/14/2020	8/25/2020	4/14/2020	8/25/2020	4/14/2020	8/25/2020	4/14/2020	8/25/2020
General Minerals															
Alkalinity	mg/l			880	860	930	930	170	170	230	230	220	220	190	190
Anion Sum	meq/l			120	120	30	31	5.4	5.4	9.7	10	8.4	8.4	6.9	7
Bicarbonate as HCO3	mg/l			1100	1000	1100	1100	200	200	280	280	270	270	230	230
Boron	mg/l	1	N	**7.2**	**7.2**	**2.7**	**2.5**	0.12	0.12	0.26	0.26	0.15	0.15	0.14	0.14
Bromide	ug/l			34000	33000	3600	3700	100	98	1200	1200	780	780	160	150
Calcium, Total	mg/l			42	42	22	21	53	52	98	98	84	85	74	75
Carbon Dioxide	mg/l			18	16	11	14	2.6	3.3	4.6	5.8	3.5	4.4	3.8	3.8
Carbonate as CO3	mg/l			7.1	6.5	11	9	ND	ND	ND	ND	2.2	ND	ND	ND
Cation Sum	meq/l			100	100	29	28	5.4	5.4	9.8	9.7	8.2	8.2	7.1	7.1
Chloride	mg/l	500	S	**3600**	**3700**	420	440	21	21	170	180	120	120	30	31
Fluoride	mg/l	2	P	0.12	0.12	0.21	0.23	0.27	0.25	0.26	0.27	0.3	0.31	0.38	0.39
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			12000	12000	940	1200	27	26	340	260	180	180	37	34
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			35	37	20	16	3	3.2	5.3	5.3	4.2	4.3	3	3.1
Sodium, Total	mg/l			2200	2200	600	590	44	45	65	63	52	52	46	46
Sulfate	mg/l	500	S	ND	ND	ND	ND	69	70	18	16	26	24	110	110
Total Dissolved Solid (TDS)	mg/l	1000	S	**7100**	**6400**	**1700**	**1700**	320	320	560	570	450	450	410	410
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties															
Apparent Color	ACU	15	S	**150**	**150**	**250**	**280**	ND	ND	ND	ND	3	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			300	290	110	100	170	170	340	340	290	290	250	250
Lab pH	Units			8	8	8.2	8.1	8.1	8	8	7.9	8.1	8	8	8
Langelier Index - 25 degree	None			1.2	1.1	1.1	1	0.72	0.63	0.99	0.87	0.99	0.9	0.74	0.75
Odor	TON	3	S	2	**8**	2	**4**	2	2	2	1	1	ND	2	ND
Specific Conductance	umho/cm	1600	S	**12000**	**12000**	**2900**	**2800**	530	530	980	990	790	830	640	640
Turbidity	NTU	5	S	4.7	0.5	0.54	0.55	0.19	0.24	0.8	0.99	0.52	0.44	0.3	0.38
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	**16**	**15**	1.7	1.5	ND	ND	ND	1	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	67	67	26	28	24	26	77	84	87	93	67	63
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	1.6	1.6	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.041	ND	0.086	0.054	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	**0.34**	**0.37**	0.23	0.23	0.031	0.041	0.21	0.24	0.16	0.16	0.023	0.024
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			47	46	13	12	10	9.9	23	23	19	19	16	16
Manganese, Total	ug/l	50	S	39	36	48	47	41	46	**140**	**140**	**130**	**130**	35	33
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	**73**	**77**	6.6	6.6	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others															
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	0.4	0.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			24	25	31	28	0.36	0.58	0.58	0.75	ND	0.6	ND	0.39

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 2019-2020

Constituents	Units	MCL	MCL Type	Los Angeles #6							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/16/2020	9/16/2020	4/16/2020	9/16/2020	4/16/2020	9/16/2020	4/16/2020	9/16/2020
General Minerals											
Alkalinity	mg/l			310	300	220	220	280	280	260	260
Anion Sum	meq/l			15	15	8.5	8.8	14	15	10	11
Bicarbonate as HCO3	mg/l			380	370	270	270	340	340	320	310
Boron	mg/l	1	N	0.43	0.41	0.26	0.26	0.36	0.36	0.22	0.21
Bromide	ug/l			2400	2400	870	860	2400	2500	670	620
Calcium, Total	mg/l			11	11	42	44	64	65	89	96
Carbon Dioxide	mg/l			3.1	3.8	2.8	2.8	5.6	5.6	6.6	5.1
Carbonate as CO3	mg/l			4.9	3.8	2.8	2.8	2.2	2.2	ND	2
Cation Sum	meq/l			13	12	8.6	8.2	13	13	9.9	10
Chloride	mg/l	500	S	300	320	120	130	310	330	120	130
Fluoride	mg/l	2	P	0.25	0.24	0.27	0.27	0.22	0.22	0.46	0.43
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			800	820	280	280	890	740	150	110
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			15	16	7.6	8	10	11	5.5	5.5
Sodium, Total	mg/l			260	250	120	110	200	190	80	76
Sulfate	mg/l	500	S	1.6	1.3	26	27	2.7	2.4	68	110
Total Dissolved Solid (TDS)	mg/l	1000	S	830	830	500	490	800	800	570	620
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	**30**	**30**	10	ND	10	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			53	53	150	160	220	230	310	330
Lab pH	Units			8.3	8.2	8.2	8.2	8	8	7.9	8
Langelier Index - 25 degree	None			0.45	0.38	0.76	0.88	0.9	0.92	0.89	1.1
Odor	TON	3	S	1	2	ND	ND	2	2	2	ND
Specific Conductance	umho/cm	1600	S	1400	1500	860	860	1400	1400	980	980
Turbidity	NTU	5	S	0.47	0.46	0.16	0.27	0.27	0.31	0.2	0.43
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.4	ND	ND	ND	1.2	ND	1.5	1.4
Barium, Total	ug/l	1000	P	25	26	33	34	77	79	66	70
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	1.1	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.029	ND	ND	ND	ND	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	2.2	ND
Iron, Total	mg/l	0.3	S	0.048	0.059	ND	ND	0.06	0.067	0.04	0.056
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			6.2	6.2	11	12	15	16	22	23
Manganese, Total	ug/l	50	S	24	23	46	45	**68**	**65**	**89**	**99**
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
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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	**13**	**13**
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	4.5	**8.2**
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
Others											
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			2.1	2.2	0.98	1.1	1.8	1.9	0.53	0.8

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Lynwood #1																	
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7		Zone 8		Zone 9	
				5/12/2020	9/29/2020	5/12/2020	9/29/2020	5/13/2020	9/30/2020	5/13/2020	9/30/2020	5/13/2020	9/30/2020	5/13/2020	9/30/2020	5/13/2020	9/30/2020	5/12/2020	9/29/2020	5/13/2020	9/30/2020
General Minerals																					
Alkalinity	mg/l			570	560	140	130	110	110	140	140	160	160	160	160	180	180	180	180	300	300
Anion Sum	meq/l			12	12	4.2	4.2	4.5	4.5	5	5	4.7	4.8	5.3	5.4	5.9	6.1	7.6	7.6	18	19
Bicarbonate as HCO3	mg/l			690	680	160	160	140	140	170	160	190	190	200	200	220	220	220	220	360	360
Boron	mg/l	1	N	**1.3**	**1.3**	0.16	0.16	0.094	0.09	0.079	0.073	0.078	0.075	0.11	0.11	0.11	0.11	0.12	0.12	0.16	0.17
Bromide	ug/l			150	150	120	120	100	100	100	100	100	100	100	100	120	130	140	140	610	620
Calcium, Total	mg/l			10	10	5.4	5.4	38	40	45	46	43	45	52	54	59	63	81	84	210	220
Carbon Dioxide	mg/l			4.5	4.4	ND	ND	ND	ND	ND	ND	ND	ND	2.1	2.6	2.9	2.9	4.5	4.5	9.4	12
Carbonate as CO3	mg/l			11	11	5.2	5.2	ND	ND	ND	ND	2.5	2.5	2	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			10	10	3.9	3.9	4.2	4.5	4.8	5	4.5	4.7	5.1	5.4	5.7	6.1	7.3	7.6	17	19
Chloride	mg/l	500	S	9.5	10	20	21	21	21	21	22	20	21	20	21	24	26	51	52	160	170
Fluoride	mg/l	2	P	0.54	0.52	0.43	0.41	0.31	0.3	0.25	0.25	0.26	0.27	0.34	0.36	0.3	0.31	0.4	0.38	0.31	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			36	35	36	32	27	24	29	27	30	29	28	27	45	34	ND	ND	180	160
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.3	7.2	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	1.6	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.3	2.7	ND	ND	ND	1.1	1.5	1.6	1.7	2	3	3.3	2.6	2.9	3.1	3.4	4.9	5.6
Sodium, Total	mg/l			220	220	84	83	43	46	47	50	47	51	36	39	39	42	40	43	70	78
Sulfate	mg/l	500	S	ND	ND	42	42	76	77	80	81	47	48	70	71	76	80	110	110	370	390
Total Dissolved Solid (TDS)	mg/l	1000	S	670	680	250	270	270	270	300	310	270	270	300	320	350	360	450	470	**1100**	**1100**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	1.6	ND	ND
General Physical Properties																					
Apparent Color	ACU	15	S	**180**	**180**	**40**	**55**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ND
Hardness (Total, as CaCO3)	mg/l			33	33	14	14	120	120	140	140	120	120	180	180	190	210	270	280	710	750
Lab pH	Units			8.4	8.4	8.7	8.7	8.2	8.3	8.2	8.2	8.3	8.3	8.2	8.1	8.1	8.1	7.9	7.9	7.8	7.7
Langelier Index - 25 degree	None			0.84	0.78	0.22	0.22	0.51	0.58	0.66	0.64	0.74	0.76	0.72	0.71	0.81	0.82	0.72	0.71	1.2	1.1
Odor	TON	3	S	2	**8**	2	3	1	2	1	3	1	ND	1	ND	1	1	1	ND	1	ND
Specific Conductance	umho/cm	1600	S	1000	1000	420	410	440	430	490	480	440	460	510	510	560	580	710	720	1600	1600
Turbidity	NTU	5	S	0.32	0.69	0.22	0.24	0.12	0.11	0.11	0.11	ND	0.21	0.13	0.13	0.17	0.25	ND	0.46	2.6	2.9
Metals																					
Aluminum, Total	ug/l	1000	P	ND	ND	23	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	**230**	**220**	ND	ND	ND	ND	ND	ND	4.7	4.9	ND	ND	2.8	2.5	1.5	1.6	7.1	6.8
Barium, Total	ug/l	1000	P	14	14	2	ND	4.9	4.8	150	160	110	120	46	46	110	110	120	120	150	140
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.082	0.051	0.051	0.032	ND	ND	0.02	ND	ND	ND	ND	ND	ND	ND	0.67	0.61	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.074	0.068	ND	ND	ND	ND	ND	ND	ND	ND	0.022	0.022	0.064	0.07	ND	ND	**0.36**	**0.39**
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			2	2	0.26	0.26	5.3	5.5	5.5	5.7	2.7	2.8	11	11	11	12	17	18	45	49
Manganese, Total	ug/l	50	S	12	11	2.8	2.6	15	15	29	30	25	27	**60**	**59**	**92**	**92**	ND	ND	**240**	**230**
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																					
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (Methyl Chloride)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6	4	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Others																					
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2.5**	**2**	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.56	0.55	ND	ND
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			15	15	1.8	2.1	0.36	0.45	0.33	0.52	ND	0.35	0.32	0.48	ND	0.43	ND	0.43	0.89	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 2019-2020

Constituents	Units	MCL	MCL Type	Montebello #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/26/2020	8/27/2020	3/26/2020	8/27/2020	3/26/2020	8/27/2020	3/26/2020	8/27/2020	3/26/2020	8/27/2020
General Minerals													
Alkalinity	mg/l			900	900	570	570	180	220	180	180	200	190
Anion Sum	meq/l			38	38	15	15	7.6	8.5	8.4	8.3	8	7.8
Bicarbonate as HCO3	mg/l			1100	1100	700	690	220	260	220	220	240	230
Boron	mg/l	1	N	**6.1**	**6.1**	**2.2**	**2.1**	0.13	0.12	0.14	0.12	0.19	0.2
Bromide	ug/l			4100	4000	820	780	210	180	240	200	190	160
Calcium, Total	mg/l			13	13	17	17	90	96	95	91	77	80
Carbon Dioxide	mg/l			9	9	7.2	5.7	2.9	6.8	4.5	3.6	7.8	7.5
Carbonate as CO3	mg/l			14	14	7.2	8.9	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			35	34	14	14	7.7	7.9	8.7	8.2	7.8	8
Chloride	mg/l	500	S	**710**	**690**	120	120	57	59	68	65	69	68
Fluoride	mg/l	2	P	0.47	0.41	0.34	0.32	0.18	0.17	0.23	0.21	0.34	0.33
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			920	1000	210	200	40	37	54	48	1	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	16	14
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	3.5	3.1
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			7	7.3	5.1	5.3	3.2	3.5	3.7	3.7	3.2	3.4
Sodium, Total	mg/l			780	740	300	280	43	43	59	54	61	62
Sulfate	mg/l	500	S	ND	ND	ND	ND	110	120	130	140	90	88
Total Dissolved Solid (TDS)	mg/l	1000	S	**2200**	**2100**	860	870	460	470	500	480	460	460
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	3.5	3.1
General Physical Properties													
Apparent Color	ACU	15	S	**400**	**600**	**200**	**180**	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			56	56	71	71	280	300	300	280	250	260
Lab pH	Units			8.3	8.3	8.2	8.3	8.1	7.8	7.9	8	7.7	7.7
Langelier Index - 25 degree	None			1	1	0.86	0.9	0.93	0.77	0.79	0.81	0.56	0.48
Odor	TON	3	S	2	2	2	3	2	ND	1	ND	2	ND
Specific Conductance	umho/cm	1600	S	**3600**	**3600**	1400	1400	710	1100	810	780	790	740
Turbidity	NTU	5	S	0.78	1.3	0.37	0.39	0.6	0.24	0.17	0.17	0.45	0.13
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	5.6	4.7	ND	ND	ND	ND	2.2	1.9	1.6	1.5
Barium, Total	ug/l	1000	P	37	37	23	24	40	43	88	89	67	60
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	1.3	1.6	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.54	0.19	0.27	0.085	0.13	ND	0.13	ND	0.21	0.1
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.16	0.15	0.2	0.2	0.037	0.042	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			5.8	5.7	7	7	14	15	15	14	15	14
Manganese, Total	ug/l	50	S	8.9	8.5	29	29	**80**	**82**	48	49	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	7.9	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	0.59	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
Others													
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	**4.4**	**5.4**	**3.5**	**5.3**	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	0.94	0.69
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			20	33	14	23	0.64	0.52	0.55	0.45	0.44	0.4

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 2019-2020

Constituents	Units	MCL	MCL Type	Norwalk #1				
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
				4/21/2020	4/21/2020	4/21/2020	4/21/2020	4/21/2020
General Minerals								
Alkalinity	mg/l			280	180	150	130	200
Anion Sum	meq/l			8.1	5.2	5.5	3.5	8.4
Bicarbonate as HCO3	mg/l			340	210	180	160	240
Boron	mg/l	1	N	0.36	0.18	0.058	ND	0.072
Bromide	ug/l			290	280	450	150	730
Calcium, Total	mg/l			12	8.8	36	29	70
Carbon Dioxide	mg/l			2.8	ND	ND	ND	3.9
Carbonate as CO3	mg/l			4.4	5.4	2.3	ND	ND
Cation Sum	meq/l			7.4	4.7	5.2	3.4	7.6
Chloride	mg/l	500	S	63	58	85	25	150
Fluoride	mg/l	2	P	0.5	0.58	0.24	0.32	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND
Iodide	ug/l			82	99	120	34	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			140	95	70	34	62
Sulfate	mg/l	500	S	33	ND	5.5	6.5	6.6
Total Dissolved Solid (TDS)	mg/l	1000	S	460	290	320	200	500
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND
General Physical Properties								
Apparent Color	ACU	15	S	**20**	**30**	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			53	27	100	94	240
Lab pH	Units			8.3	8.6	8.3	8.2	8
Langelier Index - 25 degree	None			0.47	0.38	0.63	0.36	0.75
Odor	TON	3	S	**200**	2	1	2	**8**
Specific Conductance	umho/cm	1600	S	770	520	560	340	840
Turbidity	NTU	5	S	0.15	0.4	0.23	0.25	**18**
Metals								
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	5.4	**16**	**11**
Barium, Total	ug/l	1000	P	12	7.2	130	120	380
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			0.14	0.046	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.034	0.025	0.13
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND
Magnesium, Total	None			5.6	1.2	3.3	5.2	16
Manganese, Total	ug/l	50	S	2.4	6.9	26	36	**150**
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
Volatile Organic Compounds								
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	4.6
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
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
Others								
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	0.29
Total Organic Carbon	mg/l			2.1	2.6	0.55	0.4	1.6

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Norwalk #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/28/2020	9/23/2020	4/28/2020	9/23/2020	4/28/2020	9/23/2020	4/28/2020	9/23/2020	4/28/2020	9/23/2020	4/28/2020	9/23/2020
General Minerals															
Alkalinity	mg/l			190	190	180	190	150	150	160	160	160	160	180	180
Anion Sum	meq/l			7.2	7.1	5	5.2	4.3	4.4	5.9	5.9	7.8	8.2	7.5	7.6
Bicarbonate as HCO3	mg/l			230	240	220	230	180	180	200	200	190	200	220	210
Boron	mg/l	1	N	0.25	0.24	0.22	0.21	ND	ND	0.052	ND	0.16	0.17	0.17	0.16
Bromide	ug/l			280	310	150	160	46	48	72	76	150	160	120	130
Calcium, Total	mg/l			34	21	13	13	45	45	69	68	80	78	73	72
Carbon Dioxide	mg/l			2.4	2.5	ND	ND	ND	ND	3.3	3.3	3.9	3.3	5.7	5.4
Carbonate as CO3	mg/l			2.4	2.5	3.6	3.8	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			6.9	6.4	4.8	4.8	4.3	4.2	5.8	5.7	7.7	7.8	7.4	7.2
Chloride	mg/l	500	S	69	72	35	39	14	16	30	32	75	83	57	63
Fluoride	mg/l	2	P	0.34	0.35	0.45	0.42	0.19	0.19	0.28	0.26	0.26	0.25	0.38	0.35
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			88	95	46	57	9.6	8	ND	ND	5.8	5.5	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	6.2	6.3	11	12	9	9.4
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	1.4	1.4	2.5	2.8	2	2.1
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.5	3.6	2.3	2.4	2.5	2.4	3.2	3.2	4.1	4.2	3.8	3.7
Sodium, Total	mg/l			110	110	88	89	36	35	31	30	54	57	55	54
Sulfate	mg/l	500	S	68	57	15	16	42	44	77	78	110	120	100	100
Total Dissolved Solid (TDS)	mg/l	1000	S	420	390	290	290	260	250	360	340	480	470	450	440
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	1.4	1.4	2.5	2.8	2	2.1
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	5	15	5	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			110	69	42	43	130	130	220	220	260	260	240	240
Lab pH	Units			8.2	8.2	8.4	8.4	8.2	8.2	8	8	7.9	8	7.8	7.8
Langelier Index - 25 degree	None			0.6	0.42	0.4	0.44	0.71	0.66	0.73	0.66	0.64	0.78	0.54	0.59
Odor	TON	3	S	ND	2	2	ND	1	ND	ND	ND	2	ND	1	ND
Specific Conductance	umho/cm	1600	S	700	670	480	500	400	420	550	560	740	750	710	720
Turbidity	NTU	5	S	0.15	0.15	0.1	0.19	ND	0.18	ND	0.16	ND	0.32	0.12	0.19
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	3.2	3.7	ND	ND	ND	ND	1.9	2.1	2	2	1.4	1.4
Barium, Total	ug/l	1000	P	37	30	12	12	30	31	150	170	68	71	48	54
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	3.1	3.8	ND	3.6	1	4.3
Hexavalent Chromium (Cr VI)	ug/l			0.031	ND	0.028	ND	0.02	ND	3.2	3.1	0.96	0.86	0.98	0.94
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.7	ND	ND
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	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			6.5	4	2.4	2.5	5.2	5.2	11	11	16	15	15	15
Manganese, Total	ug/l	50	S	10	7.4	17	18	20	19	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	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.83	0.56	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
Others															
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND	ND	**2.9**	**2.7**	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	1.8	2.2	0.75	0.73	ND	0.73
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.4	1.7	1.2	1.4	0.34	0.54	ND	0.27	0.4	0.54	0.4	0.48

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 2019-2020

Constituents	Units	MCL	MCL Type	Pico #1						
				Zone 1	Zone 2		Zone 3		Zone 4	
				4/28/2020	4/28/2020	9/22/2020	4/28/2020	9/22/2020	4/28/2020	9/22/2020
General Minerals										
Alkalinity	mg/l			300	160	160	200	200	190	200
Anion Sum	meq/l			6.1	4.8	5	9.6	9.9	9.7	10
Bicarbonate as HCO3	mg/l			360	190	190	240	240	230	250
Boron	mg/l	1	N	0.62	0.063	0.055	0.11	0.1	0.24	0.23
Bromide	ug/l			26	46	51	180	190	190	200
Calcium, Total	mg/l			8.7	61	63	120	120	87	94
Carbon Dioxide	mg/l			3	3.9	4.9	7.8	7.8	9.5	8.2
Carbonate as CO3	mg/l			4.7	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.6	4.9	5.1	9.5	9.6	9.4	10
Chloride	mg/l	500	S	2.9	14	17	85	92	100	110
Fluoride	mg/l	2	P	0.26	0.27	0.27	0.3	0.3	0.28	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			7.7	3.5	3.4	13	12	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	14	14
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	3.2	3.2
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.6	2.5	2.7	4.2	4.3	5	5.4
Sodium, Total	mg/l			110	21	22	41	41	83	87
Sulfate	mg/l	500	S	ND	58	64	150	160	130	140
Total Dissolved Solid (TDS)	mg/l	1000	S	350	290	280	570	570	570	580
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	3.2	3.2
General Physical Properties										
Apparent Color	ACU	15	S	**45**	5	ND	15	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			34	190	200	380	380	280	310
Lab pH	Units			8.3	7.9	7.8	7.7	7.7	7.6	7.7
Langelier Index - 25 degree	None			0.34	0.56	0.46	0.75	0.72	0.49	0.59
Odor	TON	3	S	2	1	ND	1	ND	ND	ND
Specific Conductance	umho/cm	1600	S	550	450	480	880	910	920	980
Turbidity	NTU	5	S	**11**	1.5	2.1	**5.2**	3.9	ND	0.29
Metals										
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	5.6	ND	ND	ND	ND	2.5	2.5
Barium, Total	ug/l	1000	P	16	76	85	85	91	58	64
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	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.033	ND	ND	ND	ND	0.75	0.7
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.075	0.27	0.28	**0.5**	**0.51**	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			3	10	11	20	20	16	18
Manganese, Total	ug/l	50	S	33	20	20	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	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds										
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others										
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	0.62
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.2	ND	0.44	0.37	0.54	0.45	0.68

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Pico #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/16/2020	9/22/2020	4/16/2020	9/22/2020	4/16/2020	9/22/2020	4/16/2020	9/22/2020	4/16/2020	9/22/2020	4/16/2020	9/22/2020
General Minerals															
Alkalinity	mg/l			200	200	210	200	190	190	150	150	110	130	91	78
Anion Sum	meq/l			8.8	8.9	10	10	9	9.1	8.9	9.2	6	7.5	4.2	3.8
Bicarbonate as HCO3	mg/l			250	250	250	250	240	230	180	180	130	160	110	95
Boron	mg/l	1	N	0.056	ND	0.15	0.14	0.16	0.15	0.25	0.25	0.19	0.22	0.092	0.084
Bromide	ug/l			180	180	200	200	170	160	150	150	110	120	60	53
Calcium, Total	mg/l			120	120	120	120	100	100	73	74	37	51	22	22
Carbon Dioxide	mg/l			5.2	6.5	4.1	6.5	3.9	6	7.4	7.4	6.7	6.6	5.7	4.9
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			8.8	8.8	10	10	8.9	8.9	8.7	8.8	5.7	7.2	4.1	3.8
Chloride	mg/l	500	S	60	65	98	100	83	88	120	130	77	100	46	43
Fluoride	mg/l	2	P	0.23	0.23	0.26	0.25	0.34	0.28	0.28	0.3	0.33	0.36	0.38	0.36
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	ND	ND	2.5	2.2	ND	ND
Nitrate (as NO3)	mg/l	45	P	14	14	13	13	14	15	24	25	11	16	6.2	8
Nitrate as Nitrogen	mg/l	10	P	3.1	3.2	2.9	3	3.2	3.4	5.4	5.7	2.6	3.7	1.4	1.8
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.5	3.8	3.9	4.1	4.2	4.4	4.4	4.6	4.1	4.8	5.1	5.2
Sodium, Total	mg/l			25	26	42	42	46	47	84	86	65	79	53	47
Sulfate	mg/l	500	S	130	130	140	140	120	120	100	110	68	86	46	43
Total Dissolved Solid (TDS)	mg/l	1000	S	520	500	590	580	530	520	540	520	380	430	260	230
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	3.1	3.2	2.9	3	3.2	3.4	5.4	5.7	2.6	3.7	1.4	1.8
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND
Hardness (Total, as CaCO3)	mg/l			380	390	400	400	330	330	250	250	130	180	82	82
Lab pH	Units			7.9	7.8	8	7.8	8	7.8	7.6	7.6	7.5	7.6	7.5	7.5
Langelier Index - 25 degree	None			0.9	0.85	1	0.87	0.93	0.7	0.28	0.33	-0.22	0.057	-0.53	-0.58
Odor	TON	3	S	1	ND	1	ND	1	ND	1	ND	1	ND	1	ND
Specific Conductance	µmho/cm	1600	S	800	810	960	940	870	840	910	880	590	730	420	390
Turbidity	NTU	5	S	0.16	0.25	0.17	0.26	0.17	0.34	0.17	0.27	0.17	0.24	0.46	0.74
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.4	1.4	2	1.9	1.5	1.6	2.1	2.3	ND	ND	**11**	9.6
Barium, Total	ug/l	1000	P	110	110	96	100	92	93	75	77	67	84	67	63
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	ND	1.1	1.1	1.2	1.3	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			1.3	1.1	0.98	0.82	1.4	1.2	0.71	0.38	0.76	0.45	0.32	0.22
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.3	ND
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	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			20	21	24	24	20	20	16	16	10	14	6.5	6.6
Manganese, Total	ug/l	50	S	ND	ND	ND	ND	ND	ND	ND	ND	32	28	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	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
Tetrachloroethylene (PCE)	ug/l	5	P	0.69	0.66	0.62	0.66	1.7	1.7	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	0.54	0.56	0.67	0.7	4.8	3.4	ND	0.54	1.5	2.2
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
Others															
1,4-Dioxane	ug/l	1	N	**2.9**	**2.8**	ND	ND	**1.3**	**1.2**	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	1.6	1.6	0.61	0.61	1	0.93	ND	ND	ND	ND	0.71	0.65
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.31	0.28	ND	0.33	ND	0.28	0.4	0.5	0.6	0.78	0.97	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 2019-2020

Constituents	Units	MCL	MCL Type	Rio Hondo #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/25/2020	9/8/2020	3/25/2020	9/8/2020	3/25/2020	9/8/2020	3/25/2020	9/8/2020	3/25/2020	9/8/2020	3/25/2020	9/8/2020
General Minerals															
Alkalinity	mg/l			140	140	170	160	180	190	110	110	120	110	100	100
Anion Sum	meq/l			4.4	4.4	6.9	6.8	7.8	8.2	5.3	5.1	6	5.5	3.8	3.4
Bicarbonate as HCO3	mg/l			180	180	200	200	220	230	140	140	140	140	120	120
Boron	mg/l	1	N	0.063	0.055	0.053	ND	0.16	0.15	0.14	0.13	0.15	0.14	0.13	0.11
Bromide	ug/l			97	93	140	120	170	150	130	110	110	110	55	43
Calcium, Total	mg/l			42	40	91	88	94	91	46	43	54	47	29	25
Carbon Dioxide	mg/l			ND	2.3	3.3	4.1	3.6	6	2.9	4.6	4.6	5.8	4.9	4.9
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			4.6	4.4	7	6.8	8.3	8.1	5.4	5	5.9	5.4	3.9	3.4
Chloride	mg/l	500	S	17	17	43	42	67	72	53	46	67	58	26	18
Fluoride	mg/l	2	P	0.26	0.25	0.22	0.21	0.3	0.28	0.34	0.33	0.28	0.28	0.39	0.39
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			23	36	4.6	9.2	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	9.4	10	7.8	7.4	14	12	8.8	6.8
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	2.1	2.2	1.8	1.6	3.1	2.6	2	1.5
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.6	2.8	3.1	3.3	3.7	4	3.1	3.2	3.3	3.4	2.9	2.9
Sodium, Total	mg/l			40	39	26	25	48	48	52	49	51	49	41	36
Sulfate	mg/l	500	S	47	46	110	110	100	110	69	67	71	67	42	36
Total Dissolved Solid (TDS)	mg/l	1000	S	270	260	430	400	470	480	330	300	370	330	240	210
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	2.1	2.2	1.8	1.6	3.1	2.6	2	1.5
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			140	130	290	280	300	290	150	140	180	160	100	89
Lab pH	Units			8.2	8.1	8	7.9	8	7.8	7.9	7.7	7.7	7.6	7.6	7.6
Langelier Index - 25 degree	None			0.64	0.53	0.79	0.73	0.84	0.69	0.22	0.05	0.13	-0.033	-0.24	-0.33
Odor	TON	3	S	1	1	1	ND	2	ND	2	ND	1	ND	2	ND
Specific Conductance	umho/cm	1600	S	420	430	640	640	780	780	520	510	610	550	390	350
Turbidity	NTU	5	S	0.51	0.32	0.4	0.3	0.16	0.34	0.13	0.18	0.35	0.49	0.51	0.44
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	2.1	2	2.5	2.4	1.6	1.4	1.3	1.4
Barium, Total	ug/l	1000	P	18	18	54	50	130	120	51	48	74	60	61	54
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.17	ND	0.12	ND	0.7	0.56	0.71	0.58	0.77	0.64	0.85	0.69
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.068	0.066	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			8.4	8	16	15	17	16	9	8.2	11	9.9	7.5	6.5
Manganese, Total	ug/l	50	S	23	24	29	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	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	0.59	0.57	3	2.2	0.97	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
Others															
1,4-Dioxane	ug/l	1	N	ND	ND	**4**	**4.3**	**1.2**	**1.1**	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	0.51	ND	0.77	0.58	0.64	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	0.34	ND	0.28	0.34	0.39	0.37	0.33	ND	0.3	ND	0.32

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 2019-2020

Constituents	Units	MCL	MCL Type	Seal Beach #1													
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				4/13/2020	8/17/2020	4/13/2020	8/17/2020	4/13/2020	8/17/2020	4/13/2020	8/17/2020	4/13/2020	8/17/2020	4/13/2020	8/17/2020	4/13/2020	8/17/2020
General Minerals																	
Alkalinity	mg/l			220	220	160	160	150	150	180	180	76	76	98	97	220	220
Anion Sum	meq/l			5	5	3.7	3.7	3.5	3.5	4.2	4.1	7.8	7.8	6.6	6.6	36	36
Bicarbonate as HCO3	mg/l			270	270	190	190	180	180	220	220	92	93	120	120	270	260
Boron	mg/l	1	N	0.23	0.24	0.14	0.14	0.19	0.19	0.23	0.22	0.06	0.061	0.15	0.16	0.2	0.19
Bromide	ug/l			180	180	100	100	80	80	130	130	660	650	110	100	3100	3300
Calcium, Total	mg/l			5.3	5.3	3.6	3.6	3.6	3.6	5.7	5.5	42	42	56	56	320	300
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.8	4.3
Carbonate as CO3	mg/l			11	8.8	12	9.8	12	9.3	7.2	7.2	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.1	4.7	3.5	3.5	3.3	3.3	4	3.9	7.6	7.2	6.3	6.5	34	33
Chloride	mg/l	500	S	17	17	15	14	14	13	18	17	200	200	68	68	**870**	**900**
Fluoride	mg/l	2	P	0.4	0.4	0.5	0.51	0.58	0.55	0.75	0.71	0.29	0.28	0.36	0.34	0.3	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			55	47	28	21	21	17	40	30	7.6	7.9	11	8.2	210	180
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	2	1.8	2	2	8.1	6.8
Sodium, Total	mg/l			110	100	76	75	71	71	85	83	120	110	62	64	280	280
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	36	35	130	130	320	290
Total Dissolved Solid (TDS)	mg/l	1000	S	270	320	220	240	200	220	250	260	440	470	390	430	**2200**	**2300**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties																	
Apparent Color	ACU	15	S	**220**	**280**	**100**	**130**	**50**	**100**	**180**	**150**	**220**	ND	ND	ND	5	ND
Hardness (Total, as CaCO3)	mg/l			15	15	10	10	9.8	9.8	17	16	120	120	180	180	1100	1000
Lab pH	Units			8.8	8.7	9	8.9	9	8.9	8.7	8.7	8.3	8.2	8.1	8.2	7.7	8
Langelier Index - 25 degree	None			0.46	0.46	0.42	0.33	0.35	0.3	0.38	0.31	0.4	0.39	0.49	0.57	1.2	1.4
Odor	TON	3	S	2	1	2	ND	2	1	2	2	2	ND	2	ND	2	ND
Specific Conductance	umho/cm	1600	S	480	450	340	340	340	340	400	380	850	800	660	630	**3400**	**3200**
Turbidity	NTU	5	S	0.49	0.64	0.33	0.35	0.28	0.33	0.97	0.54	0.54	2.8	0.2	0.26	1.4	1.6
Metals																	
Aluminum, Total	ug/l	1000	P	32	31	33	32	27	27	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4	2.6
Barium, Total	ug/l	1000	P	8	8.1	4.2	4.1	3.6	3.6	4.8	4.9	47	44	96	95	100	100
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	1.5	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.28	0.17	0.28	0.13	0.29	0.092	0.32	0.18	0.15	ND	0.12	ND	ND	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.05	0.046	0.025	0.022	0.029	ND	0.041	0.036	ND	ND	0.021	0.02	0.25	0.26
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			0.4	0.4	0.31	0.31	0.21	0.2	0.58	0.56	2.6	2.6	9.6	9.8	66	66
Manganese, Total	ug/l	50	S	6.5	6	3.8	3.7	2.4	2.2	7.8	7.4	21	21	**86**	**87**	**800**	**770**
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	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.1	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others																	
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	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	8.2	4.6	3.9	3.8	3.8	6.6	6.8	ND	0.46	0.92	0.96	0.52	0.56

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	South Gate #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/20/2020	9/24/2020	4/20/2020	9/24/2020	4/20/2020	9/24/2020	4/20/2020	9/24/2020	4/20/2020	9/24/2020
General Minerals													
Alkalinity	mg/l			170	170	140	140	150	160	170	170	210	210
Anion Sum	meq/l			5.1	5.1	6.4	6.6	6.5	6.7	7.4	7.6	9.2	9.6
Bicarbonate as HCO3	mg/l			200	200	170	170	190	190	210	210	250	250
Boron	mg/l	1	N	0.11	0.096	0.14	0.13	0.12	0.11	0.16	0.15	0.13	0.12
Bromide	ug/l			110	100	110	120	110	120	150	150	400	410
Calcium, Total	mg/l			49	49	68	66	72	73	76	77	92	96
Carbon Dioxide	mg/l			2.1	ND	2.2	2.8	3.9	2	4.3	3.4	5.2	4.1
Carbonate as CO3	mg/l			2	2.6	ND	ND	ND	2	ND	ND	ND	ND
Cation Sum	meq/l			5.1	5.1	6.6	6.4	6.6	6.7	7.2	7.4	8.8	9.2
Chloride	mg/l	500	S	21	22	52	57	45	49	55	61	94	100
Fluoride	mg/l	2	P	0.3	0.3	0.31	0.32	0.37	0.38	0.38	0.38	0.42	0.42
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			25	30	11	11	ND	ND	ND	ND	110	100
Nitrate (as NO3)	mg/l	45	P	ND	ND	9.6	9.7	9	9.2	6.6	7	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	2.2	2.2	2	2.1	1.5	1.6	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.1	2.2	3	3.1	2.6	2.7	2.9	3.2	2.6	2.9
Sodium, Total	mg/l			44	44	48	47	40	41	50	51	50	53
Sulfate	mg/l	500	S	54	54	94	97	97	100	110	110	110	120
Total Dissolved Solid (TDS)	mg/l	1000	S	280	290	380	390	400	400	440	430	520	530
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	2.2	2.2	2	2.1	1.5	1.6	ND	ND
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			150	150	220	210	240	240	250	250	320	340
Lab pH	Units			8.2	8.3	8.1	8	7.9	8.2	7.9	8	7.9	8
Langelier Index - 25 degree	None			0.81	0.83	0.7	0.65	0.62	0.84	0.64	0.78	0.82	0.94
Odor	TON	3	S	1	1	1	ND	1	ND	1	ND	1	ND
Specific Conductance	umho/cm	1600	S	490	480	640	640	640	630	720	700	880	870
Turbidity	NTU	5	S	0.13	0.16	0.18	ND	ND	ND	0.14	0.11	0.46	0.5
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.2	2	2.7	2.7	2.8	2.7	1.9	2	2.2	2
Barium, Total	ug/l	1000	P	130	140	91	91	150	140	77	82	220	210
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	0.032	0.023	0.8	0.78	0.59	0.52	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	0.029	0.036	ND	ND	ND	ND	ND	ND	0.12	0.12
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			7.6	7.6	12	12	15	15	14	15	23	25
Manganese, Total	ug/l	50	S	38	40	3.2	3.1	ND	ND	ND	ND	**110**	**110**
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
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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	0.53	ND	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	3.6	3.5	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	1.2	1.1	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
Others													
1,4-Dioxane	ug/l	1	N	ND	ND	**2**	**2**	**3.2**	**3.8**	**1.5**	**1.5**	ND	ND
Perchlorate	ug/l	6	P	ND	ND	0.62	0.69	1.5	1.6	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			ND	0.36	ND	0.49	ND	0.37	ND	0.4	0.74	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 2019-2020

Constituents	Units	MCL	MCL Type	Whittier #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/30/2020	9/2/2020	3/30/2020	9/2/2020	3/30/2020	9/2/2020	3/30/2020	9/2/2020	3/30/2020	9/2/2020
General Minerals													
Alkalinity	mg/l			270	260	290	280	300	290	260	260	230	230
Anion Sum	meq/l			42	41	40	40	33	33	12	12	11	11
Bicarbonate as HCO3	mg/l			320	320	350	350	360	360	320	310	280	280
Boron	mg/l	1	N	0.84	0.87	0.92	0.94	0.7	0.71	0.19	0.19	0.15	0.15
Bromide	ug/l			1400	1300	1200	1200	1000	970	300	290	320	310
Calcium, Total	mg/l			190	200	180	190	180	190	79	80	80	81
Carbon Dioxide	mg/l			13	13	14	14	12	15	8.3	10	9.2	9.2
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			38	39	37	37	31	31	12	11	11	11
Chloride	mg/l	500	S	290	280	250	240	220	220	81	82	87	88
Fluoride	mg/l	2	P	0.29	0.27	0.3	0.28	0.46	0.43	0.2	0.18	0.32	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			230	230	210	220	170	180	99	110	2.3	1.6
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	18	18	24	24
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	4	4	5.4	5.5
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	8.8	8.2	4.2	4.3	3.5	3.6
Sodium, Total	mg/l			410	420	390	400	300	300	120	100	86	86
Sulfate	mg/l	500	S	**1400**	**1400**	**1300**	**1300**	**990**	**980**	190	190	180	180
Total Dissolved Solid (TDS)	mg/l	1000	S	**2700**	**2600**	**2500**	**2600**	**2100**	**2100**	700	680	680	660
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	4	4	5.4	5.5
General Physical Properties													
Apparent Color	ACU	15	S	15	**20**	15	15	10	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			1000	1000	940	970	860	890	340	340	360	360
Lab pH	Units			7.6	7.6	7.6	7.6	7.7	7.6	7.8	7.7	7.7	7.7
Langelier Index - 25 degree	None			0.99	0.94	1	1	1.1	1	0.7	0.62	0.64	0.61
Odor	TON	3	S	1	1	2	1	1	2	1	ND	2	ND
Specific Conductance	umho/cm	1600	S	**3400**	**3300**	**3200**	**3200**	**2800**	**2600**	1000	1100	1100	1000
Turbidity	NTU	5	S	1.7	4.9	2.1	3.1	1.7	2.5	ND	0.12	ND	0.8
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	1.4	1.3	ND	ND
Barium, Total	ug/l	1000	P	18	17	17	17	24	24	32	32	27	27
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	3.6	4.1
Hexavalent Chromium (Cr VI)	ug/l			0.022	ND	0.022	ND	0.033	ND	0.1	ND	3.7	3.6
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	**0.55**	**0.58**	**0.44**	**0.45**	**0.36**	**0.37**	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			130	130	120	120	100	100	35	35	39	39
Manganese, Total	ug/l	50	S	**51**	48	**70**	**66**	**79**	**76**	23	22	2.4	3
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	12	11	17	17
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others													
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	1.4	1.3	2.4	2.6
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.9	2	2.4	2.5	1.9	1.9	ND	0.28	ND	0.26

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 2019-2020

Constituents	Units	MCL	MCL Type	Whittier #2					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				4/30/2020	4/30/2020	4/30/2020	4/30/2020	4/30/2020	4/30/2020
General Minerals									
Alkalinity	mg/l			220	160	210	400	220	350
Anion Sum	meq/l			12	4.2	13	27	11	17
Bicarbonate as HCO3	mg/l			270	190	260	480	270	430
Boron	mg/l	1	N	0.68	0.2	0.23	0.75	0.18	0.35
Bromide	ug/l			1300	140	620	920	340	300
Calcium, Total	mg/l			38	23	88	120	110	150
Carbon Dioxide	mg/l			4.4	2	4.3	16	4.4	8.9
Carbonate as CO3	mg/l			ND	2	ND	ND	ND	2.2
Cation Sum	meq/l			11	4	12	24	11	16
Chloride	mg/l	500	S	210	22	120	210	110	110
Fluoride	mg/l	2	P	0.41	0.33	0.29	0.5	0.26	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			320	34	20	ND	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	3.1	11	20	29
Nitrate as Nitrogen	mg/l	10	P	ND	ND	0.69	2.5	4.4	6.5
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			3.4	2	4.1	4.3	4.5	4.9
Sodium, Total	mg/l			180	56	110	270	75	120
Sulfate	mg/l	500	S	89	18	230	**620**	160	330
Total Dissolved Solid (TDS)	mg/l	1000	S	700	230	770	**1700**	690	**1100**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	0.69	2.5	4.4	6.5
General Physical Properties									
Apparent Color	ACU	15	S	**25**	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			170	73	370	620	360	530
Lab pH	Units			8	8.2	8	7.7	8	7.9
Langelier Index - 25 degree	None			0.6	0.42	0.91	1	1	1.2
Odor	TON	3	S	2	1	1	1	2	1
Specific Conductance	µmho/cm	1600	S	1300	410	1200	**2400**	1100	1600
Turbidity	NTU	5	S	**6**	ND	0.11	ND	ND	ND
Metals									
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	4.8	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	20	25	52	13	77	31
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	3.1	ND	2.1	4.1
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	3.4	0.21	2.1	4.3
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	**1.2**	ND	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			18	3.8	36	78	22	37
Manganese, Total	ug/l	50	S	**170**	37	27	**120**	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	5.6	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND
Chloromethane (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
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	0.86
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	0.64	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
Others									
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND	**3**	ND
Perchlorate	ug/l	6	P	ND	ND	2	2.1	2.4	3.1
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.96	0.35	0.39	0.54	0.49	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 2019-2020

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
				4/30/2020	4/30/2020	4/30/2020	4/30/2020	4/30/2020	4/30/2020	5/1/2020	5/1/2020	5/1/2020
General Minerals												
Alkalinity	mg/l			94	110	140	160	150	160	170	170	150
Anion Sum	meq/l			21	3.1	7.6	8.9	8.3	8.9	8.6	8.3	7.1
Bicarbonate as HCO3	mg/l			110	130	170	200	180	200	210	210	180
Boron	mg/l	1	N	**1.5**	0.14	0.086	0.18	0.16	0.23	0.24	0.19	0.15
Bromide	ug/l			---	---	---	---	---	---	---	---	---
Calcium, Total	mg/l			60	9.7	97	96	92	75	68	66	52
Carbon Dioxide	mg/l			---	---	---	---	---	---	---	---	---
Carbonate as CO3	mg/l			---	---	---	---	---	---	---	---	---
Cation Sum	meq/l			---	---	---	---	---	---	---	---	---
Chloride	mg/l	500	S	**680**	23	90	110	100	120	100	93	79
Fluoride	mg/l	2	P	0.82	0.39	0.23	0.23	0.24	0.26	0.27	0.29	0.37
Hydroxide as OH, Calculated	mg/l			---	---	---	---	---	---	---	---	---
Iodide	ug/l			---	---	---	---	---	---	---	---	---
Nitrate (as NO3)	mg/l	45	P	ND	ND	6.7	6.8	9.9	8.2	11	16	12
Nitrate as Nitrogen	mg/l	10	P	ND	ND	1.5	1.5	2.2	1.8	2.6	3.6	2.6
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	0.47	0.28	ND	ND
Potassium, Total	mg/l			3.4	1.2	2.8	4.4	4.4	5.1	5.2	5	6
Sodium, Total	mg/l			340	56	35	59	49	80	87	83	71
Sulfate	mg/l	500	S	ND	10	100	110	100	110	100	96	80
Total Dissolved Solid (TDS)	mg/l	1000	S	**1300**	190	470	530	490	540	520	480	420
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	1.5	1.5	2.2	2.3	2.9	3.6	2.6
General Physical Properties												
Apparent Color	ACU	15	S	**200**	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			---	---	---	---	---	---	---	---	---
Lab pH	Units			7.8	8.3	8.3	8.3	8.3	8.3	8.2	8.2	8.1
Langelier Index - 25 degree	None			---	---	---	---	---	---	---	---	---
Odor	TON	3	S	2	1	1	2	1	2	1	1	1
Specific Conductance	µmho/cm	1600	S	**2300**	310	720	840	830	850	820	810	720
Turbidity	NTU	5	S	**110**	0.94	1.5	1.5	1.6	1.6	1.3	1.7	1.5
Metals												
Aluminum, Total	ug/l	1000	P	ND	20	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	6.6	2	ND	1.2	ND	1.1	1.8	1.2	ND
Barium, Total	ug/l	1000	P	480	23	150	170	220	120	94	70	70
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	1.4	2.7	5.6	4.7	5.4	5.5	4	4.2	6.4
Hexavalent Chromium (Cr VI)	ug/l			---	---	---	---	---	---	---	---	---
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	2.6
Iron, Total	mg/l	0.3	S	**10**	0.043	0.028	ND	ND	0.021	0.024	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			12	0.36	9.4	11	13	12	12	12	14
Manganese, Total	ug/l	50	S	**610**	14	ND	13	10	19	28	19	**170**
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	8.6	7.3	7.2	17	7.4	11	15
Selenium, Total	ug/l	50	P	12	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	27	ND	21	ND	21	33	ND	21	ND
Volatile Organic Compounds												
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others												
1,4-Dioxane	ug/l	1	N	---	---	---	---	---	---	---	---	---
Perchlorate	ug/l	6	P	---	---	---	---	---	---	---	---	---
Surfactants	mg/l	0.5	S	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			11	0.44	0.42	1.1	0.6	1.4	1.1	1.2	1.6

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 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Willowbrook #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/1/2020	9/29/2020	4/1/2020	9/29/2020	4/1/2020	9/29/2020	4/1/2020	9/29/2020
General Minerals											
Alkalinity	mg/l			230	230	180	180	180	180	190	190
Anion Sum	meq/l			5.4	5.4	5.3	5.2	5.9	5.9	6	6
Bicarbonate as HCO3	mg/l			280	280	220	220	220	220	230	230
Boron	mg/l	1	N	0.15	0.14	0.12	0.1	0.12	0.11	0.12	0.11
Bromide	ug/l			100	100	98	97	100	110	130	130
Calcium, Total	mg/l			39	39	54	54	59	60	60	61
Carbon Dioxide	mg/l			3.6	3.6	2.3	2.3	3.6	3.6	3.8	3.8
Carbonate as CO3	mg/l			2.3	2.3	2.3	2.3	ND	ND	ND	ND
Cation Sum	meq/l			5.3	5.4	5.3	5.3	5.8	6	5.8	6
Chloride	mg/l	500	S	18	18	21	21	22	23	32	31
Fluoride	mg/l	2	P	0.3	0.3	0.3	0.3	0.4	0.4	0.37	0.36
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			31	31	23	29	23	29	40	45
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	4.1	2.5	2.5	3.3	3.4	2.8	2.9
Sodium, Total	mg/l			61	62	41	42	40	41	43	46
Sulfate	mg/l	500	S	12	15	48	46	78	80	62	63
Total Dissolved Solid (TDS)	mg/l	1000	S	310	320	310	310	350	360	350	360
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	10	ND	ND	ND	ND	ND	3	ND
Hardness (Total, as CaCO3)	mg/l			130	130	170	170	200	200	190	190
Lab pH	Units			8.1	8.1	8.2	8.2	8	8	8	8
Langelier Index - 25 degree	None			0.73	0.66	0.82	0.8	0.71	0.66	0.71	0.73
Odor	TON	3	S	2	2	2	ND	2	ND	1	3
Specific Conductance	umho/cm	1600	S	520	510	510	500	540	540	580	570
Turbidity	NTU	5	S	0.14	0.18	ND	0.19	0.22	0.48	**5.5**	**10**
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	28	130	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	4.1	3.8	ND	ND	3	3.1	5.2	5.5
Barium, Total	ug/l	1000	P	47	42	52	52	76	83	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	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.18	ND	0.18	ND	0.13	ND	0.14	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.065	0.067	ND	ND	0.083	0.086	**0.32**	0.04
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			7.7	7.7	9.6	9.4	12	13	10	10
Manganese, Total	ug/l	50	S	**52**	48	45	45	27	28	**100**	**94**
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
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others											
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			1.4	1.3	ND	0.38	ND	0.3	ND	0.28

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 2019-2020

Constituents	Units	MCL	MCL Type	Carson #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/4/2020	9/10/2020	3/4/2020	9/10/2020	3/4/2020	9/10/2020	3/4/2020	9/10/2020
General Minerals											
Alkalinity	mg/l			150	150	170	170	170	170	190	190
Anion Sum	meq/l			3.5	3.5	4.1	4.1	5.3	5.3	6.7	6.7
Bicarbonate as HCO3	mg/l			180	180	210	210	200	200	230	230
Boron	mg/l	1	N	0.092	0.087	0.1	0.097	0.1	0.098	0.12	0.12
Bromide	ug/l			100	100	100	100	110	110	240	250
Calcium, Total	mg/l			20	21	32	33	43	45	54	58
Carbon Dioxide	mg/l			ND	ND	3.4	2.7	2.1	2.1	3.8	3.8
Carbonate as CO3	mg/l			ND	2.3	ND	ND	2	2	ND	ND
Cation Sum	meq/l			3.5	3.5	4	4	5.2	5.3	6.5	6.8
Chloride	mg/l	500	S	21	20	22	21	24	23	50	49
Fluoride	mg/l	2	P	0.25	0.24	0.2	0.2	0.29	0.28	0.38	0.37
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			28	27	30	32	32	32	92	100
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.6	2.6	2.2	2.1	2.8	2.8	3.6	3.6
Sodium, Total	mg/l			49	48	42	41	45	45	57	58
Sulfate	mg/l	500	S	ND	ND	ND	ND	61	63	74	76
Total Dissolved Solid (TDS)	mg/l	1000	S	200	200	220	230	300	290	380	380
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	5	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			66	68	110	110	160	160	200	210
Lab pH	Units			8.2	8.3	8	8.1	8.2	8.2	8	8
Langelier Index - 25 degree	None			0.26	0.41	0.4	0.53	0.66	0.7	0.6	0.69
Odor	TON	3	S	1	ND	ND	ND	ND	ND	1	ND
Specific Conductance	umho/cm	1600	S	340	340	390	390	480	490	620	640
Turbidity	NTU	5	S	0.21	0.15	0.13	0.37	ND	0.25	0.52	0.45
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	14	14	37	38	70	70	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	1.6	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.15	ND	0.11	0.02	0.12	0.023	0.11	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.022	0.023	ND	ND	0.08	0.083
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			3.8	3.8	6.6	6.7	12	12	15	16
Manganese, Total	ug/l	50	S	19	17	14	13	29	28	**100**	**95**
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
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others											
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			0.68	0.78	0.38	0.46	0.31	0.44	0.4	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Carson #2				
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
				3/19/2020	3/19/2020	3/19/2020	3/19/2020	3/19/2020
General Minerals								
Alkalinity	mg/l			160	190	180	180	180
Anion Sum	meq/l			3.8	4.4	4.7	4.3	4.6
Bicarbonate as HCO3	mg/l			200	230	220	220	210
Boron	mg/l	1	N	0.13	0.13	0.12	0.1	0.11
Bromide	ug/l			120	100	100	100	100
Calcium, Total	mg/l			2.3	13	31	33	42
Carbon Dioxide	mg/l			ND	ND	ND	2.3	2.2
Carbonate as CO3	mg/l			8.2	4.7	3.6	2.3	2.2
Cation Sum	meq/l			3.5	4.2	4.4	4.2	4.6
Chloride	mg/l	500	S	19	21	22	21	21
Fluoride	mg/l	2	P	0.31	0.22	0.26	0.2	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND
Iodide	ug/l			28	30	26	35	27
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	3.9	4	3.4	2.8
Sodium, Total	mg/l			77	72	46	37	38
Sulfate	mg/l	500	S	ND	1.2	23	ND	25
Total Dissolved Solid (TDS)	mg/l	1000	S	210	250	270	230	270
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND
General Physical Properties								
Apparent Color	ACU	15	S	**30**	10	10	5	ND
Hardness (Total, as CaCO3)	mg/l			7.2	50	120	120	140
Lab pH	Units			8.8	8.5	8.4	8.2	8.2
Langelier Index - 25 degree	None			0.022	0.48	0.73	0.65	0.71
Odor	TON	3	S	2	2	2	2	1
Specific Conductance	umho/cm	1600	S	380	430	440	410	440
Turbidity	NTU	5	S	0.46	0.11	0.16	0.19	0.29
Metals								
Aluminum, Total	ug/l	1000	P	21	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	6.9	15	16	24
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			0.32	0.28	0.16	0.18	0.12
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	ND	ND	0.052
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND
Magnesium, Total	None			0.35	4.3	9.8	10	9.1
Manganese, Total	ug/l	50	S	2.8	7.3	13	8.7	40
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
Volatile Organic Compounds								
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND
Chloromethane (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
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
Others								
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			1.7	0.77	0.57	0.48	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Carson #3											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/3/2020	8/12/2020	3/3/2020	8/12/2020	3/3/2020	8/12/2020	3/3/2020	8/12/2020	3/3/2020	8/12/2020	3/3/2020	8/12/2020
General Minerals															
Alkalinity	mg/l			360	350	150	150	160	160	160	160	180	180	180	180
Anion Sum	meq/l			7.5	7.4	3.9	3.9	3.9	3.9	3.9	3.9	4.2	4.1	5.1	5.2
Bicarbonate as HCO3	mg/l			430	430	190	190	200	200	200	200	210	210	210	210
Boron	mg/l	1	N	0.64	0.65	0.1	0.099	0.11	0.1	0.09	0.088	0.11	0.1	0.13	0.12
Bromide	ug/l			340	310	100	110	110	110	100	110	99	110	100	110
Calcium, Total	mg/l			7.9	8.2	20	19	18	17	26	25	32	31	50	48
Carbon Dioxide	mg/l			2.8	3.5	ND	ND	ND	2.1	ND	2.1	ND	2.7	2.7	2.2
Carbonate as CO3	mg/l			7	5.6	3.1	3.1	3.3	2	2.6	2	2.7	ND	ND	2.2
Cation Sum	meq/l			7.1	7	3.8	3.6	3.9	3.7	3.9	3.8	4.2	4	5.4	5.1
Chloride	mg/l	500	S	12	11	21	20	21	20	21	21	22	21	20	21
Fluoride	mg/l	2	P	0.52	0.54	0.22	0.24	0.28	0.29	0.24	0.25	0.24	0.25	0.34	0.35
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			100	120	28	27	28	28	25	26	30	25	25	20
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			2.4	2.5	2.8	2.8	3.1	2.9	3.6	3.5	2.7	2.6	3.2	3.1
Sodium, Total	mg/l			150	140	55	53	61	58	46	46	41	41	40	39
Sulfate	mg/l	500	S	ND	ND	11	11	ND	ND	ND	ND	ND	ND	50	52
Total Dissolved Solid (TDS)	mg/l	1000	S	470	460	230	220	220	230	220	220	240	220	320	300
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties															
Apparent Color	ACU	15	S	**120**	**130**	5	ND	10	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			28	30	65	62	58	54	92	89	110	110	170	170
Lab pH	Units			8.4	8.3	8.4	8.4	8.4	8.2	8.3	8.2	8.3	8.1	8.1	8.2
Langelier Index - 25 degree	None			0.53	0.43	0.51	0.48	0.47	0.29	0.55	0.48	0.66	0.44	0.72	0.75
Odor	TON	3	S	2	2	2	2	2	1	ND	2	1	2	ND	1
Specific Conductance	umho/cm	1600	S	660	670	380	360	360	360	360	360	400	390	500	480
Turbidity	NTU	5	S	0.31	0.89	0.19	0.21	0.15	0.11	0.1	0.15	0.1	0.18	0.34	0.38
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	90	ND	57
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.3
Barium, Total	ug/l	1000	P	7.2	6.9	17	17	20	19	24	24	29	30	66	69
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	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.2	0.097	0.13	0.034	0.12	0.028	0.12	0.02	0.036	ND	0.087	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.044	0.045	ND	ND	ND	ND	ND	ND	ND	ND	0.028	0.028
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			2.1	2.2	3.7	3.6	3.1	2.9	6.5	6.4	8.2	7.9	12	12
Manganese, Total	ug/l	50	S	14	14	15	16	34	32	45	45	22	23	50	**52**
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	33	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others															
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			12	13	0.71	0.88	0.94	1.2	0.54	0.74	0.37	0.39	ND	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Chandler #3			
				Zone 1		Zone 2	
				7/9/2020	8/27/2020	7/9/2020	8/27/2020
General Minerals							
Alkalinity	mg/l			360	360	400	390
Anion Sum	meq/l			12	12	16	15
Bicarbonate as HCO3	mg/l			440	430	490	480
Boron	mg/l	1	N	0.19	0.19	0.29	0.29
Bromide	ug/l			660	650	580	570
Calcium, Total	mg/l			93	91	140	140
Carbon Dioxide	mg/l			11	11	20	20
Carbonate as CO3	mg/l			ND	ND	ND	ND
Cation Sum	meq/l			12	12	15	15
Chloride	mg/l	500	S	140	140	190	190
Fluoride	mg/l	2	P	0.22	0.24	0.16	0.15
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND
Iodide	ug/l			92	95	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	**46**	38
Nitrate as Nitrogen	mg/l	10	P	ND	ND	10	8.6
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND
Potassium, Total	mg/l			4.4	4.3	4.4	4.4
Sodium, Total	mg/l			110	110	110	100
Sulfate	mg/l	500	S	35	33	85	81
Total Dissolved Solid (TDS)	mg/l	1000	S	690	670	910	880
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	10	8.6
General Physical Properties							
Apparent Color	ACU	15	S	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			340	330	520	520
Lab pH	Units			7.8	7.8	7.6	7.6
Langelier Index - 25 degree	None			0.94	0.93	1	0.96
Odor	TON	3	S	ND	ND	ND	ND
Specific Conductance	umho/cm	1600	S	1200	1100	1400	1500
Turbidity	NTU	5	S	1.1	1.4	2.4	0.41
Metals							
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	2.4	2	1.7	1.7
Barium, Total	ug/l	1000	P	28	29	130	140
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	2.4	2.5
Hexavalent Chromium (Cr VI)	ug/l			0.1	ND	2.8	2.3
Copper, Total	ug/l	1300	P	ND	ND	ND	ND
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	None			26	25	41	42
Manganese, Total	ug/l	50	S	**74**	**75**	6.4	6.2
Mercury	ug/l	2	P	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	83	90
Selenium, Total	ug/l	50	P	ND	ND	14	14
Silver, Total	ug/l	100	S	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND
Volatile Organic Compounds							
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND
Chloromethane (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
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
Others							
1,4-Dioxane	ug/l	1	N	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	2.8	2.6
Surfactants	mg/l	0.5	S	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.3	1.5	0.86	0.7

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 2019-2020

Constituents	Units	MCL	MCL Type	Gardena #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/2/2020	9/9/2020	4/2/2020	9/9/2020	4/2/2020	9/9/2020	4/2/2020	9/9/2020
General Minerals											
Alkalinity	mg/l			270	270	190	190	170	170	220	220
Anion Sum	meq/l			6	5.9	5	4.9	5.5	5.4	34	37
Bicarbonate as HCO3	mg/l			330	330	230	230	210	200	260	270
Boron	mg/l	1	N	0.33	0.33	0.12	0.12	0.12	0.11	0.14	0.14
Bromide	ug/l			140	130	120	130	110	92	2500	2600
Calcium, Total	mg/l			13	14	44	45	53	54	360	360
Carbon Dioxide	mg/l			2.7	4.3	3	3	3.4	2.6	13	14
Carbonate as CO3	mg/l			4.3	2.7	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			5.4	5.5	4.9	5	5.4	5.5	33	33
Chloride	mg/l	500	S	19	18	31	31	23	23	**950**	**1000**
Fluoride	mg/l	2	P	0.2	0.2	0.45	0.43	0.4	0.39	0.15	0.14
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			40	39	37	38	25	34	ND	ND
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	**94**	**100**
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	**21**	**23**
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	7.5	7.9
Sodium, Total	mg/l			90	91	42	43	41	41	140	130
Sulfate	mg/l	500	S	ND	ND	13	7.8	68	68	63	68
Total Dissolved Solid (TDS)	mg/l	1000	S	330	350	290	290	320	330	**2600**	**2400**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	**21**	**23**
General Physical Properties											
Apparent Color	ACU	15	S	**25**	**25**	3	ND	ND	ND	3	ND
Hardness (Total, as CaCO3)	mg/l			61	64	150	150	180	180	1400	1400
Lab pH	Units			8.3	8.1	8.1	8.1	8	8.1	7.5	7.5
Langelier Index - 25 degree	None			0.49	0.27	0.67	0.64	0.63	0.71	1	1
Odor	TON	3	S	2	3	2	1	2	ND	1	ND
Specific Conductance	umho/cm	1600	S	580	570	470	480	520	510	**3400**	**3600**
Turbidity	NTU	5	S	1.3	1.9	0.64	1.2	0.74	0.44	1.2	3.7
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	**17**	**16**	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	15	15	39	38	36	36	420	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	ND	ND	ND	ND	ND	8	8.2
Hexavalent Chromium (Cr VI)	ug/l			0.1	ND	0.14	ND	0.089	ND	7.9	7.4
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.16	0.16	ND	ND	0.048	0.054	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			6.9	7	9.3	9.6	11	11	110	120
Manganese, Total	ug/l	50	S	40	37	34	32	48	48	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	6	5.6
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	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
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
Others											
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	**10**	**9.4**
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.14	ND
Total Organic Carbon	mg/l			2.4	2.4	0.5	0.53	ND	0.37	0.32	0.38

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 2019-2020

Constituents	Units	MCL	MCL Type	Gardena #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/25/2020	8/26/2020	3/25/2020	8/26/2020	3/25/2020	8/26/2020	3/25/2020	8/26/2020	3/25/2020	8/26/2020
General Minerals													
Alkalinity	mg/l			290	280	180	180	180	180	170	170	190	190
Anion Sum	meq/l			6.1	6.1	5.5	5.4	5.2	5.2	4	4	5.3	5.3
Bicarbonate as HCO3	mg/l			350	340	220	220	220	210	210	210	230	240
Boron	mg/l	1	N	0.33	0.3	0.15	0.14	0.13	0.12	0.096	0.095	0.12	0.12
Bromide	ug/l			120	120	110	100	100	100	100	100	170	170
Calcium, Total	mg/l			17	16	42	40	50	48	31	30	52	50
Carbon Dioxide	mg/l			2.9	2.2	2.3	2.9	2.3	2.2	4.3	2.2	ND	2.5
Carbonate as CO3	mg/l			4.5	5.6	2.3	ND	2.3	2.2	ND	2.2	3	2.5
Cation Sum	meq/l			6.9	5.7	5.7	5.4	5.4	5.2	4.2	4	5.5	5.3
Chloride	mg/l	500	S	13	13	22	22	22	22	21	21	49	50
Fluoride	mg/l	2	P	0.25	0.25	0.27	0.26	0.39	0.35	0.28	0.26	0.31	0.28
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			30	36	22	25	24	26	25	31	26	29
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			5.8	5.6	5.9	5.9	3.6	3.7	3	3.1	2.8	3
Sodium, Total	mg/l			120	98	52	49	44	42	42	40	44	43
Sulfate	mg/l	500	S	ND	ND	60	59	51	50	ND	ND	1.4	1.3
Total Dissolved Solid (TDS)	mg/l	1000	S	350	340	340	320	330	310	240	240	310	300
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties													
Apparent Color	ACU	15	S	**25**	**25**	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			70	64	160	150	170	160	110	110	180	170
Lab pH	Units			8.3	8.4	8.2	8.1	8.2	8.2	7.9	8.2	8.3	8.2
Langelier Index - 25 degree	None			0.66	0.72	0.7	0.6	0.74	0.76	0.3	0.58	0.93	0.8
Odor	TON	3	S	2	2	2	ND	2	ND	2	ND	**4**	3
Specific Conductance	umho/cm	1600	S	560	560	530	530	510	490	380	380	530	530
Turbidity	NTU	5	S	0.47	0.2	ND	0.17	ND	0.26	0.2	0.18	2.2	0.18
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	20	21	19	19	22	22	37	37	95	100
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.13	0.028	0.066	ND	0.058	ND	0.063	ND	0.039	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	0.027	0.034	0.033	0.041	0.036	0.08	0.071	0.035	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			6.6	5.8	14	13	12	11	9	8.4	11	10
Manganese, Total	ug/l	50	S	25	25	27	26	38	35	50	48	43	45
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
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others													
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			3.4	3.3	0.44	0.49	0.34	0.4	0.57	0.58	0.33	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Hawthorne #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				3/19/2020	3/19/2020	3/19/2020	3/19/2020	3/19/2020	3/19/2020
General Minerals									
Alkalinity	mg/l			690	670	410	320	190	250
Anion Sum	meq/l			15	15	9.9	7.6	12	19
Bicarbonate as HCO3	mg/l			840	820	500	390	230	300
Boron	mg/l	1	N	**1.3**	**1.1**	0.48	0.37	0.11	0.18
Bromide	ug/l			260	310	300	220	790	930
Calcium, Total	mg/l			15	16	35	31	100	150
Carbon Dioxide	mg/l			11	6.7	6.5	5.1	3.8	12
Carbonate as CO3	mg/l			6.9	11	4.1	3.2	ND	ND
Cation Sum	meq/l			14	14	9.6	7.2	11	18
Chloride	mg/l	500	S	44	44	56	42	280	310
Fluoride	mg/l	2	P	0.11	0.23	0.21	0.38	0.28	0.27
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			60	85	69	47	45	93
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			22	16	13	9.1	7.3	5.1
Sodium, Total	mg/l			260	270	130	97	72	150
Sulfate	mg/l	500	S	ND	ND	ND	ND	27	230
Total Dissolved Solid (TDS)	mg/l	1000	S	850	830	510	410	770	1000
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND
General Physical Properties									
Apparent Color	ACU	15	S	**180**	**350**	**35**	**25**	ND	ND
Hardness (Total, as CaCO3)	mg/l			87	80	180	140	390	560
Lab pH	Units			8.1	8.3	8.1	8.1	8	7.6
Langelier Index - 25 degree	None			0.74	0.94	0.93	0.75	0.9	0.86
Odor	TON	3	S	2	2	1	1	2	2
Specific Conductance	umho/cm	1600	S	1400	1300	930	700	1300	**1800**
Turbidity	NTU	5	S	0.3	0.32	0.16	0.42	0.14	0.81
Metals									
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	1.5
Barium, Total	ug/l	1000	P	31	29	33	28	120	47
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	1.6	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.15	0.2	0.099	0.11	0.11	0.092
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.15	0.15	0.15	0.083	ND	0.12
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			12	9.8	23	14	35	44
Manganese, Total	ug/l	50	S	14	**58**	**56**	32	**96**	**440**
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
Volatile Organic Compounds									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	0.51
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	**8.1**
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	3
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	**20**
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
Others									
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	0.22
Total Organic Carbon	mg/l			14	16	3.8	2.6	0.81	1.7

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 2019-2020

Constituents	Units	MCL	MCL Type	Inglewood #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/24/2020	8/19/2020	3/24/2020	8/19/2020	3/24/2020	8/19/2020	3/24/2020	8/19/2020	3/24/2020	8/19/2020
General Minerals													
Alkalinity	mg/l			1500	1400	770	770	340	340	240	240	270	250
Anion Sum	meq/l			76	76	28	27	23	23	15	15	23	22
Bicarbonate as HCO3	mg/l			1800	1800	940	940	420	410	290	290	330	310
Boron	mg/l	1	N	**9.7**	**12**	**1.8**	**1.8**	0.48	0.48	0.19	0.2	0.22	0.23
Bromide	ug/l			18000	18000	2700	2400	4200	4100	1300	1300	2400	2400
Calcium, Total	mg/l			41	41	61	57	160	160	120	120	200	190
Carbon Dioxide	mg/l			19	23	12	31	8.7	17	3.8	7.5	11	20
Carbonate as CO3	mg/l			18	15	7.7	3.1	2.2	ND	2.4	ND	ND	ND
Cation Sum	meq/l			71	81	24	26	22	22	14	15	22	22
Chloride	mg/l	500	S	**1600**	**1700**	430	400	460	450	290	290	480	480
Fluoride	mg/l	2	P	0.33	0.3	0.26	0.26	0.45	0.43	0.39	0.37	0.22	0.22
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			5700	5200	380	410	910	1100	80	80	2.3	1.8
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	29	29
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	6.6	6.5
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			30	46	19	20	8.8	9.6	9.9	11	9	9.7
Sodium, Total	mg/l			1500	1700	430	480	190	190	94	98	150	140
Sulfate	mg/l	500	S	ND	ND	9.4	6.3	160	160	100	100	170	160
Total Dissolved Solid (TDS)	mg/l	1000	S	**4300**	**4200**	**1500**	**1500**	**1300**	**1300**	860	870	**1500**	**1500**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	6.6	6.5
General Physical Properties													
Apparent Color	ACU	15	S	**300**	**350**	**100**	**180**	10	5	5	3	ND	ND
Hardness (Total, as CaCO3)	mg/l			230	230	260	240	660	660	500	500	790	760
Lab pH	Units			8.2	8.1	8.1	7.7	7.9	7.6	8.1	7.8	7.7	7.4
Langelier Index - 25 degree	None			1.6	1.5	1.4	1	1.3	0.99	1.2	0.87	1	0.75
Odor	TON	3	S	**17**	3	**40**	2	1	1	1	ND	2	ND
Specific Conductance	umho/cm	1600	S	**7200**	**7200**	**2600**	**2400**	**2200**	**2200**	1500	1500	**2200**	**2200**
Turbidity	NTU	5	S	0.9	1	1.3	1.1	3.9	3.4	2.2	2	0.23	0.11
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	10	8.3	10	9.1	1.5	1.1	ND	ND	1.2	ND
Barium, Total	ug/l	1000	P	160	160	100	100	58	57	130	130	150	140
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.16	0.057	0.081	0.041	ND	ND	0.046	ND	0.21	0.11
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	**1.3**	**1.4**	**0.77**	**0.86**	**0.58**	**0.56**	**0.4**	**0.4**	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			31	31	27	25	64	64	49	50	70	70
Manganese, Total	ug/l	50	S	47	41	**75**	**71**	**380**	**390**	**230**	**230**	6.4	5
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	38	6	ND	7.8	7.5	ND	ND	11	9.2
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others													
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	1.9	2.2
Surfactants	mg/l	0.5	S	0.17	0.22	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			73	74	14	14	1.3	1.5	0.75	0.68	0.74	0.54

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 2019-2020

Constituents	Units	MCL	MCL Type	Inglewood #3													
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				4/23/2020	8/20/2020	4/23/2020	8/20/2020	4/23/2020	8/20/2020	4/23/2020	8/20/2020	4/23/2020	8/20/2020	4/23/2020	8/20/2020	4/23/2020	8/20/2020
General Minerals																	
Alkalinity	mg/l			690	700	1100	1100	550	550	790	790	460	460	200	200	240	230
Anion Sum	meq/l			46	47	24	23	12	11	16	16	12	12	7.8	7.8	18	18
Bicarbonate as HCO3	mg/l			840	850	1300	1300	670	670	960	960	560	550	250	240	290	290
Boron	mg/l	1	N	**4**	**4.1**	**4.6**	**4.9**	**1.1**	**1.1**	**2**	**2.1**	0.59	0.61	0.1	0.11	0.1	0.1
Bromide	ug/l			8900	8700	1700	1700	140	150	160	170	570	570	410	420	1400	1400
Calcium, Total	mg/l			20	20	10	11	5.6	5.7	15	15	54	56	63	66	170	180
Carbon Dioxide	mg/l			8.7	11	8.5	11	8.7	4.4	12	9.9	7.3	9	3.2	3.9	4.8	7.5
Carbonate as CO3	mg/l			8.6	7	21	17	5.5	11	7.8	9.9	4.6	3.6	2	ND	ND	ND
Cation Sum	meq/l			40	41	21	23	11	11	15	15	11	11	7.2	7.5	17	17
Chloride	mg/l	500	S	**1100**	**1200**	51	53	15	15	25	26	94	97	120	130	440	450
Fluoride	mg/l	2	P	0.45	0.46	0.49	0.5	0.23	0.23	0.22	0.23	0.25	0.25	0.32	0.33	0.35	0.36
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			2700	3100	490	480	29	50	58	66	150	150	34	36	75	81
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			17	19	11	14	6.6	7.4	17	18	12	12	6.4	6.6	7.2	7.4
Sodium, Total	mg/l			870	890	460	490	230	230	290	300	150	160	53	54	86	88
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.2	8.1	51	51
Total Dissolved Solid (TDS)	mg/l	1000	S	**2500**	**2600**	**1400**	**1500**	640	680	920	940	600	640	420	450	**1200**	**1100**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties																	
Apparent Color	ACU	15	S	**250**	**180**	**1500**	**1600**	**350**	**650**	**1400**	**400**	**30**	**35**	ND	ND	5	ND
Hardness (Total, as CaCO3)	mg/l			91	91	49	53	26	26	78	78	200	210	240	250	640	670
Lab pH	Units			8.2	8.1	8.4	8.3	8.1	8.4	8.1	8.2	8.1	8	8.1	8	8	7.8
Langelier Index - 25 degree	None			1	0.88	1.1	1	0.25	0.49	0.82	0.89	1.1	1	0.88	0.77	1.3	1.1
Odor	TON	3	S	1	3	2	**4**	3	ND	**4**	**4**	1	ND	1	ND	**40**	**8**
Specific Conductance	umho/cm	1600	S	**4600**	**4400**	**2000**	**2000**	1000	1000	1500	1400	1100	1100	770	750	**1800**	**1800**
Turbidity	NTU	5	S	0.44	0.43	0.84	0.56	1.3	0.9	0.91	0.85	0.88	0.11	0.12	0.14	1.5	0.93
Metals																	
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	36	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	4.7	4.8	1.6	1.4	1.8	1.6	2.7	2.5	ND	ND	ND	ND	1.5	1.2
Barium, Total	ug/l	1000	P	61	57	25	24	14	13	44	41	57	56	72	72	260	260
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	1.4	5	5.8	1.6	2	2.7	3.3	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.24	0.046	0.37	0.33	0.28	0.13	0.43	0.17	0.16	0.024	0.15	ND	0.083	ND
Copper, Total	ug/l	1300	P	ND	ND	2.6	2.9	ND	ND	2.5	2.1	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.21	0.2	**0.48**	**0.46**	0.15	0.14	**0.37**	**0.36**	0.09	0.13	0.021	0.022	0.14	0.14
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			10	10	5.8	6.2	2.9	3	9.8	9.9	17	18	20	20	52	53
Manganese, Total	ug/l	50	S	**57**	**56**	23	21	22	20	39	36	50	49	**100**	**100**	**330**	**300**
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	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	18	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	1.9
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	**48**	**51**
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**12**	**12**
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.84**	**0.91**
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Others																	
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	ND	ND
Surfactants	mg/l	0.5	S	0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**	**0.88**
Total Organic Carbon	mg/l			25	22	99	130	14	8.8	26	14	3.7	4	0.99	1.1	4.5	3.8

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 2019-2020

Constituents	Units	MCL	MCL Type	Lawndale #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/14/2020	9/2/2020	5/14/2020	9/2/2020	5/14/2020	9/2/2020	5/14/2020	9/2/2020	5/14/2020	9/2/2020	5/14/2020	9/2/2020
General Minerals															
Alkalinity	mg/l			460	460	610	600	250	240	200	190	190	190	290	260
Anion Sum	meq/l			9.7	9.6	13	13	5.7	5.6	6.4	6.6	6.9	7	27	26
Bicarbonate as HCO3	mg/l			560	560	740	730	300	290	240	240	230	230	350	320
Boron	mg/l	1	N	0.83	0.81	**1.1**	**1.1**	0.17	0.18	0.11	0.11	0.093	0.1	0.29	0.28
Bromide	ug/l			410	390	240	200	130	130	200	200	220	220	1600	1500
Calcium, Total	mg/l			11	11	4.3	4.2	16	17	56	56	54	56	230	220
Carbon Dioxide	mg/l			2.9	3.6	4.8	4.8	2.5	2.4	2.5	2.5	2.4	3	9.1	13
Carbonate as CO3	mg/l			12	9.1	12	12	3.9	3.8	2.5	2.5	2.4	ND	ND	ND
Cation Sum	meq/l			8.7	8.7	12	12	5.3	5.5	6.5	6.6	6.7	6.9	25	24
Chloride	mg/l	500	S	13	15	28	34	25	26	54	60	64	68	**620**	**610**
Fluoride	mg/l	2	P	0.43	0.42	0.3	0.28	0.33	0.32	0.39	0.37	0.42	0.4	0.22	0.22
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			170	160	89	88	40	50	36	44	34	40	11	15
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	17
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8	3.8
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			5.7	5.8	8.5	8.8	8.8	9.5	4.2	4.4	5	5.3	9.4	9.5
Sodium, Total	mg/l			180	180	260	260	81	84	48	50	56	58	190	180
Sulfate	mg/l	500	S	ND	ND	ND	ND	1.5	1.3	47	49	59	60	160	150
Total Dissolved Solid (TDS)	mg/l	1000	S	560	540	750	720	320	310	370	370	400	390	**1800**	**1700**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8	3.8
General Physical Properties															
Apparent Color	ACU	15	S	**80**	**70**	**180**	**180**	ND	ND	5	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			41	41	25	24	77	82	210	210	200	210	820	790
Lab pH	Units			8.5	8.4	8.4	8.4	8.3	8.3	8.2	8.2	8.2	8.1	7.8	7.6
Langelier Index - 25 degree	None			0.81	0.76	0.46	0.49	0.55	0.59	0.84	0.82	0.81	0.76	1.3	0.97
Odor	TON	3	S	2	**8**	1	2	2	ND	1	ND	1	ND	ND	ND
Specific Conductance	umho/cm	1600	S	870	850	1200	1200	540	510	610	620	680	680	**2600**	**2400**
Turbidity	NTU	5	S	0.41	0.86	0.39	0.38	ND	0.22	0.14	0.15	0.17	0.12	ND	0.17
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	1.2	1.1	ND	ND	1.2	1	ND	ND	1.4	1.3
Barium, Total	ug/l	1000	P	12	12	12	12	16	16	34	34	100	99	120	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	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.044	0.036	0.061	0.052	0.028	ND	0.024	ND	0.028	ND	0.45	0.32
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.062	0.061	0.11	0.1	0.039	0.041	0.07	0.068	0.032	0.034	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			3.3	3.3	3.4	3.4	9.1	9.7	18	18	17	18	60	58
Manganese, Total	ug/l	50	S	12	12	31	30	50	49	**72**	**69**	**74**	**73**	**90**	**64**
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
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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	2.5	2.3
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.73	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
Others															
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	2.6	3.6
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			11	12	12	8.7	1.4	1.8	0.43	0.59	0.45	0.52	0.57	0.58

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 2019-2020

Constituents	Units	MCL	MCL Type	Lomita #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/15/2020	8/25/2020	4/15/2020	8/25/2020	4/15/2020	8/25/2020	4/15/2020	8/25/2020	4/15/2020	8/25/2020
General Minerals													
Alkalinity	mg/l			270	270	270	270	290	280	230	240	280	270
Anion Sum	meq/l			28	28	26	28	16	16	12	16	33	34
Bicarbonate as HCO3	mg/l			330	330	330	330	350	340	280	290	340	330
Boron	mg/l	1	N	0.55	0.54	0.51	0.57	0.44	0.45	0.36	0.48	0.68	0.72
Bromide	ug/l			7900	7700	6900	7500	2800	3000	2300	3800	9600	9600
Calcium, Total	mg/l			220	230	200	220	95	99	77	120	270	270
Carbon Dioxide	mg/l			8.6	11	8.6	11	7.2	7	3.6	7.5	7	14
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND
Cation Sum	meq/l			26	28	25	26	15	15	12	16	31	31
Chloride	mg/l	500	S	**790**	**790**	**700**	**790**	320	350	240	400	**940**	**990**
Fluoride	mg/l	2	P	0.13	0.13	0.15	0.14	0.18	0.19	0.24	0.2	0.089	0.093
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			1700	1900	1200	170	690	730	540	960	2000	2200
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			17	13	16	16	10	9.8	8.5	10	18	18
Sodium, Total	mg/l			230	240	230	220	180	170	140	160	260	250
Sulfate	mg/l	500	S	4	19	21	22	32	31	4.3	7.2	27	25
Total Dissolved Solid (TDS)	mg/l	1000	S	**1800**	**1800**	**1700**	**1800**	890	870	700	1000	**2100**	**2200**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties													
Apparent Color	ACU	15	S	10	ND	15	10	15	15	**20**	15	5	ND
Hardness (Total, as CaCO3)	mg/l			800	840	730	800	360	370	280	440	970	990
Lab pH	Units			7.8	7.7	7.8	7.7	7.9	7.9	8.1	7.8	7.9	7.6
Langelier Index - 25 degree	None			1.2	1.1	1.2	1.1	0.95	0.96	0.96	0.93	1.4	1.1
Odor	TON	3	S	2	2	**4**	1	2	2	2	1	1	1
Specific Conductance	umho/cm	1600	S	**2600**	**2800**	**2500**	**2800**	1500	1600	1200	**1700**	**3300**	**3300**
Turbidity	NTU	5	S	**13**	**11**	1.7	1.4	1.1	1.5	0.38	0.38	0.82	0.93
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	3.3	3.3	3	2.7	1.9	1.6	ND	1.5	3.5	3.7
Barium, Total	ug/l	1000	P	140	140	120	140	60	63	51	80	170	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			0.022	ND	0.12	ND	0.18	0.038	0.13	ND	0.15	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.076	**0.51**	0.16	0.24	0.038	0.047	0.072	0.18	0.14	0.18
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			61	64	57	61	29	29	22	35	73	76
Manganese, Total	ug/l	50	S	**440**	**450**	**390**	**390**	**120**	**120**	**140**	**200**	**510**	**490**
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	17	14	15	14	5.3	5	ND	7.4	18	20
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others													
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	0.17	0.12	0.1	ND	ND	ND	ND	ND	0.16	ND
Total Organic Carbon	mg/l			1.2	1.3	1.4	1.3	2.4	2.3	2	1.8	0.95	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 2019-2020

Constituents	Units	MCL	MCL Type	Long Beach #3									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/17/2020	8/4/2020	4/17/2020	8/4/2020	4/17/2020	8/4/2020	4/17/2020	8/4/2020	4/17/2020	8/4/2020
General Minerals													
Alkalinity	mg/l			380	370	140	140	150	150	120	120	150	150
Anion Sum	meq/l			8	8	3.8	3.8	3.7	3.7	30	32	29	29
Bicarbonate as HCO3	mg/l			450	450	170	160	180	180	150	150	180	190
Boron	mg/l	1	N	0.36	0.36	0.12	0.12	0.12	0.12	0.11	0.12	0.11	0.12
Bromide	ug/l			230	230	110	120	170	160	8000	8200	7400	6900
Calcium, Total	mg/l			11	11	17	16	18	18	310	320	310	290
Carbon Dioxide	mg/l			2.3	4.6	ND	ND	ND	ND	3.1	3.1	3.7	4.9
Carbonate as CO3	mg/l			9.2	4.6	3.5	2.6	2.3	2.3	ND	ND	ND	ND
Cation Sum	meq/l			7.7	7.3	3.7	3.7	3.7	3.6	28	30	28	26
Chloride	mg/l	500	S	16	19	19	21	24	26	**910**	**1000**	**850**	**870**
Fluoride	mg/l	2	P	0.47	0.5	0.34	0.36	0.31	0.34	0.15	0.15	0.16	0.17
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			63	65	33	28	43	51	2000	2000	1900	1800
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			3.2	3.5	1.8	1.8	2	2.1	15	16	11	11
Sodium, Total	mg/l			160	150	60	60	57	56	140	140	140	140
Sulfate	mg/l	500	S	ND	ND	22	22	ND	ND	72	76	82	87
Total Dissolved Solid (TDS)	mg/l	1000	S	450	440	210	230	210	220	**2000**	**2200**	**1800**	**2000**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties													
Apparent Color	ACU	15	S	**50**	**80**	10	**20**	**20**	**25**	5	ND	5	ND
Hardness (Total, as CaCO3)	mg/l			41	41	54	51	57	57	1100	1100	1100	1000
Lab pH	Units			8.5	8.2	8.5	8.4	8.3	8.3	7.9	7.9	7.9	7.8
Langelier Index - 25 degree	None			0.75	0.46	0.47	0.41	0.41	0.32	1.1	1.1	1.2	1.1
Odor	TON	3	S	2	1	2	2	1	ND	2	2	2	2
Specific Conductance	umho/cm	1600	S	740	700	370	360	360	340	**3000**	**3000**	**2900**	**2900**
Turbidity	NTU	5	S	2	0.58	0.13	0.12	0.13	0.12	1.1	1.3	1.1	1.2
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	3.4	3.2	3.8	3.1
Barium, Total	ug/l	1000	P	8.9	9.1	14	14	7.1	7.4	100	110	150	150
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.24	0.041	0.2	0.037	0.19	0.022	0.061	ND	0.048	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.038	0.037	ND	ND	0.028	0.029	0.23	0.24	0.24	0.24
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			3.3	3.2	2.7	2.6	3	2.9	82	85	70	69
Manganese, Total	ug/l	50	S	12	12	7.2	7	8.4	8.6	**240**	**250**	**300**	**290**
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	16	16	16	13
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	89	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others													
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	0.1	0.19	0.13
Total Organic Carbon	mg/l			8	7	1.5	1.3	2.2	2	0.78	0.74	0.78	0.76

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 2019-2020

Constituents	Units	MCL	MCL Type	Long Beach #8					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				6/23/2020	6/24/2020	6/23/2020	6/24/2020	6/23/2020	6/23/2020
General Minerals									
Alkalinity	mg/l			530	450	620	400	300	200
Anion Sum	meq/l			11	10	15	24	19	18
Bicarbonate as HCO3	mg/l			640	550	750	480	370	250
Boron	mg/l	1	N	**1.2**	0.76	**1.3**	1	0.57	0.18
Bromide	ug/l			350	440	710	4300	3400	1600
Calcium, Total	mg/l			7.7	9.4	10	47	63	110
Carbon Dioxide	mg/l			3.3	3.6	4.9	7.9	6.1	8.2
Carbonate as CO3	mg/l			13	9	12	3.1	2.4	ND
Cation Sum	meq/l			10	9	13	21	17	17
Chloride	mg/l	500	S	22	35	88	**590**	460	500
Fluoride	mg/l	2	P	0.78	0.79	0.55	0.22	0.18	0.48
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Iodide	ug/l			110	140	140	1100	810	81
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			1.8	3.7	7.7	12	9.6	7.1
Sodium, Total	mg/l			220	190	270	370	270	190
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	23
Total Dissolved Solid (TDS)	mg/l	1000	S	640	560	860	**1300**	1000	**1100**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND
General Physical Properties									
Apparent Color	ACU	15	S	**500**	**400**	**300**	**100**	**70**	**25**
Hardness (Total, as CaCO3)	mg/l			27	36	45	250	270	420
Lab pH	Units			8.5	8.4	8.4	8	8	7.7
Langelier Index - 25 degree	None			0.72	0.64	0.83	0.96	0.96	0.73
Odor	TON	3	S	**8**	**8**	**8**	2	2	**8**
Specific Conductance	umho/cm	1600	S	1000	940	1300	**2500**	**2000**	**1900**
Turbidity	NTU	5	S	0.57	0.54	0.71	0.42	0.79	**5.6**
Metals									
Aluminum, Total	ug/l	1000	P	21	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	1.4	2.1	1.6	ND
Barium, Total	ug/l	1000	P	9.6	9.4	13	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	1.3	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.32	0.29	0.26	0.2	0.3	0.025
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.19	0.15	0.21	0.18	0.24	**0.76**
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			2	3.1	4.9	33	27	36
Manganese, Total	ug/l	50	S	16	23	21	14	48	**330**
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	8.2	5.8	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
Volatile Organic Compounds									
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others									
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	0.11	ND
Total Organic Carbon	mg/l			25	20	31	18	13	0.83

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 2019-2020

Constituents	Units	MCL	MCL Type	Manhattan Beach #1													
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7	
				2/26/2020	7/29/2020	2/27/2020	7/28/2020	2/27/2020	8/14/2020	2/27/2020	7/28/2020	2/27/2020	7/29/2020	2/27/2020	7/29/2020	2/27/2020	7/29/2020
General Minerals																	
Alkalinity	mg/l			560	580	440	450	910	910	480	490	120	130	160	160	140	140
Anion Sum	meq/l			130	130	49	51	22	22	10	11	410	420	140	140	10	11
Bicarbonate as HCO3	mg/l			690	700	530	540	1100	1100	580	590	150	160	190	200	170	170
Boron	mg/l	1	N	**15**	**15**	**6.6**	**6.6**	**3.7**	**3.6**	0.4	0.4	0.58	0.58	0.13	0.13	0.17	0.18
Bromide	ug/l			28000	28000	9600	10000	2300	2300	330	340	44000	45000	15000	16000	360	360
Calcium, Total	mg/l			50	49	33	33	17	16	27	26	1800	1900	920	980	52	51
Carbon Dioxide	mg/l			11	14	5.5	7	11	14	3.8	6.1	9.8	21	7.8	13	2.2	2.8
Carbonate as CO3	mg/l			4.5	3.6	5.4	4.4	11	9	9.5	6.1	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			110	110	43	42	20	22	11	10	360	380	130	140	10	10
Chloride	mg/l	500	S	**4200**	**4200**	**1400**	**1500**	120	120	37	36	**13000**	**13000**	**4300**	**4400**	130	140
Fluoride	mg/l	2	P	0.72	0.79	0.58	0.57	0.37	0.35	0.21	0.22	0.085	0.087	0.15	0.15	0.27	0.25
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			6700	6600	2200	2600	910	620	110	130	180	240	29	32	37	37
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	14
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4	3.1
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			30	20	16	17	28	30	11	10	170	180	54	54	5.6	5.7
Sodium, Total	mg/l			2500	2400	910	900	400	450	190	170	4300	4600	1400	1400	150	140
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	**1700**	**1800**	**580**	**620**	180	190
Total Dissolved Solid (TDS)	mg/l	1000	S	**7200**	**7000**	**2700**	**2700**	**1300**	**1300**	600	590	**28000**	**29000**	**11000**	**9500**	650	630
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4	3.1
General Physical Properties																	
Apparent Color	ACU	15	S	**75**	**110**	**150**	**150**	**200**	**220**	**30**	**40**	**50**	**65**	**35**	**50**	5	ND
Hardness (Total, as CaCO3)	mg/l			270	270	140	140	92	89	110	110	8400	8900	3400	3600	190	180
Lab pH	Units			8	7.9	8.2	8.1	8.2	8.1	8.4	8.2	7.4	7.1	7.6	7.4	8.1	8
Langelier Index - 25 degree	None			1.1	0.96	0.98	0.92	1.1	0.87	1.1	0.97	1.4	1.2	1.4	1.2	0.61	0.48
Odor	TON	3	S	**8**	**8**	**8**	**8**	**4**	2	2	2	2	2	2	1	1	1
Specific Conductance	umho/cm	1600	S	**12000**	**13000**	**4800**	**5000**	**2000**	**1900**	990	980	**33000**	**34000**	**12000**	**13000**	1000	1000
Turbidity	NTU	5	S	0.53	0.6	0.9	0.519	0.7	0.66	0.16	0.2	**40**	**38**	**18**	**20**	0.24	2.3
Metals																	
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	**15**	**13**	5.4	4.4	1.5	1.9	1.5	ND	7.5	**22**	2.6	5.7	4.7	4.9
Barium, Total	ug/l	1000	P	680	720	200	200	92	98	44	43	200	230	220	220	27	31
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	ND	ND	ND	ND	2.6	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			ND	ND	0.19	ND	0.28	0.11	0.14	ND	ND	ND	ND	ND	0.12	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	ND	ND
Iron, Total	mg/l	0.3	S	**0.49**	**0.48**	0.18	0.17	0.22	0.21	0.083	0.08	**4.2**	**4.2**	**1.7**	**1.8**	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			35	35	13	13	12	12	10	10	940	1000	260	280	15	14
Manganese, Total	ug/l	50	S	**51**	47	46	44	42	48	**61**	**58**	**880**	**1100**	**1000**	**1100**	**70**	**76**
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	13	ND	5.4	11	ND	ND
Selenium, Total	ug/l	50	P	**70**	**61**	25	20	ND	ND	ND	ND	28	**99**	8.7	25	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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
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
Others																	
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	1.1
Surfactants	mg/l	0.5	S	0.44	0.34	0.28	0.13	0.12	0.11	ND	ND	**0.54**	0.44	0.27	ND	ND	ND
Total Organic Carbon	mg/l			2.7	6.6	31	28	44	39	5.2	4.7	1.4	ND	ND	ND	0.94	0.76

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 2019-2020

Constituents	Units	MCL	MCL Type	PM-2 Police Station							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/4/2020	8/14/2020	3/4/2020	8/14/2020	3/4/2020	8/14/2020	3/4/2020	8/14/2020
General Minerals											
Alkalinity	mg/l			120	120	140	150	140	140	140	140
Anion Sum	meq/l			190	210	48	48	14	14	11	11
Bicarbonate as HCO3	mg/l			150	150	180	180	170	160	170	170
Boron	mg/l	1	N	0.17	ND	0.22	0.22	0.31	0.3	0.34	0.32
Bromide	ug/l			22000	21000	5200	5100	1000	680	630	490
Calcium, Total	mg/l			1100	1100	390	370	83	82	60	56
Carbon Dioxide	mg/l			7.8	7.8	12	7.4	3.5	2.6	2.8	2.2
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			180	180	45	42	14	13	11	9.9
Chloride	mg/l	500	S	**6300**	**6800**	**1600**	**1500**	240	230	140	130
Fluoride	mg/l	2	P	0.13	0.13	0.58	0.55	0.38	0.35	0.36	0.35
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			69	84	130	110	100	42	79	62
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			110	80	22	18	8.9	8.2	7.3	6.6
Sodium, Total	mg/l			1700	1700	320	290	160	150	140	120
Sulfate	mg/l	500	S	**710**	**700**	76	75	210	240	200	210
Total Dissolved Solid (TDS)	mg/l	1000	S	**15000**	**14000**	**3300**	**3300**	830	880	670	660
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	10	ND	**35**	10	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			5000	5000	1500	1400	310	310	230	210
Lab pH	Units			7.5	7.5	7.4	7.6	7.9	8	8	8.1
Langelier Index - 25 degree	None			1.2	1.3	0.82	0.97	0.64	0.7	0.6	0.59
Odor	TON	3	S	1	ND	**8**	2	2	ND	2	ND
Specific Conductance	umho/cm	1600	S	**17000**	**17000**	**4700**	**4400**	1300	1400	1100	1000
Turbidity	NTU	5	S	1.9	0.81	**14**	**6.7**	ND	ND	ND	ND
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	9.7	8.7	5.6	5.4	2	1.8	1.2	1
Barium, Total	ug/l	1000	P	270	270	320	300	36	37	36	33
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			ND	ND	ND	ND	0.087	ND	0.1	ND
Copper, Total	ug/l	1300	P	ND	3.5	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.29	**0.32**	**1.4**	**1.3**	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			540	560	130	130	26	25	19	18
Manganese, Total	ug/l	50	S	**390**	**410**	**790**	**700**	**150**	**130**	**61**	**58**
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	17	ND	5.8	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	**52**	38	12	8.4	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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	0.55	ND
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Others											
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	0.34	0.3	0.14	0.15	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	1	1.2	1.2	1.4	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	PM-3 Madrid							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/23/2020	8/6/2020	3/23/2020	8/6/2020	3/23/2020	8/6/2020	3/23/2020	8/6/2020
General Minerals											
Alkalinity	mg/l			310	310	190	190	190	190	190	200
Anion Sum	meq/l			7	7	8.8	9.1	12	13	15	16
Bicarbonate as HCO3	mg/l			380	380	230	230	240	230	230	240
Boron	mg/l	1	N	0.34	0.35	0.16	0.17	0.19	0.2	0.36	0.39
Bromide	ug/l			130	120	990	960	1700	1700	1800	2100
Calcium, Total	mg/l			12	12	71	72	96	100	110	120
Carbon Dioxide	mg/l			3.9	5	4.7	4.7	5	4.7	6	7.8
Carbonate as CO3	mg/l			3.9	3.1	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			7.1	6.8	8.2	8.5	11	12	14	15
Chloride	mg/l	500	S	25	26	180	190	270	300	310	350
Fluoride	mg/l	2	P	0.34	0.29	0.34	0.29	0.35	0.31	0.36	0.32
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			30	28	120	130	200	230	240	270
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			12	13	4.4	4.5	5.6	6	6.5	6.9
Sodium, Total	mg/l			120	120	68	71	93	100	140	140
Sulfate	mg/l	500	S	ND	ND	ND	ND	17	20	95	96
Total Dissolved Solid (TDS)	mg/l	1000	S	400	380	540	490	800	780	890	920
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	**30**	**35**	ND	ND	3	ND	15	**20**
Hardness (Total, as CaCO3)	mg/l			67	67	260	270	360	370	400	440
Lab pH	Units			8.2	8.1	7.9	7.9	7.9	7.9	7.8	7.7
Langelier Index - 25 degree	None			0.42	0.31	0.7	0.69	0.84	0.82	0.7	0.69
Odor	TON	3	S	2	ND	**8**	ND	2	ND	2	2
Specific Conductance	umho/cm	1600	S	650	620	860	880	1200	1200	1500	1600
Turbidity	NTU	5	S	0.43	0.56	0.73	0.82	3.4	2	4.4	**5.7**
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	8.8	8.4
Barium, Total	ug/l	1000	P	19	19	30	28	76	81	80	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	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.12	0.041	0.071	ND	0.094	ND	0.026	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.038	0.038	0.17	0.28	0.057	0.077	**0.51**	**0.67**
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			9	9	20	21	28	29	31	33
Manganese, Total	ug/l	50	S	21	21	**57**	**52**	**60**	**60**	**330**	**360**
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
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	1.4	1.6	0.69	0.54
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	0.6	3.2	2.5
Di-Isopropyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Tert Butyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
MTBE	ug/l	13	P	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.92	0.87
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
Others											
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			3.3	2.7	0.65	0.62	0.94	0.77	1.4	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	PM-4 Mariner							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/29/2020	8/16/2020	3/29/2020	8/16/2020	3/29/2020	8/16/2020	3/29/2020	8/16/2020
General Minerals											
Alkalinity	mg/l			260	260	150	150	130	130	210	210
Anion Sum	meq/l			6	5.9	220	240	8.6	8.3	11	11
Bicarbonate as HCO3	mg/l			310	310	190	180	160	160	260	260
Boron	mg/l	1	N	0.16	0.16	0.25	ND	0.23	0.24	0.23	0.23
Bromide	ug/l			170	160	25000	25000	180	180	380	430
Calcium, Total	mg/l			27	27	1500	1500	41	39	74	74
Carbon Dioxide	mg/l			3.2	2.5	9.8	7.4	ND	ND	3.4	2.7
Carbonate as CO3	mg/l			3.2	4	ND	ND	ND	ND	2.1	2.7
Cation Sum	meq/l			5.7	5.7	220	210	8.6	8	11	10
Chloride	mg/l	500	S	30	28	**7100**	**7700**	87	81	130	140
Fluoride	mg/l	2	P	0.34	0.34	0.095	0.1	0.43	0.48	0.25	0.25
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			67	57	70	66	18	15	63	55
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			6.9	7	80	51	5.3	5.1	6.4	6.3
Sodium, Total	mg/l			75	74	2400	2200	130	120	130	110
Sulfate	mg/l	500	S	ND	ND	**950**	**930**	170	160	150	150
Total Dissolved Solid (TDS)	mg/l	1000	S	340	330	**18000**	**17000**	520	540	660	670
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties											
Apparent Color	ACU	15	S	10	ND	ND	ND	15	10	5	ND
Hardness (Total, as CaCO3)	mg/l			110	110	5700	5700	150	140	270	270
Lab pH	Units			8.2	8.3	7.5	7.6	8.2	8.2	8.1	8.2
Langelier Index - 25 degree	None			0.71	0.76	1.5	1.6	0.56	0.58	0.97	1
Odor	TON	3	S	1	1	2	ND	1	1	ND	1
Specific Conductance	umho/cm	1600	S	550	530	**19000**	**20000**	830	840	1100	1000
Turbidity	NTU	5	S	0.19	0.15	1.4	1.5	0.47	0.35	0.81	0.46
Metals											
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	**13**	6.8	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	20	21	240	220	68	66	58	60
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			0.099	ND	ND	ND	0.14	0.037	0.052	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	2.6	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.056	0.053	0.2	ND	ND	ND	0.13	0.13
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			11	11	470	480	11	10	20	20
Manganese, Total	ug/l	50	S	29	30	**1100**	**1000**	33	29	**77**	**74**
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total	ug/l	100	P	ND	ND	ND	16	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	ND	ND	**70**	28	ND	ND	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others											
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	0.37	0.27	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.6	1.8	ND	0.21	1.8	1.8	0.96	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 2019-2020

Constituents	Units	MCL	MCL Type	PM-5 ColumbiaPark											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/9/2020	8/5/2020	3/9/2020	8/5/2020	3/9/2020	8/5/2020	3/9/2020	8/5/2020	3/9/2020	8/5/2020	3/9/2020	8/5/2020
General Minerals															
Alkalinity	mg/l			680	680	900	910	420	420	300	300	200	190	220	220
Anion Sum	meq/l			16	17	18	19	9.2	9.2	6.8	6.8	33	34	13	13
Bicarbonate as HCO3	mg/l			830	830	1100	1100	510	510	360	360	240	230	270	270
Boron	mg/l	1	N	**2.7**	**2.6**	**2**	**2**	0.37	0.37	0.18	0.18	0.18	0.18	0.19	0.19
Bromide	ug/l			1600	1600	210	170	270	260	170	180	2100	2100	690	690
Calcium, Total	mg/l			14	13	7.6	7.3	14	14	27	27	240	240	93	90
Carbon Dioxide	mg/l			11	11	11	11	4.2	6.6	3.7	5.9	7.8	6	4.4	4.4
Carbonate as CO3	mg/l			6.8	6.8	11	11	6.6	4.2	3.7	2.3	ND	ND	ND	ND
Cation Sum	meq/l			16	16	18	17	9.3	8.8	6.6	6.9	31	31	13	12
Chloride	mg/l	500	S	100	110	14	15	28	29	31	31	**720**	**750**	170	160
Fluoride	mg/l	2	P	0.62	0.6	0.3	0.31	0.27	0.27	0.31	0.3	0.18	0.19	0.33	0.33
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			660	580	85	81	140	120	75	64	19	23	65	73
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			15	15	12	12	16	16	11	12	12	11	6.4	6.4
Sodium, Total	mg/l			340	320	400	370	170	160	91	95	320	310	140	130
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	420	420	190	180
Total Dissolved Solid (TDS)	mg/l	1000	S	970	990	1000	**1100**	470	510	360	360	**1800**	**2000**	750	740
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties															
Apparent Color	ACU	15	S	**200**	**200**	**500**	**880**	**45**	**70**	**20**	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			61	57	41	40	66	65	120	120	840	840	320	310
Lab pH	Units			8.1	8.1	8.2	8.2	8.3	8.1	8.2	8	7.7	7.8	8	8
Langelier Index - 25 degree	None			0.75	0.72	0.7	0.72	0.72	0.53	0.69	0.57	1.1	1	0.99	0.98
Odor	TON	3	S	**4**	2	**8**	2	2	2	2	ND	2	ND	1	ND
Specific Conductance	umho/cm	1600	S	1600	1500	1600	1500	860	800	650	610	**3100**	**2900**	1200	1200
Turbidity	NTU	5	S	0.71	0.75	0.58	0.83	0.32	0.22	0.15	0.12	0.32	0.41	0.1	0.13
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1.1	1	3.3	3.6	ND	ND	ND	ND	1.6	1.6	ND	ND
Barium, Total	ug/l	1000	P	98	96	23	23	26	26	21	22	89	88	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	1.6	1.7	2.4	3.4	ND	1.2	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.39	0.13	0.7	0.44	0.24	0.062	0.2	0.026	0.077	ND	0.11	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.2	0.2	**0.31**	0.3	0.045	0.048	0.029	0.031	0.084	0.084	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			6.3	6	5.4	5.2	7.5	7.3	13	13	58	59	21	21
Manganese, Total	ug/l	50	S	45	44	28	28	35	36	23	24	**220**	**190**	**120**	**110**
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
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others															
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	0.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			37	31	40	22	6.5	6	2.9	2.8	1.2	1.1	1.1	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 2019-2020

Constituents	Units	MCL	MCL Type	PM-6 Madrona Marsh											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/27/2020	8/13/2020	3/27/2020	8/13/2020	3/27/2020	8/13/2020	3/27/2020	8/13/2020	3/27/2020	8/13/2020	3/27/2020	8/13/2020
General Minerals															
Alkalinity	mg/l			410	410	120	120	120	110	240	230	160	160	170	170
Anion Sum	meq/l			65	68	88	87	210	210	6.8	7	50	51	10	10
Bicarbonate as HCO3	mg/l			500	500	150	150	150	140	280	280	200	200	200	200
Boron	mg/l	1	N	0.73	0.73	0.55	0.54	0.26	ND	0.24	0.24	0.37	0.38	0.17	0.18
Bromide	ug/l			6500	6600	11000	11000	26000	25000	320	330	4300	4100	380	370
Calcium, Total	mg/l			270	280	220	220	1200	1200	20	21	230	240	66	68
Carbon Dioxide	mg/l			10	13	3.1	4.9	6.2	12	2.9	2.9	6.5	5.2	3.3	2.6
Carbonate as CO3	mg/l			2.6	2	ND	ND	ND	ND	2.9	2.9	ND	ND	ND	ND
Cation Sum	meq/l			57	58	77	79	200	190	6.5	6.6	42	44	10	9.8
Chloride	mg/l	500	S	**2000**	**2100**	**3000**	**3000**	**7200**	**7200**	73	81	**1400**	**1400**	150	150
Fluoride	mg/l	2	P	0.36	0.35	0.07	0.08	0.087	0.095	0.5	0.47	0.15	0.14	0.26	0.25
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			170	140	550	480	250	220	69	56	92	70	62	52
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			36	34	52	48	110	100	5.7	5.9	20	18	5.4	5.6
Sodium, Total	mg/l			600	620	1300	1300	1600	1600	99	100	560	600	120	110
Sulfate	mg/l	500	S	9.4	2	ND	ND	74	68	ND	ND	390	390	140	140
Total Dissolved Solid (TDS)	mg/l	1000	S	**4100**	**3200**	**5600**	**4800**	**17000**	**14000**	400	400	**3000**	**2800**	610	600
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties															
Apparent Color	ACU	15	S	**200**	**300**	5	ND	15	ND	15	ND	**20**	ND	5	ND
Hardness (Total, as CaCO3)	mg/l			1500	1500	960	960	6200	6100	99	100	870	900	240	250
Lab pH	Units			7.9	7.8	7.9	7.7	7.6	7.3	8.2	8.2	7.7	7.8	8	8.1
Langelier Index - 25 degree	None			1.6	1.5	0.96	0.79	1.4	1.1	0.54	0.51	0.91	1	0.69	0.76
Odor	TON	3	S	**200**	**17**	1	ND	**200**	**200**	1	2	2	2	2	2
Specific Conductance	umho/cm	1600	S	**6100**	**6100**	**8800**	**8400**	**19000**	**18000**	670	640	**4500**	**4400**	980	940
Turbidity	NTU	5	S	2.4	3.4	0.78	0.34	0.17	0.28	0.47	0.14	4.1	4.8	0.71	0.49
Metals															
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	4.1	2.7	4.8	4.7	9.7	**16**	ND	ND	3.4	3.2	1.8	1.8
Barium, Total	ug/l	1000	P	750	720	640	560	**2800**	**2800**	28	24	130	120	18	18
Beryllium, Total	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total	ug/l	50	P	ND	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.25	ND	0.084	ND	ND	ND	0.16	ND	ND	ND	0.08	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	4.3	3.3	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.13	ND	ND	ND	0.074	0.078	**0.74**	**0.73**	0.21	0.22
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			200	200	100	100	790	760	12	13	73	74	18	19
Manganese, Total	ug/l	50	S	10	8.5	**180**	**180**	**78**	**75**	**65**	**61**	**510**	**490**	**92**	**86**
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	13	16	ND	ND	ND	ND	ND	ND
Selenium, Total	ug/l	50	P	18	13	25	23	**52**	50	ND	ND	8.7	6.4	ND	ND
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others															
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	0.12	ND	0.26	0.2	**0.58**	0.47	ND	ND	0.11	ND	ND	ND
Total Organic Carbon	mg/l			3.4	2.9	0.61	0.39	0.3	ND	1.9	1.9	1.2	1.1	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 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2019-2020

Constituents	Units	MCL	MCL Type	Westchester #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/19/2020	7/31/2020	3/19/2020	7/31/2020	3/19/2020	7/31/2020	3/19/2020	7/31/2020	3/19/2020	7/31/2020
General Minerals													
Alkalinity	mg/l			630	660	530	540	430	430	340	350	280	280
Anion Sum	meq/l			16	17	13	13	11	11	10	10	9.4	9.4
Bicarbonate as HCO3	mg/l			770	800	650	660	530	530	420	420	350	350
Boron	mg/l	1	N	**1.2**	**1.3**	0.76	0.83	0.37	0.38	0.22	0.22	0.21	0.22
Bromide	ug/l			650	700	470	510	390	390	340	350	320	330
Calcium, Total	mg/l			59	58	30	31	56	56	70	71	63	63
Carbon Dioxide	mg/l			13	10	8.5	8.6	8.7	8.7	8.7	5.5	7.2	7.2
Carbonate as CO3	mg/l			5	6.5	5.3	5.4	3.4	3.4	2.2	3.4	ND	ND
Cation Sum	meq/l			16	16	12	12	11	10	9.9	10	8.9	9.1
Chloride	mg/l	500	S	96	100	71	76	64	66	65	68	68	70
Fluoride	mg/l	2	P	0.27	0.26	0.26	0.25	0.24	0.25	0.26	0.26	0.31	0.31
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			180	170	130	150	110	83	69	80	63	66
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			14	15	16	16	11	11	9.3	9.5	7.1	7.3
Sodium, Total	mg/l			240	250	200	200	130	120	90	92	83	86
Sulfate	mg/l	500	S	33	30	ND	ND	15	15	77	78	83	84
Total Dissolved Solid (TDS)	mg/l	1000	S	910	960	670	710	580	590	580	580	500	520
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties													
Apparent Color	ACU	15	S	**250**	**350**	**60**	**90**	**20**	**25**	10	10	10	10
Hardness (Total, as CaCO3)	mg/l			250	240	140	150	230	230	290	290	260	260
Lab pH	Units			8	8.1	8.1	8.1	8	8	7.9	8.1	7.9	7.9
Langelier Index - 25 degree	None			1.2	1.3	0.97	0.96	1	1	0.93	1.1	0.8	0.83
Odor	TON	3	S	2	2	2	1	1	2	2	ND	1	2
Specific Conductance	umho/cm	1600	S	1500	1500	1200	1200	1000	1000	940	930	860	890
Turbidity	NTU	5	S	0.45	0.63	0.53	0.2	0.53	0.3	0.42	0.26	0.66	0.57
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	93	97	110	150	74	74	76	82	66	70
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	1.6	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium (Cr VI)	ug/l			0.2	0.24	0.12	0.053	0.068	ND	0.074	ND	0.054	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	0.18	0.19	0.12	0.13	0.24	0.24	0.13	0.14	0.27	0.27
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			24	24	17	17	23	23	28	28	24	24
Manganese, Total	ug/l	50	S	**100**	**93**	44	**54**	**140**	**140**	**110**	**110**	**130**	**130**
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
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others													
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			20	22	8.4	7.8	3.3	3	1.7	1.6	1.2	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 2019-2020

Constituents	Units	MCL	MCL Type	Wilmington #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				2/24/2020	8/5/2020	2/24/2020	8/5/2020	2/24/2020	8/5/2020	2/24/2020	8/5/2020	2/24/2020	8/5/2020
General Minerals													
Alkalinity	mg/l			140	140	160	160	190	190	130	140	140	160
Anion Sum	meq/l			7.6	12	24	25	34	34	13	13	13	14
Bicarbonate as HCO3	mg/l			160	170	190	200	230	240	160	160	170	190
Boron	mg/l	1	N	0.26	0.25	0.2	0.2	0.3	0.3	0.22	0.22	0.2	0.2
Bromide	ug/l			2400	2500	3000	3000	4300	4200	860	870	780	930
Calcium, Total	mg/l			65	66	170	180	180	180	57	58	88	94
Carbon Dioxide	mg/l			2.1	ND	3.9	3.3	7.5	5	2.6	2.1	2.8	3.9
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cation Sum	meq/l			11	11	22	23	32	31	12	12	13	13
Chloride	mg/l	500	S	170	330	**650**	**710**	**1000**	**1100**	270	270	220	260
Fluoride	mg/l	2	P	0.13	0.13	0.063	0.071	0.064	0.071	0.14	0.16	0.14	0.14
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			810	770	420	440	460	480	27	32	51	70
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			8.9	9.3	9	8.5	12	11	5.7	6.1	6.5	7.3
Sodium, Total	mg/l			140	130	240	240	420	410	180	180	140	140
Sulfate	mg/l	500	S	ND	ND	110	100	45	25	150	140	180	170
Total Dissolved Solid (TDS)	mg/l	1000	S	680	710	**1500**	**1600**	**2100**	**2200**	770	790	770	800
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties													
Apparent Color	ACU	15	S	ND	ND	5	ND	5	ND	5	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			250	250	600	630	640	630	220	230	340	360
Lab pH	Units			8.1	8.2	7.9	8	7.7	7.9	8	8.1	8	7.9
Langelier Index - 25 degree	None			0.68	0.78	0.92	1	0.9	1	0.53	0.6	0.71	0.73
Odor	TON	3	S	**100**	**200**	**100**	2	**200**	**200**	**8**	**4**	**100**	**200**
Specific Conductance	umho/cm	1600	S	1200	1200	**2500**	**2400**	**3400**	**3500**	1300	1300	1200	1300
Turbidity	NTU	5	S	0.14	0.28	0.21	0.21	0.12	0.24	0.12	0.18	0.22	0.27
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	1	ND	1.2	1.2	2	2.8	ND	ND	ND	ND
Barium, Total	ug/l	1000	P	12	13	13	12	29	27	24	24	67	78
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			0.11	ND	0.093	ND	0.058	ND	0.11	ND	0.29	ND
Copper, Total	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Total	mg/l	0.3	S	ND	ND	0.042	0.043	ND	ND	ND	ND	ND	0.036
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			21	21	43	45	46	44	20	20	28	30
Manganese, Total	ug/l	50	S	25	25	21	20	6.1	5.4	10	9.5	29	38
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	6.4	5.7	10	**95**	ND	ND	ND	8.3
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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	19	19	6.1	8.1	ND	ND	ND	3.9
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	2.1	2.7	**26**	**22**
Styrene	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert Amyl Methyl Ether	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Trihalomethanes	ug/l	80	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride (VC)	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Others													
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	0.48	0.43	**0.6**	0.48	0.46	0.49	0.12	0.12	0.32	0.45
Total Organic Carbon	mg/l			3.1	2.6	2.9	2.4	2.1	2	1.8	1.7	2.7	3.2

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 2019-2020

Constituents	Units	MCL	MCL Type	Wilmington #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				2/25/2020	8/4/2020	2/25/2020	8/4/2020	2/25/2020	8/4/2020	2/25/2020	8/4/2020	2/25/2020	8/4/2020
General Minerals													
Alkalinity	mg/l			260	260	480	490	140	150	270	280	160	160
Anion Sum	meq/l			15	16	26	27	14	15	10	11	68	69
Bicarbonate as HCO3	mg/l			310	320	580	600	170	180	320	330	190	200
Boron	mg/l	1	N	0.54	0.56	**1.8**	**1.8**	0.18	0.18	0.61	0.63	0.5	0.5
Bromide	ug/l			1400	1500	4100	4200	3000	3200	1200	1300	6800	6900
Calcium, Total	mg/l			7.2	8	26	26	73	76	19	20	190	200
Carbon Dioxide	mg/l			ND	ND	6	6.2	2.8	2.3	3.3	2.7	4.9	5.2
Carbonate as CO3	mg/l			6.4	6.6	6	6.2	ND	ND	3.3	4.3	ND	ND
Cation Sum	meq/l			13	15	22	24	14	14	9.6	10	69	64
Chloride	mg/l	500	S	350	380	**580**	**610**	410	430	180	180	**2000**	**2100**
Fluoride	mg/l	2	P	0.63	0.62	0.52	0.52	0.16	0.17	0.78	0.77	0.21	0.22
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	ug/l			120	110	1200	1200	1100	1200	380	370	46	56
Nitrate (as NO3)	mg/l	45	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as Nitrogen	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, as Nitrogen	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium, Total	mg/l			8.2	8.7	13	13	9.2	9.5	5	5.7	23	15
Sodium, Total	mg/l			270	310	440	470	170	170	180	190	1200	1000
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	ND	ND	330	350
Total Dissolved Solid (TDS)	mg/l	1000	S	860	890	**1500**	**1500**	880	910	610	600	**4100**	**3900**
Total Nitrogen, Nitrate+Nitrite	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
General Physical Properties													
Apparent Color	ACU	15	S	**70**	**70**	**120**	**150**	10	ND	**100**	**100**	15	**20**
Hardness (Total, as CaCO3)	mg/l			41	46	140	150	290	300	82	85	860	890
Lab pH	Units			8.5	8.5	8.2	8.2	8	8.1	8.2	8.3	7.8	7.8
Langelier Index - 25 degree	None			0.38	0.48	0.98	0.96	0.7	0.82	0.6	0.7	0.95	0.98
Odor	TON	3	S	2	2	2	2	1	1	2	2	**8**	2
Specific Conductance	umho/cm	1600	S	1500	**1700**	**2500**	**2500**	1600	1600	1000	1000	**6800**	**6800**
Turbidity	NTU	5	S	2.7	0.54	0.76	0.5	0.87	0.2	**5.6**	**7**	0.17	0.1
Metals													
Aluminum, Total	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total	ug/l	10	P	ND	ND	2.2	1.7	ND	1.2	ND	ND	1.6	2.7
Barium, Total	ug/l	1000	P	6.5	7.4	44	45	25	25	15	15	72	70
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	1.5	ND	ND	ND	3.5	ND	1.1
Hexavalent Chromium (Cr VI)	ug/l			0.36	0.07	0.41	0.2	0.15	ND	0.5	0.2	0.25	0.042
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	ND	0.06	0.054	0.036	0.036	ND	ND	ND	ND
Lead, Total	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium, Total	None			5.6	6.3	19	20	27	28	8.4	8.6	94	95
Manganese, Total	ug/l	50	S	4.2	4.3	9.2	8.6	14	14	6.1	6.6	48	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	11	7.2	ND	5.1	ND	ND	ND	12
Silver, Total	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/l	70	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane (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
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
Others													
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	0.16	0.12	ND	ND	ND	ND	0.2	0.13
Total Organic Carbon	mg/l			4.5	4	20	15	1.6	1.6	11	7.3	1	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 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
Bell #1	Zone 1	1,730	1,750	4/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1,195	1,215	4/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	965	985	4/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	615	635	4/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	420	440	4/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	250	270	4/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Bell Gardens #1	Zone 1	1775	1795	5/22/2019	ND	ND	ND	ND	ND	ND	ND	6.3	2.9	ND	ND	ND	ND	ND
				9/12/2019	ND	ND	ND	ND	ND	ND	ND	4.4	2.4	ND	ND	ND	ND	ND
				4/22/2020	ND	---	ND	ND	ND	ND	ND	6.0	2.8	---	---	---	---	---
	Zone 2	1390	1410	5/22/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/12/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/22/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	1090	1110	5/22/2019	4.1	6.7	ND	4.7	8.9	5.8	2.8	**56.0**	**20.0**	ND	ND	ND	ND	ND
				9/12/2019	3.1	4.8	ND	3.3	7.4	4.4	2.1	**41.0**	**14.0**	4.3	ND	ND	ND	ND
				4/22/2020	3.5	---	ND	4.0	7.8	4.9	2.7	**51.0**	**16.0**	---	---	---	---	---
	Zone 4	855	875	5/22/2019	6.4	5.5	2.2	5.5	5.1	9.7	4.3	**39.0**	**18.0**	8.0	ND	ND	ND	ND
				9/12/2019	4.6	ND	ND	3.6	3.2	6.7	2.6	**23.0**	**11.0**	6.4	ND	ND	ND	ND
				4/22/2020	5.4	---	ND	4.6	3.8	8.0	3.2	**28.0**	**14.0**	---	---	---	---	---
	Zone 5	555	575	5/22/2019	4.3	ND	ND	3.1	4.5	5.2	ND	**24.0**	**11.0**	ND	ND	ND	ND	ND
				9/12/2019	3.8	ND	ND	2.5	3.7	4.3	ND	**18.0**	**8.9**	4.4	ND	ND	ND	ND
				4/22/2020	4.4	---	ND	3.1	4.1	5.0	ND	**23.0**	**10.0**	---	---	---	---	---
	Zone 6	370	390	5/22/2019	5.7	5.7	ND	4.6	5.4	7.9	2.4	**30.0**	**15.0**	6.8	ND	ND	ND	ND
				9/12/2019	5.0	ND	ND	3.3	3.6	5.7	1.9	**22.0**	**11.0**	5.9	ND	ND	ND	ND
				4/22/2020	6.0	---	ND	3.9	4.4	7.9	2.3	**26.0**	**12.0**	---	---	---	---	---
Carson #1	Zone 1	990	1,010	3/4/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	740	760	3/4/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	460	480	3/4/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	250	270	3/4/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Carson #2	Zone 1	1,230	1,250	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	850	870	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	600	620	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	450	470	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	230	250	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Carson #3	Zone 1	1,600	1,620	3/3/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1,220	1,240	3/3/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	1,008	1,100	3/3/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	870	890	3/3/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	620	640	3/3/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	360	380	3/3/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
Cerritos #1	Zone 1	1155	1175	3/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1000	1020	3/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	610	630	3/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	270	290	3/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	180	200	3/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	125	135	3/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Cerritos #2	Zone 1	1350	1370	4/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/12/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	915	935	4/23/2019	2.0	7.3	ND	ND	11.0	ND	3.2	**64.0**	**9.7**	ND	ND	ND	ND	ND
				9/12/2019	ND	6.0	ND	ND	8.9	ND	2.5	**48.0**	**8.0**	ND	ND	ND	ND	ND
				3/9/2020	ND	---	ND	ND	10.0	ND	3.0	**59.0**	**9.1**	---	---	---	---	---
	Zone 3	740	760	4/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/12/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	490	510	4/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/12/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	350	370	4/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/12/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	150	170	4/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/12/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Chandler #3	Zone 1	341	363	7/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	165	192	7/9/2020	2.5	---	ND	ND	ND	3.1	ND	ND	ND	---	---	---	---	---
				8/27/2020	2.6	---	ND	ND	ND	3.2	ND	ND	ND	---	---	---	---	---
Commerce #1	Zone 1	1330	1390	4/8/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6	ND	ND	ND
				7/8/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	940	960	4/8/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	760	780	4/8/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	570	590	4/8/2019	ND	ND	ND	ND	2.3	ND	ND	**8.4**	2.7	ND	ND	ND	ND	ND
				9/26/2019	ND	ND	ND	ND	2.0	ND	ND	**8.2**	2.6	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	3.1	ND	ND	**12.0**	3.1	---	---	---	---	---
	Zone 5	325	345	4/8/2019	ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND
				9/26/2019	ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	2.0	ND	---	---	---	---	---
	Zone 6	205	225	4/8/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
Compton #1	Zone 1	1370	1390	4/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1150	1170	4/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	800	820	4/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	460	480	4/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/17/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Compton #2	Zone 1	1,475	1,495	4/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	830	850	4/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	585	605	4/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	380	400	4/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	295	315	4/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	150	170	4/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Downey #1	Zone 1	1170	1190	4/4/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	940	960	4/4/2019	ND	ND	ND	ND	2.0	ND	ND	**8.6**	3.4	ND	ND	ND	ND	ND
				9/23/2019	ND	ND	ND	ND	2.0	ND	ND	**9.0**	3.5	ND	ND	ND	ND	ND
				5/11/2020	ND	---	ND	ND	2.6	ND	ND	**10.0**	4.0	---	---	---	---	---
	Zone 3	580	600	4/4/2019	1.1	7.8	ND	1.6	6.2	2.7	2.8	**27.0**	**9.1**	ND	ND	ND	ND	ND
				9/23/2019	ND	7.1	ND	ND	6.2	2.7	2.8	**26.0**	**8.7**	2.8	ND	ND	ND	ND
				5/11/2020	ND	---	ND	ND	7.2	3.1	3.4	**32.0**	**10.0**	---	---	---	---	---
	Zone 4	370	390	4/4/2019	2.4	6.5	ND	ND	8.0	ND	2.0	**39.0**	**5.6**	ND	ND	ND	ND	ND
				9/23/2019	1.9	5.8	ND	ND	7.3	ND	2.2	**35.0**	**5.4**	ND	ND	ND	ND	ND
				5/11/2020	2.6	---	ND	ND	7.9	ND	2.2	**40.0**	**5.9**	---	---	---	---	---
	Zone 5	250	270	4/4/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	90	110	4/4/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Gardena #1	Zone 1	970	990	4/2/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	445	465	4/2/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	345	365	4/2/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	120	140	4/2/2020	ND	---	ND	ND	ND	15.0	ND	ND	ND	---	---	---	---	---
				9/9/2020	ND	---	ND	ND	ND	18.0	ND	ND	ND	---	---	---	---	---
Gardena #2	Zone 1	1,275	1,335	3/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	770	790	3/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	610	630	3/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	340	360	3/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	235	255	3/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Hawthorne #1	Zone 1	910	950	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	710	730	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	520	540	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	400	420	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	240	260	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/11/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	110	130	3/19/2020	2.5	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/11/2020	2.1	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
Huntington Park #1	Zone 1	890	910	3/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	690	710	3/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	420	440	3/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	275	295	3/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Inglewood #1	Zone 1	1,380	1,400	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	865	885	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	430	450	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	280	300	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	150	170	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Inglewood #3	Zone 1	1900	1940	4/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1440	1460	4/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	1255	1275	4/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	890	910	4/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	540	560	4/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/20/2020	ND	---	ND	ND	ND	4.8	ND	ND	ND	---	---	---	---	---
	Zone 6	370	390	4/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 7	245	265	4/23/2020	10.0	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/20/2020	20.0	---	ND	ND	ND	6.0	ND	ND	ND	---	---	---	---	---
La Mirada #1	Zone 1	1,130	1,150	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	865	885	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	690	710	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	470	490	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	225	245	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Lakewood #1	Zone 1	989	1009	4/29/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/22/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	640	660	4/29/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/22/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	450	470	4/29/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/22/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	280	300	4/29/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/22/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	140	160	4/29/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/22/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	70	90	4/29/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/22/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
Lakewood #2	Zone 1	1960	2000	5/21/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1740	1760	5/21/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	2.3	ND	---	---	---	---	---
	Zone 3	1300	1320	5/21/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	995	1015	5/21/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	690	710	5/21/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	555	575	5/21/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 7	255	275	5/21/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 8	110	120	5/21/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Lawndale #1	Zone 1	1360	1400	5/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/2/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	885	905	5/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/2/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	615	635	5/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/2/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	395	415	5/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/2/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	290	310	5/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/2/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	170	190	5/14/2020	7.8	---	ND	5.8	120.0	15.0	ND	**210**	**30.0**	---	---	---	---	---
				9/2/2020	5.9	---	ND	3.2	53.0	9.5	ND	**110**	**14.0**	---	---	---	---	---
Lomita #1	Zone 1	1,240	1,260	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	700	720	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	550	570	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	400	420	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	220	240	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Long Beach #1	Zone 1	1,430	1,450	5/7/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1,230	1,250	5/7/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	970	990	5/7/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	599	619	5/7/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	400	420	5/7/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	155	175	5/7/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Long Beach #2	Zone 1	970	990	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/18/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	720	740	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/18/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	450	470	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/18/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	280	300	3/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/18/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	160	180	3/24/2020	2.0	---	ND	ND	5.4	ND	ND	3.4	2.6	---	---	---	---	---
				8/18/2020	3.0	---	ND	ND	5.4	ND	ND	3.3	2.3	---	---	---	---	---
	Zone 6	95	115	3/24/2020	ND	---	ND	ND	2.3	ND	ND	5.1	ND	---	---	---	---	---
				8/18/2020	ND	---	ND	ND	ND	ND	ND	4.6	ND	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
Long Beach #3	Zone 1	1,350	1,390	4/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	997	1,017	4/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	670	690	4/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	530	550	4/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	410	430	4/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Long Beach #6	Zone 1	1,490	1,510	3/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	930	950	3/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	740	760	3/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	480	500	3/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	380	400	3/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	220	240	3/17/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Long Beach #8	Zone 1	1,435	1,455	6/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1,020	1,040	6/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	780	800	6/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	635	655	6/24/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	415	435	6/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	165	185	6/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Los Angeles #1	Zone 1	1,350	1,370	3/18/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1,080	1,100	3/18/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	920	940	3/18/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	640	660	3/18/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	350	370	3/18/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Los Angeles #2	Zone 2	710	730	3/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/28/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	505	525	3/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/28/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	410	430	3/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				9/28/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	245	265	3/25/2020	ND	---	ND	ND	3.3	2.4	ND	ND	ND	---	---	---	---	---
				9/28/2020	ND	---	ND	ND	3.2	2.8	ND	ND	ND	---	---	---	---	---
Los Angeles #3	Zone 1	1,210	1,230	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	875	895	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	705	725	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	550	570	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	330	350	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	190	210	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Los Angeles #4	Zone 1	1,740	1,780	3/26/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1,190	1,230	3/26/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	720	740	3/26/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	490	510	3/26/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	355	375	3/26/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	235	255	3/26/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Los Angeles #5	Zone 1	1,960	2,000	4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1,235	1,255	4/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	750	770	4/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	555	575	4/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	430	450	4/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	215	235	4/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Los Angeles #6	Zone 1	580	600	6/11/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/16/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	420	440	6/11/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/16/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	345	365	6/11/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/16/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	255	275	6/11/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/16/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
Lynwood #1	Zone 1	2880	2900	5/15/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/27/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/12/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	2430	2450	5/14/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/12/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	1650	1670	5/15/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/27/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	1445	1465	5/15/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/27/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	1200	1220	5/15/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/27/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	880	900	5/15/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/27/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 7	640	660	5/15/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/27/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 8	315	335	5/14/2019	1.3	ND	ND	2.0	6.3	3.6	ND	**11.0**	**7.9**	ND	ND	ND	ND	ND
				9/26/2019	ND	ND	ND	ND	5.2	2.7	ND	**17.0**	**5.9**	2.2	ND	ND	ND	ND
				5/12/2020	ND	---	ND	ND	6.7	3.4	ND	**22.0**	**7.9**	---	---	---	---	---
	Zone 9	160	180	5/15/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/27/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				5/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Manhattan Beach #1	Zone 1	1,950	1,990	2/26/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1,570	1,590	2/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	1,250	1,270	2/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	865	885	2/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	640	660	2/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	320	340	2/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 7	180	200	2/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Montebello #1	Zone 1	900	960	5/1/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/26/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	690	710	5/1/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/26/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.9	ND
				3/26/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	500	520	5/1/2019	ND	ND	ND	ND	ND	ND	ND	3.8	1.2	ND	ND	ND	ND	ND
				9/26/2019	ND	4.4	ND	ND	ND	ND	ND	3.2	ND	ND	ND	ND	ND	ND
				3/26/2020	ND	---	ND	ND	ND	ND	ND	4.0	ND	---	---	---	---	---
	Zone 4	370	390	5/1/2019	ND	ND	ND	ND	ND	ND	ND	5.5	0.9	ND	ND	ND	ND	ND
				9/26/2019	2.3	ND	ND	ND	2.9	2.0	ND	**14.0**	5.0	1.8	ND	ND	ND	ND
				3/26/2020	ND	---	ND	ND	ND	ND	ND	5.1	ND	---	---	---	---	---
	Zone 5	210	230	5/1/2019	7.6	11.0	ND	4.3	10.0	6.0	3.1	**57.0**	**19.0**	6.1	ND	ND	ND	ND
				9/26/2019	8.4	11.0	ND	4.7	7.5	7.3	2.6	**41.0**	**18.0**	7.6	ND	ND	ND	ND
				3/26/2020	9.8	---	ND	5.1	8.1	7.7	2.7	**44.0**	**18.0**	---	---	---	---	---
Norwalk #1	Zone 1	1400	1420	5/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	990	1010	5/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	720	740	5/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	430	450	5/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	220	240	5/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6	ND	ND	ND	ND
				4/21/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
Norwalk #2	Zone 1	1460	1480	4/16/2019	ND	ND	ND	ND	2.5	ND	ND	**17.0**	2.9	ND	ND	ND	ND	ND
				9/24/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/28/2020	ND	---	ND	ND	ND	ND	ND	12.0	2.1	---	---	---	---	---
	Zone 2	1260	1280	4/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/24/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	ND	ND
				4/28/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	960	980	4/16/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/24/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/28/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	800	820	4/16/2019	ND	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND	ND	ND
				9/24/2019	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND	ND	ND	ND	ND
				4/28/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	480	500	4/16/2019	1.8	7.9	ND	ND	10.0	ND	3.2	**54.0**	**9.2**	ND	ND	ND	ND	ND
				9/24/2019	1.7	6.5	ND	ND	8.4	ND	2.7	**49.0**	**8.5**	ND	ND	ND	ND	ND
				4/28/2020	2.6	---	ND	ND	9.7	ND	2.4	**53.0**	**9.7**	---	---	---	---	---
	Zone 6	236	256	4/16/2019	7.3	8.0	ND	5.8	9.6	8.8	2.8	**47.0**	**20.0**	7.9	ND	ND	ND	ND
				9/24/2019	6.3	7.1	ND	5.1	8.5	8.4	2.7	**44.0**	**19.0**	8.4	ND	ND	ND	ND
				4/28/2020	5.9	---	ND	4.9	8.4	7.6	2.6	**48.0**	**17.0**	---	---	---	---	---
Pico #1	Zone 1	860	900	3/28/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/28/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	460	480	3/28/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/24/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/28/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	380	400	3/28/2019	2.7	ND	ND	ND	5.2	ND	ND	**21.0**	**7.1**	ND	ND	ND	ND	ND
				9/24/2019	2.8	6.1	ND	ND	5.3	ND	ND	**22.0**	**8.9**	ND	ND	ND	ND	ND
				4/28/2020	3.1	---	ND	ND	5.2	ND	ND	**21.0**	**7.2**	---	---	---	---	---
	Zone 4	170	190	3/28/2019	9.3	11.0	ND	3.1	4.6	5.5	ND	**7.4**	**13.0**	ND	ND	ND	ND	ND
				9/24/2019	9.4	12.0	ND	3.2	5.3	5.5	ND	**7.9**	**13.0**	6.3	ND	ND	ND	ND
				4/28/2020	9.3	---	ND	2.4	4.8	4.0	ND	**9.6**	**10.0**	---	---	---	---	---
Pico #2	Zone 1	1180	1200	5/7/2019	ND	ND	ND	ND	2.1	ND	ND	4.5	ND	ND	ND	ND	ND	ND
				9/23/2019	ND	ND	ND	ND	1.9	ND	ND	4.4	ND	ND	ND	ND	ND	ND
				4/16/2020	ND	---	ND	ND	2.5	ND	ND	6.1	ND	---	---	---	---	---
	Zone 2	830	850	5/7/2019	5.1	8.0	ND	2.8	10.0	4.1	2.0	**42.0**	**16.0**	ND	ND	ND	ND	ND
				9/23/2019	4.8	7.8	ND	2.9	9.7	4.0	1.7	**44.0**	**16.0**	4.3	ND	ND	ND	ND
				4/16/2020	4.8	---	ND	3.3	8.6	4.6	2.4	**41.0**	**15.0**	---	---	---	---	---
	Zone 3	560	580	5/7/2019	4.5	7.1	ND	2.7	8.9	5.0	ND	**40.0**	**15.0**	ND	ND	ND	ND	ND
				9/23/2019	3.1	5.1	ND	2.3	6.7	3.7	ND	**30.0**	**11.0**	3.7	ND	ND	ND	ND
				4/16/2020	4.4	---	ND	3.1	7.9	4.7	2.2	**35.0**	**13.0**	---	---	---	---	---
	Zone 4	320	340	5/7/2019	12.0	9.4	ND	3.1	4.7	20.0	3.2	**20.0**	**15.0**	22.0	ND	ND	ND	ND
				9/23/2019	8.5	6.9	ND	2.8	3.6	13.0	2.3	**15.0**	**11.0**	16.0	ND	ND	ND	ND
				4/16/2020	10.0	---	ND	3.3	4.5	16.0	2.5	**18.0**	**13.0**	---	---	---	---	---
	Zone 5	235	255	5/7/2019	13.0	18.0	ND	2.9	3.4	15.0	3.5	**20.0**	**16.0**	23.0	ND	ND	ND	ND
				9/23/2019	9.4	14.0	ND	2.6	2.9	11.0	2.4	**15.0**	**11.0**	16.0	ND	ND	ND	ND
				4/16/2020	7.9	---	2.5	2.9	4.4	11.0	ND	**11.0**	**10.0**	---	---	---	---	---
	Zone 6	100	120	5/7/2019	6.8	6.8	3.0	2.8	4.0	13.0	ND	**15.0**	**9.2**	11.0	ND	ND	ND	ND
				9/23/2019	7.3	6.8	4.8	3.0	3.0	22.0	3.9	**21.0**	**9.4**	24.0	ND	ND	ND	ND
				4/16/2020	7.0	---	4.0	4.8	2.6	20.0	ND	**11.0**	**12.0**	---	---	---	---	---
PM-1 Columbia	Zone 1	555	595	3/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	460	500	3/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
PM-2 Police Station	Zone 1	645	665	3/4/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	520	540	3/4/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	370	390	3/4/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	240	260	3/4/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
PM-3 Madrid	Zone 1	640	680	3/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/6/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	480	520	3/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/6/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	240	280	3/23/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/6/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	145	185	3/23/2020	4.5	---	ND	ND	3.6	3.5	ND	ND	ND	---	---	---	---	---
				8/6/2020	ND	---	ND	ND	ND	2.2	ND	ND	ND	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
PM-4 Mariner	Zone 1	670	710	3/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/16/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	500	540	3/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/16/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	340	380	3/29/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/16/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	200	240	3/29/2020	3.6	---	ND	ND	14.0	ND	ND	**8.0**	4.6	---	---	---	---	---
				8/16/2020	2.9	---	ND	ND	11.0	ND	ND	5.8	2.6	---	---	---	---	---
PM-5 Columbia Park	Zone 1	1,360	1,380	3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	940	960	3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	770	790	3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	580	600	3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	320	340	3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	140	160	3/9/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
PM-6 Madrona Marsh	Zone 1	1195	1235	3/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	905	925	3/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	770	790	3/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	530	550	3/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	390	410	3/27/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	240	260	3/27/2020	5.0	---	2.6	12.0	43.0	15.0	3.8	**120**	**33.0**	---	---	---	---	---
				8/13/2020	4.6	---	ND	11.0	38.0	15.0	3.2	**100**	**25.0**	---	---	---	---	---
Rio Hondo #1	Zone 1	1110	1130	5/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/24/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				3/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	910	930	5/2/2019	ND	ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND
				9/24/2019	ND	ND	ND	ND	1.9	ND	ND	ND	2.6	ND	ND	ND	ND	ND
				3/25/2020	ND	---	ND	ND	ND	ND	ND	ND	2.3	---	---	---	---	---
	Zone 3	710	730	5/2/2019	4.3	8.0	ND	1.9	9.9	3.0	2.6	**52.0**	**14.0**	ND	ND	ND	ND	ND
				9/24/2019	4.1	7.7	ND	2.1	9.7	3.0	2.5	**48.0**	**15.0**	2.4	ND	ND	ND	ND
				3/25/2020	4.2	---	ND	2.1	10.0	2.7	2.5	**50.0**	**14.0**	---	---	---	---	---
	Zone 4	430	450	5/2/2019	7.5	6.0	1.8	4.2	3.6	12.0	4.0	**23.0**	**15.0**	11.0	ND	ND	ND	ND
				9/24/2019	6.6	4.9	ND	4.2	3.1	9.9	3.8	**22.0**	**13.0**	10.0	ND	ND	ND	ND
				3/25/2020	6.0	---	ND	3.9	2.9	9.1	3.4	**21.0**	**12.0**	---	---	---	---	---
	Zone 5	280	300	5/2/2019	8.1	6.6	ND	6.0	4.1	15.0	3.4	**22.0**	**18.0**	13.0	ND	ND	ND	ND
				9/24/2019	8.6	6.3	ND	5.9	4.0	15.0	3.2	**20.0**	**17.0**	16.0	ND	ND	ND	ND
				3/25/2020	8.2	---	ND	5.7	3.6	16.0	3.4	**20.0**	**16.0**	---	---	---	---	---
	Zone 6	140	160	5/2/2019	7.7	8.6	1.9	7.7	3.1	28.0	3.8	**16.0**	**22.0**	25.0	ND	ND	ND	ND
				9/24/2019	6.8	6.8	1.8	6.5	3.0	18.0	3.7	**17.0**	**17.0**	19.0	ND	ND	ND	ND
				3/25/2020	6.3	---	ND	4.7	2.8	11.0	3.0	**16.0**	**13.0**	---	---	---	---	---
Seal Beach #1	Zone 1	1,345	1,365	4/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1,160	1,180	4/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	1,020	1,040	4/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	775	795	4/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	605	625	4/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	215	225	4/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 7	60	70	4/13/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
South Gate #1	Zone 1	1440	1460	3/28/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1320	1340	3/28/2019	1.5	ND	ND	2.5	8.2	3.3	ND	**42.0**	**11.0**	ND	ND	ND	ND	ND
				9/19/2019	ND	ND	ND	2.4	7.6	3.3	ND	**40.0**	**11.0**	2.9	ND	ND	ND	ND
				4/20/2020	ND	---	ND	2.7	8.8	3.7	ND	**46.0**	**12.0**	---	---	---	---	---
	Zone 3	910	930	3/28/2019	ND	ND	ND	1.6	4.6	2.6	ND	**20.0**	**7.2**	ND	ND	ND	ND	ND
				9/19/2019	ND	ND	ND	ND	4.6	2.2	ND	ND	**5.8**	2.1	ND	ND	ND	ND
				4/20/2020	ND	---	ND	ND	5.5	2.6	ND	**23.0**	**7.2**	---	---	---	---	---
	Zone 4	565	585	3/28/2019	3.0	ND	ND	3.2	5.5	5.1	1.8	**26.0**	**11.0**	ND	ND	ND	ND	ND
				9/19/2019	2.5	ND	ND	2.8	5.4	4.6	ND	**22.0**	**10.0**	4.4	ND	ND	ND	ND
				4/20/2020	3.2	---	ND	3.3	6.9	5.5	ND	**28.0**	**12.0**	---	---	---	---	---
	Zone 5	220	240	3/28/2019	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/19/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/20/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Westchester #1	Zone 1	740	760	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				7/31/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	560	580	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				7/31/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	455	475	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				7/31/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	310	330	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				7/31/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	215	235	3/19/2020	ND	---	ND	ND	ND	ND	ND	ND	2.1	---	---	---	---	---
				7/31/2020	ND	---	ND	ND	ND	ND	ND	ND	3.1	---	---	---	---	---
Whittier Narrows #1	Zone 1	749	769	3/13/2019	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND
				10/30/2019	ND	ND	ND	ND	ND	ND	ND	ND	**5.3**	ND	ND	ND	ND	ND
				4/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	610	629	3/13/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				10/30/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	463	482.5	3/13/2019	1.9	7.2	ND	1.8	6.1	2.1	1.7	**24.0**	**13.0**	ND	ND	ND	ND	ND
				10/30/2019	2.1	7.6	2.2	2.1	6.9	2.2	2.5	**38.0**	**15.0**	2.5	ND	ND	ND	ND
				4/30/2020	2.1	---	ND	2.2	6.9	2.2	2.4	**32.0**	**13.0**	---	---	---	---	---
	Zone 4	393	402	3/13/2019	4.2	12.0	3.1	1.8	4.7	3.8	3.5	**28.0**	**19.0**	ND	ND	ND	ND	ND
				10/30/2019	2.7	9.0	2.1	1.9	6.0	2.7	2.5	**31.0**	**15.0**	2.7	ND	ND	ND	ND
				4/30/2020	12.0	---	3.7	2.0	5.2	5.6	3.9	**31.0**	**18.0**	---	---	---	---	---
	Zone 5	334	343.5	3/14/2019	4.6	13.0	2.6	1.9	3.5	4.2	2.6	**13.0**	**13.0**	ND	ND	ND	ND	ND
				10/30/2019	4.3	12.0	2.7	1.9	4.1	4.1	3.3	**19.0**	**15.0**	3.9	ND	ND	ND	ND
				4/30/2020	7.4	---	2.9	2.0	4.4	4.7	3.2	**20.0**	**14.0**	---	---	---	---	---
	Zone 6	273	282.5	3/14/2019	5.0	12.0	2.5	1.3	2.1	5.5	ND	**8.8**	**9.1**	6.3	ND	ND	ND	ND
				10/30/2019	4.3	13.0	ND	ND	1.9	4.9	ND	5.8	**8.6**	6.1	ND	ND	ND	ND
				4/30/2020	16.0	---	2.7	ND	2.5	6.0	2.0	**12.0**	**9.2**	---	---	---	---	---
	Zone 7	234	243	3/14/2019	4.6	14.0	2.7	2.0	2.1	6.0	2.9	**21.0**	**12.0**	6.5	ND	ND	ND	ND
				10/30/2019	4.6	13.0	ND	ND	2.2	3.2	ND	**8.9**	**8.3**	4.0	ND	ND	ND	ND
				5/1/2020	5.6	---	3.0	ND	2.7	2.5	2.3	**17.0**	**9.4**	---	---	---	---	---
	Zone 8	163	173	3/14/2019	4.8	11.0	2.3	1.9	ND	6.0	ND	**10.0**	**8.6**	8.1	ND	ND	ND	ND
				10/30/2019	5.1	12.0	1.8	2.0	2.1	5.9	ND	**6.9**	**8.3**	7.6	ND	ND	ND	ND
				5/1/2020	9.0	---	3.0	2.1	3.5	4.1	2.6	**19.0**	**11.0**	---	---	---	---	---
	Zone 9	95	104.5	3/14/2019	6.8	9.8	ND	4.0	3.0	13.0	2.2	**9.7**	**12.0**	13.0	ND	ND	ND	ND
				10/31/2019	7.7	12.0	2.5	4.1	4.8	9.7	2.5	**26.0**	**13.0**	12.0	ND	ND	ND	ND
				5/1/2020	7.2	---	2.6	3.1	5.0	6.9	2.8	**28.0**	**12.0**	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
Whittier Narrows #2	Zone 1	659	678.4	3/28/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				10/31/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/14/2020	ND	---	2.8	ND	ND	ND	ND	ND	**5.3**	---	---	---	---	---
	Zone 2	579	598.2	3/28/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				10/31/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	469	488.2	3/28/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				10/31/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	419	428.2	3/28/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				10/31/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	329	338.3	3/29/2019	ND	ND	ND	ND	ND	ND	ND	1.8	1.7	ND	ND	ND	ND	ND
				10/31/2019	ND	ND	ND	ND	ND	3.0	ND	3.7	5.1	ND	ND	ND	ND	2.6
				4/14/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 6	263	273.3	3/29/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				10/31/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 7	214	223.3	3/29/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				10/31/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 8	136	145.3	3/29/2019	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				10/31/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/15/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 9	91	100.3	3/29/2019	6.8	ND	ND	2.1	1.9	15.0	ND	2.4	**6.3**	15.0	ND	ND	ND	ND
				10/31/2019	5.6	ND	ND	ND	2.6	4.9	ND	ND	3.4	6.5	ND	ND	ND	ND
				4/15/2020	4.9	---	ND	ND	2.6	2.8	ND	ND	2.5	---	---	---	---	---
Whittier #1	Zone 1	1,180	1,200	3/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	920	940	3/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	600	620	3/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	450	470	3/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	200	220	3/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
Whittier #2	Zone 1	1370	1390	4/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	1090	1110	4/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	655	675	4/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	425	445	4/23/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				9/25/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				4/30/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	315	335	4/23/2019	1.3	5.3	ND	ND	7.1	ND	ND	**39.0**	**7.9**	ND	ND	ND	ND	ND
				9/25/2019	ND	5.4	ND	ND	6.6	ND	ND	**39.0**	**7.9**	ND	ND	ND	ND	ND
				4/30/2020	ND	---	ND	ND	8.4	ND	ND	**44.0**	**8.5**	---	---	---	---	---
	Zone 6	150	170	4/23/2019	4.0	6.0	ND	2.2	5.7	3.7	ND	**13.0**	**8.4**	ND	ND	ND	ND	ND
				9/25/2019	4.2	6.1	ND	2.2	5.0	3.6	ND	**11.0**	**8.7**	4.8	ND	ND	ND	ND
				4/30/2020	4.7	---	ND	2.7	5.8	4.4	ND	**14.0**	**10.0**	---	---	---	---	---
Willowbrook #1	Zone 1	885	905	4/1/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	500	520	4/1/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	360	380	4/1/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	200	220	4/1/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

TABLE 3.3

WATER QUALITY RESULTS[1] FOR PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) DETECTED[2] IN RGWMP MONITORING WELLS IN 2019 AND 2020

Well Name	Well Zone	TOP [3]	BOP [4]	Date	PFBS	PFBA	PFDA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFPeA	6:2 FTS	NEtPFOSA	NEtPFOSAE	NMePFOSAE
Wilmington #1	Zone 1	915	935	5/7/2020	7.6	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/5/2020	7.4	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	780	800	5/7/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/5/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	550	570	5/7/2020	4.4	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/5/2020	4.5	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	225	245	5/7/2020	2.4	---	ND	ND	5.5	2.4	ND	2.9	2.1	---	---	---	---	---
				8/5/2020	2.5	---	ND	ND	10.0	3.1	ND	5.3	2.2	---	---	---	---	---
	Zone 5	120	140	5/7/2020	5.9	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
				8/5/2020	8.3	---	ND	ND	ND	ND	ND	2.0	ND	---	---	---	---	---
Wilmington #2	Zone 1	950	970	2/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 2	755	775	2/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 3	540	560	2/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 4	390	410	2/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---
	Zone 5	120	140	2/25/2020	ND	---	ND	ND	ND	ND	ND	ND	ND	---	---	---	---	---

Notes:

-- **Bold Font** indicates exceedance of Notification Level (NL)---NL for Perfluoro-octanesulfonate (PFOS) = 6.5 ng/L---NL for Perfluorooctanoic acid (PFOA) = 5.1 ng/L

-- Only those contituents with detectable concentrations are reported; results for all other constituents included with each method performed in 2019 and/or 2020 were non-detect (ND).

-- **2019 PFAS Analysis** was performed by EPA Method 537, Version 1.1 Modified for 32 constituents. The specific constituents analyed with this method were Perfluorobutanesulfonate (**PFBS**), Perfluorobutanoic acid (**PFBA**), Perfluorodecanesulfonate (**PFDS**), Perfluorodecanoid acid (**PFDA**), Perfluorododecanesulfonate (**PFDoS**), Perfluorododecanoic acid (**PFDoA**), Perfluoroheptanesulfonate (**PFHpS**), Perfluoroheptanoic acid (**PFHpA**), Perfluorohexadecanoic acid (**PFHxDA**), Perfluorohexanesulfonate (**PFHxS**), Perfluorohexanoic acid (**PFHxA**), Perfluorononanesulfonate (**PFNS**), Perfluorononanoic acid (**PFNA**), Perfluorooctadecanoic acid (**PFOcDA**), Perfluoroctanesulfonamide (**PFOSA**), Perfluoro-octanesulfonate (**PFOS**), Perfluorooctanoic acid (**PFOA**), Perfluoropentanesulfonate (**PFPeS**), Perfluoropentanoic acid (**PFTeA**), Perfluorotetradecanoic acid (**PFTA**), Perfluorotridecanoic acid (**PFTrDA**), Perfluoroundecanoic acid (**PFUnA**), 10:2-fluorotelomersulfonate (**10:2 FTS**), 4:2-fluorotelomersulfonate (**4:2 FTS**), 6:2-flurotelomersulfonate (**6:2 FTS**), 8:2-fluorotelomersulfonate (**8:2-FTS**), N-ethyl Perfluorooctanesulfonamidoacetic Acid (**NEtFOSAA**), N-ethylperfluorooctane-1-sulfonamide (**NEtPFOSA**), N-ethyl-N-perfluorooctylsulfonylaminoethanol (**NEtPFOSAE**), N-methyl perfluorooctanesulfonamidoacetic Acid (**NMeFOSAA**), N-methyl-perfluorooctane-1-sulfonamide (**NMePFOSA**), and N-methylperfluorooctanesulfonamidoethanol (**NMePFOSAE**).

-- **2020 PFAS Analysis** was performed by EPA Method 537.1 for 18 constituents. The specific constituents analyzed with this method were Perfluorobutanesulfonate (**PFBS**), Perfluorodecanoid acid (**PFDA**), Perfluorododecanoic acid (**PFDoA**), Perfluoroheptanoic acid (**PFHpA**), Perfluorohexanesulfonate (**PFHxS**), Perfluorohexanoic acid (**PFHxA**), Perfluorononanoic acid (**PFNA**), Perfluoro-octanesulfonate (**PFOS**), Perfluorooctanoic acid (**PFOA**), Perfluorotetradecanoic acid (**PFTA**), Perfluorotridecanoic acid (**PFTrDA**), Perfluoroundecanoic acid (**PFUnA**), Hexafluoropropylene oxide dimer acid (**HFPO-DA**), 4,8-dioxa-3H-perfluorononanoic acid (**ADONA**), 9-chlorohexadecafluoro-3-oxanone-sulfonic acid (**9Cl-PF3ONS**), 11-chloroeicosafluoro-3-oxaundecane-sulfonic acid (**11Cl-PF3OUDS**), N-ethyl Perfluorooctanesulfonamidoacetic Acid (**NEtFOSAA**), and N-methyl perfluorooctanesulfonamidoacetic Acid (**NMeFOSAA**).

1 - Results in nanograms per Liter (ng/L) 2 - See notes on last page of Table 3.3 3 - Top of Perforation (feet BGS) 4 - Bottom of Perforation (feet BGS) Bold Font = Notification Level Exceeded (---) Not Analzed

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TABLE 3.4
QUALITY OF REPLENISHMENT WATER

Constituent	Units	Regulatory Limit	IMPORTED WATER			RECYCLED WATER							LOCAL WATER
			Treated Blend of Colorado River & State Water Project [A]	Untreated Colorado River [B]	Untreated State Water Project [C]	WBMWD ELWRF [D]	LADWP TIWRP [E]	WRD LVL AWTF [F]	SDLAC Pomona WRP [G]	SDLAC San Jose Creek East WRP [G]	SDLAC San Jose Creek West WRP [G]	SDLAC Whittier Narrows WRP [G]	Stormwater [H]
			2019	2019	2019	2019	2019	2020	2019-2020	2019-2020	2019-2020	2019-2020	2018-2019
Arsenic	µg/L	MCL = 10	ND/ ND	2.2	ND	ND	0.08	0.06	0.295	0.65	0.688	ND	NA
Chloride	mg/L	SMCL = 500	83.7 [I] / 55.3 [I]	91 [I]	54 [I]	9.0	125 [J]	46	129	144	114	113	NA
Hexavalent Chromium	µg/L	MCL = 10	ND / ND	ND	ND	0.31	ND	0.22	0.08	0.1	0.08	0.06	NA
Iron	µg/L	SMCL = 300	ND / ND	ND	237	ND	14.3	ND	33.5	36	45	35.3	NA
Manganese	µg/L	SMCL = 50	ND / ND	ND	ND	ND	1.35	0.68	6.35	10.5	6.67	3.84	NA
Nitrate (as N)	mg/L	MCL = 10	0.5 / 0.5	ND	0.4	0.28	1.05	1.62	6.37	6.55	6.22	6.68	NA
Perchlorate	µg/L	MCL = 6	ND / ND	ND	ND	ND	ND	ND	0.37	0.39	0.5	0.3	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	490 [I] / 261 [I]	576 [I]	221 [I]	84	367 [J]	130	545	630	555	591	NA
Alkalinity	mg/L	None	104 [I] / 81 [I]	119 [I]	75 [I]	66	NA	NA	160	166	166	160	NA
Boron	µg/L	NL = 1,000	120/160	120	120	290	664 [J]	270	270	310	310	270	NA
Chromium, Total	µg/L	MCL = 50	ND / ND	ND	ND	ND	ND	0.38	1.0	0.79	0.85	0.87	NA
Copper, Total	µg/L	SMCL = 1,000	ND / ND	ND	ND	10	2.55	ND	5.7	4.31	5.49	3.22	15.8
1,4-Dioxane	µg/L	NL = 1	NA	NA	NA	ND	ND	ND	1.3	1.4	2.2	0.89	NA
Hardness	mg/L	None	217 [I] / 112 [I]	264 [I]	87 [I]	48	117	41	206	221	205	213	107
Lead, Total	µg/L	AL = 15	ND / ND	ND	ND	ND	0.20	NA	0.37	0.026	0.043	ND	5.6
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	ND	0.077	0.11	0.0079	0.16	0.13	NA
n-Nitrosodimethylamine (NDMA)	ng/L	NL = 10	ND / ND	NA	NA	1.4	4.1	0.4	150	100	41	9.1	NA
pH	pH Units	None	8.5 / 8.5	8.2	8.0	7.4	8.1	8.3	7.5	7.4	7.4	7.4	NA
Selenium	µg/L	MCL = 50	ND / ND	ND	ND	ND	0.20	0.11	ND	ND	ND	ND	NA
Specific Conductance	µS/cm	SMCL = 1,600	820 [I] / 461 [I]	942 [I]	396 [I]	61	581	250	1,040	989	965	968	NA
Sulfate	mg/L	SMCL = 500	171 [I] / 55 [I]	234 [I]	34 [I]	0.32	8.5 [J]	0.56	65.8	107	83.5	111	NA
Total Organic Carbon (TOC)	mg/L	None [K]	2.6 / 2.5	3.0 [I]	3.3 [I]	0.31	0.20	0.28	6.65	6.52	6.09	5.35	NA
Turbidity	NTU	SMCL = 5	0.04 [I] / 0.04 [I]	0.96 [I]	0.96 [I]	0.066	0.05	0.15	0.47	0.66	0.54	0.11	NA

See footnotes on following page.

TABLE 3.4
QUALITY OF REPLENISHMENT WATER

Notes:

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

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

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

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

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

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

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

H = Average concentration of water samples collected from LACDPW San Gabriel River Monitoring Station S14 from July 2018 through June 2019 (four storm events total) (Data Source #5).

I = Average concentration for Water Year October 2019 through September 2020 (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) 2019 Water Quality Report to MWD Member Agencies (Metropolitan Water District of Southern California, March 2020)

(2) Table D, Monthly Analyses of the District Water Supplies (Metropolitan Water District of Southern California, October 2019 - September 2020)

(3) October 2019 - September 2020 Annual Monitoring Report, Montebello Forebay Groundwater Recharge (County Sanitation Districts of Los Angeles County [SDLAC], December 15, 2020)

(4) Annual West Coast Basin Barrier Project Monitoring Report for 2019, Edward C. Little Water Recycling Facility (West Basin Municipal Water District [WBMWD], March 26, 2020)

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

(6) Annual Monitoring Report - January-December 2019, Harbor Water Recycling/Dominguez Gap Barrier Project (City of Los Angeles, Bureau of Sanitation)

(7) 2020 Annual Summary Report, Alamitos Barrier Recycled Water Project, Leo J. Vander Lans Water Treatment Facility (Water Replenishment District of Southern California [WRD], April 2021).

TABLE 3.5
MAJOR MINERAL WATER QUALITY GROUPS

NESTED MONITORING WELL LOCATIONS	GROUP A ZONES Generally Calcium Bicarbonate or Calcium Bicarbonate/Sulfate Dominant	GROUP B ZONES Generally Calcium-Sodium-Bicarbonate or Sodium-Bicarbonate Dominant	GROUP C ZONES Generally Sodium-Chloride Dominant	GROUP D ZONES Generally Different Than Groups A, B, and C
CENTRAL BASIN				
Bell #1	2, 3, 4, 5, 6	1		
Bell Gardens #1	1, 2, 3, 4, 5, 6			
Cerritos #1	4, 5, 6	1, 2, 3		
Cerritos #2	1, 2, 3, 4, 5, 6			
Commerce #1	3, 4, 5, 6		1	2
Compton #1	2, 3, 4, 5	1		
Compton #2	2, 3, 4, 5	1		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
Norwalk #1	4, 5	1, 2, 3		
Norwalk #2	3, 4, 5, 6	1, 2		
Rio Hondo #1	1, 2, 3, 4, 5, 6			
Pico #1	2, 3, 4	1		
Pico #2	1, 2, 3, 4, 5, 6			
Seal Beach #1	6	1, 2, 3, 4, 5		7
South Gate #1	1, 2, 3, 4, 5			
Willowbrook #1	2, 3, 4	1		
Whittier #1	3, 4, 5		1, 2	
Whittier #2	1, 3, 4, 5, 6	2		
Whittier Narrows #1	3, 4, 5, 6, 7, 8, 9	2	1	
WEST COAST BASIN				
Carson #1	3, 4	1, 2		
Carson #2	1, 2, 3, 4, 5			
Carson #3	5, 6	1, 2, 3, 4		
Chandler #3	2	1		
Gardena #1	2, 3	1	4	
Gardena #2	2, 3, 4, 5	1		
Hawthorne #1	5, 6	1, 2, 3, 4		
Inglewood #1	3, 4, 5			1
Inglewood #3		1, 2, 3, 4, 5	6, 7	
Lawndale #1	4, 5	1, 2, 3		6
Lomita #1	2, 3, 4, 5			1
Long Beach #3		1, 2, 3	4, 5	
Long Beach #8		1, 2, 3	6	4, 5
Manhattan Beach #1		3	5,6	7
PM-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

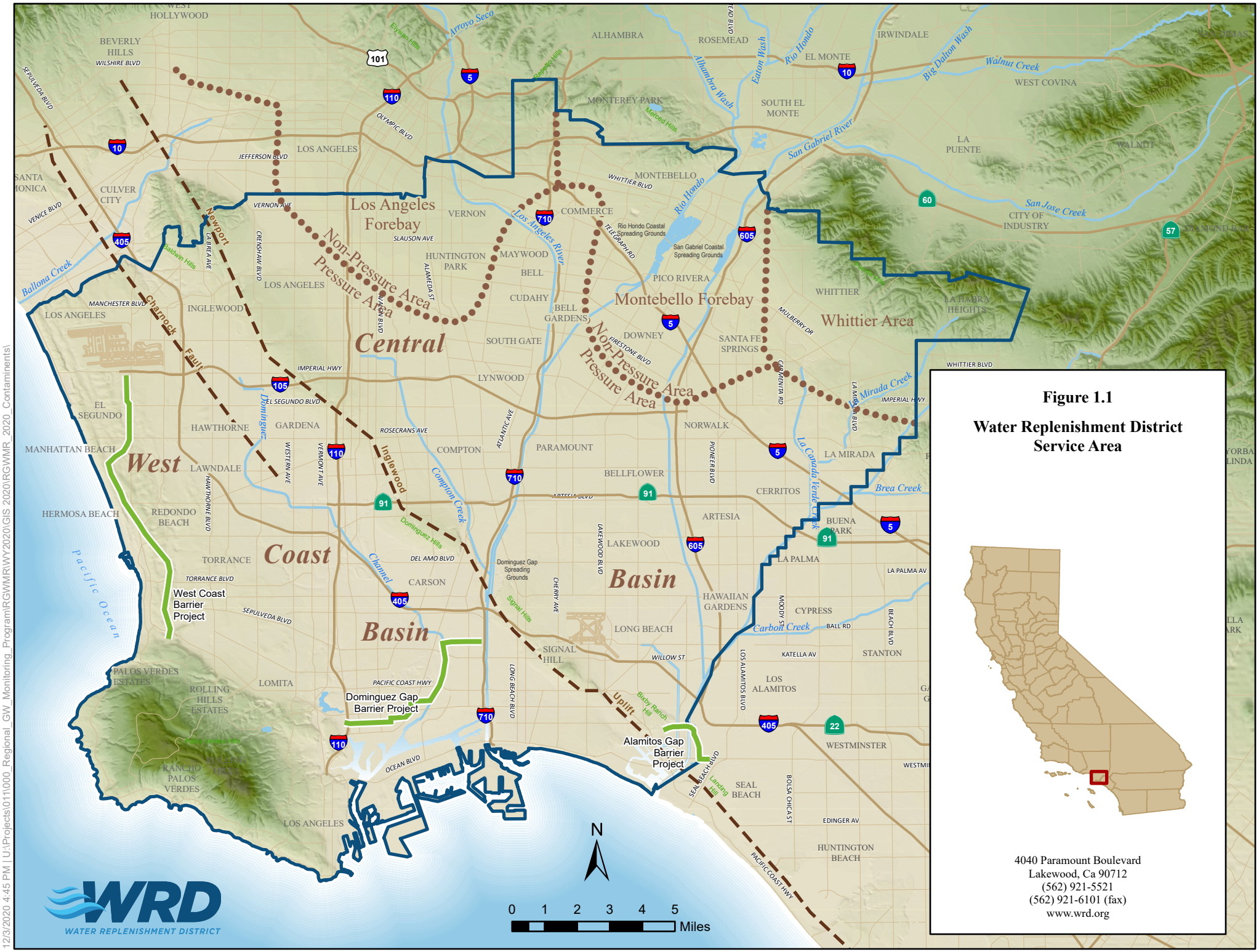
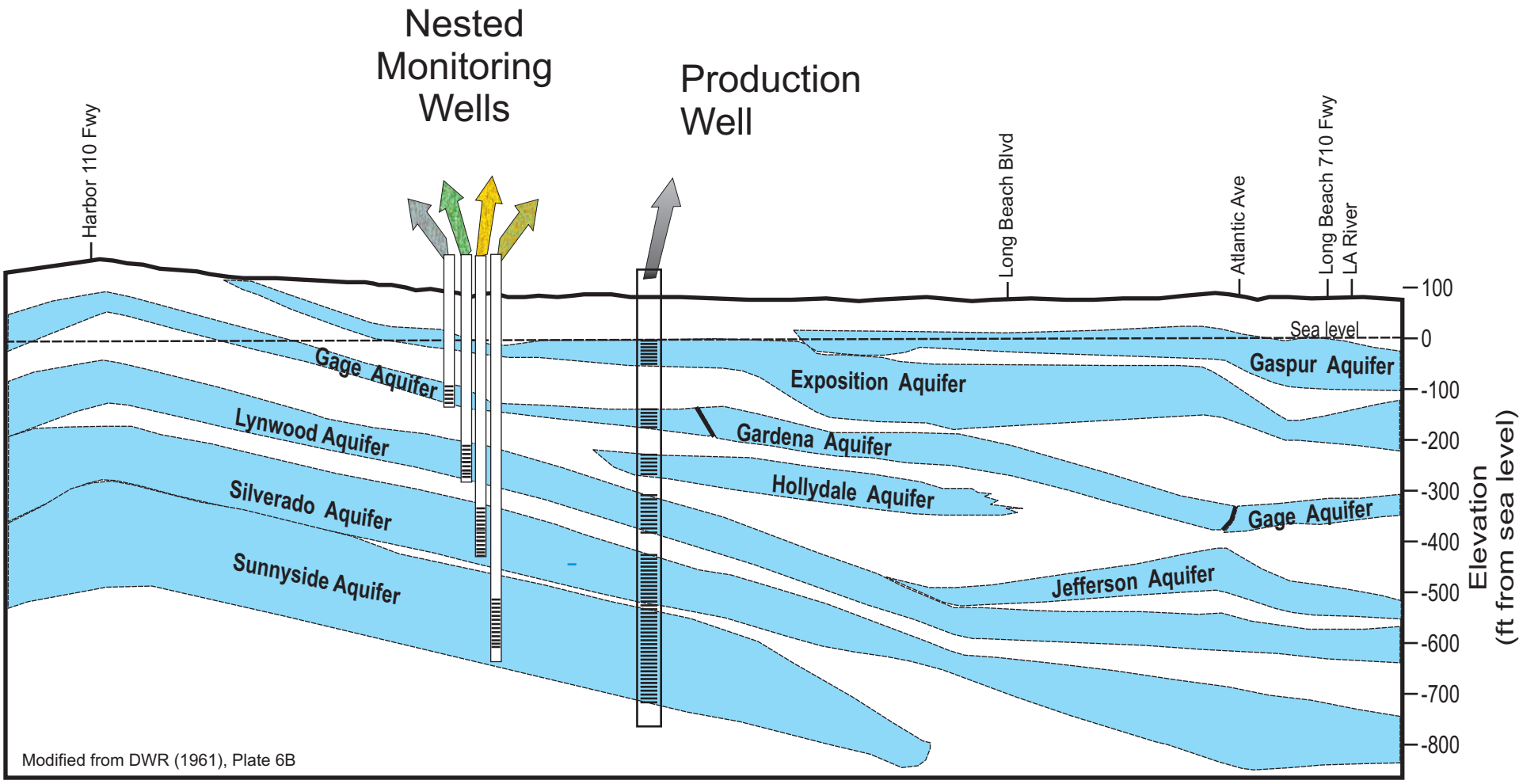


FIGURE 1.2
NESTED WELLS vs. PRODUCTION WELLS
FOR AQUIFER-SPECIFIC DATA



Production wells are typically perforated across multiple aquifers producing an average water quality. Nested monitoring wells are screened in a portion of a specific aquifer, providing water quality and water level information for the specific zone.

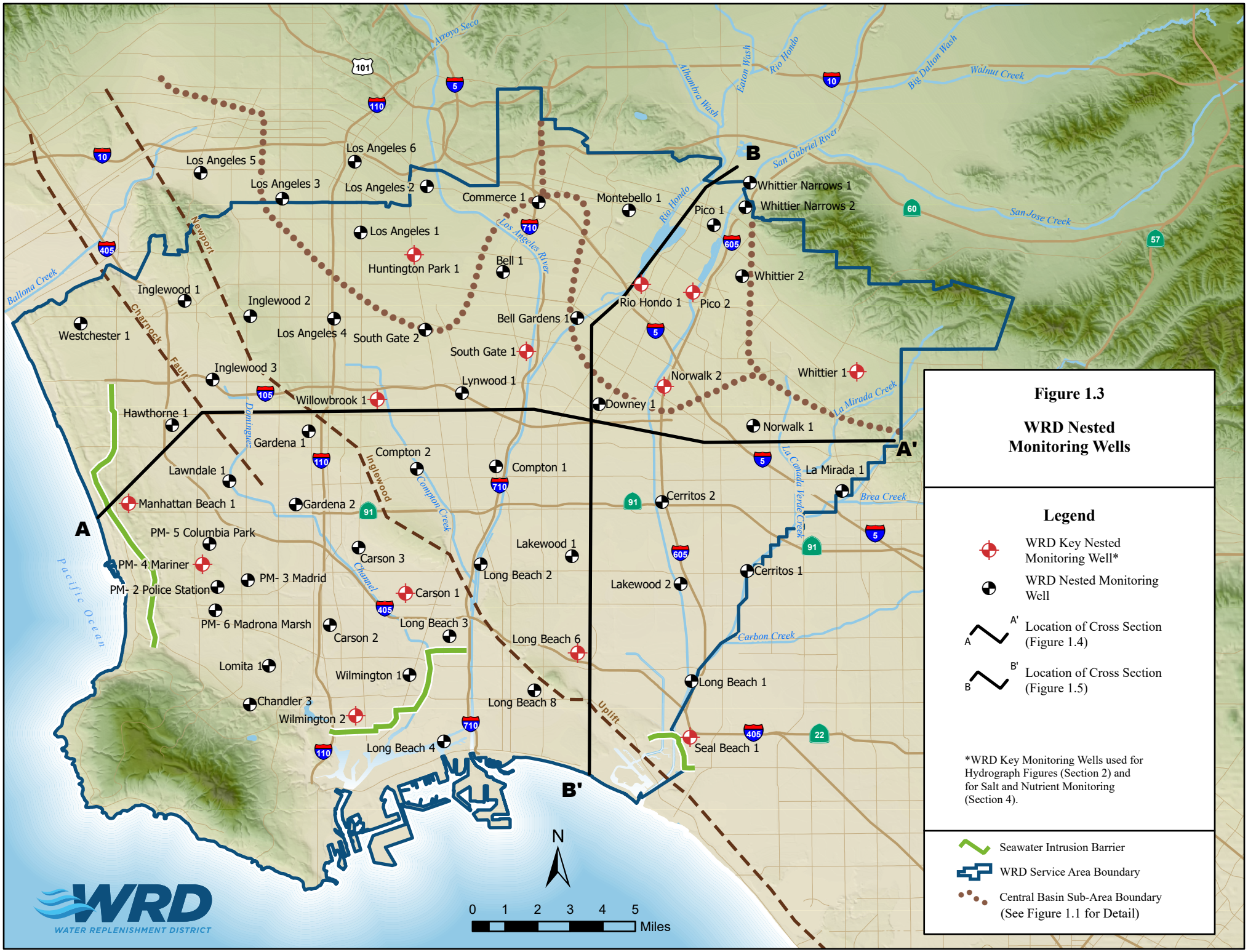
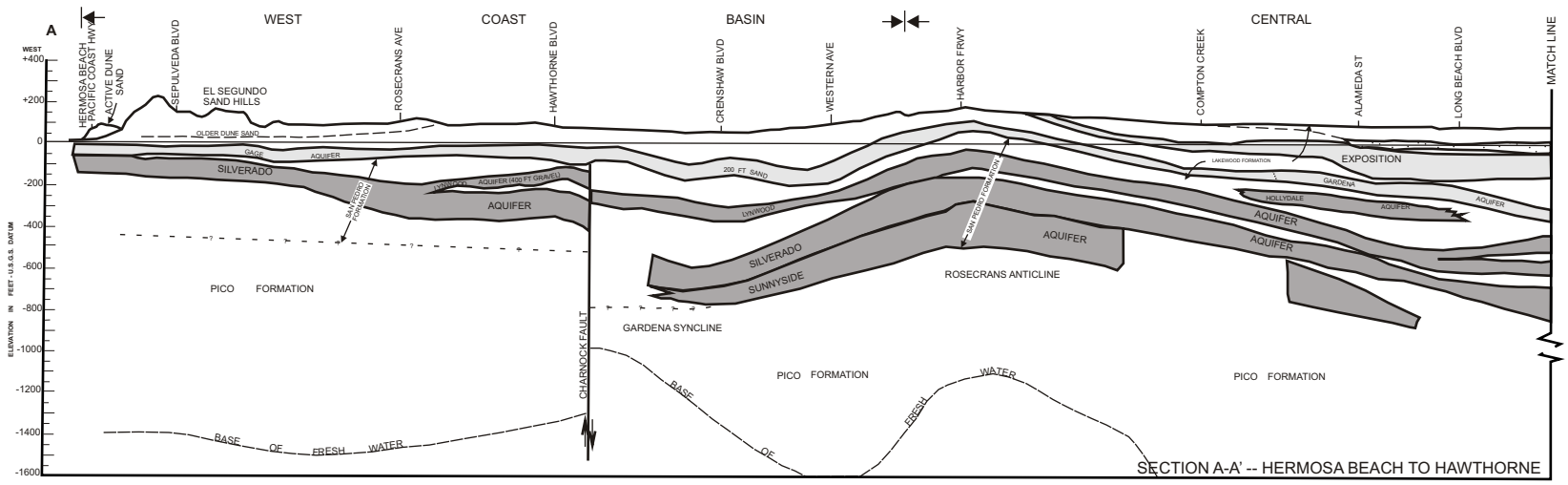
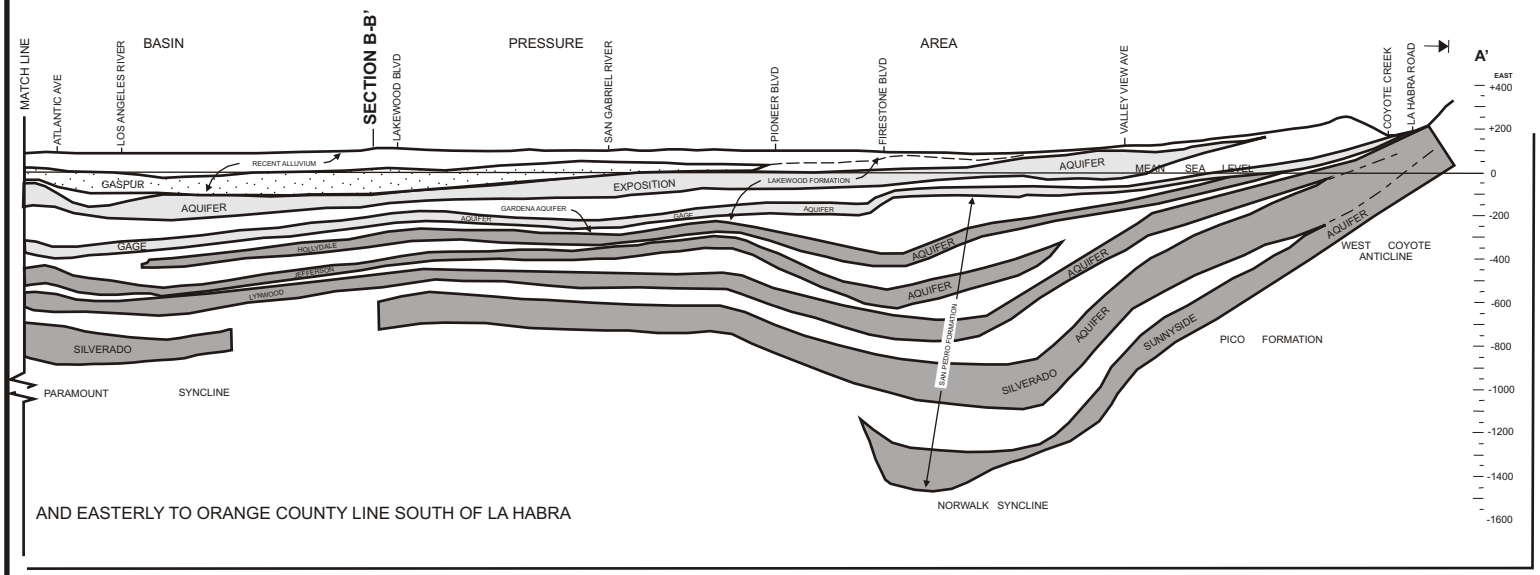


Figure 1.3
WRD Nested Monitoring Wells
Legend
WRD Key Nested Monitoring Well*
WRD Nested Monitoring Well
A A' Location of Cross Section (Figure 1.4)
B B' Location of Cross Section (Figure 1.5)
*WRD Key Monitoring Wells used for Hydrograph Figures (Section 2) and for Salt and Nutrient Monitoring (Section 4).
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 6
Los Angeles 3
Los Angeles 2
Commerce 1
Montebello 1
Whittier Narrows 1
Whittier Narrows 2
Pico 1
Whittier 2
Los Angeles 1
Huntington Park 1
Bell 1
Rio Hondo 1
Pico 2
Inglewood 1
Inglewood 2
Westchester 1
Los Angeles 4
South Gate 2
Bell Gardens 1
South Gate 1
Inglewood 3
Lynwood 1
Norwalk 2
Whittier 1
Willowbrook 1
Downey 1
Hawthorne 1
Norwalk 1
Gardena 1
Compton 2
Compton 1
La Mirada 1
Lawndale 1
Cerritos 2
Manhattan Beach 1
Gardena 2
PM- 5 Columbia Park
Lakewood 1
Carson 3
PM- 4 Mariner
Long Beach 2
Cerritos 1
PM- 3 Madrid
PM- 2 Police Station
Carson 1
Lakewood 2
PM- 6 Madrona Marsh
Long Beach 3
Carson 2
Long Beach 6
Lomita 1
Wilmington 1
Long Beach 1
Chandler 3
Long Beach 8
Wilmington 2
Seal Beach 1
Long Beach 4
A
A'
B
B'
Pacific Ocean
Newport
Charnock Fault
Inglewood
Dominguez
Compton Creek
Los Angeles River
Rio Hondo
Arroyo Seco
Alhambra Wash
Eaton Wash
Big Dalton Wash
Walnut Creek
San Gabriel River
San Jose Creek
La Mirada Creek
La Cañada Verde Creek
Brea Creek
Carbon Creek
Uplift
Ballona Creek
Channel
N
0 1 2 3 4 5
Miles
WRD
WATER REPLENISHMENT DISTRICT



SECTION A-A' -- HERMOSA BEACH TO HAWTHORNE



AND EASTERLY TO ORANGE COUNTY LINE SOUTH OF LA HABRA

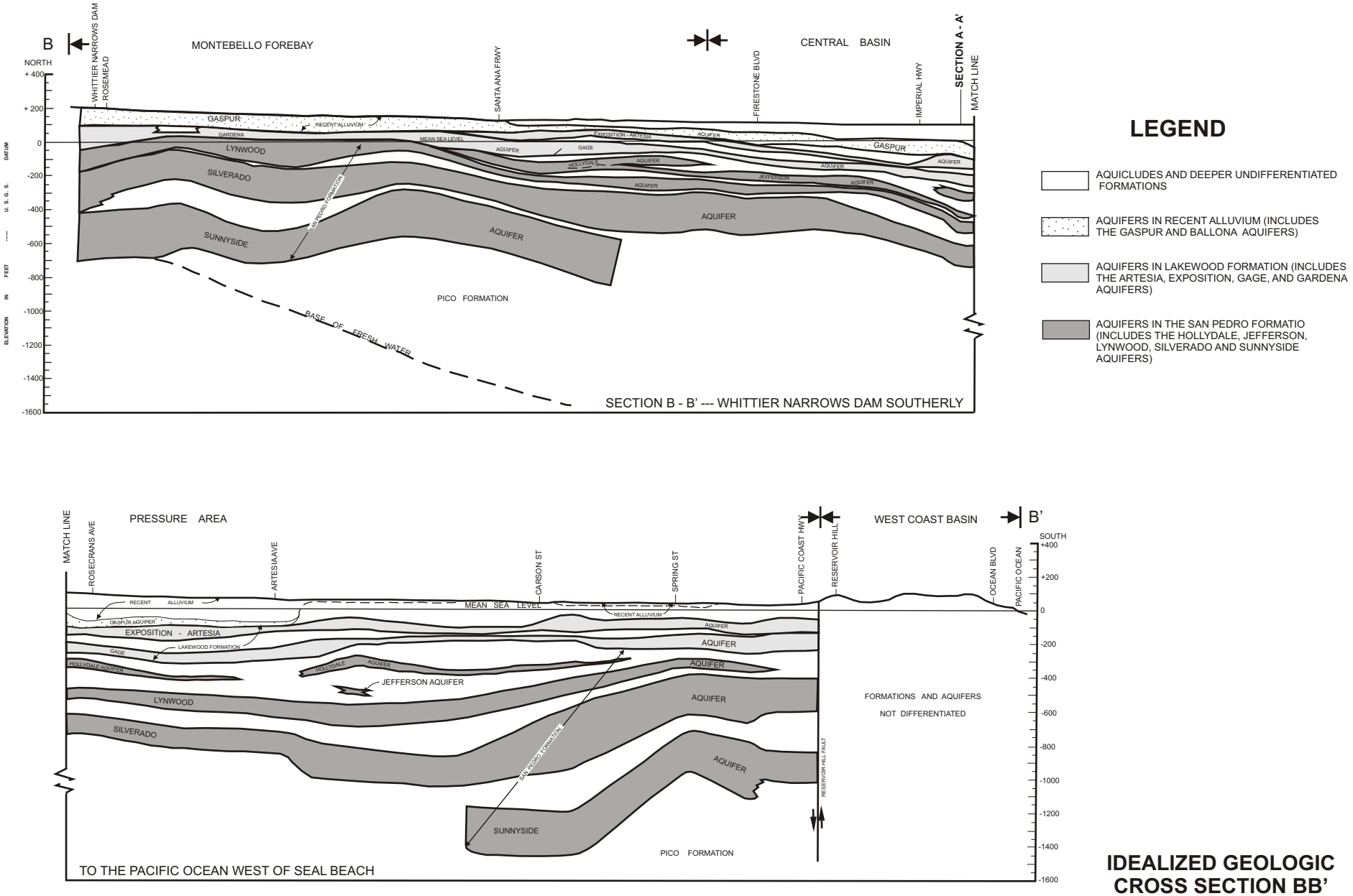
LEGEND

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

IDEALIZED GEOLOGIC CROSS SECTION AA'

Adapted from
CDWR Bull. 104 App. B

FIGURE 1.4



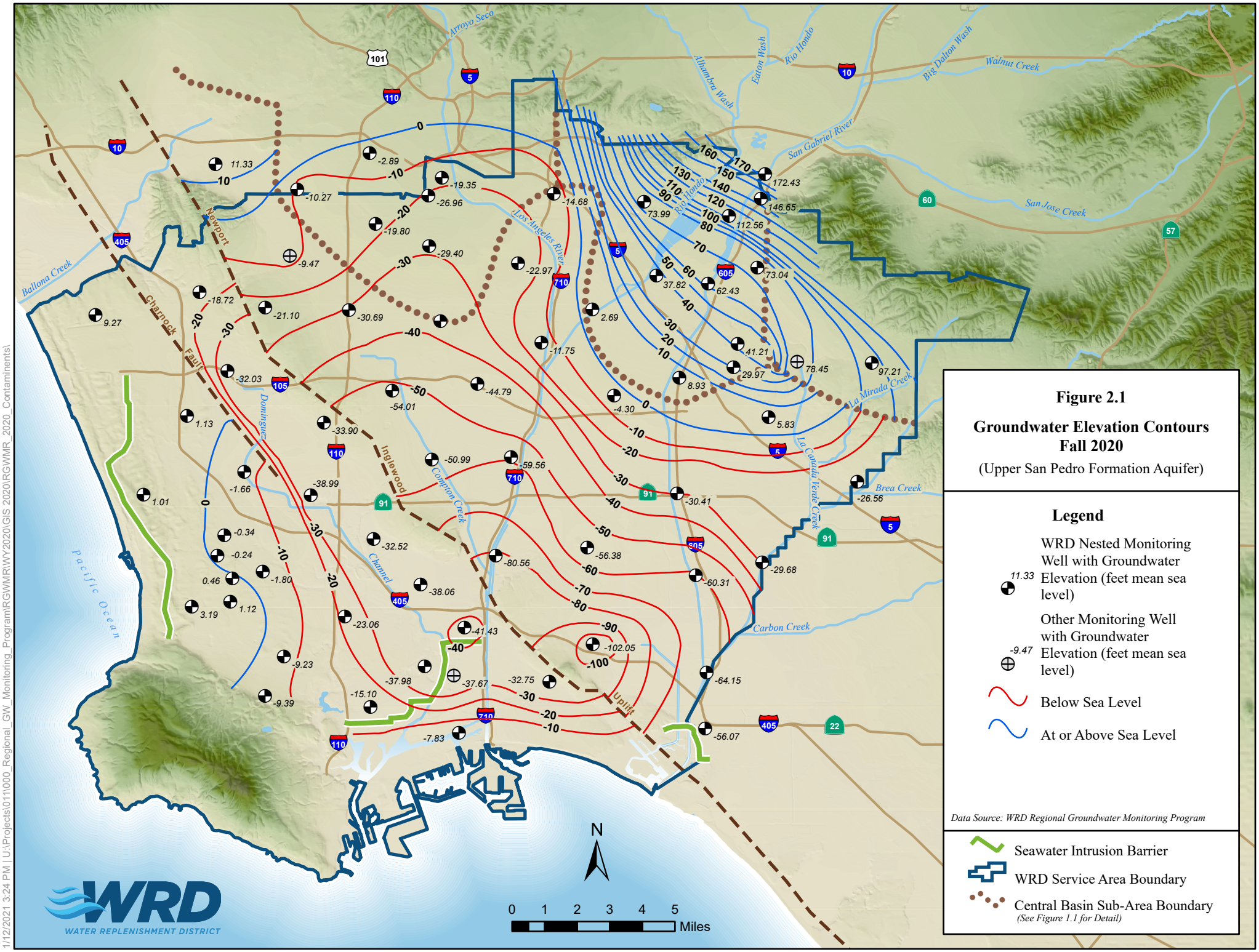
LEGEND

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

IDEALIZED GEOLOGIC CROSS SECTION BB'

Adapted from
CDWR Bull. 104 App. B

FIGURE 1.5



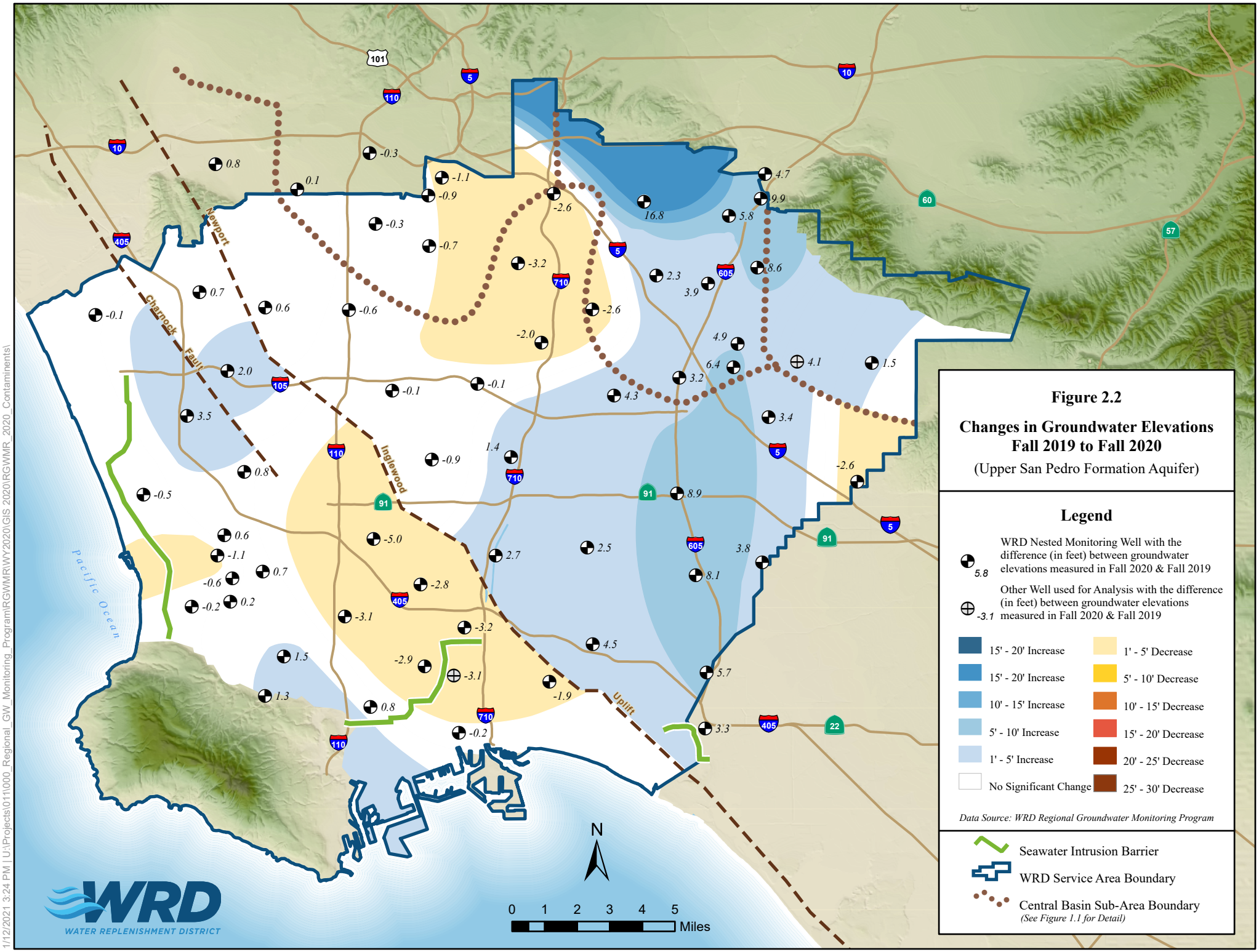


Figure 2.2
Changes in Groundwater Elevations
Fall 2019 to Fall 2020
(Upper San Pedro Formation Aquifer)
Legend
5.8 WRD Nested Monitoring Well with the difference (in feet) between groundwater elevations measured in Fall 2020 & Fall 2019
-3.1 Other Well used for Analysis with the difference (in feet) between groundwater elevations measured in Fall 2020 & Fall 2019
15' - 20' Increase
15' - 20' Increase
10' - 15' Increase
5' - 10' Increase
1' - 5' Increase
No Significant Change
1' - 5' Decrease
5' - 10' Decrease
10' - 15' Decrease
15' - 20' Decrease
20' - 25' Decrease
25' - 30' Decrease
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
Newport
Charnock Fault
Inglewood
Uplift
Pacific Ocean
N
0 1 2 3 4 5 Miles
WRD
WATER REPLENISHMENT DISTRICT
1/12/2021 3:24 PM | U:\Projects\011\000_Regional_GW_Monitoring_Program\RGWMRWY2020\GIS 2020\RGWMR_2020_Contaminents\

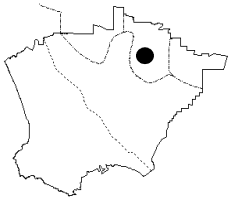
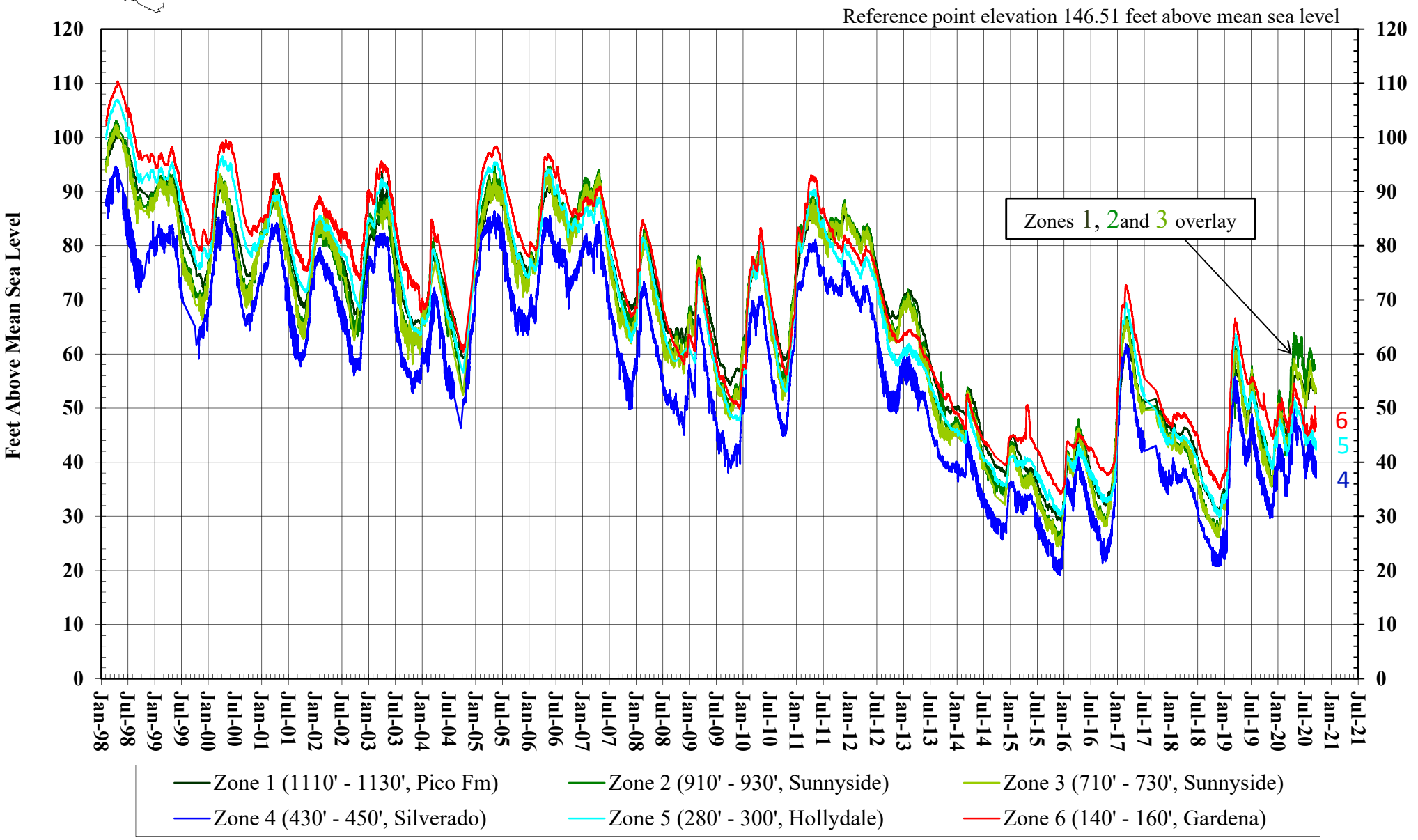


FIGURE 2.3
WATER LEVELS IN WRD KEY NESTED MONITORING WELL RIO HONDO #1



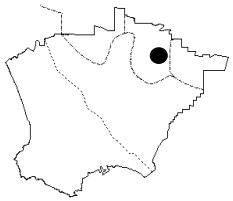
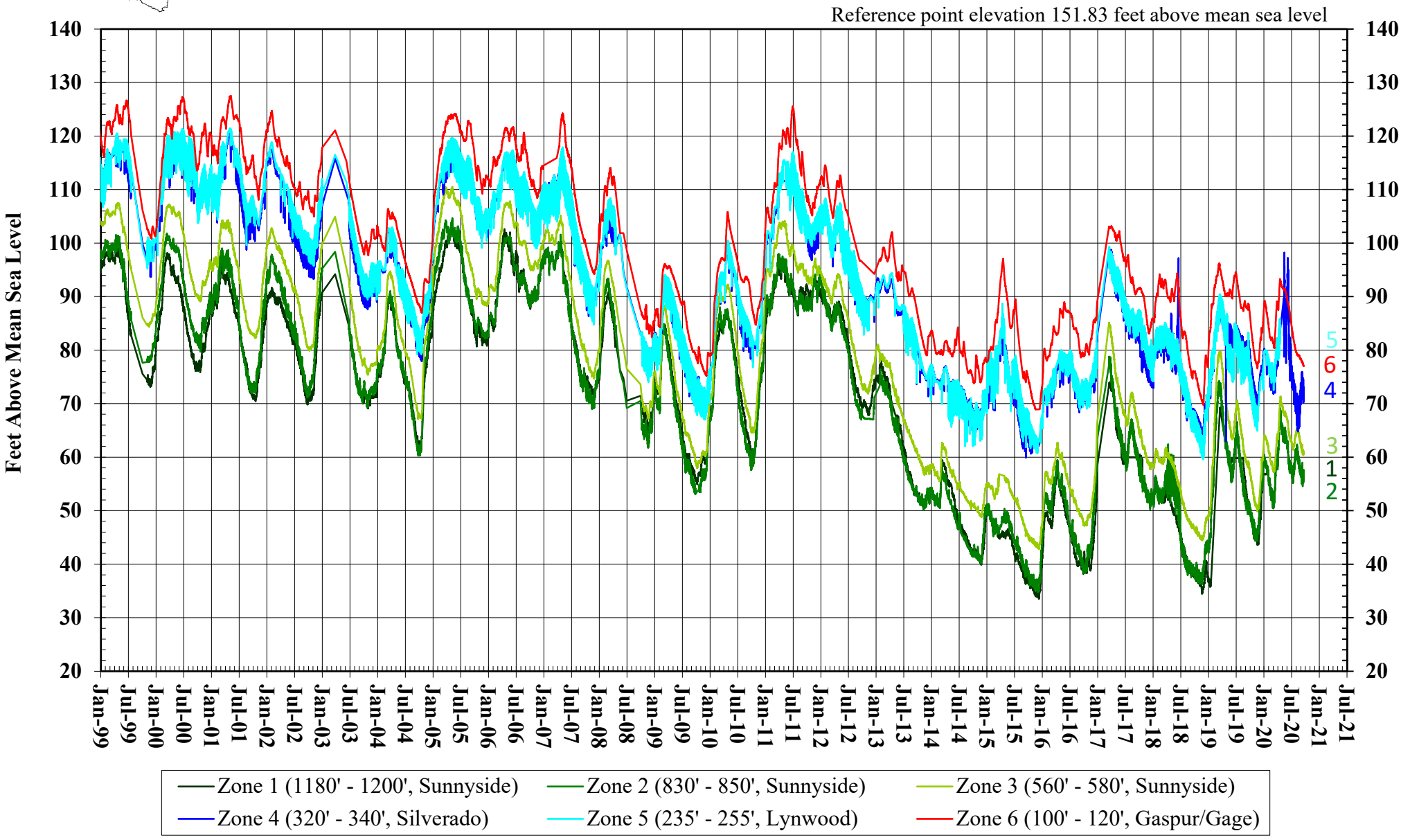


FIGURE 2.4
WATER LEVELS IN WRD KEY NESTED MONITORING WELL PICO #2



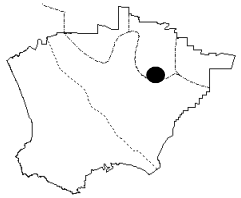


FIGURE 2.5
WATER LEVELS IN WRD KEY NESTED MONITORING WELL NORWALK #2

Reference point elevation 116.73 feet above mean sea level

Feet Above Mean Sea Level

80 70 60 50 40 30 20 10 0 -10 -20 -30

Jan-06 Jul-06 Jan-07 Jul-07 Jan-08 Jul-08 Jan-09 Jul-09 Jan-10 Jul-10 Jan-11 Jul-11 Jan-12 Jul-12 Jan-13 Jul-13 Jan-14 Jul-14 Jan-15 Jul-15 Jan-16 Jul-16 Jan-17 Jul-17 Jan-18 Jul-18 Jan-19 Jul-19 Jan-20 Jul-20 Jan-21 Jul-21

Zones 1 and 2 overlay

6
5
4
3

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

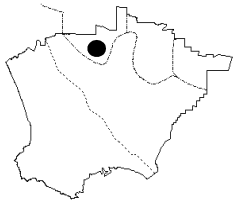


FIGURE 2.6
WATER LEVELS IN WRD KEY NESTED MONITORING WELL HUNTINGTON PARK #1

Reference point 179.44 feet above mean sea level

Feet above Mean Sea Level

30 20 10 0 -10 -20 -30 -40 -50 -60

Jan-99 Jul-99 Jan-00 Jul-00 Jan-01 Jul-01 Jan-02 Jul-02 Jan-03 Jul-03 Jan-04 Jul-04 Jan-05 Jul-05 Jan-06 Jul-06 Jan-07 Jul-07 Jan-08 Jul-08 Jan-09 Jul-09 Jan-10 Jul-10 Jan-11 Jul-11 Jan-12 Jul-12 Jan-13 Jul-13 Jan-14 Jul-14 Jan-15 Jul-15 Jan-16 Jul-16 Jan-17 Jul-17 Jan-18 Jul-18 Jan-19 Jul-19 Jan-20 Jul-20 Jan-21 Jul-21

4 3 1 2

Zone 1 (890' - 910', Silverado) Zone 2 (690' - 710', Lynwood) Zone 3 (420' - 440', Hollydale) Zone 4 (275' - 295', Gage)

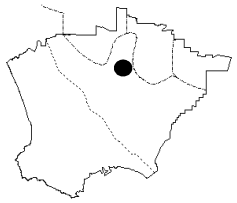


FIGURE 2.7
WATER LEVELS IN WRD KEY NESTED MONITORING WELL SOUTH GATE #1

Reference point elevation 102.50 feet above mean sea level

Feet Above Mean Sea Level

60 50 40 30 20 10 0 -10 -20 -30 -40

Jan-99 Jul-99 Jan-00 Jul-00 Jan-01 Jul-01 Jan-02 Jul-02 Jan-03 Jul-03 Jan-04 Jul-04 Jan-05 Jul-05 Jan-06 Jul-06 Jan-07 Jul-07 Jan-08 Jul-08 Jan-09 Jul-09 Jan-10 Jul-10 Jan-11 Jul-11 Jan-12 Jul-12 Jan-13 Jul-13 Jan-14 Jul-14 Jan-15 Jul-15 Jan-16 Jul-16 Jan-17 Jul-17 Jan-18 Jul-18 Jan-19 Jul-19 Jan-20 Jul-20 Jan-21 Jul-21

5 3 4 2 1

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

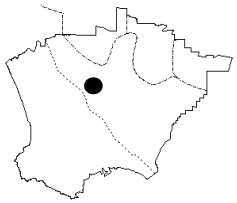


FIGURE 2.8
WATER LEVELS IN WRD KEY NESTED MONITORING WELL WILLOWBROOK #1

Reference point elevation 98.87 feet above mean sea level

Feet Above Mean Sea Level

0
-10
-20
-30
-40
-50
-60
-70
-80

Jan-99 Jul-99 Jan-00 Jul-00 Jan-01 Jul-01 Jan-02 Jul-02 Jan-03 Jul-03 Jan-04 Jul-04 Jan-05 Jul-05 Jan-06 Jul-06 Jan-07 Jul-07 Jan-08 Jul-08 Jan-09 Jul-09 Jan-10 Jul-10 Jan-11 Jul-11 Jan-12 Jul-12 Jan-13 Jul-13 Jan-14 Jul-14 Jan-15 Jul-15 Jan-16 Jul-16 Jan-17 Jul-17 Jan-18 Jul-18 Jan-19 Jul-19 Jan-20 Jul-20 Jan-21 Jul-21

2
4
3
1

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

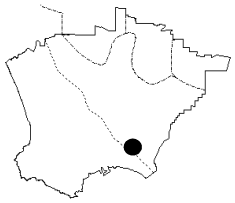


FIGURE 2.9
WATER LEVELS IN WRD KEY NESTED MONITORING WELL LONG BEACH #6

Reference point 34.47 feet above mean sea level

Feet above Mean Sea Level

20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120 -130 -140

Jan-02 Jul-02 Jan-03 Jul-03 Jan-04 Jul-04 Jan-05 Jul-05 Jan-06 Jul-06 Jan-07 Jul-07 Jan-08 Jul-08 Jan-09 Jul-09 Jan-10 Jul-10 Jan-11 Jul-11 Jan-12 Jul-12 Jan-13 Jul-13 Jan-14 Jul-14 Jan-15 Jul-15 Jan-16 Jul-16 Jan-17 Jul-17 Jan-18 Jul-18 Jan-19 Jul-19 Jan-20 Jul-20 Jan-21 Jul-21

6
1
2
3

Zones 4 and 5 overlay

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)

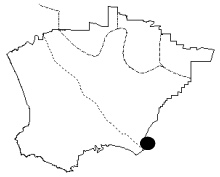
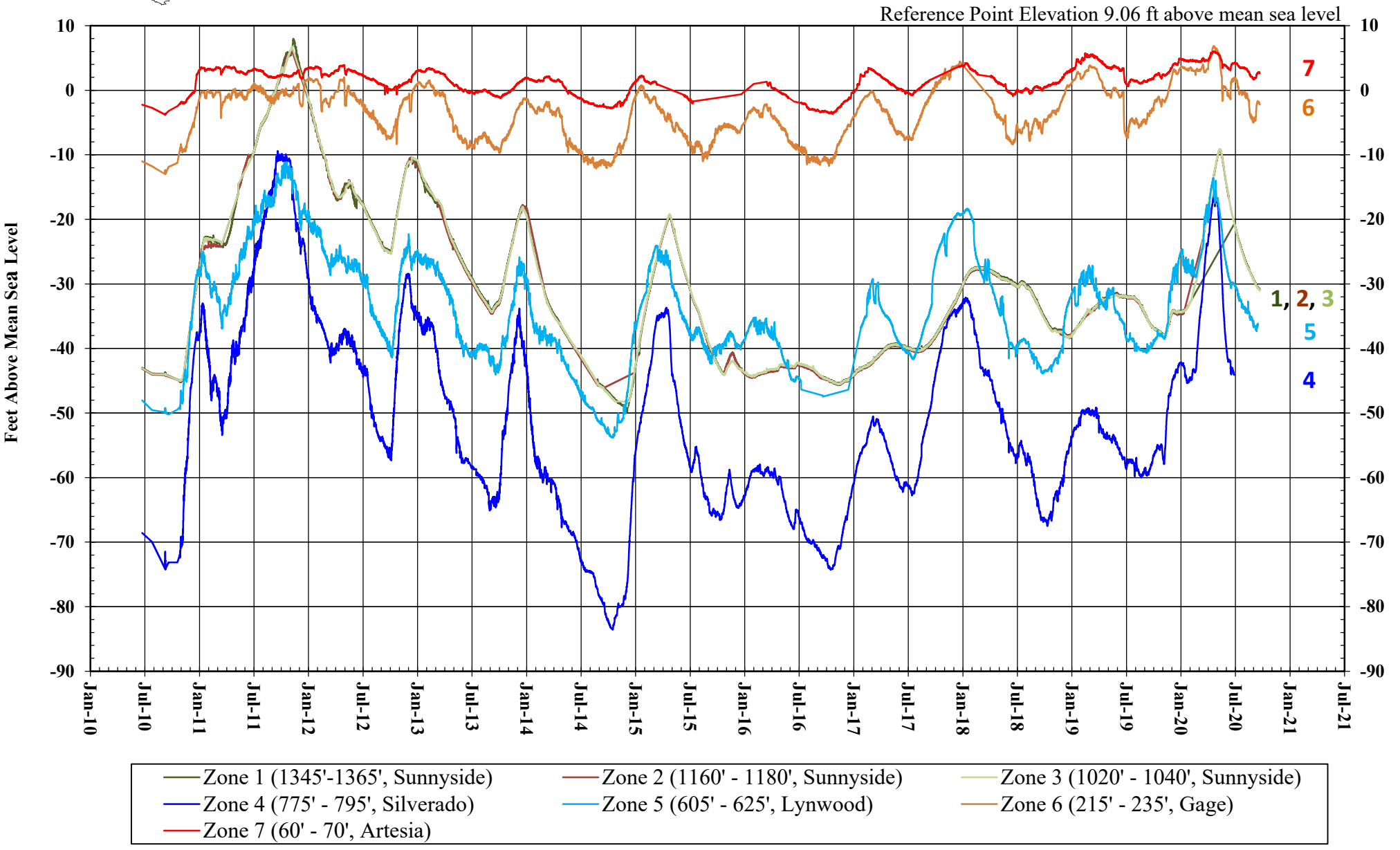


FIGURE 2.10
WATER LEVELS IN WRD KEY NESTED MONITORING WELL SEAL BEACH #1



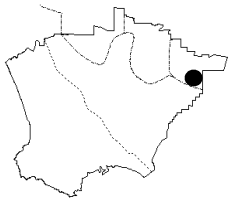


FIGURE 2.11
WATER LEVELS IN WRD KEY NESTED MONITORING WELL WHITTIER #1

Reference point elevations 217.35 (Zones 1, 2, 4 and 5) and 217.81 (Zone 3) feet above mean sea level

Feet Above Mean Sea Level

220 200 180 160 140 120 100 80 60 40 20 0

Jan-00 Jul-00 Jan-01 Jul-01 Jan-02 Jul-02 Jan-03 Jul-03 Jan-04 Jul-04 Jan-05 Jul-05 Jan-06 Jul-06 Jan-07 Jul-07 Jan-08 Jul-08 Jan-09 Jul-09 Jan-10 Jul-10 Jan-11 Jul-11 Jan-12 Jul-12 Jan-13 Jul-13 Jan-14 Jul-14 Jan-15 Jul-15 Jan-16 Jul-16 Jan-17 Jul-17 Jan-18 Jul-18 Jan-19 Jul-19 Jan-20 Jul-20 Jan-21 Jul-21

5

Zones 1 and 2 overlay

3

4

Zone 1 (1180' - 1200', Pico Fm)
Zone 2 (920' - 940', Pico Fm)
Zone 3 (600' - 620', Sunnyside)
Zone 4 (450' - 470', Silverado)
Zone 5 (200' - 220', Jefferson)

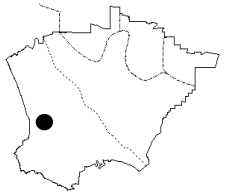
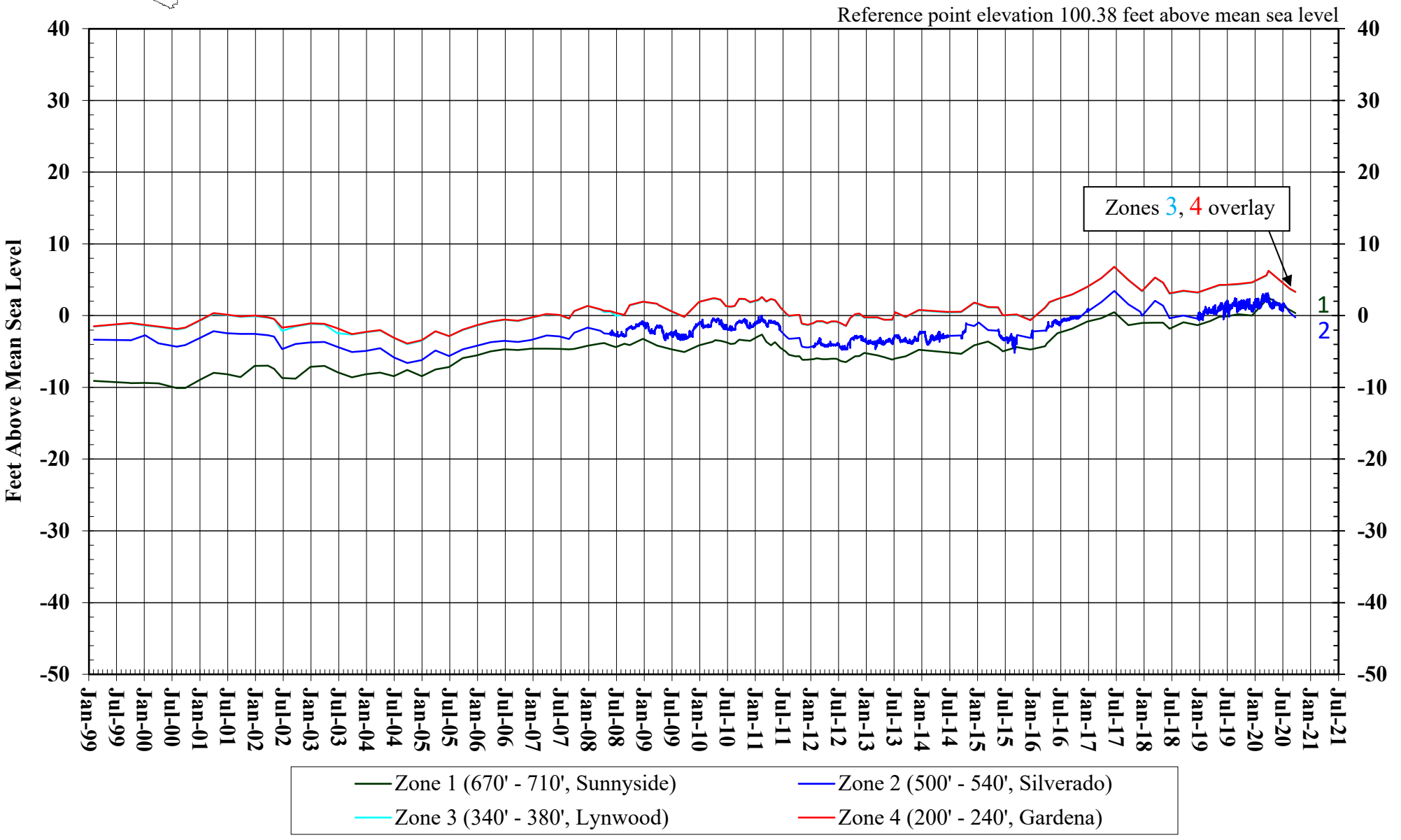


FIGURE 2.12
WATER LEVELS IN WRD KEY NESTED MONITORING WELL PM-4 MARINER



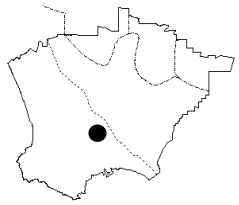
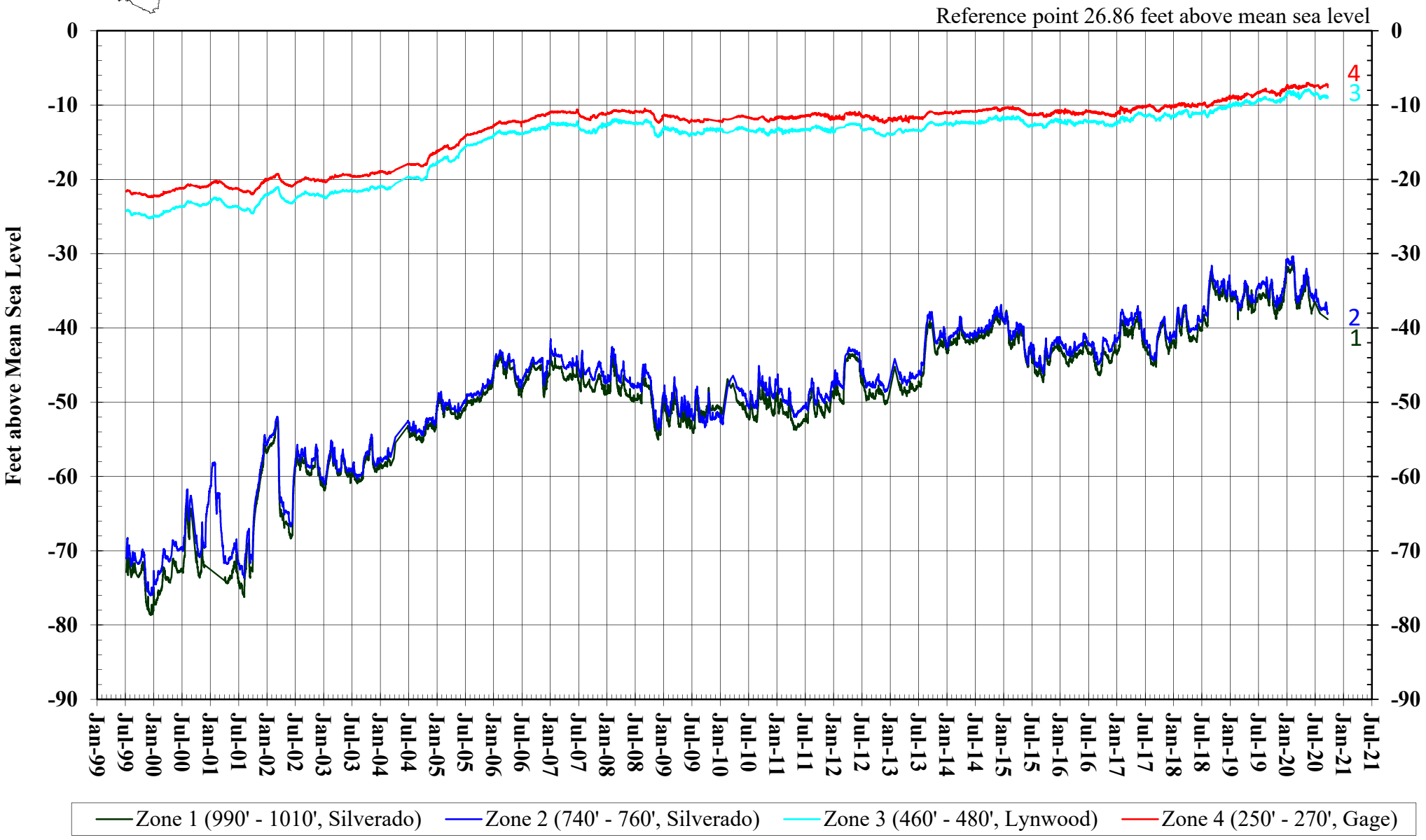


FIGURE 2.13
WATER LEVELS IN WRD KEY NESTED MONITORING WELL CARSON #1



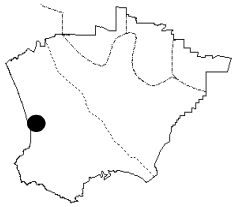
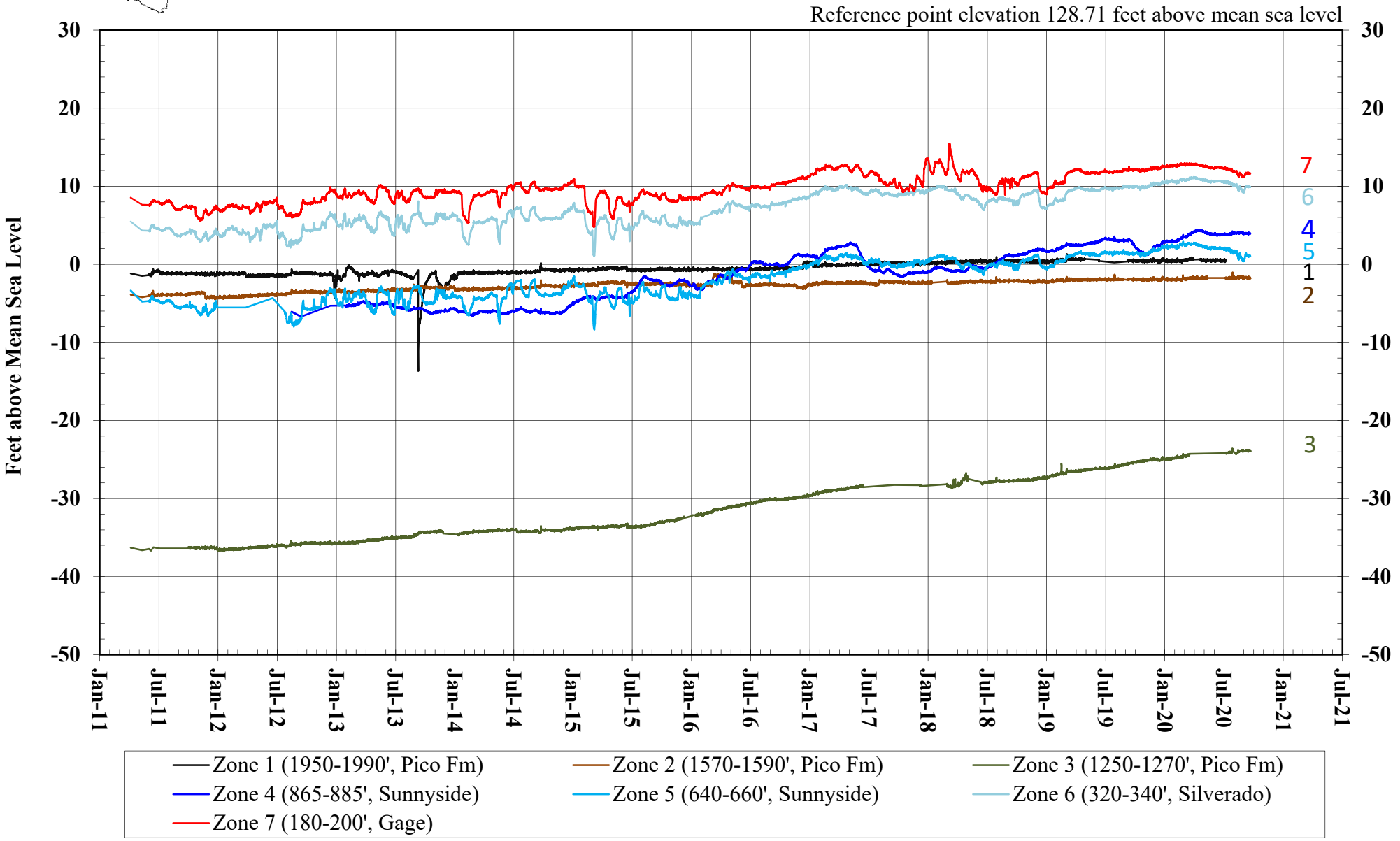


FIGURE 2.14
WATER LEVELS IN WRD KEY NESTED MONITORING WELL MANHATTAN BEACH #1



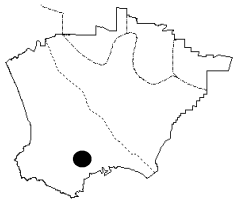


FIGURE 2.15
WATER LEVELS IN WRD KEY NESTED MONITORING WELL WILMINGTON #2

Reference point elevation 32.30 feet above mean sea level

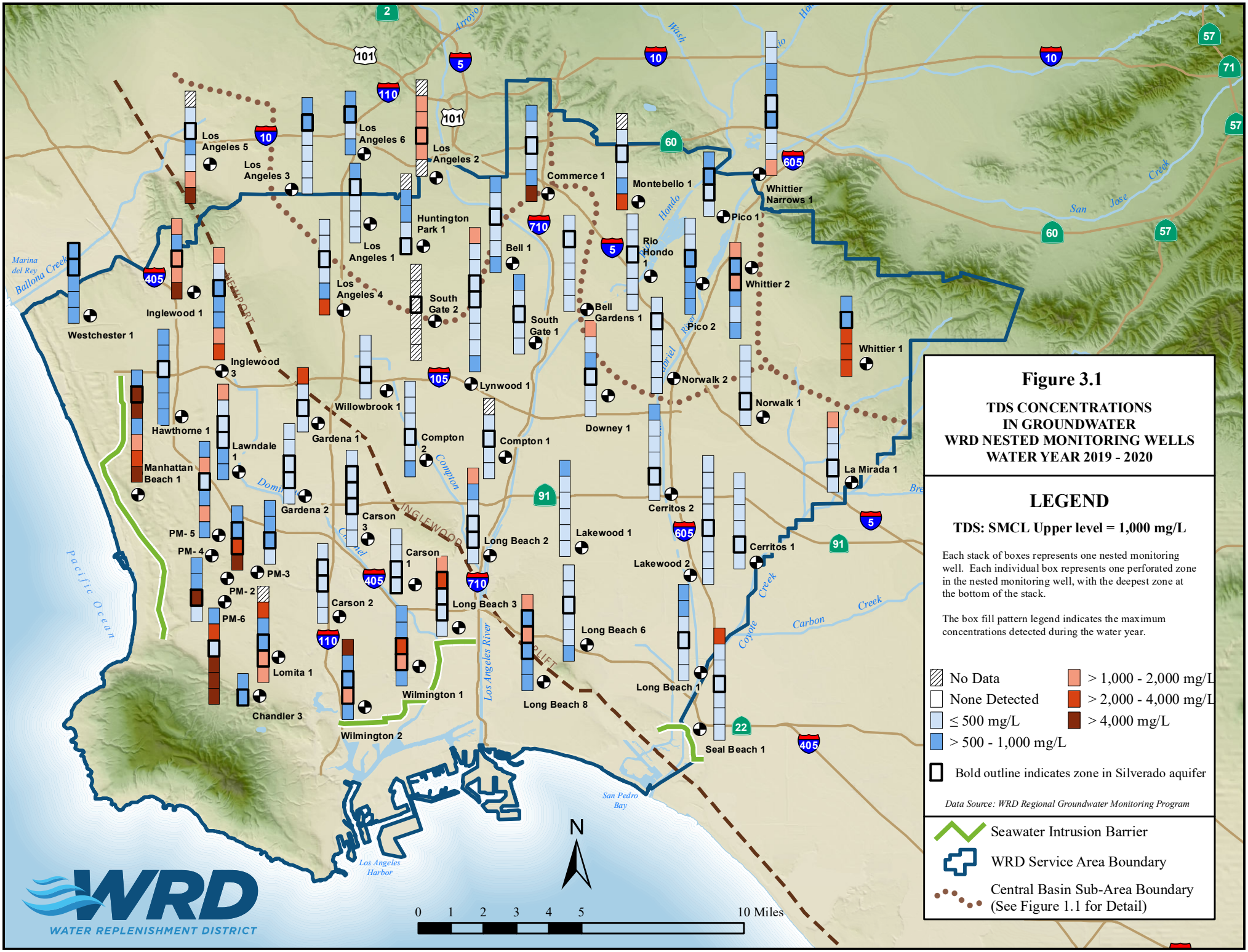
Feet Above Mean Sea Level

0 -10 -20 -30 -40 -50 -60 -70 -80

Jul-98 Jan-99 Jul-99 Jan-00 Jul-00 Jan-01 Jul-01 Jan-02 Jul-02 Jan-03 Jul-03 Jan-04 Jul-04 Jan-05 Jul-05 Jan-06 Jul-06 Jan-07 Jul-07 Jan-08 Jul-08 Jan-09 Jul-09 Jan-10 Jul-10 Jan-11 Jul-11 Jan-12 Jul-12 Jan-13 Jul-13 Jan-14 Jul-14 Jan-15 Jul-15 Jan-16 Jul-16 Jan-17 Jul-17 Jan-18 Jul-18 Jan-19 Jul-19 Jan-20 Jul-20 Jan-21 Jul-21

5 4 3 2 1

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


Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
La Mirada 1
Cerritos 2
Cerritos 1
Lakewood 2
Lakewood 1
Downey 1
Lynwood 1
Compton 2
Compton 1
Willowbrook 1
Gardena 1
Gardena 2
Carson 3
Carson 2
Carson 1
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Long Beach 1
Seal Beach 1
Wilmington 1
Wilmington 2
Lomita 1
Chandler 3
PM-2
PM-3
PM-4
PM-5
PM-6
Lawndale 1
Inglewood 1
Inglewood 3
Hawthorne 1
Manhattan Beach 1
Westchester 1
Marina del Rey
Ballona Creek
Pacific Ocean
Los Angeles Harbor
San Pedro Bay
Los Angeles River
Compton Creek
Coyote Creek
Carbon Creek
San Jose Creek
Rio Hondo
Arroyo Wash
Domi
Bre
Figure 3.1
TDS CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
TDS: SMCL Upper level = 1,000 mg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
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
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

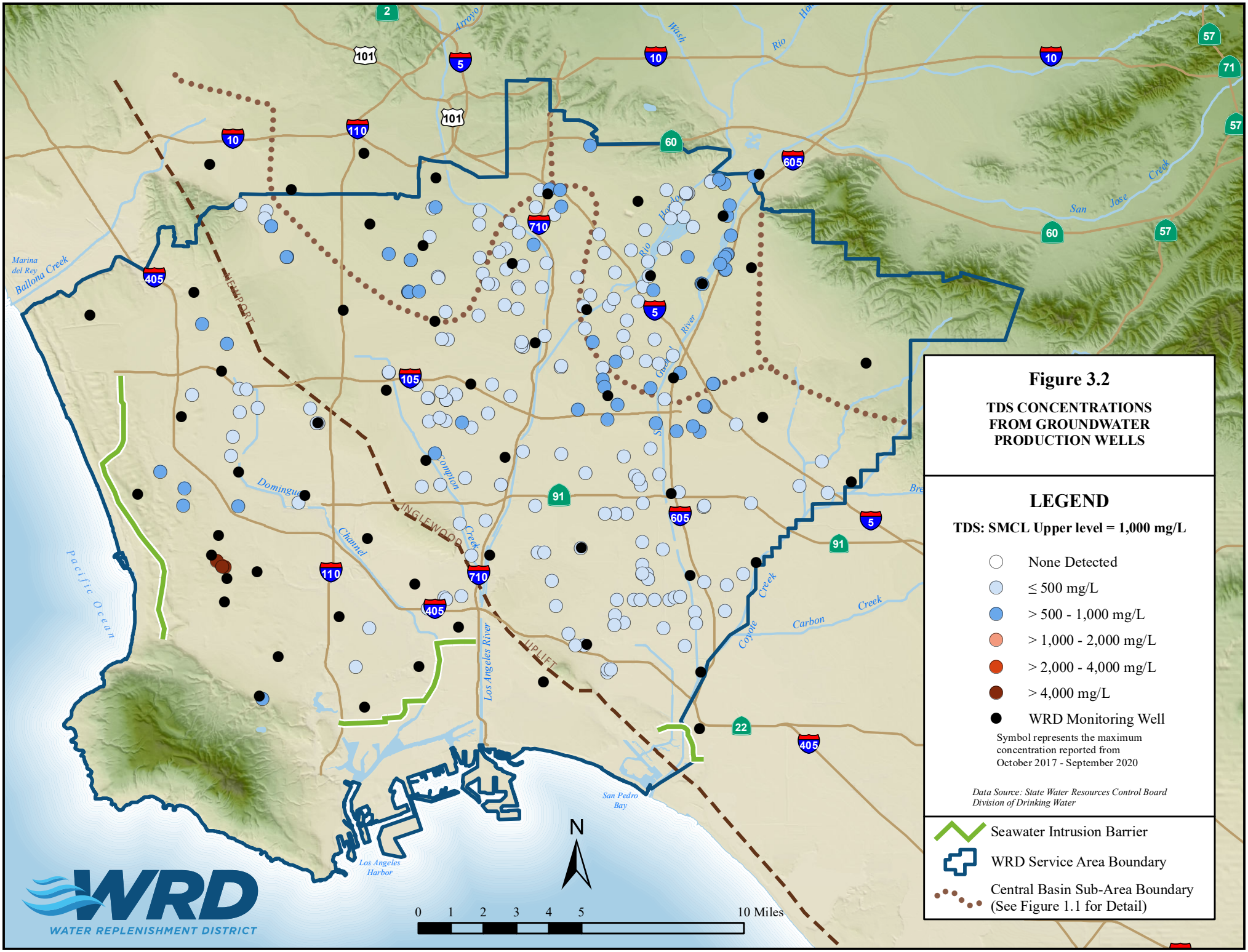


Figure 3.2
TDS CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
TDS: SMCL Upper level = 1,000 mg/L
None Detected
≤ 500 mg/L
> 500 - 1,000 mg/L
> 1,000 - 2,000 mg/L
> 2,000 - 4,000 mg/L
> 4,000 mg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
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)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Marina del Rey
Ballona Creek
Dominguez Channel
Los Angeles River
Compton Creek
Rio Hondo
San Gabriel River
San Jose Creek
Coyote Creek
Carbon Creek
San Pedro Bay
Los Angeles Harbor
INGLEWOOD
UPLIFT

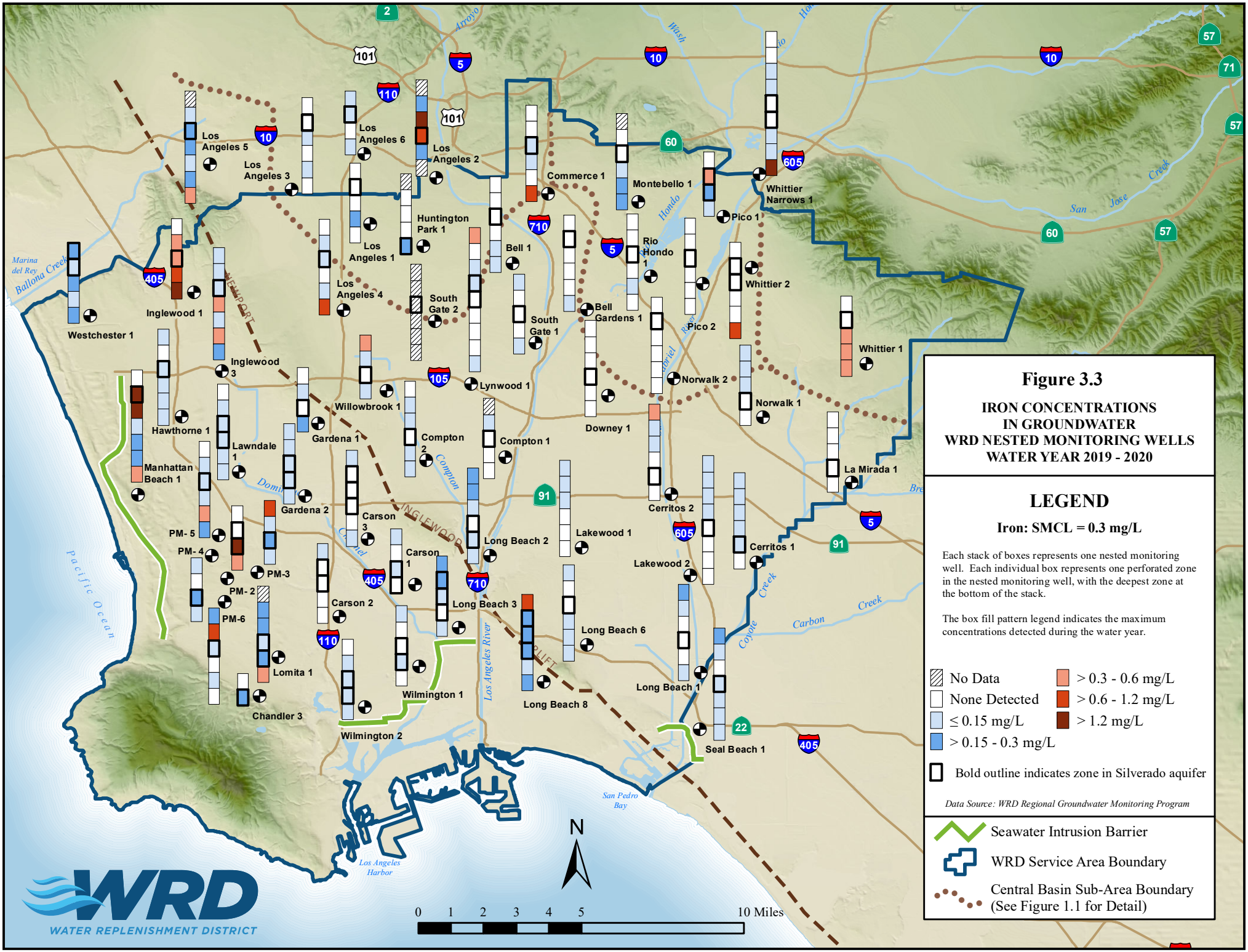


Figure 3.3
IRON CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
Iron: SMCL = 0.3 mg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 0.15 mg/L
> 0.15 - 0.3 mg/L
> 0.3 - 0.6 mg/L
> 0.6 - 1.2 mg/L
> 1.2 mg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
La Mirada 1
Cerritos 2
Cerritos 1
Lakewood 2
Lakewood 1
Downey 1
Lynwood 1
Compton 2
Compton 1
Willowbrook 1
Gardena 1
Gardena 2
Carson 3
Carson 2
Carson 1
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Long Beach 1
Seal Beach 1
Wilmington 1
Wilmington 2
Inglewood 1
Inglewood 3
Hawthorne 1
Lawndale 1
Manhattan Beach 1
Westchester 1
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Lomita 1
Chandler 3
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Los Angeles River
Compton Creek
Rio Hondo
San Gabriel River
Coyote Creek
Carbon Creek
Marina del Rey
Ballona Creek
Dominguez Channel
INGLEWOOD FAULT
NEWPORT-INGLEWOOD UPLIFT
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

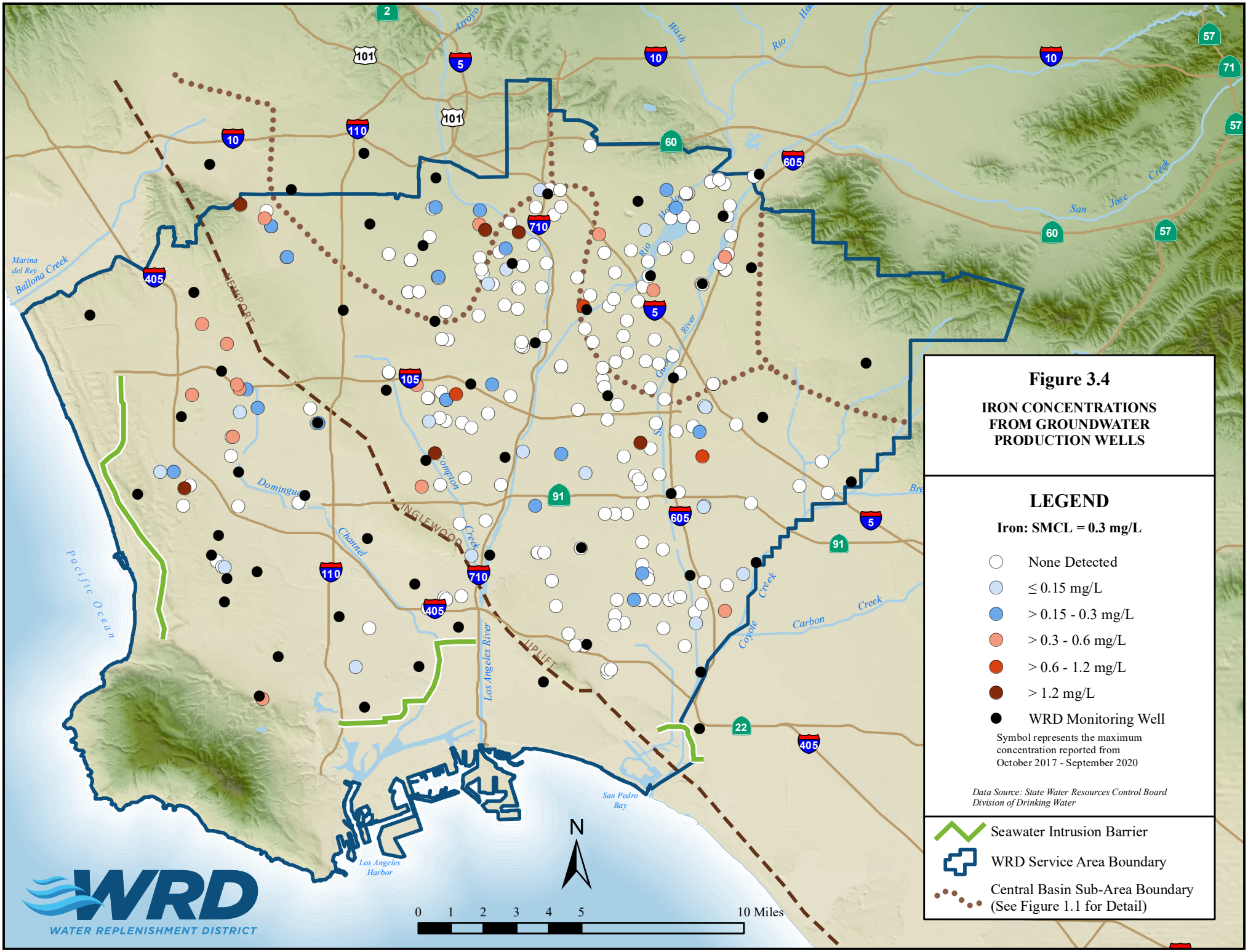


Figure 3.4
IRON CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
Iron: SMCL = 0.3 mg/L
None Detected
≤ 0.15 mg/L
> 0.15 - 0.3 mg/L
> 0.3 - 0.6 mg/L
> 0.6 - 1.2 mg/L
> 1.2 mg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
Data Source: 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)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Marina del Rey
Ballona Creek
Dominguez Channel
Los Angeles River
San Gabriel River
San Jose Creek
Carbon Creek
Coyote Creek
San Pedro Bay
Los Angeles Harbor
INGLEWOOD
UPLIFT

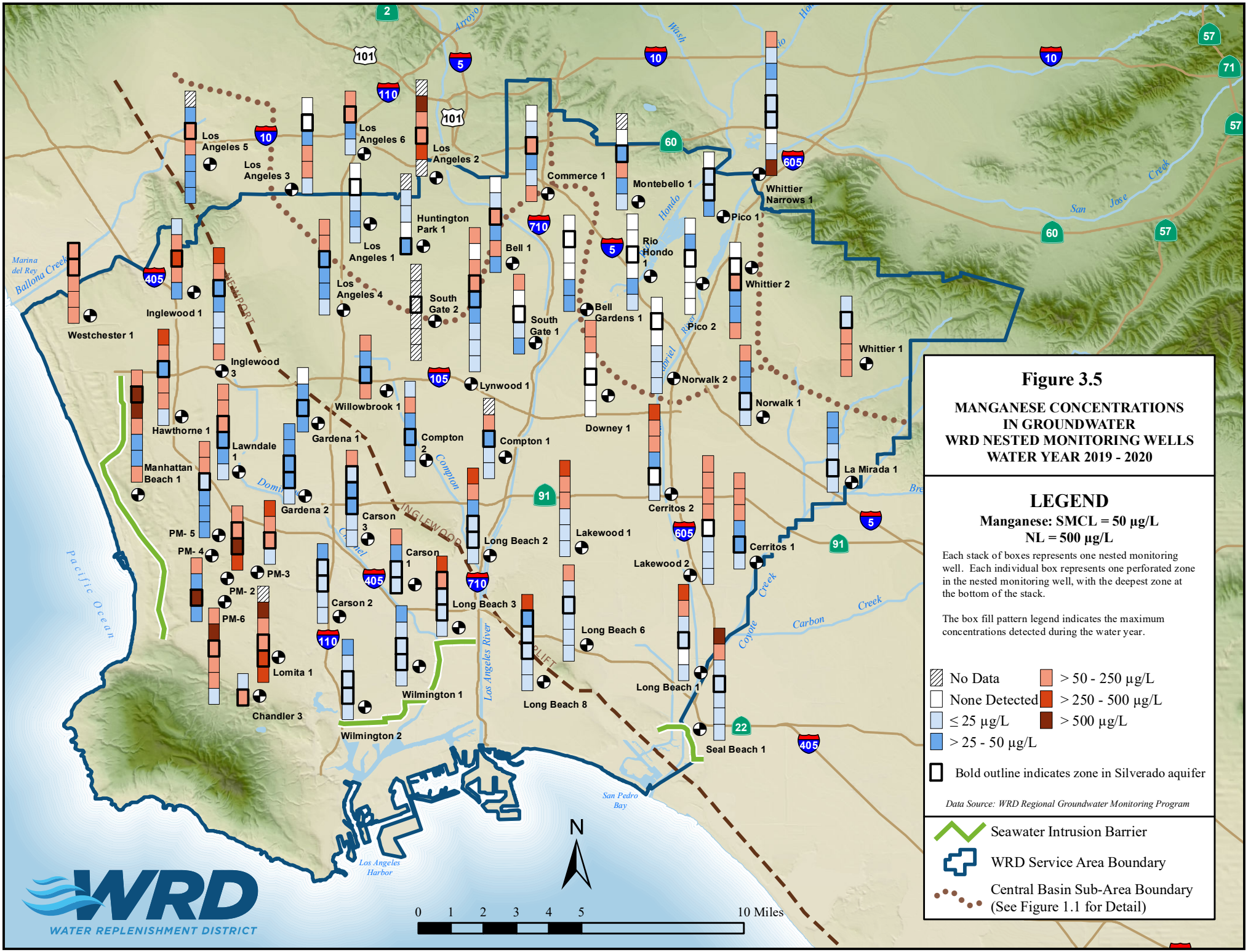


Figure 3.5
MANGANESE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
Manganese: SMCL = 50 µg/L
NL = 500 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 25 µg/L
> 25 - 50 µg/L
> 50 - 250 µg/L
> 250 - 500 µg/L
> 500 µg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
Downey 1
Lynwood 1
Compton 1
Compton 2
Willowbrook 1
Gardena 1
Gardena 2
Inglewood 1
Inglewood 3
Westchester 1
Hawthorne 1
Lawndale 1
Manhattan Beach 1
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Lomita 1
Chandler 3
Carson 3
Carson 1
Carson 2
Wilmington 1
Wilmington 2
Long Beach 2
Long Beach 3
Long Beach 8
Lakewood 1
Long Beach 6
Cerritos 2
Lakewood 2
Cerritos 1
Long Beach 1
Seal Beach 1
La Mirada 1
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Los Angeles River
Coyote Creek
Carbon Creek
San Jose Creek
Marina del Rey
Ballona Creek
Rio Hondo
Compton Creek
Dominguez Channel
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

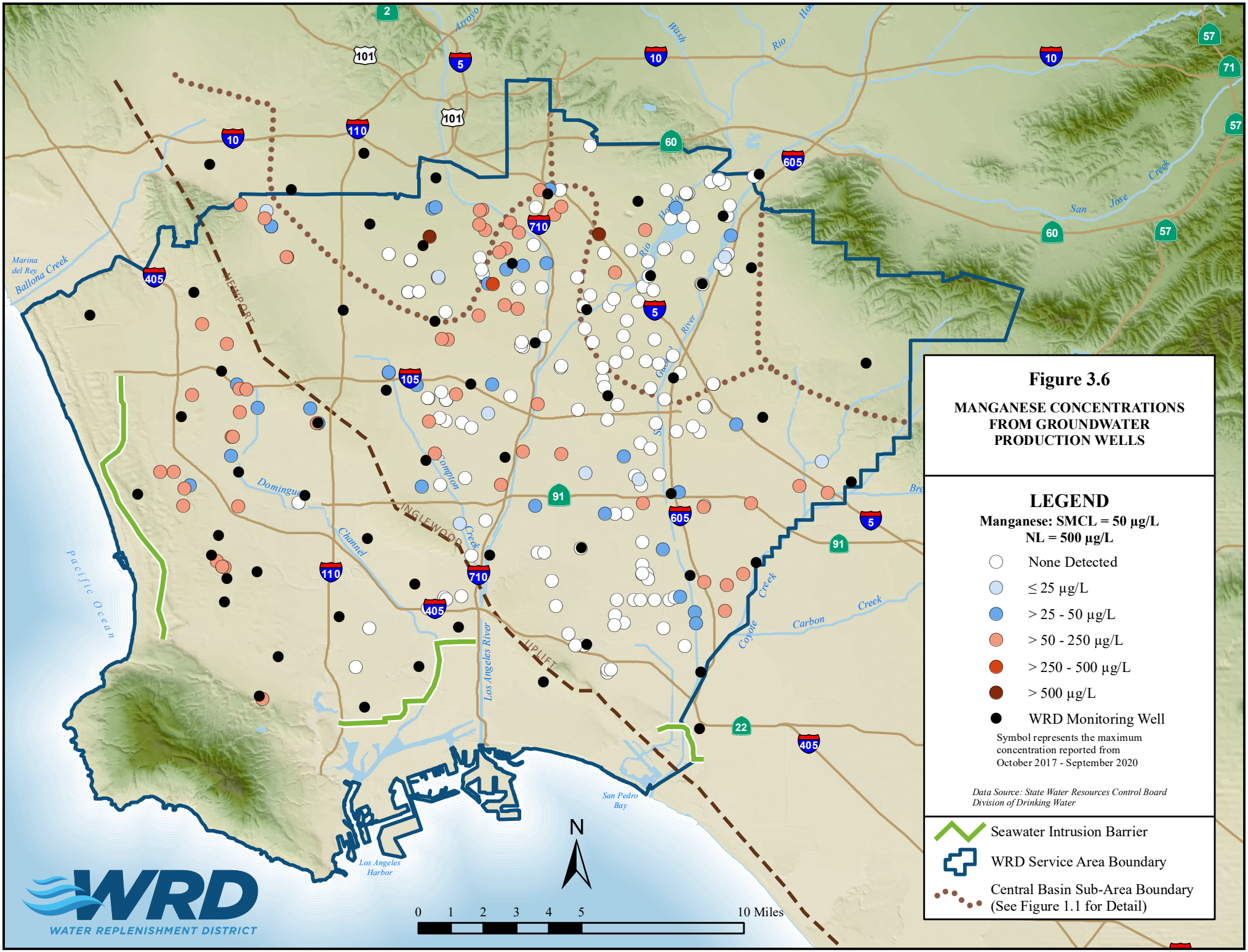


Figure 3.6
MANGANESE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
Manganese: SMCL = 50 µg/L
NL = 500 µg/L
None Detected
≤ 25 µg/L
> 25 - 50 µg/L
> 50 - 250 µg/L
> 250 - 500 µg/L
> 500 µg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
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)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Marina del Rey
Ballona Creek
Dominguez Channel
Los Angeles River
San Gabriel River
Rio Hondo
San Jose Creek
Coyote Creek
Carbon Creek
San Pedro Bay
Los Angeles Harbor
INGLEWOOD
UPLIFT

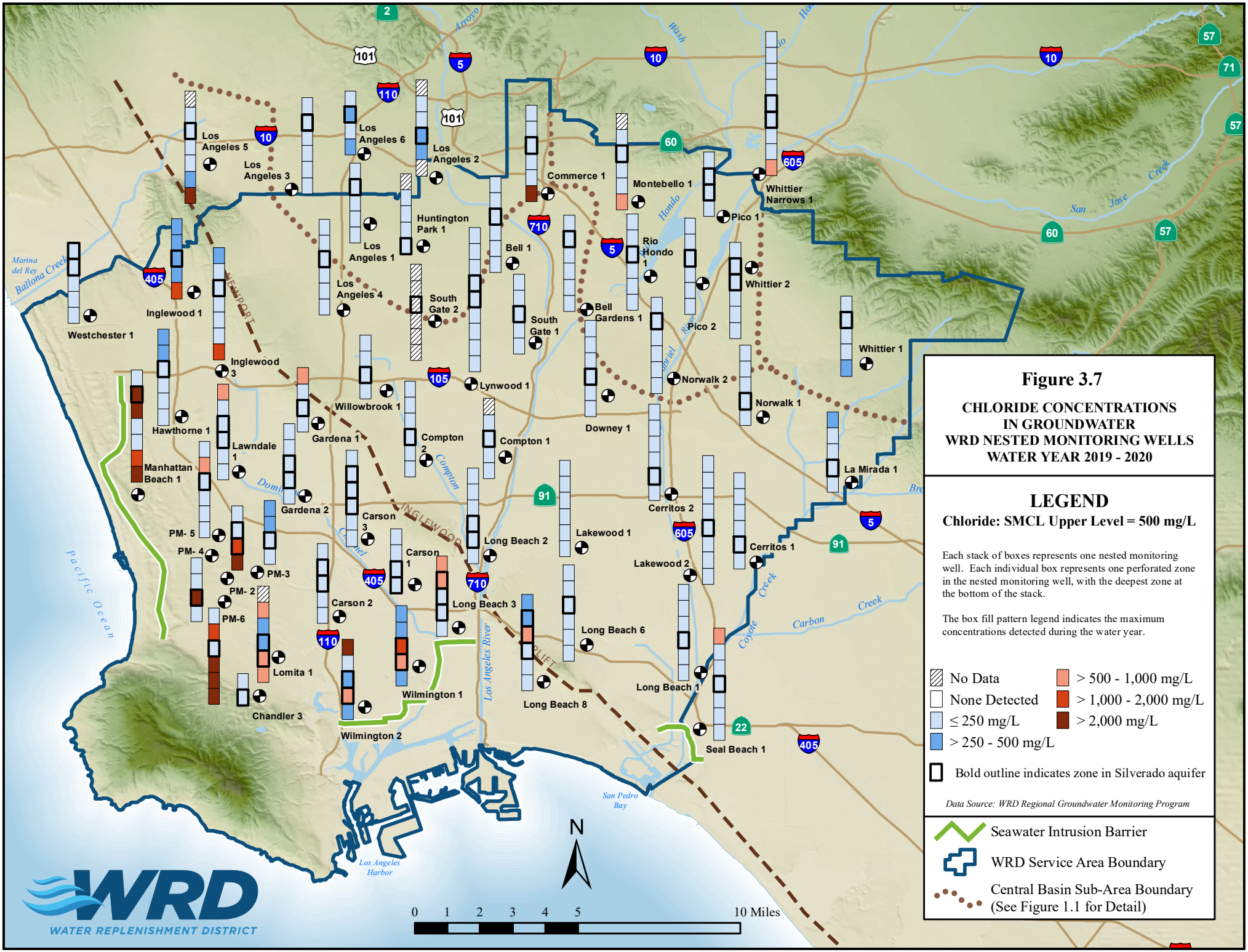


Figure 3.7
CHLORIDE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
Chloride: SMCL Upper Level = 500 mg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 250 mg/L
> 250 - 500 mg/L
> 500 - 1,000 mg/L
> 1,000 - 2,000 mg/L
> 2,000 mg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
Downey 1
Lynwood 1
Compton 1
Compton 2
Willowbrook 1
Gardena 1
Gardena 2
Inglewood 1
Inglewood 3
Westchester 1
Hawthorne 1
Lawndale 1
Manhattan Beach 1
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Carson 3
Carson 1
Carson 2
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Long Beach 1
Lakewood 1
Lakewood 2
Cerritos 2
Cerritos 1
La Mirada 1
Lomita 1
Chandler 3
Wilmington 1
Wilmington 2
Seal Beach 1
Pacific Ocean
Los Angeles River
San Pedro Bay
Los Angeles Harbor
Marina del Rey
Ballona Creek
Dominguez Channel
Compton Creek
Coyote Creek
Carbon Creek
San Jose Creek
Hondo Wash
Arroyo
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

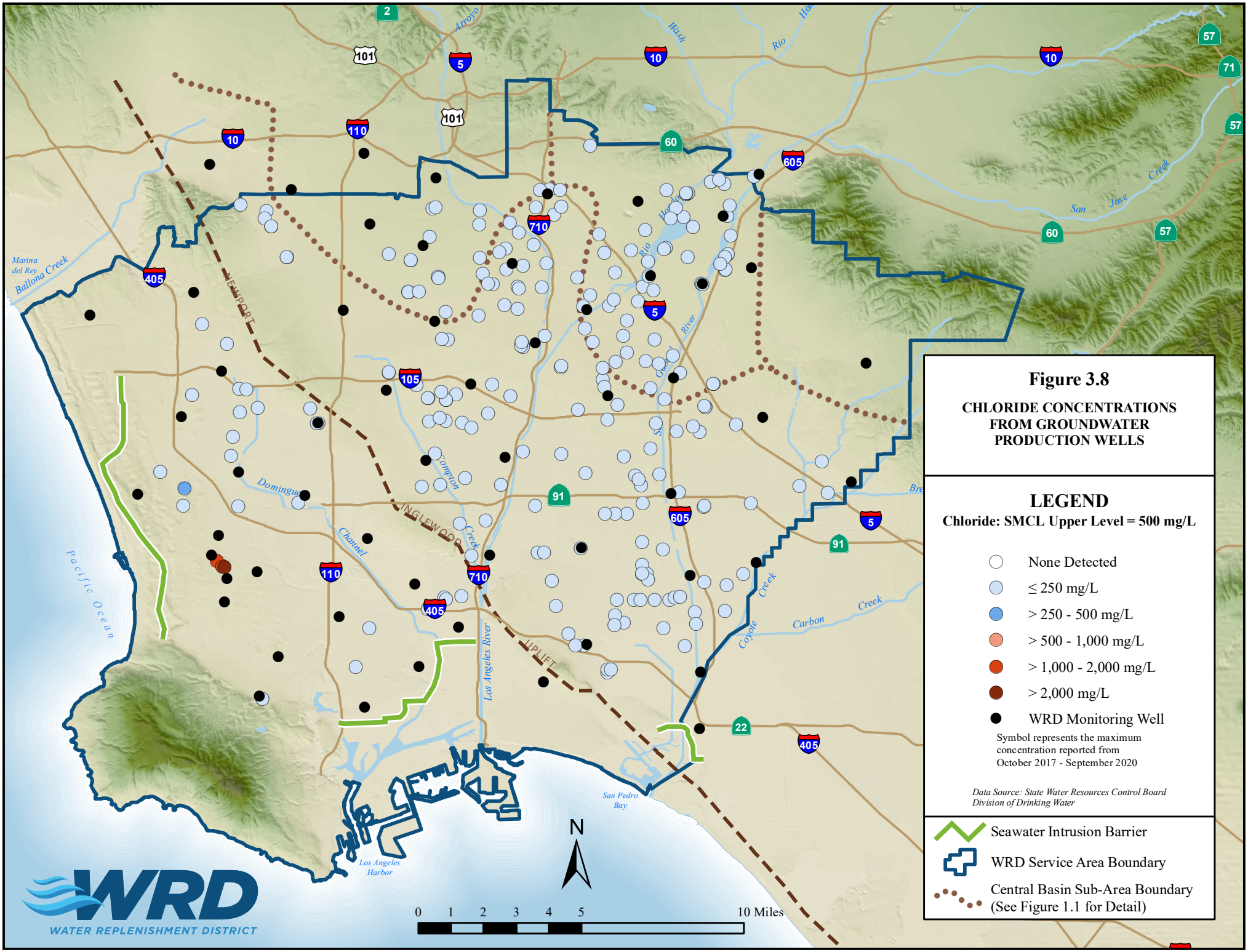


Figure 3.8
CHLORIDE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
Chloride: SMCL Upper Level = 500 mg/L
None Detected
≤ 250 mg/L
> 250 - 500 mg/L
> 500 - 1,000 mg/L
> 1,000 - 2,000 mg/L
> 2,000 mg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
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)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Marina del Rey
Ballona Creek
Dominguez Channel
Los Angeles River
Compton Creek
Rio Hondo
San Gabriel River
San Jose Creek
Coyote Creek
Carbon Creek
San Pedro Bay
Los Angeles Harbor
INGLEWOOD
NEWPORT
UPLIFT

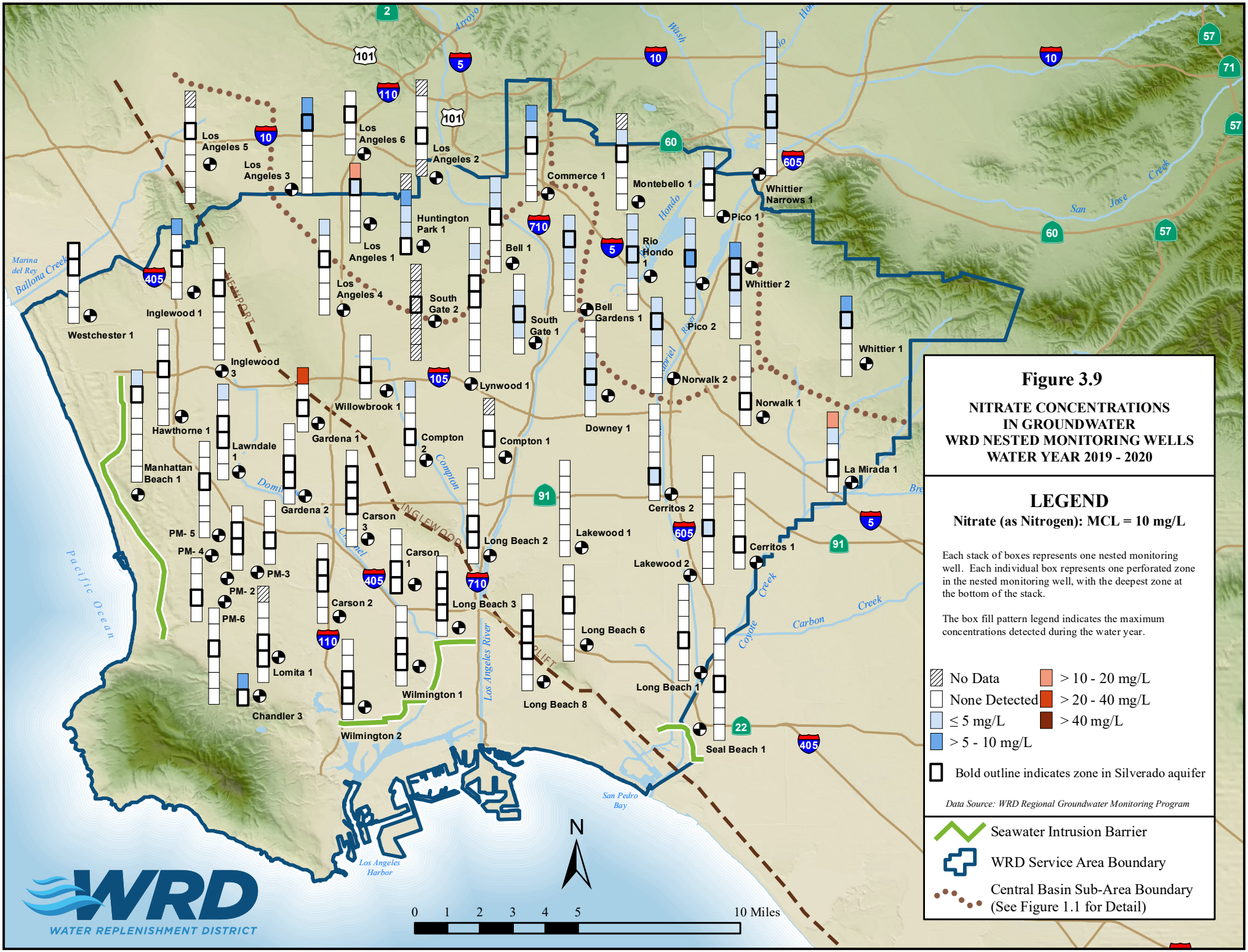


Figure 3.9
NITRATE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
Nitrate (as Nitrogen): MCL = 10 mg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 5 mg/L
> 5 - 10 mg/L
> 10 - 20 mg/L
> 20 - 40 mg/L
> 40 mg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
Downey 1
Lynwood 1
Compton 1
Compton 2
Willowbrook 1
Gardena 1
Gardena 2
Inglewood 1
Inglewood 3
Westchester 1
Hawthorne 1
Lawndale 1
Manhattan Beach 1
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Carson 3
Carson 1
Carson 2
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Long Beach 1
Lakewood 1
Lakewood 2
Cerritos 2
Cerritos 1
La Mirada 1
Lomita 1
Chandler 3
Wilmington 1
Wilmington 2
Seal Beach 1
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Los Angeles River
Coyote Creek
Carbon Creek
San Jose Creek
Marina del Rey
Ballona Creek
Dominguez Channel
Compton Creek
Rio Hondo
Arroyo
Wash
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

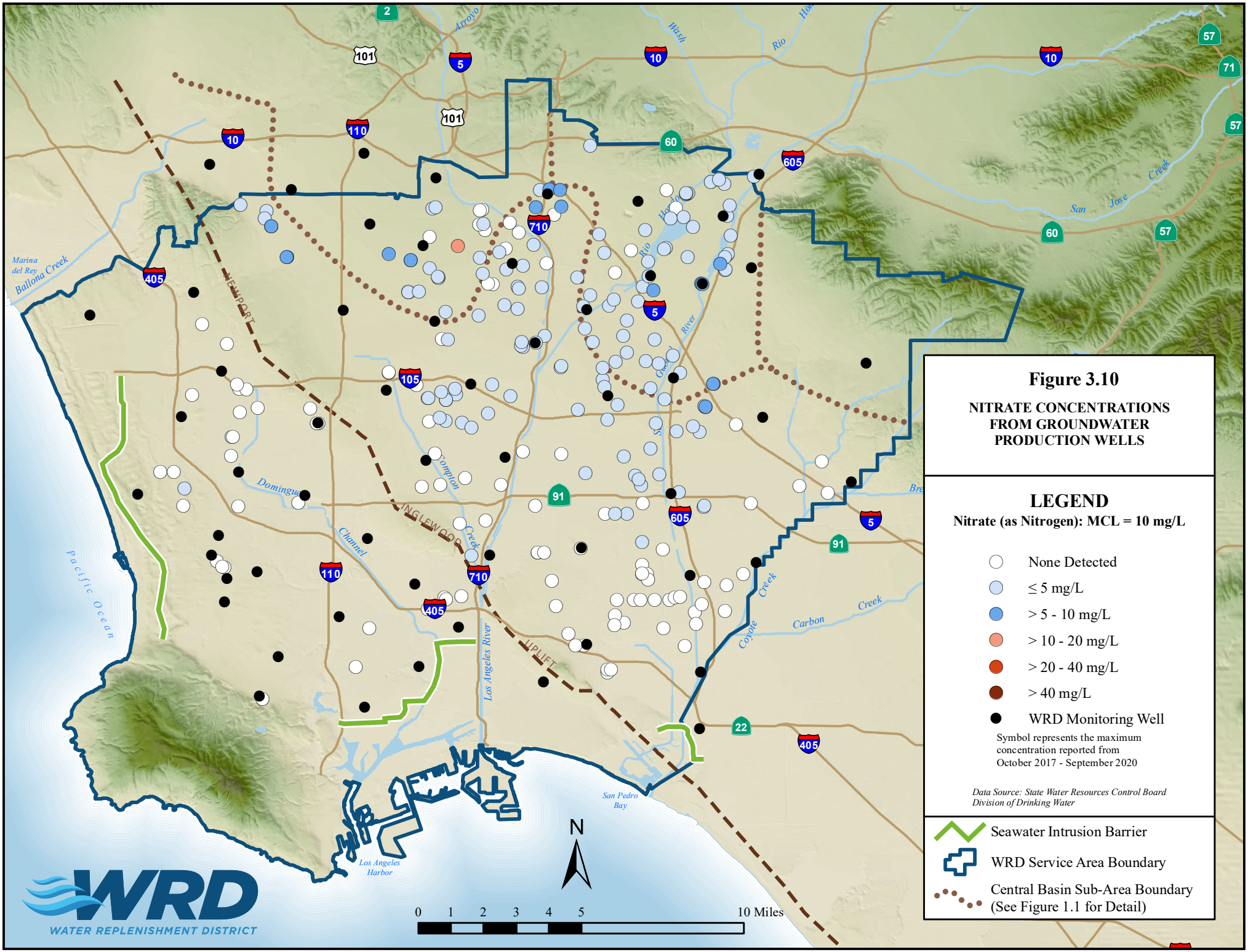


Figure 3.10
NITRATE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
Nitrate (as Nitrogen): MCL = 10 mg/L
None Detected
≤ 5 mg/L
> 5 - 10 mg/L
> 10 - 20 mg/L
> 20 - 40 mg/L
> 40 mg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
Data 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)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Los Angeles Harbor
San Pedro Bay
Los Angeles River
Dominguez Channel
Compton Creek
Coyote Creek
Carbon Creek
San Jose Creek
Rio Hondo
Arroyo Seco
Marina del Rey
Ballona Creek
INGLEWOOD
UPLIFT

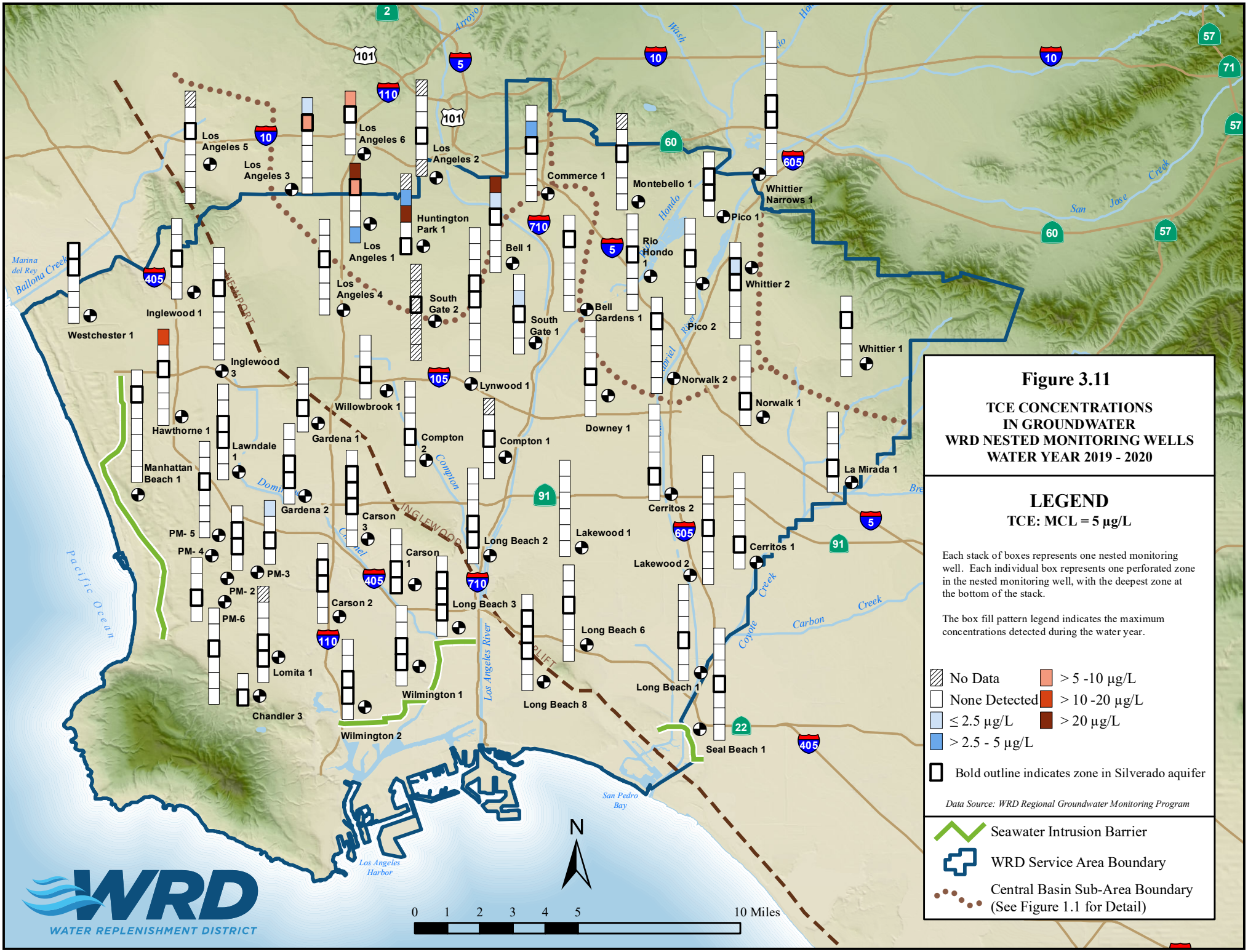


Figure 3.11
TCE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
TCE: MCL = 5 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 2.5 µg/L
> 2.5 - 5 µg/L
> 5 -10 µg/L
> 10 -20 µg/L
> 20 µg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
Downey 1
Lynwood 1
Compton 1
Compton 2
Willowbrook 1
Gardena 1
Gardena 2
Inglewood 1
Inglewood 3
Westchester 1
Hawthorne 1
Lawndale 1
Manhattan Beach 1
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Carson 3
Carson 1
Carson 2
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Long Beach 1
Lakewood 1
Lakewood 2
Cerritos 2
Cerritos 1
La Mirada 1
Lomita 1
Chandler 3
Wilmington 1
Wilmington 2
Seal Beach 1
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Los Angeles River
Coyote Creek
Carbon Creek
San Jose Creek
Rio Hondo
Marina del Rey
Ballona Creek
Dominguez Channel
Compton Creek
Arroyo Wash
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

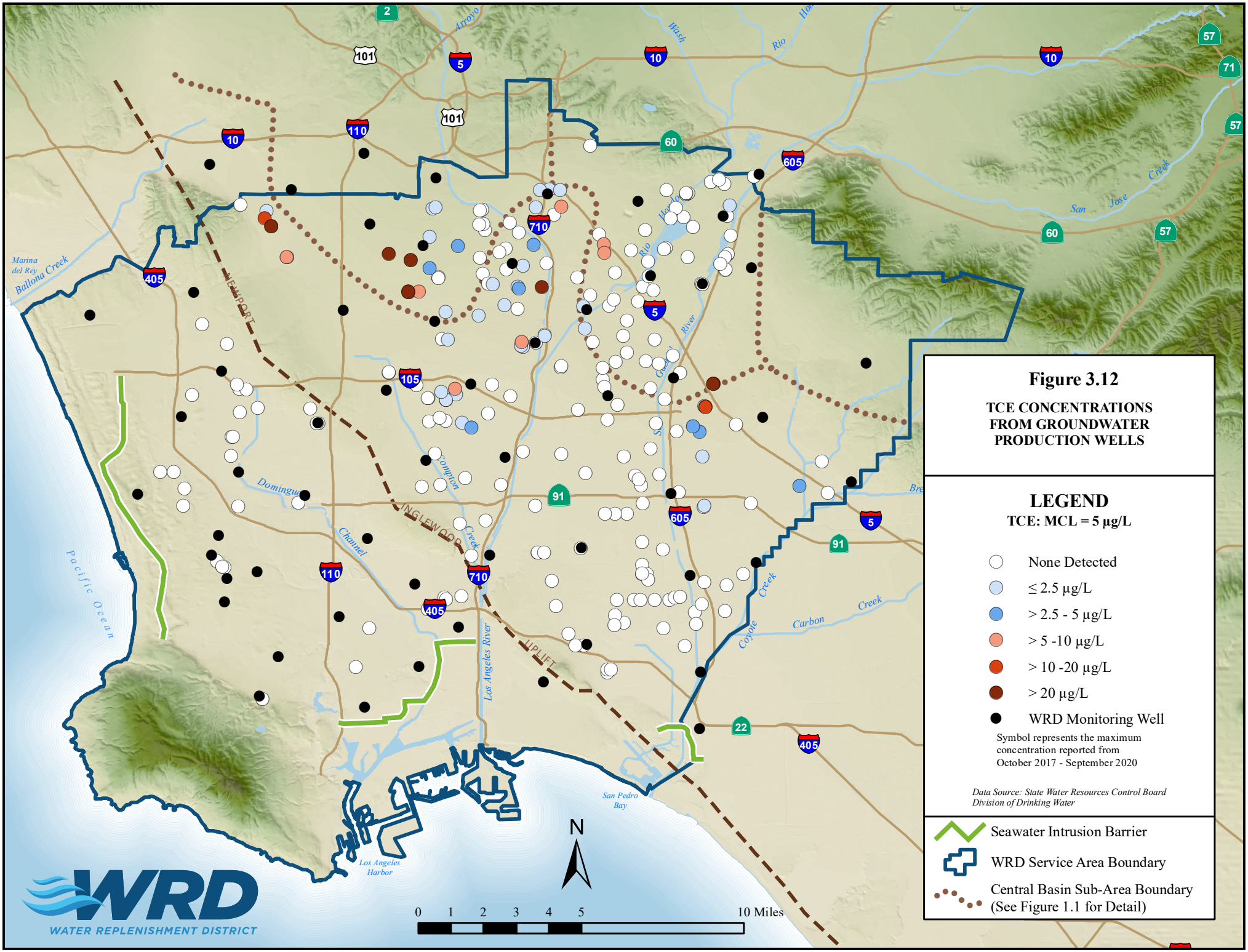


Figure 3.12
TCE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
TCE: MCL = 5 µg/L
None Detected
≤ 2.5 µg/L
> 2.5 - 5 µg/L
> 5 -10 µg/L
> 10 -20 µg/L
> 20 µg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
Data Source: State Water Resources Control Board Division of Drinking Water
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Marina del Rey
Ballona Creek
Dominguez Channel
Los Angeles River
Compton Creek
Rio Hondo
San Gabriel River
San Jose Creek
Coyote Creek
Carbon Creek
San Pedro Bay
Los Angeles Harbor
INGLEWOOD
UPLIFT

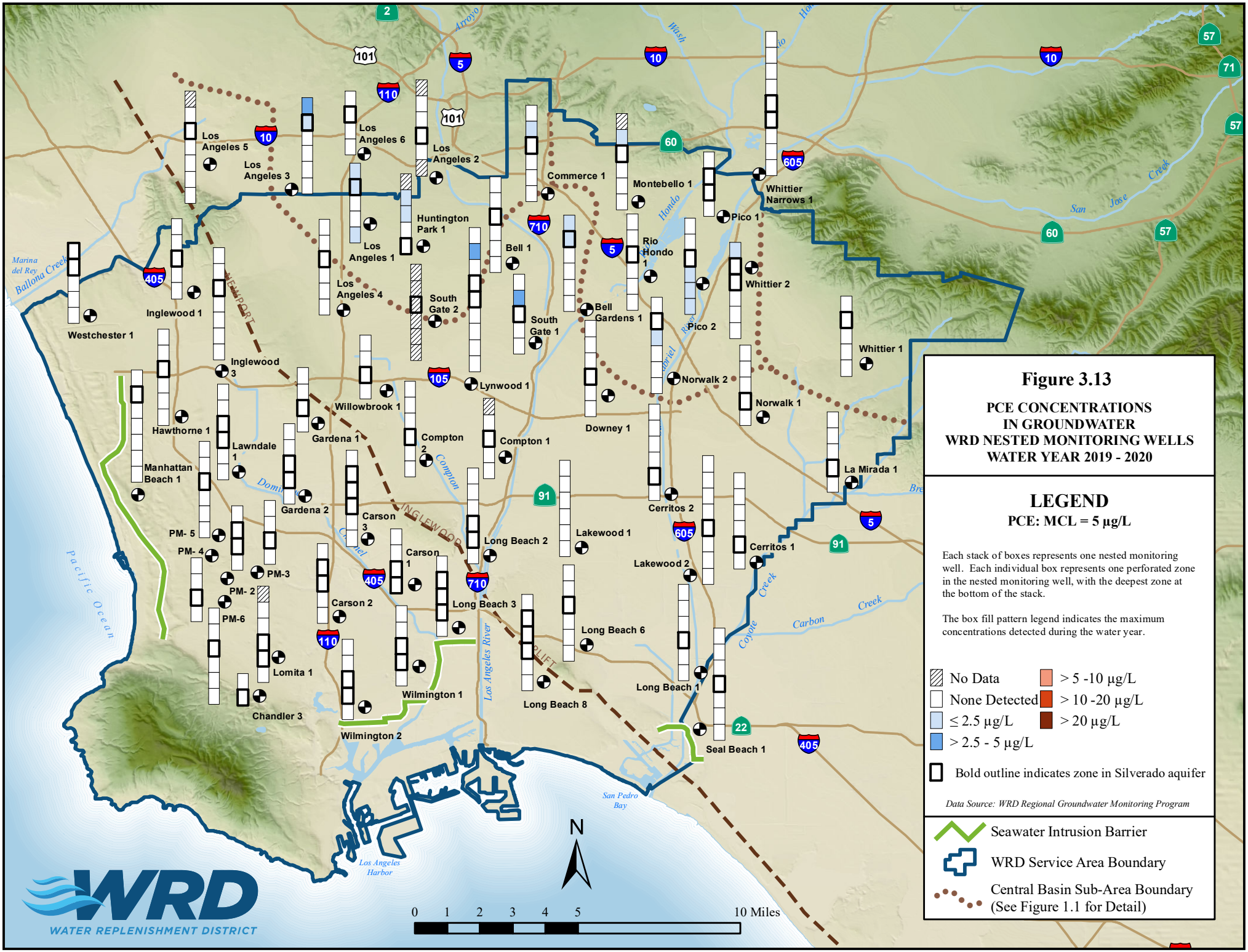


Figure 3.13
PCE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
PCE: MCL = 5 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 2.5 µg/L
> 2.5 - 5 µg/L
> 5 -10 µg/L
> 10 -20 µg/L
> 20 µg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Whittier Narrows 1
Pico 1
Pico 2
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
Downey 1
Lynwood 1
Willowbrook 1
Compton 2
Compton 1
Gardena 1
Gardena 2
Lawndale 1
Hawthorne 1
Inglewood 1
Inglewood 3
Westchester 1
Manhattan Beach 1
La Mirada 1
Cerritos 2
Cerritos 1
Lakewood 1
Lakewood 2
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Long Beach 1
Carson 3
Carson 1
Carson 2
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Lomita 1
Chandler 3
Wilmington 1
Wilmington 2
Seal Beach 1
Pacific Ocean
San Pedro Bay
Los Angeles Harbor
Los Angeles River
Marina del Rey
Ballona Creek
Dominguez Channel
Compton Creek
Coyote Creek
Carbon Creek
San Jose Creek
Rio Hondo
Arroyo
Wash
INGLEWOOD
NEWPORT
UPLIFT
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

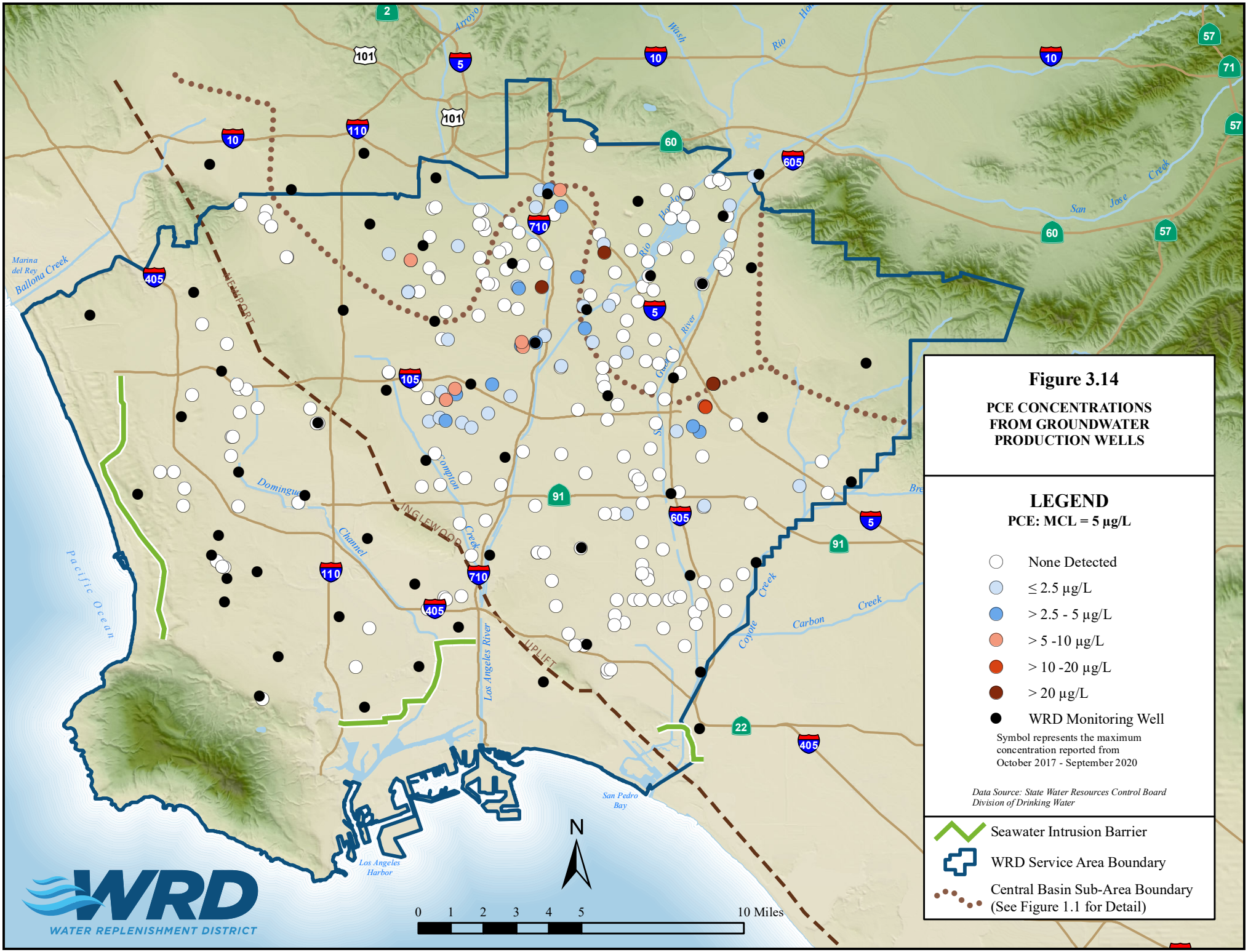


Figure 3.14
PCE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
PCE: MCL = 5 µg/L
None Detected
≤ 2.5 µg/L
> 2.5 - 5 µg/L
> 5 -10 µg/L
> 10 -20 µg/L
> 20 µg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
Data Source: State Water Resources Control Board Division of Drinking Water
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Marina del Rey
Ballona Creek
Dominguez Channel
Los Angeles River
Compton Creek
Rio Hondo
San Gabriel River
San Jose Creek
Coyote Creek
Carbon Creek
San Pedro Bay
Los Angeles Harbor
INGLEWOOD
NEWPORT
UPLIFT

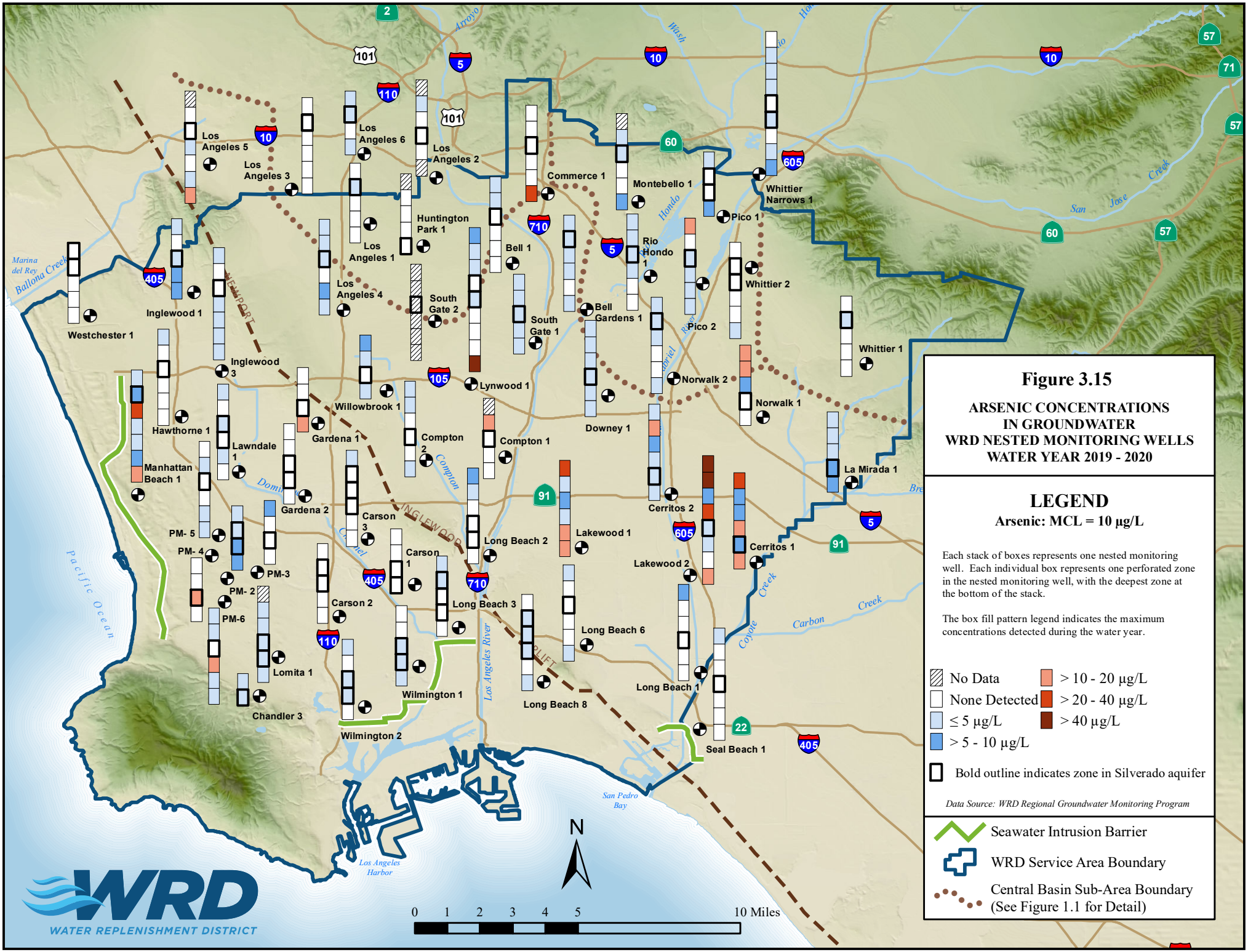


Figure 3.15
ARSENIC CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
Arsenic: MCL = 10 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 5 µg/L
> 5 - 10 µg/L
> 10 - 20 µg/L
> 20 - 40 µg/L
> 40 µg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
Downey 1
Lynwood 1
Inglewood 1
Inglewood 3
Westchester 1
Hawthorne 1
Lawndale 1
Manhattan Beach 1
Willowbrook 1
Gardena 1
Gardena 2
Compton 2
Compton 1
Carson 3
Carson 1
Carson 2
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Lakewood 1
Lakewood 2
Cerritos 2
Cerritos 1
La Mirada 1
Long Beach 1
Seal Beach 1
Wilmington 1
Wilmington 2
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Lomita 1
Chandler 3
Pacific Ocean
Los Angeles Harbor
San Pedro Bay
Los Angeles River
Coyote Creek
Carbon Creek
San Jose Creek
Marina del Rey
Ballona Creek
Dominguez Channel
Compton Creek
Rio Hondo
Arroyo
Wash
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

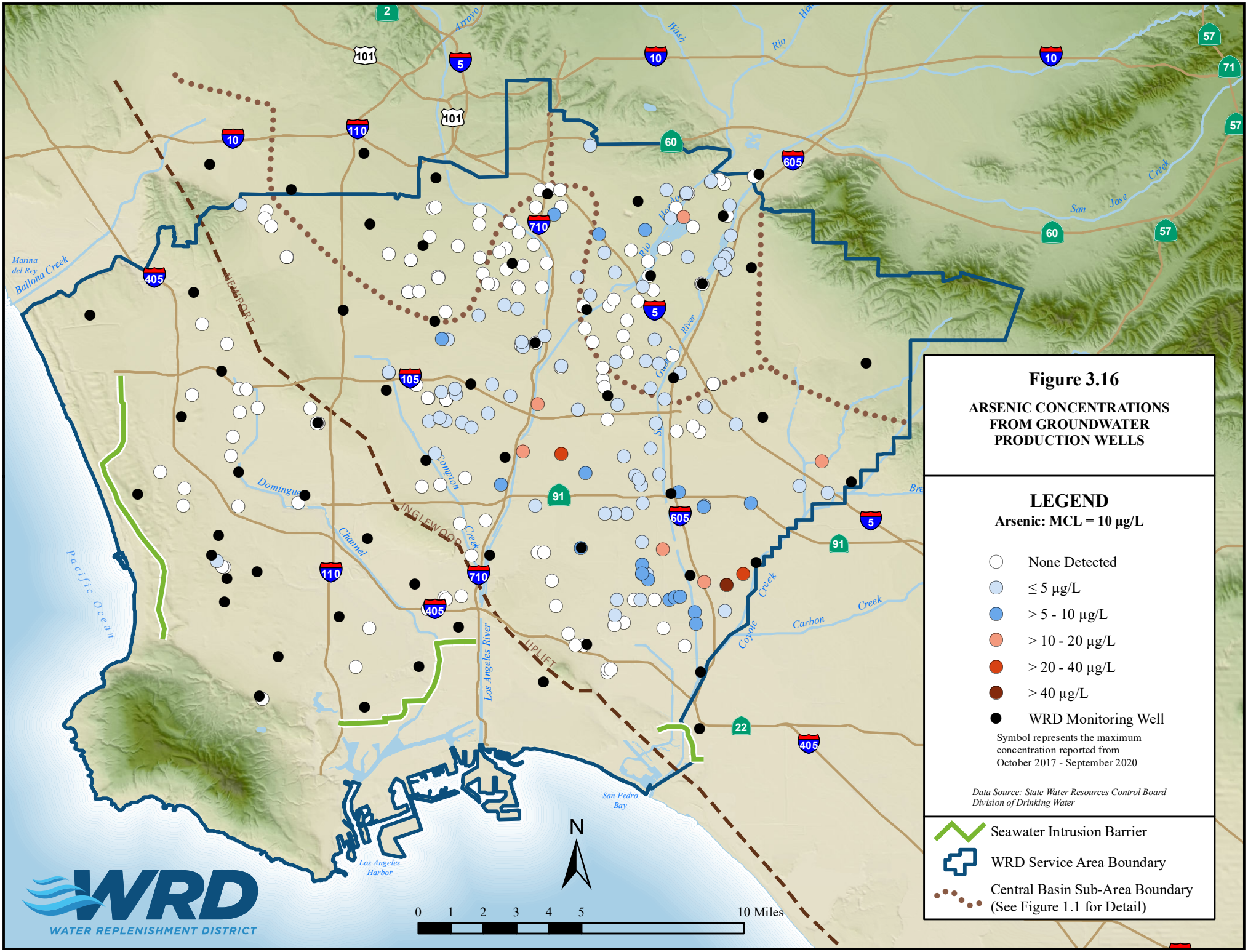


Figure 3.16
ARSENIC CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
Arsenic: MCL = 10 µg/L
None Detected
≤ 5 µg/L
> 5 - 10 µg/L
> 10 - 20 µg/L
> 20 - 40 µg/L
> 40 µg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
Data Source: State 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)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Marina del Rey
Ballona Creek
Dominguez Channel
Los Angeles River
Compton Creek
Coyote Creek
Carbon Creek
San Jose Creek
San Pedro Bay
Los Angeles Harbor
INGLEWOOD
NEWPORT
UPLIFT

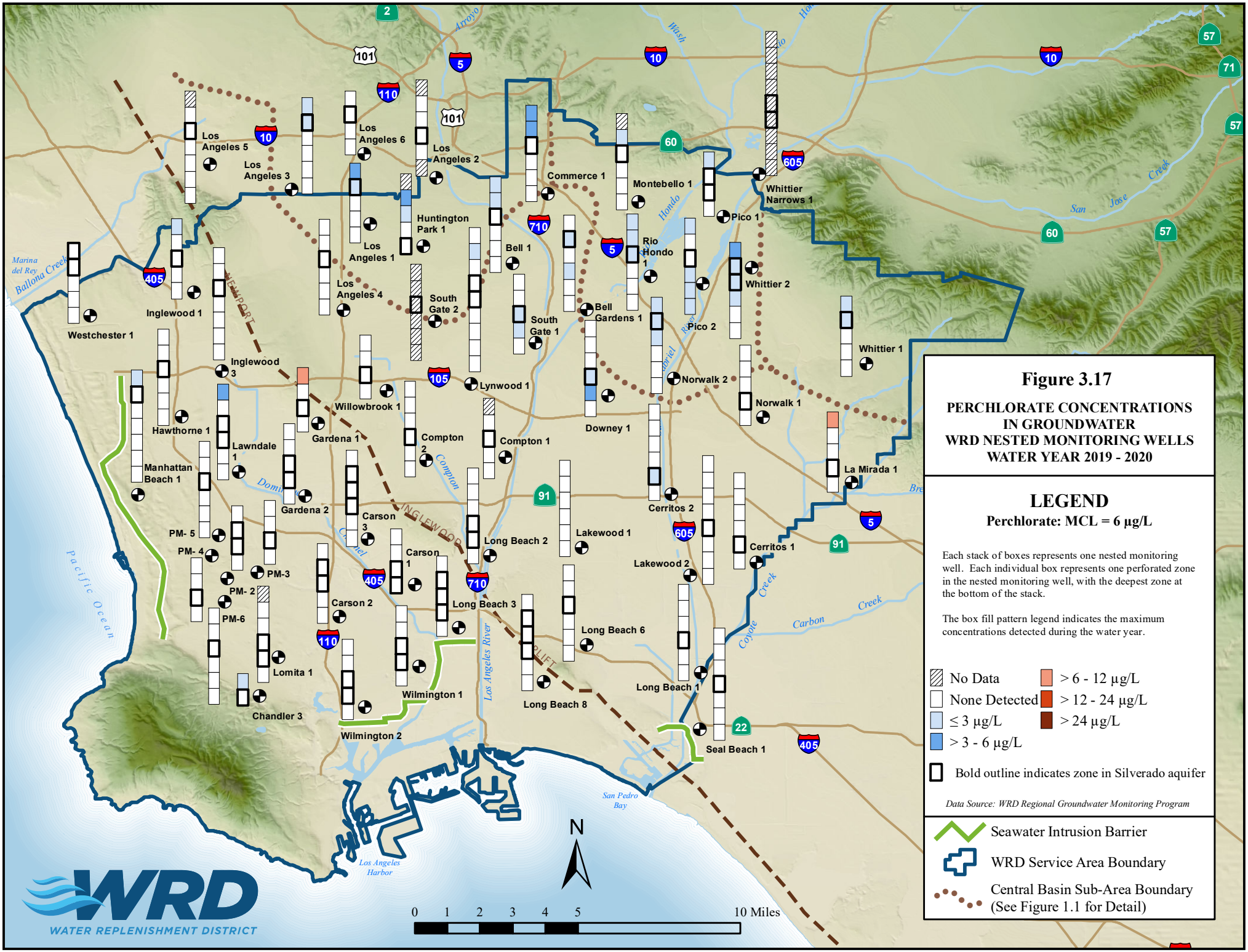


Figure 3.17
PERCHLORATE CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
Perchlorate: MCL = 6 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 3 µg/L
> 3 - 6 µg/L
> 6 - 12 µg/L
> 12 - 24 µg/L
> 24 µg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
Downey 1
Lynwood 1
Compton 1
Compton 2
Willowbrook 1
Gardena 1
Gardena 2
Inglewood 1
Inglewood 3
Westchester 1
Hawthorne 1
Lawndale 1
Manhattan Beach 1
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Carson 3
Carson 2
Carson 1
Lomita 1
Chandler 3
Wilmington 2
Wilmington 1
Long Beach 2
Long Beach 3
Long Beach 8
Lakewood 1
Long Beach 6
Cerritos 2
Lakewood 2
Cerritos 1
Long Beach 1
Seal Beach 1
La Mirada 1
Pacific Ocean
Los Angeles Harbor
San Pedro Bay
Los Angeles River
Coyote Creek
Carbon Creek
San Jose Creek
Marina del Rey
Ballona Creek
Dominguez Channel
Compton Creek
Rio Hondo
Arroyo
Wash
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

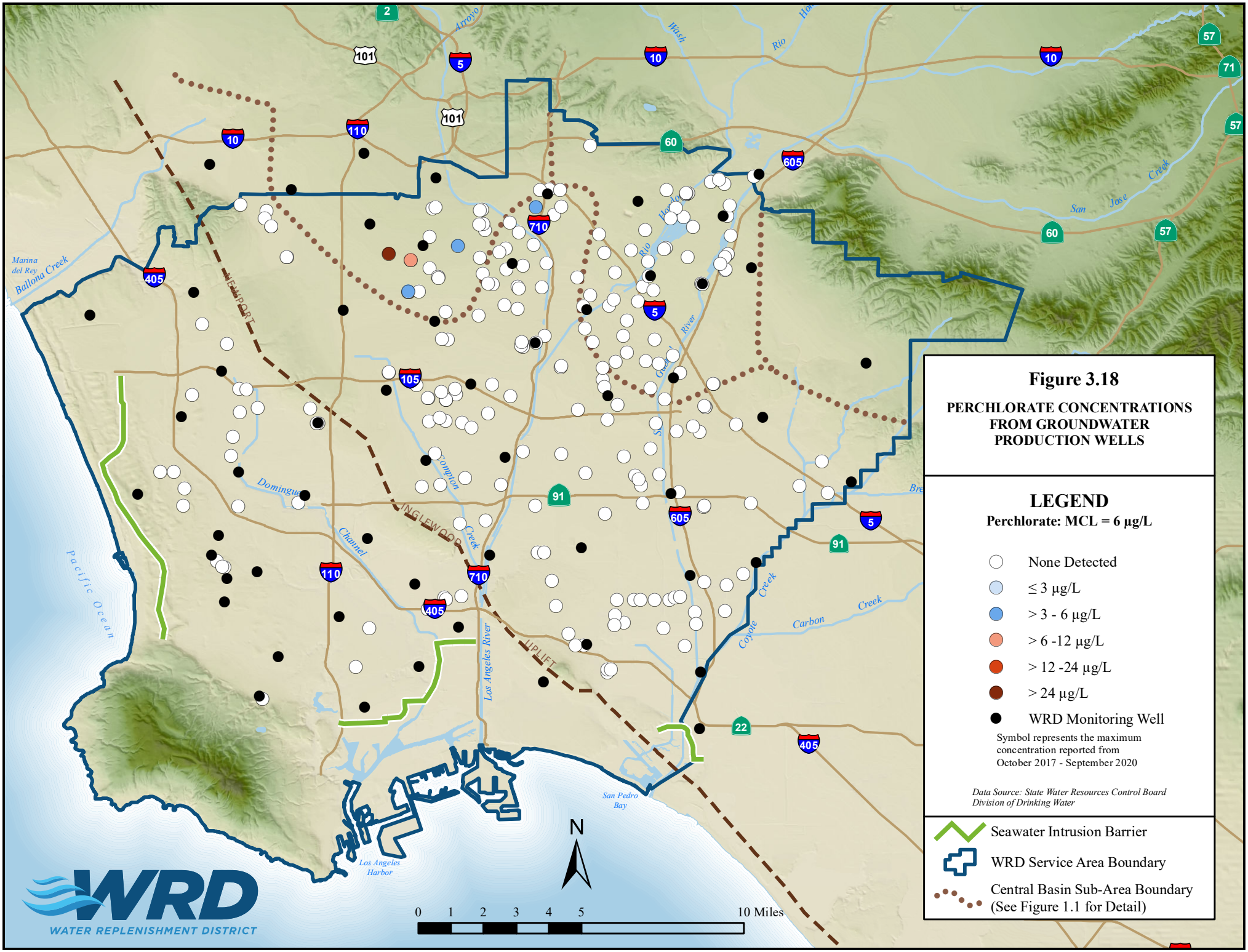


Figure 3.18
PERCHLORATE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
Perchlorate: MCL = 6 µg/L
None Detected
≤ 3 µg/L
> 3 - 6 µg/L
> 6 -12 µg/L
> 12 -24 µg/L
> 24 µg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
Data Source: State 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)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Marina del Rey
Ballona Creek
Dominguez Channel
Los Angeles River
San Gabriel River
Rio Hondo
Coyote Creek
Carbon Creek
San Jose Creek
San Pedro Bay
Los Angeles Harbor
INGLEWOOD
NEWPORT
UPLIFT

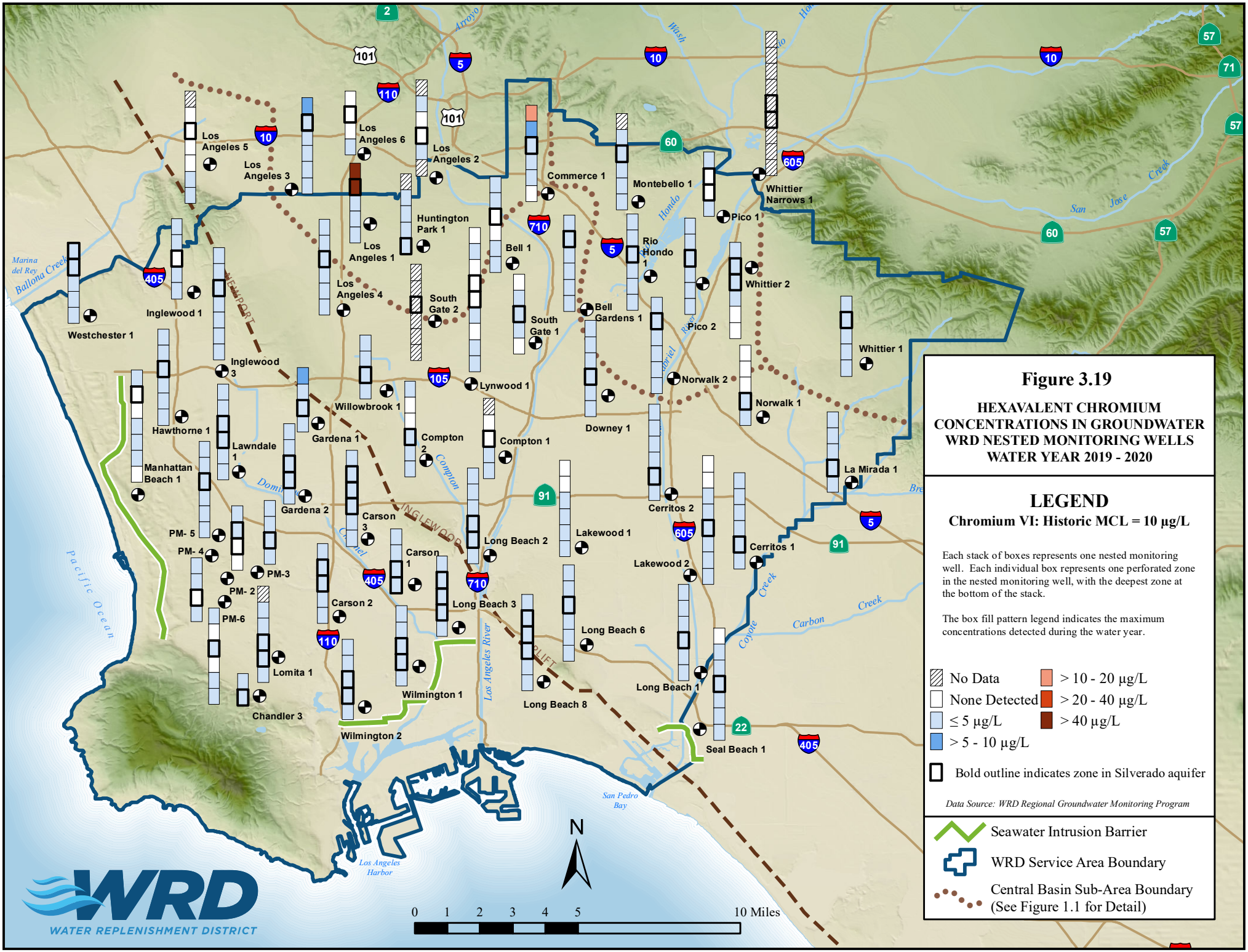


Figure 3.19
HEXAVALENT CHROMIUM CONCENTRATIONS IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
Chromium VI: Historic MCL = 10 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
≤ 5 µg/L
> 5 - 10 µg/L
> 10 - 20 µg/L
> 20 - 40 µg/L
> 40 µg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
Downey 1
Lynwood 1
Compton 1
Compton 2
Willowbrook 1
Gardena 1
Gardena 2
Inglewood 1
Inglewood 3
Westchester 1
Hawthorne 1
Lawndale 1
Manhattan Beach 1
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Lomita 1
Chandler 3
Carson 3
Carson 1
Carson 2
Wilmington 1
Wilmington 2
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Long Beach 1
Lakewood 1
Lakewood 2
Cerritos 2
Cerritos 1
La Mirada 1
Seal Beach 1
Pacific Ocean
Los Angeles Harbor
San Pedro Bay
Los Angeles River
Coyote Creek
Carbon Creek
San Jose Creek
Rio Hondo
Compton Creek
Dominguez Channel
Marina del Rey
Ballona Creek
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

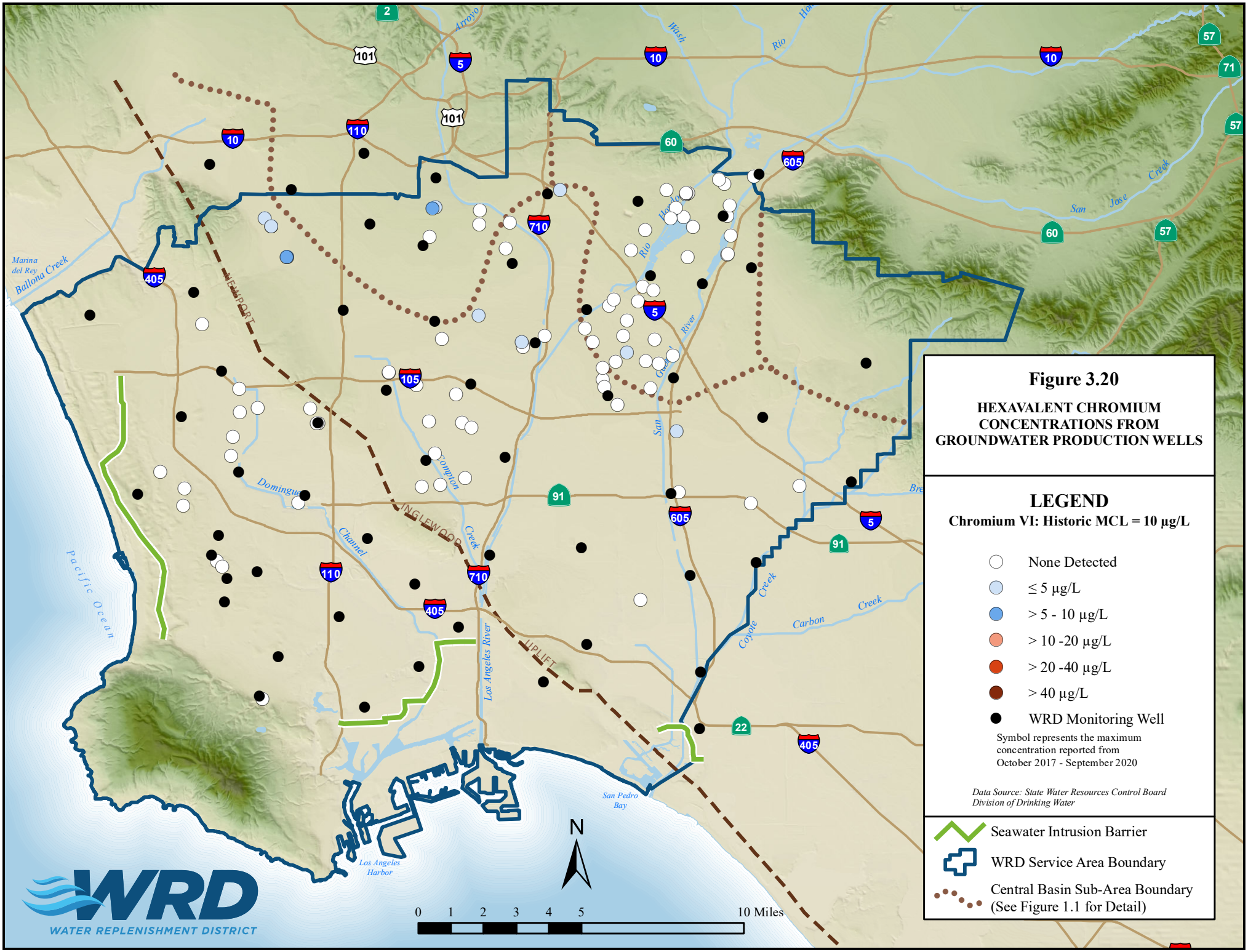


Figure 3.20
HEXAVALENT CHROMIUM CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
Chromium VI: Historic MCL = 10 µg/L
None Detected
≤ 5 µg/L
> 5 - 10 µg/L
> 10 -20 µg/L
> 20 -40 µg/L
> 40 µg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
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)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Los Angeles Harbor
San Pedro Bay
Marina del Rey
Ballona Creek
Dominguez Channel
Los Angeles River
San Gabriel River
Rio Hondo
Coyote Creek
Carbon Creek
San Jose Creek
Arroyo
Wash
INGLEWOOD
NEWPORT
UPLIFT

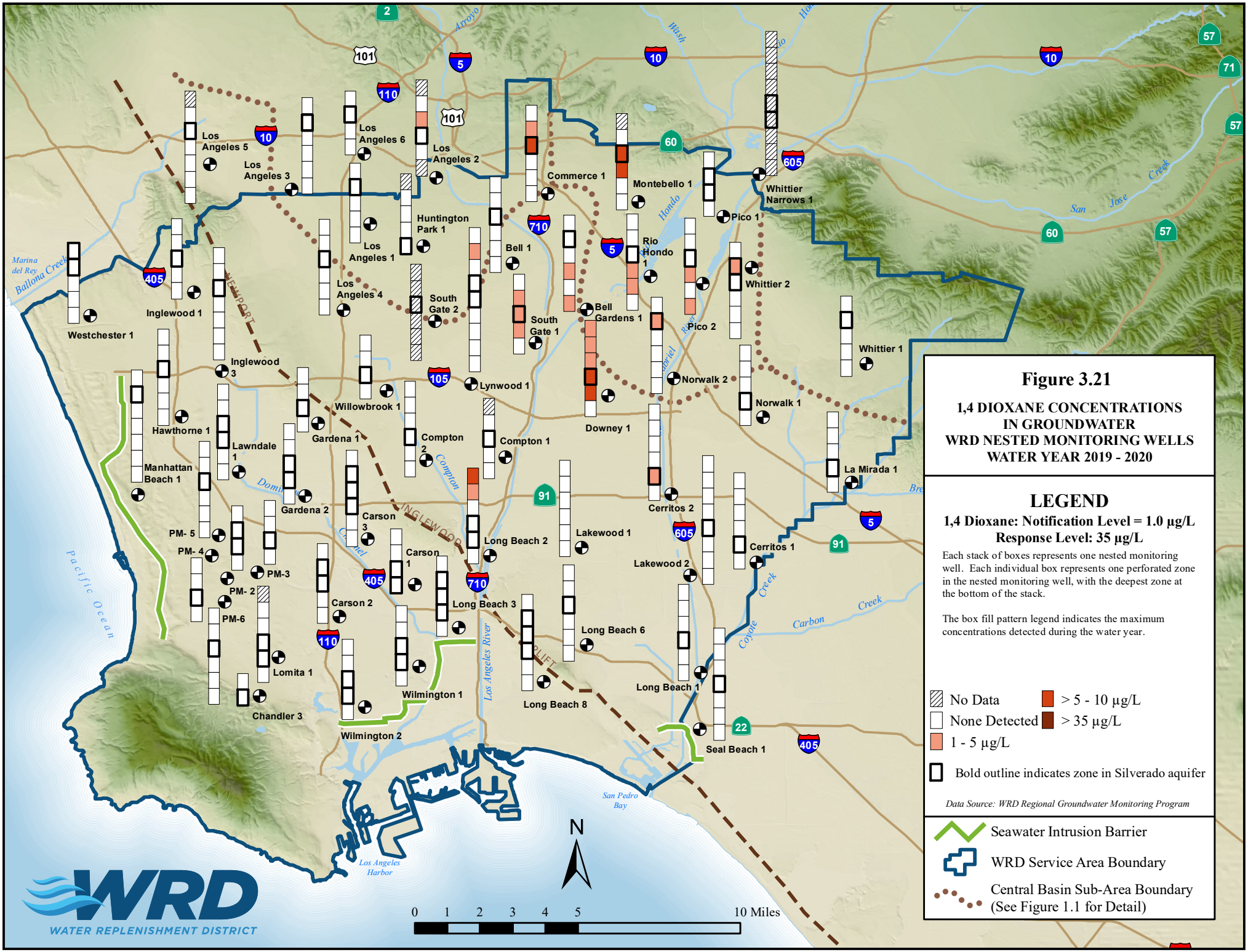


Figure 3.21
1,4 DIOXANE CONCENTRATIONS
IN GROUNDWATER
WRD NESTED MONITORING WELLS
WATER YEAR 2019 - 2020
LEGEND
1,4 Dioxane: Notification Level = 1.0 µg/L
Response Level: 35 µg/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend indicates the maximum concentrations detected during the water year.
No Data
None Detected
1 - 5 µg/L
> 5 - 10 µg/L
> 35 µg/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary
(See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
South Gate 1
Bell 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
Downey 1
Lynwood 1
Compton 1
Compton 2
Willowbrook 1
Gardena 1
Gardena 2
Inglewood 1
Inglewood 3
Westchester 1
Hawthorne 1
Lawndale 1
Manhattan Beach 1
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Carson 3
Carson 1
Carson 2
Lomita 1
Chandler 3
Wilmington 1
Wilmington 2
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Lakewood 1
Lakewood 2
Cerritos 2
Cerritos 1
Long Beach 1
Seal Beach 1
La Mirada 1
Pacific Ocean
Los Angeles Harbor
San Pedro Bay
Los Angeles River
Coyote Creek
Carbon Creek
San Jose Creek
Marina del Rey
Ballona Creek
Dominguez Channel
Compton Creek
Rio Hondo
Arroyo
Wash
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

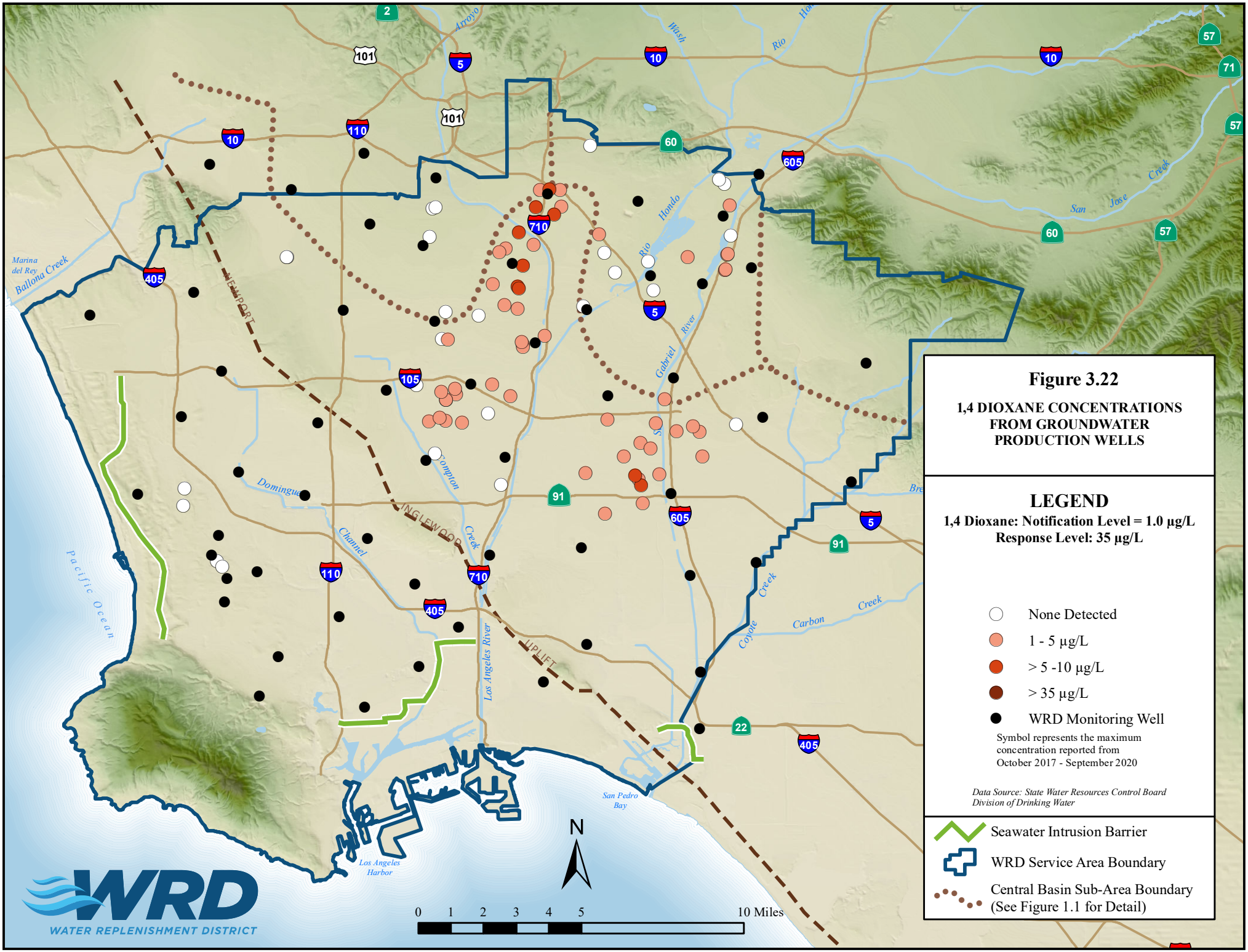


Figure 3.22
1,4 DIOXANE CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
LEGEND
1,4 Dioxane: Notification Level = 1.0 µg/L
Response Level: 35 µg/L
None Detected
1 - 5 µg/L
> 5 -10 µg/L
> 35 µg/L
WRD Monitoring Well
Symbol represents the maximum concentration reported from October 2017 - September 2020
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)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Marina del Rey
Ballona Creek
Dominguez Channel
Los Angeles River
Compton Creek
Rio Hondo
San Gabriel River
San Jose Creek
Coyote Creek
Carbon Creek
San Pedro Bay
Los Angeles Harbor
INGLEWOOD
NEWPORT
UPLIFT

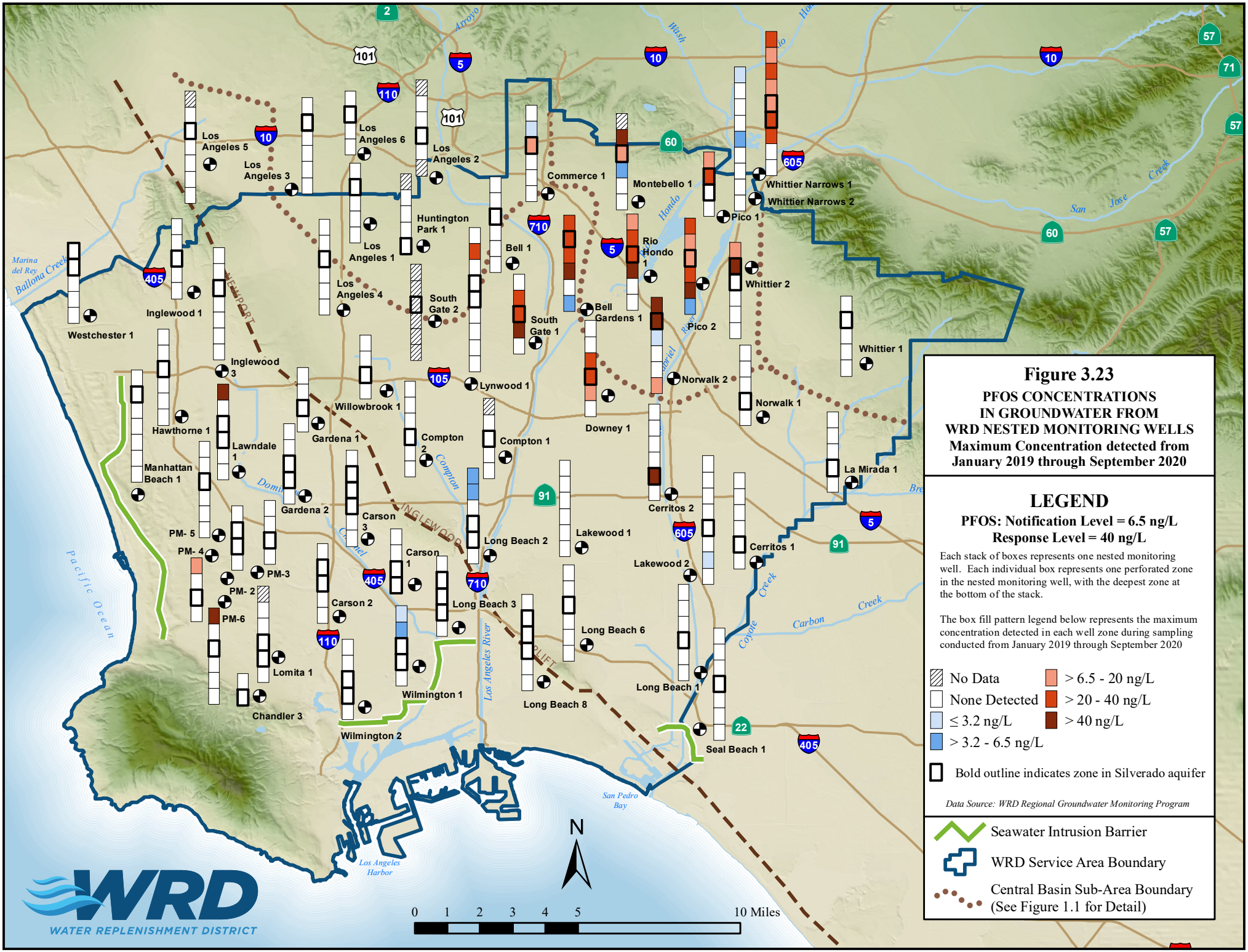


Figure 3.23
PFOS CONCENTRATIONS IN GROUNDWATER FROM WRD NESTED MONITORING WELLS
Maximum Concentration detected from January 2019 through September 2020
LEGEND
PFOS: Notification Level = 6.5 ng/L
Response Level = 40 ng/L
Each stack of boxes represents one nested monitoring well. Each individual box represents one perforated zone in the nested monitoring well, with the deepest zone at the bottom of the stack.
The box fill pattern legend below represents the maximum concentration detected in each well zone during sampling conducted from January 2019 through September 2020
No Data
None Detected
≤ 3.2 ng/L
> 3.2 - 6.5 ng/L
> 6.5 - 20 ng/L
> 20 - 40 ng/L
> 40 ng/L
Bold outline indicates zone in Silverado aquifer
Data Source: WRD Regional Groundwater Monitoring Program
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)
Los Angeles 5
Los Angeles 3
Los Angeles 6
Los Angeles 2
Los Angeles 1
Los Angeles 4
Huntington Park 1
South Gate 2
Bell 1
South Gate 1
Commerce 1
Montebello 1
Rio Hondo 1
Bell Gardens 1
Pico 1
Pico 2
Whittier Narrows 1
Whittier Narrows 2
Whittier 2
Whittier 1
Norwalk 2
Norwalk 1
Downey 1
Lynwood 1
Inglewood 1
Inglewood 3
Westchester 1
Hawthorne 1
Lawndale 1
Manhattan Beach 1
Willowbrook 1
Gardena 1
Gardena 2
Compton 2
Compton 1
Carson 3
Carson 1
Carson 2
Long Beach 2
Long Beach 3
Long Beach 6
Long Beach 8
Lakewood 1
Lakewood 2
Cerritos 2
Cerritos 1
La Mirada 1
Long Beach 1
Seal Beach 1
Wilmington 1
Wilmington 2
Lomita 1
Chandler 3
PM- 5
PM- 4
PM- 2
PM-3
PM-6
Pacific Ocean
Los Angeles Harbor
San Pedro Bay
Los Angeles River
Coyote Creek
Carbon Creek
San Jose Creek
Rio Hondo
Compton Creek
Dominguez Channel
Marina del Rey
Ballona Creek
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT

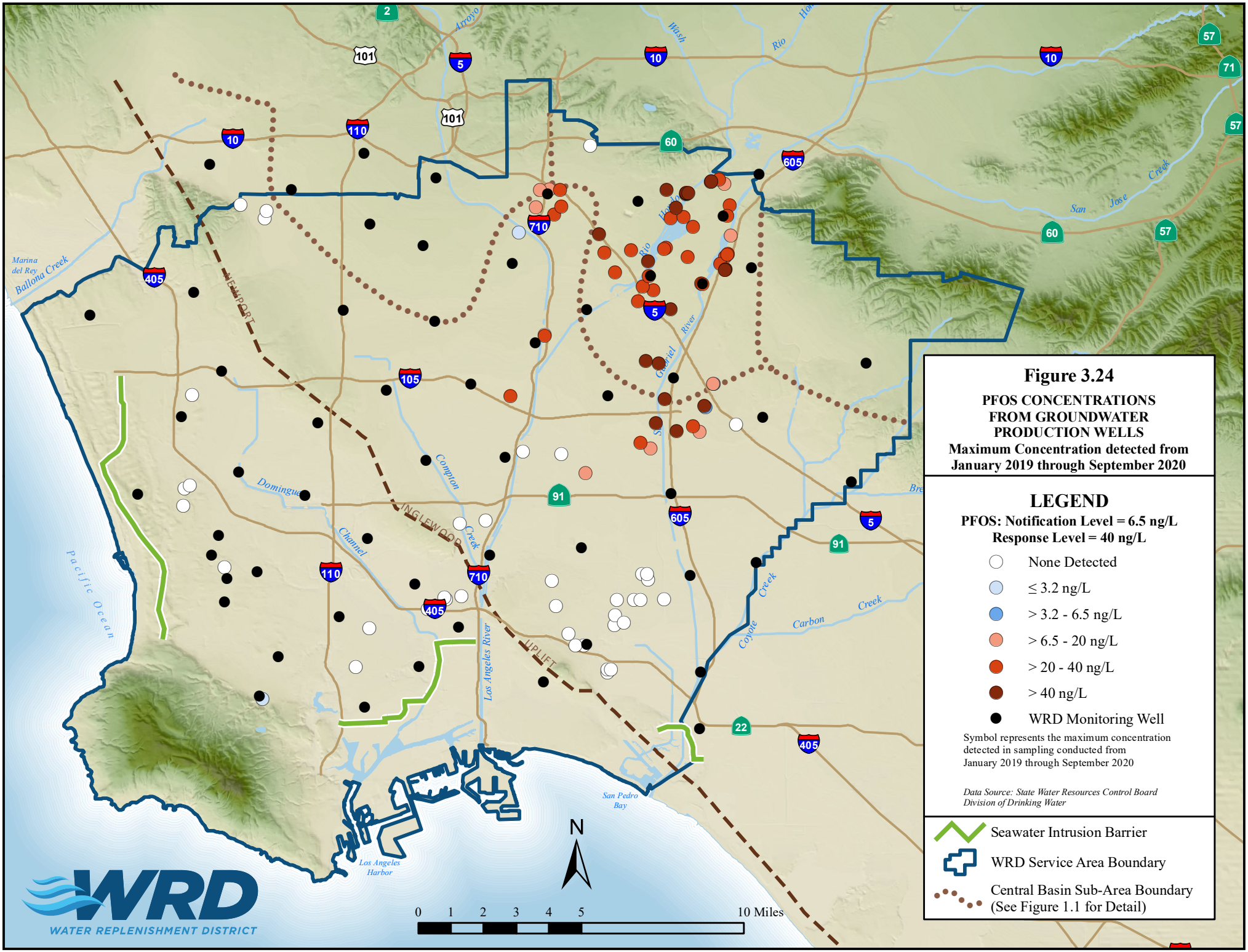


Figure 3.24
PFOS CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
Maximum Concentration detected from January 2019 through September 2020
LEGEND
PFOS: Notification Level = 6.5 ng/L
Response Level = 40 ng/L
None Detected
≤ 3.2 ng/L
> 3.2 - 6.5 ng/L
> 6.5 - 20 ng/L
> 20 - 40 ng/L
> 40 ng/L
WRD Monitoring Well
Symbol represents the maximum concentration detected in sampling conducted from January 2019 through September 2020
Data Source: State Water Resources Control Board Division of Drinking Water
Seawater Intrusion Barrier
WRD Service Area Boundary
Central Basin Sub-Area Boundary (See Figure 1.1 for Detail)
WRD
WATER REPLENISHMENT DISTRICT
N
0 1 2 3 4 5 10 Miles
Pacific Ocean
Los Angeles Harbor
San Pedro Bay
Marina del Rey
Ballona Creek
Dominguez Channel
Compton Creek
Los Angeles River
Rio Hondo
San Gabriel River
San Jose Creek
Coyote Creek
Carbon Creek
NEWPORT INGLEWOOD UPLIFT

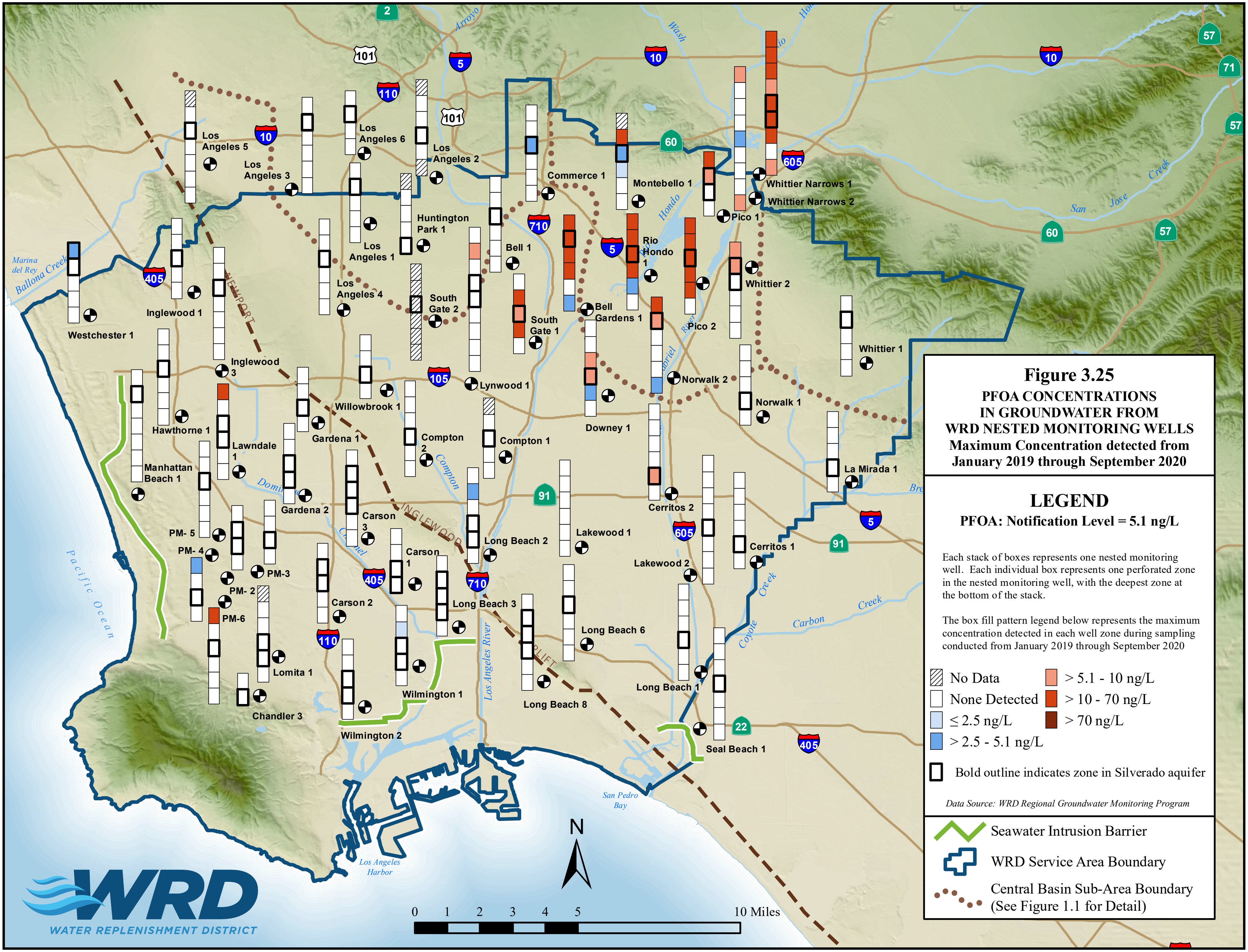


Figure 3.25
PFOA CONCENTRATIONS IN GROUNDWATER FROM WRD NESTED MONITORING WELLS
Maximum Concentration detected from January 2019 through September 2020

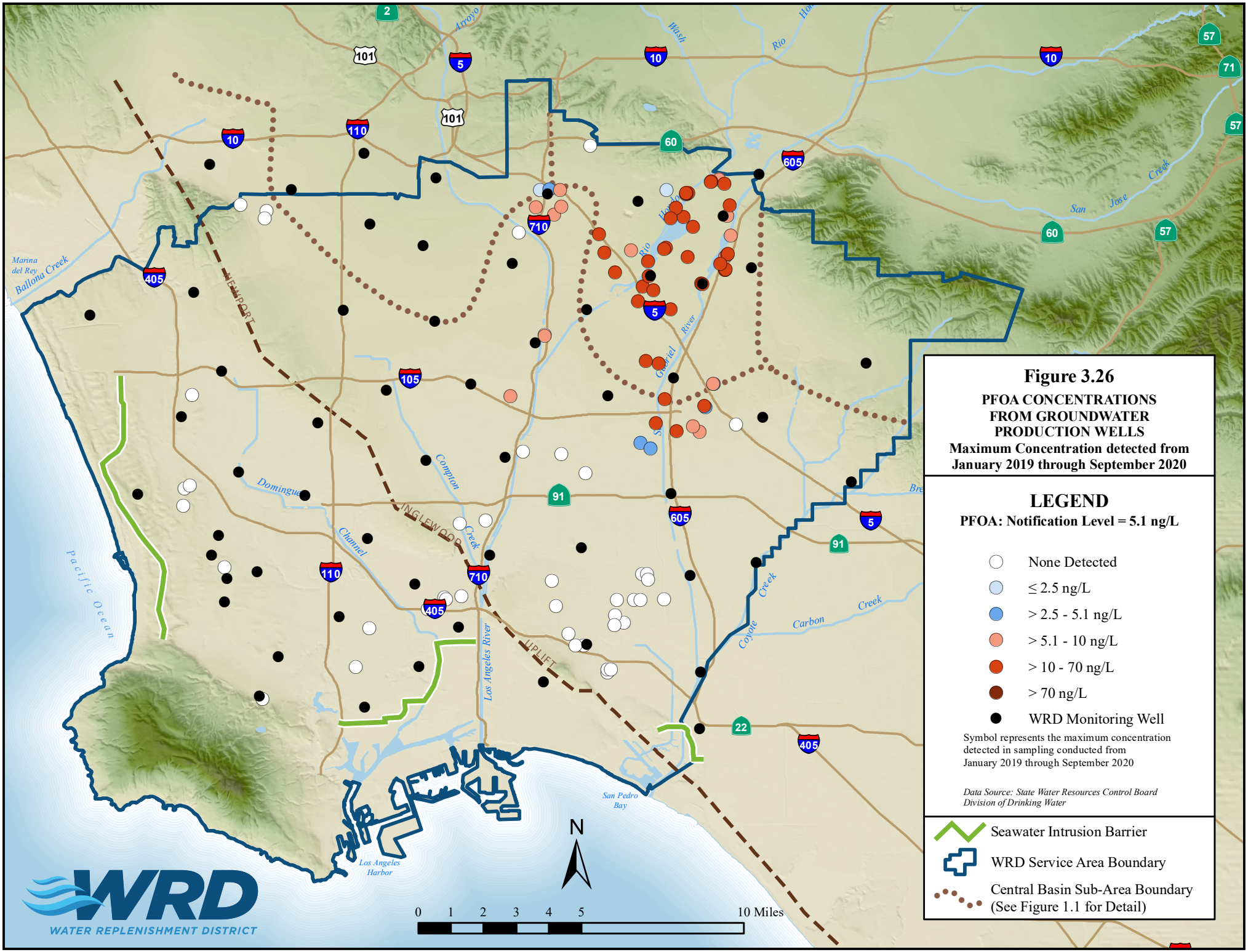
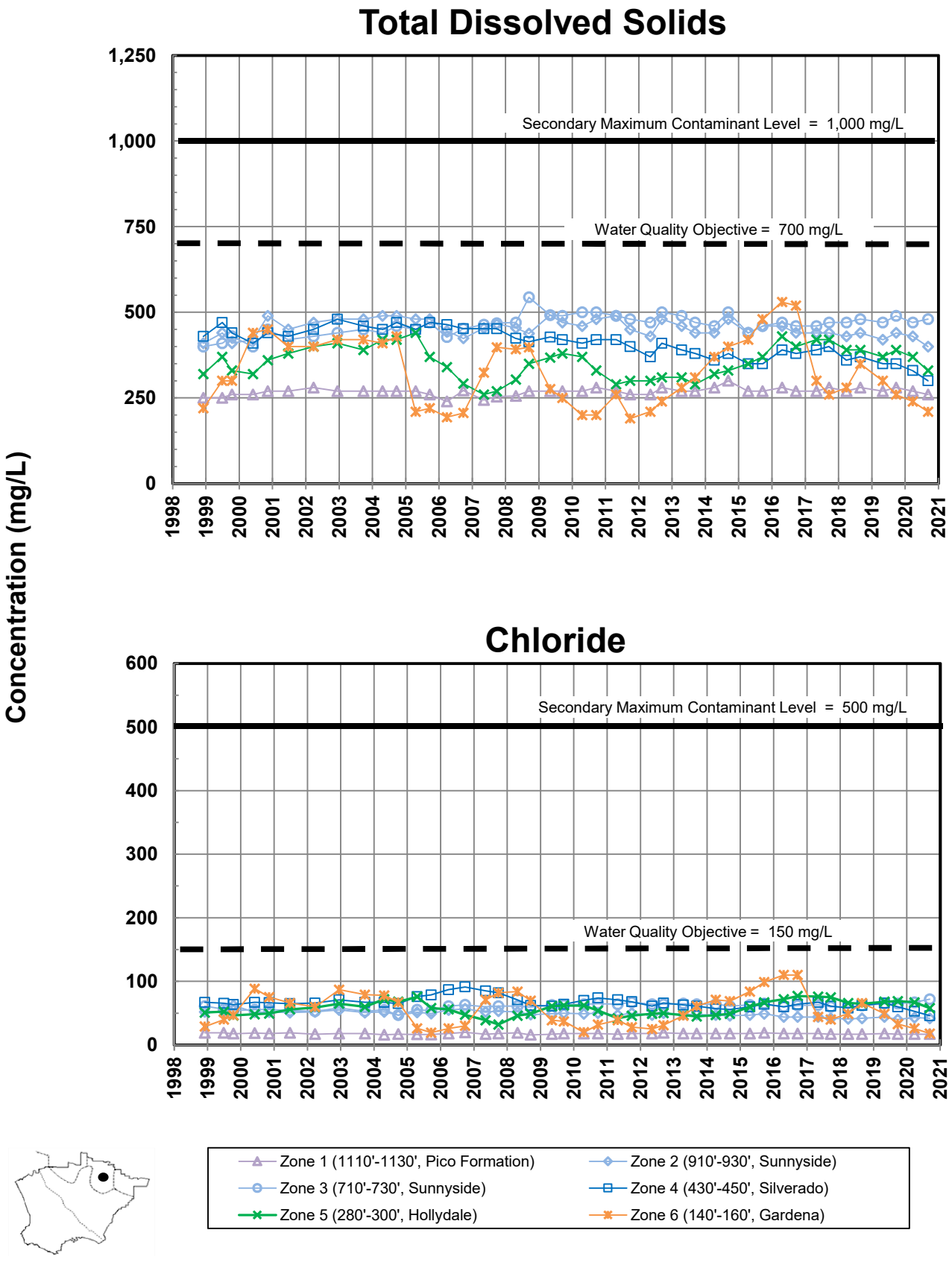
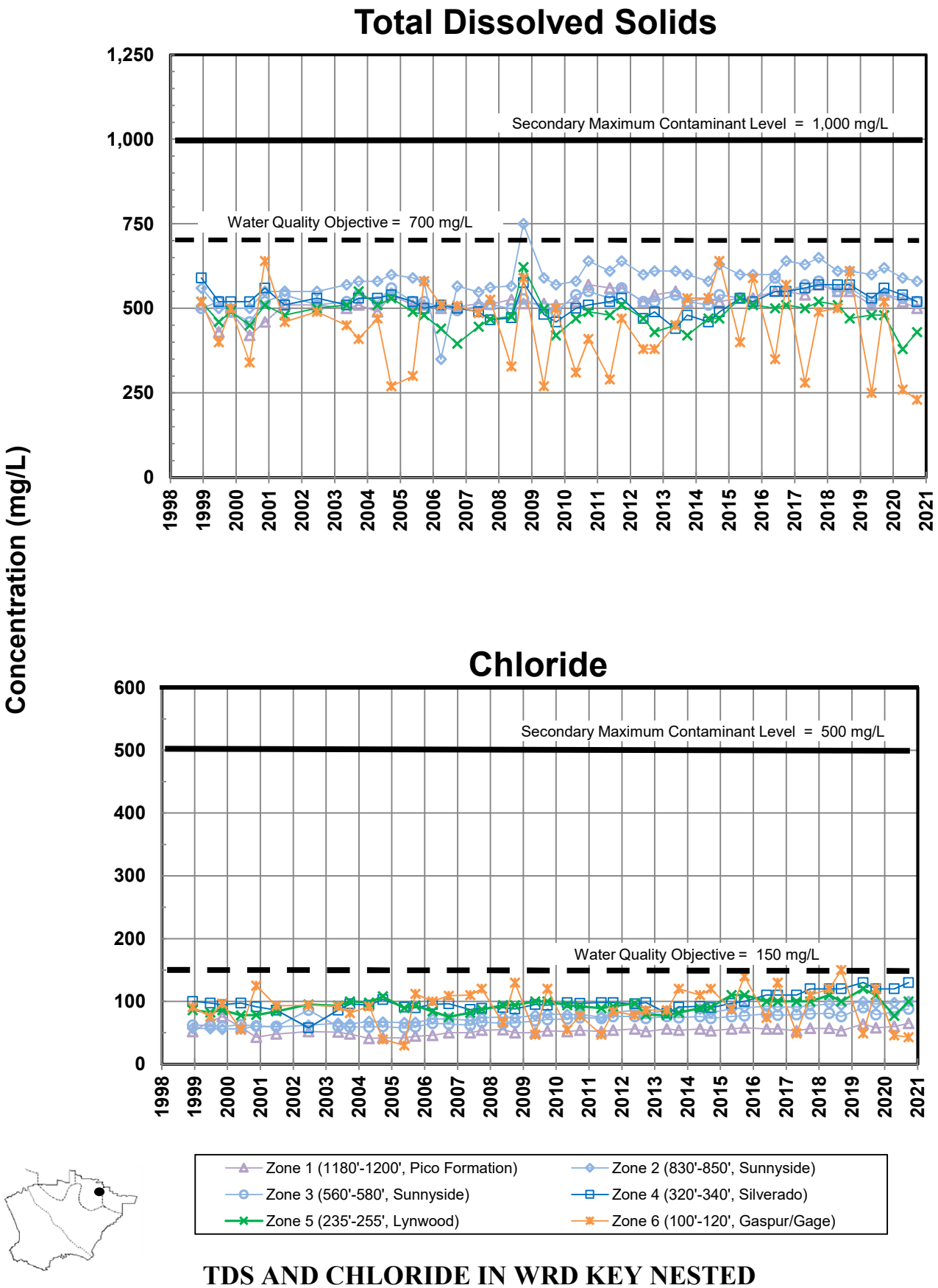


Figure 3.26
PFOA CONCENTRATIONS FROM GROUNDWATER PRODUCTION WELLS
Maximum Concentration detected from January 2019 through September 2020
LEGEND
PFOA: Notification Level = 5.1 ng/L
None Detected
≤ 2.5 ng/L
> 2.5 - 5.1 ng/L
> 5.1 - 10 ng/L
> 10 - 70 ng/L
> 70 ng/L
WRD Monitoring Well
Symbol represents the maximum concentration detected in sampling conducted from January 2019 through September 2020
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)
N
0 1 2 3 4 5 10 Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Marina del Rey
Ballona Creek
Dominguez Channel
Compton Creek
Los Angeles River
San Gabriel River
San Jose Creek
Coyote Creek
Carbon Creek
San Pedro Bay
Los Angeles Harbor
NEWPORT INGLEWOOD UPLIFT



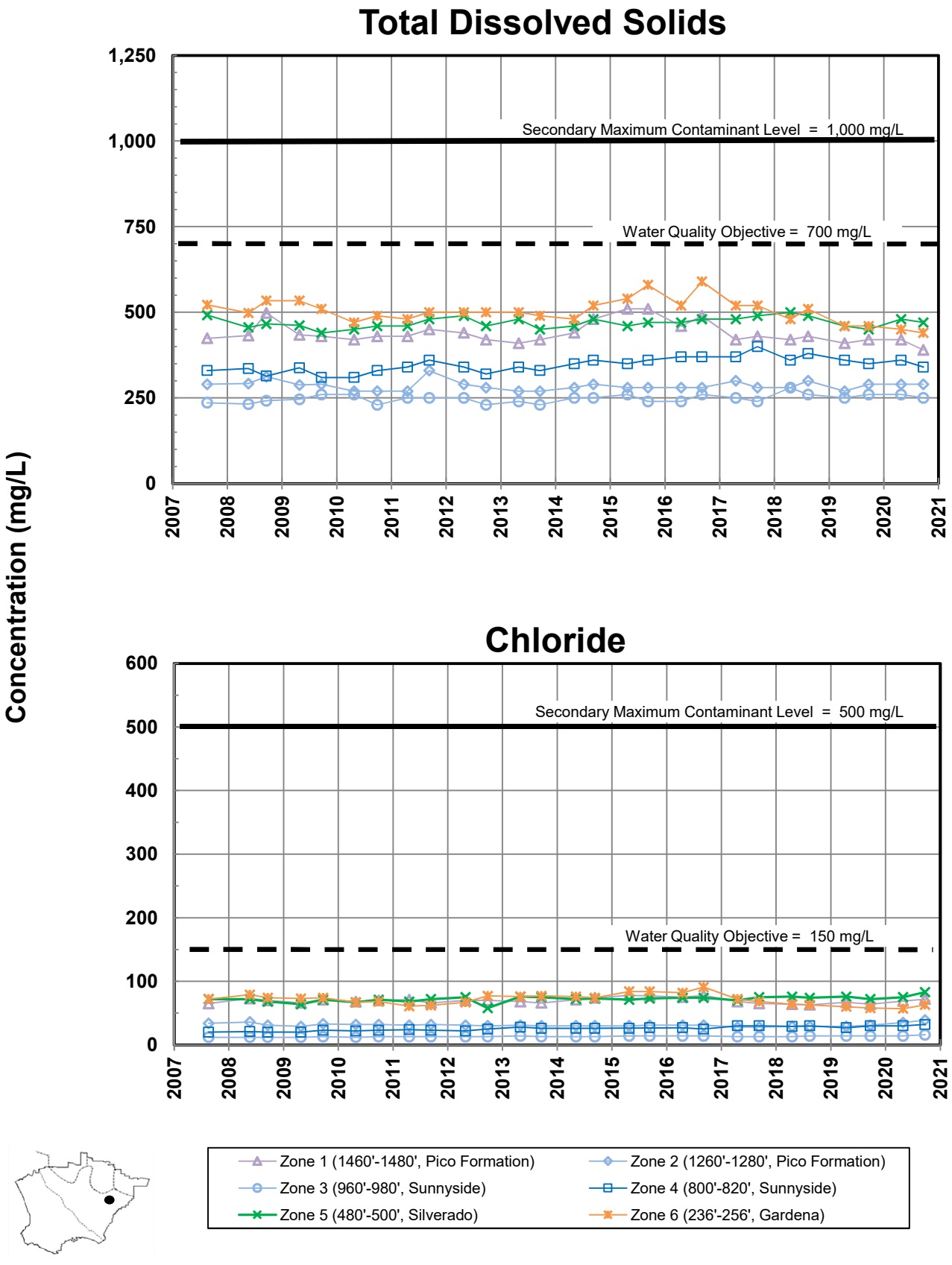
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL RIO HONDO #1

FIGURE 4.1



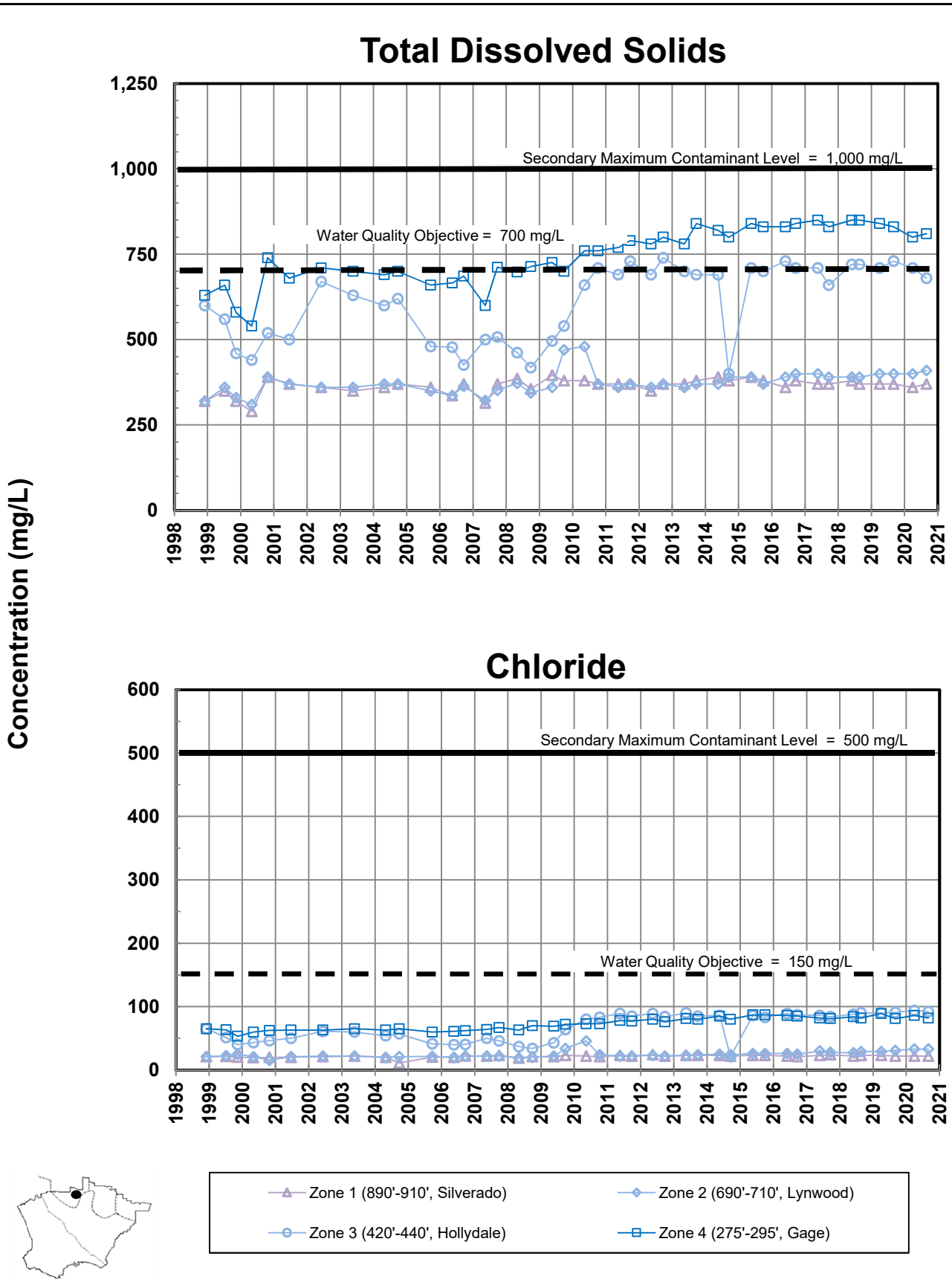
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL PICO #2

FIGURE 4.2



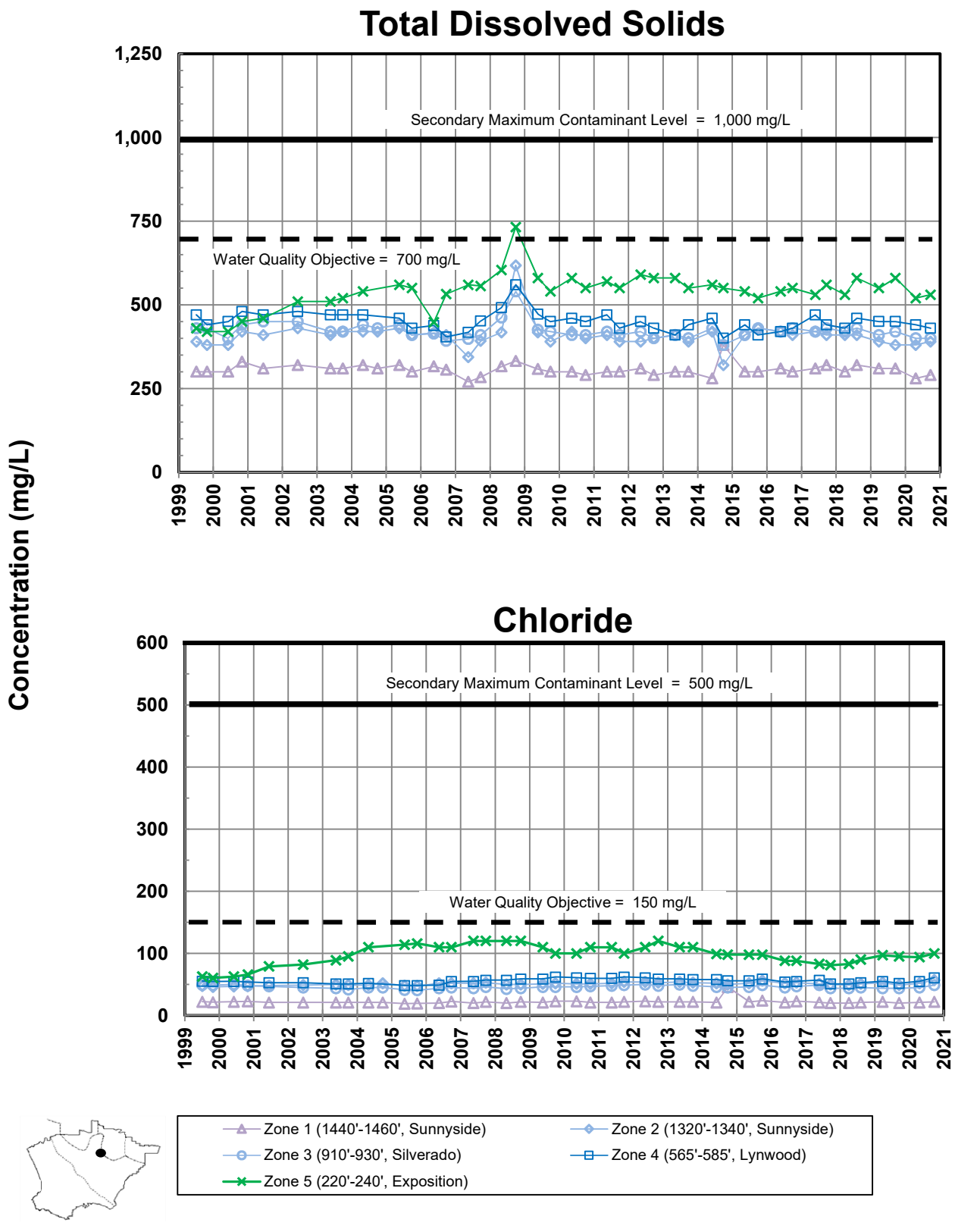
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL NORWALK #2

FIGURE 4.3



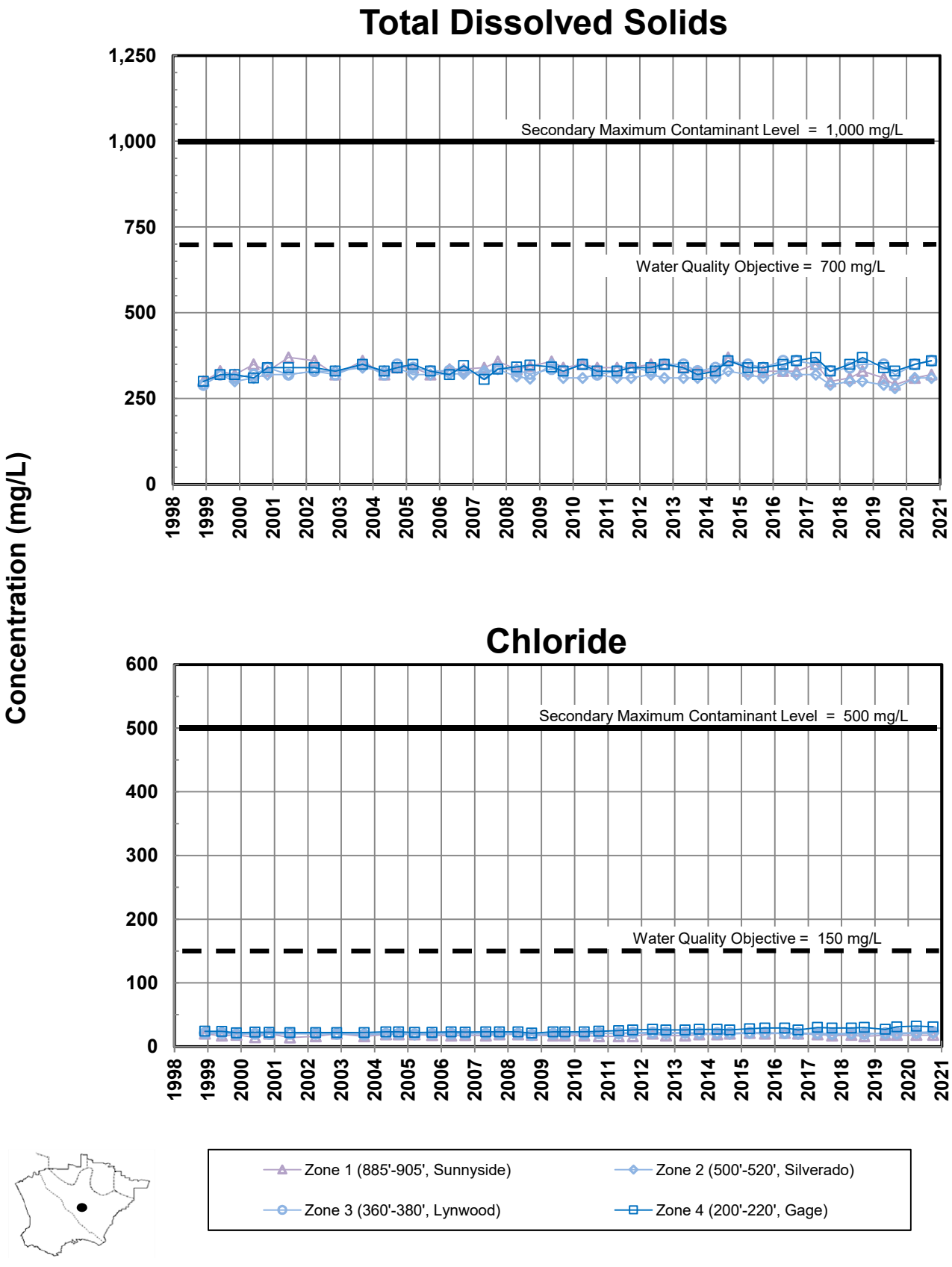
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL HUNTINGTON PARK #1

FIGURE 4.4



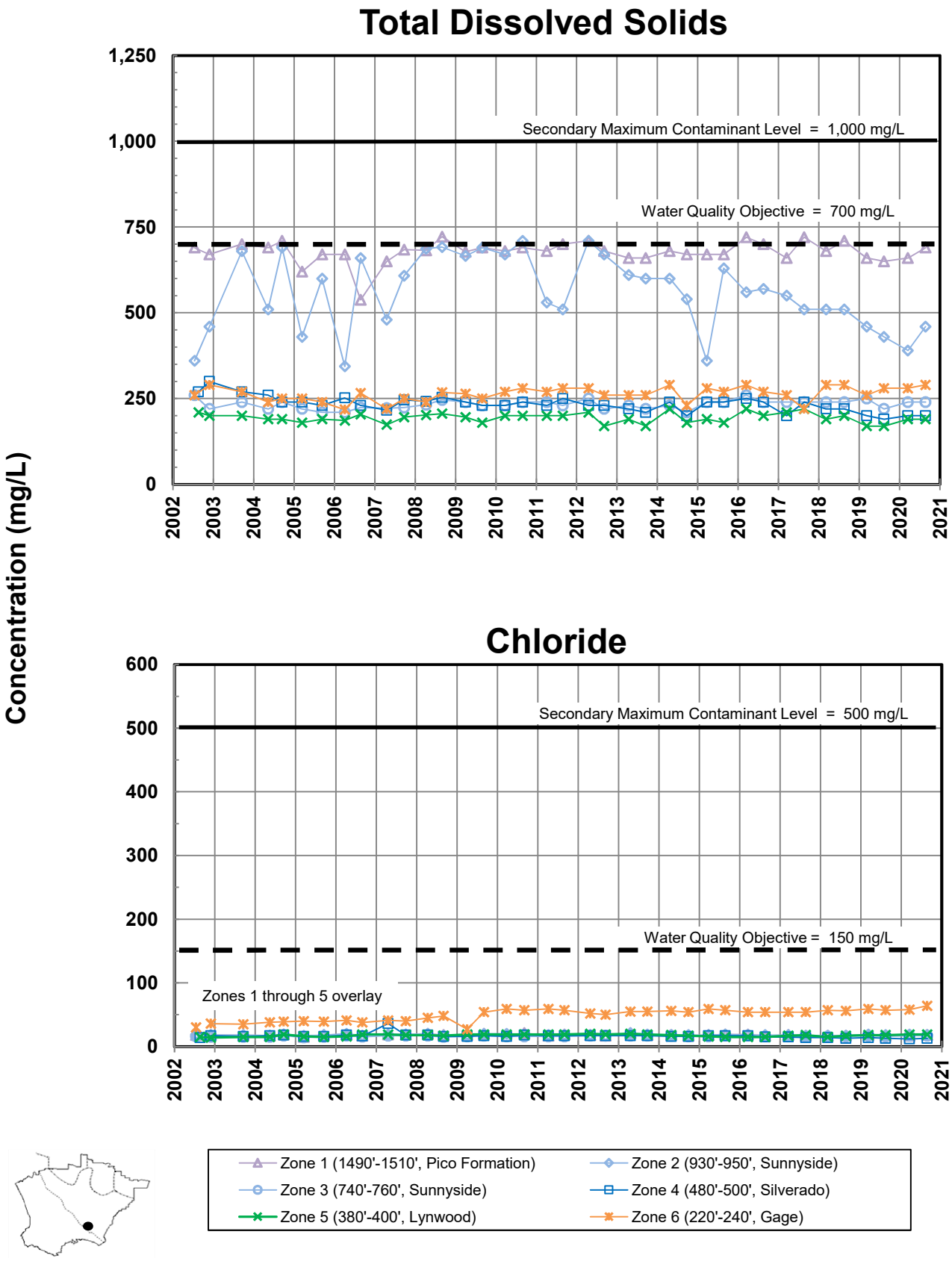
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL SOUTH GATE #1

FIGURE 4.5



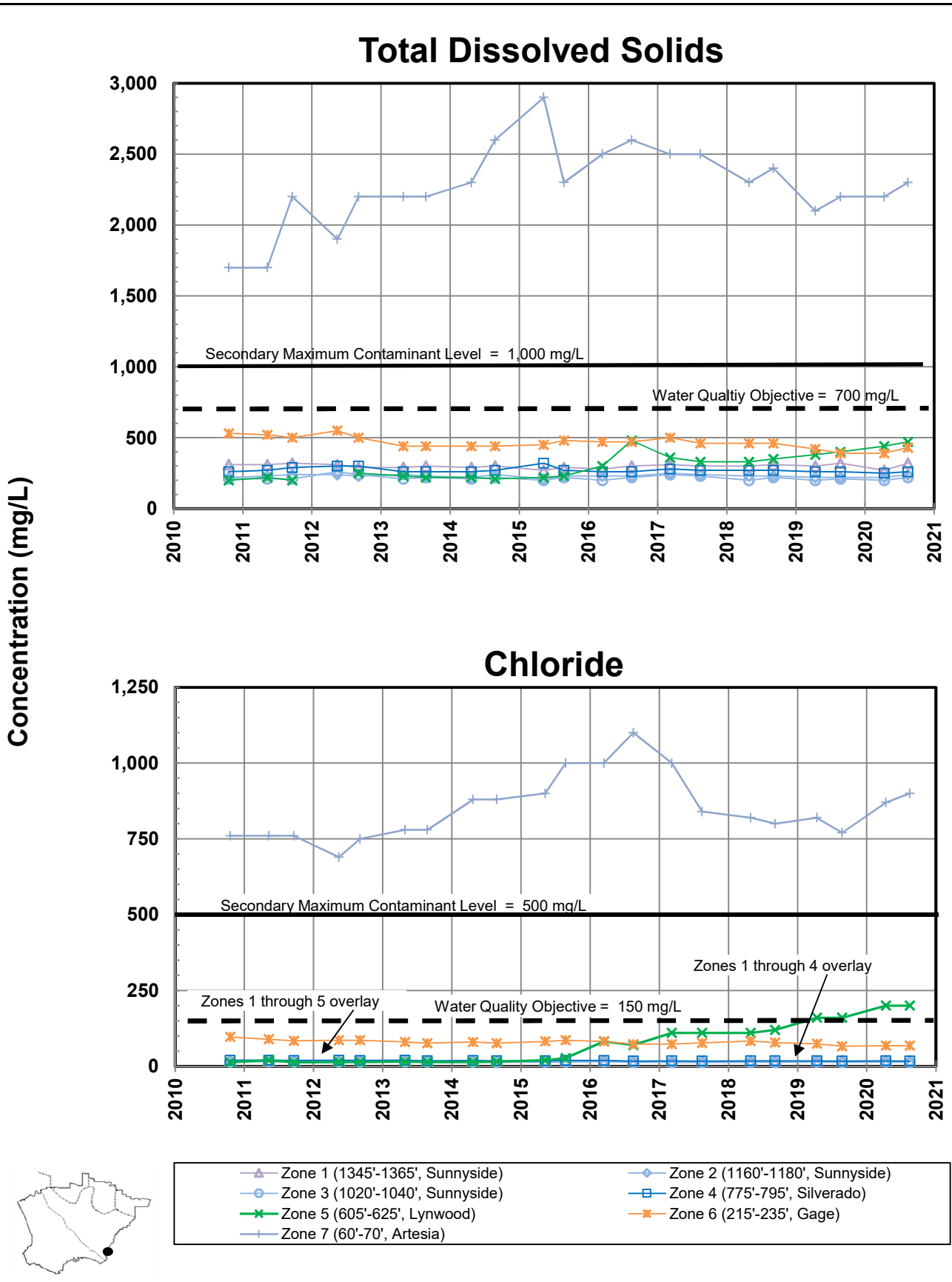
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL WILLOWBROOK #1

FIGURE 4.6



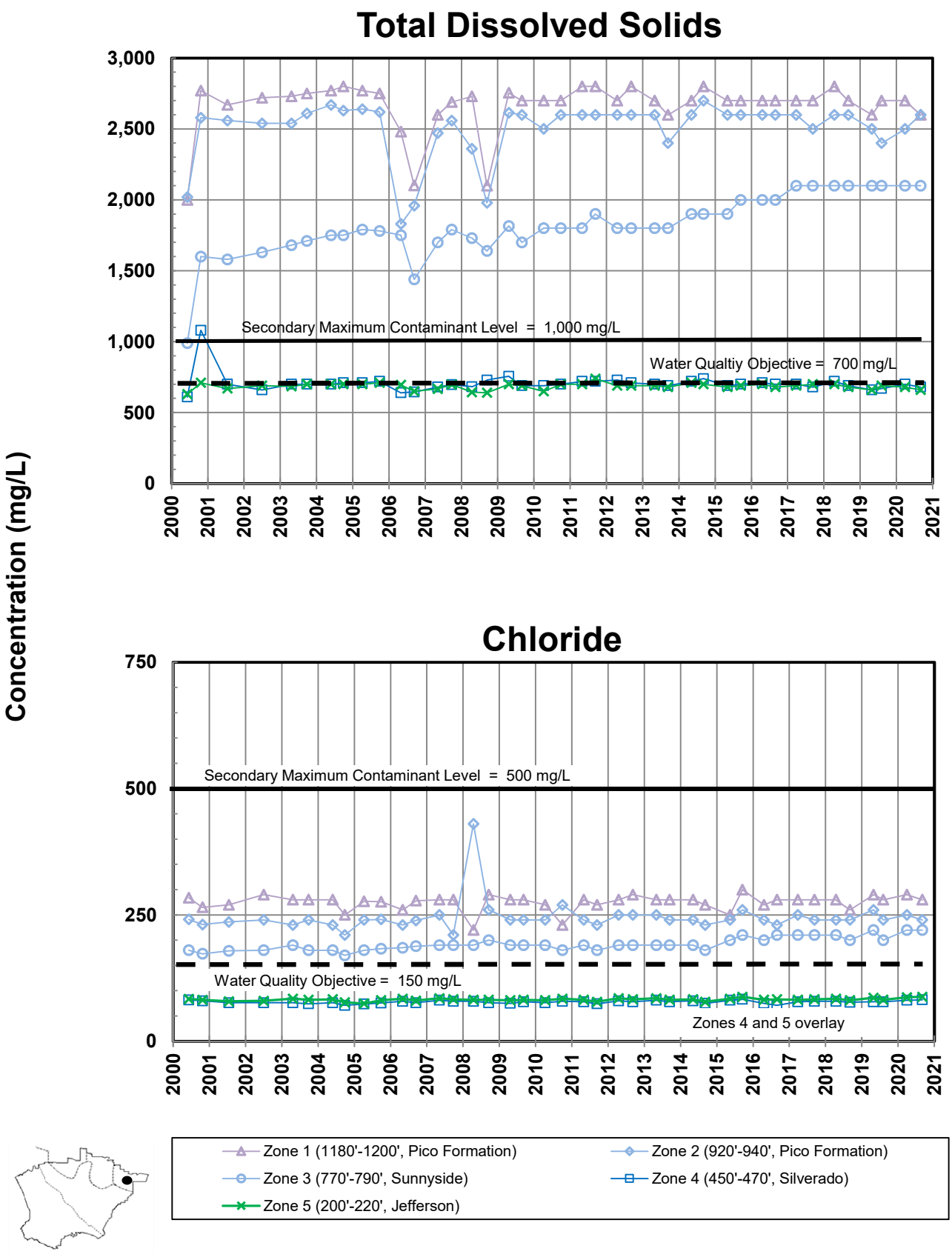
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL LONG BEACH #6

FIGURE 4.7



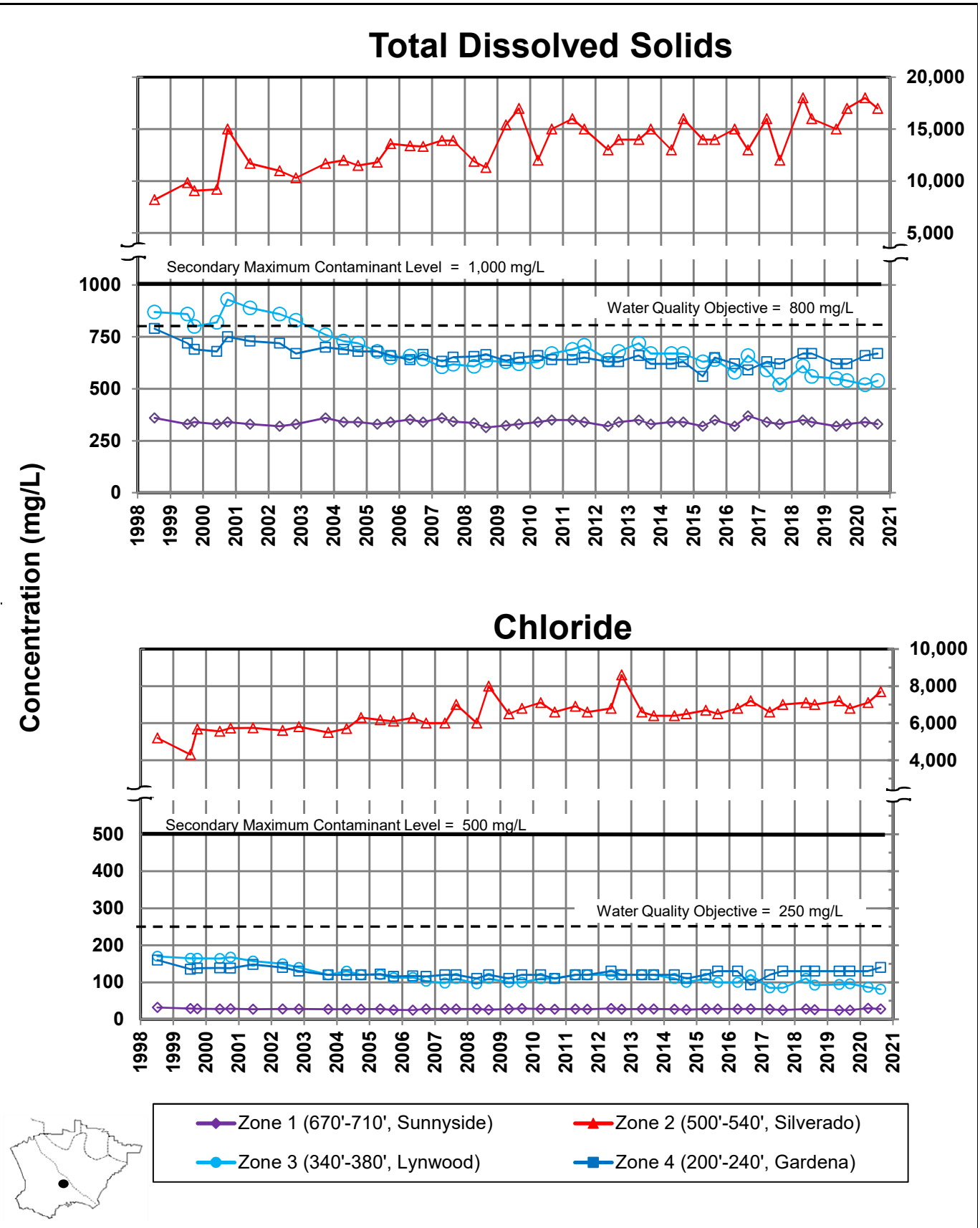
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL SEAL BEACH #1

FIGURE 4.8



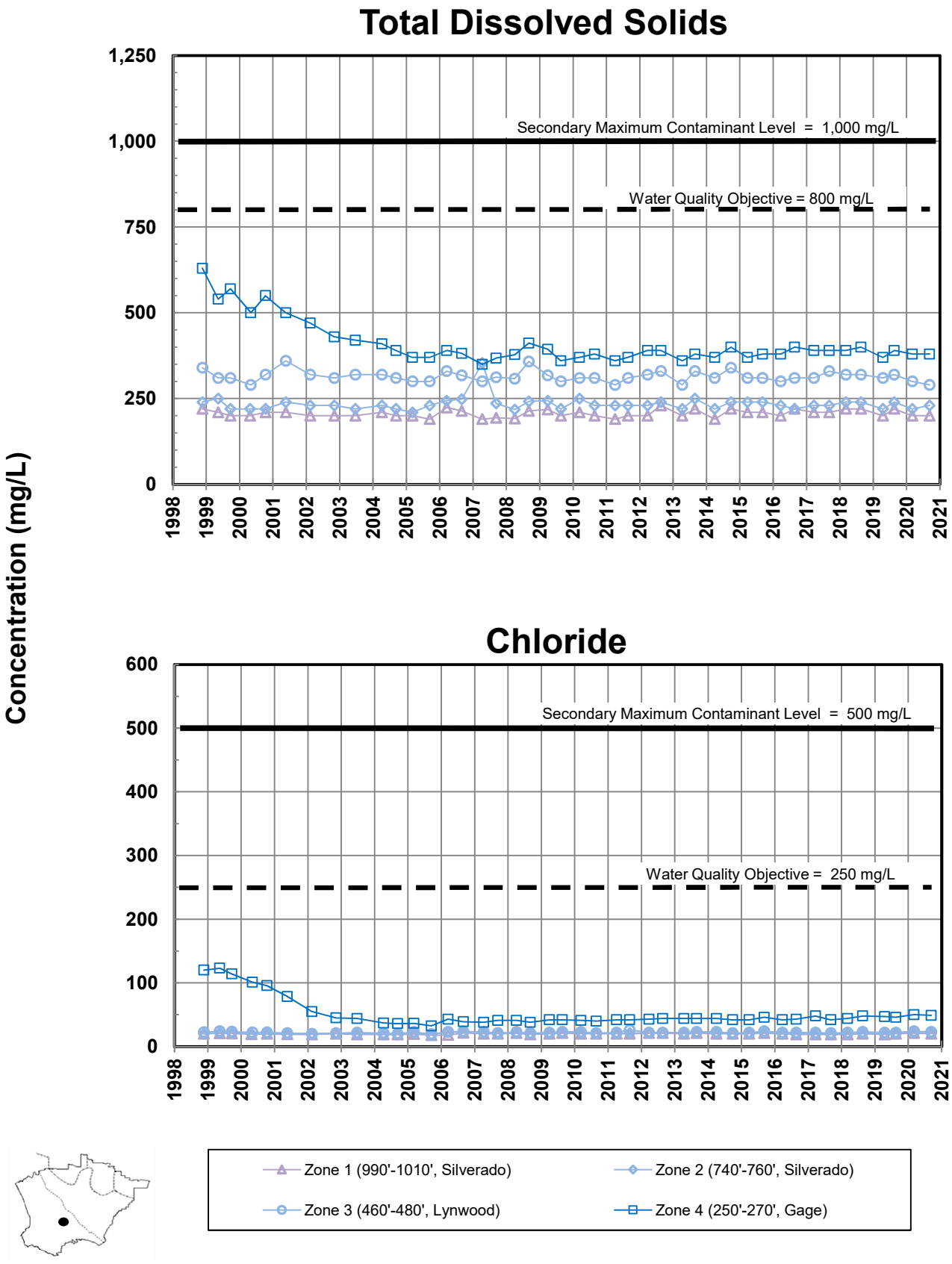
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL WHITTIER #1

FIGURE 4.9



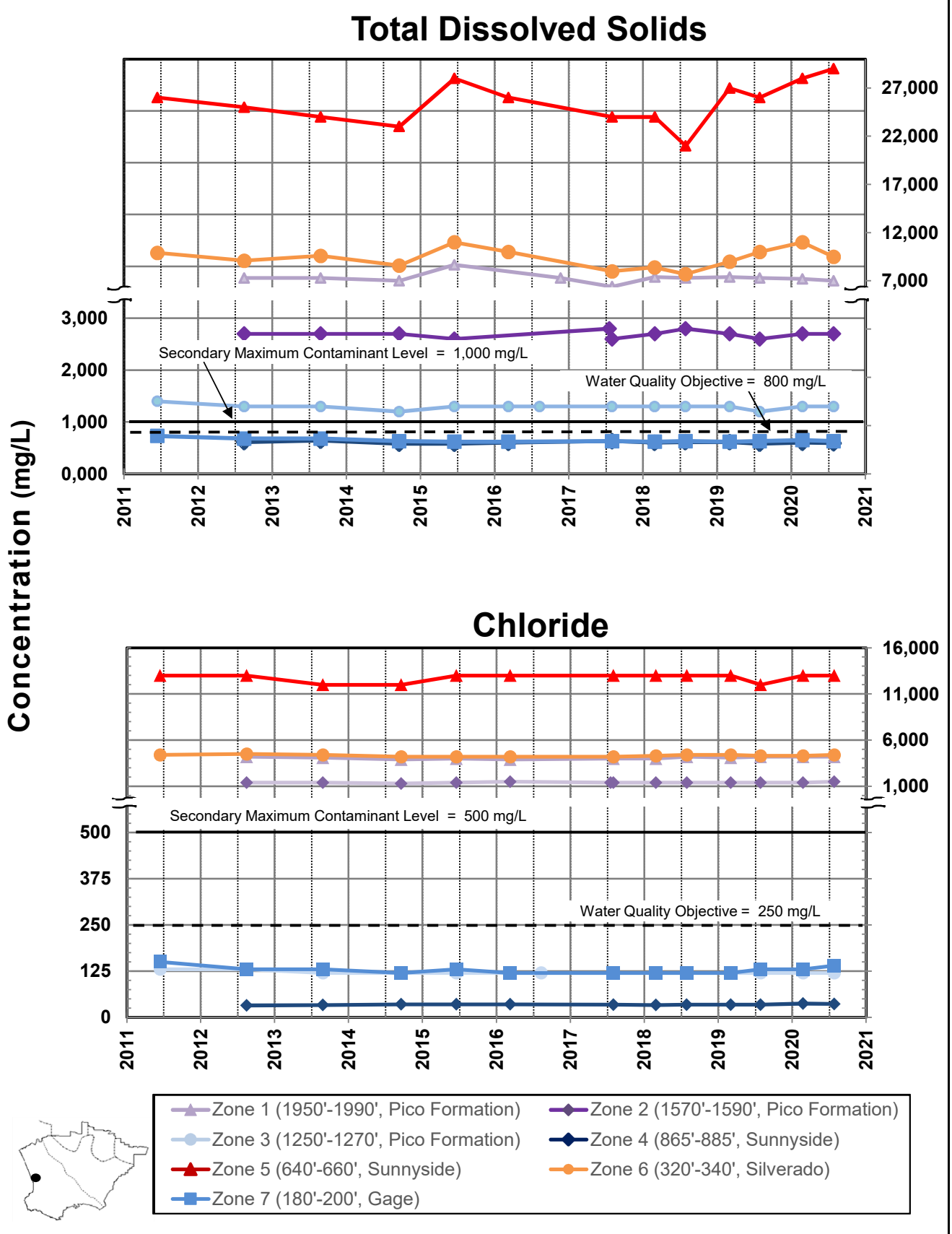
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL PM-4 MARINER

FIGURE 4.10



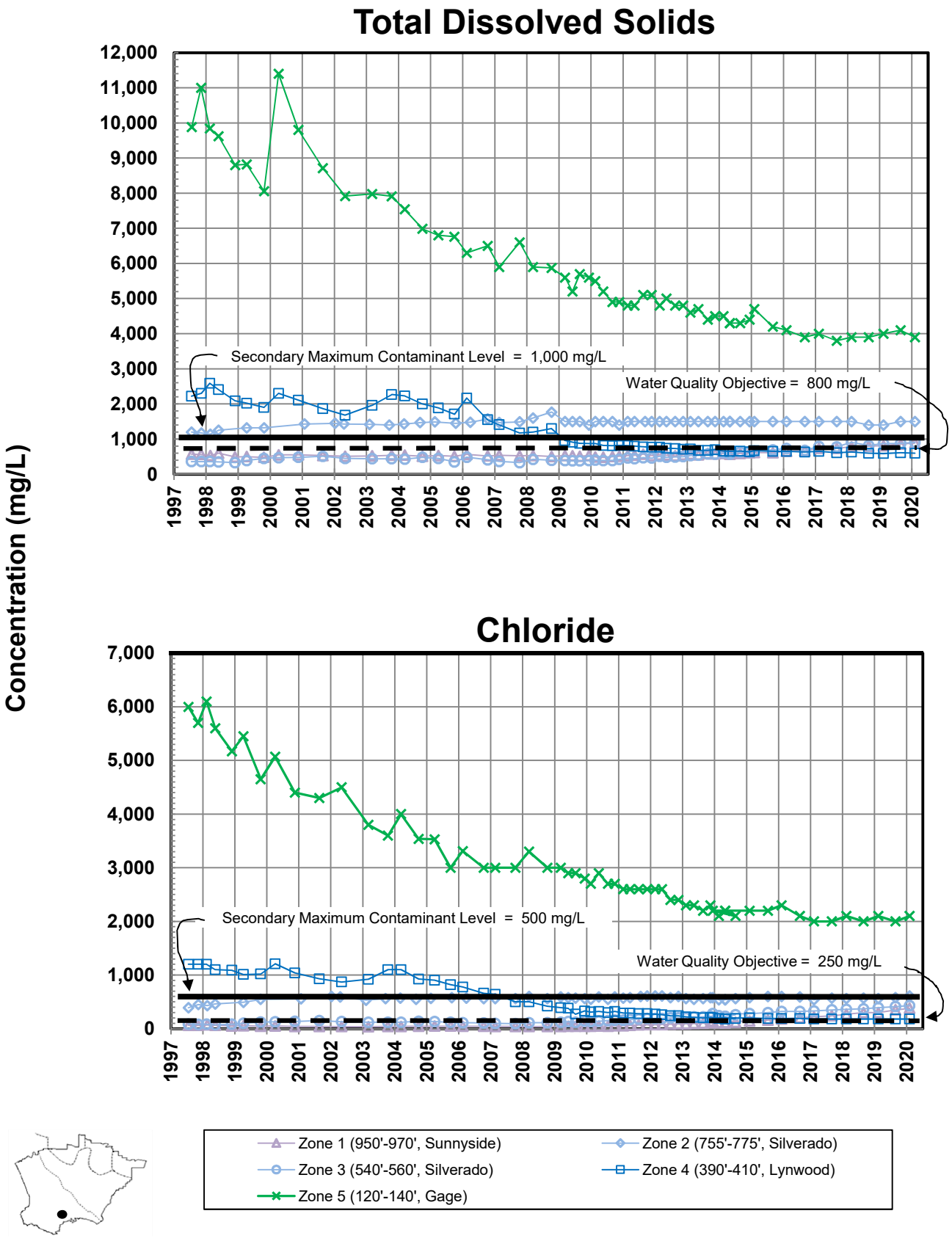
TDS AND CHLORIDE IN WRD KEY NESTED MONITORING WELL CARSON #1

FIGURE 4.11



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

FIGURE 4.12



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."

WRD
WATER REPLENISHMENT DISTRICT

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Lakewood, CA 90712
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