PREPARED FOR

COACHELLA VALLEY WATER DISTRICT
COACHELLA WATER AUTHORITY
DESERT WATER AGENCY
INDIO WATER AUTHORITY

INDIO SUBBASIN ANNUAL REPORT FOR WATER YEAR 2017-2018

March 2019

Report

Stantec

Alternative Annual Report Elements Guide - Indio Subbasin Annual Report for Water Year 2017-2018

California Code of Regulations - GSP Regulation Sections	*Alternative Elements*	**Document which *attachment(s) contains the applicable alternative element.***	***Document which section(s), page number(s), or briefly describe why that Alternative element does not apply to the entity.***
Article 7	**Annual Reports and Periodic Evaluations by the Agency**		
§ 356.2	**Annual Reports**		
	Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:		
	(a) General information, including an executive summary and a location map depicting the basin covered by the report.	Annual Report	An executive summary is provided as the first section of the Annual Report. Maps depicting the basin are shown in Figures 1-1 and 1-2.
	(b) A detailed description and graphical representation of the following conditions of the basin managed in the Plan:		
	(1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:		
	(A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.	Annual Report	A groundwater contour map is provided in Figure 3-2 for water year 2017 - 2018. Seasonal changes are generally not significant in this large basin, as shown in hydrographs provided in Figures 3-3, 3-4, and Appendix A.
	(B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.	Annual Report	Representative hydrographs are provided in Figures 3-3, 3-4, and Appendix A. Water year type is not provided because the basin is not directly affected by runoff conditions in Sacramento and San Joaquin River, but instead receives water from the Colorado River.
	(2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.	Annual Report	Groundwater extraction by water use section is described in Section 4 of the annual report. Extractions, methods of measurement, and accuracy of measurement are summarized in Table 4-1. A map of groundwater extractions is provided in Figure 4-1.
	(3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.	Annual Report	Surface water supply and use is described in Section 5. Direct use of surface water is summarized in Table 5-3.
	(4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.	Annual Report	Total water use is described in Section 6. Table 6-1 lists water sources for each water use sector, and provides the method of measurement and the accuracy of the measurement.
	(5) Change in groundwater in storage shall include the following:		
	(A) Change in groundwater in storage maps for each principal aquifer in the basin.	Annual Report	There is one principal aquifer for the Indio Subbasin. Change in storage is described in Section 7, and summarized in Figure 7-1.
	(B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.	Annual Report	Historical annual change in groundwater storage since 1970 is depicted in graphical form in Figure 7-2.
	(c) A description of progress towards implementing the Plan, including achieving interim milestones, and implementation of projects or management actions since the previous annual report.	Annual Report	A description of progress toward implementing the plan is provided in Section 8. A detailed status for WY 2017-2018 is provided in Table 8-2.

Stantec

March 18, 2019

Prepared for:

Coachella Valley Water District
Coachella Water Authority
Desert Water Agency
Indio Water Authority

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Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Acronyms and Abbreviations

Acronym	Definition
AF	Acre-Feet
AFY	Acre-Feet per Year
AOB	Area of Benefit
CASGEM	California Statewide Groundwater Elevation Monitoring Program
CDPH	California Department of Public Health
CIB	Capital Improvement Budget
COTD	College of the Desert
CRA	Colorado River Aqueduct
CVCC	Coachella Valley Conservation Commission
CVSC	Coachella Valley Stormwater Channel
CVWD	Coachella Valley Water District
CVWMP	Coachella Valley Water Management Plan
CWA	Coachella Water Authority
CWC	California Water Code
DWA	Desert Water Agency
DWR	California Department of Water Resources
ET	Evapotranspiration
ETAF	Evapotranspiration Adjustment Factor
˚F	Degrees Fahrenheit
ft	Feet
GIPSY	GNSS-Inferred Positioning System
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GRF	Groundwater Replenishment Facility
GRP	Groundwater Replenishment Program
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCP	Habitat Conservation Plan

Acronym	Definition
ID	Improvement District
IID	Imperial Irrigation District
InSar	Interferometric Synthetic Aperture Radar
IRWM	Integrated Regional Water Management
IWA	Indio Water Authority
mm	Millimeters
MSWD	Mission Springs Water District
MVP	Mid-Valley Pipeline
MWD	Metropolitan Water District of Southern California
MWH	MWH Americas, Inc.
OASIS	Orbit Analysis Simulation Software
PSAP	Palm Springs Airport
PVID	Palo Verde Irrigation District
QSA	Quantification Settlement Agreement
RWQCB	Regional Water Quality Control Board
SGMA	Sustainable Groundwater Management Act
SS/TS	Source of Supply & Treatment Study
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TEL GRF	Thomas E. Levy Groundwater Replenishment Facility
TMAP	Thermal Airport
USBR	United States Bureau of Reclamation
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VSD	Valley Sanitary District
WMP	Water Management Plan
WRP	Water Reclamation Plant

Acronym	Definition
WSA	Water Supply Assessments
WSV	Water Supply Verification
WY	Water Year

EXECUTIVE SUMMARY

The California Legislature enacted the Sustainable Groundwater Management Act (SGMA) which was intended to provide a framework for the sustainable management of groundwater resources throughout California, primarily by local authorities. The SGMA required local authorities to form local Groundwater Sustainability Agencies (GSAs) by June 30, 2017 to evaluate conditions in their local groundwater basins and adopt locally-based Groundwater Sustainability Plans (GSPs) tailored to their regional economic and environmental needs.

The California Department of Water Resources (DWR) developed emergency regulations that defined the content of GSPs and Alternatives to a GSP (Alternative Plans), as well as the annual reporting requirements by each GSA. The Indio Subbasin Annual Report for Water 2017-2018 (Annual Report) is prepared in response to Section 356.2 of GSP Emergency Regulations, which requires the submission of an annual report to the DWR. This is the second SGMA Annual Report for the Indio Subbasin, designated the Basin No. 7-21.01 in DWR Bulletin No. 118 (2003).

ES.1 BACKGROUND

Presently, four water agencies have been designated as "Exclusive" GSAs to manage the Indio Subbasin of the Coachella Valley Groundwater Basin within their respective service areas as shown on **Figure 1-2**:

- Coachella Valley Water District (CVWD)
- Coachella Water Authority (CWA)
- Desert Water Agency (DWA)
- Indio Water Authority (IWA)

SGMA recognizes the efforts many agencies have made in developing and implementing groundwater management by allowing existing groundwater management plans to be submitted as an Alternative to preparing a GSP. The original planning document for the Coachella Valley Groundwater Basin is the 2002 Coachella Valley Water Management Plan (CVWMP). The 2002 CVWMP was updated in 2010 and adopted in 2012. The Final Subsequent Program Environmental Impact Report Coachella Valley Water Management Plan Update (January 2012) provides important information on the Coachella Valley environment, the impacts of the original 2002 CVWMP and the 2010 CVWMP Update, and mitigation measures.

In December 2016, CVWD, DWA, CWA, and IWA collaboratively submitted the 2010 CVWMP Update as an Alternative Plan with an associated Bridge Document for the Indio Subbasin to DWR for review and evaluation. In accordance with SGMA GSP Emergency Regulations, annual reports are required to be submitted to DWR on April 1 of each year, following adoption of a GSP or submission of an Alternative Plan. DWR required GSAs that submitted Alternative Plans to submit their first annual reports by April 1, 2018 and every year thereafter. The GSAs submitted their first annual report on March 31, 2018. This Annual Report has been prepared in accordance with the SGMA GSP Emergency Regulations using information from Water Year (WY) 2017-2018 (October 1, 2017 through September 30, 2018).

The annual report is required to present the following information:

- Groundwater elevation data
- Aggregated data identifying groundwater extraction
- Surface water supply used for or available for groundwater recharge or in-lieu use
- Total water use
- Change in groundwater storage
- Progress toward implementing the GSP or Alternative Plan

This Annual Report contains a discussion of the Coachella Valley Groundwater Basin followed by sections describing each of the SGMA required annual report elements.

ES.2 COACHELLA VALLEY GROUNDWATER BASIN AND SUBBASINS

The Coachella Valley is a desert valley in Riverside County, California that extends approximately 50 miles southeast from the San Bernardino Mountains to the northern shore of the Salton Sea. The Coachella Valley Groundwater Basin underlies the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage, and the unincorporated communities of Thousand Palms, Thermal, Bermuda Dunes, Oasis, and Mecca. The Coachella Valley Groundwater Basin is bounded on the north and east by non-water-bearing crystalline rocks of the San Bernardino and Little San Bernardino Mountains and on the south and west by the crystalline rocks of the Santa Rosa and San Jacinto Mountains.

Although there is groundwater flow throughout the groundwater basin, fault barriers, constrictions in the groundwater basin profile, and areas of low permeability limit and control movement of groundwater. Based on these factors, the groundwater basin has been divided into subbasins and subareas as described by the DWR in Bulletin 108 (1964) and Bulletin 118 (2003), and also by the United States Geological Survey (USGS) in 1971.

The subbasins of the Coachella Valley Groundwater Basin are the Indio[1], Mission Creek, Desert Hot Springs and San Gorgonio Pass Subbasins. The subbasins delineate areas underlain by formations which readily yield stored groundwater through water wells and offer natural reservoirs for the regulation of water supplies as shown in **Figure 1-1.**

The boundaries between the subbasins within the groundwater basin are generally defined by faults that serve as effective barriers to the lateral movement of groundwater. Minor subareas have also been delineated, based on one or more of the following characteristics: type of water-bearing formations, water quality, areas of confined groundwater, forebay areas, groundwater divides, and surface drainage divides.

1 The Indio Subbasin is also identified as the Whitewater River Subbasin by the USGS. However, the subbasin is identified as the Indio Subbasin in DWR Bulletin 108 (1964) and Bulletin 118 (2003). For continuity, this annual report will identify the subbasin as the Indio Subbasin.

ES.3 GROUNDWATER ELEVATION AND MONITORING WELLS

In response to 2010 legislation, DWR developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program to track seasonal and long-term trends in groundwater elevations in California's groundwater basins. Monitoring wells are selected so they can provide a good representation of groundwater elevations within each agency's service areas. As shown in **Table ES-1**, the four GSAs and Mission Springs Water District monitored a total of 53 CASGEM monitoring wells in the Indio Subbasin. The GSAs also monitored water levels in 258 additional wells, for a total of 311 wells monitored in the Indio Subbasin. **Figure 3-1** shows the monitoring well locations in the Indio Subbasin.

Table ES-1 WY 2017-2018 Wells Measured for Water Levels in the Indio Subbasin

Monitoring Agency	CASGEM Wells Monitored	Additional Wells Monitored	Total Wells Monitored
Coachella Valley Water District[1]	39	226	265
Coachella Water Authority[2]	1	0	1
Desert Water Agency[3]	4	31	35
Indio Water Authority[4]	6	1	7
Mission Springs Water District[5]	3	0	3
Total Wells Monitored	**53**	**258**	**311**

Notes:

1 CVWD monitors one CASGEM well (06S06E17K01S) that is considered to be in the Indio Subbasin but is just outside the Subbasin's boundary as defined in DWR Bulletin 118.
2 CVWD and CWA both recorded measurements from the CWA CASGEM well during WY 2017-2018.
3 DWA has three additional CASGEM wells that were not measured during WY 2017-2018.
4 IWA provided a single reading for one non-CASGEM well during WY 2017-2018.
5 MSWD CASGEM well (03S03E08M01S) is physically located in the Indio Subbasin and is also part of the San Gorgonio Pass Subbasin monitoring program.

Historical water level change in the Indio Subbasin, and conditions producing those changes, have been extensively described by the USGS and DWR. The groundwater elevations presented in this Annual Report represent groundwater conditions in the principal groundwater-producing aquifer of the Indio Subbasin. Average groundwater levels are presented because the Indio Subbasin generally does not exhibit strong seasonal trends.

Figure 3-2 presents the average groundwater elevations in the Indio Subbasin based on WY 2017-2018 monitoring data. **Figure 3-3** and **Figure 3-4** present hydrographs for a selection of eleven (11) representative wells separated by the western and eastern portions of the Indio Subbasin, to provide some context regarding the long-term changes in the water levels of the aquifer. The hydrographs are also shown individually in larger format in **Appendix A**.

Figure 7-4 and **Figure 7-5** present 1-year and 10-year change in groundwater elevation, respectively, in the Indio Subbasin. **Figure 7-4** shows significant increases in groundwater elevations near the Whitewater River Groundwater Replenishment Facility (Whitewater River GRF) in response to the large

replenishment deliveries that occurred during WY 2017-2018, and slight decreases in groundwater elevations in the area around the Thomas E. Levy Groundwater Replenishment Facility (TEL GRF) due to a decrease in the annual replenishment quantity there. The decrease in replenishment deliveries at the TEL GRF facility is also reflected in the difference between the 1-year change for WY 2017-2018 and that for WY 2016-2017, which showed more stable water level elevations throughout the eastern portion of the Indio Subbasin. **Figure 7-5** shows significant increases in groundwater elevations across the Indio Subbasin, with the exception of portions of the middle zone of the Indio Subbasin, over the past ten years due to significant replenishment deliveries and decreased pumping.

ES.4 GROUNDWATER EXTRACTION

Total groundwater production during WY 2017-2018 was 288,308 acre-feet (AF) as shown in **Table ES-2**, an increase of 8.3 percent compared to WY 2016-2017. Of this total amount, groundwater production of 284,508 AF was reported from 563 wells. Groundwater production of 3,800 AF was estimated for minimal pumpers and tribal use that do not report production to CVWD and DWA. Because CVWD and DWA are authorized to collect replenishment assessments from groundwater producers, their respective enabling legislations mandate the installation of water meters on all wells producing more than 25 acre-feet per year (AFY) for CVWD and 10 AFY for DWA. As a result, CVWD and DWA groundwater extraction monitoring data is the most comprehensive and accurate for the Indio Subbasin. Groundwater is the principal source of water for urban water use, representing more than 80 percent of groundwater production from the Indio Subbasin.

Table ES-2 WY 2017-2018 Groundwater Extractions by Water Use Sector in the Indio Subbasin

Water Use Sector	Groundwater Extractions (AF)	Method of Measurement	Accuracy of Measurement
Agriculture[1]	51,012	100% metered	±2%
Industrial[2]	1,522	27% metered 73% estimated	±2% ±50%
Urban[3]	234,274	99% metered 1% estimated	±2% ±50%
Environmental	0	Not applicable	--
Undetermined[4]	1,500	100% estimated	±50%
Total Production	**288,308**		

Notes:

1 Includes crop irrigation and fish farms.
2 Includes unreported groundwater production for industrial use on tribal land that is estimated to be 1,100 AFY.
3 Includes municipal and recreational uses. Total includes 1,211 AF of metered production to supply windbreaks along the railroad and unreported groundwater production for recreational use on tribal land estimated to be 1,200 AFY.
4 Estimated production by minimal pumpers and tribal use who do not report production to CVWD (<25 AFY) or DWA (<10 AFY).

ES.5 SURFACE WATER USE

Historically, average annual precipitation in the Coachella Valley varies from 3 to 6 inches on the Coachella Valley floor to more than 30 inches in the surrounding mountains (DWR 1964; NWS 2019). The locations of the precipitation and streamflow monitoring stations in the Indio Subbasin area are presented on the map in **Figure 2-1**. In WY 2017-2018, measured precipitation from 12 stations in the Coachella Valley shows an average yearly total of 2.89 inches, or about 60 percent of normal precipitation. In comparison, the annual average precipitation for these stations during WY 2016-2017 was 9.81 inches. Precipitation falling as rain and snow on the local mountain watersheds generates runoff that can be captured for direct uses or for groundwater replenishment. A portion of the runoff is diverted for agricultural and municipal use and the balance naturally replenishes the groundwater basin.

Imported water deliveries from the State Water Project (SWP) exchange and Coachella Canal to the Indio Subbasin during WY 2017-2018 total 573,507 AF for agricultural, urban, and aquifer recharge uses. Agricultural and aquifer recharge accounted for approximately 45% and 49% of the imported water use, respectively. The remaining 6% of imported water was for urban use.

ES.5.1 Direct Use of Local Surface Water

DWA operates stream diversion facilities on several creeks and captures subsurface flow from Whitewater River Canyon. Of the 1,797 AF of surface water diversion, approximately 66% is for urban (including municipal and recreational) use and the remainder for agricultural use.

ES.5.2 Colorado River Water

Colorado River water has been a major source of supply for the Coachella Valley with the completion of the Coachella Canal in 1949. The Coachella Canal is a branch of the All-American Canal that brings Colorado River water into the Imperial and Coachella Valleys. During WY 2017-2018, CVWD took delivery of 341,567 AF of Colorado River water at Imperial Dam and delivered 325,695 AF for uses in the Coachella Valley. Approximately 80 percent of the delivered Colorado River water was for agricultural use, about 11 percent was delivered for urban uses, and about 9 percent for groundwater replenishment at the TEL GRF.

ES.5.3 State Water Project Water

CVWD and DWA have contracts with DWR for SWP water with a combined Table A Amount of 194,100 AFY. There are no physical facilities to deliver SWP water to the Coachella Valley. CVWD's and DWA's Table A water is exchanged with the Metropolitan Water District of Southern California (MWD) for a like amount of Colorado River water from MWD's Colorado River Aqueduct (CRA). SWP Exchange water has been used to recharge the Indio Subbasin at the Whitewater River GRF since 1973 and the Mission Creek Subbasin since 2002. MWD may also make advance deliveries of SWP Exchange water to CVWD and DWA.

In WY 2017-2018, CVWD and DWA received 255,707 AF of SWP Exchange water from MWD. Of this amount, 247,812 AF was delivered to the Whitewater River GRF, with the remaining 7,895 AF delivered

to the Mission Creek GRF. Of the total amount recharged, MWD added 43,738 AF to its Advanced Delivery account which had a positive balance of 302,959 AF as of September 30, 2018.

ES.5.4 Recycled Water

There are three Water Reclamation Plants (WRPs) that produce recycled water for non-potable reuse in the Indio Subbasin, primarily for golf course and greenbelt irrigation. Recycled water use during WY 2017-2018 for the Indio Subbasin totaled 14,188 AF.

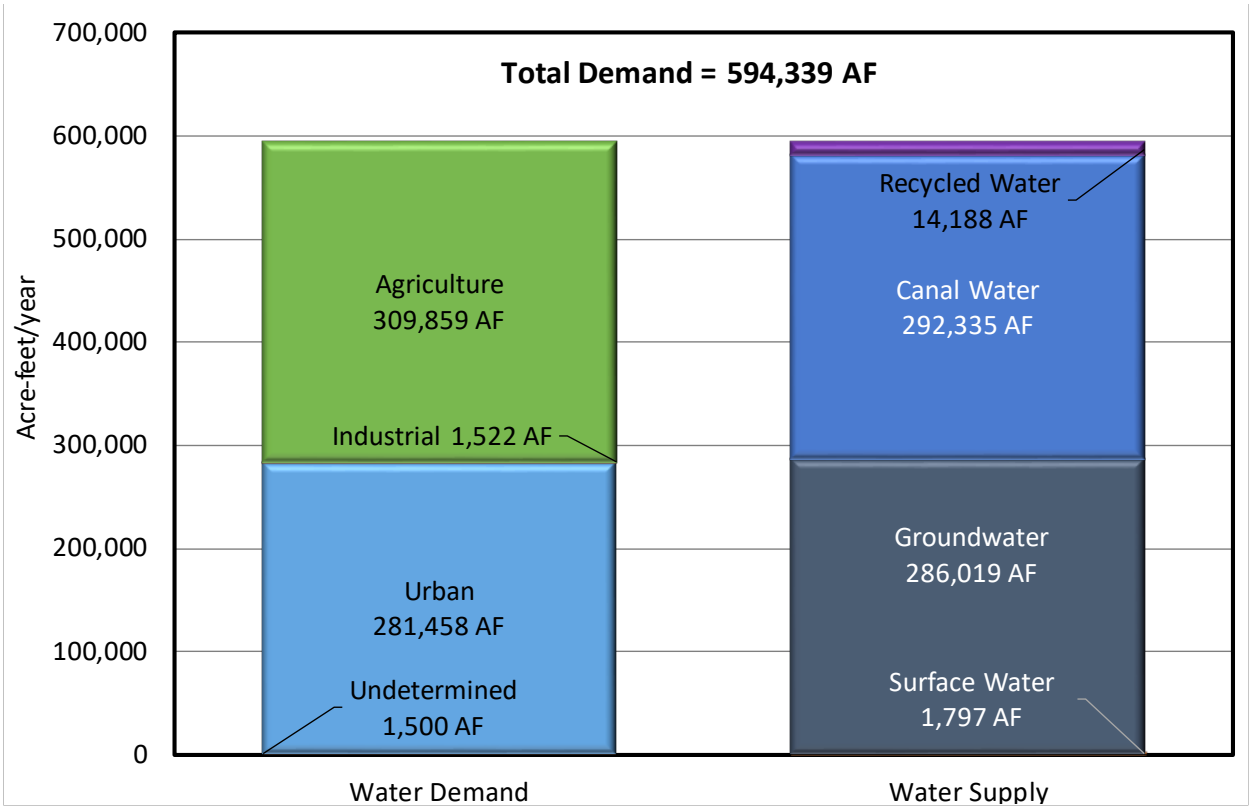
In addition to direct recycled water use, a portion of the municipal wastewater treated in the Indio Subbasin is discharged through percolation/evaporation ponds or is discharged to the Coachella Valley Stormwater Channel (CVSC). The percolated portion of the discharged wastewater contributes to the groundwater supply, while the discharge to the CVSC flows to the Salton Sea. In WY 2017-2018, a total of 41,442 AF of wastewater was treated of which 14,188 AF was recycled and reused (including WRP use), 6,078 AF was discharged through percolation/evaporation, and 21,176 AF was discharged to the CVSC.

ES.6 TOTAL WATER USE

In total, 594,339 AF of water was delivered for direct use within the Indio Subbasin and 278,654 AF was delivered for aquifer recharge which becomes a portion of the groundwater supply. Total direct use is calculated by totaling the groundwater production, local surface water diversions, Coachella Canal water, and recycled water for agricultural, industrial, urban, and other undetermined uses, and subtracting the water that is exported for use outside the Indio Subbasin.

A portion of the groundwater produced from the Indio Subbasin and imported water delivered to the Indio Subbasin is exported for use outside the subbasin, totaling 4,807 AF. Some of this water (2,517 AF) is Coachella Canal water delivered to agricultural and urban users in the adjacent Desert Hot Springs Subbasin that are located within the CVWD Improvement District No. 1 (ID-1) service area. The remaining (2,290 AF) is groundwater pumped from the Indio Subbasin and delivered to CVWD customers in Imperial and Riverside County on the east and west sides of the Salton Sea, or delivered to Mission Springs Water District (MSWD) customers in the Mission Creek Subbasin (**Figure ES-1**).

Figure ES-1. Comparison of Supply and Demand for Direct Use in the Indio Subbasin – Water Year 2017-2018



Note: These data exclude water exported for use outside of the basin.

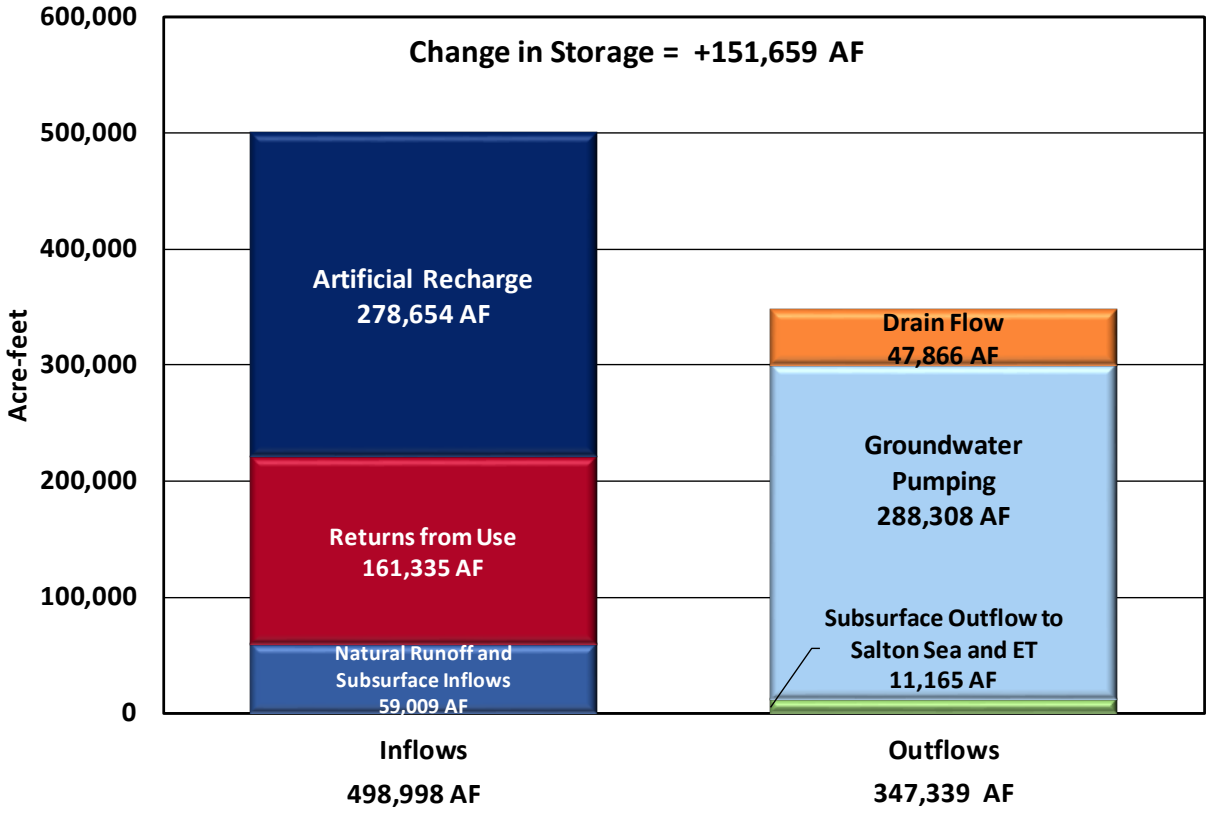
ES.7 GROUNDWATER BALANCE AND CHANGE IN GROUNDWATER STORAGE

A groundwater balance is helpful in assessing the condition of the groundwater of the Indio Subbasin. The groundwater balance compares the inflows and outflows to the Indio Subbasin for a specific period of time. The difference between inflows and outflows at a given time is defined as the change in storage for that time period. The Indio Subbasin groundwater balance for WY 2017-2018, including estimated inflow and outflow quantities, is summarized in **Figure ES-2**.

Groundwater inflows to the Indio Subbasin consist of infiltration of natural inflows, return flows from urban and agricultural uses, artificial recharge, and Salton Sea intrusion. Inflows from outside the Indio Subbasin consist of underflow from the San Gorgonio Pass area and flows across the Banning fault. Groundwater outflows from the Indio Subbasin consist of groundwater pumping, flow from the semi-perched aquifer through the agricultural drains into the Salton Sea, evapotranspiration from the shallow unconfined aquifer, evaporation losses, and subsurface flow out of the Indio Subbasin into the aquifers beneath the Salton Sea.

The annual change in groundwater storage represents the annual difference between inflows and outflows in the Indio Subbasin. During wet years or periods of high artificial recharge, the change in storage is positive (water in storage increases). In dry years or periods of high pumping, the change in storage is often negative (storage decreases). Because of the large amount of recharge relative to discharges, the change in storage for the Indio Subbasin is a positive 151,659 AF for WY 2017-2018.

Figure ES-2. Groundwater Balance for the Indio Subbasin – Water Year 2017-2018



The one-year change in groundwater elevation (**Figure 7-4**) demonstrates a significant increase in groundwater storage near the Whitewater River GRF in response to the high recharge deliveries in WY 2016-2017 and WY 2017-2018. Water levels near the Whitewater River GRF increased by as much as 150 ft. Small decreases in levels were observed near Rancho Mirage, Indio and Mecca. Water levels near the TEL GRF decreased about 6 ft in response to a 20 percent reduction in replenishment deliveries due to a Coachella Canal project from December 2017 to January 2018.

During the past ten years, there have been significant increases in groundwater elevations throughout the Indio Subbasin (**Figure 7-5**) in response to the high recharge deliveries in calendar years 2010-2012, WY 2016-2017, and WY 2017-2018 in the western portion of the Indio Subbasin. Essentially, all of the eastern portion of the Indio Subbasin showed increased groundwater elevations in response to decreased pumping and replenishment operations at the TEL GRF. One notable exception was the

Thousand Palms area where water levels decreased by 2 to 6 ft. This area is somewhat isolated from the beneficial effects of replenishment deliveries.

ES.8 SUMMARY OF PROGRESS AND PROJECTS

The sustainability goals described in the Alternative Plan for the Indio Subbasin identified the following water management elements for implementation:

- Water conservation measures
- Acquisition of additional water supplies
- Conjunctive use programs to maximize supply reliability
- Source substitution programs
- Groundwater recharge programs
- Water quality protection measures
- Other management activities

The Indio Subbasin GSAs continue to implement the goals and programs of the 2010 CVWMP Update. Groundwater production remains more than 25 percent less than the historical highs in the early 2000s. The results of the on-going basin monitoring program demonstrate the significant progress being made toward the goal of eliminating long-term groundwater overdraft. Since 2009, the Indio Subbasin has gained over 650,000 AF of groundwater in storage.

Groundwater level monitoring demonstrates that most of the Indio Subbasin exhibited a water level gain in the past year except for portions of the Indio Subbasin between Palm Springs and Rancho Mirage, and the Desert Palms (Sun City) community. The water level decline in the Palm Springs and Rancho Mirage areas is the residual effect of low imported replenishment water deliveries to the Whitewater River GRF relative to pumping in previous years due to drought conditions.

Over the past ten years, much of the Indio Subbasin experienced water level gains in the range of 2 to over 50 feet as a result of continued recharge at the Whitewater River GRF, implementation of the TEL GRF, conversion of golf courses from groundwater to Coachella Canal water, and water conservation. The portion of the Indio Subbasin between Palm Springs and Palm Desert experienced water level declines in the range of 2 to 8 feet in this period. Eliminating this decline is the focus of the Mid-Valley Pipeline source substitution project and the proposed Palm Desert GRF. Operation of the first phase of the new Palm Desert GRF is expected to commence in 2019 at an expected rate of 10,000 AFY.

CVWD continues to work with the golf courses in its service area to extend the Mid-Valley Pipeline distribution system to serve additional courses with Coachella Canal and recycled water and reduce their groundwater pumping. One additional golf course was connected during the past year. CVWD's increased allocation of Colorado River water through the Quantification Settlement Agreement (QSA) added 18,000 AF of supply in 2018. CVWD expects to receive an additional 5,000 AFY of Colorado River water in 2019.

Continued implementation of CVWMP programs is critical to meeting the goals of the plan. In the coming year, the GSAs will continue to pursue their successful water conservation efforts, continue to evaluate the effectiveness of their groundwater monitoring program, and add additional wells to the program as the need arises.

1.0 INTRODUCTION

The Indio Subbasin is located within the Coachella Valley Groundwater Basin underlying the Coachella Valley in Southern California as shown in **Figure 1-1**. The Indio Subbasin is sustainably managed in accordance with the Sustainable Groundwater Management Act (SGMA) and reported on annually. This annual report for Water Year 2017-2018 (October 1, 2017 through September 30, 2018) complies with SGMA reporting requirements (California Water Code Section 10728). SGMA is defined by Sections 10720 - 10737.8 of the California Water Code.

Coachella Valley Water District (CVWD), Coachella Water Authority (CWA), Desert Water Agency (DWA), and the Indio Water Authority (IWA) collectively comprise the Groundwater Sustainability Agencies (GSAs) providing coverage for the entire Indio Subbasin as required by SGMA. The California Department of Water Resources (DWR) has indicated that an annual report is required to be submitted annually to the DWR in support of the Alternative to a Groundwater Sustainability Plan (Alternative Plan) previously submitted to the DWR by the GSAs for the Indio Subbasin.

1.1 BACKGROUND

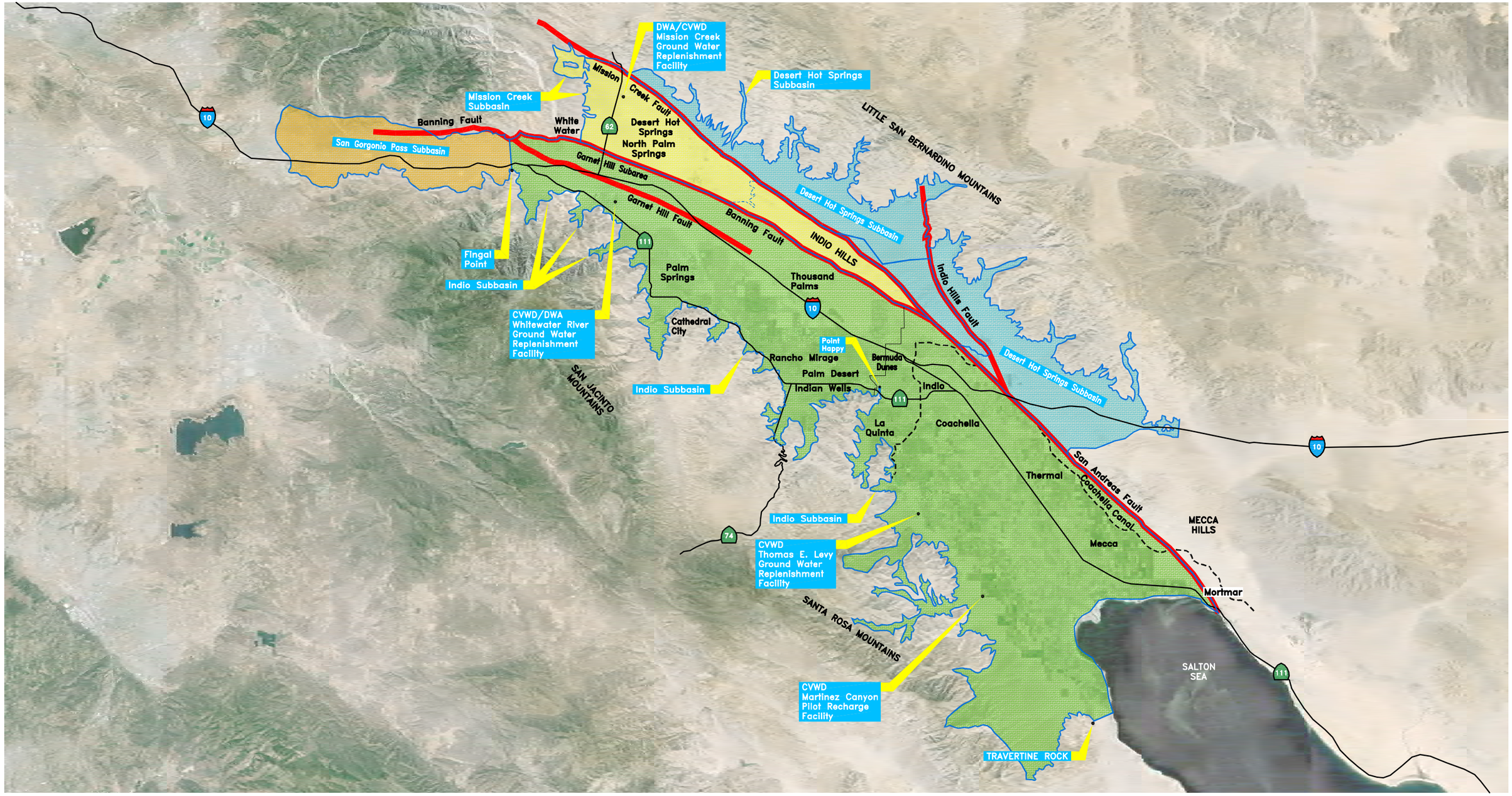
1.1.1 Implementation of the Sustainable Groundwater Management Act

In 2014, faced with declining groundwater levels (most notably in California's Central Valley), the California Legislature enacted the SGMA which was intended to provide a framework for the sustainable management of groundwater resources throughout California, primarily by local authorities. The SGMA consisted of three bills, Assembly Bill (AB) 1739 (Dickinson), Senate Bill (SB) 1168 (Pavley), and SB 1319 (Pavley), and was signed into law by Governor Brown on September 16, 2014.

The SGMA required local authorities to form local GSAs by June 30, 2017 to evaluate conditions in their local groundwater basins and adopt locally-based Groundwater Sustainability Plans (GSPs) or Alternative Plans tailored to their regional economic and environmental needs. The SGMA allows a 20-year time frame for GSAs to implement their GSPs or Alternative Plans and achieve long-term groundwater sustainability. It protects existing water rights and does not affect current drought response measures. SGMA provides local GSAs with tools and authority to:

- Monitor and manage groundwater levels and quality
- Monitor and manage land subsidence and changes in surface water flow and quality affecting groundwater levels or quality or caused by groundwater extraction
- Require registration of groundwater wells
- Require reporting of annual extractions
- Require reporting of surface water diversions to underground storage
- Impose limits on extractions from individual wells

This color map has been designated to print size 11" by 17".



LEGEND

- INDIO SUBBASIN
- MISSION CREEK SUBBASIN
- DESERT HOT SPRINGS SUBBASIN
- SAN GORGONIO PASS SUBBASIN
- FAULTS
- SUBBASIN BOUNDARIES
- INDIO HILLS BOUNDARY

MAP SOURCE:

2016 GOOGLE EARTH PRO (AERIAL PHOTOGRAPHY), MISSION CREEK AND GARNET HILL SUBBASINS WATER MANAGEMENT PLAN FINAL REPORT, JANUARY 2013 (SUBBASIN BOUNDARIES)

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0 16,000 32,000 64,000 Feet

Date: 3/18/2019

TITLE: Coachella Valley Groundwater Basin and Subbasins

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

KRIEGER & STEWART Engineering Consultants

FIGURE 1-1

1022-4p5f2.dwg

- Assess fees to implement local GSPs and Alternative Plans
- Request revisions of basin boundaries, including establishing new subbasins

The DWR developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program to track seasonal and long-term trends in groundwater elevations in California's groundwater basins. Through its CASGEM program, DWR ranked the priority of all 515 groundwater basins and subbasins in California as either very low, low, medium, or high priority. In addition, DWR, as required by SGMA, identified the basins and subbasins that are in conditions of critical overdraft. Several basins and subbasins in California were identified as critically-overdrafted basins. None of the subbasins in the Coachella Valley Groundwater Basin have been listed as critically-overdrafted.

The Coachella Valley Groundwater Basin has been divided into four (4) subbasins by DWR in California Bulletin 108 (1964) and Bulletin 118 (2003): they are the Indio[1], Mission Creek, San Gorgonio Pass, and Desert Hot Springs Subbasins as shown in **Figure 1-1**. The Indio, Mission Creek, and San Gorgonio Pass Subbasins have been designated medium-priority basins, and the Desert Hot Springs Subbasin has been designated a very low-priority subbasin under SGMA.

GSAs responsible for the high-priority and medium-priority groundwater basins and subbasins must prepare and adopt GSPs by January 31, 2020 for critically overdrafted basins, and by January 31, 2022 for those not currently in critical overdraft, with updates every five years thereafter. GSAs may adopt a single GSP covering an entire basin or combine a number of GSPs created by multiple GSAs. Sustainability must be achieved within 20 years after adoption of the GSP for all high-priority and medium-priority basins. GSAs who elect to submit an Alternative Plan, rather than prepare a GSP in accordance with California Water Code (CWC) §10727 et seq., must have done so by January 1, 2017, with updates every five years thereafter. The State Water Resources Control Board (SWRCB) is empowered to intervene if local agencies fail to form GSAs or fail to adopt their GSPs or Alternative Plans on schedule.

1.1.2 Formation of GSAs by Local Agencies in the Indio Subbasin

The SGMA required local authorities to form local GSAs by June 30, 2017 to evaluate conditions in their local groundwater basins and adopt locally-based GSPs or Alternative Plans tailored to their regional economic and environmental needs. Presently, four separate entities have been designated as "Exclusive" GSAs to manage the Indio Subbasin of the Coachella Valley Groundwater Basin within their respective service areas as shown in **Figure 1-2**. They are:

- Coachella Valley Water District (CVWD)

[1] The Indio Subbasin is also identified as the Whitewater River Subbasin by the USGS. However, the subbasin is identified as the Indio Subbasin in DWR Bulletin 108 (1964) and Bulletin 118 (2003). For continuity, this annual report will identify the subbasin as the Indio Subbasin.

- Coachella Water Authority (CWA)
- Desert Water Agency (DWA)
- Indio Water Authority (IWA)

1.1.3 Submission of an Alternative to a Groundwater Sustainability Plan for the Indio Subbasin to the DWR

SGMA recognizes the efforts many areas, such as the Coachella Valley, have made in developing and implementing groundwater management by allowing existing groundwater management plans to be submitted as an Alternative to a GSP (Alternative Plan).

Twenty years before the adoption of SGMA, CVWD began development of the initial Water Management Plan in 1994 after recognizing the need to sustainably manage the Coachella Valley Groundwater Basin. The original planning document is the 2002 Coachella Valley Water Management Plan (CVWMP). The 2002 CVWMP was updated in 2010 and adopted in 2012. The environmental documents associated with these management plans provide important information on the Coachella Valley environment, the impacts of the original 2002 CVWMP and the 2010 CVWMP Update, and mitigation measures. The 2014 and 2016 CVWMP Status Reports were periodic reviews of the planning assumptions and implementation status for the 2010 CVWMP Update. Annual Engineer's Reports on Water Supply and Replenishment Assessment are prepared by CVWD under authority of CWC §31631 and by DWA under authority of Chapter 100 of the CWC Appendix. These documents provide the basis for compliance with the SGMA requirements for Alternative Plans.

On December 29, 2016, CVWD, CWA, DWA, and IWA collaboratively submitted the 2010 CVWMP Update as an Alternative Plan for the Indio Subbasin, with an associated Bridge Document to DWR for review and evaluation. On February 1, 2018, DWR notified all GSAs who submitted Alternative Plans that they would be required to submit annual reports pursuant to SGMA by April 1, 2018 and every year thereafter.

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Little San Bernardino Mountains

Santa Rosa Mountains

Mecca Hills

Foster Lake

Lake Hemet

Vail Lake

Clark Lake

Hayfield Lake

Salton Sea

RIVERSIDE COUNTY

SAN DIEGO COUNTY

IMPERIAL COUNTY

Nevada

California

Pacific Ocean

GSA Boundaries

- Coachella Valley Water District
- Coachella Water Authority
- Desert Water Agency
- Indio Water Authority
- Overlap Area *
- Indio Subbasin

*Overlap area of GSA Notices by Desert Water Agency and Mission Springs Water District.

N

0 2 4 6 8 Miles

Date: 3/6/2019

TITLE:
GSA Boundaries of the Indio Subbasin

PROJECT:
Indio Subbasin Annual Report

COORDINATE SYSTEM:
NAD 1983 StatePlane California VI FIPS 0406 Feet

Stantec

FIGURE
1-2

1.1.4 Annual Reporting

Annual reports of the Indio Subbasin conditions have been prepared since 1978 by both CVWD and DWA. CVWD has published an annual Engineer's Report on Water Supply and Replenishment Assessment for its West Whitewater River Subbasin Area of Benefit (AOB) since 1978, and the East Whitewater River Subbasin AOB since 2004, in the Indio Subbasin. DWA has published an annual Engineer's Report on the Groundwater Replenishment and Assessment Program for its Whitewater River Subbasin AOB since 1978, and its Garnet Hill Subbasin AOB since 2015, in the Indio Subbasin. The Engineer's Reports provide detailed groundwater levels, annual water balance, artificial and natural recharge, and groundwater pumping, as well as establishing the replenishment assessment charged for production within each designated AOB for the following fiscal year.

In accordance with SGMA (Water Code Section 10728), on April 1 following the adoption of a GSP or submission of an Alternative Plan and annually thereafter, a GSA shall submit a report to DWR containing the following information about the basin managed in the GSP or Alternative Plan:

- Groundwater elevation data
- Aggregated data identifying groundwater extraction
- Surface water supply used for or available for groundwater recharge or in-lieu use
- Total water use
- Change in groundwater storage
- Progress toward implementing the GSP or Alternative Plan

The Indio Subbasin Annual Report for Water Year 2016-2017 was the first annual report prepared for the Indio Subbasin in response to the SGMA requirements, and this Indio Subbasin Annual Report for Water Year 2017-2018 represents the second annual report prepared for the Indio Subbasin. This Annual Report contains a discussion of the Coachella Valley Groundwater Basin followed by sections describing each of the SGMA required annual report elements.

2.0 COACHELLA VALLEY GROUNDWATER BASIN SETTING

The Coachella Valley Groundwater Basin extends approximately 50 miles southeast from the San Bernardino Mountains to the northern shore of the Salton Sea as shown in **Figure 1-1**. The Coachella Valley Groundwater Basin underlies the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage, and the unincorporated communities of Thousand Palms, Thermal, Bermuda Dunes, Oasis, and Mecca. The Coachella Valley is bordered on the north by Mount San Gorgonio in the San Bernardino Mountains, on the west by the San Jacinto and Santa Rosa Mountains, on the east by the Little San Bernardino Mountains, and on the south by the Salton Sea. The Coachella Valley lies within the northwesterly portion of California's Colorado Desert, an extension of the Sonoran Desert. The San Bernardino, San Jacinto, and Santa Rosa Mountains provide an effective barrier against coastal storms, and greatly reduce the contribution of direct precipitation to replenish the Coachella Valley's groundwater, resulting in an arid climate.

2.1 CLIMATE

The bulk of natural groundwater replenishment comes from runoff from the adjacent mountains. Climate in the Coachella Valley is characterized by low humidity, high summer temperatures, and mild dry winters. **Figure 2-1** presents a regional map of the Indio Subbasin with locations of precipitation, streamflow, and subsidence monitoring stations. Average annual precipitation in the Coachella Valley varies from 3 to 6 inches of rain on the Coachella Valley floor to more than 30 inches in the surrounding mountains (DWR, 1964; NWS, 2019). Most of the precipitation occurs during December through February, except for summer thundershowers. Historic monthly average precipitation with mean, maximum, and minimum corresponding monthly temperature at the Thousand Palms station (CW2285) in Coachella Valley is shown on **Figure 2-2**. Prevailing winds in the area are usually gentle, but occasionally increase to velocities as high as 30 miles per hour or more. Mid-summer temperatures commonly exceed 100 degrees Fahrenheit (°F), frequently reach 110°F, and periodically reach 120°F. The average winter temperature is approximately 60°F (**Figure 2-2**).

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SAN BERNARDINO COUNTY

STA #233

Little San Bernardino Mountains

STA #57

10257548
10257549
10257550

STA #207

10256500
10256501
10256550

10257499
10257500
10257501

STA #436

10257720

STA #224

STA #216

PSAP

CW2285

STA #222

STA #442

10258000

10259050

STA #34

Foster Lake

San Jacinto Mountains

10259000
10258700
10258500

10259100

COTD

10259300

Hayfield Lake

Lake Hemet

10259200

TMAP

STA #443

STA #432

Mecca Hills

10259540

Santa Rosa Mountains

Vail Lake

STA #431

RIVERSIDE COUNTY

SAN DIEGO COUNTY

Salton Sea

IMPERIAL COUNTY

Clark Lake

Nevada
California
Pacific Ocean

- Temperature Station
- Subsidence Monitoring Station
- Precipitation Station
- Streamflow Gauging Station
- Indio Subbasin

N

0 2.5 5 7.5 10 Miles

Date: 3/15/2019

TITLE:
Regional Map of the Indio Subbasin

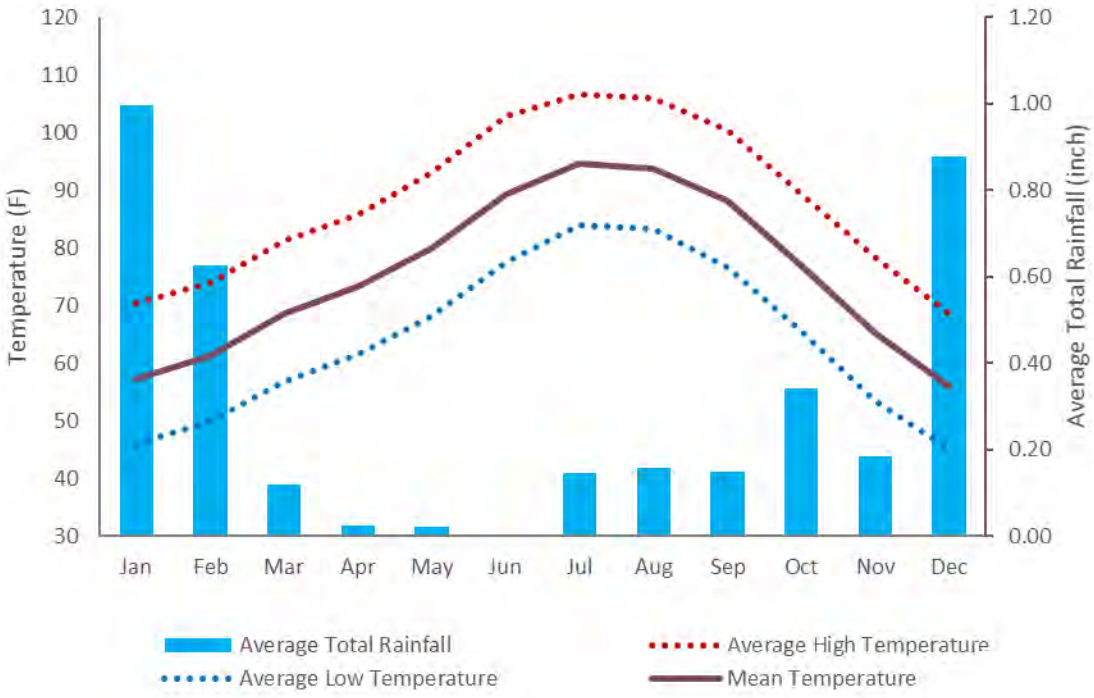
PROJECT:
Indio Subbasin Annual Report

COORDINATE SYSTEM:
NAD 1983 StatePlane California VI FIPS 0406 Feet

Stantec

FIGURE
2-1

Figure 2-2. Monthly Average Climate Data for Coachella Valley (Thousand Palms Station CW2285– 2004 to 2018)



2.2 COACHELLA VALLEY GROUNDWATER BASIN

The Coachella Valley Groundwater Basin is bounded on the north and east by non-water-bearing crystalline rocks of the San Bernardino and Little San Bernardino Mountains and on the south and west by the crystalline rocks of the Santa Rosa and San Jacinto Mountains. At the west end of the San Gorgonio Pass, between Beaumont and Banning, the basin boundary is defined by a surface drainage divide separating the Coachella Valley Groundwater Basin from the Beaumont Groundwater Basin of the Upper Santa Ana Drainage Area.

The southern boundary is formed primarily by the watershed of the Mecca Hills and by the northwest shoreline of the Salton Sea running between the Santa Rosa Mountains and Mortmar. Between the Salton Sea and Travertine Rock, at the base of the Santa Rosa Mountains, the southern boundary crosses the Riverside County Line into Imperial and San Diego Counties.

Southerly of the southern boundary, at Mortmar and at Travertine Rock, the subsurface materials are predominantly fine grained and low in permeability; although groundwater is present, it is not readily extractable. A zone of transition exists at these boundaries; to the north the subsurface materials are coarser and more readily yield groundwater.

Although there is interflow of groundwater throughout the groundwater basin, fault barriers, constrictions in the groundwater basin profile, and areas of low permeability limit and control movement of groundwater. Based on these factors, the groundwater basin has been divided into subbasins and subareas as described by California Department of Water Resources (DWR) in Bulletin 108 (1964) and Bulletin 118 (2003), and also by the United States Geological Survey (USGS) in 1971.

2.2.1 Subbasins and Subareas

The subbasins of the Coachella Valley Groundwater Basin are the Mission Creek, Desert Hot Springs, San Gorgonio Pass, and Indio[2] Subbasins as shown in **Figure 1-1**. The subbasins delineate areas underlain by formations which readily yield stored groundwater through water wells and offer natural reservoirs for the regulation of water supplies.

The boundaries between subbasins within the groundwater basin are generally defined by faults that serve as effective barriers to the lateral movement of groundwater. Minor subareas have also been delineated, based on one or more of the following geologic or hydrologic characteristics: type of water-bearing formations, water quality, areas of confined groundwater, forebay areas, groundwater divides, and surface drainage divides.

[2]The Garnet Hill Subarea of the Indio Subbasin is also identified as a separate Garnet Hill Subbasin by the USGS. However, it is identified as the Garnet Hill Subarea of the Indio Subbasin in DWR Bulletin 108 (1964) and Bulletin 118 (2003). For continuity, this annual report will identify the subarea as the Garnet Hill Subarea of the Indio Subbasin.

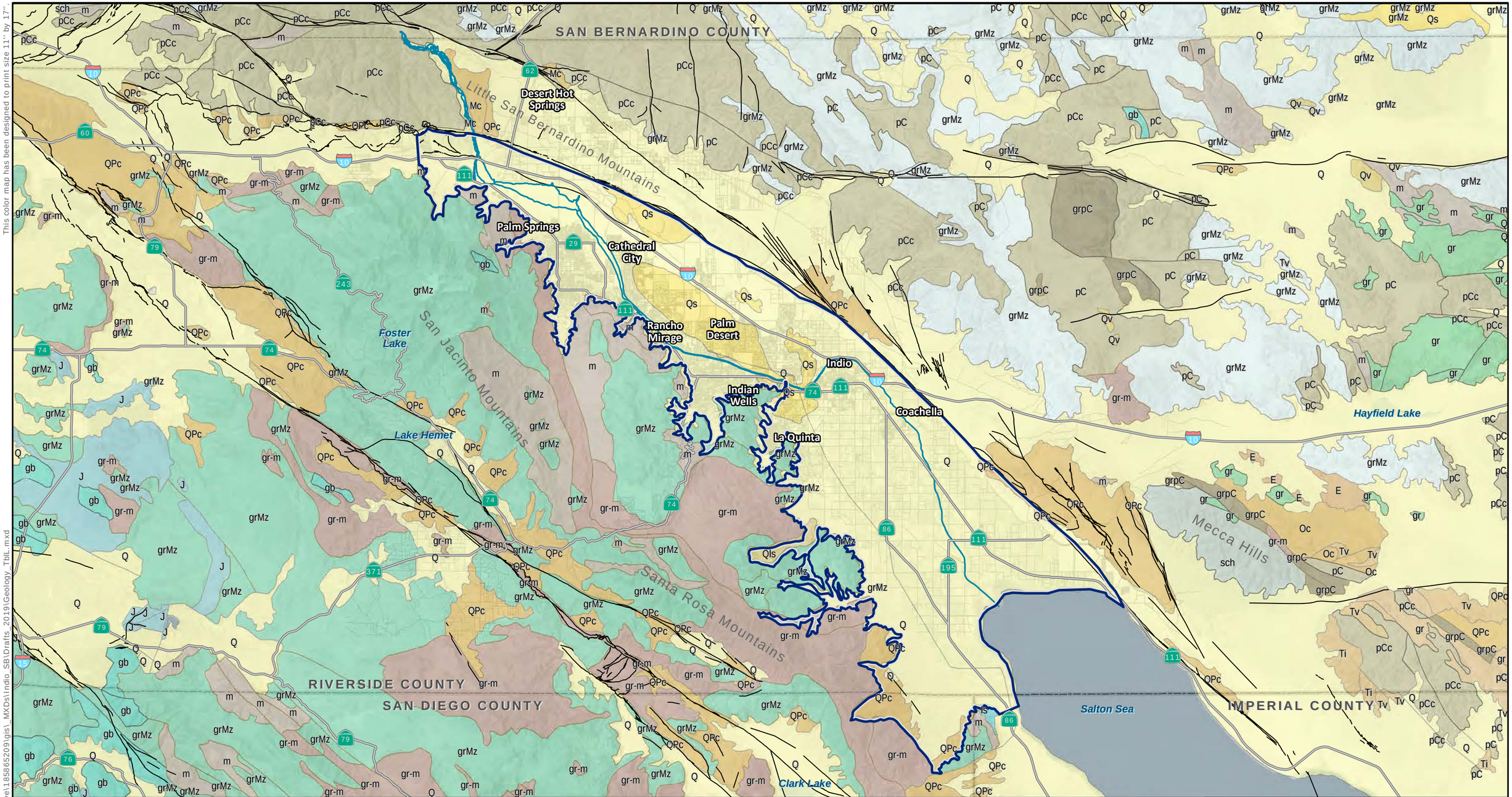
The following is a list of the subbasins and associated subareas in the Coachella Valley Groundwater Basin as designated by DWR in Bulletin 108 (1964) and in Bulletin 118 (2003).

- Indio Subbasin (Subbasin 7-21.01)
    - Palm Springs Subarea
    - Thermal Subarea
    - Thousand Palms Subarea
    - Oasis Subarea
    - Garnet Hill Subarea
- Mission Creek Subbasin (Subbasin 7-21.02)
- Desert Hot Springs Subbasin (Subbasin 7-21.03)
    - Miracle Hill Subarea
    - Sky Valley Subarea
    - Fargo Canyon Subarea
- San Gorgonio Pass Subbasin (Subbasin 7-21.04)

The boundaries (based on faults, barriers, constrictions in basin profile, and changes in permeability of water-bearing units), geology, hydrogeology, water supply, and groundwater storage of the Indio Subbasin and Indio Subareas are further described in the following sections.

2.2.2 Geology

The Coachella Valley Groundwater Basin encompasses much of the floor area of Coachella Valley. The Coachella Valley itself trends northwest–southeast; its surface slopes generally to the southeast, and is bounded on its northern, northwestern, southwestern, and southern margins by uplifted mountains of bedrock. Coachella Valley sedimentary fill consists of thick sand and gravel sedimentary sequences eroded from the surrounding mountains. Sedimentary infill within the Coachella Valley thickens from north to south, and depending on location within the basin, is at least several thousand and as much as 12,000 feet (ft) in thickness. The upper approximately 2,000 ft constitute the aquifer system that is the primary source of groundwater supply (DWR, 1979). A geologic map of the Coachella Valley Groundwater Basin is shown in **Figure 2-3**.



Geology Type (USGS OFR 2005-1305, Updated 2007)

Quaternary
- Qv Basalt
- Qs Dune Sand
- Qls Landslide

Tertiary
- Q Alluvium
- Ti Basalt
- E Mudstone
- Tv Rhyolite
- QPc/Qc/Qc/Mc Sandstone

Cretaceous
- sch Schist

Jurassic
- gr Plutonic rock
- grMz Tonalite

Triassic
- gb Gabbro

Permian
- grMz Diorite

Paleozoic
- J Argillite
- ls Limestone

Paleozoic
- pC/pCc Gneiss
- grpC Granite
- gr-m Plutonic rock
- m Schist

Source: DWR, CVWD, Caltrans, CalAtlas

N

0 5 10 Miles

Date: 2/11/2019

TITLE: **Coachella Valley Groundwater Basin Geologic Map**

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

Stantec

FIGURE **2-3**

2.2.3 Basin Storage Capacity

In 1964, DWR estimated that the subbasins in the Coachella Valley Groundwater Basin contained approximately 39,200,000 acre-feet (AF) of water in the first 1,000 ft below the ground surface. The capacities of the subbasins are shown in **Table 2-1**.

Table 2-1
Coachella Valley Groundwater Basin Groundwater Storage Capacity

Subbasin/Subarea	Groundwater Storage (AF)[1]
Indio Subbasin	
Palm Springs Subarea	4,600,000
Thousand Palms Subarea	1,800,000
Oasis Subarea	3,000,000
Thermal Subarea	19,400,000
Garnet Hill Subarea	1,000,000
Subtotal – Indio Subbasin:	**29,800,000**
San Gorgonio Pass Subbasin	2,700,000
Mission Creek Subbasin	2,600,000
Desert Hot Springs Subbasin	4,100,000
Total – All Subbasins:	**39,200,000**

Note: Storage volume of the first 1,000 feet below ground surface (DWR, 1964). Excludes semi-waterbearing portions of the groundwater basins such as the Indio Hills which have essentially no recoverable groundwater,

2.3 INDIO SUBBASIN DESCRIPTION

The Indio Subbasin, designated the Basin No. 7-21.01 in DWR Bulletin No. 118 (2003), underlies the major portion of the Coachella Valley floor and encompasses approximately 400 square miles. Beginning approximately one mile west of the junction of State Highway 111 and Interstate 10, the Indio Subbasin extends southeast approximately 50 miles to the Salton Sea.

The Indio Subbasin is bordered on the southwest by the Santa Rosa and San Jacinto Mountains and is separated from the Mission Creek and Desert Hot Springs Subbasins, and Garnet Hill Subarea, to the north and east by the Garnet Hill and San Andreas Faults (DWR 1964). The Garnet Hill Fault, which extends southeasterly from the north side of the San Gorgonio Pass to the Indio Hills, is a relatively effective barrier to lateral groundwater movement from the Garnet Hill Subarea into the Indio Subbasin, with some portions in the shallower zones more permeable. The San Andreas Fault, extending southeasterly from the junction of the Mission Creek and Banning Faults in the Indio Hills and continuing out of the basin on the east flank of the Salton Sea, is also an effective barrier to lateral groundwater movement from the northeast (DWR 1964).

The Indio Subbasin underlies the Cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella, and the unincorporated communities of Thousand Palms,

Thermal, Bermuda Dunes, Oasis, and Mecca. From about the City of Indio southeasterly to the Salton Sea, the Indio Subbasin contains increasingly thick layers of silt and clay, especially in the shallower portions of the Indio Subbasin. These silt and clay layers, which are remnants of ancient lake bed deposits, impede the percolation of water applied for irrigation and limit groundwater replenishment opportunities to the westerly fringe of the Indio Subbasin (DWR 1964).

Hydrologically, the Indio Subbasin is divided into five subareas: the Palm Springs, Thermal, Thousand Palms, Oasis, and Garnet Hill Subareas as shown in **Figure 2-4**. The Palm Springs Subarea is the forebay or main area of replenishment to the Indio Subbasin, and the Thermal Subarea is the pressure, or confined area, within the Indio Subbasin. The other three subareas are peripheral areas having unconfined groundwater conditions.

2.3.1 Palm Springs Subarea

The triangular area between the Garnet Hill Fault and the east slope of the San Jacinto Mountains southeast to the City of Cathedral City is designated the Palm Springs Subarea. Groundwater is unconfined in this area. The Coachella Valley fill materials within the Palm Springs Subarea are essentially heterogeneous alluvial fan deposits with little sorting and little fine-grained material. The thickness of these water-bearing materials is not known; however, it exceeds 1,000 ft. Although no lithologic distinction is apparent from well drillers' logs, the probable thickness of recent deposits suggests that Ocotillo conglomerate underlies recent fanglomerate in the subarea at depths ranging from 300 ft to 400 ft.

Natural replenishment to the aquifer in the Indio Subbasin occurs primarily in the Palm Springs Subarea. The major natural sources include infiltration of stream runoff from the San Jacinto Mountains and the Whitewater River, and subsurface inflow from the San Gorgonio Pass Subbasin and Garnet Hill Subarea. Deep percolation of direct precipitation on the Palm Springs Subarea is considered negligible as it is consumed by evapotranspiration (DWR 1964).

2.3.2 Thermal Subarea

Groundwater of the Palm Springs Subarea moves southeastward into the Thermal Subarea, consisting of interbedded sands, silts, and clays underlying the central portion of the Coachella Valley. The division between the Palm Springs Subarea and the Thermal Subarea is near the City of Cathedral City. The hydraulic conductivity parallel to the bedding of the deposits in the Thermal Subarea are several times the hydraulic conductivity perpendicular to the bedding and, therefore, movement of groundwater parallel to the bedding predominates. Confined or semi-confined groundwater conditions are present in the major portion of the Thermal Subarea. Movement of groundwater under these conditions is present in the major portion of the Thermal Subarea and is caused by differences in piezometric (pressure) level or head. Unconfined conditions are present in the alluvial fans at the base of the Santa Rosa Mountains, such as the fans at the mouth of Deep Canyon and in the City of La Quinta area.

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Desert Hot Springs
Palm Springs
Cathedral City
Rancho Mirage
Palm Desert
Indio
Indian Wells
La Quinta
Coachella
Bernardino Mountains
San Jacinto Mountains
Santa Rosa Mountains
Mecca Hills
Foster Lake
Lake Hemet
Vail Lake
Hayfield Lake
Salton Sea
Clark Lake
RIVERSIDE COUNTY
SAN DIEGO COUNTY
IMPRIAL COUNTY
Nevada
California
Pacific Ocean

Groundwater Subareas

- Garnet Hill
- Oasis
- Palm Springs
- Thermal
- Thousand Palms
- Barton Canyon (semi-waterbearing per Bulletin 108)
- Indio Hills (semi-waterbearing per Bulletin 108)
- Indio Subbasin

Source: DWR Bulletin 108

N

0 5 10 Miles

Date: 2/11/2019

TITLE:
Groundwater Subareas of the Indio Subbasin

PROJECT:
Indio Subbasin Annual Report

COORDINATE SYSTEM:
NAD 1983 StatePlane California VI FIPS 0406 Feet

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FIGURE
2-4

Sand and gravel lenses underlying this subarea are discontinuous, and clay beds are not extensive. However, two aquifer zones separated by a zone of finer-grained materials were identified from well logs. The fine-grained materials within the intervening horizontal plane are not persistent enough to completely restrict the vertical interflow of water, or to warrant the use of the term "aquiclude." Therefore, the term "aquitard" is used for this zone of less permeable material that separates the upper and lower aquifer zones in the southeastern part of the Coachella Valley.

The lower aquifer zone, composed of part of the Ocotillo conglomerate, consists of silty sands and gravels with interbeds of silt and clay. It contains the greatest quantity of stored groundwater in the Coachella Valley Groundwater Basin. The top of the lower aquifer zone is present at a depth ranging from 300 ft to 600 ft below the surface. The thickness of the zone is undetermined, as the deepest wells present in the Coachella Valley have not penetrated it in its entirety. The available data indicate that the zone is at least 500 ft thick and may be in excess of 1,000 ft thick.

The aquitard overlying the lower aquifer zone is generally 100 ft to 200 ft thick, although in small areas on the periphery of the Salton Sea it is more than 500 ft thick. North and west of the City of Indio, in a curved zone approximately one mile wide, the aquitard is apparently lacking and no distinction is made between the upper and lower aquifer zones.

Capping the upper aquifer zone in the Thermal Subarea is a shallow fine-grained zone in which semi-perched groundwater is present (see **Figure 2-5**). This zone consists of recent silts, clays, and fine sands and is relatively persistent southeast of the City of Indio. It ranges from zero to 100 ft thick and is generally an effective barrier to deep percolation. However, north and west of the City of Indio, the zone is composed mainly of clayey sands and silts, and its effect in retarding deep percolation is limited. The low permeability of the materials southeast of the City of Indio has contributed to irrigation drainage problems in the area. Semi-perched groundwater has been maintained by irrigation water applied to agricultural lands, necessitating the construction of an extensive subsurface tile drain system (DWR 1964).

A generalized stratigraphic diagram of the geologic units and groundwater zones of the Thermal Subarea (DWR 1964) is presented in **Figure 2-6**.

Figure 2-5. Approximate Extent of Shallow, Semi-Perched Aquifer in the Thermal Subarea of the Indio Subbasin

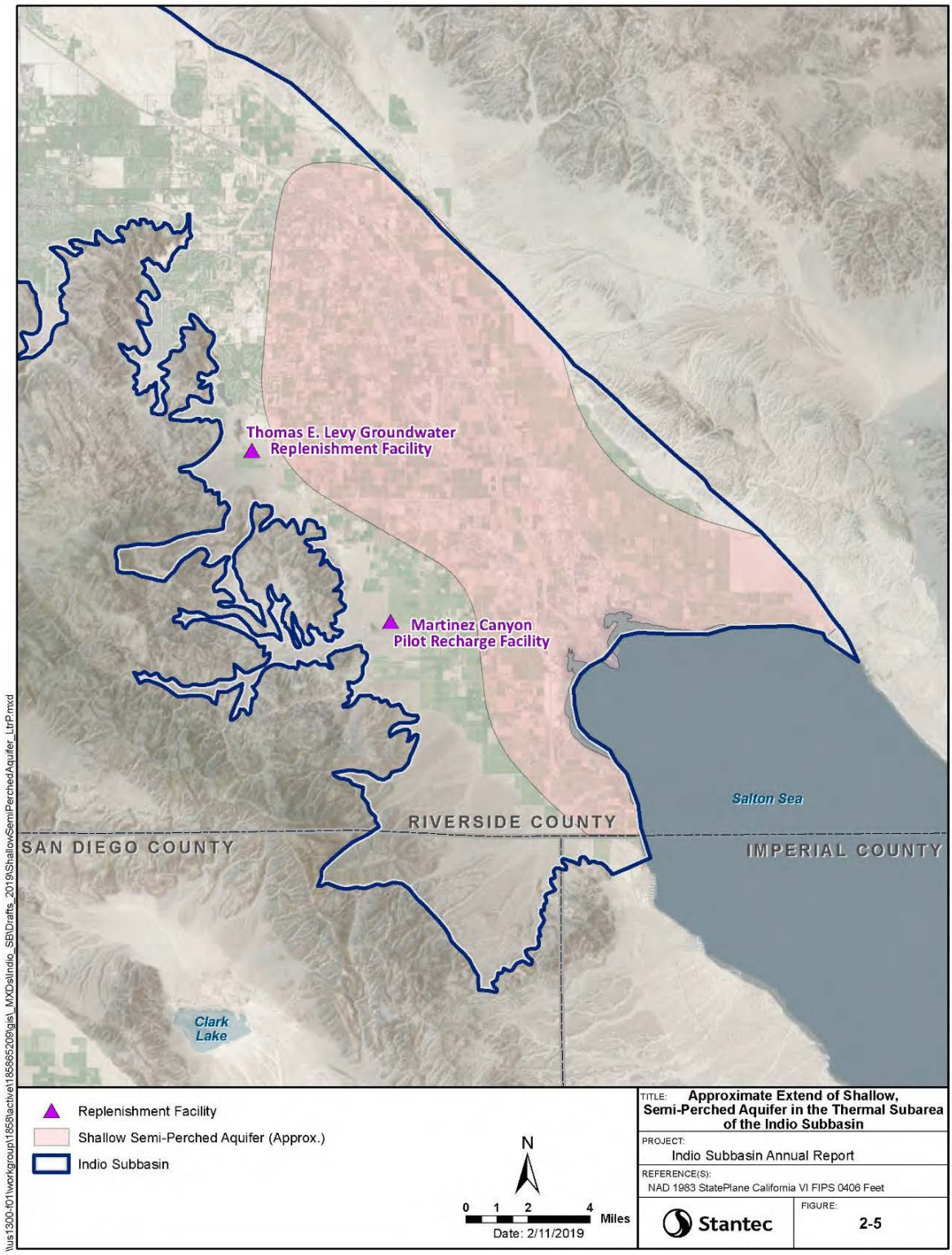
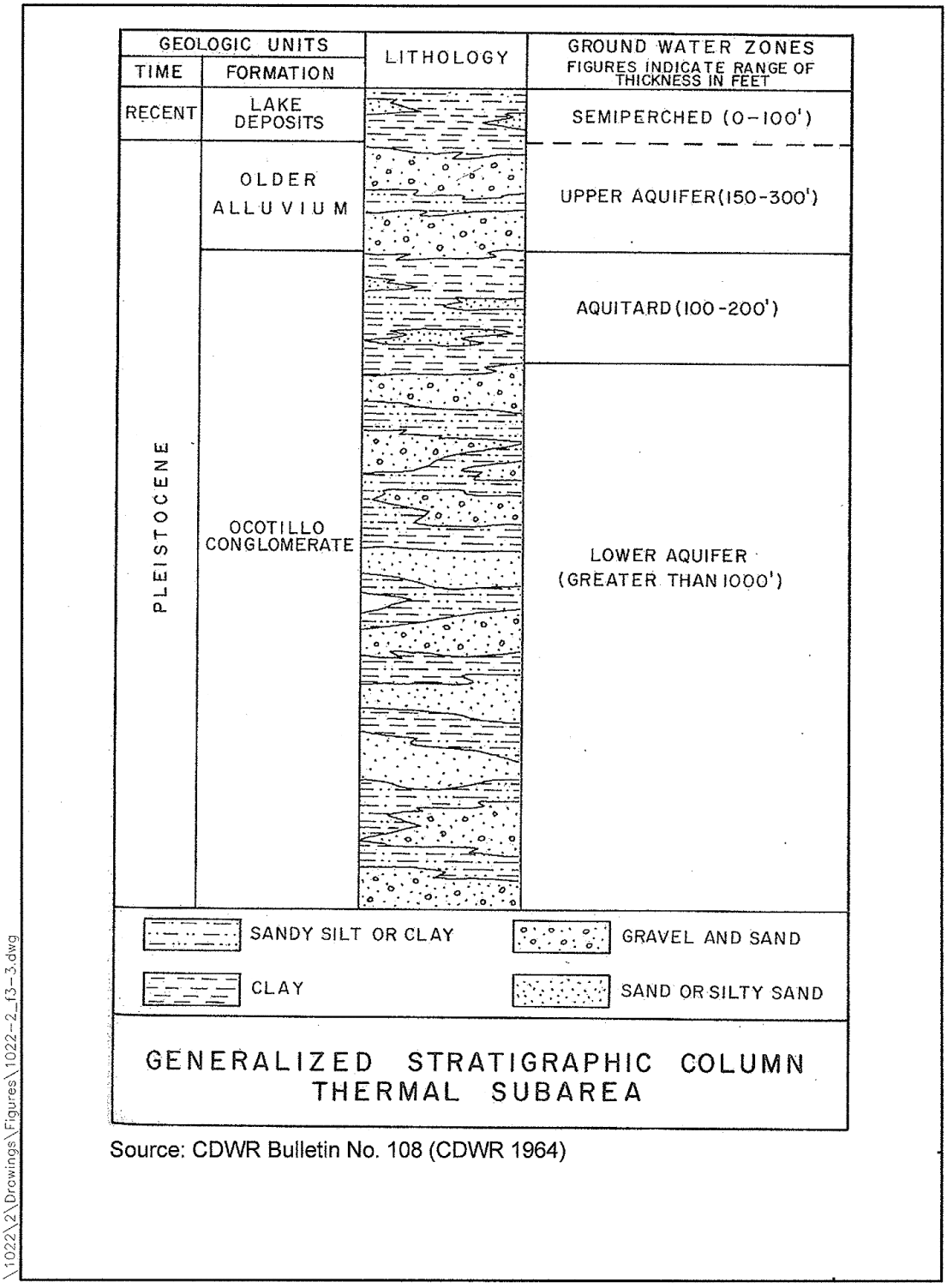


Figure 2-6. Generalized Stratigraphic Column of the Thermal Subarea of the Indio Subbasin



Source: CDWR Bulletin No. 108 (CDWR 1964)

2.3.3 Thousand Palms Subarea

The small area along the southwest flank of the Indio Hills is named the Thousand Palms Subarea. The southwest boundary of the subarea was determined by tracing the limits of distinctive groundwater chemical characteristics. The major aquifers of the Indio Subbasin are characterized by calcium bicarbonate; but water in the Thousand Palms Subarea is characterized by sodium sulfate (DWR 1964).

The differences in water quality suggest that replenishment to the Thousand Palms Subarea comes primarily from the Indio Hills and is limited in supply. The relatively sharp boundary between chemical characteristics of water derived from the Indio Hills and groundwater in the Thermal Subarea suggests there is little intermixing of the two waters.

The configuration of the water table north of the community of Thousand Palms is such that the generally uniform, southeasterly gradient in the Palm Springs Subarea diverges and steepens to the east along the base of Edom Hill. This steepened gradient suggests a barrier to the movement of groundwater: possibly a reduction in permeability of the water-bearing materials, or possibly a southeast extension of the Garnet Hill Fault. However, such an extension of the Garnet Hill Fault is unlikely. There is no surface expression of such a fault, and the gravity measurements taken during the 1964 DWR investigation do not suggest a subsurface fault. The residual gravity profile across this area supports these observations. The sharp increase in gradient is therefore attributed to lower permeability of the materials to the east.

Most of the Thousand Palms Subarea is located within the western portion of the Indio Subbasin. Groundwater levels in this area show similar patterns to those of the adjacent Thermal Subarea, suggesting a hydraulic connectivity (DWR 1964).

2.3.4 Oasis Subarea

Another peripheral zone of unconfined groundwater that is different in chemical characteristics from water in the major aquifers of the Indio Subbasin is found underlying the Oasis Piedmont slope. This zone, named the Oasis Subarea, extends along the base of the Santa Rosa Mountains. Water-bearing materials underlying the subarea consist of highly permeable fan deposits. Although groundwater data suggest that the boundary between the Oasis and Thermal Subareas may be a buried fault extending from Travertine Rock to the community of Oasis, the remainder of the boundary is a lithologic change from the coarse fan deposits of the Oasis Subarea to the interbedded sands, gravel, and silts of the Thermal Subarea. Little information is available as to the thickness of the water-bearing materials, but it is estimated to be in excess of 1,000 ft.

2.3.5 Garnet Hill Subarea

This subarea is considered part of the Indio Subbasin in DWR's Bulletin 118 (2003). The area between the Garnet Hill Fault and the Banning Fault, named the Garnet Hill Subarea of the Indio Subbasin by DWR (1964), was considered a distinct subbasin by the USGS because of the partially effective Banning and Garnet Hill Faults as barriers to lateral groundwater movement. This is demonstrated by a difference of 170 feet (ft) in groundwater level elevation in a horizontal distance of 3,200 ft across the Garnet Hill

Fault, as measured in the spring of 1961. The Garnet Hill Fault does not reach the surface and is probably effective as a barrier to lateral groundwater movement only below a depth of about 100 ft (MWH 2013).

The 2013 Mission Creek/Garnet Hill Subbasins Water Management Plan (MWH 2013) states that groundwater production is low in the Garnet Hill Subarea and is not expected to increase significantly in the future due to relatively low well yields compared to those in the Mission Creek Subbasin. Water levels in the western and central portions of the subarea show response to large replenishment quantities from the Whitewater River Groundwater Replenishment Facility (Whitewater River GRF), while levels are relatively flat in the eastern portion of the subarea. The lack of wells in the subarea limits the geologic understanding of how this subarea operates relative to the Mission Creek Subbasin and Indio Subbasin.

Although some natural replenishment to this subarea may come from Mission Creek and other streams that pass through during periods of high flood flows, the chemical character of the groundwater, and its direction of movement, indicate that the main source of replenishment to the subarea comes from the Whitewater River through the permeable deposits which underlie Whitewater Hill (MWH 2013).

3.0 GROUNDWATER ELEVATIONS

Section 356.2(b) of the Sustainable Groundwater Management Act (SGMA) Emergency Regulations requires:

> *A detailed description and graphical representation of the following conditions of the basin managed in the Plan:*
>
> *(1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:*
>
> *(A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.*
>
> *(B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.*

This section presents the groundwater level monitoring program results for the Indio Subbasin for Water Year (WY) 2017-2018.

3.1 MONITORING WELLS

In response to 2010 legislation, California Department of Water Resources (DWR) developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program to track seasonal and long-term trends in groundwater elevations in California's groundwater basins. The hydrologic system of the Coachella Valley has been extensively monitored by a number of agencies for many years. Monitoring data in the Indio Subbasin is available for selected wells since the 1920s.

Monitoring wells, as shown in **Figure 3-1**, are selected so they can provide a good representation of groundwater elevations within each agency's service areas. The five monitoring agencies maintain a total of 56 CASGEM monitoring wells in the Indio Subbasin. During WY 2017-2018, there were 53 CASGEM wells with measured water levels as shown in **Table 3-1.** In addition to the CASGEM wells, the Coachella Valley Water District (CVWD), Desert Water Agency (DWA), and Indio Water Authority (IWA) monitor water levels in additional wells in the Indio Subbasin. During WY 2017-2018, CVWD monitored water levels three times per year in a total of 265 wells, including 39 CASGEM wells. DWA monitored water levels in 35 wells, including four CASGEM wells during WY 2017-2018. Indio Water Authority (IWA) monitored water levels in seven wells, including six CASGEM wells. Coachella Water Authority (CWA) monitored one CASGEM well and Mission Springs Water District monitored three CASGEM wells. In total, 311 wells were monitored in the Indio Subbasin during WY 2017-2018, as shown in **Table 3-1**, and in greater detail in **Appendix B**. The five monitoring agencies also maintain their own data management systems in compliance with CASGEM.

Table 3-1
WY 2017-2018 Wells Measured for Water Levels in the Indio Subbasin

Monitoring Agency	CASGEM Wells Monitored	Additional Wells Monitored	Total Wells Monitored
Coachella Valley Water District[1]	39	226	265
Coachella Water Authority[2]	1	0	1
Desert Water Agency[3]	4	31	35
Indio Water Authority[4]	6	1	7
Mission Springs Water District[5]	3	0	3
Total Wells Monitored	**53**	**258**	**311**

Notes:

1 CVWD monitors one CASGEM well (06S06E17K01S) that is considered to be in the Indio Subbasin but is just outside the Subbasin's boundary as defined in DWR Bulletin 118.
2 CVWD and CWA both recorded measurements from the CWA CASGEM well during WY 2017-2018.
3 DWA has three additional CASGEM wells that were not measured during WY 2017-2018.
4 IWA provided a single reading for one non-CASGEM well during WY 2017-2018. This well is located next to one of the CASGEM wells.
5 MSWD CASGEM well (03S03E08M01S) is physically located in the Indio Subbasin and is also part of the San Gorgonio Pass Subbasin monitoring program.

This color map has been designed to print size 11" by 17".

Palm Springs
Cathedral City
Rancho Mirage
Palm Desert
Indian Wells
Indio
Coachella
La Quinta
Little San Bernardino Mountains
San Jacinto Mountains
Santa Rosa Mountains
Mecca Hills
Foster Lake
Lake Hemet
Vail Lake
Hayfield Lake
Salton Sea
Clark Lake
RIVERSIDE COUNTY
SAN DIEGO COUNTY
IMPERIAL COUNTY

CASGEM Wells

- Coachella Water Authority
- Coachella Valley Water District
- Desert Water Agency
- Indio Water Authority (IWA)
- Mission Springs Water District
- Non-CASGEM Well
- Indio Subbasin

Source: DWR, CVWD, Caltrans, CalAtlas

N

0 4 8 Miles

Date: 2/13/2019

TITLE:
Monitoring Well Locations in the Indio Subbasin

PROJECT:
Indio Subbasin Annual Report

COORDINATE SYSTEM:
NAD 1983 StatePlane California VI FIPS 0406 Feet

Stantec

FIGURE
3-1

\\us1300-f01\workgroup\1858\active\185865209\gis_MXDs\Indio_SB1Drafts_2019\MonitoringSites_Tbl_mxd

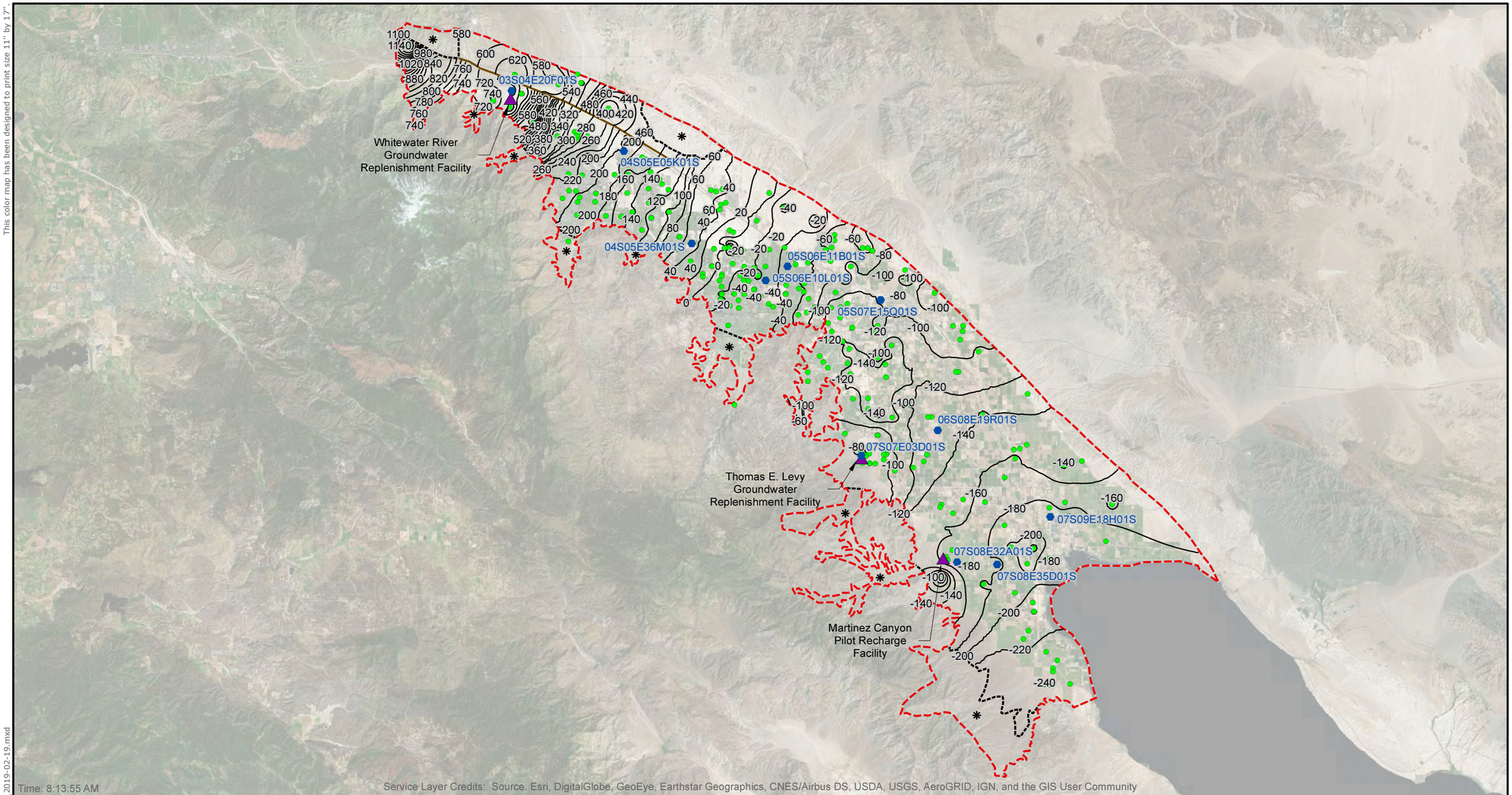
3.2 GROUNDWATER ELEVATIONS

Historical groundwater level changes in the Indio Subbasin, and conditions producing those changes, have been extensively described by the United States Geological Survey (USGS) and DWR, and are documented in the 2010 Coachella Valley Water Management Plan (CVWMP) Update, and 2014 and 2016 CVWMP Status Reports.

Figure 3-2 presents average groundwater elevation contours in the Indio Subbasin based on WY 2017-2018. The groundwater elevations represent groundwater conditions in the principal groundwater producing aquifer of the Indio Subbasin. Average groundwater levels for WY 2017-2018 are presented because the Indio Subbasin generally does not exhibit strong seasonal trends. Water levels near recharge areas respond directly to the timing of replenishment water deliveries and can vary from 10 feet (ft) to more than 200 ft within one year during periods of high replenishment. Water levels outside recharge areas of the Indio Subbasin typically experience annual variations of approximately 7 ft or less.

Groundwater generally flows from the northwest near the Whitewater River GRF toward the southeast at the Salton Sea. The groundwater gradient is typically steeper in the western portion of the Indio Subbasin, flattening to the southeast.

This color map has been designed to print size 11" by 17".



Time: 8:13:55 AM

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Water Level Data Not Available
- Replenishment Facilities
- Monitored Water Wells
- Monitored Water Wells with Hydrographs
- 20-Foot Contour
- Indio Subbasin
- Water Level Data Boundary
- Garnet Hill Fault Trace

Note:

Elevations Relative to Mean Sea Level

N

0 5 10 Miles

Date: 2/19/2019

TITLE: **Indio Subbasin Groundwater Elevation Contours - WY 2017-2018**

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

KRIEGER & STEWART Engineering Consultants

FIGURE **3-2**

H:\1022\4.5\INDIO_WSE_WY17-18_2019-02-19.mxd

3.3 HYDROGRAPHS

Figure 3-3 and **Figure 3-4** present hydrographs for a selection of eleven (11) representative wells separated by the western and eastern portions of the Indio Subbasin, to provide some context regarding the long-term changes in the water levels of the aquifer. The hydrographs are shown in larger format in **Appendix A**. These eleven (11) wells were selected on the basis of having been consistently monitored over a relatively long time period and on their location in different regions within the Indio Subbasin. The locations of the wells are shown on the map in **Figure 3-2**. The hydrographs indicate that water levels in the westerly portion of the Indio Subbasin have been very responsive to replenishment water deliveries at the Whitewater River GRF, water levels in the Palm Springs/Cathedral City area have remained relatively stable with moderate fluctuations in response to recharge events, and water levels in the Mid-Coachella Valley area near the City of Palm Desert generally stabilized around 2005. Water levels throughout the easterly portion of the Indio Subbasin have either increased or stabilized since commencement of replenishment activities at the Thomas E. Levy GRF (TEL GRF) and other elements of the CVWMP in 2009. The analysis of the water levels observed at the monitoring wells emphasizes the benefit and effectiveness of the replenishment program in improving groundwater storage conditions even during a drought; without replenishment, greater declines in water levels would have been observed during this period.

Figure 3-3. Representative Groundwater Elevation Hydrographs Western Indio Subbasin

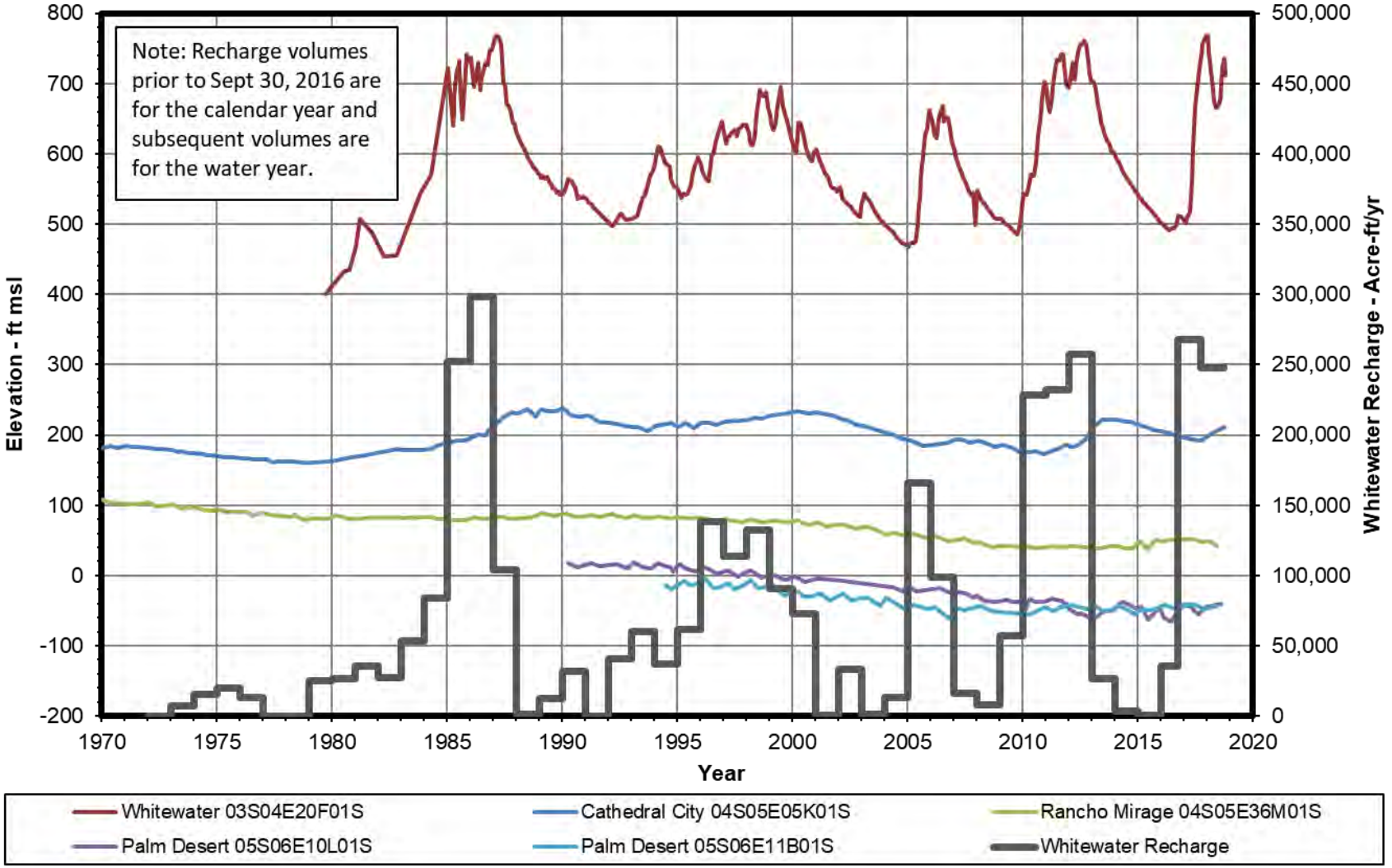
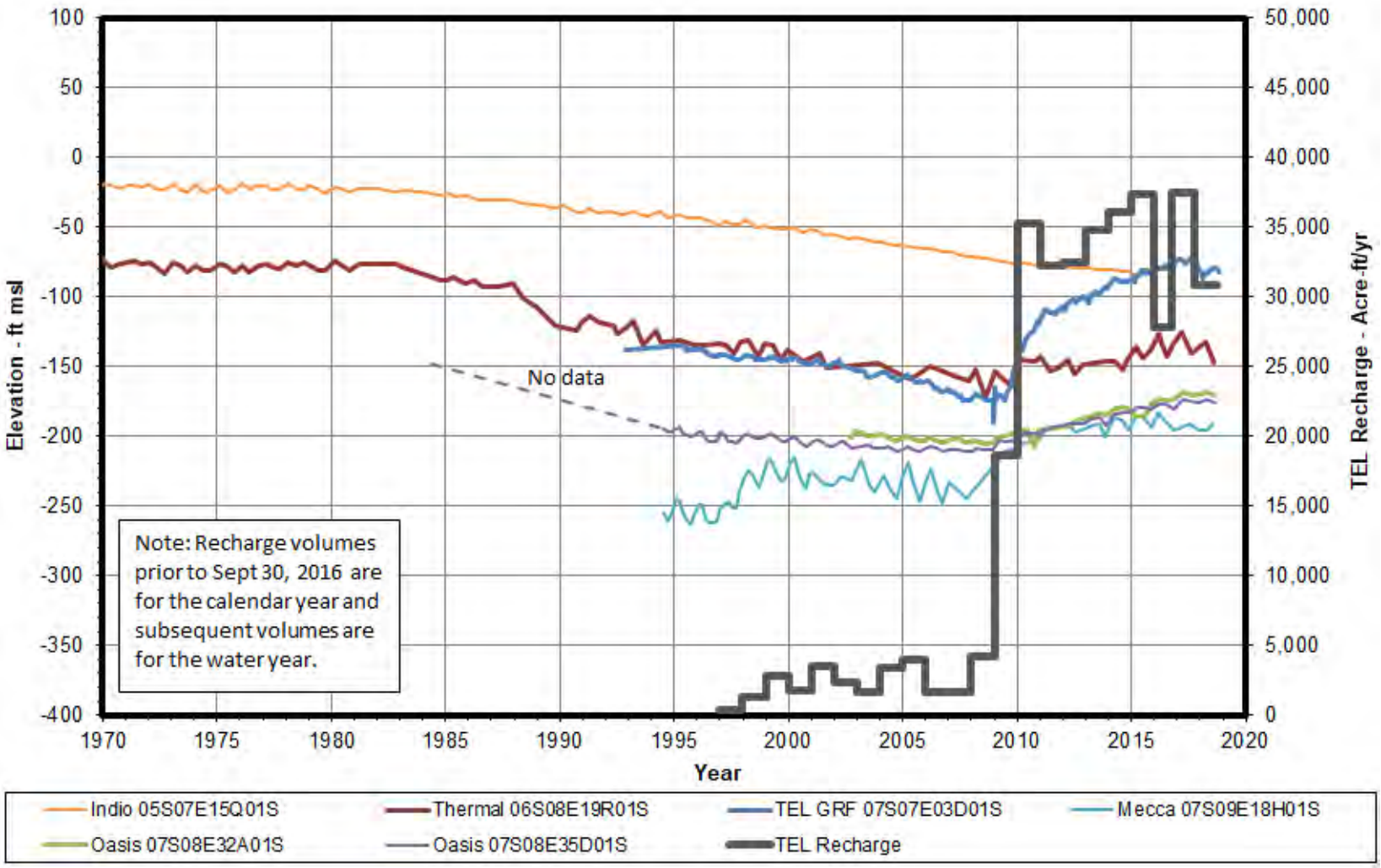


Figure 3-4. Representative Groundwater Elevation Hydrographs Eastern Indio Subbasin



3.4 ARTESIAN CONDITIONS

Historically, the eastern portion of the Indio Subbasin experienced confined aquifer artesian conditions with sufficient pressure to cause groundwater levels in wells to rise above the ground surface. Artesian flowing wells attracted early settlers to farm in this area. Artesian conditions declined in the late 1930s when increased groundwater pumping caused declining groundwater elevations. The completion of the Coachella Canal by the United States Bureau of Reclamation (USBR) in 1949 brought Colorado River water to the eastern Coachella Valley for agricultural irrigation purposes. Artesian conditions returned in the early 1960s through the 1980s as imported Colorado River water was substituted for groundwater production. Beginning in the late 1980s, groundwater uses again increased, resulting in declining water levels and a loss of artesian conditions.

The East Whitewater River Subbasin Groundwater Replenishment Program (GRP), combined with other water management elements, including source substitution and water conservation, are helping to control groundwater overdraft, restore water levels, and return artesian conditions within the eastern portion of the Indio Subbasin. This results in reduced groundwater pumping costs and water quality protection of the confined aquifer.

Figure 3-5 depicts the current annual average artesian conditions within the easterly Indio Subbasin; specifically, the water pressure equivalent elevation above ground surface during WY 2017-2018. The water level contours in **Figure 3-5** are derived from water levels in all the monitored wells in the deep aquifer of the Indio Subbasin that were used in the analysis, with only the above-ground water level contours shown. Contouring factors have been adjusted to increase local resolution of the artesian area.

Twelve (12) wells experienced artesian conditions as averaged over WY 2017-2018, although the pressure in one (08S09E07M01S) cannot be accurately measured. In **Figure 3-5**, the artesian wells are depicted as blue dots, the non-artesian wells are depicted as green dots (note that two pairs of wells occurring in the same location are depicted with a single dot). Due to the influence on the contours of water levels in nearby non-artesian wells, two of the artesian wells do not appear within the above-ground contours (07S07E02G02S and 08S09E07M01S).

Several wells changed with respect to artesian conditions since WY 2016-2017. Two wells that were non-artesian in WY 2016-2017 became artesian in WY 2017-2018 (08S09E07N03S and 08S09E07N04S), one well that was artesian in WY 2016-2017 (07S08E02L03S) lost its artesian character in WY 2017-2018, and one well that was artesian in WY 2016-2017 (07S09E17K01S) had no pressure readings in WY 2017-2018. The average water level of the wells experiencing artesian conditions during both WY 2016-2017 and WY 2017-2018 increased from WY 2016-2017 by approximately 0.1 ft.

This color map has been designed to print size 11" by 17".

07S07E02G02S

Thomas E. Levy
Groundwater
Replenishment Facility

07S09E26G03S

07S08E10P01S

07S09E08R01S

07S09E07J01S

07S09E18H01S

07S09E30R01S

07S09E30R02S

07S08E36B01S

Martinez Canyon
Pilot Recharge
Facility

08S09E07M01S

08S09E07N03S

08S09E07N04S

Time: 9:39:35 AM

Legend

- Replenishment Facilities
- Monitored Water Wells
- Artesian Wells
- 1-Foot Contour Above Ground Surface
- Indio Subbasin Boundary

Water Year 2017-2018 Artesian Conditions

Value

- 24 Feet
- 12 Feet
- 0 Feet

N

0 3 Miles

Date: 2/20/2019

TITLE: **WY 2017-2018 Average Artesian Conditions in the Indio Subbasin**

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

KRIEGER & STEWART Engineering Consultants

FIGURE **3-5**

H:\1022\4.5\EW_ARTESIAN_WY17-18.mxd

3.5 LAND SUBSIDENCE

Land subsidence in the Coachella Valley has been investigated since 1996 through an on-going cooperative program between CVWD and the USGS. Global Positioning System (GPS) surveying, using GNSS-Inferred Positioning System and Orbit Analysis Simulation Software (GIPSY-OASIS), and interferometric synthetic aperture radar (InSAR) methods have been used to determine the location, extent, and magnitude of the vertical land-surface changes in the Coachella Valley.

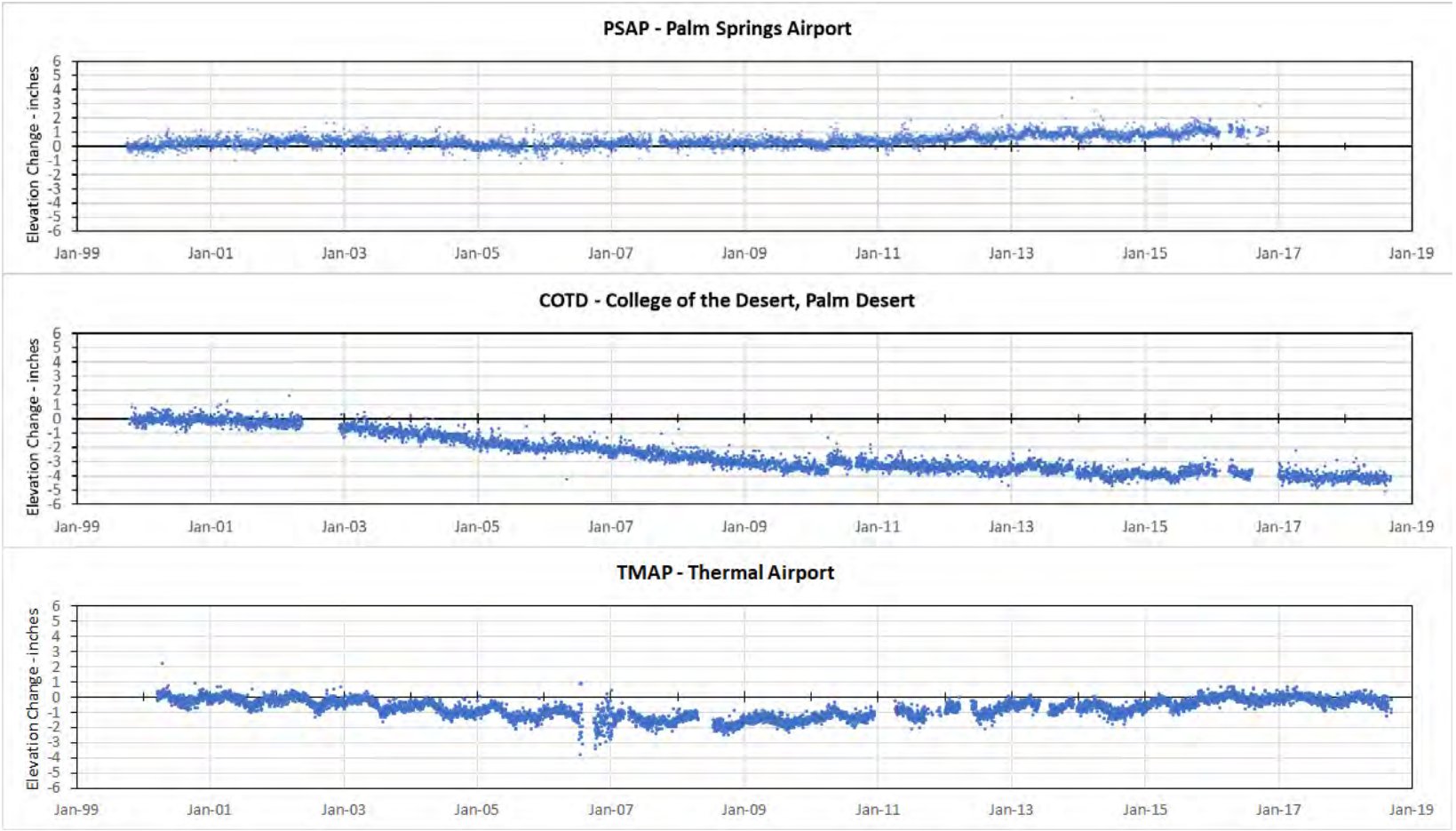
A report was published by the USGS in 2007, entitled *Detection and Measurement of Land Subsidence Using Global Positioning System Surveying and Interferometric Synthetic Aperture Radar, Coachella Valley, California 1996-2005* (Sneed and Brandt, 2007). The most recent phase of the investigation evaluated correlations between subsidence and recovery related to local geology and groundwater level changes during the period 1993 to 2010. The most recent in this series of reports was published by the USGS in 2014 (Sneed et al., 2014). This report indicated that some subsidence had occurred in the East Whitewater River Subbasin Management Area and portions of the West Whitewater River Subbasin Management Area (primarily within the Palm Desert area) during that time period. However, decreased rates of subsidence, or uplift, were observed in the La Quinta area in 2010. The uplift was attributed to the recovering water levels in the vicinity of the TEL GRF (Sneed et al., 2014).

CVWD and USGS initiated a four-year study in 2014 to analyze changes in land surface elevations in the Coachella Valley during the period 2010 to 2017. The report summarizing this data is in review and expected to be available in the first half of 2019.

Recent elevation data were collected through the cooperative program between CVWD and the USGS for three Indio Subbasin stations including Palm Springs Airport (PSAP), College of the Desert (COTD) in Palm Desert, and Jacqueline Cochran Regional Airport formerly known as Thermal Airport (TMAP). The PSAP, COTD, and TMAP monitoring station locations are shown on **Figure 2-1**. Land surface elevation change from a reference elevation, using GIPSY data for these stations from 1999 through 2018 (2016 for PSAP), are shown on **Figure 3-6**.

These GPS measurements indicate there has been about 1 inch of uplift in Palm Springs (PSAP) between 2000 and 2016, most of which occurred since 2011, possibly coinciding with periods of high recharge at the Whitewater River GRF. There has been about 4 inches of subsidence in Palm Desert (COTD) between 2001 and 2018, most of which occurred between 2001 and 2010. The rate of subsidence decreased between 2010 and 2015 possibly due to conversion of several golf courses to imported and recycled water supplied through the Mid-Valley Pipeline system. The elevation change in Palm Desert appears to have stabilized since about 2015. There was up to 2 inches of subsidence observed in Thermal from 2000 to 2009; however, the ground surface has since rebounded to the elevations observed in 2001. This rebound roughly coincides with commencement of recharge operations at the TEL GRF.

Figure 3-6. Coachella Valley Land Surface Elevation Changes



Note: See Figure 2-1 for subsidence monitoring locations.
Source: UCSD, S O P A C & C S R C Garner GPS Archive, 2019.

4.0 GROUNDWATER EXTRACTIONS

Section 356.2(b)(2) of the Sustainable Groundwater Management Act (SGMA) Emergency Regulations requires:

> *A detailed description and graphical representation of the following conditions of the basin managed in the Plan: …*
>
> *(2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.*

This section presents the groundwater extraction monitoring program results for the Indio Subbasin for Water Year (WY) 2017-2018. Because Coachella Valley Water District (CVWD) and Desert Water Agency (DWA) are authorized to collect replenishment assessment from groundwater producers, their respective legislations mandate the installation of water meters on all wells producing more than 25-acre feet per year (AFY) in CVWD's service area, and 10 AFY in DWA's service area. As a result, CVWD and DWA monitoring of groundwater extractions is the most comprehensive and accurate for the Indio Subbasin.

Total groundwater production was 288,308 acre-feet (AF) during WY 2017-2018 as shown in **Table 4-1**, an increase of over 8.3% compared to WY 2016-2017. Of this total amount, groundwater production of 284,508 AF was reported from 563 wells. Groundwater production of 3,800 AF was estimated for minimal pumpers (less than 25 AFY in CVWD and 10 AFY in DWA) and tribal use that do not report production to CVWD or DWA. Every water sector showed an increase in groundwater extraction during WY 2017-2018, with the greatest increase of 17,912 AF for additional urban sector groundwater production. As indicated in **Table 4-1,** some water use for industrial and urban purposes is not metered and is estimated for purposes of this report. In addition, the Groundwater Sustainability Agencies (GSAs) estimate there could be about 1,500 AFY of unreported pumping by minimal producers and tribal producers whose use is unknown.

Figure 4-1 presents a map showing the general location of production in the Indio Subbasin. This map summarizes production by public land survey section and classifies the production intensity by color. Dark blue areas correspond to groundwater production in excess of 5,001 AF per square mile. These areas are all located near urban areas of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, and Indio.

Table 4-1
WY 2017-2018 Groundwater Extractions by Water Use Sector in the Indio Subbasin

Water Use Sector	Groundwater Extractions (AF)	Method of Measurement	Accuracy of Measurement
Agriculture[1]	51,012	100% metered	±2%
Industrial[2]	1,522	27% metered 73% estimated	±2% ±50%
Urban[3]	234,274	99% metered 1% estimated	±2% ±50%
Environmental	0	Not applicable	--
Undetermined[4]	1,500	100% estimated	±50%
Total Production	**288,308**		

Notes:

1 Includes crop irrigation and fish farms.
2 Includes unreported groundwater production for industrial use on tribal land that is estimated to be 1,100 AFY.
3 Includes municipal and recreational uses. Total includes 1,211 AF of metered production to supply windbreaks along the railroad and unreported groundwater production for recreational use on tribal land estimated to be 1,200 AFY.
4 Estimated production by minimal pumpers and tribal use who do not report production to CVWD (<25 AFY) or DWA (<10 AFY).

This color map has been designed to print size 11" by 17".

\\us1300-f01\workgroup\1858\active\185865209\gis_MXDs\Indio_SB\Drafts_2019\ProductionByTRS_TblL.mxd

Little San Bernardino Mountains

Palm Springs

Cathedral City

Rancho Mirage

Palm Desert

Indian Wells

Indio

Coachella

La Quinta

Foster Lake

Lake Hemet

Hayfield Lake

Mecca Hills

Santa Rosa Mountains

Vail Lake

Salton Sea

RIVERSIDE COUNTY

SAN DIEGO COUNTY

IMPERIAL COUNTY

Clark Lake

Production per Square Mile in Acre-Feet *

- 1 - 100
- 101 - 500
- 501 - 1000
- 1,001 - 2,000
- 2,001 - 3,000
- 3,001 - 4,000
- 4,001 - 5,000
- > 5,001

* grid cells are approximately one square mile in area, based off the Public Land Survey System sections.

N

0 2 4 6 8 Miles

Date: 1/30/2019

TITLE: **Groundwater Production Data**

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

Stantec

FIGURE **4-1**

5.0 SURFACE WATER

Section 356.2(b)(3) of the Sustainable Groundwater Management Act (SGMA) Emergency Regulations requires:

> *A detailed description and graphical representation of the following conditions of the basin managed in the Plan: …*
>
> *(3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.*

This section presents the surface water availability and use for the Indio Subbasin for Water Year (WY) 2017-2018. For purposes of this report, surface water supplies consist of local surface water, imported water from the Colorado River via the Coachella Canal, State Water Project (SWP) Exchange Water from the Colorado River via the Colorado River Aqueduct (CRA), and recycled water produced by publicly-owned wastewater treatment plants.

5.1 COACHELLA VALLEY GROUNDWATER BASIN STREAM FLOW

Natural surface water flow in the Coachella Valley occurs as a result of precipitation, precipitation runoff, and stream flow originating from the San Bernardino and San Jacinto Mountains, with lesser amounts originating from the Santa Rosa Mountains. The majority of precipitation in the Coachella Valley occurs from December through February with annual averages ranging from 3 to 6 inches on the Coachella Valley floor to more than 30 inches in the surrounding mountains (DWR, 1964; NWS, 2019). Occasionally, intense precipitation events occur during the summer months from subtropical thunderstorms. The precipitation that occurs within the tributary watersheds either evaporates, is consumed by native vegetation, percolates into underlying alluvium and fractured rock, or becomes runoff, which can be captured by mountain-front debris basins and percolated into the aquifer. A portion of the flow percolating into the mountain watersheds eventually becomes subsurface inflow to the subbasins. The location of precipitation and streamflow stations in the Indio Subbasin are presented on the map in **Figure 2-1**.

5.1.1 Precipitation

Precipitation data for WY 2017-2018 was collected from the Riverside County Flood Control and Water Conservation District for twelve (12) precipitation monitoring stations (**Figure 2-1**) in the Coachella Valley as shown in **Table 5-1.** This table shows the average of the precipitation totals during the WY 2017-2018 for these stations was 2.89 inches with the majority of the precipitation occurring during the months of January, February, and March. Annual precipitation for WY 2017-2018 was approximately 60 percent of normal. The average precipitation was significantly less than the previous WY 2016-2017 which had an average precipitation of 9.81 inches for these stations. The remaining months of the year experienced little to no measurable amounts of precipitation with the exception of a July storm event.

Table 5-1
WY 2017-2018 Coachella Valley Precipitation Data
Monthly and Annual Recorded Precipitation (inches)

STATION NAME	WHITEWATER NORTH	SNOW CREEK	DESERT HOT SPRINGS	TACHEVAH DAM	TRAM VALLEY	CATHEDRAL CITY	THOUSAND PALMS	PALM SPRINGS SUNRISE	EDOM HILL	OASIS	MECCA LANDFILL III	THERMAL AIRPORT
SUBBASIN	**INDIO**	**INDIO**	**MC**	**INDIO**	**INDIO**	**INDIO**	**INDIO**	**INDIO**	**MC**	**INDIO**	**INDIO**	**INDIO**
STATION NUMBER	**233**	**207**	**57**	**216**	**224**	**34**	**222**	**442**	**436**	**431**	**432**	**443**
LATITUDE	33°59'23.06"	33°53'32.64"	33°58'2.85"	33°49'51.26"	33°50'11.56"	33°46'51.49"	33°49'1.66"	33°48'35.94"	33°53'7.52"	33°26'21.64"	33°34'20.19"	33°37'53.90"
LONGITUDE	116°39'21.39"	116°41'41.06"	116°29'39.93"	116°33'31.53"	116°36'49.72"	116°27'29.69"	116°23'46.30"	116°31'37.94"	116°26'18.48"	116° 4'44.83"	116° 0'15.33"	116° 9'50.81"
ELEVATION (FT ABOVE MSL)	2220	1658	1223	570	2675	283	230	397	1038	-108	13	-122
OCTOBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOVEMBER	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DECEMBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JANUARY	3.57	4.53	1.76	2.24	3.81	1.35	1.07	1.64	1.27	0.25	0.19	0.42
FEBRUARY	0.35	1.35	0.02	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARCH	1.25	3.37	0.25	0.22	1.98	0.15	0.14	0.35	0.15	0.00	0.01	0.00
APRIL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
MAY	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JULY	0.01	0.00	0.13	0.42	0.83	0.13	0.06	1.08	0.03	0.01	0.01	0.00
AUGUST	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.11
SEPTEMBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	**5.24**	**9.28**	**2.18**	**2.88**	**6.68**	**1.63**	**1.28**	**3.07**	**1.49**	**0.26**	**0.21**	**0.53**
AVERAGE	**2.89**											

5.1.2 Streamflow

The United States Geological Survey (USGS) measures streamflow at thirteen (13) locations in the Indio Subbasin. **Table 5-2** presents the total gauged runoff in acre-feet (AF) for WY 2017-2018 at each station. It should be noted that some streams, like the Whitewater River, are gauged at more than one location. A portion of the streamflow is diverted for agricultural and municipal use as described in Section 5.1.3 and the balance naturally replenishes the groundwater basin. USGS gauges 10257548 and 10257549 are downstream from where imported water is released to the Whitewater River from the Colorado River Aqueduct for aquifer recharge at the Whitewater River GRF. USGS gauge 10259540 measures the flow in the Coachella Valley Stormwater Channel before it enters the Salton Sea.

Table 5-2
WY 2017-2018 Local Streamflow Measurements for the Indio Subbasin

Gauge Number	Gauge Name	WY 2017-2018 Annual Flow (AF)
10256500	Snow C Nr Whitewater CA	1,800
10256501	Snow C And Div Combined CA	2,278
10256550	Snow C Div Nr Whitewater CA[1]	477
10257499	Falls C Div Nr Whitewater CA	14
10257500	Falls C Nr Whitewater CA[1]	66
10257501	Falls C and Div Combined CA	323
10257548	Whitewater R At Windy Point Main Channel CA	209,116
10257549	Whitewater R At Windy Point Overflow Channel CA	0
10257550	Whitewater R At Windy Pt Nr Whitewater CA	209,116
10257720	Chino Cyn C Bl Tramway Nr Palm Springs CA	7
10258000	Tahquitz C Nr Palm Springs CA	397
10258500	Palm Cyn C Nr Palm Springs CA	46
10258700	Murray Cyn C Nr Palm Springs CA	105
10259000	Andreas C Nr Palm Springs CA	787
10259050	Palm Cyn Wash Nr Cathedral City CA	16
10259100	Whitewater R At Rancho Mirage CA	41
10259200	Deep C Nr Palm Desert CA	0
10259300	Whitewater R At Indio CA	53
10259540	Whitewater R Nr Mecca	45,019

Notes:

1 USGS measurements for Snow Creek and Falls Creek diversions are calculated based on the difference in flow between gauges located upstream of the diversions and about ½ mile downstream of the diversions. DWA directly measures the diversion volumes shown in **Table 5-2.**

5.1.3 Direct Use of Local Surface Water

Desert Water Agency (DWA) operates stream diversions facilities on Snow, Falls, and Chino Creeks, and also captures subsurface flow from the Whitewater River Canyon. During WY 2017-2018, there was a total of 1,797 AF of local surface water put to direct use as shown in **Table 5-3**. Approximately 612 AF of surface water was estimated to be used for agricultural irrigation near Whitewater, California based on water rights filings for Calendar Year 2017; usage data submitted with water rights filings are not yet available for 2018. The remaining 1,185 AF was used for urban water supply in DWA's service area.

Table 5-3
WY 2017-2018 Direct Use of Local Surface Water in the Indio Subbasin

Water Use Sector	Surface Water Use (AF)	Method of Measurement	Accuracy of Measurement
Agriculture[1]	612	100% metered	±2%
Industrial	0	Not applicable	--
Urban[2]	1,185	100% metered	±2%
Environmental	0	Not applicable	--
Total Surface Water Use	**1,797**		

Notes:

Total diversions are measured by DWA at each source.

1 Estimated agricultural use is based on data reported to the State Water Resources Control Board for Calendar Year 2017; data for 2018 has not been submitted.
2 Includes municipal and recreational uses within the DWA service area.

5.2 IMPORTED WATER DELIVERIES

In addition to natural replenishment from precipitation and stream flow, the Indio Subbasin receives artificial replenishment from importation of surface water from the Colorado River, State Water Project (SWP) water that is exchanged for Colorado River water, and from recycled water.

CVWD and DWA provide artificial replenishment of the Coachella Valley Groundwater Basin through their Groundwater Replenishment Programs (GRPs). Groundwater replenishment is affected through two basic mechanisms: direct replenishment, in which imported surface water is percolated directly into the aquifer, and in-lieu replenishment, in which imported surface water or recycled water is provided for irrigation purposes, thus reducing or eliminating use of pumped groundwater. Supplies of imported water include the Colorado River and State Water Project (SWP) water that is exchanged for Colorado River water. More information on these imported water supplies is provided in the following sections.

5.2.1 Colorado River Water

Colorado River water has been a major source of supply for the Coachella Valley since 1949 with the completion of the Coachella Canal. California has an annual apportionment of 4.4 million acre-feet per year (AFY) of Colorado River water. California's apportionment is allocated by the 1931 Seven Party Agreement among Palo Verde Irrigation District (PVID), Imperial Irrigation District (IID), CVWD, and Metropolitan Water District of Southern California (MWD). The three remaining parties - the City and the County of San Diego and the City of Los Angeles - are now part of MWD.

The Coachella Canal is a branch of the All-American Canal that brings Colorado River water into the Imperial and Coachella Valleys. Historically, CVWD received approximately 330,000 AFY of Priority 3A Colorado River water delivered via the Coachella Canal. The Coachella Canal originates at Drop 1 on the

All-American Canal and extends approximately 122 miles, terminating in CVWD's Lake Cahuilla. The Coachella Valley's service area for Colorado River water delivery under CVWD's contract with the United States Bureau of Reclamation (USBR) for Colorado River water is defined as Improvement District No. 1 (ID-1), a 136,436-acre area which encompasses most of the eastern Coachella Valley and a portion of the western Coachella Valley north of Interstate 10.

In 2003, CVWD, IID and MWD completed negotiation of the Quantification Settlement Agreement (QSA), which quantifies the Colorado River water allocations of California's agricultural water contractors for the next 75 years and provides for the transfer of water between agencies. Under the QSA, CVWD has a base allotment of 330,000 AFY. In accordance with the QSA, CVWD has entered into water transfer agreements with MWD and IID that increase CVWD supplies by an additional 129,000 AFY.

Table 5-4 presents CVWD's Colorado River water supply for 2018 under the QSA. The QSA defines CVWD's Colorado River water supply allocation on a calendar year basis. CVWD's available Colorado River water supply in 2018 was 384,000 AF at Imperial Dam. This amount increased by 18,000 AF from 2017. Starting in 2019, CVWD's Colorado River water supply will increase annually in 5,000 AF increments through 2026, when the amount under the QSA will be 424,000 AF. The QSA also provided CVWD a transfer of SWP water from MWD in the amount of 35,000 AFY that may be delivered at either Imperial Dam or Whitewater River and is not subject to SWP or Colorado River reliability. CVWD currently arranges for delivery of this water at the Whitewater River GRF.

During WY 2017-2018, CVWD took delivery of 341,567 AF of Colorado River water at Imperial Dam (less measured returns to the river) and delivered 325,695 AF for uses from the Coachella Canal distribution system. The difference between diversions and deliveries (15,872 AF) is conveyance loss along the All-American and Coachella Canals from Imperial Dam and regulatory water releases from the distribution system. Approximately 80 percent of the delivered Colorado River water was for agricultural use, about 11 percent was delivered for urban uses, and about 9 percent for groundwater replenishment.

Table 5-4
CVWD Colorado River Water Supply under the QSA

Budget Component	2018 Amount (AF)[1]
Base Entitlement	330,000
Less Coachella Canal Lining (to SDCWA)	-26,000
Less Miscellaneous/Indian PPRs[2]	-3,000
1988 MWD/IID Approval Agreement	20,000
First IID/CVWD Transfer	50,000
Second IID/CVWD Transfer	13,000
MWD/CVWD Replacement Water[3]	0
Total Diversion at Imperial Dam	**384,000**

Notes:
1 The QSA defines CVWD's Colorado River water supply allocation on a calendar year basis.
2 Indian Present Perfected Rights
3 MWD assumes the obligation to provide 50,000 AFY of replacement water after 2048.

5.2.2 State Water Project Water

CVWD and DWA have contracts with the California Department of Water Resources (DWR) for State Water Project (SWP) water with a combined Table A Amount of 194,100 AFY as shown in **Table 5-5**. There are no physical facilities to deliver SWP water to the Coachella Valley. CVWD's and DWA's Table A water is exchanged with MWD for a like amount of Colorado River water from MWD's Colorado River Aqueduct (CRA), that extends from Lake Havasu, through the Coachella Valley to MWD's Lake Mathews. SWP Exchange water has been used to recharge the Indio Subbasin at the Whitewater River GRF since 1973. MWD, DWA and CVWD executed an advanced delivery agreement in 1985 that allowed MWD to pre-deliver up to 600,000 AF of SWP water into the Coachella Valley. MWD then has the option to deliver CVWD's and DWA's SWP allocation either from the CRA or from water previously stored in the basin. This agreement was subsequently amended to increase the pre-delivery amount to a maximum of 800,000 AF.

Table 5-5
State Water Project Table A Amounts

Agency	Original SWP Table A	Tulare Lake Basin Transfer #1	Tulare Lake Basin Transfer #2	Metropolitan Transfer	Berrenda Mesa Transfer	Total
CVWD	23,100	9,900	5,250	88,100	12,000	138,350
DWA	38,100	--	1,750	11,900	4,000	55,750
Total	61,200	9,900	7,000	100,000	16,000	194,100

Note: All values expressed in AFY.

Each year, DWR determines the amount of water available for delivery to SWP contractors based on hydrology, reservoir storage, the requirements of water rights licenses and permits, water quality, and environmental requirements for protected species in the Sacramento-San Joaquin Delta. The available supply is then allocated according to each SWP contractor's Table A amount. During calendar year 2017, DWR allocated 85 percent of the Table A amounts to contractors in response to the high snowpack during the winter of WY 2016-2017. DWR allocated 35 percent of CVWD's and DWA's Table A amounts in calendar year 2018.

For the WY 2017-2018, CVWD's and DWA's SWP allocation was delivered to MWD in accordance with the SWP Exchange Agreement. As shown in **Table 5-6**, MWD received on behalf of CVWD and DWA, 58,097 AF of SWP Table A water, 97,050 AF of SWP Article 56 carryover water from calendar year 2017, 0 AF of SWP Turnback Pool water, 1,246 AF of Dry Year (Yuba) water, 0 AF of Flexible Storage Payback water, and 20,576 AF of Rosedale-Rio Bravo water transfers on behalf of CVWD. In addition, MWD received 35,000 AF of SWP water transferred to CVWD under the QSA. The total deliveries received on behalf of CVWD and DWA by MWD in WY 2017-2018 was 211,969 AF.

Due to the nature of the Advanced Delivery agreement with MWD, CVWD and DWA may either receive direct deliveries of SWP Exchange water or water delivered from the Advanced Delivery storage account. As shown in **Table 5-6,** CVWD and DWA took delivery of 247,812 AF of SWP Exchange water at the Whitewater River GRF and 7,895 AF was delivered to the Mission Creek GRF (in the Mission Creek Subbasin), for a total delivery to the Coachella Valley of 255,707 AF. Of this amount, 43,738 AF was credited to the Advanced Delivery Account. As of the end of WY 2017-2018, there were 302,959 AF stored in MWD's advanced delivery account in the Coachella Valley. This represents over two years of SWP Exchange deliveries at the current average reliability of 62 percent of CVWD's and DWA's combined Table A Amounts. The 2017 SWP Delivery Capability Report (DWR, 2018) estimates the long-term average deliverability at 62 percent of maximum Table A amounts.

Table 5-6
Deliveries of CVWD and DWA State Water Project Water to Metropolitan Water District in WY 2017-2018

Description	CVWD (AF)	DWA (AF)	Total (AF)
Table A	41,411	16,686	58,097
Article 21 "Interruptible"	0	0	0
Turnback Pool A and B	0	0	0
Multi-Year Pool	0	0	0
Dry Year (Yuba)	888	358	1,246
Flex Storage Payback	0	0	0
Article 56 (c) "Carryover" from 2017 delivered in 2018	69,175	27,875	97,050
Rosedale-Rio Bravo	20,576	0	20,576
CVWD QSA Transfer[1]	35,000	0	35,000
Total Delivered to MWD	167,050	44,919	211,969
Water Deliveries to Coachella Valley			
Water Delivered to CVWD and DWA at Whitewater GRF	--	--	247,812
Water Delivered to CVWD and DWA at Mission Creek GRF	--	--	7,895
Total Water Delivered to Coachella Valley			255,707
Credit to/from Advanced Delivery Account[2]			+ 43,738
Advanced Delivery Account Balance as of September 30, 2018			+ 302,959

Notes:

1 The 35,000 AFY of SWP water available through the QSA may be delivered at either Imperial Dam or Whitewater River and is not subject to SWP or Colorado River reliability.

2 Credit to/from Advanced Delivery Account is the difference between Total Water Delivered to MWD and Total Water Delivered to Coachella Valley.

5.2.3 Total Imported Deliveries

Table 5-7 summarizes the imported water deliveries to the Indio Subbasin by water use sector and source during WY 2017-2018. Total imported water deliveries were 573,507 AF. During Water Year 2017-2018, 2,517 AF of the Coachella Canal water supply was used outside the Indio Subbasin (1,655 AF was for agriculture and 862 AF was for urban use), for a total of 570,990 AF of imported water delivered to the Indio Subbasin.

Table 5-7
WY 2017-2018 Imported Water Deliveries to the Indio Subbasin

Water Use Sector	Water Source	Imported Water Use (AF)	Method of Measurement	Accuracy of Measurement
Agriculture[1]	Coachella Canal	259,890	100% metered	±2%
Industrial	Coachella Canal	0	100% metered	±2%
Urban[2]	Coachella Canal	34,963	100% metered	±2%
Environmental[3]	Coachella Canal	0	Not applicable	--
Total Imported Water for Direct Use		**294,853**		
Aquifer Recharge	Coachella Canal	30,842	100% metered	±2%
Aquifer Recharge	SWP Exchange	247,812	100% metered	±2%
Total Imported Water for Aquifer Recharge		**278,654**		
Total Imported Water Delivered		**573,507**		
Exported for use outside Indio Subbasin[4]		**-2,517**		
Net Imported Water delivered to Indio Subbasin		**570,990**		

Notes:

1 Includes crop irrigation and fish farms.
2 Includes municipal and recreational uses.
3 A small amount of Coachella Canal water is used for wildlife habitat enhancement and mitigation in the East Salton Sea groundwater basin.
4 This water was delivered to users located outside the Indio Subbasin boundary.

5.3 RECYCLED WATER

There are three Water Reclamation Plants (WRPs) that produce recycled water for reuse in the Indio Subbasin, as shown in **Table 5-8**. CVWD operates two WRPs in the Indio Subbasin that produce recycled water for reuse. Recycled water from two facilities (WRP-7 and WRP-10) is used for golf course and greenbelt irrigation, thereby reducing groundwater demand in the Indio Subbasin. DWA operates one WRP in the City of Palm Springs, delivering recycled water for golf course and park irrigation.

Table 5-8 summarizes recycled water use during WY 2017-2018 for the Indio Subbasin. All 14,188 AF of the recycled water was used for urban uses; primarily golf, park, and median irrigation with a small amount used for on-site WRP use.

Table 5-8
WY 2017-2018 Recycled Water Use in the Indio Subbasin

Water Use Sector	Water Source	Recycled Water Use (AF)	Method of Measurement	Accuracy of Measurement
Urban[1]	DWA WRP	4,663	100% metered	±2%
Urban[1]	CVWD WRP-7	1,891	100% metered	±2%
Urban[1]	CVWD WRP-10	7,634	100% metered	±2%
Total Recycled Water Use		**14,188**		

Note:

1 Includes municipal, recreational, and reclamation plant (including on-site) water uses.

In addition to direct recycled water use, a portion of the municipal wastewater generated in the Indio Subbasin is discharged through percolation/evaporation ponds or is discharged to the Coachella Valley Stormwater Channel (CVSC). In WY 2017-2018, a total of 41,442 AF of wastewater was treated of which 14,188 AF was used for recycled water and on-site WRP use, 6,078 AF was discharged through percolation/evaporation ponds, and 21,176 AF was discharged to the CVSC as shown in **Table 5-9**. Of the 21,176 AF of treated wastewater discharged to the CVSC, 6,525 AF was contributed by Valley Sanitary District, 2,956 AF by City of Coachella, 5,527 AF by CVWD, and 6,168 by Kent Sea Tech.

Table 5-9
WY 2017-2018 Wastewater Treatment, Reuse, and Disposal in the Indio Subbasin

Plant	Wastewater Treated (AF)	Recycled Water Use[1] (AF)	On-site WRP Use[2] (AF)	Disposal Percolation/ Evaporation (AF)	Disposal to CVSC[3] (AF)
Palm Springs WWTP	6,949	4,663	0	2,286	N/A
CVWD WRP-7	3,267	1,783	108	1,376	N/A
CVWD WRP-10	10,038	7,329	305	2,404	N/A
Valley SD WRP	6,525	0	0	0	6,525
City of Coachella WRP	2,956	0	0	0	2,956
CVWD WRP-4	5,527	0	0	0	5,527
Kent SeaTech	6,168	0	0	0	6,168
CVWD WRP-2	12	0	0	12	0
Total	**41,442**	**13,775**	**413**	**6,078**	**21,176**

Notes:

N/A – Not Applicable

1 Recycled water sold to customers.
2 Recycled water used for WRP on-site water uses.
3 CVSC – Coachella Valley Stormwater Channel

6.0 TOTAL WATER USE

Section 356.2(b)(4) of the Sustainable Groundwater Management Act (SGMA) Emergency Regulations requires:

> *A detailed description and graphical representation of the following conditions of the basin managed in the Plan: …*
>
> *(4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.*

This section presents the total water use for the Indio Subbasin for Water Year (WY) 2017-2018.

Table 6-1 presents a summary of water use by source and type. The information presented in this table is derived from the tables in Sections 4 and 5 of this Annual Report. This table lists the method of measurement and the estimated accuracy of the measurements.

A portion of the water produced from or delivered to the Indio Subbasin is exported for use outside the Indio Subbasin. **Table 6-1** shows a total of 4,807 acre-feet (AF) of water exported from the Indio Subbasin. Some of this water (2,517 AF) is Coachella Canal water delivered to agricultural and urban users overlying the adjacent Desert Hot Springs Subbasin that are located within the Coachella Valley Water District (CVWD) Improvement District No. 1 (ID-1) service area. The remainder (2,290 AF) is groundwater pumped from the Indio Subbasin and delivered to CVWD customers in Imperial and Riverside Counties on the east and west sides of the Salton Sea (East and West Salton Sea Basins), or pumped by Mission Springs Water District (MSWD) and delivered to its customers in the Mission Creek and Desert Hot Springs Subbasins.

As shown in **Table 6-1**, a total of 594,339 AF of water was delivered for direct use within the Indio Subbasin. **Figure 6-1** shows a comparison of supply and demand for direct use within the Indio Subbasin for WY 2017-2018. These data exclude water exported for use outside of the basin.

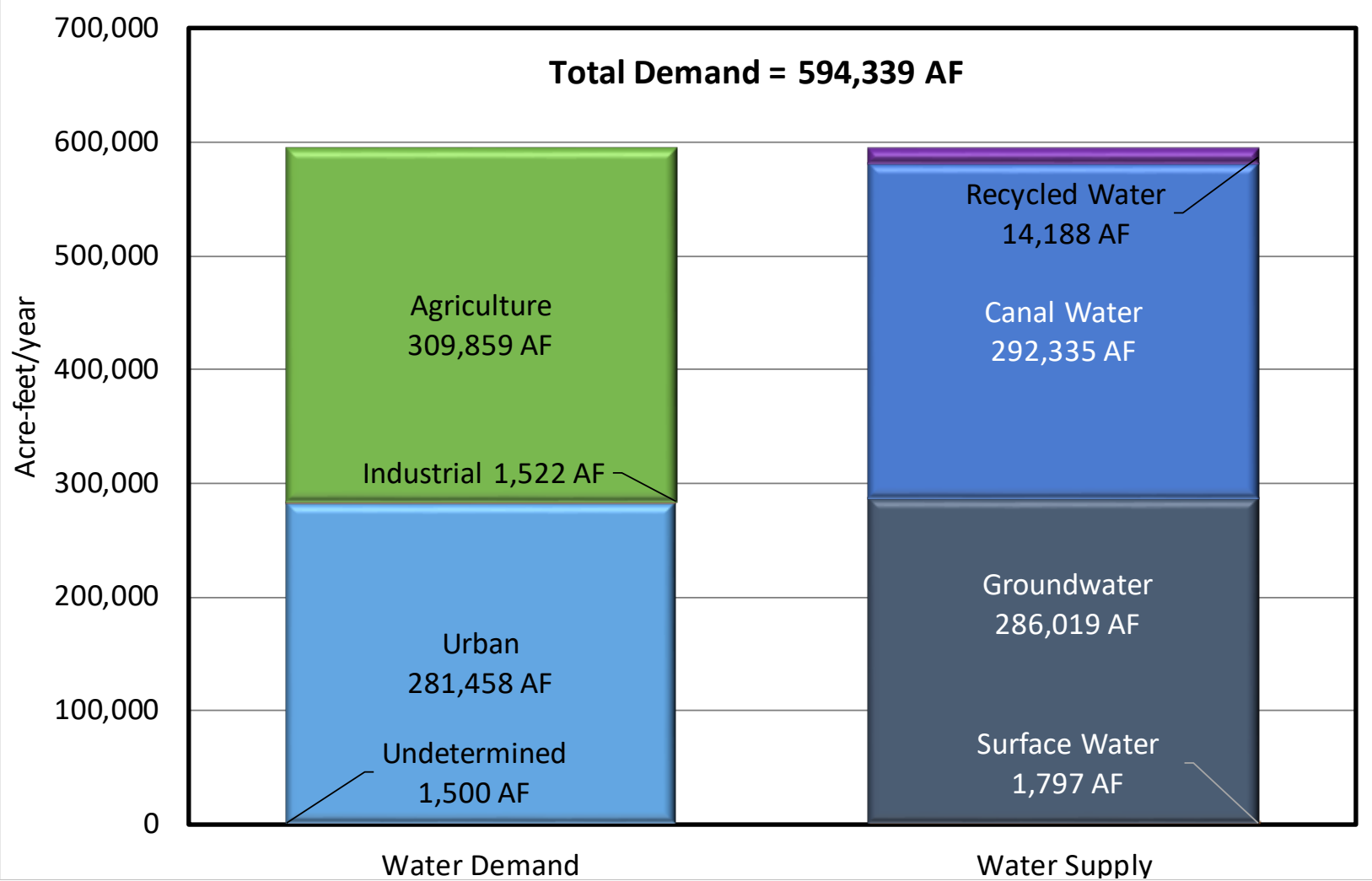
Table 6-1
WY 2017-2018 Total Water Use by Sector and Source in the Indio Subbasin

Water Use Sector	Water Source (AF)							Method of Measurement	Accuracy of Measurement
	Groundwater Production	Local Surface Water	Coachella Canal Water[4]	SWP Exchange Water	Recycled Water	Exported for Use Outside Basin[5]	Total Water Use Within Basin		
Agriculture[1]	51,012	612	259,890	0	0	-1,655	**309,859**	100% metered	±2%
Industrial	1,522	0	0	0	0	0	**1,522**	27% metered 73% estimated	±2% ±50%
Urban[2]	234,274	1,185	34,963	0	14,188	-3,152	**281,458**	99% metered 1% estimated	±2% ±50%
Environmental	0	0	0	0	0	0	**0**	Not applicable	--
Undetermined[3]	1,500	0	0	0	0	0	**1,500**	100% estimated	±50%
Total Direct Use	**288,308**	**1,797**	**294,853**	**0**	**14,188**	**-4,807**	**594,339**		

Notes:

1 Includes crop irrigation and fish farms. Some agricultural use is located in the Desert Hot Springs Subbasin and is served with Coachella Canal water.
2 Includes municipal and recreational uses. Some groundwater and Coachella Canal water is delivered to users in the Mission Creek, Desert Hot Springs, West Salton Sea and East Salton Sea groundwater basins.
3 Estimated production by small pumpers and tribal uses who do not report production to CVWD (<25 AFY) or DWA (<10 AFY).
4 Coachella Canal water use shown excludes regulatory water and conveyance losses.
5 Exported water is groundwater or Coachella Canal water that is delivered for use outside the Indio Subbasin.

Figure 6-1. Comparison of Supply and Demand for Direct Use for the Indio Subbasin – Water Year 2017-2018



Note: These data exclude water exported for use outside of the basin.

7.0 CHANGE IN GROUNDWATER STORAGE

Section 356.2(b)(4) of the Sustainable Groundwater Management Act (SGMA) Emergency Regulations requires:

> *A detailed description and graphical representation of the following conditions of the basin managed in the Plan: …*
>
> *(5) Change in groundwater in storage shall include the following:*
>
> *(A) Change in groundwater in storage maps for each principal aquifer in the basin.*
>
> *(B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.*

This section presents the groundwater balance and change in storage for the Indio Subbasin for Water Year (WY) 2017-2018.

7.1 GROUNDWATER BALANCE

A groundwater budget is helpful in assessing the condition of the Indio Subbasin. The groundwater budget compares the inflows and outflows to the Indio Subbasin. The difference between inflows and outflows at a given time defines the change in storage for that time period. The annual water balance for the Indio Subbasin during WY 2017-2018 is an increase of 151,659 acre-feet (AF). The sections that follow provide a discussion of the groundwater inflows and outflows in the Indio Subbasin.

7.1.1 Groundwater Inflows

Indio Subbasin groundwater inflows consist of:

- Infiltration of natural recharge and inflows,
- Infiltration of return flows from urban and agricultural uses,
- Artificial recharge, and
- Salton Sea intrusion.

7.1.1.1 Natural Recharge

Precipitation in the bordering San Jacinto and Santa Rosa Mountains produces surface runoff and subsurface inflow that are the chief natural sources of recharge to the Indio Subbasin. Additional recharge may be derived from precipitation in the Little San Bernardino Mountains in extremely wet years. The volume of natural recharge varies dramatically annually due to wide variations in precipitation. Perennial

flow is limited to only a few streams. The long-term average historical natural recharge to the Indio Subbasin (based on 1936-2009) is approximately 46,000 acre-feet per year (AFY), ranging from 204,000 AFY in very wet years to 8,400 AFY in dry years. The natural inflow estimates are based on the Coachella Valley Groundwater Flow Model data (prepared by Stantec and others), which was utilized for the 2010 Coachella Valley Water Management Plan (CVWMP) Update, and 2014 and 2016 CVWMP Status Reports.

7.1.1.2 Inflows from Outside the Indio Subbasin

Inflows from outside the Indio Subbasin consist of underflow from the San Gorgonio Pass area and flows across the Banning fault. Historically, these inflows are estimated to range from 7,000 AFY to 13,000 AFY. The 2010 CVWMP Update estimated inflow was approximately 11,405 AFY, the long-term average as shown in **Table 7-1**. This is a relatively small component of the water balance (less than 3 percent) and does not change significantly with time. In addition, subsurface inflow and outflow takes place near the Salton Sea. Groundwater modeling estimated the net subsurface inflow from the Salton Sea to be 1,102 acre-feet (AF) for WY 2017-2018.

Table 7-1
Indio Subbasin Estimated Average Subsurface Inflows

Subbasin Boundary Transfer	Estimated Average Annual Underflow (AF)
San Gorgonio Pass Subbasin to the Indio Subbasin	6,135 [1]
Mission Creek Subbasin to the Indio Subbasin	5,100 [2]
Desert Hot Springs Subbasin (Fargo Canyon) to the Indio Subbasin	170 [1]
Total Subsurface Inflow to Indio Subbasin	**11,405**
Salton Sea to the Indio Subbasin	1,736 [3]
Indio Subbasin to the Salton Sea	- 634 [3]
Net Subsurface Inflow - Indio Subbasin from the Salton Sea	**1,102**

Notes:
1 Estimated from groundwater modeling. Fogg, et al. 2000
2 Estimated from groundwater modeling. MWH 2013, Psomas 2013
3 Estimated inflow and outflow to Semi-perched Aquifer from groundwater modeling. MWH 2011

7.1.1.3 Return Flows from Use

Return flow is the difference between the amount of water applied for irrigation (agricultural, golf course, or urban) and the amount consumed by soil evaporation or plants to satisfy their evapotranspiration (ET) requirement. Water is also returned to the Indio Subbasin through percolation of treated wastewater and septic tank flow. A relatively rigorous calculation of irrigation return flows was utilized that considers types of water use, irrigation efficiency, and water conservation impacts. The methodology is presented in Appendix B of CVWD's Engineer's Reports on Water Supply and Replenishment Assessment for 2017-2018 and for 2018-2019 (CVWD, 2017; CVWD, 2018). Irrigation return flows are estimated to be 151,721 AF for WY 2017-2018 in the Indio Subbasin.

Much of the urban portions of the Indio Subbasin is served by municipal sewer systems that convey wastewater to municipal treatment plants. A portion of the treated wastewater that is not reused is disposed to percolation/evaporation ponds as described in Section 5. Wastewater discharge to percolation/evaporation ponds was 6,078 AF for WY 2017-2018. Rural portions of the Indio Subbasin and a few urban areas that do not currently have access to the sewer system use septic tank/leachfield systems to treat and dispose wastewater. It is estimated that about 3,536 AFY of septic effluent is discharged to the Indio Subbasin. It is recommended that the GSAs conduct an investigation to document the number of septic systems in the Indio Subbasin to refine this estimate.

Both return flows and wastewater percolation are affected by water use efficiency and overall demands. As conservation efforts increase, the amount of return flow decreases, reducing a source of inflow to the Indio Subbasin. Agricultural return flows have generally decreased over the past 20 years due to a combination of increased irrigation efficiency (including conversion to drip irrigation) and conversion of agricultural lands to urban land uses.

7.1.1.4 Artificial Recharge

Artificial recharge consists of recharge in the western portion of the Indio Subbasin at the Whitewater River GRF using State Water Project (SWP) Exchange water [exchanged for Colorado River Aqueduct (CRA) water] and in the eastern portion of the Indio Subbasin at the Thomas E. Levy Groundwater Replenishment Facility (TEL GRF), formerly the Dike 4 Recharge Facility, which began operation in 2009 using Colorado River water (Coachella Canal water).

Recharge at the Whitewater GRF has been variable based on availability of SWP Exchange water and deliveries by the Metropolitan Water District of Southern California (MWD). During WY 2017-2018, a total of 247,812 AF of imported water was recharged at the Whitewater River GRF (**Table 5-6**).

Recharge at the TEL GRF was 30,842 AF in WY 2017-2018 (**Table 5-7**). For groundwater balance purposes, a two percent evaporation loss is applied to all replenishment water deliveries as an outflow.

7.1.1.5 Salton Sea Intrusion

Intrusion of saline water from the Salton Sea into the shallow aquifers is possible if groundwater elevations are lower than the level of the Salton Sea. Although no direct evidence of intrusion has been observed, monitoring wells near the Salton Sea show elevated salinity at depth, which may be the result of ancient saline water left by previous saline lakes in the Salton Sink. Groundwater modeling performed by the Coachella Valley Water District (CVWD) for the 2010 CVWMP Update estimated that 1,651 AFY of saline water intrusion may be occurring in the semi-perched aquifer. While this inflow may not directly impact the deeper groundwater supplies, it does provide a potential source of local water quality degradation. Declining Salton Sea levels and increasing groundwater levels could reduce subsurface inflow in the future.

7.1.2 Groundwater Outflows

Indio Subbasin groundwater outflows consist of:

- Groundwater pumping to meet Coachella Valley demands,
- Flow from the semi-perched aquifer through the agricultural drains into the Salton Sea,
- Evapotranspiration from the semi-perched aquifer, and
- Subsurface flow out of the Indio Subbasin, into the aquifers beneath the Salton Sea.

7.1.2.1 Groundwater Pumping

Groundwater pumping refers to the amount of groundwater pumped for agricultural, urban, industrial, and environmental uses. Groundwater pumping is the largest component of outflow from the Indio Subbasin. During WY 2017-2018, there was 288,308 AF of groundwater pumped for beneficial uses within the Indio Subbasin or exported for use in adjacent basins as shown in **Table 4-1**.

7.1.2.2 Flow to Drains

Semi-perched groundwater conditions in many parts of the eastern portion of the Indio Subbasin impede the downward migration of return flows from water applied at the surface. This condition causes saturated soils and the accumulation of salts in the root zone, reducing agricultural productivity. Twenty-six surface (open) drains were constructed in the 1930s to alleviate this condition. The Coachella Valley Stormwater Channel (CVSC) also receives intercepted shallow groundwater from agricultural fields. With the delivery of Coachella Canal water to the Coachella Valley in 1949, subsurface (tile) drainage systems were first installed in 1950 to control the high water table conditions and to intercept poor quality shallow groundwater. CVWD currently maintains 21 miles of open drains and 166 miles of subsurface pipe drains serving 37,425 acres of agricultural lands in the Coachella Valley (CVWD, 2018).

Maintaining the water table at the level of the drains acts as a barrier to the percolation of poor-quality return flows into the deeper potable aquifers. Flow in the drains increased steadily as additional tile drains were installed, until the early 1970s. Agricultural drainage flow remained relatively stable through the 1970s and steadily declined through 2009. Drain flow (excluding wastewater discharges and fish farm effluent) has decreased steadily from a high of approximately 158,000 AF in 1976, to 58,800 AF in 1999, and about 40,000 AF in 2009. Since 2009, drain flows have increased due to improved groundwater conditions in the eastern portion of the Indio Subbasin.

CVWD monitors flows in the drainage system entering the Salton Sea on a monthly basis. In addition, the United States Geological Survey (USGS) maintains a continuous flow gauge in the CVSC at Lincoln Street (Gauge No. 10256540). The total flow to the Salton Sea in WY 2017-2018 was 74,750 AF as shown in **Table 7-2**. Of this total amount, Coachella Canal water that exceeds requested deliveries downstream of Lake Cahuilla (regulatory water), treated wastewater, and fish farm effluent are discharged to the CVSC and the drain system. These flows must be deducted from the total flow to calculate the amount of groundwater leaving the Indio Subbasin through the drain system. In WY 2017-2018, 47,866 AF of drain water flowed from the shallow groundwater system to the Salton Sea as shown in **Table 7-3**.

Table 7-2
WY 2017-2018 Measured Drain Flows from the Indio Subbasin to the Salton Sea

Drain	Measured Drain Flows (AF)[1]
F Channel	0
E Channel	1,092
Oasis-Grant	473
D Channel	1,066
C Channel	654
Ave 83	309
Ave 79	1,747
Lincoln-Oasis	4,244
A Channel	1,119
Ave 76	1,788
Ave 74	292
Coachella Valley Stormwater Channel[2]	45,019
Johnson St.	3,100
Grant St.	2,377
Grant 0.5	1,079
Hayes	2,064
Hayes 0.5	212
Garfield St.	1,796
Garfield 0.5	507
Arthur St.	1,595
Arthur 0.5	838
Cleveland East	383
Cleveland West	378
Caleb Channel	726
Cleveland 0.5	650
McKinley	684
Avenue 78[3]	558
Total Drain Flows	**74,750**

Notes:

1 Drain flows are measured once per month using current meter and cross-sectional areas. If conditions are unsafe for metering, flows are estimated based on the average for the three previous years. Total shown reflects rounding.

2 Coachella Valley Stormwater Channel flow is measured by USGS Gauge 10259540 – Whitewater River near Mecca.

3 Flow records were recently obtained for the Avenue 78 Drain.

Table 7-3
WY 2017-2018 Net Drain Flow from the Indio Subbasin to the Salton Sea

Component	Net Drain Flow (AF)
Total Drain Flow	74,750
Storm Flow[1]	-187
Regulatory Water[2]	-5,521
Valley Sanitary District	-6,525
Coachella Water Authority	-2,956
Water Reclamation Plant No. 4	-5,527
Kent Seatech	-6,168
Net Drain Flow to Salton Sea	**47,866**

Notes:

1 Storm flow is the volume of Coachella Valley Stormwater Channel flow attributed to storm events and is calculated using a base flow separation methodology.
2 Regulatory water is Coachella Canal water discharged to the drain system from the irrigation distribution system because it cannot be delivered to users, for example due to water order changes.

7.1.2.3 Subsurface Flow to the Salton Sea

Historically, when groundwater levels were relatively high, groundwater naturally flowed toward the Salton Sea. Shallow semi-perched groundwater discharged into the Salton Sea and deeper groundwater left the Indio Subbasin as subsurface outflow. As groundwater levels in the Indio Subbasin declined, the rate of outflow decreased. Groundwater modeling studies performed for the 2010 CVWMP Update indicate that both inflow and outflow from under the Salton Sea has occurred in recent years; 640 AFY of groundwater is estimated to flow under the Salton Sea for Water Year 2017-2018. Declining Salton Sea levels in the future could increase subsurface outflow.

7.1.2.4 Evapotranspiration

Native vegetation on undeveloped lands receives its water supply from precipitation and shallow groundwater. In the area underlain by the semi-perched aquifer, evapotranspiration (ET) was a significant water loss component in the eastern Coachella Valley. As lands were developed for agricultural uses, the amount of ET from native vegetation declined. The installation of drains in the 1950s and 1960s further reduced ET as the water table was lowered. Further ET reductions occurred in the 1980s and 1990s as increased pumping reduced groundwater levels. The ET component was estimated using groundwater modeling results from the 2010 CVWMP Update to be 4,769 AFY, a relatively small outflow (less than 1 percent) of the total outflow. In addition, a portion of the imported water used for recharge and wastewater disposal is lost to evaporation. This is estimated to be about 5,756 AF for WY 2017-2018.

7.1.3 Annual Change in Groundwater Storage

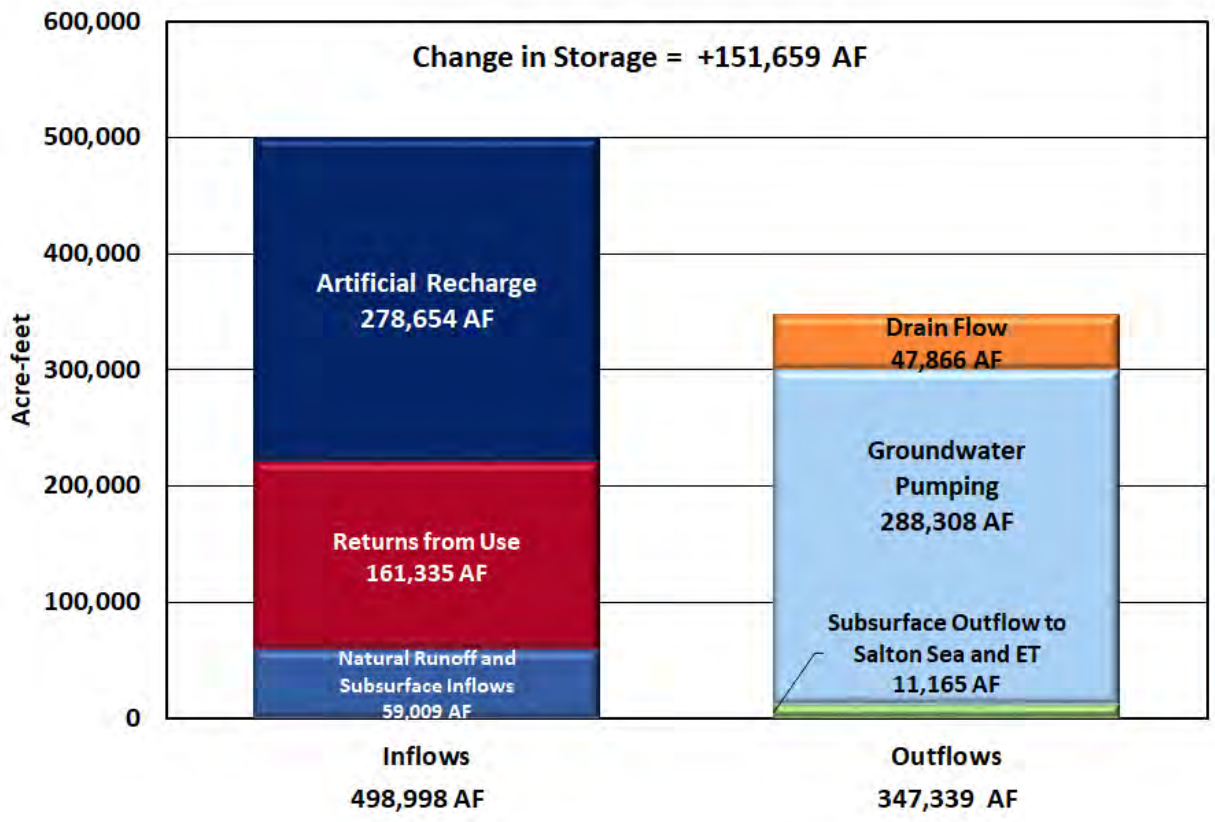
The annual change in groundwater storage represents the annual difference between inflows and outflows in the Indio Subbasin. During wet years or periods of high artificial recharge, the change in storage is positive (water in storage increases). In dry years or periods of high pumping, the change in storage is often negative (storage decreases). Because of the large amount of recharge, the change is storage for the Indio Subbasin is an increase of 151,659 AF for WY 2017-2018, as shown in **Table 7-4**. Refer to **Figure 7-1** for a graphical representation of the annual water balance in the Indio Subbasin.

Table 7-4
WY 2017-2018 Groundwater Balance in the Indio Subbasin

Component	Flows (AF)
Inflows	
Infiltration of natural runoff	45,953
Subsurface inflows from adjacent basins	11,405
Infiltration of applied irrigation water	151,721
Wastewater percolation	6,078
Septic tank percolation	3,536
Artificial recharge	278,654
Salton Sea intrusion	1,651
Total Inflow	**+ 498,998**
Outflows	
Groundwater pumping	-288,308
Net drain flow to Salton Sea	-47,866
Evaporative losses	-5,756
Evapotranspiration from the shallow aquifer	-4,769
Subsurface outflow to adjacent basins	-640
Total Outflow	**– 347,339**
Change in Groundwater Storage[1]	**+ 151,659**

Notes:
1 This annual increase in groundwater storage equals about 0.5 percent of the subbasin's estimated storage capacity of 29,800,000 AF in WY 2017-2018.

Figure 7-1. Groundwater Balance for the Indio Subbasin – Water Year 2017-2018



Historical change in storage is shown **Figure 7-2** from 1970 to the present (green columns). The starting year of 1970 was selected as it is three years before the commencement of imported water replenishment activities in the Indio Subbasin. The data used to prepare this figure is on a calendar year basis until WY 2016-2017 when the data source was converted to water year for the first Annual Report.

Also shown on **Figure 7-2** are annual inflows, outflows, groundwater production, and ten-year and twenty-year running average change in storage. Indio Subbasin inflows are variable due to the nature of imported water replenishment deliveries. High inflows occurred in the mid-1980s when MWD commenced large-scale advanced water deliveries to the Indio Subbasin. Other years of high inflows correspond to wet years on the SWP when increased deliveries occurred.

Groundwater production was a lower proportion of total outflows in the 1970s and early 1980s than in recent years. During this earlier period, groundwater levels were higher than that at present resulting in higher drain flows. In the late 1980s and 1990s, growth led to increased groundwater production which in turn caused lower groundwater levels and reduced drain flows. Changes in agricultural irrigation practices (conversion from flood to drip and sprinkler) also contributed to lower drain flows. After extended periods of decline, not only have both the ten- and twenty-year running average change in storage shown upward trends since 2009, but the ten-year running average is positive.

Figure 7-2. Historical Annual Change in Groundwater Storage in the Indio Subbasin

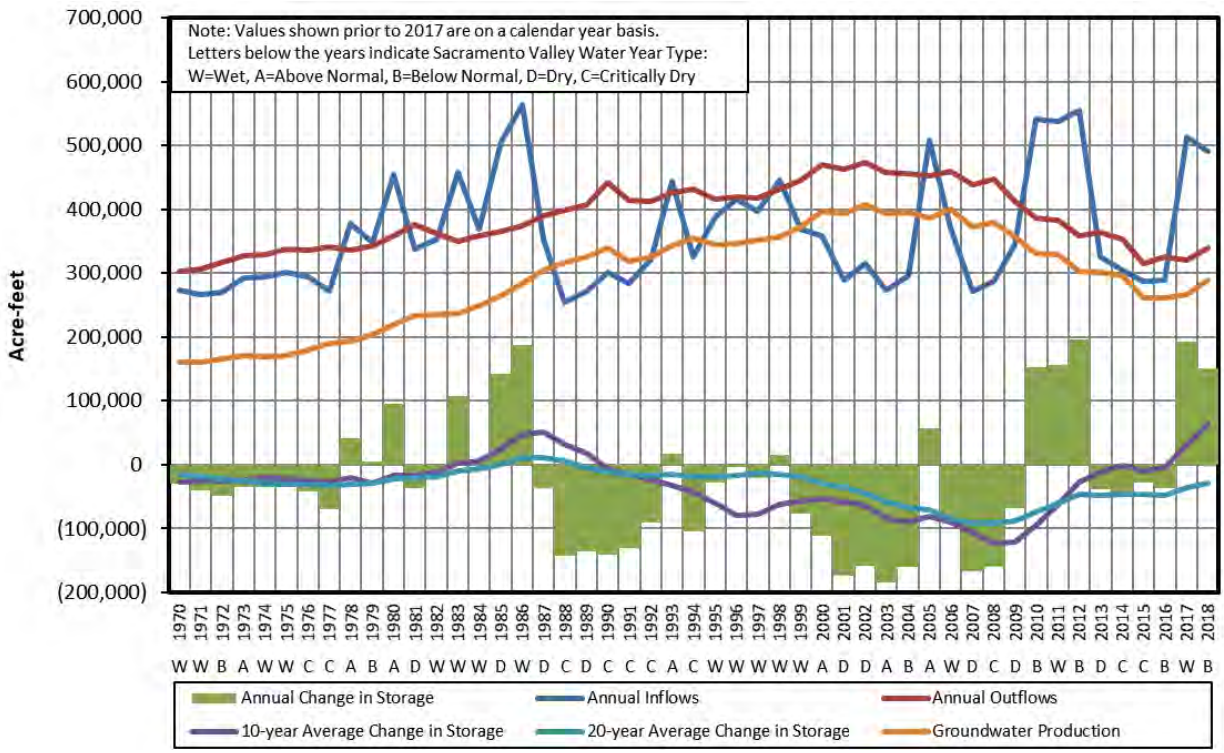
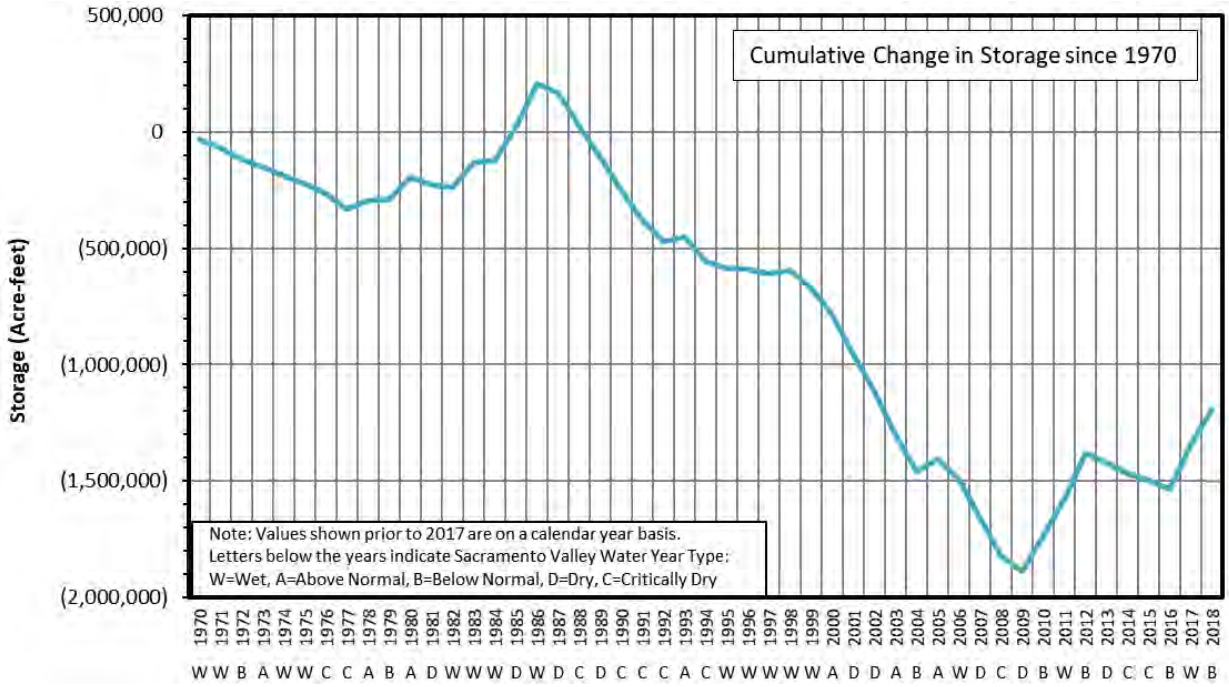


Figure 7-3 shows the cumulative change in storage since 1970. The goal of the CVWMP is to eliminate groundwater overdraft, but not to restore the subbasin to historical conditions. About 1.2 million AF have been removed from storage since 1970. This decrease represents about 4 percent of the estimated storage capacity of the Indio Subbasin. The subbasin was at its minimum storage in 2009, which was the first year of operation for the TEL GRF and before significant water conservation efforts were implemented. Since 2009, groundwater pumping has reduced by 25 percent and replenishment activities have increased. Consequently, the basin has recovered over 650,000 AF of groundwater in storage, about one-third of the depletion in 2009. This demonstrates the progress made through implementation of the CVWMP.

Figure 7-3. Cumulative Change in Groundwater Storage Since 1970

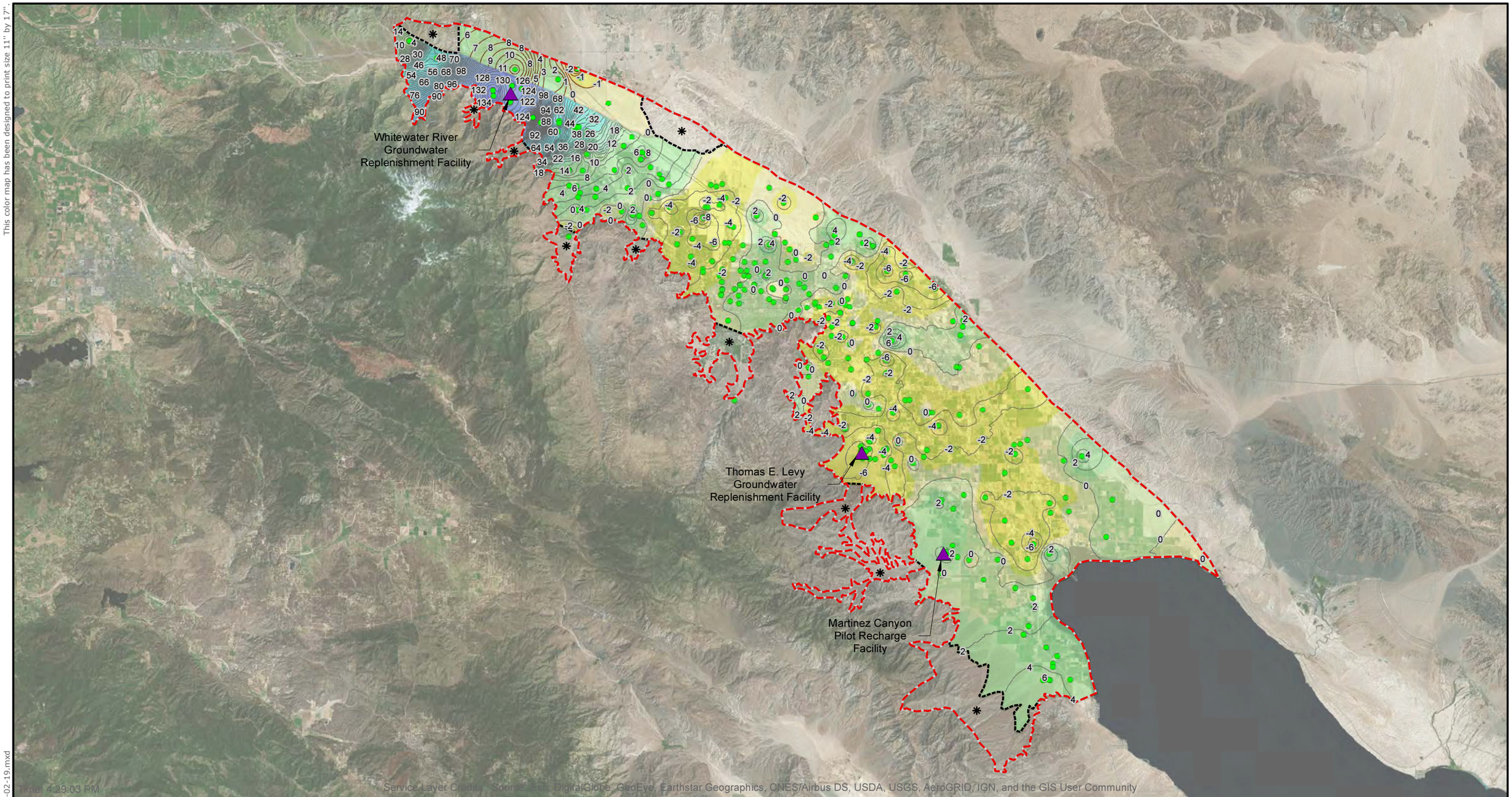


7.2 CHANGE IN GROUNDWATER ELEVATION MAPS

Figure 7-4 and **Figure 7-5** show the one-year and ten-year changes in groundwater elevation throughout the Indio Subbasin. These maps show the difference in average groundwater elevations from WY 2016-2017 to WY 2017-2018, and WY 2007-2008 to WY 2017-2018 for wells in the Indio Subbasin monitored by CVWD, Coachella Water Authority (CWA), Desert Water Agency (DWA), and Indio Water Authority (IWA) staff. Cooler colors (intensifying shades of green through blue) depict increases in groundwater elevation while warmer colors (intensifying shades of yellow through red) depict decreases in groundwater elevation.

Figure 7-4 shows significant increases in groundwater elevations near the Whitewater River GRF in response to the high recharge deliveries in WY 2016-2017 and WY 2017-2018. The Palm Springs and Cathedral City areas to the south of the Whitewater River GRF showed decreasing water levels in the range of 2 to 8 ft. The area around the TEL GRF showed decreased water levels in the range of 2 to 6 ft, due to a decrease in the replenishment quantity of about 7,000 AFY less than the WY 2016-2017 amount, which shows the effect of a relatively small change in recharge on water levels. One portion of the Indio Subbasin near the Salton Sea showed declining water levels as well, likely in response to increased pumping in the area.

Figure 7-5 shows significant increases in groundwater elevations in the Indio Subbasin over the past ten years. Water levels near the Whitewater River GRF show increased water levels in response to the high recharge deliveries in 2010-2012, in WY 2016-2017, and in WY 2017-2018. Localized portions of the mid-valley area of the Indio Subbasin near the Cities of Palm Desert, Indian Wells and Thousand Palms showed decreasing water levels in the range of 2-8 ft due to groundwater production. Eliminating this decline is the focus of the Mid-Valley Pipeline source substitution project and the proposed Palm Desert GRF. All of the eastern portion of the Indio Subbasin showed increased groundwater storage, in response to decreased pumping and replenishment operations at the TEL GRF. The reduction in deliveries to the TEL GRF were due to a Coachella Canal project from December 2017 to January 2018.



This color map has been designed to print size 11" by 17".

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Time: 4:29:03 PM

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Water Level Data Not Available
- Replenishment Facilities
- Monitored Water Wells
- 1-Foot Contour
- 2-Foot Contour
- Indio Subbasin
- Water Level Data Boundary

Water Level Change From 2017 to 2018

Value

- Increase
- No Change
- Decrease

N

0 5 10 Miles

Date: 2/19/2019

TITLE: **One-Year (WY 2016-2017 to WY 2017-2018) Change in Groundwater Elevation in the Indio Subbasin**

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

KRIEGER & STEWART Engineering Consultants

FIGURE **7-4**

This color map has been designed to print size 11" by 17".

Whitewater River
Groundwater
Replenishment Facility

Thomas E. Levy
Groundwater
Replenishment Facility

Martinez Canyon
Pilot Recharge
Facility

Time: 4:03:19 PM

Legend

- Water Level Data Not Available
- Replenishment Facilities
- Monitored Water Wells
- 1-Foot Contour
- 2-Foot Contour
- Indio Subbasin
- Water Level Data Boundary

Water Level Change From 2008 to 2018

Value

- Increase
- No Change
- Decrease

N

0 5 10 Miles

Date: 2/19/2019

TITLE: **Ten-Year (WY 2007-2008 to WY 2017-2018) Change in Groundwater Elevation in the Indio Subbasin**

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

KRIEGER & STEWART Engineering Consultants

FIGURE **7-5**

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8.0 DESCRIPTION OF PROGRESS

The 2010 Coachella Valley Water Management Plan (CVWMP) Update was adopted in January 2012 as an update to the original 2002 CVWMP for the Indio Subbasin. The 2002 CVWMP identified specific objectives and projects for water conservation, new sources, groundwater recharge and source substitution. The established goal of the 2002 CVWMP was to assure adequate quantities of safe, high-quality water at the lowest cost to Coachella Valley water users. This would be accomplished by meeting the following objectives:

1. Elimination of groundwater overdraft and its adverse impacts, including:
    a. Groundwater storage reductions,
    b. Declining groundwater levels,
    c. Land subsidence and
    d. Water quality degradation.
2. Maximizing conjunctive use opportunities,
3. Minimizing adverse economic impacts to Coachella Valley water users,
4. Minimizing adverse environmental impacts.

The 2010 CVWMP Update refined these goals and objectives to better match the current needs of the Coachella Valley. The basic goal of the CVWMP remains the same but has been modified to reflect a more holistic approach: “to reliably meet current and future water demands in a cost-effective and sustainable manner.”

1. Meet current and future water demands with a 10 percent supply buffer.
2. Eliminate long-term groundwater overdraft.
3. Manage and protect water quality.
4. Comply with state and federal laws and regulations.
5. Manage future costs.
6. Minimize adverse environmental impacts.

In response to the adoption of Sustainable Groundwater Management Act (SGMA) in 2014, and as stated in Section 1, Coachella Valley Water District (CVWD), Desert Water Agency (DWA), Coachella Water Authority (CWA), and Indio Water Authority (IWA) collaboratively submitted the 2010 CVWMP Update as an Alternative to a Groundwater Sustainability Plan (Alternative Plan) with an associated Bridge Document that described how the existing 2010 CVWMP Update meets the requirements of SGMA. These documents were submitted to the California Department of Water Resources (DWR) in December 2016.

This section provides an update of the status of CVWMP implementation activities during Water Year (WY) 2017-2018.

8.1 IMPLEMENTATION OF PROJECTS AND MANAGEMENT ACTIONS

The sustainability goals described in the Alternative Plan for the Indio Subbasin identified the following water management elements for implementation:

- Water conservation measures
- Acquisition of additional water supplies
- Conjunctive use programs to maximize supply reliability
- Source substitution programs
- Groundwater recharge programs
- Water quality protection measures
- Other management activities

8.1.1 Water Conservation

Water conservation strategies in place are described in Section 6.2 of the SGMA Bridge Document. In July 2015, the State Water Resources Control Board (SWRCB) mandated that water agencies develop and implement plans to reduce water use statewide by 25 percent in response to statewide drought. CVWD, DWA, and Myoma Dunes Mutual Water Company (MDMWC) were required to meet a target of reducing overall use by 32 percent relative to 2013 baseline use. CWA, IWA, and Mission Springs Water District (MSWD) were assigned targets of 20 percent, 28 percent, and 24 percent, respectively. In May 2016, the SWRCB adopted a statewide water conservation approach (effective from June 2016 through January 2017) that replaced the prior percentage reduction-based water conservation standard with a localized "stress test" approach that mandates urban water suppliers act to ensure at least a three-year supply of water to their customers under drought conditions. In response to the "stress test" regulation, CVWD, DWA, MSWD, the City of Coachella, the City of Indio, and MDMWC all self-certified that sufficient water had been identified to meet all anticipated demands with existing conservation programs and plans in place, effectively placing their local conservation targets at 0%.

CVWD, CWA, DWA, and IWA have initiated and continue to implement the following on-going water conservation programs for large landscape and residential customers, as listed below.

- Compliance with California building codes and the Federal Energy Policy Act of 1992 (PL 102-486) requires the installation of water efficient plumbing for all new home construction and large rehabilitation projects.
- Most water purveyors as well as several cities within the Indio Subbasin have implemented landscape audit programs and rebates for replacements of lawns with water-efficient landscaping as well as weather-based irrigation controller and toilet rebates.
- The CVWD Ordinance No. 1302.3 (2017) provides uniform landscaping standards throughout the Coachella Valley, to include stringent ordinances and turf limitations for new golf courses. All cities and water agencies agreed to either adopt the ordinance in its entirety, adopt a similar version, or adopt it by reference in the local agency's ordinance. This ordinance was subsequently adopted by the Coachella Valley Association of Governments to cover the entire Coachella Valley.

- CVWD developed a new valley-wide program in conjunction with the College of the Desert and Coachella Valley Association of Governments to ensure that landscaping businesses must be trained on efficient watering practices before renewing their business licenses.
- The Coachella Valley Integrated Regional Water Management Group was awarded a grant for Proposition 84 Round 4, which included $547,387 in turf removal by CVWD, CWA, and DWA
- Between 2000 and 2016 urban water use for all water agencies declined by 18.8% through a combination of water rate restructuring, rebates, incentive programs, and efficiency improvements. Urban water use increased by about 7 percent in the past year, likely as the result of the end of drought restrictions. Despite this increase, all the local water agencies are on track to achieve their 20 by 2020 (SBx 7-7) savings requirements for urban per capita use ahead of schedule.
- The local water agencies invested about $120,000 in 2016 for the *CV Water Counts* regional conservation campaign to advertise water conservation awareness. This includes the establishment of the Water Counts Academy, a community water education program that started in 2017. This program is ongoing.
- In mid-2016, the United States Bureau of Reclamation (USBR) awarded CVWD a $300,000 Drought Resiliency Project grant to help offset the costs of a pipeline and pump station that will enhance CVWD's ability to deliver Colorado River water to the Bermuda Dunes area. The new infrastructure will make it possible to annually bring more than 1,000 acre feet (AF) of Colorado River water to Bermuda Dunes for irrigation purposes, reducing groundwater pumping by a like amount.
- USBR awarded CVWD a $1 million WaterSMART Water and Energy Efficiency grant to help finance rebates for the removal of turf that is replaced with drought-tolerant, low water-use desert landscaping at golf courses (USBR, 2014). CVWD combines these funds with their own $6 million budgeted for turf replacement rebates at residences, businesses and homeowners associations.

8.2 ADDITIONAL WATER SUPPLIES

The following describes the management strategies and their status associated with securing additional sources of water:

8.2.1 Colorado River Supplies

Demands on the Colorado River supplies have been reduced by voluntarily agreement between the USBR, Central Arizona Project, Metropolitan Water District of Southern California (MWD), Denver Water, and Southern Nevada Water Authority under the USBR 2014 Pilot System Conservation Program (USBR, 2014). Under this program, CVWD is offering rebates to farming customers to convert up to 667 acres of farmed land from flood/furrow to drip irrigation. The program began in 2016, is scheduled to operate for five years, and is estimated to conserve up to 5,000 acre-feet (AF).

As part of the Quantification Settlement Agreement (QSA), CVWD's Colorado River allocation through the Coachella Canal increased by 18,000 AFY in 2018 to 384,000 AF. CVWD's Colorado River water supply will increase annually in 5,000 AF increments through 2026, when the amount under the QSA will be 424,000 AF. The QSA also provided CVWD a transfer of SWP water from MWD in the amount of 35,000 AFY that may be delivered at either Imperial Dam or Whitewater River and is not subject to SWP or Colorado River reliability.

8.2.2 State Water Project

During 2017, State Water Project (SWP) allocations increased to 85 percent of SWP Table A Amounts in response to the wet winter of 2016-2017. SWP water allocations for 2018 were set at 35 percent of the SWP Table A Amounts. As a result of carryover storage from 2017 delivered in 2018, CVWD and DWA were able to receive almost 80 percent of their combined Table A Amount in Water Year 2017-2018 despite below normal runoff conditions.

The SWP faces many challenges including the on-going drought, risk of Delta levee failure, legal and regulatory restrictions on exports due to environmental degradation, water quality degradation, and climate change. In the absence of definitive measures to resolve these challenges, SWP reliability is likely to continue declining in the absence of the California WaterFix. CVWD and DWA are actively participating in the California WaterFix and other statewide programs to improve the long-term reliability of the SWP supply.

8.2.3 Other Water Transfers

As opportunities arise, CVWD and DWA make water purchases from programs such as SWP Article 21 (interruptible water) and Turnback Pool water, Governor's Drought Water Bank, the Yuba Accord, and the Rosedale-Rio Bravo transfer. During WY 2017-2018, CVWD and DWA acquired over 21,822 AF of supplemental water through these programs.

8.2.4 Recycled Water

The principal non-potable uses for recycled water in the Indio Subbasin are:

- Golf course irrigation
- Urban landscape irrigation

CVWD and DWA currently delivered approximately 13,775 AF of recycled water in the western portion of the Indio Subbasin for golf course and other large irrigation uses during Water Year 2017-2018, an increase of over 3,000 AF compared to the previous water year. Treated wastewater generated in the western Indio Subbasin that is not recycled is percolated into the Indio Subbasin. Current recycled water usage in the eastern portion of the Indio Subbasin is approximately 250 AF for golf course irrigation.

8.2.5 Desalinated Semi-Perched Brackish Groundwater

The 2002 CVWMP recommended that a desalination facility commence operation between 2010 and 2015 with a 4,000 AFY facility to treat semi-perched brackish groundwater for irrigation purposes. The facility would be expanded to 11,000 AFY by 2025.

A brackish groundwater treatment study and feasibility study was completed in 2008. Source water supply options for producing desalinated water includes the installation of a well field to extract semi-perched brackish groundwater in the upper part of the aquifer (2010 CVWMP Update).

The 2015 Urban Water Management Plan (UWMP) (CVWD, 2016b) anticipates the need for desalinated semi-perched brackish groundwater starting in 2025. No activities were conducted during WY 2017-2018 with regard to desalination. Additional development of this potential supply has been deferred until demands increase.

8.3 GROUNDWATER SUPPLY SUBSTITUTION

Groundwater supply substitution represents an effective strategy to mitigate the lowering of groundwater levels, reduction of groundwater in storage, and subsidence. Management strategies currently include the substitution of groundwater supply with recycled water and Coachella Canal water for golf and agricultural use and future treatment of Coachella Canal water for urban use. Several groundwater substitution projects were identified in the Alternative Plan. These include:

- Conversion of existing and future golf courses in the western Indio Subbasin from groundwater to recycled water.
- Conversion of existing and future golf courses in the eastern Indio Subbasin from groundwater to Colorado River water.
- Conversion of existing and future golf courses in the western Indio Subbasin from groundwater to Colorado River water via the Mid-Valley Pipeline.
- Conversion of agricultural irrigation from groundwater to Colorado River water, primarily in the Oasis area.
- Conversion of urban use from groundwater to treated Colorado River water in the eastern Indio Subbasin.
- Conversion of outdoor urban use to non-potable water including Colorado River water or recycled water in the eastern Indio Subbasin.
- **Table 8-1** shows the current status of golf course conversions in the Indio Subbasin. There are 115 golf courses in the Indio Subbasin, of which 60 currently receive non-potable water from the Coachella Canal, recycled water, or a combination of the two sources.

Table 8-1
Golf Course Conversion Status – Indio Subbasin (Golf Course Count)

Water Source	Existing	Planned Future	Not Planned	Total
Non-potable Water via CVWD WRP-7 [1]	2.5	0		2.5
Non-potable Water via CVWD WRP-10 [2]	15	21		36
Coachella Canal Water via CVWD Mid Valley Pipeline	6	15		21
Coachella Canal Water via CVWD Canal Distribution System [1]	30	4.5		34.5
Non-potable Water via DWA WRP	6	2		8
Groundwater Only			13	13
Total Golf Courses	59.5	42.5	13	115

Notes:
1 Courses indicated as 0.5 are served with recycled water with non-potable water (blend of recycled and Canal water) on part of the course and Canal water on the other part.
2 In addition to golf courses, non-potable water is served to five existing landscape irrigation customers and three future landscape irrigation customers are planned.

8.3.1 Golf Courses Served with Coachella Canal Water

CVWD has worked closely with golf courses in the eastern portion of the Indio Subbasin to encourage the use of Coachella Canal water instead of pumping groundwater. Currently, 30 golf courses and a portion of another course are connected to the Coachella Canal distribution system. CVWD plans to connect four additional courses after 2023.

CVWD staff continues to work closely with the connected golf courses to ensure they meet at least 80 percent of their demand with Coachella Canal water. In Water Year (WY) 2017-2018, golf courses connected to the Coachella Canal distribution system met 66 percent of their total water use with Coachella Canal water.

8.3.2 Mid-Valley Pipeline

The Mid-Valley Pipeline (MVP) is a key element of "in-lieu" replenishment designed to help eliminate overdraft in the Indio Subbasin. This source substitution project is currently being implemented to reduce groundwater pumping by supplying CVWD recycled water and Colorado River water. Colorado River water from the Coachella Canal is supplied through the MVP to Water Reclamation Plant No. 10 (WRP-10), where it supplements the supply of recycled water and both are delivered to non-potable water customers for golf course and landscape irrigation.

Construction of the first phase of the MVP from the Coachella Canal in Indio to WRP-10 (6.6 miles in length) was completed in 2009. Since that time, CVWD staff have worked with local golf courses to connect them to the non-potable water system. Currently, 15 golf courses and five landscape irrigation

customers are connected either directly to the MVP or to the non-potable water system supplied by the MVP and WRP-10 recycled water.

CVWD contracted with a consulting firm to prepare a non-potable water master plan to guide the implementation of the MVP project. A draft plan was prepared in 2016 and CVWD is preparing an update that is expected to be completed in 2019. The environmental analysis has been initiated and is also expected to be completed in 2019. Approximately 21 additional golf courses as well as three other landscape irrigation customers are expected to connect to the MVP non-potable water system between 2022 and 2031. When these connections are completed, the MVP non-potable water system will deliver over 38,000 AFY of recycled water and Coachella Canal water, together known as "non-potable" water, for irrigation. Previously, an additional 15 golf courses were scheduled to be connected to the MVP system. Construction of these connections has been deferred pending results of the groundwater response to the Palm Desert GRF operations.

In August 2018, CVWD completed an initial environmental study and mitigated negative declaration to install approximately 50,000 linear feet (LF) of non-potable pipeline to connect seven golf courses to non-potable water and increase the existing capacity serving Indian Ridge Country Club. By 2022, CVWD intends to connect Emerald Desert, Oasis, Woodhaven, Palm Desert Resort, and Bermuda Dunes to the MVP system.

DWA is evaluating the feasibility of connecting two additional golf courses and one park to its non-potable water system in the future. Connection of these users to non-potable water will increase DWA's winter demand and minimize future wastewater percolation.

8.4 GROUNDWATER RECHARGE

Groundwater recharge in the Indio Subbasin is a major groundwater management strategy that has been employed in the Coachella Valley.

8.4.1 Whitewater River Groundwater Replenishment Facility

CVWD initiated activities in 1918 to obtain water rights and acquire lands to begin groundwater replenishment activities using stream flows from the Whitewater River. Replenishment with imported water commenced in 1973, and the Whitewater River GRF was expanded in 1984. During WY 2017-2018, groundwater recharge operations replenished 247,812 AF of imported water at the Whitewater River GRF. This was the fifth largest volume of water recharged in a 12 month period since imported water replenishment commenced. As of September 30, 2017, a total of 3,447,792 AF of imported water has been recharged at the Whitewater River GRF.

8.4.2 Palm Desert Groundwater Replenishment Facility

The Palm Desert GRF includes re-purposing land with existing ponds on CVWD's Palm Desert property, adjacent to the Steve Robbins Administration Building and WRP-10, and constructing detention basins in the Whitewater River Storm Water Channel between Cook Street and Fred Waring Drive, for the purpose

of replenishing the Indio Subbasin using Colorado River Water. The total project capacity is estimated to be 25,000 AFY and the estimated capital cost is approximately $9.8 million. Project design began in April 2017, and Phase I of construction began in April 2018. Construction of Phase 1 will be completed in the first quarter of 2019. Operation of the Phase 1 facility, which will start in 2019, will replenish 10,000 AFY. Phase II is currently being designed and will eventually replenish an additional 15,000 AFY.

8.4.3 Thomas E. Levy Groundwater Replenishment Facility

Recharge operations continued at the Thomas E. Levy (TEL) GRF with an annual recharge of 30,842 AF in WY 2017-2018. This amount was about 20 percent less than the previous year due to a Coachella Canal project in the winter of 2017/2018. Since the full-scale facility commenced operation in 2009, a total of 322,700 AF has been recharged and groundwater elevations near the facility have increased by 97 feet.

8.5 WATER QUALITY IMPROVEMENTS

Based on historical and recent monitoring, CVWD, CWA, and IWA identified that approximately 30 percent of their drinking water wells have chromium-6 levels above 10 micrograms per liter (µg/L). This level was adopted by California as the standard in 2014, but was subsequently deleted in 2017. Building on the success with ion exchange (IX) technology for arsenic removal and treatment, the water agencies evaluated the use of similar technology to reduce chromium-6 levels found in other drinking water wells. CVWD operates two IX facilities reducing chromium-6 levels in four wells and IWA is currently treating three wells to remove chromium-6.

In October 2016, the CVWD Board of Directors approved launching a pilot study to evaluate the feasibility and effectiveness of using stannous chloride to reduce chromium-6 (Cr-6) levels in drinking water. CVWD recently completed a full-scale demonstration project using stannous chloride treatment for the water system serving Indio Hills, Sky Valley, and some areas in and around Desert Hot Springs. The project successfully reduced Cr-6 to Cr-3 using stannous chloride, an approved drinking water and food additive. The stannous chloride treatment option is substantially less expensive and has less impact to the community and the environment than other methods.

On September 11, 2017, the State deleted the drinking water standard for Cr-6 in response to a court order. The State plans to complete work needed to establish a new Cr-6 drinking water standard in the next two years. Because of the aforementioned testing, CVWD is prepared to meet anticipated future Cr-6 drinking water standards set by the State.

As part of the Coachella Valley Integrated Regional Water Management Group, CVWD was awarded two grants for Proposition 84 Round 4 totaling about $500,000 for two rebate programs. The Regional Well Retrofit and Abandonment Program totals approximately $250,000 providing up to $35,000 per well for the retrofit of leaking artesian wells, or the capping and sealing of improperly abandoned wells. The Disadvantaged Community (DAC) Septic Rehabilitation and Demand Reduction Program totals approximately $250,000 providing up to $60,000 per septic system for the rehabilitation of failing septic systems.

8.6 CURRENT IMPLEMENTATION STATUS

The recommended actions identified in the 2010 CVWMP Update, the Alternative Plan, are described in Table 6-2 of the Alternative Plan. A revised version of Table 6-2, with the current updated status, is presented as **Table 8-2**.

Table 8-2
WY 2017-2018 Coachella Valley Water Management Plan Implementation Status Update

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
WATER CONSERVATION PROGRAM				
Adopt and implement 2009 CVWD/CVAG Landscape Ordinance or equivalent	CVWD, water purveyors, cities, Riverside County	Ongoing	**Complete**	Complete. Ordinance revised in 2015 to comply with new State requirements and reduce ETAF\
Establish urban water conservation baseline	CVWD, other urban water purveyors	Completed	**Complete**	Complete. Re-evaluated in 2015 UWMPs based on 2010 census population
Achieve minimum 10 percent reduction in existing golf course use	CVWD, DWA	2015	In Progress	Continue to work with Golf and Water Task Force to implement and monitor custom water budgets and to continue to implement grant-funded conservation rebates
Achieve 14 percent reduction in agricultural water use	CVWD	2020	In Progress	CVWD will work with Agricultural Water Advisory Group to develop programs for increased conservation
Achieve 20 percent reduction in urban use	CVWD, other urban water purveyors	2020	**Complete**	Complete. 2015 UWMPs documented 37% reduction in 2015 from 1999 to 2008 baseline
WATER SUPPLY DEVELOPMENT PROGRAM				
Complete siting studies, environmental impact evaluation and design for CVSC drain water capture and treatment facilities	CVWD	2013	Deferred due to changes in water supply needs	No action. Imported water status report (2015) indicated potential deferral until 2025 or later depending on growth

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
File for water rights application for change of point of use for wastewater effluent discharges to allow water recycling	CVWD, VSD, CWA	2015	CVWD's wastewater change petition to reuse effluent from WRP-4 was released for public review in October 2017	CVWD continues work to resolve any concerns identified by valid protests.
Complete construction of initial CVSC drain water capture and treatment facilities	CVWD	2015	Deferred due to changes in water supply needs	No action. Imported water status report (2015) indicated potential deferral until 2025 or later depending on growth
Conduct a feasibility study to investigate the potential for additional stormwater capture in the East Valley	CVWD	2015	Ongoing with stormwater studies	Continue to maximize stormwater capture in facilities design
Conduct a study to determine the amount of water lost to leakage or otherwise unaccounted in the first 49 miles of the Coachella Canal and evaluate the feasibility of corrective actions to capture lost water	CVWD	2015	No longer a priority due to measured losses below 5% since canal lining	Continue to monitor annual system losses
Conduct a joint investigation with IWA and CWA of groundwater development potential in Fargo Canyon Subarea of the Desert Hot Springs Subbasin to determine the available supply and suitability for use in meeting non-potable demands of development east of the San Andreas fault	CVWD, IWA, CWA	2020	Deferred due to changes in water supply needs	No action. Re-evaluate need in next WMP update
SOURCE SUBSTITUTION PROGRAM				
Prepare a master plan for Mid-Valley Pipeline completion	CVWD	2011	In Progress - Draft plan completed in 2016	Master plan and environmental analysis to be completed in 2019

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Connect four golf course users along the Mid-Valley Pipeline alignment to the Mid-Valley Pipeline	CVWD	2011	**Complete**	Continue Monthly Progress Report to Board
Work with existing East Valley golf courses having Coachella Canal water access to increase their use to 90 percent of demand	CVWD	2012	In Progress - revised to 80% via non-potable agreements	Continue to report progress in annual Non-Potable Water Report
Investigate regional opportunities for Colorado River water treatment facilities	CVWD, IWA, CWA	2012	Completed via Source of Supply/Treatment Study (SS/TS)	No action. Budget funds in future CIB based on growth
Develop policy requiring the installation of non-potable water systems for new development	CVWD	2012	**Complete**	Continue required WSAs/WSVs and Development Design Manual
Work with large agricultural groundwater pumpers to determine what obstacles exist that prevent them from using additional Coachella Canal water and encourage them to reduce their groundwater pumping	CVWD	2012	Deferred due to changes in water supply needs	No action. Re-evaluate need in next WMP update
Construct north and east extensions to the Mid-Valley Pipeline system	CVWD	2013	Design and environmental documentation is currently underway	Finalize design and advertise the projects for construction. CVWD is applying for loan and grant funding to help implement these projects.
Complete siting studies, environmental impact evaluation and design for Colorado River water treatment facilities	CVWD	2013	Deferred	No action. Re-evaluate schedule based on SS/TS and growth

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Complete construction of initial Colorado River water treatment facilities and connect to distribution system	CVWD	2015	Deferred	No action. Re-evaluate schedule based on SS/TS and growth
Complete Oasis study update	CVWD	2015	Design completed in 2015; construction deferred	Continue Quarterly Progress Report to Board, Budget funds in CIP
Prepare a non-potable water distribution master plan Phase 3	CVWD	2015	**Complete**	No action.
Complete construction of Mid-Valley Pipeline backbone system	CVWD	2020	Deferred pending results of non-potable master plan	No action. Re-evaluate schedule based on master plan
GROUNDWATER RECHARGE PROGRAM				
Operate and monitor the TEL GRF with a 40,000 AFY goal	CVWD	2010	In Progress with lower goal of 32,000 AFY	Continue recharge with lower goal of 32,000 AFY
Investigate groundwater storage opportunities with IID	CVWD	2010	**Complete**	No action
Transfer the unused portion of the 35,000 AFY of SWP water available under the QSA to the WR GRF	CVWD	2011	**Complete**	Continue to budget transportation funds annually. Maximize advanced delivery opportunities
Work with IWA to evaluate the feasibility of developing a groundwater recharge project that reduce groundwater overdraft. If feasible, work with IWA to construct the facility	CVWD, IWA	2011	Deferred pending evaluation of need	No action. Continue evaluation
Design and construct an additional pumping station and pipeline from Lake Cahuilla to the TELGRF if the existing pumping station and pipeline cannot provide sufficient water to meet the annual goal	CVWD	2015	Deferred	No action. Re-evaluate need in next WMP update

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Conduct siting studies, environmental impact evaluation and design for Martinez Canyon GRF	CVWD	2018	Deferred indefinitely due to monitoring results	No action
MONITORING AND DATA MANAGEMENT				
Continue to monitor the extent of land subsidence	CVWD, USGS	2010	Monitoring ongoing - next report in first half of 2019	Continue monitoring and evaluate results
Provide additional information in the annual engineers' reports:	CVWD, DWA	2011	More consistency with DWA's reports achieved	Engineer's reports content will be coordinated with SGMA annual reporting requirements
* Annual precipitation and stream flow			**Complete**	
* Additional groundwater level data and hydrographs			**Complete**	
* In-lieu recharge water deliveries from imported water and recycled water that offset pumping			**Complete**	
* Imported water deliveries for direct use			**Complete**	
Obtain DWR designation as groundwater level monitoring and reporting entity for the Coachella Valley within their respective service areas	CVWD, DWA, water purveyors	2011	**Complete** via the CASGEM Program	Continue to budget funds as needed to continue program participation
Prepare a comprehensive groundwater monitoring plan	CVWD, DWA, water purveyors, wastewater agencies, tribes	2012	Developed monitoring well grid with the GSA's in 2017 and will continue adding wells as needed.	Continue to pursue IRWM grant funding, periodic reviews by GSAs
Enhance the CVSC gauging station at Lincoln Street to provide continuous flow recording	CVWD, USGS	2012	**Complete**	Continue using USGS gauge for CVSC drain flow reporting

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Develop centralized groundwater database	CVWD, DWA, water agencies, tribes	2012	Deferred, pending DWR decision on the Alternative Plan.	Continue to budget funds in CIB as necessary to maintain program participation
Install gauging stations on the individual drains flowing to the Salton Sea	CVWD	New	In Progress	CVWD is investigating suitable locations for drain gauging stations.
OTHER PROGRAMS				
Continue to operate a groundwater advisory committee regarding groundwater management issues in the East Valley	CVWD, water agencies, pumpers, tribes	2010	**Complete**	Continue to budget CIB funds as necessary to continue annual meetings
Develop a program to educate and work with well owners to properly control artesian wells	CVWD	2011	**Complete.** Obtained $250,000 IWRM grant funding for artesian well sealing – up to $35,000/well.	Continue program implementation
Update and recalibrate the CVWD groundwater model based on the most current information	CVWD	2012	Deferred	No action. Complete in parallel with future WMP update
Develop a water planning interface to the groundwater model	CVWD	2012	Deferred	No action. Add to scope of work for next groundwater model update
Prepare a plan to maintain and enhance the existing drainage system to allow its future use for urban purposes	CVWD	2012	**Complete**, legal authority established	No action
Develop well construction, destruction and abandonment policies	CVWD, DWA, water agencies, tribes, Riverside County	2012	Obtained $250,000 grant funding – up to $35,000/well for artesian well retrofits (sealing, well destruction, and conversion to CASGEM monitoring well.)	Continue to support County's efforts to enforce. Pursue additional IRWMP Well Retrofit Rebate Program grant funding as available.

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Add groundwater quality simulation capabilities to the model that will allow simulation of salinity (TDS) and nitrogen in the groundwater	CVWD	2013	Deferred	No action. Add to scope of work for next groundwater model update
Prepare a salt/nutrient management plan for the Valley to meet SWRCB Recycled Water Policy requirements	CVWD, DWA, water purveyors, wastewater agencies, tribes, agricultural and golf communities, and Regional Board	2014	Submitted to RWQCB in June 2015, RWQCB acceptance pending	Continue coordination with RWQCB to obtain acceptance
Extend urban water and sewer service to trailer/RV park communities with deficient infrastructure and poor water quality	CVWD	2015	Ongoing. Formed Disadvantaged Community Task Force. Developing an implementation strategy that prioritizes connection needs. Secured IRWM and USDA rural assistance funding for St. Anthony's, Huerda, and Mountain View Estates mobile home parks. Short term arsenic treatment	Continue to sponsor applications for USDA, IRWM, CDPH, and SWRCB funding
Investigate the feasibility of installing nitrate treatment on selected high nitrate wells to avoid redistribution of nitrates	CVWD	2015	In Progress via CVWD's Source of Supply/ Treatment Study. Treatment process being re-evaluated	CVWD continues to explore new technologies to identify for pilot testing any promising processes that may be technically and economically feasible to implement.

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Undertake a cooperative program to identify and cap wells that are no longer being used for groundwater production	CVWD, DWA	2015	Obtained $250,000 grant funding – up to $35,000/well for artesian well retrofits (sealing, well destruction, and conversion to CASGEM monitoring well.)	Continue to support County's efforts to enforce. Pursue IRWM grant funding
ENVIRONMENTAL ENHANCEMENT AND MITIGATION PROJECTS				
Develop plans for the creation of: * 25 acres of managed pupfish replacement habitat * 66 acres of managed rail replacement habitat * 44 acres of Sonoran cottonwood-willow riparian forest habitat	CVWD	2010	In Progress. Received wildlife agency approval of site, workplan under review by wildlife agencies	Continue to work with wildlife agencies to complete review. Update project implementation schedule. Budget funds in CIB/CIP
Remove tamarisk, restore and enhance mesquite and Coachella Valley round-tailed ground squirrel habitat on land CVWD owns in the East Indio Hills Conservation Area	CVWD, CVCC	Not Specified	Completed tamarisk removal at WRP-7 site. CVCC study on mesquite restoration in progress	Continue to support CVCC efforts to complete feasibility study
Conserve approximately 1,200 acres of land owned in the CVFTL HCP Whitewater Floodplain Preserve in perpetuity as part of the CVMSHCP Reserve System	CVWD, CVCC	2010	In Progress. Resource agencies reviewing Draft Conservation Easement prepared by CVCC and CVWD	Continue to work with Resource agencies to achieve conservation easement approvals

8.7 SUMMARY OF PROGRESS

The Indio Subbasin GSAs continue to implement the goals and programs of the 2010 CVWMP Update. WY 2016-2017 saw the highest volume of water recharged in a 12-month period. Groundwater production remained more than 25 percent less than the historical highs in the early 2000s. The results of the on-going basin monitoring program demonstrate the significant progress being made toward the goal of eliminating groundwater overdraft. Since 2009, the Indio Subbasin has gained over 650,000 AF of groundwater in storage.

Groundwater level monitoring demonstrates that most of the Indio Subbasin exhibited water level gains in the past year except for portions of the Indio Subbasin between Palm Springs and Rancho Mirage, and the Desert Palm (Sun City) community. The water level decline in the Palm Springs and Rancho Mirage area is the residual effect of low imported replenishment water deliveries in previous years due to the recent drought.

Over the past ten years, much of the Indio Subbasin experienced water level gains in the range of 2 to over 50 ft as a result of implementation of the TEL GRF, conversion of golf courses from groundwater to Coachella Canal water, and water conservation. The portion of the Indio Subbasin between Palm Springs and Palm Desert experienced water level declines in the range of 2 to 8 ft in this period. Eliminating this decline is the focus of the Mid-Valley Pipeline source substitution project and the proposed Palm Desert GRF.

CVWD continues to work with the golf courses in its service area to extend the Mid-Valley Pipeline distribution system to serve additional courses and reduce their groundwater pumping. Increased availability of Colorado River water through the QSA added 18,000 AF of deliveries in 2018. CVWD expects to receive an additional 5,000 AF of Colorado River water through the QSA in 2019.

Continued implementation of CVWMP programs is critical to meeting the goals of the plan. In the coming year, the GSAs will continue to pursue their successful water conservation efforts. CVWD began non-potable water deliveries to one golf course in February 2018 and plans to connect five additional golf courses to non-potable water supplies in 2022.

CVWD also plans to complete construction of Phase I of the Palm Desert GRF in the first quarter of 2019 and continue with the design phase of Phase II. Anticipated recharge is 10,000 AFY.

The GSAs continue to evaluate the effectiveness of their groundwater monitoring program and add additional wells to the program as the need arises. In addition, the next USGS report on land subsidence is expected to be published in early 2019.

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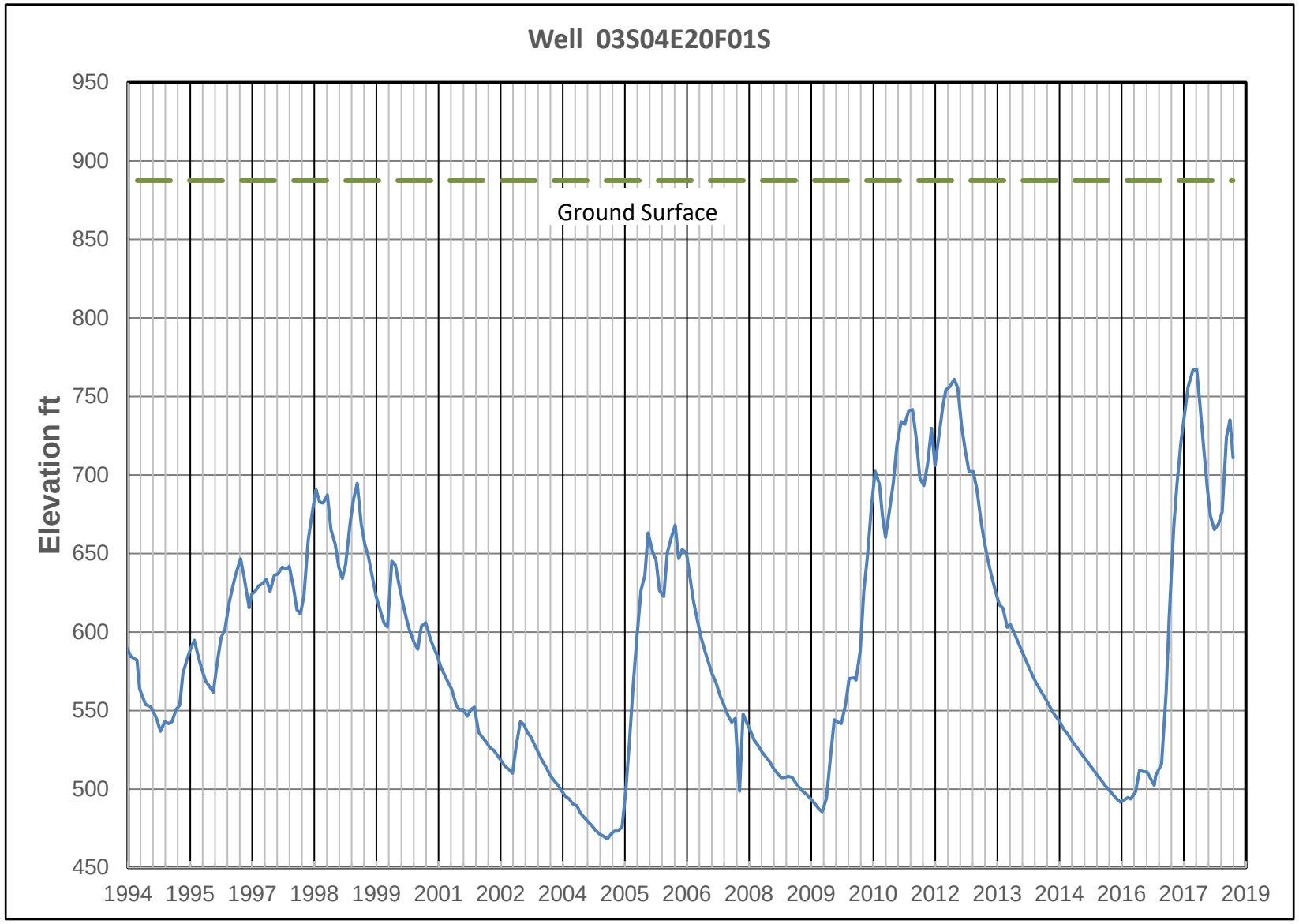
APPENDIX A

Representative Groundwater Elevation Hydrographs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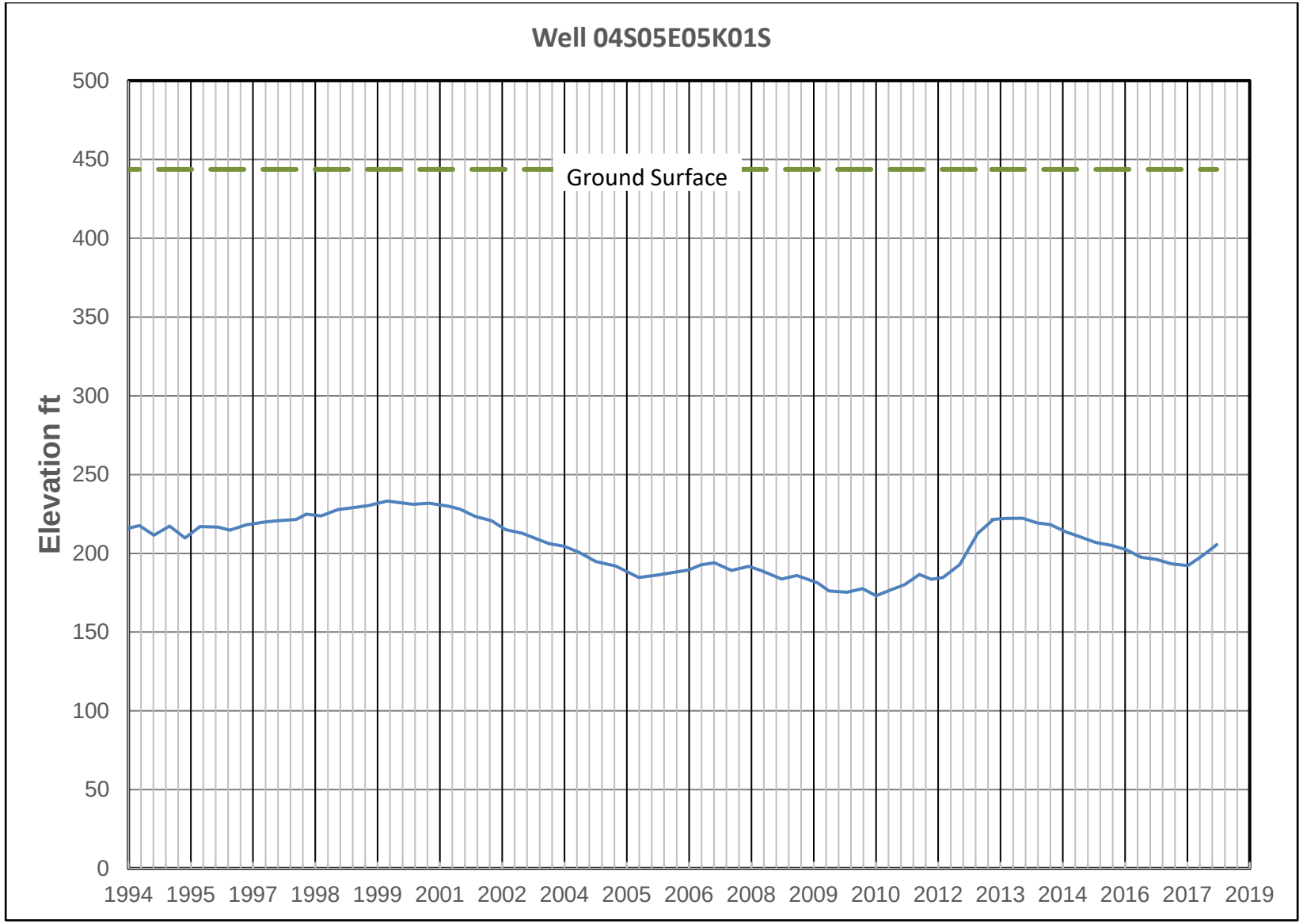
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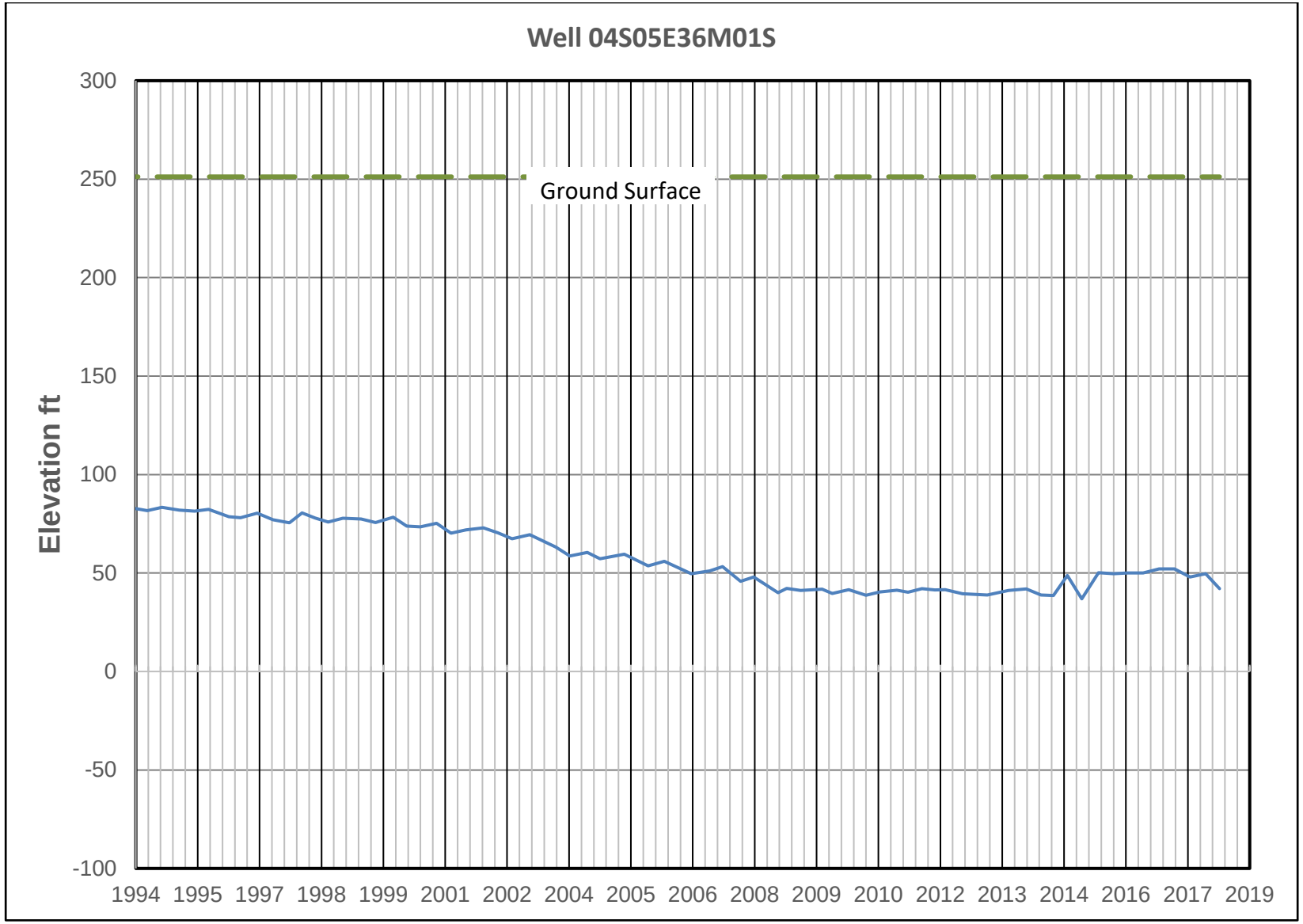
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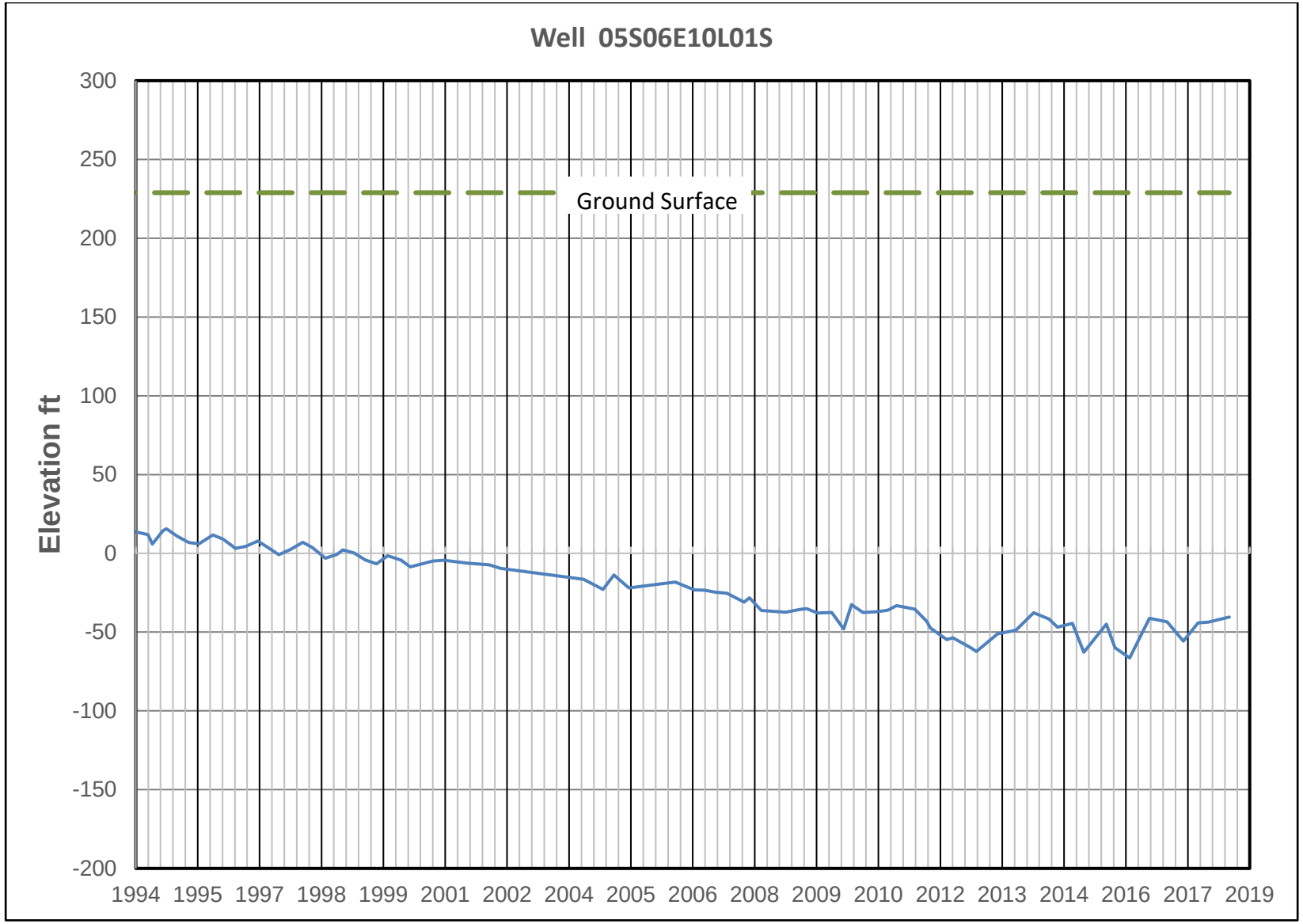
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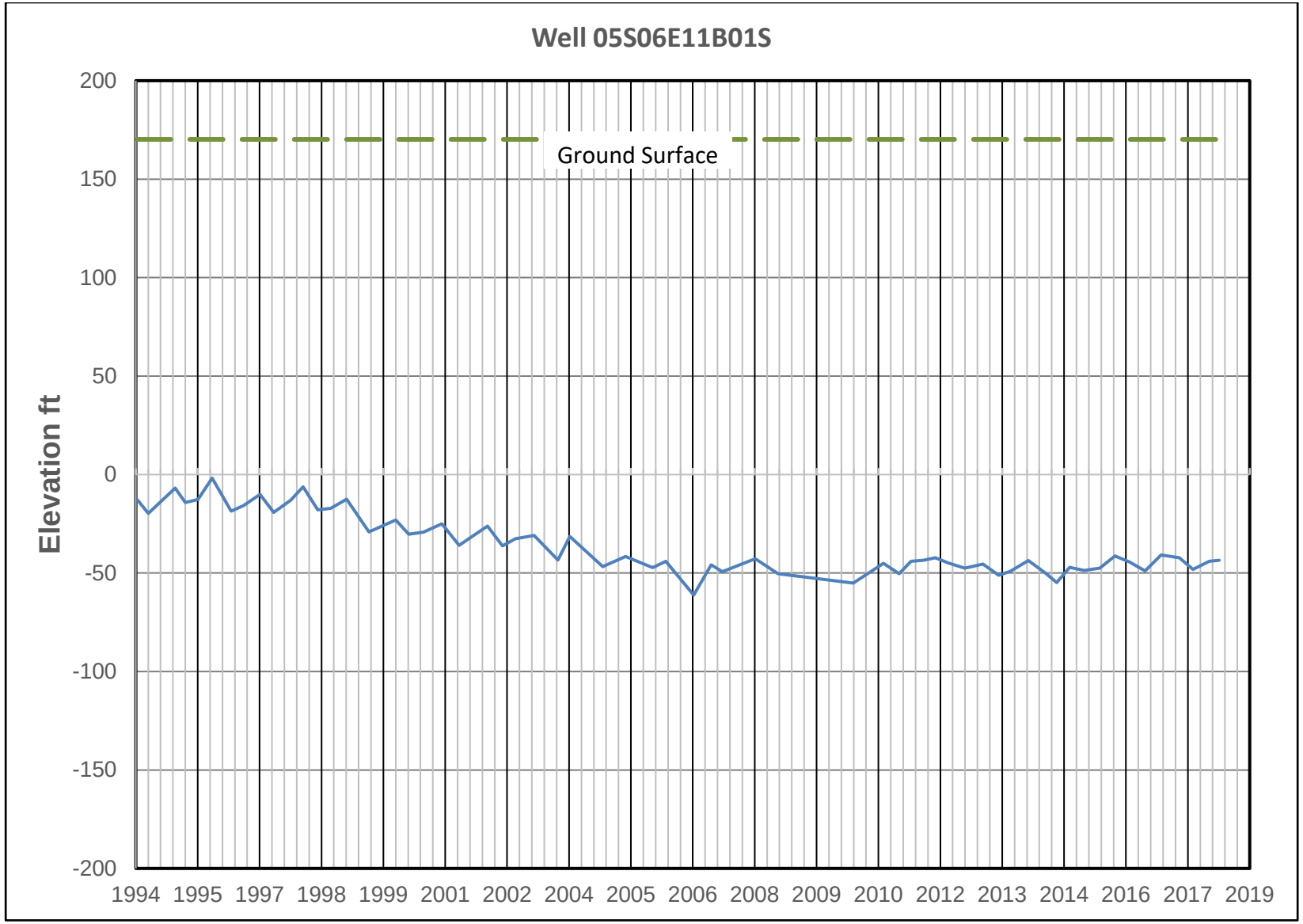
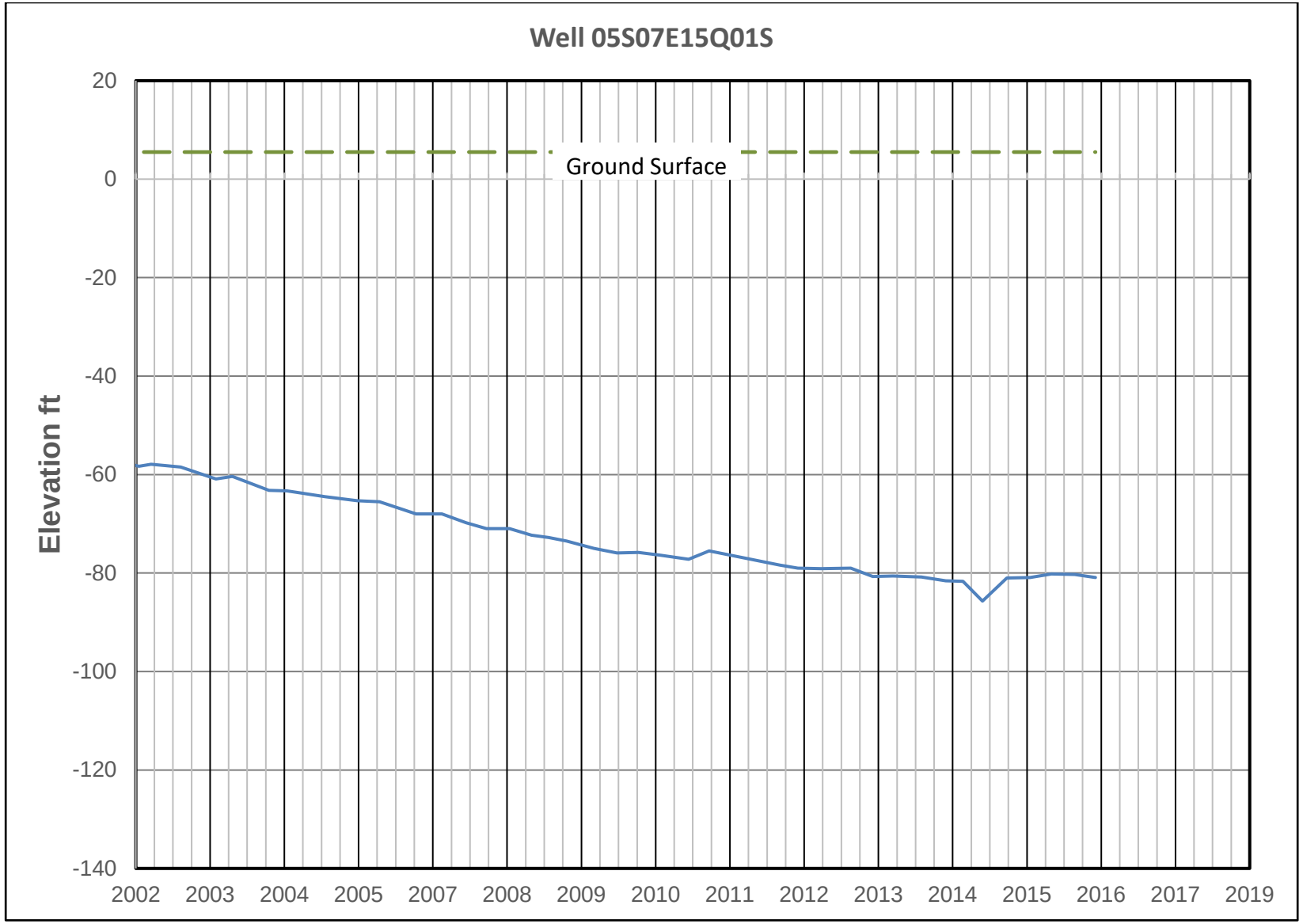
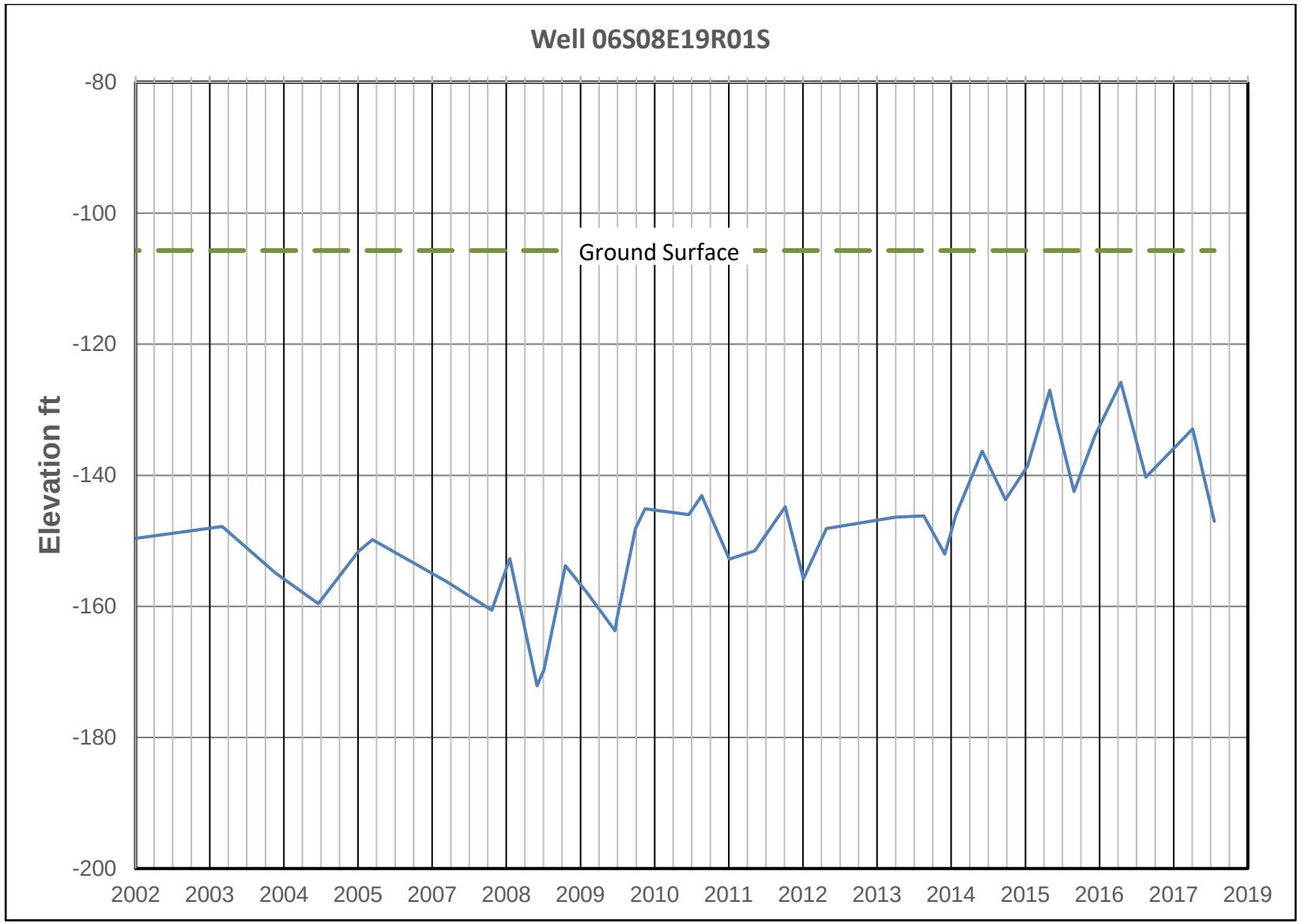
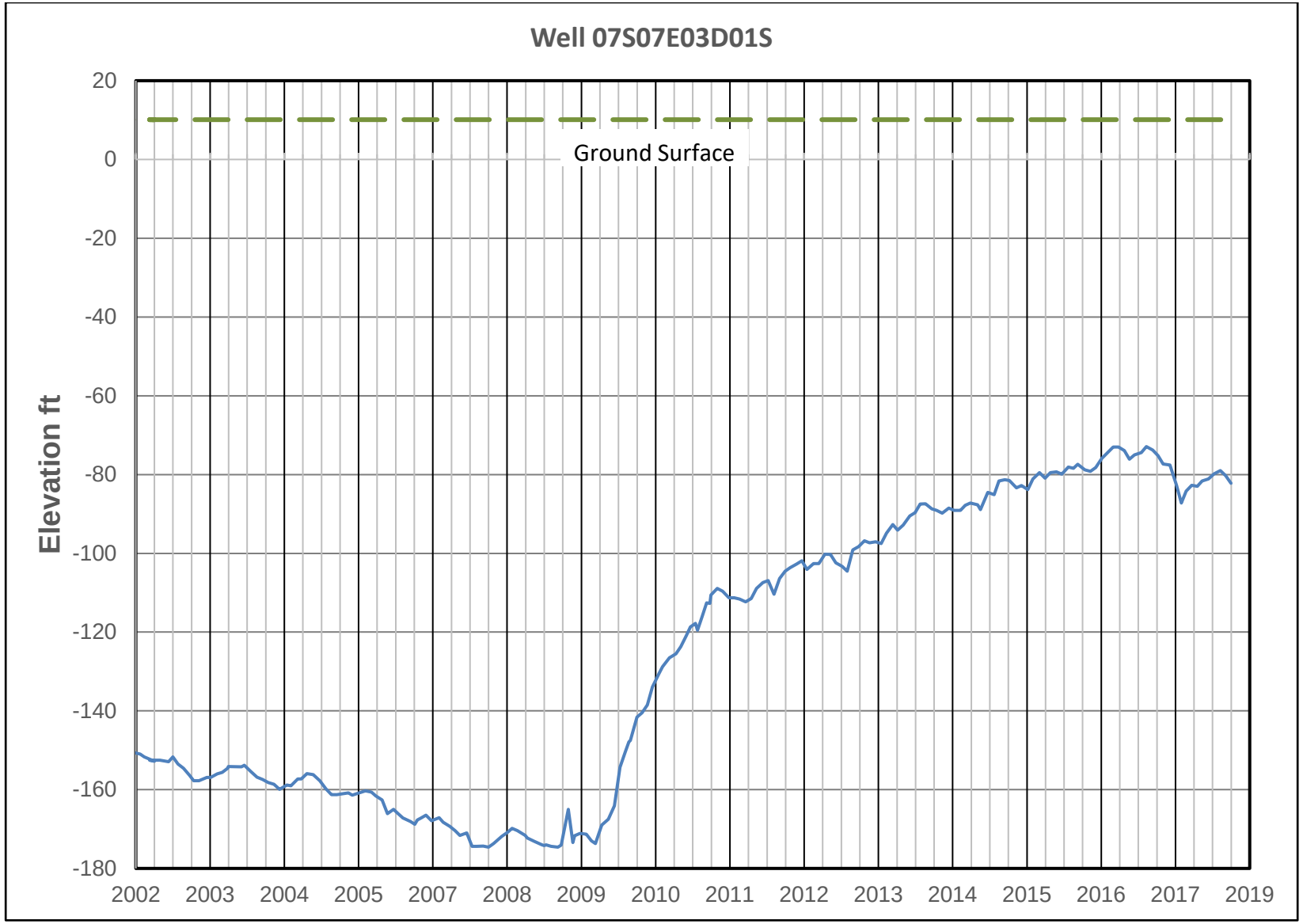
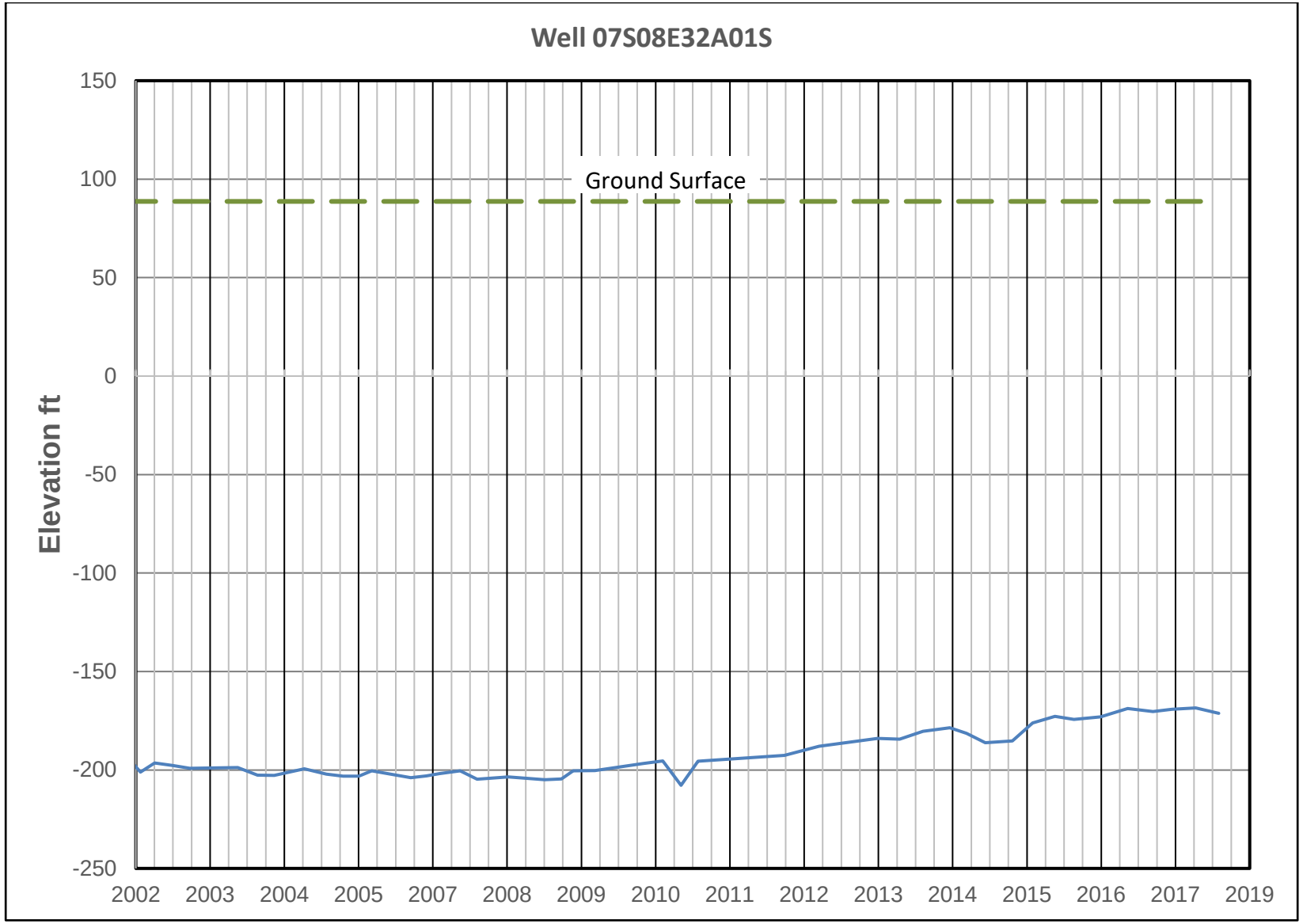
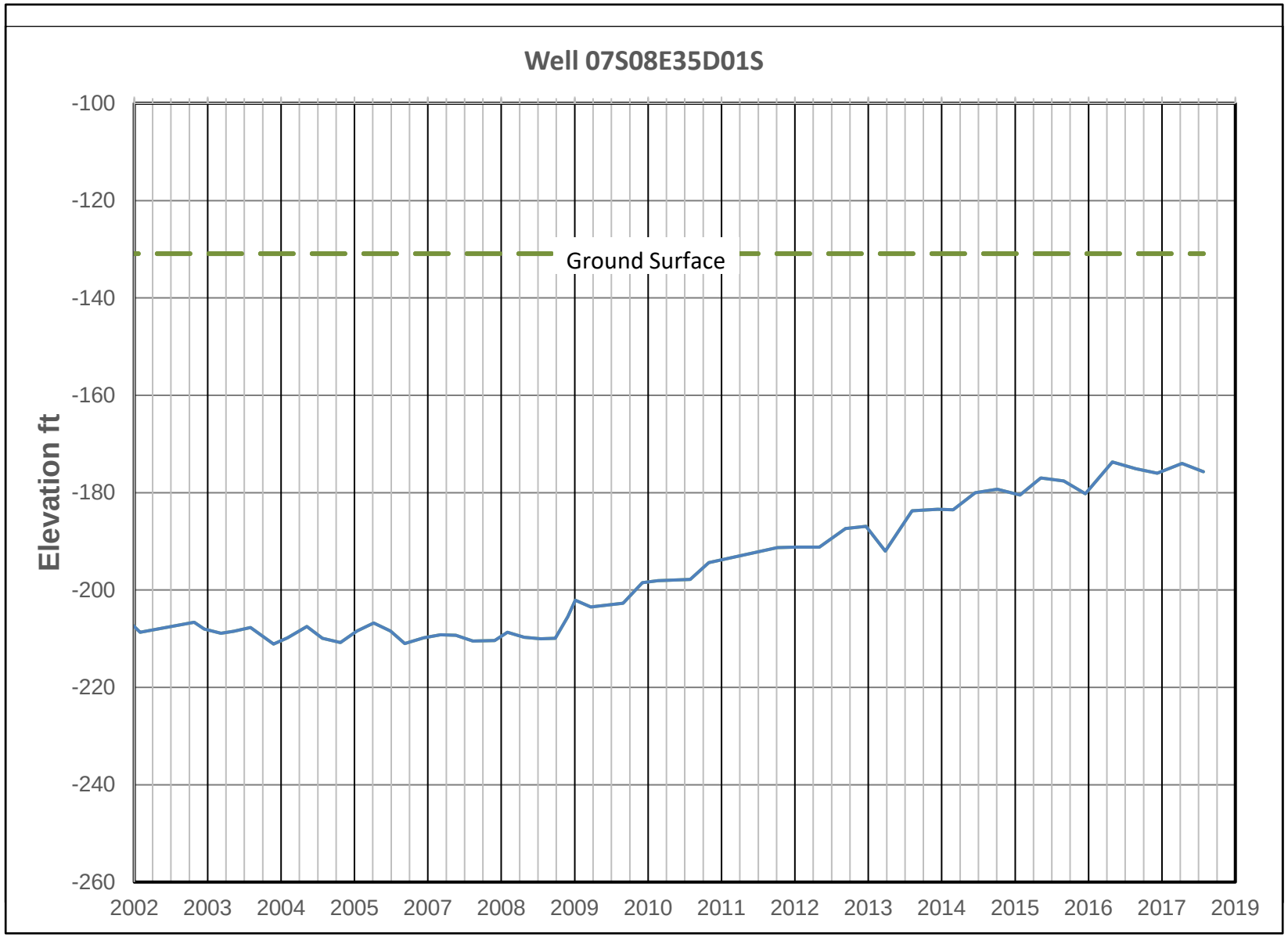

Well 05S06E11B01S
Ground Surface
Elevation ft
200
150
100
50
0
-50
-100
-150
-200
1994
1995
1997
1998
1999
2001
2002
2004
2005
2006
2008
2009
2010
2012
2013
2014
2016
2017
2019

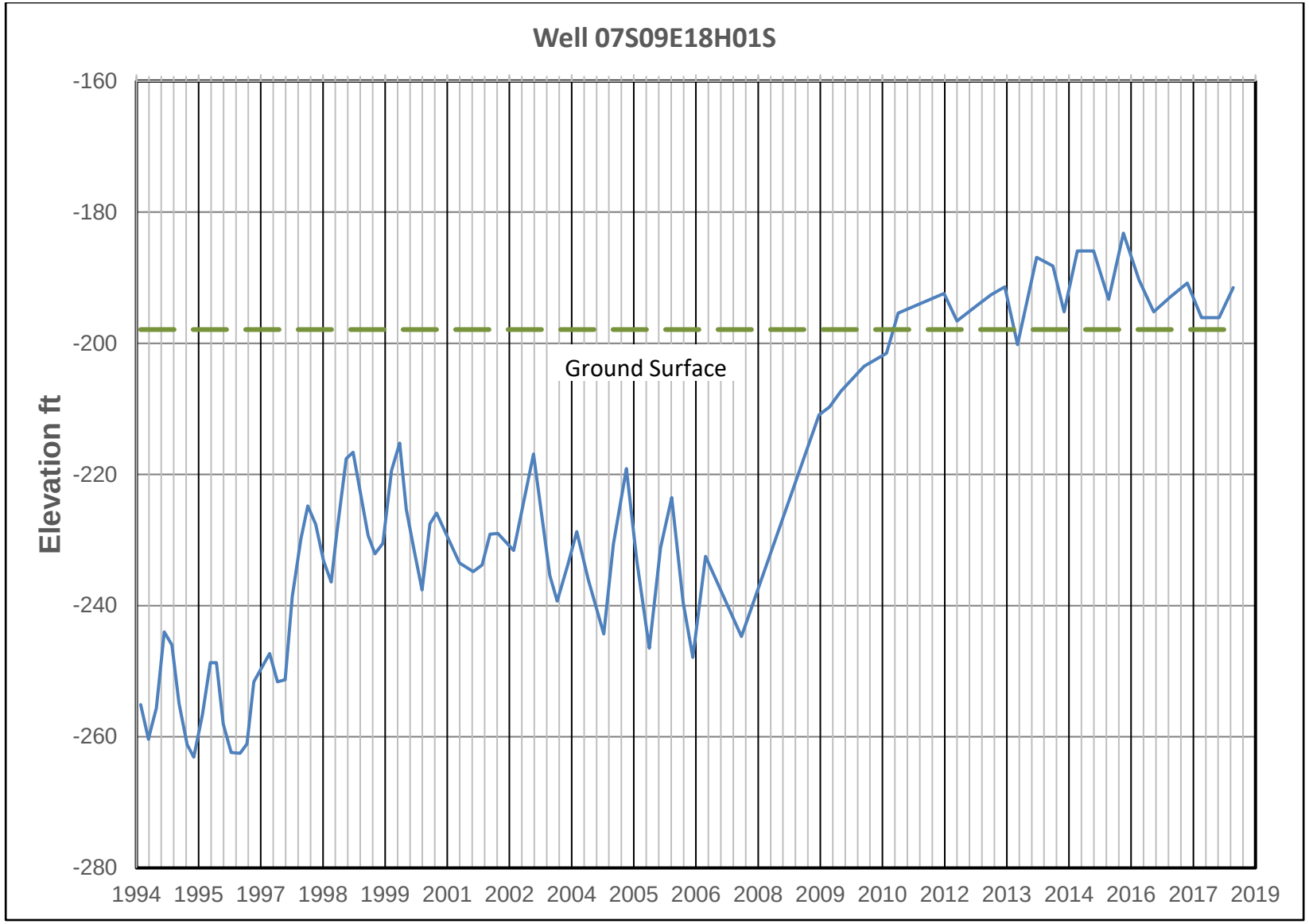

Well 05S07E15Q01S
Ground Surface
Elevation ft
20
0
-20
-40
-60
-80
-100
-120
-140
2002
2003
2004
2005
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2019


Well 06S08E19R01S
Elevation ft
-80
-100
-120
-140
-160
-180
-200
Ground Surface
2002
2003
2004
2005
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2019


Well 07S07E03D01S
Ground Surface
Elevation ft
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
2002
2003
2004
2005
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2019


Well 07S08E32A01S
Ground Surface
Elevation ft
150
100
50
0
-50
-100
-150
-200
-250
2002
2003
2004
2005
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2019


Well 07S08E35D01S
Ground Surface
Elevation ft
-100
-120
-140
-160
-180
-200
-220
-240
-260
2002
2003
2004
2005
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2019


Well 07S09E18H01S
Elevation ft
-160
-180
-200
-220
-240
-260
-280
Ground Surface
1994
1995
1997
1998
1999
2001
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APPENDIX B

Groundwater Elevation Data

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
MSWD	26A	03S03E08A01S	1508.50	2017	10/17/2017	312.86	2018
MSWD	26A	03S03E08A01S	1508.50	2017	11/8/2017	312.93	2018
MSWD	26A	03S03E08A01S	1508.50	2017	12/7/2017	313.11	2018
MSWD	26A	03S03E08A01S	1508.50	2018	1/18/2018	313.2	2018
MSWD	26A	03S03E08A01S	1508.50	2018	2/13/2018	313.46	2018
MSWD	26A	03S03E08A01S	1508.50	2018	3/7/2018	313.39	2018
MSWD	26A	03S03E08A01S	1508.50	2018	4/10/2018	313.43	2018
MSWD	26A	03S03E08A01S	1508.50	2018	5/8/2018	313.69	2018
MSWD	26A	03S03E08A01S	1508.50	2018	6/6/2018	313.71	2018
MSWD	26A	03S03E08A01S	1508.50	2018	8/8/2018	313.96	2018
MSWD	26A	03S03E08A01S	1508.50	2018	9/13/2018	313.99	2018
DWA	BR	03S03E10P01S	1168.00	2017	10/24/2017	359.91	2018
DWA	BR	03S03E10P01S	1168.00	2017	11/28/2017	351.08	2018
DWA	BR	03S03E10P01S	1168.00	2017	12/20/2017	349.50	2018
DWA	BR	03S03E10P01S	1168.00	2018	1/29/2018	340.66	2018
DWA	BR	03S03E10P01S	1168.00	2018	2/21/2018	341.25	2018
DWA	BR	03S03E10P01S	1168.00	2018	3/27/2018	334.33	2018
DWA	BR	03S03E10P01S	1168.00	2018	4/18/2018	330.83	2018
DWA	BR	03S03E10P01S	1168.00	2018	5/22/2018	329.33	2018
DWA	BR	03S03E10P01S	1168.00	2018	6/25/2018	328.33	2018
DWA	BR	03S03E10P01S	1168.00	2018	7/20/2018	327.58	2018
DWA	BR	03S03E10P01S	1168.00	2018	8/23/2018	324.57	2018
DWA	BR	03S03E10P01S	1168.00	2018	9/18/2018	321.72	2018
CVWD	-	03S04E13N02S	710.00	2018	1/23/2018	193.10	2018
CVWD	-	03S04E13N02S	710.00	2018	5/15/2018	189.60	2018
CVWD	-	03S04E13N02S	710.00	2018	9/26/2018	189.20	2018
MSWD	33	03S04E14J01S	760.00	2017	10/19/2017	241.60	2018
MSWD	33	03S04E14J01S	760.00	2017	11/29/2017	242.70	2018
MSWD	33	03S04E14J01S	760.00	2017	12/11/2017	237.60	2018
MSWD	33	03S04E14J01S	760.00	2018	1/16/2018	234.50	2018
MSWD	33	03S04E14J01S	760.00	2018	2/13/2018	234.50	2018
MSWD	33	03S04E14J01S	760.00	2018	3/13/2018	235.80	2018
MSWD	33	03S04E14J01S	760.00	2018	4/4/2018	234.10	2018
MSWD	33	03S04E14J01S	760.00	2018	5/14/2018	233.40	2018
MSWD	33	03S04E14J01S	760.00	2018	6/12/2018	232.70	2018
MSWD	33	03S04E14J01S	760.00	2018	8/14/2018	233.10	2018
MSWD	33	03S04E14J01S	760.00	2018	9/12/2018	232.10	2018
DWA	-	03S04E15G01S	769.00	2017	11/16/2017	173.16	2018
DWA	-	03S04E15G01S	769.00	2017	12/20/2017	171.77	2018
DWA	-	03S04E15G01S	769.00	2018	1/23/2018	167.66	2018
DWA	-	03S04E15G01S	769.00	2018	2/21/2018	164.08	2018
DWA	-	03S04E15G01S	769.00	2018	3/28/2018	160.83	2018
DWA	-	03S04E15G01S	769.00	2018	4/19/2018	159.50	2018
DWA	-	03S04E15G01S	769.00	2018	4/19/2018	160.35	2018
DWA	-	03S04E15G01S	769.00	2018	5/21/2018	158.16	2018
DWA	-	03S04E15G01S	769.00	2018	6/22/2018	157.66	2018
DWA	-	03S04E15G01S	769.00	2018	8/16/2018	157.66	2018
DWA	-	03S04E15G01S	769.00	2018	9/18/2018	152.00	2018
CVWD	-	03S04E17K01S	898.20	2018	1/23/2018	253.00	2018
CVWD	-	03S04E17K01S	898.20	2018	5/15/2018	254.40	2018
CVWD	-	03S04E17K01S	898.20	2018	9/26/2018	272.00	2018
DWA	43	03S04E19L01S		2017	10/20/2017	203.25	2018
DWA	43	03S04E19L01S		2017	11/27/2017	194.33	2018
DWA	43	03S04E19L01S		2017	12/19/2017	186.75	2018
DWA	43	03S04E19L01S		2018	1/25/2018	167.50	2018
DWA	43	03S04E19L01S		2018	2/20/2018	213.25	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	43	03S04E19L01S		2018	3/27/2018	239.50	2018
DWA	43	03S04E19L01S		2018	4/23/2018	257.33	2018
DWA	43	03S04E19L01S		2018	5/21/2018	270.00	2018
DWA	43	03S04E19L01S		2018	6/21/2018	271.08	2018
DWA	43	03S04E19L01S		2018	7/20/2018	261.75	2018
DWA	43	03S04E19L01S		2018	8/15/2018	231.50	2018
DWA	43	03S04E19L01S		2018	9/14/2018	203.30	2018
CVWD	-	03S04E20F01S	887.50	2017	10/27/2017	131.60	2018
CVWD	-	03S04E20F01S	887.50	2017	12/4/2017	120.80	2018
CVWD	-	03S04E20F01S	887.50	2018	1/4/2018	119.90	2018
CVWD	-	03S04E20F01S	887.50	2018	1/30/2018	142.70	2018
CVWD	-	03S04E20F01S	887.50	2018	2/27/2018	168.50	2018
CVWD	-	03S04E20F01S	887.50	2018	3/30/2018	195.50	2018
CVWD	-	03S04E20F01S	887.50	2018	4/23/2018	213.20	2018
CVWD	-	03S04E20F01S	887.50	2018	5/25/2018	222.20	2018
CVWD	-	03S04E20F01S	887.50	2018	6/27/2018	218.80	2018
CVWD	-	03S04E20F01S	887.50	2018	7/27/2018	211.10	2018
CVWD	-	03S04E20F01S	887.50	2018	8/31/2018	163.30	2018
CVWD	-	03S04E20F01S	887.50	2018	9/28/2018	152.50	2018
CVWD	-	03S04E20F02S	887.50	2017	10/27/2017	92.20	2018
CVWD	-	03S04E20F02S	887.50	2017	12/4/2017	86.30	2018
CVWD	-	03S04E20F02S	887.50	2018	1/4/2018	91.60	2018
CVWD	-	03S04E20F02S	887.50	2018	1/30/2018	125.60	2018
CVWD	-	03S04E20F02S	887.50	2018	2/27/2018	156.60	2018
CVWD	-	03S04E20F02S	887.50	2018	3/30/2018	185.50	2018
CVWD	-	03S04E20F02S	887.50	2018	4/23/2018	204.40	2018
CVWD	-	03S04E20F02S	887.50	2018	5/25/2018	198.90	2018
CVWD	-	03S04E20F02S	887.50	2018	6/27/2018	205.70	2018
CVWD	-	03S04E20F02S	887.50	2018	7/27/2018	186.90	2018
CVWD	-	03S04E20F02S	887.50	2018	8/31/2018	120.50	2018
CVWD	-	03S04E20F02S	887.50	2018	9/28/2018	117.20	2018
CVWD	-	03S04E20F03S	887.50	2017	10/27/2017	174.40	2018
CVWD	-	03S04E20F03S	887.50	2017	12/4/2017	161.00	2018
CVWD	-	03S04E20F03S	887.50	2018	1/4/2018	156.60	2018
CVWD	-	03S04E20F03S	887.50	2018	1/30/2018	172.70	2018
CVWD	-	03S04E20F03S	887.50	2018	2/27/2018	192.30	2018
CVWD	-	03S04E20F03S	887.50	2018	3/23/2018	214.70	2018
CVWD	-	03S04E20F03S	887.50	2018	4/23/2018	230.10	2018
CVWD	-	03S04E20F03S	887.50	2018	5/25/2018	241.00	2018
CVWD	-	03S04E20F03S	887.50	2018	6/27/2018	239.60	2018
CVWD	-	03S04E20F03S	887.50	2018	7/27/2018	235.00	2018
CVWD	-	03S04E20F03S	887.50	2018	8/31/2018	197.40	2018
CVWD	-	03S04E20F03S	887.50	2018	9/28/2018	184.30	2018
CVWD	-	03S04E20J01S	839.20	2017	10/27/2017	109.40	2018
CVWD	-	03S04E20J01S	839.20	2017	12/4/2017	97.90	2018
CVWD	-	03S04E20J01S	839.20	2018	1/4/2018	96.90	2018
CVWD	-	03S04E20J01S	839.20	2018	1/30/2018	118.70	2018
CVWD	-	03S04E20J01S	839.20	2018	2/28/2018	146.20	2018
CVWD	-	03S04E20J01S	839.20	2018	3/30/2018	172.10	2018
CVWD	-	03S04E20J01S	839.20	2018	4/23/2018	189.80	2018
CVWD	-	03S04E20J01S	839.20	2018	5/25/2018	198.00	2018
CVWD	-	03S04E20J01S	839.20	2018	6/27/2018	193.20	2018
CVWD	-	03S04E20J01S	839.20	2018	7/27/2018	191.50	2018
CVWD	-	03S04E20J01S	839.20	2018	8/31/2018	144.10	2018
CVWD	-	03S04E20J01S	839.20	2018	9/28/2018	133.00	2018
CVWD	-	03S04E20J02S	839.20	2017	10/27/2017	112.20	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	03S04E20J02S	839.20	2017	12/4/2017	100.50	2018
CVWD	-	03S04E20J02S	839.20	2018	1/4/2018	99.20	2018
CVWD	-	03S04E20J02S	839.20	2018	1/30/2018	120.20	2018
CVWD	-	03S04E20J02S	839.20	2018	2/28/2018	147.40	2018
CVWD	-	03S04E20J02S	839.20	2018	3/30/2018	173.00	2018
CVWD	-	03S04E20J02S	839.20	2018	4/23/2018	190.70	2018
CVWD	-	03S04E20J02S	839.20	2018	5/25/2018	199.10	2018
CVWD	-	03S04E20J02S	839.20	2018	6/27/2018	194.60	2018
CVWD	-	03S04E20J02S	839.20	2018	7/27/2018	192.50	2018
CVWD	-	03S04E20J02S	839.20	2018	8/31/2018	146.00	2018
CVWD	-	03S04E20J02S	839.20	2018	9/28/2018	134.80	2018
CVWD	-	03S04E20J03S	839.20	2017	10/27/2017	131.40	2018
CVWD	-	03S04E20J03S	839.20	2017	12/4/2017	118.60	2018
CVWD	-	03S04E20J03S	839.20	2018	1/4/2018	115.60	2018
CVWD	-	03S04E20J03S	839.20	2018	1/30/2018	133.70	2018
CVWD	-	03S04E20J03S	839.20	2018	2/28/2018	156.90	2018
CVWD	-	03S04E20J03S	839.20	2018	3/30/2018	180.10	2018
CVWD	-	03S04E20J03S	839.20	2018	4/23/2018	197.40	2018
CVWD	-	03S04E20J03S	839.20	2018	5/25/2018	206.40	2018
CVWD	-	03S04E20J03S	839.20	2018	6/27/2018	203.30	2018
CVWD	-	03S04E20J03S	839.20	2018	7/27/2018	200.20	2018
CVWD	-	03S04E20J03S	839.20	2018	8/31/2018	159.20	2018
CVWD	-	03S04E20J03S	839.20	2018	9/28/2018	146.70	2018
CVWD	-	03S04E22A01S	711.80	2018	1/23/2018	110.60	2018
CVWD	-	03S04E22A01S	711.80	2018	5/15/2018	116.30	2018
CVWD	-	03S04E22A01S	711.80	2018	9/26/2018	110.60	2018
CVWD	-	03S04E29F01S	873.80	2017	10/27/2017	107.40	2018
CVWD	-	03S04E29F01S	873.80	2017	12/4/2017	98.30	2018
CVWD	-	03S04E29F01S	873.80	2018	1/4/2018	100.10	2018
CVWD	-	03S04E29F01S	873.80	2018	1/30/2018	130.00	2018
CVWD	-	03S04E29F01S	873.80	2018	2/27/2018	160.50	2018
CVWD	-	03S04E29F01S	873.80	2018	3/30/2018	191.80	2018
CVWD	-	03S04E29F01S	873.80	2018	4/23/2018	211.50	2018
CVWD	-	03S04E29F01S	873.80	2018	5/25/2018	216.40	2018
CVWD	-	03S04E29F01S	873.80	2018	6/27/2018	208.20	2018
CVWD	-	03S04E29F01S	873.80	2018	7/27/2018	204.70	2018
CVWD	-	03S04E29F01S	873.80	2018	8/31/2018	144.20	2018
CVWD	-	03S04E29F01S	873.80	2018	9/28/2018	133.60	2018
CVWD	-	03S04E29R01S	777.40	2017	10/27/2017	153.20	2018
CVWD	-	03S04E29R01S	777.40	2017	12/4/2017	132.20	2018
CVWD	-	03S04E29R01S	777.40	2018	1/4/2018	123.20	2018
CVWD	-	03S04E29R01S	777.40	2018	1/30/2018	137.90	2018
CVWD	-	03S04E29R01S	777.40	2018	2/27/2018	158.30	2018
CVWD	-	03S04E29R01S	777.40	2018	3/30/2018	183.90	2018
CVWD	-	03S04E29R01S	777.40	2018	4/23/2018	200.90	2018
CVWD	-	03S04E29R01S	777.40	2018	5/25/2018	215.60	2018
CVWD	-	03S04E29R01S	777.40	2018	6/27/2018	212.80	2018
CVWD	-	03S04E29R01S	777.40	2018	7/27/2018	216.30	2018
CVWD	-	03S04E29R01S	777.40	2018	8/31/2018	184.50	2018
CVWD	-	03S04E29R01S	777.40	2018	9/28/2018	172.70	2018
DWA	17	03S04E30C01S	938.00	2017	10/21/2017	174.33	2018
DWA	17	03S04E30C01S	938.00	2017	11/21/2017	162.75	2018
DWA	17	03S04E30C01S	938.00	2017	12/19/2017	153.83	2018
DWA	17	03S04E30C01S	938.00	2018	1/26/2018	167.50	2018
DWA	17	03S04E30C01S	938.00	2018	2/20/2018	186.83	2018
DWA	17	03S04E30C01S	938.00	2018	3/27/2018	213.16	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	17	03S04E30C01S	938.00	2018	4/20/2018	230.33	2018
DWA	17	03S04E30C01S	938.00	2018	5/22/2018	245.00	2018
DWA	17	03S04E30C01S	938.00	2018	6/22/2018	245.00	2018
DWA	17	03S04E30C01S	938.00	2018	8/17/2018	200.00	2018
DWA	17	03S04E30C01S	938.00	2018	9/14/2018	172.50	2018
DWA	42	03S04E33H01S	691.45	2017	10/20/2017	274.08	2018
DWA	42	03S04E33H01S	691.45	2017	11/21/2017	207.25	2018
DWA	42	03S04E33H01S	691.45	2018	1/26/2018	233.58	2018
DWA	42	03S04E33H01S	691.45	2018	2/20/2018	233.08	2018
DWA	42	03S04E33H01S	691.45	2018	3/27/2018	240.50	2018
DWA	42	03S04E33H01S	691.45	2018	4/20/2018	239.50	2018
DWA	42	03S04E33H01S	691.45	2018	5/21/2018	239.00	2018
DWA	42	03S04E33H01S	691.45	2018	6/21/2018	254.91	2018
DWA	42	03S04E33H01S	691.45	2018	7/20/2018	257.50	2018
DWA	42	03S04E33H01S	691.45	2018	8/22/2018	253.66	2018
DWA	42	03S04E33H01S	691.45	2018	9/18/2018	246.32	2018
DWA	30	03S04E34H01S	622.83	2017	10/18/2017	299.16	2018
DWA	30	03S04E34H01S	622.83	2017	11/27/2017	292.00	2018
DWA	30	03S04E34H01S	622.83	2017	12/19/2017	285.75	2018
DWA	30	03S04E34H01S	622.83	2018	1/20/2018	272.53	2018
DWA	30	03S04E34H01S	622.83	2018	2/20/2018	256.16	2018
DWA	30	03S04E34H01S	622.83	2018	3/26/2018	256.16	2018
DWA	30	03S04E34H01S	622.83	2018	4/20/2018	266.08	2018
DWA	30	03S04E34H01S	622.83	2018	5/22/2018	269.50	2018
DWA	30	03S04E34H01S	622.83	2018	6/21/2018	269.50	2018
DWA	30	03S04E34H01S	622.83	2018	8/14/2018	266.58	2018
DWA	30	03S04E34H01S	622.83	2018	9/11/2018	262.16	2018
DWA	35	03S04E34H02S	618.98	2018	4/20/2018	263.58	2018
DWA	35	03S04E34H02S	618.98	2018	8/15/2018	265.50	2018
DWA	35	03S04E34H02S	618.98	2018	9/11/2018	262.66	2018
DWA	21	03S04E34R01S	610.69	2017	10/23/2017	307.00	2018
DWA	21	03S04E34R01S	610.69	2017	11/21/2017	299.33	2018
DWA	21	03S04E34R01S	610.69	2017	12/18/2017	293.83	2018
DWA	21	03S04E34R01S	610.69	2018	1/23/2018	282.33	2018
DWA	21	03S04E34R01S	610.69	2018	2/20/2018	276.91	2018
DWA	21	03S04E34R01S	610.69	2018	3/26/2018	273.00	2018
DWA	21	03S04E34R01S	610.69	2018	4/23/2018	272.25	2018
DWA	21	03S04E34R01S	610.69	2018	5/21/2018	272.25	2018
DWA	21	03S04E34R01S	610.69	2018	6/21/2018	274.58	2018
DWA	21	03S04E34R01S	610.69	2018	7/20/2018	274.91	2018
DWA	21	03S04E34R01S	610.69	2018	8/16/2018	271.75	2018
DWA	21	03S04E34R01S	610.69	2018	9/18/2018	270.16	2018
DWA	33	03S04E35J01S	551.74	2017	10/18/2017	284.00	2018
DWA	33	03S04E35J01S	551.74	2017	11/21/2017	272.16	2018
DWA	33	03S04E35J01S	551.74	2017	12/19/2017	278.16	2018
DWA	33	03S04E35J01S	551.74	2018	1/25/2018	266.66	2018
DWA	33	03S04E35J01S	551.74	2018	2/20/2018	262.00	2018
DWA	33	03S04E35J01S	551.74	2018	3/26/2018	258.88	2018
DWA	33	03S04E35J01S	551.74	2018	4/17/2018	258.91	2018
DWA	33	03S04E35J01S	551.74	2018	5/21/2018	257.66	2018
DWA	33	03S04E35J01S	551.74	2018	6/26/2018	258.00	2018
DWA	33	03S04E35J01S	551.74	2018	8/16/2018	254.75	2018
DWA	33	03S04E35J01S	551.74	2018	9/18/2018	251.72	2018
DWA	34	03S04E35J02S	560.81	2017	10/18/2017	279.81	2018
DWA	34	03S04E35J02S	560.81	2017	11/16/2017	282.00	2018
DWA	34	03S04E35J02S	560.81	2017	12/18/2017	275.87	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	34	03S04E35J02S	560.81	2018	1/25/2018	251.23	2018
DWA	34	03S04E35J02S	560.81	2018	2/20/2018	261.10	2018
DWA	34	03S04E35J02S	560.81	2018	3/26/2018	257.00	2018
DWA	34	03S04E35J02S	560.81	2018	4/17/2018	256.00	2018
DWA	34	03S04E35J02S	560.81	2018	5/21/2018	256.00	2018
DWA	34	03S04E35J02S	560.81	2018	6/21/2018	254.00	2018
DWA	34	03S04E35J02S	560.81	2018	8/13/2018	254.58	2018
DWA	34	03S04E35J02S	560.81	2018	9/18/2018	251.72	2018
DWA	27	03S04E35R01S	543.00	2018	4/20/2018	253.00	2018
DWA	27	03S04E35R01S	543.00	2018	8/22/2018	248.91	2018
DWA	28	03S04E35R02S	546.85	2017	10/13/2017	284.50	2018
DWA	28	03S04E35R02S	546.85	2017	11/21/2017	278.25	2018
DWA	28	03S04E35R02S	546.85	2017	12/18/2017	273.66	2018
DWA	28	03S04E35R02S	546.85	2018	1/26/2018	264.25	2018
DWA	28	03S04E35R02S	546.85	2018	2/22/2018	262.25	2018
DWA	28	03S04E35R02S	546.85	2018	3/26/2018	254.00	2018
DWA	28	03S04E35R02S	546.85	2018	4/17/2018	253.25	2018
DWA	28	03S04E35R02S	546.85	2018	5/22/2018	249.00	2018
DWA	28	03S04E35R02S	546.85	2018	6/21/2018	248.58	2018
DWA	28	03S04E35R02S	546.85	2018	7/20/2018	247.00	2018
DWA	28	03S04E35R02S	546.85	2018	8/14/2018	246.33	2018
DWA	28	03S04E35R02S	546.85	2018	9/18/2018	244.64	2018
DWA	9	03S04E36M01S	546.82	2018	4/19/2018	250.25	2018
DWA	9	03S04E36M01S	546.82	2018	9/18/2018	243.64	2018
DWA	38	03S04E36Q01S	516.50	2017	10/18/2017	270.00	2018
DWA	38	03S04E36Q01S	516.50	2017	11/21/2017	268.91	2018
DWA	38	03S04E36Q01S	516.50	2017	12/18/2017	263.16	2018
DWA	38	03S04E36Q01S	516.50	2018	1/26/2018	256.83	2018
DWA	38	03S04E36Q01S	516.50	2018	2/20/2018	253.00	2018
DWA	38	03S04E36Q01S	516.50	2018	3/26/2018	249.00	2018
DWA	38	03S04E36Q01S	516.50	2018	4/19/2018	248.33	2018
DWA	38	03S04E36Q01S	516.50	2018	5/21/2018	247.66	2018
DWA	38	03S04E36Q01S	516.50	2018	6/21/2018	244.44	2018
DWA	38	03S04E36Q01S	516.50	2018	7/20/2018	245.00	2018
DWA	38	03S04E36Q01S	516.50	2018	8/16/2018	241.33	2018
DWA	38	03S04E36Q01S	516.50	2018	9/12/2018	240.58	2018
DWA	37	03S04E36Q02S	519.00	2018	4/19/2018	247.66	2018
DWA	37	03S04E36Q02S	519.00	2018	8/15/2018	243.16	2018
DWA	37	03S04E36Q02S	519.00	2018	9/12/2018	239.08	2018
CVWD	-	03S05E30G01S	587.10	2018	1/23/2018	203.80	2018
CVWD	-	03S05E30G01S	587.10	2018	5/15/2018	203.80	2018
CVWD	-	03S05E30G01S	587.10	2018	9/26/2018	204.00	2018
DWA	22	04S04E02B01S	564.18	2017	10/23/2017	298.00	2018
DWA	22	04S04E02B01S	564.18	2017	11/27/2017	297.25	2018
DWA	22	04S04E02B01S	564.18	2017	12/19/2017	295.33	2018
DWA	22	04S04E02B01S	564.18	2018	1/26/2018	281.00	2018
DWA	22	04S04E02B01S	564.18	2018	2/22/2018	281.50	2018
DWA	22	04S04E02B01S	564.18	2018	3/26/2018	272.75	2018
DWA	22	04S04E02B01S	564.18	2018	4/19/2018	272.66	2018
DWA	22	04S04E02B01S	564.18	2018	5/21/2018	270.25	2018
DWA	22	04S04E02B01S	564.18	2018	6/21/2018	269.16	2018
DWA	22	04S04E02B01S	564.18	2018	7/20/2018	269.66	2018
DWA	22	04S04E02B01S	564.18	2018	8/22/2018	267.08	2018
DWA	22	04S04E02B01S	564.18	2018	9/14/2018	266.00	2018
DWA	5	04S04E11Q01S	468.25	2017	10/20/2017	246.41	2018
DWA	5	04S04E11Q01S	468.25	2017	11/27/2017	245.25	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	5	04S04E11Q01S	468.25	2017	12/19/2017	243.50	2018
DWA	5	04S04E11Q01S	468.25	2018	1/26/2018	237.58	2018
DWA	5	04S04E11Q01S	468.25	2018	2/21/2018	235.75	2018
DWA	5	04S04E11Q01S	468.25	2018	3/27/2018	233.41	2018
DWA	5	04S04E11Q01S	468.25	2018	4/19/2018	230.16	2018
DWA	5	04S04E11Q01S	468.25	2018	5/21/2018	227.50	2018
DWA	5	04S04E11Q01S	468.25	2018	6/22/2018	228.33	2018
DWA	5	04S04E11Q01S	468.25	2018	7/20/2018	228.00	2018
DWA	5	04S04E11Q01S	468.25	2018	8/17/2018	223.25	2018
DWA	5	04S04E11Q01S	468.25	2018	9/14/2018	221.33	2018
DWA	18	04S04E11Q02S	469.21	2018	4/19/2018	224.66	2018
DWA	18	04S04E11Q02S	469.21	2018	9/14/2018	216.58	2018
DWA	23	04S04E13C01S	454.11	2017	10/23/2017	237.41	2018
DWA	23	04S04E13C01S	454.11	2017	11/27/2017	236.00	2018
DWA	23	04S04E13C01S	454.11	2017	12/19/2017	233.16	2018
DWA	23	04S04E13C01S	454.11	2018	1/26/2018	229.58	2018
DWA	23	04S04E13C01S	454.11	2018	2/21/2018	228.50	2018
DWA	23	04S04E13C01S	454.11	2018	3/27/2018	229.41	2018
DWA	23	04S04E13C01S	454.11	2018	4/19/2018	223.16	2018
DWA	23	04S04E13C01S	454.11	2018	5/21/2018	220.58	2018
DWA	23	04S04E13C01S	454.11	2018	6/22/2018	219.33	2018
DWA	23	04S04E13C01S	454.11	2018	7/20/2018	218.66	2018
DWA	23	04S04E13C01S	454.11	2018	8/14/2018	216.50	2018
DWA	23	04S04E13C01S	454.11	2018	9/13/2018	215.91	2018
DWA	20	04S04E14Q01S	424.11	2018	4/20/2018	208.66	2018
DWA	20	04S04E14Q01S	424.11	2018	5/22/2018	210.66	2018
DWA	20	04S04E14Q01S	424.11	2018	9/19/2018	206.00	2018
DWA	11	04S04E14R01S	415.60	2017	10/20/2017	218.00	2018
DWA	11	04S04E14R01S	415.60	2017	11/27/2017	218.50	2018
DWA	11	04S04E14R01S	415.60	2017	12/19/2017	195.00	2018
DWA	11	04S04E14R01S	415.60	2018	1/26/2018	209.75	2018
DWA	11	04S04E14R01S	415.60	2018	2/21/2018	210.00	2018
DWA	11	04S04E14R01S	415.60	2018	3/27/2018	207.41	2018
DWA	11	04S04E14R01S	415.60	2018	4/19/2018	206.75	2018
DWA	11	04S04E14R01S	415.60	2018	5/21/2018	205.50	2018
DWA	11	04S04E14R01S	415.60	2018	6/22/2018	204.25	2018
DWA	11	04S04E14R01S	415.60	2018	7/20/2018	202.50	2018
DWA	11	04S04E14R01S	415.60	2018	8/17/2018	202.41	2018
DWA	11	04S04E14R01S	415.60	2018	9/19/2018	201.08	2018
DWA	24	04S04E24D01S	400.97	2017	10/23/2017	202.91	2018
DWA	24	04S04E24D01S	400.97	2017	11/20/2017	199.60	2018
DWA	24	04S04E24D01S	400.97	2018	2/21/2018	189.66	2018
DWA	24	04S04E24D01S	400.97	2018	3/22/2018	196.91	2018
DWA	24	04S04E24D01S	400.97	2018	4/19/2018	194.50	2018
DWA	24	04S04E24D01S	400.97	2018	5/21/2018	194.08	2018
DWA	24	04S04E24D01S	400.97	2018	6/22/2018	193.50	2018
DWA	24	04S04E24D01S	400.97	2018	7/24/2018	197.00	2018
DWA	24	04S04E24D01S	400.97	2018	8/22/2018	191.50	2018
DWA	24	04S04E24D01S	400.97	2018	9/13/2018	190.83	2018
DWA	32	04S04E24E01S	403.66	2018	4/19/2018	196.75	2018
DWA	32	04S04E24E01S	403.66	2018	7/2/2018	195.33	2018
DWA	32	04S04E24E01S	403.66	2018	9/18/2018	200.33	2018
DWA	29	04S04E24H01S	380.97	2017	10/23/2017	183.03	2018
DWA	29	04S04E24H01S	380.97	2017	11/20/2017	185.75	2018
DWA	29	04S04E24H01S	380.97	2017	12/19/2017	186.50	2018
DWA	29	04S04E24H01S	380.97	2018	1/26/2018	183.66	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	29	04S04E24H01S	380.97	2018	7/20/2018	181.33	2018
DWA	29	04S04E24H01S	380.97	2018	8/23/2018	181.45	2018
DWA	29	04S04E24H01S	380.97	2018	9/19/2018	179.08	2018
DWA	39	04S04E25C01S	416.54	2017	10/20/2017	222.25	2018
DWA	39	04S04E25C01S	416.54	2017	11/20/2017	219.00	2018
DWA	39	04S04E25C01S	416.54	2017	12/19/2017	222.91	2018
DWA	39	04S04E25C01S	416.54	2018	1/26/2018	217.08	2018
DWA	39	04S04E25C01S	416.54	2018	2/21/2018	217.66	2018
DWA	39	04S04E25C01S	416.54	2018	3/27/2018	215.66	2018
DWA	39	04S04E25C01S	416.54	2018	4/19/2018	216.83	2018
DWA	39	04S04E25C01S	416.54	2018	5/21/2018	214.91	2018
DWA	39	04S04E25C01S	416.54	2018	6/22/2018	215.25	2018
DWA	39	04S04E25C01S	416.54	2018	7/24/2018	216.66	2018
DWA	39	04S04E25C01S	416.54	2018	8/22/2018	213.25	2018
DWA	39	04S04E25C01S	416.54	2018	9/13/2018	213.16	2018
DWA	40	04S04E25D02S	423.14	2018	4/19/2018	216.83	2018
DWA	40	04S04E25D02S	423.14	2018	7/2/2018	220.50	2018
DWA	40	04S04E25D02S	423.14	2018	8/15/2018	219.83	2018
DWA	40	04S04E25D02S	423.14	2018	9/13/2018	218.08	2018
DWA	14	04S04E26A01S	433.05	2017	10/20/2017	236.83	2018
DWA	14	04S04E26A01S	433.05	2017	11/20/2017	242.66	2018
DWA	14	04S04E26A01S	433.05	2017	12/19/2017	234.25	2018
DWA	14	04S04E26A01S	433.05	2018	1/26/2018	232.33	2018
DWA	14	04S04E26A01S	433.05	2018	2/21/2018	233.50	2018
DWA	14	04S04E26A01S	433.05	2018	3/27/2018	232.66	2018
DWA	14	04S04E26A01S	433.05	2018	4/19/2018	237.25	2018
DWA	14	04S04E26A01S	433.05	2018	5/21/2018	238.66	2018
DWA	14	04S04E26A01S	433.05	2018	6/22/2018	239.00	2018
DWA	14	04S04E26A01S	433.05	2018	7/20/2018	237.00	2018
DWA	14	04S04E26A01S	433.05	2018	8/22/2018	229.66	2018
DWA	14	04S04E26A01S	433.05	2018	9/19/2018	235.66	2018
DWA	15	04S04E35K01S		2018	6/22/2018	322.00	2018
DWA	15	04S04E35K01S		2018	9/18/2018	323.00	2018
CVWD	-	04S05E04N01S	427.90	2018	1/25/2018	262.40	2018
CVWD	-	04S05E04N01S	427.90	2018	5/16/2018	259.60	2018
CVWD	-	04S05E05A01S	448.00	2018	1/25/2018	250.20	2018
CVWD	-	04S05E05A01S	448.00	2018	5/16/2018	244.90	2018
CVWD	-	04S05E05K01S	443.70	2018	1/25/2018	244.90	2018
CVWD	-	04S05E05K01S	443.70	2018	5/16/2018	238.20	2018
CVWD	-	04S05E08D01S	443.90	2018	1/25/2018	263.80	2018
CVWD	-	04S05E08D01S	443.90	2018	5/16/2018	254.60	2018
DWA	41	04S05E08N01S	412.02	2017	10/19/2017	220.16	2018
DWA	41	04S05E08N01S	412.02	2017	11/17/2017	217.08	2018
DWA	41	04S05E08N01S	412.02	2017	12/19/2017	220.16	2018
DWA	41	04S05E08N01S	412.02	2018	1/26/2018	202.58	2018
DWA	41	04S05E08N01S	412.02	2018	2/20/2018	213.00	2018
DWA	41	04S05E08N01S	412.02	2018	3/27/2018	208.33	2018
DWA	41	04S05E08N01S	412.02	2018	4/19/2018	220.10	2018
DWA	41	04S05E08N01S	412.02	2018	5/21/2018	208.08	2018
DWA	41	04S05E08N01S	412.02	2018	6/21/2018	205.50	2018
DWA	41	04S05E08N01S	412.02	2018	8/22/2018	204.41	2018
DWA	41	04S05E08N01S	412.02	2018	9/11/2018	202.75	2018
CVWD	-	04S05E08R01S	397.00	2018	1/25/2018	246.00	2018
CVWD	-	04S05E08R01S	397.00	2018	5/18/2018	243.80	2018
CVWD	-	04S05E09B01S	395.50	2018	1/25/2018	221.00	2018
CVWD	-	04S05E09B01S	395.50	2018	5/18/2018	217.70	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	04S05E09F03S	396.90	2018	1/25/2018	222.60	2018
CVWD	-	04S05E09F03S	396.90	2018	5/18/2018	220.70	2018
CVWD	-	04S05E09R01S	375.40	2018	1/25/2018	212.20	2018
CVWD	-	04S05E09R01S	375.40	2018	5/22/2018	217.50	2018
CVWD	-	04S05E15C01S	353.70	2018	1/29/2018	231.20	2018
CVWD	-	04S05E15C01S	353.70	2018	5/22/2018	230.60	2018
CVWD	-	04S05E15G01S	356.70	2018	1/29/2018	237.70	2018
CVWD	-	04S05E15G01S	356.70	2018	5/22/2018	233.40	2018
CVWD	-	04S05E15R02S	346.70	2018	1/29/2018	223.40	2018
CVWD	-	04S05E15R02S	346.70	2018	5/22/2018	227.70	2018
CVWD	-	04S05E16J01S	367.80	2017	10/4/2017	247.80	2018
CVWD	-	04S05E16J01S	367.80	2018	1/29/2018	239.30	2018
CVWD	-	04S05E16J01S	367.80	2018	5/22/2018	232.80	2018
DWA	31	04S05E17Q02S	367.99	2017	10/19/2017	203.16	2018
DWA	31	04S05E17Q02S	367.99	2017	11/27/2017	206.08	2018
DWA	31	04S05E17Q02S	367.99	2017	12/19/2017	205.33	2018
DWA	31	04S05E17Q02S	367.99	2018	1/26/2018	216.25	2018
DWA	31	04S05E17Q02S	367.99	2018	2/20/2018	203.66	2018
DWA	31	04S05E17Q02S	367.99	2018	3/26/2018	198.33	2018
DWA	31	04S05E17Q02S	367.99	2018	4/19/2018	199.00	2018
DWA	31	04S05E17Q02S	367.99	2018	5/21/2018	198.50	2018
DWA	31	04S05E17Q02S	367.99	2018	6/21/2018	198.00	2018
DWA	31	04S05E17Q02S	367.99	2018	7/20/2018	198.50	2018
DWA	31	04S05E17Q02S	367.99	2018	8/14/2018	195.75	2018
DWA	31	04S05E17Q02S	367.99	2018	9/19/2018	195.40	2018
DWA	3	04S05E19D01S	394.26	2018	4/20/2018	195.83	2018
DWA	3	04S05E19D01S	394.26	2018	9/14/2018	191.00	2018
CVWD	-	04S05E21J02S	345.40	2018	1/29/2018	217.20	2018
CVWD	-	04S05E21J02S	345.40	2018	5/23/2018	216.00	2018
CVWD	-	04S05E22C01S	350.10	2018	1/29/2018	232.40	2018
CVWD	-	04S05E22C01S	350.10	2018	5/22/2018	233.50	2018
CVWD	-	04S05E25A01S	350.00	2017	10/5/2017	298.30	2018
CVWD	-	04S05E25A01S	350.00	2018	2/7/2018	297.20	2018
CVWD	-	04S05E25A01S	350.00	2018	6/1/2018	300.40	2018
CVWD	-	04S05E25D02S	324.80	2017	10/12/2017	253.70	2018
CVWD	-	04S05E25D02S	324.80	2018	2/7/2018	249.50	2018
CVWD	-	04S05E25D02S	324.80	2018	6/1/2018	252.70	2018
CVWD	-	04S05E25J01S	318.16	2017	10/6/2017	286.50	2018
CVWD	-	04S05E25J01S	318.16	2018	2/9/2018	266.50	2018
CVWD	-	04S05E25J01S	318.16	2018	6/5/2018	287.20	2018
CVWD	-	04S05E27A01S	349.00	2017	10/4/2017	252.70	2018
CVWD	-	04S05E27A01S	349.00	2018	2/2/2018	252.40	2018
CVWD	-	04S05E27A01S	349.00	2018	5/30/2018	251.90	2018
CVWD	-	04S05E27E01S	313.20	2017	10/4/2017	199.90	2018
CVWD	-	04S05E27E01S	313.20	2018	2/2/2018	199.50	2018
CVWD	-	04S05E27E01S	313.20	2018	5/30/2018	198.20	2018
CVWD	-	04S05E27E03S		2017	10/4/2017	203.10	2018
CVWD	-	04S05E27E03S		2018	2/2/2018	202.80	2018
CVWD	-	04S05E27E03S		2018	5/30/2018	201.90	2018
CVWD	-	04S05E27K01S	296.50	2017	10/4/2017	198.60	2018
CVWD	-	04S05E27K01S	296.50	2018	2/2/2018	198.00	2018
CVWD	-	04S05E27K01S	296.50	2018	5/30/2018	197.50	2018
CVWD	-	04S05E28F02S	318.30	2017	10/4/2017	196.30	2018
CVWD	-	04S05E28F02S	318.30	2018	1/30/2018	190.80	2018
CVWD	-	04S05E28F02S	318.30	2018	5/23/2018	191.70	2018
DWA	25	04S05E29A02S	334.04	2017	10/19/2017	188.33	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	25	04S05E29A02S	334.04	2017	11/21/2017	190.58	2018
DWA	25	04S05E29A02S	334.04	2017	12/19/2017	194.20	2018
DWA	25	04S05E29A02S	334.04	2018	1/26/2018	197.30	2018
DWA	25	04S05E29A02S	334.04	2018	2/20/2018	197.50	2018
DWA	25	04S05E29A02S	334.04	2018	3/27/2018	189.66	2018
DWA	25	04S05E29A02S	334.04	2018	4/19/2018	188.50	2018
DWA	25	04S05E29A02S	334.04	2018	5/22/2018	189.10	2018
DWA	25	04S05E29A02S	334.04	2018	6/21/2018	188.25	2018
DWA	25	04S05E29A02S	334.04	2018	7/20/2018	188.25	2018
DWA	25	04S05E29A02S	334.04	2018	8/17/2018	188.00	2018
DWA	25	04S05E29A02S	334.04	2018	9/11/2018	187.16	2018
CVWD	-	04S05E29F01S		2017	10/4/2017	188.10	2018
CVWD	-	04S05E29F01S		2018	1/30/2018	187.00	2018
CVWD	-	04S05E29F01S		2018	5/23/2018	185.70	2018
DWA	26	04S05E29H01S	330.25	2018	4/19/2018	190.50	2018
DWA	26	04S05E29H01S	330.25	2018	8/29/2018	186.80	2018
DWA	26	04S05E29H01S	330.25	2018	9/1/2018	189.66	2018
CVWD	-	04S05E30C01S		2017	10/4/2017	192.00	2018
CVWD	-	04S05E30C01S		2018	1/30/2018	189.70	2018
CVWD	-	04S05E30C01S		2018	5/23/2018	189.40	2018
DWA	19	04S05E33B03S	299.31	2017	10/19/2017	177.25	2018
DWA	19	04S05E33B03S	299.31	2017	11/21/2017	173.00	2018
DWA	19	04S05E33B03S	299.31	2017	12/19/2017	177.00	2018
DWA	19	04S05E33B03S	299.31	2018	1/26/2018	177.00	2018
DWA	19	04S05E33B03S	299.31	2018	2/20/2018	178.00	2018
DWA	19	04S05E33B03S	299.31	2018	3/27/2018	177.33	2018
DWA	19	04S05E33B03S	299.31	2018	4/19/2018	177.16	2018
DWA	19	04S05E33B03S	299.31	2018	5/21/2018	176.66	2018
DWA	19	04S05E33B03S	299.31	2018	6/22/2018	175.66	2018
DWA	19	04S05E33B03S	299.31	2018	7/20/2018	176.83	2018
DWA	19	04S05E33B03S	299.31	2018	8/22/2018	176.75	2018
DWA	19	04S05E33B03S	299.31	2018	9/19/2018	175.88	2018
CVWD	-	04S05E35G03S	271.80	2017	10/6/2017	204.70	2018
CVWD	-	04S05E35G03S	271.80	2018	2/9/2018	204.00	2018
CVWD	-	04S05E35G03S	271.80	2018	6/5/2018	204.60	2018
CVWD	-	04S05E35G04S	272.70	2017	10/6/2017	206.70	2018
CVWD	-	04S05E35G04S	272.70	2018	2/9/2018	202.60	2018
CVWD	-	04S05E35G04S	272.70	2018	6/5/2018	208.50	2018
CVWD	-	04S05E36M01S	251.20	2017	10/9/2017	203.20	2018
CVWD	-	04S05E36M01S	251.20	2018	2/13/2018	201.50	2018
CVWD	-	04S05E36M01S	251.20	2018	6/5/2018	209.20	2018
CVWD	-	04S06E18P01S	231.10	2017	10/5/2017	177.50	2018
CVWD	-	04S06E18P01S	231.10	2018	2/7/2018	181.70	2018
CVWD	-	04S06E18P01S	231.10	2018	6/1/2018	182.40	2018
CVWD	-	04S06E18Q04S	243.20	2017	10/5/2017	203.00	2018
CVWD	-	04S06E18Q04S	243.20	2018	2/7/2018	202.90	2018
CVWD	-	04S06E18Q04S	243.20	2018	6/1/2018	206.80	2018
CVWD	-	04S06E18Q06S	228.90	2017	10/5/2017	182.30	2018
CVWD	-	04S06E18Q06S	228.90	2018	2/7/2018	181.30	2018
CVWD	-	04S06E18Q06S	228.90	2018	6/1/2018	183.50	2018
CVWD	-	04S06E18R01S	242.50	2017	10/4/2017	198.70	2018
CVWD	-	04S06E18R01S	242.50	2018	2/7/2018	197.10	2018
CVWD	-	04S06E18R01S	242.50	2018	6/1/2018	198.90	2018
CVWD	-	04S06E19J03S	218.90	2017	10/6/2017	206.30	2018
CVWD	-	04S06E19J03S	218.90	2018	2/8/2018	197.60	2018
CVWD	-	04S06E19J03S	218.90	2018	6/5/2018	201.30	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	04S06E20M02S	207.30	2017	10/6/2017	177.20	2018
CVWD	-	04S06E20M02S	207.30	2018	2/8/2018	172.50	2018
CVWD	-	04S06E20M02S	207.30	2018	6/4/2018	176.90	2018
CVWD	-	04S06E22C01S	218.70	2017	10/5/2017	215.10	2018
CVWD	-	04S06E22C01S	218.70	2018	2/7/2018	214.20	2018
CVWD	-	04S06E22C01S	218.70	2018	6/1/2018	214.60	2018
CVWD	-	04S06E25J02S	157.90	2017	11/3/2017	164.50	2018
CVWD	-	04S06E25J02S	157.90	2018	3/16/2018	163.50	2018
CVWD	-	04S06E25J02S	157.90	2018	7/17/2018	162.60	2018
CVWD	-	04S06E28H02S	169.20	2017	12/20/2017	166.30	2018
CVWD	-	04S06E28H02S	169.20	2018	2/8/2018	175.00	2018
CVWD	-	04S06E28H02S	169.20	2018	7/24/2018	174.30	2018
CVWD	-	04S06E32C01S	311.90	2017	10/12/2017	300.10	2018
CVWD	-	04S06E32C01S	311.90	2018	2/27/2018	291.40	2018
CVWD	-	04S06E32C01S	311.90	2018	6/8/2018	298.80	2018
CVWD	-	04S06E32C02S	305.70	2017	10/12/2017	297.30	2018
CVWD	-	04S06E32C02S	305.70	2018	2/27/2018	290.00	2018
CVWD	-	04S06E32C02S	305.70	2018	6/8/2018	297.20	2018
CVWD	-	04S06E32N02S	186.00	2017	10/12/2017	277.70	2018
CVWD	-	04S06E32N02S	186.00	2018	2/21/2018	274.20	2018
CVWD	-	04S06E32N02S	186.00	2018	6/8/2018	278.20	2018
CVWD	-	04S06E32N03S	292.00	2017	10/12/2017	271.30	2018
CVWD	-	04S06E32N03S	292.00	2018	2/21/2018	267.10	2018
CVWD	-	04S06E32N03S	292.00	2018	6/8/2018	271.80	2018
CVWD	-	04S06E34K01S	160.60	2018	2/9/2018	176.30	2018
CVWD	-	04S06E34K01S	160.60	2018	6/12/2018	179.30	2018
CVWD	-	04S06E35P01S	151.60	2017	10/5/2017	193.10	2018
CVWD	-	04S06E35P01S	151.60	2018	2/8/2018	190.90	2018
CVWD	-	04S06E35P01S	151.60	2018	6/1/2018	192.50	2018
CVWD	-	04S07E31H01S	96.90	2017	11/6/2017	160.10	2018
CVWD	-	04S07E31H01S	96.90	2018	3/15/2018	155.70	2018
CVWD	-	04S07E31H01S	96.90	2018	7/17/2018	165.20	2018
CVWD	-	04S07E31J01S	89.60	2017	11/6/2017	155.10	2018
CVWD	-	04S07E31J01S	89.60	2018	3/15/2018	149.70	2018
CVWD	-	04S07E31J01S	89.60	2018	7/17/2018	159.40	2018
CVWD	-	04S07E31R02S	86.10	2017	11/6/2017	170.30	2018
CVWD	-	04S07E31R02S	86.10	2018	3/15/2018	159.60	2018
CVWD	-	04S07E31R02S	86.10	2018	7/17/2018	172.80	2018
CVWD	-	04S07E33L01S	66.00	2018	1/10/2018	121.70	2018
CVWD	-	04S07E33L01S	66.00	2018	3/22/2018	122.20	2018
CVWD	-	04S07E33L01S	66.00	2018	7/18/2018	126.40	2018
CVWD	-	04S07E33L02S	66.00	2018	1/10/2018	119.80	2018
CVWD	-	04S07E33L02S	66.00	2018	3/22/2018	119.80	2018
CVWD	-	04S07E33L02S	66.00	2018	7/18/2018	123.40	2018
CVWD	-	05S05E01L05S	240.10	2017	10/9/2017	206.70	2018
CVWD	-	05S05E01L05S	240.10	2018	2/13/2018	204.50	2018
CVWD	-	05S05E01L05S	240.10	2018	6/5/2018	205.60	2018
CVWD	-	05S05E02B01S	261.90	2017	10/9/2017	201.70	2018
CVWD	-	05S05E02B01S	261.90	2018	2/13/2018	199.80	2018
CVWD	-	05S05E02B01S	261.90	2018	6/5/2018	200.30	2018
CVWD	-	05S05E12C01S	231.40	2017	10/9/2017	177.30	2018
CVWD	-	05S05E12C01S	231.40	2017	10/9/2017	189.30	2018
CVWD	-	05S05E12C01S	231.40	2018	2/18/2018	187.70	2018
CVWD	-	05S05E12C01S	231.40	2018	6/6/2018	190.40	2018
CVWD	-	05S05E12H02S	221.80	2017	10/9/2017	204.20	2018
CVWD	-	05S05E12H02S	221.80	2018	2/13/2018	202.10	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	05S05E12H02S	221.80	2018	6/6/2018	204.40	2018
CVWD	-	05S05E12J01S	223.40	2017	10/9/2017	212.90	2018
CVWD	-	05S05E12J01S	223.40	2018	2/13/2018	214.40	2018
CVWD	-	05S05E12J01S	223.40	2018	6/6/2018	211.50	2018
CVWD	-	05S06E01R02S	118.20	2017	11/3/2017	180.30	2018
CVWD	-	05S06E01R02S	118.20	2018	3/13/2018	173.30	2018
CVWD	-	05S06E01R02S	118.20	2018	7/16/2018	181.50	2018
CVWD	-	05S06E02C01S	150.90	2017	11/3/2017	193.70	2018
CVWD	-	05S06E02C01S	150.90	2018	3/12/2018	191.80	2018
CVWD	-	05S06E02C01S	150.90	2018	7/16/2018	198.70	2018
CVWD	-	05S06E02G03S	144.60	2017	11/3/2017	191.10	2018
CVWD	-	05S06E02G03S	144.60	2018	3/12/2018	188.90	2018
CVWD	-	05S06E02G03S	144.60	2018	7/16/2018	195.90	2018
CVWD	-	05S06E02J01S		2017	11/2/2017	193.70	2018
CVWD	-	05S06E02J01S		2018	3/13/2018	193.60	2018
CVWD	-	05S06E02J01S		2018	7/17/2018	189.50	2018
CVWD	-	05S06E03B02S	182.50	2017	11/3/2017	211.60	2018
CVWD	-	05S06E03B02S	182.50	2018	3/13/2018	199.90	2018
CVWD	-	05S06E03B02S	182.50	2018	6/21/2018	204.50	2018
CVWD	-	05S06E03P01S	245.70	2017	10/18/2017	276.20	2018
CVWD	-	05S06E03P01S	245.70	2018	3/7/2018	270.10	2018
CVWD	-	05S06E03P01S	245.70	2018	6/18/2018	270.60	2018
CVWD	-	05S06E04D03S	271.98	2017	10/12/2017	279.20	2018
CVWD	-	05S06E04D03S	271.98	2017	10/12/2017	280.90	2018
CVWD	-	05S06E04D03S	271.98	2018	2/27/2018	275.80	2018
CVWD	-	05S06E04D03S	271.98	2018	6/8/2018	282.30	2018
CVWD	-	05S06E05Q01S	244.70	2017	10/11/2017	247.10	2018
CVWD	-	05S06E05Q01S	244.70	2018	2/21/2018	245.60	2018
CVWD	-	05S06E05Q01S	244.70	2018	6/5/2018	248.50	2018
CVWD	-	05S06E06B03S	283.40	2017	10/11/2017	272.30	2018
CVWD	-	05S06E06B03S	283.40	2018	2/21/2018	274.60	2018
CVWD	-	05S06E06B03S	283.40	2018	6/8/2018	271.80	2018
CVWD	-	05S06E06Q01S	220.30	2017	10/11/2017	210.10	2018
CVWD	-	05S06E06Q01S	220.30	2018	2/21/2018	207.20	2018
CVWD	-	05S06E06Q01S	220.30	2018	6/7/2018	210.60	2018
CVWD	-	05S06E06Q02S	220.00	2017	10/11/2017	212.60	2018
CVWD	-	05S06E06Q02S	220.00	2018	2/21/2018	209.20	2018
CVWD	-	05S06E06Q02S	220.00	2018	6/7/2018	215.00	2018
CVWD	-	05S06E07J04S	202.80	2017	10/11/2017	206.00	2018
CVWD	-	05S06E07J04S	202.80	2018	2/14/2018	199.20	2018
CVWD	-	05S06E07J04S	202.80	2018	6/7/2018	208.80	2018
CVWD	-	05S06E08E01S	211.10	2017	10/11/2017	225.70	2018
CVWD	-	05S06E08E01S	211.10	2018	2/14/2018	225.10	2018
CVWD	-	05S06E08E01S	211.10	2018	6/7/2018	230.20	2018
CVWD	-	05S06E08M03S	202.60	2017	10/11/2017	215.70	2018
CVWD	-	05S06E08M03S	202.60	2018	2/14/2018	212.40	2018
CVWD	-	05S06E08M03S	202.60	2018	6/7/2018	215.10	2018
CVWD	-	05S06E08N02S	192.20	2017	10/11/2017	205.80	2018
CVWD	-	05S06E08N02S	192.20	2018	2/14/2018	201.40	2018
CVWD	-	05S06E08N02S	192.20	2018	6/7/2018	205.40	2018
CVWD	-	05S06E09A01S	242.00	2017	10/19/2017	263.90	2018
CVWD	-	05S06E09A01S	242.00	2018	2/28/2018	257.70	2018
CVWD	-	05S06E09A01S	242.00	2018	6/18/2018	262.30	2018
CVWD	-	05S06E09C01S	242.90	2017	10/19/2017	261.70	2018
CVWD	-	05S06E09C01S	242.90	2018	3/7/2018	257.80	2018
CVWD	-	05S06E09C01S	242.90	2018	6/13/2018	257.30	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	05S06E09E01S	196.70	2017	10/23/2017	220.00	2018
CVWD	-	05S06E09E01S	196.70	2018	3/7/2018	221.40	2018
CVWD	-	05S06E09E01S	196.70	2018	6/13/2018	216.60	2018
CVWD	-	05S06E09F01S	209.60	2017	10/19/2017	227.50	2018
CVWD	-	05S06E09F01S	209.60	2018	3/7/2018	225.50	2018
CVWD	-	05S06E09F01S	209.60	2018	6/13/2018	225.80	2018
CVWD	-	05S06E09M01S	188.10	2017	10/18/2017	225.40	2018
CVWD	-	05S06E09M01S	188.10	2018	3/7/2018	222.20	2018
CVWD	-	05S06E09M01S	188.10	2018	7/18/2018	230.40	2018
CVWD	-	05S06E09P01S	195.20	2017	10/18/2017	228.70	2018
CVWD	-	05S06E09P01S	195.20	2018	3/6/2018	230.50	2018
CVWD	-	05S06E09P01S	195.20	2018	6/13/2018	225.20	2018
CVWD	-	05S06E10E01S	237.80	2017	10/19/2017	247.50	2018
CVWD	-	05S06E10E01S	237.80	2018	3/7/2018	247.60	2018
CVWD	-	05S06E10E01S	237.80	2018	6/18/2018	247.60	2018
CVWD	-	05S06E10L01S	228.90	2017	12/13/2017	273.10	2018
CVWD	-	05S06E10L01S	228.90	2018	3/7/2018	272.60	2018
CVWD	-	05S06E10L01S	228.90	2018	8/23/2018	269.40	2018
CVWD	-	05S06E11B01S	170.20	2017	11/3/2017	218.40	2018
CVWD	-	05S06E11B01S	170.20	2018	3/13/2018	214.30	2018
CVWD	-	05S06E11B01S	170.20	2018	6/2/2018	213.70	2018
CVWD	-	05S06E12N01S	178.10	2017	11/3/2017	231.60	2018
CVWD	-	05S06E12N01S	178.10	2018	3/12/2018	227.90	2018
CVWD	-	05S06E12N01S	178.10	2018	6/21/2018	231.50	2018
CVWD	-	05S06E12Q03S	136.40	2017	12/8/2017	204.70	2018
CVWD	-	05S06E12Q03S	136.40	2018	3/12/2018	205.10	2018
CVWD	-	05S06E12Q03S	136.40	2018	7/17/2018	207.40	2018
CVWD	-	05S06E13D01S	169.90	2017	10/25/2017	225.70	2018
CVWD	-	05S06E13D01S	169.90	2018	3/8/2018	221.80	2018
CVWD	-	05S06E13D01S	169.90	2018	6/20/2018	224.90	2018
CVWD	-	05S06E13G02S	157.90	2017	11/2/2017	219.00	2018
CVWD	-	05S06E13G02S	157.90	2018	3/8/2018	214.30	2018
CVWD	-	05S06E13G02S	157.90	2018	6/20/2018	217.50	2018
CVWD	-	05S06E13R01S	147.70	2017	10/25/2017	218.90	2018
CVWD	-	05S06E13R01S	147.70	2018	3/8/2018	212.00	2018
CVWD	-	05S06E13R01S	147.70	2018	7/20/2018	217.90	2018
CVWD	-	05S06E14B02S	215.20	2017	12/20/2017	257.10	2018
CVWD	-	05S06E14B02S	215.20	2018	3/12/2018	255.20	2018
CVWD	-	05S06E14B02S	215.20	2018	6/21/2018	257.50	2018
CVWD	-	05S06E14G01S	206.70	2017	10/25/2017	259.20	2018
CVWD	-	05S06E14G01S	206.70	2018	3/8/2018	252.20	2018
CVWD	-	05S06E14G01S	206.70	2018	6/20/2018	257.40	2018
CVWD	-	05S06E14G03S	210.20	2017	10/11/2017	253.40	2018
CVWD	-	05S06E14G03S	210.20	2018	1/10/2018	253.30	2018
CVWD	-	05S06E14G03S	210.20	2018	3/8/2018	252.30	2018
CVWD	-	05S06E14G03S	210.20	2018	6/20/2018	253.60	2018
CVWD	-	05S06E14P02S	170.00	2017	10/25/2017	210.70	2018
CVWD	-	05S06E14P02S	170.00	2018	3/8/2018	200.30	2018
CVWD	-	05S06E14P02S	170.00	2018	6/20/2018	209.90	2018
CVWD	-	05S06E14P03S	163.50	2017	10/11/2017	208.10	2018
CVWD	-	05S06E14P03S	163.50	2018	1/10/2018	208.70	2018
CVWD	-	05S06E14P03S	163.50	2018	3/8/2018	207.80	2018
CVWD	-	05S06E14P03S	163.50	2018	6/20/2018	208.20	2018
CVWD	-	05S06E15F01S	180.00	2017	10/23/2017	196.60	2018
CVWD	-	05S06E15F01S	180.00	2018	3/7/2018	200.00	2018
CVWD	-	05S06E15F01S	180.00	2018	6/19/2018	199.70	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	05S06E15H01S	191.80	2017	10/25/2017	245.90	2018
CVWD	-	05S06E15H01S	191.80	2018	3/8/2018	243.60	2018
CVWD	-	05S06E15H01S	191.80	2018	6/20/2018	246.70	2018
CVWD	-	05S06E15M01S	162.20	2017	10/23/2017	181.60	2018
CVWD	-	05S06E15M01S	162.20	2018	3/7/2018	182.00	2018
CVWD	-	05S06E15M01S	162.20	2018	6/19/2018	181.60	2018
CVWD	-	05S06E15P01S	152.20	2017	10/23/2017	176.20	2018
CVWD	-	05S06E15P01S	152.20	2018	3/7/2018	175.90	2018
CVWD	-	05S06E15P01S	152.20	2018	6/19/2018	176.40	2018
CVWD	-	05S06E16A02S	179.60	2017	10/23/2017	205.80	2018
CVWD	-	05S06E16A02S	179.60	2018	3/7/2018	199.80	2018
CVWD	-	05S06E16A02S	179.60	2018	6/19/2018	202.40	2018
CVWD	-	05S06E16A03S	182.50	2017	10/11/2017	202.70	2018
CVWD	-	05S06E16A03S	182.50	2018	1/10/2018	202.80	2018
CVWD	-	05S06E16A03S	182.50	2018	3/7/2018	202.30	2018
CVWD	-	05S06E16A03S	182.50	2018	6/19/2018	200.40	2018
CVWD	-	05S06E16A04S		2017	10/23/2017	207.40	2018
CVWD	-	05S06E16A04S		2018	3/22/2018	200.50	2018
CVWD	-	05S06E16A04S		2018	7/25/2018	206.50	2018
CVWD	-	05S06E16E01S	179.90	2017	10/13/2017	230.80	2018
CVWD	-	05S06E16E01S	179.90	2018	3/6/2018	223.20	2018
CVWD	-	05S06E16E01S	179.90	2018	6/12/2018	227.70	2018
CVWD	-	05S06E16K03S	164.00	2017	10/13/2017	209.90	2018
CVWD	-	05S06E16K03S	164.00	2018	3/6/2018	204.70	2018
CVWD	-	05S06E16K03S	164.00	2018	6/12/2018	207.30	2018
CVWD	-	05S06E16L01S	172.80	2017	10/18/2017	209.70	2018
CVWD	-	05S06E16L01S	172.80	2018	3/6/2018	204.80	2018
CVWD	-	05S06E16L01S	172.80	2018	6/12/2018	205.40	2018
CVWD	-	05S06E16N02S	181.60	2017	10/13/2017	205.80	2018
CVWD	-	05S06E16N02S	181.60	2018	3/6/2018	199.90	2018
CVWD	-	05S06E16N02S	181.60	2018	6/12/2018	202.40	2018
CVWD	-	05S06E17E01S	197.50	2017	10/11/2017	214.60	2018
CVWD	-	05S06E17E01S	197.50	2018	2/14/2018	215.20	2018
CVWD	-	05S06E17E01S	197.50	2018	6/7/2018	213.30	2018
CVWD	-	05S06E17G03S	186.00	2017	10/10/2017	205.10	2018
CVWD	-	05S06E17G03S	186.00	2018	2/14/2018	201.80	2018
CVWD	-	05S06E17G03S	186.00	2018	6/6/2018	204.40	2018
CVWD	-	05S06E17L01S	187.70	2017	10/10/2017	219.80	2018
CVWD	-	05S06E17L01S	187.70	2018	2/14/2018	216.00	2018
CVWD	-	05S06E17L01S	187.70	2018	6/6/2018	216.80	2018
CVWD	-	05S06E18R01S	192.80	2017	10/10/2017	210.70	2018
CVWD	-	05S06E18R01S	192.80	2018	2/14/2018	206.70	2018
CVWD	-	05S06E18R01S	192.80	2018	6/6/2018	208.90	2018
CVWD	-	05S06E18R02S	193.40	2017	10/10/2017	213.90	2018
CVWD	-	05S06E18R02S	193.40	2018	2/14/2018	209.60	2018
CVWD	-	05S06E18R02S	193.40	2018	6/6/2018	208.70	2018
CVWD	-	05S06E20A02S	201.10	2017	10/13/2017	225.10	2018
CVWD	-	05S06E20A02S	201.10	2018	3/6/2018	220.60	2018
CVWD	-	05S06E20A02S	201.10	2018	6/12/2018	222.90	2018
CVWD	-	05S06E20F03S	200.10	2017	12/21/2017	221.70	2018
CVWD	-	05S06E20F03S	200.10	2018	3/6/2018	223.60	2018
CVWD	-	05S06E20F03S	200.10	2018	6/12/2018	229.90	2018
CVWD	-	05S06E22B02S	150.90	2017	10/25/2017	192.10	2018
CVWD	-	05S06E22B02S	150.90	2018	3/12/2018	185.60	2018
CVWD	-	05S06E22B02S	150.90	2018	6/20/2018	190.80	2018
CVWD	-	05S06E24G01S	110.90	2017	10/25/2017	183.30	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	05S06E24G01S	110.90	2018	3/8/2018	176.20	2018
CVWD	-	05S06E24G01S	110.90	2018	6/20/2018	182.30	2018
CVWD	-	05S06E24M01S	115.30	2017	10/25/2017	182.30	2018
CVWD	-	05S06E24M01S	115.30	2018	3/8/2018	175.50	2018
CVWD	-	05S06E24M01S	115.30	2018	6/20/2018	180.20	2018
CVWD	-	05S06E29C01S	335.60	2017	10/10/2017	361.20	2018
CVWD	-	05S06E29C01S	335.60	2018	2/13/2018	356.60	2018
CVWD	-	05S06E29C01S	335.60	2018	6/6/2018	363.70	2018
CVWD	-	05S07E02E01S	100.80	2018	7/18/2018	188.90	2018
CVWD	-	05S07E03D01S	62.20	2018	1/10/2018	119.30	2018
CVWD	-	05S07E03D01S	62.20	2018	3/22/2018	120.50	2018
CVWD	-	05S07E03D01S	62.20	2018	7/18/2018	125.90	2018
CVWD	-	05S07E03D02S	62.20	2018	1/10/2018	119.70	2018
CVWD	-	05S07E03D02S	62.20	2018	3/22/2018	119.60	2018
CVWD	-	05S07E03D02S	62.20	2018	7/18/2018	125.40	2018
CVWD	-	05S07E04A01S	47.90	2017	10/12/2017	107.60	2018
CVWD	-	05S07E04A01S	47.90	2018	3/22/2018	104.60	2018
CVWD	-	05S07E04A01S	47.90	2018	7/19/2018	107.70	2018
CVWD	-	05S07E04A03S	54.30	2017	10/12/2017	114.10	2018
CVWD	-	05S07E04A03S	54.30	2018	3/22/2018	111.50	2018
CVWD	-	05S07E04A03S	54.30	2018	7/19/2018	117.50	2018
CVWD	-	05S07E04A04S	54.30	2017	10/12/2017	110.80	2018
CVWD	-	05S07E04A04S	54.30	2017	10/12/2017	110.70	2018
CVWD	-	05S07E04A04S	54.30	2018	3/22/2018	105.30	2018
CVWD	-	05S07E04A04S	54.30	2018	7/19/2018	113.90	2018
CVWD	-	05S07E06B04S	111.40	2017	11/6/2017	160.90	2018
CVWD	-	05S07E06B04S	111.40	2018	3/15/2018	159.40	2018
CVWD	-	05S07E06B04S	111.40	2018	7/17/2018	177.80	2018
CVWD	-	05S07E06J01S	88.40	2017	11/3/2017	160.90	2018
CVWD	-	05S07E06J01S	88.40	2018	3/15/2018	157.60	2018
CVWD	-	05S07E06J01S	88.40	2018	7/17/2018	169.80	2018
CVWD	-	05S07E08Q01S	54.40	2017	12/8/2017	128.00	2018
CVWD	-	05S07E08Q01S	54.40	2018	4/12/2018	126.70	2018
CVWD	-	05S07E08Q01S	54.40	2018	7/20/2018	127.40	2018
CVWD	-	05S07E09D01S	51.50	2017	11/7/2017	136.70	2018
CVWD	-	05S07E09D01S	51.50	2018	3/22/2018	129.50	2018
CVWD	-	05S07E09D01S	51.50	2018	7/19/2018	148.70	2018
IWA	8	05S07E11M03S	10.00	2018	3/14/2018	109.13	2018
IWA	8	05S07E11M03S	10.00	2018	5/14/2018	114.74	2018
IWA	8	05S07E11M03S	10.00	2018	7/12/2018	121.01	2018
IWA	8	05S07E11M03S	10.00	2018	9/20/2018	119.70	2018
IWA	Y	05S07E12D02S	34.00	2018	3/14/2018	115.10	2018
IWA	Y	05S07E12D02S	34.00	2018	5/14/2018	115.15	2018
IWA	Y	05S07E12D02S	34.00	2018	7/12/2018	115.17	2018
IWA	Y	05S07E12D02S	34.00	2018	9/20/2018	115.37	2018
IWA	X	05S07E12M01S	-1.00	2018	3/14/2018	101.81	2018
IWA	X	05S07E12M01S	-1.00	2018	5/14/2018	109.06	2018
IWA	X	05S07E12M01S	-1.00	2018	7/12/2018	115.55	2018
IWA	X	05S07E12M01S	-1.00	2018	9/20/2018	114.58	2018
IWA	7	05S07E14K02S	-4.00	2018	3/14/2018	73.51	2018
IWA	7	05S07E14K02S	-4.00	2018	5/14/2018	74.73	2018
IWA	7	05S07E14K02S	-4.00	2018	7/12/2018	75.05	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
IWA	7	05S07E14K02S	-4.00	2018	9/20/2018	75.08	2018
CVWD	-	05S07E17E03S	82.30	2017	11/7/2017	169.60	2018
CVWD	-	05S07E17E03S	82.30	2018	4/12/2018	168.30	2018
CVWD	-	05S07E17E03S	82.30	2018	7/20/2018	182.30	2018
CVWD	-	05S07E19A01S	89.60	2017	11/7/2017	202.70	2018
CVWD	-	05S07E19A01S	89.60	2018	3/28/2018	183.60	2018
CVWD	-	05S07E19A01S	89.60	2018	7/20/2018	197.90	2018
CVWD	-	05S07E19D01S	141.20	2017	11/6/2017	211.30	2018
CVWD	-	05S07E19D01S	141.20	2018	3/22/2018	208.20	2018
CVWD	-	05S07E19D01S	141.20	2018	7/20/2018	214.40	2018
CVWD	-	05S07E19D02S	136.40	2017	11/6/2017	214.20	2018
CVWD	-	05S07E19D02S	136.40	2018	3/22/2018	206.60	2018
CVWD	-	05S07E19D02S	136.40	2018	7/20/2018	211.50	2018
CVWD	-	05S07E20A02S	52.60	2017	11/6/2017	157.50	2018
CVWD	-	05S07E20A02S	52.60	2018	3/28/2018	149.70	2018
CVWD	-	05S07E20A02S	52.60	2018	7/24/2018	162.10	2018
CVWD	-	05S07E20C01S	76.90	2017	11/7/2017	187.80	2018
CVWD	-	05S07E20C01S	76.90	2018	3/28/2018	179.30	2018
CVWD	-	05S07E20C01S	76.90	2018	7/24/2018	186.40	2018
CVWD	-	05S07E20F02S	81.40	2017	11/7/2017	200.20	2018
CVWD	-	05S07E20F02S	81.40	2018	3/28/2018	184.70	2018
CVWD	-	05S07E20F02S	81.40	2018	7/24/2018	197.40	2018
CVWD	-	05S07E20G01S	74.10	2017	11/7/2017	193.60	2018
CVWD	-	05S07E20G01S	74.10	2018	3/28/2018	190.60	2018
CVWD	-	05S07E20G01S	74.10	2018	7/24/2018	199.70	2018
CVWD	-	05S07E20H01S	48.93	2017	11/8/2017	164.30	2018
CVWD	-	05S07E20H01S	48.93	2018	3/28/2018	155.00	2018
CVWD	-	05S07E20H01S	48.93	2018	7/24/2018	166.40	2018
CVWD	-	05S07E20P04S	61.10	2017	11/6/2017	173.30	2018
CVWD	-	05S07E20P04S	61.10	2018	3/28/2018	163.00	2018
CVWD	-	05S07E20P04S	61.10	2018	7/24/2018	173.50	2018
CVWD	-	05S07E27B01S	16.50	2017	11/17/2017	102.10	2018
CVWD	-	05S07E27B01S	16.50	2018	4/11/2018	101.80	2018
CVWD	-	05S07E27B01S	16.50	2018	8/15/2018	102.20	2018
CVWD	-	05S07E27L01S	20.60	2017	11/17/2017	138.10	2018
CVWD	-	05S07E27L01S	20.60	2018	4/11/2018	135.70	2018
CVWD	-	05S07E27L01S	20.60	2018	8/3/2018	149.00	2018
CVWD	-	05S07E28E01S	46.30	2017	11/8/2017	137.40	2018
CVWD	-	05S07E28E01S	46.30	2018	4/3/2018	136.40	2018
CVWD	-	05S07E28E01S	46.30	2018	7/31/2018	137.80	2018
CVWD	-	05S07E28E03S	46.40	2017	11/8/2017	171.70	2018
CVWD	-	05S07E28E03S	46.40	2018	4/3/2018	169.90	2018
CVWD	-	05S07E28E03S	46.40	2018	7/31/2018	171.40	2018
CVWD	-	05S07E30A01S	76.30	2017	11/7/2017	178.30	2018
CVWD	-	05S07E30A01S	76.30	2018	3/22/2018	171.10	2018
CVWD	-	05S07E30A01S	76.30	2018	7/25/2018	179.70	2018
CVWD	-	05S07E30J01S	69.50	2017	11/8/2017	173.80	2018
CVWD	-	05S07E30J01S	69.50	2018	4/3/2018	167.60	2018
CVWD	-	05S07E30J01S	69.50	2018	7/31/2018	174.70	2018
CVWD	-	05S07E31A02S	59.60	2017	11/8/2017	181.10	2018
CVWD	-	05S07E31A02S	59.60	2017	11/8/2017	182.30	2018
CVWD	-	05S07E31A02S	59.60	2018	4/3/2018	177.00	2018
CVWD	-	05S07E31A02S	59.60	2018	7/31/2018	185.40	2018
CVWD	-	05S07E31P01S	46.90	2017	11/9/2017	147.40	2018
CVWD	-	05S07E31P01S	46.90	2018	4/3/2018	149.60	2018
CVWD	-	05S07E31P01S	46.90	2018	7/31/2018	150.30	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	05S07E32B01S	53.70	2017	11/8/2017	176.70	2018
CVWD	-	05S07E32B01S	53.70	2018	4/3/2018	168.40	2018
CVWD	-	05S07E32B01S	53.70	2018	7/31/2018	180.80	2018
CVWD	-	05S07E32H01S	43.70	2017	11/16/2017	166.90	2018
CVWD	-	05S07E32H01S	43.70	2017	11/16/2017	167.90	2018
CVWD	-	05S07E32H01S	43.70	2018	4/4/2018	156.90	2018
CVWD	-	05S07E32H01S	43.70	2018	8/3/2018	178.40	2018
CVWD	-	05S07E35F04S	0.30	2017	11/21/2017	120.80	2018
CVWD	-	05S07E35F04S	0.30	2018	4/12/2018	128.50	2018
CVWD	-	05S07E35F04S	0.30	2018	8/3/2018	143.20	2018
IWA	CITRUS RANCH 5	05S08E05L01S	249.00	2018	3/14/2018	160.72	2018
IWA	CITRUS RANCH 5	05S08E05L01S	249.00	2018	5/14/2018	169.28	2018
IWA	CITRUS RANCH 5	05S08E05L01S	249.00	2018	7/12/2018	160.66	2018
IWA	CITRUS RANCH 5	05S08E05L01S	249.00	2018	9/20/2018	160.74	2018
IWA	CITRUS RANCH 3	05S08E05P01S	269.00	2018	3/14/2018	134.52	2018
IWA	CITRUS RANCH 3	05S08E05P01S	269.00	2018	5/14/2018	134.54	2018
IWA	CITRUS RANCH 3	05S08E05P01S	269.00	2018	7/12/2018	134.48	2018
IWA	CITRUS RANCH 3	05S08E05P01S	269.00	2018	9/20/2018	134.56	2018
IWA	TERRA LAGO G.C.	05S08E18G01S	21.00	2018	3/14/2018	127.80	2018
IWA	TERRA LAGO G.C.	05S08E18G01S	21.00	2018	5/14/2018	133.86	2018
IWA	TERRA LAGO G.C.	05S08E18G01S	21.00	2018	7/12/2018	140.65	2018
IWA	TERRA LAGO G.C.	05S08E18G01S	21.00	2018	9/20/2018	143.82	2018
CVWD	-	05S08E28A01S	54.00	2017	12/21/2017	41.70	2018
CVWD	-	05S08E28A01S	54.00	2018	4/6/2018	42.90	2018
CVWD	-	05S08E28A01S	54.00	2018	8/3/2018	40.50	2018
CVWD	-	05S08E28M01S	-40.50	2017	11/17/2017	74.60	2018
CVWD	-	05S08E28M01S	-40.50	2018	4/11/2018	71.00	2018
CVWD	-	05S08E28M01S	-40.50	2018	8/3/2018	78.20	2018
CVWD	-	05S08E28M02S	-40.50	2017	11/17/2017	43.70	2018
CVWD	-	05S08E28M02S	-40.50	2018	4/11/2018	43.20	2018
CVWD	-	05S08E28M02S	-40.50	2018	8/3/2018	44.30	2018
CVWD	-	05S08E29G01S	-26.80	2017	11/17/2017	53.70	2018
CVWD	-	05S08E29G01S	-26.80	2018	8/16/2018	55.10	2018
CWA	10	05S08E33D01S	-57.10	2017	10/19/2017	23.10	2018
CVWD	-	05S08E33D01S	-57.20	2017	11/17/2017	34.10	2018
CVWD	-	05S08E33D01S	-57.20	2018	4/11/2018	30.60	2018
CWA	10	05S08E33D01S	-57.10	2018	5/18/2018	25.10	2018
CVWD	-	05S08E33D01S	-57.20	2018	8/3/2018	31.70	2018
CVWD	-	06S06E01Q01S	53.30	2017	11/9/2017	171.90	2018
CVWD	-	06S06E01Q01S	53.30	2018	4/3/2018	169.70	2018
CVWD	-	06S06E01Q01S	53.30	2018	7/31/2018	172.50	2018
CVWD	-	06S06E12G01S	91.20	2017	11/9/2017	209.20	2018
CVWD	-	06S06E12G01S	91.20	2018	4/3/2018	206.00	2018
CVWD	-	06S06E12G01S	91.20	2018	7/31/2018	209.30	2018
CVWD	-	06S06E17K01S	958.40	2017	10/13/2017	215.50	2018
CVWD	-	06S06E17K01S	958.40	2018	3/9/2018	321.00	2018
CVWD	-	06S06E17K01S	958.40	2018	6/8/2018	301.70	2018
CVWD	-	06S07E02D02S	-1.20	2017	11/16/2017	79.30	2018
CVWD	-	06S07E02D02S	-1.20	2018	4/13/2018	79.50	2018
CVWD	-	06S07E02D02S	-1.20	2018	8/3/2018	79.70	2018
IWA	LA HACIENDA	06S07E03H02S	-1.00	2018	3/14/2018	117.52	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
IWA	LA HACIENDA	06S07E03H02S	-1.00	2018	5/14/2018	127.29	2018
IWA	LA HACIENDA	06S07E03H02S	-1.00	2018	7/12/2018	132.56	2018
IWA	LA HACIENDA	06S07E03H02S	-1.00	2018	9/20/2018	132.15	2018
CVWD	-	06S07E04H01S	-22.60	2017	10/26/2017	128.30	2018
CVWD	-	06S07E04H01S	-22.60	2017	12/1/2017	123.20	2018
CVWD	-	06S07E04H01S	-22.60	2018	1/5/2018	122.20	2018
CVWD	-	06S07E04H01S	-22.60	2018	1/31/2018	119.10	2018
CVWD	-	06S07E04H01S	-22.60	2018	2/26/2018	115.50	2018
CVWD	-	06S07E04H01S	-22.60	2018	3/29/2018	115.60	2018
CVWD	-	06S07E04H01S	-22.60	2018	4/27/2018	115.80	2018
CVWD	-	06S07E04H01S	-22.60	2018	5/24/2018	120.30	2018
CVWD	-	06S07E04H01S	-22.60	2018	6/26/2018	123.20	2018
CVWD	-	06S07E04H01S	-22.60	2018	7/26/2018	128.30	2018
CVWD	-	06S07E04H01S	-22.60	2018	8/30/2018	130.30	2018
CVWD	-	06S07E04H01S	-22.60	2018	9/27/2018	124.40	2018
CVWD	-	06S07E04N01S	36.60	2017	11/14/2017	160.90	2018
CVWD	-	06S07E04N01S	36.60	2018	4/5/2018	149.40	2018
CVWD	-	06S07E04N01S	36.60	2018	7/31/2018	167.30	2018
CVWD	-	06S07E05H01S	33.40	2017	11/17/2017	151.70	2018
CVWD	-	06S07E05H01S	33.40	2018	4/4/2018	147.70	2018
CVWD	-	06S07E05H01S	33.40	2018	8/2/2018	157.00	2018
CVWD	-	06S07E06B01S	40.30	2017	11/9/2017	157.20	2018
CVWD	-	06S07E06B01S	40.30	2018	4/3/2018	153.70	2018
CVWD	-	06S07E06B01S	40.30	2018	7/31/2018	159.30	2018
CVWD	-	06S07E06J01S	39.30	2017	11/9/2017	157.50	2018
CVWD	-	06S07E06J01S	39.30	2018	4/3/2018	151.70	2018
CVWD	-	06S07E06J01S	39.30	2018	7/31/2018	156.80	2018
CVWD	-	06S07E10A02S	-14.20	2017	12/7/2017	119.70	2018
CVWD	-	06S07E10A02S	-14.20	2017	12/7/2017	120.30	2018
CVWD	-	06S07E10A02S	-14.20	2018	4/6/2018	108.00	2018
CVWD	-	06S07E10A02S	-14.20	2018	8/3/2018	123.80	2018
CVWD	-	06S07E13M02S	-57.50	2017	11/16/2017	30.80	2018
CVWD	-	06S07E13M02S	-57.50	2018	4/5/2018	30.10	2018
CVWD	-	06S07E13M02S	-57.50	2018	8/3/2018	29.80	2018
CVWD	-	06S07E13M04S	-61.10	2017	11/16/2017	67.60	2018
CVWD	-	06S07E13M04S	-61.10	2018	4/5/2018	63.70	2018
CVWD	-	06S07E13M04S	-61.10	2018	8/3/2018	71.30	2018
CVWD	-	06S07E16A02S	-5.50	2017	11/14/2017	120.10	2018
CVWD	-	06S07E16A02S	-5.50	2018	4/5/2018	117.20	2018
CVWD	-	06S07E16A02S	-5.50	2018	8/2/2018	119.00	2018
CVWD	-	06S07E16D02S	1.00	2017	11/14/2017	112.50	2018
CVWD	-	06S07E16D02S	1.00	2018	4/4/2018	108.70	2018
CVWD	-	06S07E16D02S	1.00	2018	8/2/2018	117.30	2018
CVWD	-	06S07E16R02S	-17.80	2017	11/14/2017	101.20	2018
CVWD	-	06S07E16R02S	-17.80	2018	4/5/2018	99.70	2018
CVWD	-	06S07E16R02S	-17.80	2018	8/2/2018	111.50	2018
CVWD	-	06S07E22B02S	-64.00	2017	11/15/2017	94.60	2018
CVWD	-	06S07E22B02S	-64.00	2018	4/5/2018	78.20	2018
CVWD	-	06S07E22B02S	-64.00	2018	8/2/2018	98.10	2018
CVWD	-	06S07E23F01S	-54.90	2017	11/16/2017	68.10	2018
CVWD	-	06S07E23F01S	-54.90	2018	4/6/2018	66.60	2018
CVWD	-	06S07E23F01S	-54.90	2018	8/2/2018	70.30	2018
CVWD	-	06S07E26Q01S	-83.80	2017	11/16/2017	33.20	2018
CVWD	-	06S07E26Q01S	-83.80	2018	4/5/2018	32.80	2018
CVWD	-	06S07E26Q01S	-83.80	2018	8/2/2018	42.60	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	06S07E29B01S	23.60	2017	12/7/2017	118.30	2018
CVWD	-	06S07E29B01S	23.60	2018	4/27/2018	117.60	2018
CVWD	-	06S07E29B01S	23.60	2018	8/2/2018	122.80	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2017	10/26/2017	104.70	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2017	12/1/2017	109.10	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	1/5/2018	118.30	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	1/31/2018	128.60	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	2/26/2018	118.00	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	3/29/2018	111.40	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	4/27/2018	112.60	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	5/24/2018	112.30	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	6/26/2018	118.40	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	7/26/2018	119.10	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	8/30/2018	117.00	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	9/27/2018	112.30	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2017	10/26/2017	102.50	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2017	12/1/2017	108.00	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	1/5/2018	115.80	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	1/31/2018	128.30	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	2/26/2018	116.70	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	3/29/2018	109.30	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	4/28/2018	110.80	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	5/24/2018	110.60	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	6/26/2018	117.30	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	7/26/2018	118.10	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	8/30/2018	115.20	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	9/27/2018	109.80	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2017	10/26/2017	107.60	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2017	12/1/2017	108.30	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	1/5/2018	120.20	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	1/31/2018	127.50	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	2/26/2018	117.20	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	3/29/2018	113.50	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	4/27/2018	114.30	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	5/24/2018	114.00	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	6/26/2018	117.80	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	7/26/2018	118.30	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	8/31/2018	115.40	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	9/27/2018	114.00	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2017	10/26/2017	102.50	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2017	12/1/2017	107.00	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	1/5/2018	120.00	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	1/31/2018	127.30	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	2/26/2018	116.20	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	3/29/2018	112.40	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	4/27/2018	113.10	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	5/24/2018	112.90	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	6/26/2018	116.80	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	7/26/2018	117.40	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	8/30/2018	114.50	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	9/27/2018	113.00	2018
CVWD	-	06S07E34A01S	-77.50	2017	10/26/2017	6.40	2018
CVWD	-	06S07E34A01S	-77.50	2017	12/1/2017	5.80	2018
CVWD	-	06S07E34A01S	-77.50	2018	1/5/2018	12.00	2018
CVWD	-	06S07E34A01S	-77.50	2018	1/31/2018	16.00	2018
CVWD	-	06S07E34A01S	-77.50	2018	2/26/2018	13.50	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	06S07E34A01S	-77.50	2018	3/29/2018	12.60	2018
CVWD	-	06S07E34A01S	-77.50	2018	4/27/2018	12.30	2018
CVWD	-	06S07E34A01S	-77.50	2018	5/24/2018	11.70	2018
CVWD	-	06S07E34A01S	-77.50	2018	6/26/2018	12.80	2018
CVWD	-	06S07E34A01S	-77.50	2018	7/26/2018	12.90	2018
CVWD	-	06S07E34A01S	-77.50	2018	8/30/2018	12.00	2018
CVWD	-	06S07E34A01S	-77.50	2018	9/27/2018	11.00	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2017	10/26/2017	23.60	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2017	12/1/2017	23.40	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	1/5/2018	23.20	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	1/31/2018	23.00	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	2/26/2018	22.80	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	3/29/2018	22.80	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	4/27/2018	22.80	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	5/24/2018	23.00	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	6/21/2018	22.60	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	7/26/2018	22.80	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	8/30/2018	22.90	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	9/27/2018	22.40	2018
CVWD	-	06S07E34D01S	-15.50	2017	10/26/2017	58.60	2018
CVWD	-	06S07E34D01S	-15.50	2017	12/1/2017	59.90	2018
CVWD	-	06S07E34D01S	-15.50	2018	1/5/2018	69.20	2018
CVWD	-	06S07E34D01S	-15.50	2018	1/31/2018	74.70	2018
CVWD	-	06S07E34D01S	-15.50	2018	2/26/2018	69.20	2018
CVWD	-	06S07E34D01S	-15.50	2018	3/29/2018	65.90	2018
CVWD	-	06S07E34D01S	-15.50	2018	4/27/2018	65.10	2018
CVWD	-	06S07E34D01S	-15.50	2018	5/24/2018	64.70	2018
CVWD	-	06S07E34D01S	-15.50	2018	6/26/2018	67.80	2018
CVWD	-	06S07E34D01S	-15.50	2018	7/26/2018	68.10	2018
CVWD	-	06S07E34D01S	-15.50	2018	8/30/2018	67.20	2018
CVWD	-	06S07E34D01S	-15.50	2018	9/27/2018	65.00	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2017	10/26/2017	58.70	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2017	12/1/2017	59.90	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	1/5/2018	67.30	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	1/31/2018	70.60	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	2/26/2018	70.00	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	3/29/2018	66.00	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	4/27/2018	65.30	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	5/24/2018	63.30	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	6/26/2018	68.40	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	7/26/2018	69.20	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	8/30/2018	67.60	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	9/27/2018	65.40	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2017	10/26/2017	69.30	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2017	12/1/2017	65.60	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	1/5/2018	77.10	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	1/31/2018	81.50	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	2/26/2018	79.60	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	3/29/2018	75.70	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	4/27/2018	72.80	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	5/24/2018	70.90	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	6/26/2018	74.00	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	7/26/2018	72.10	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	8/30/2018	71.20	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	9/27/2018	72.90	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2017	10/26/2017	92.30	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	TEL (NEW)	06S07E34N02S	13.20	2017	12/1/2017	89.30	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	1/5/2018	98.20	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	1/31/2018	102.40	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	2/26/2018	99.10	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	3/29/2018	97.60	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	4/27/2018	98.40	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	5/24/2018	96.40	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	6/26/2018	100.10	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	7/26/2018	94.10	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	8/30/2018	93.80	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	9/27/2018	106.00	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2017	10/26/2017	91.70	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2017	12/1/2017	88.00	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	1/5/2018	97.40	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	1/31/2018	101.80	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	2/26/2018	99.10	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	3/29/2018	96.90	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	4/27/2018	97.20	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	5/24/2018	95.20	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	6/26/2018	99.30	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	7/26/2018	93.30	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	8/30/2018	92.50	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	9/27/2018	105.20	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2017	10/26/2017	9.60	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2017	12/1/2017	8.70	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	1/5/2018	13.80	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	1/31/2018	17.40	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	2/26/2018	16.20	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	3/29/2018	15.20	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	4/27/2018	15.00	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	5/24/2018	14.90	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	6/26/2018	15.40	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	7/26/2018	14.60	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	8/30/2018	13.90	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	9/27/2018	13.60	2018
CVWD	-	06S07E35L02S	-84.30	2018	1/5/2018	3.80	2018
CVWD	-	06S07E35L02S	-84.30	2018	1/31/2018	7.10	2018
CVWD	-	06S07E35L02S	-84.30	2018	2/27/2018	5.10	2018
CVWD	-	06S07E35L02S	-84.30	2018	3/29/2018	5.10	2018
CVWD	-	06S07E35L02S	-84.30	2018	4/27/2018	5.00	2018
CVWD	-	06S07E35L02S	-84.30	2018	5/24/2018	4.40	2018
CVWD	-	06S07E35L02S	-84.30	2018	6/26/2018	4.30	2018
CVWD	-	06S07E35L02S	-84.30	2018	7/26/2018	4.60	2018
CVWD	-	06S07E35L02S	-84.30	2018	8/30/2018	3.50	2018
CVWD	-	06S07E35L02S	-84.30	2018	9/27/2018	2.30	2018
CVWD	-	06S08E03D01S	-82.60	2017	11/17/2017	18.90	2018
CVWD	-	06S08E03D01S	-82.60	2018	4/11/2018	16.60	2018
CVWD	-	06S08E03D01S	-82.60	2018	8/2/2018	20.50	2018
CVWD	-	06S08E05R02S	-82.10	2017	11/28/2017	18.20	2018
CVWD	-	06S08E05R02S	-82.10	2018	4/11/2018	19.00	2018
CVWD	-	06S08E05R02S	-82.10	2018	8/3/2018	18.60	2018
CVWD	-	06S08E05R03S	-80.30	2017	11/28/2017	28.90	2018
CVWD	-	06S08E05R03S	-80.30	2018	4/11/2018	22.70	2018
CVWD	-	06S08E05R03S	-80.30	2018	8/3/2018	29.80	2018
CVWD	-	06S08E12Q01S	61.30	2017	12/7/2017	176.30	2018
CVWD	-	06S08E12Q01S	61.30	2018	4/13/2018	184.30	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	06S08E12Q01S	61.30	2018	8/7/2018	185.50	2018
CVWD	-	06S08E19C02S	-94.90	2017	11/16/2017	41.00	2018
CVWD	-	06S08E19C02S	-94.90	2018	4/6/2018	35.60	2018
CVWD	-	06S08E19C02S	-94.90	2018	8/2/2018	55.40	2018
CVWD	-	06S08E19D05S	-87.60	2017	11/16/2017	46.20	2018
CVWD	-	06S08E19D05S	-87.60	2018	4/6/2018	39.00	2018
CVWD	-	06S08E19D05S	-87.60	2018	8/2/2018	55.70	2018
CVWD	-	06S08E19R01S	-105.70	2018	4/13/2018	27.20	2018
CVWD	-	06S08E19R01S	-105.70	2018	8/7/2018	41.30	2018
CVWD	-	06S08E20H01S	-114.50	2017	11/21/2017	24.00	2018
CVWD	-	06S08E20H01S	-114.50	2018	4/13/2018	20.40	2018
CVWD	-	06S08E20H01S	-114.50	2018	8/7/2018	32.00	2018
CVWD	-	06S08E22D02S	-119.80	2017	11/21/2017	19.80	2018
CVWD	-	06S08E22D02S	-119.80	2018	4/13/2018	16.10	2018
CVWD	-	06S08E22D02S	-119.80	2018	8/7/2018	25.70	2018
CVWD	-	06S08E25P04S	-140.90	2017	11/21/2017	20.30	2018
CVWD	-	06S08E25P04S	-140.90	2018	4/13/2018	14.50	2018
CVWD	-	06S08E25P04S	-140.90	2018	8/7/2018	12.40	2018
CVWD	-	06S08E25Q01S	-125.70	2017	11/21/2017	27.90	2018
CVWD	-	06S08E25Q01S	-125.70	2018	4/13/2018	27.10	2018
CVWD	-	06S08E25Q01S	-125.70	2018	8/7/2018	27.40	2018
CVWD	-	06S08E31L01S	-116.70	2017	10/27/2017	19.90	2018
CVWD	-	06S08E31L01S	-116.70	2017	12/1/2017	19.40	2018
CVWD	-	06S08E31L01S	-116.70	2018	1/5/2018	18.60	2018
CVWD	-	06S08E31L01S	-116.70	2018	1/31/2018	22.30	2018
CVWD	-	06S08E31L01S	-116.70	2018	2/26/2018	15.80	2018
CVWD	-	06S08E31L01S	-116.70	2018	4/27/2018	17.30	2018
CVWD	-	06S08E31L01S	-116.70	2018	6/27/2018	23.00	2018
CVWD	-	06S08E31L01S	-116.70	2018	8/30/2018	23.70	2018
CVWD	-	06S08E31P01S	-117.40	2017	10/27/2017	24.70	2018
CVWD	-	06S08E31P01S	-117.40	2017	12/1/2017	19.70	2018
CVWD	-	06S08E31P01S	-117.40	2018	1/5/2018	17.20	2018
CVWD	-	06S08E31P01S	-117.40	2018	1/31/2018	15.40	2018
CVWD	-	06S08E31P01S	-117.40	2018	2/26/2018	15.70	2018
CVWD	-	06S08E31P01S	-117.40	2018	3/29/2018	16.20	2018
CVWD	-	06S08E31P01S	-117.40	2018	4/27/2018	19.60	2018
CVWD	-	06S08E31P01S	-117.40	2018	5/25/2018	20.30	2018
CVWD	-	06S08E31P01S	-117.40	2018	6/27/2018	22.50	2018
CVWD	-	06S08E31P01S	-117.40	2018	7/27/2018	23.30	2018
CVWD	-	06S08E31P01S	-117.40	2018	8/30/2018	25.80	2018
CVWD	-	06S08E31P01S	-117.40	2018	9/28/2018	25.80	2018
CVWD	-	06S08E35A01S	-147.90	2017	12/7/2017	12.90	2018
CVWD	-	06S08E35A01S	-147.90	2018	4/13/2018	8.60	2018
CVWD	-	06S08E35A01S	-147.90	2018	8/7/2018	8.80	2018
CVWD	-	06S08E36M01S	-152.90	2017	12/6/2017	8.80	2018
CVWD	-	06S08E36M01S	-152.90	2018	4/20/2018	8.80	2018
CVWD	-	06S08E36M01S	-152.90	2018	8/15/2018	10.20	2018
CVWD	-	06S09E32Q01S	-102.80	2017	11/21/2017	36.90	2018
CVWD	-	06S09E32Q01S	-102.80	2018	4/13/2018	31.20	2018
CVWD	-	06S09E32Q01S	-102.80	2018	8/9/2018	38.20	2018
CVWD	-	06S09E33K01S	29.40	2017	11/22/2017	169.30	2018
CVWD	-	06S09E33K01S	29.40	2018	4/13/2018	164.30	2018
CVWD	-	06S09E33K01S	29.40	2018	8/9/2018	178.80	2018
CVWD	-	07S07E01C01S	-111.60	2017	10/27/2017	12.50	2018
CVWD	-	07S07E01C01S	-111.60	2017	12/1/2017	11.30	2018
CVWD	-	07S07E01C01S	-111.60	2018	1/5/2018	11.20	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	07S07E01C01S	-111.60	2018	1/31/2018	10.90	2018
CVWD	-	07S07E01C01S	-111.60	2018	2/26/2018	10.70	2018
CVWD	-	07S07E01C01S	-111.60	2018	3/29/2018	10.60	2018
CVWD	-	07S07E01C01S	-111.60	2018	4/27/2018	10.30	2018
CVWD	-	07S07E01C01S	-111.60	2018	5/25/2018	10.40	2018
CVWD	-	07S07E01C01S	-111.60	2018	6/27/2018	10.50	2018
CVWD	-	07S07E01C01S	-111.60	2018	7/27/2018	10.70	2018
CVWD	-	07S07E01C01S	-111.60	2018	8/30/2018	10.70	2018
CVWD	-	07S07E01C01S	-111.60	2018	9/28/2018	10.50	2018
CVWD	-	07S07E01M01S	-110.10	2017	10/27/2017	4.20	2018
CVWD	-	07S07E01M01S	-110.10	2017	12/1/2017	2.30	2018
CVWD	-	07S07E01M01S	-110.10	2018	1/5/2018	2.10	2018
CVWD	-	07S07E01M01S	-110.10	2018	1/31/2018	3.60	2018
CVWD	-	07S07E01M01S	-110.10	2018	2/26/2018	4.10	2018
CVWD	-	07S07E01M01S	-110.10	2018	3/29/2018	5.00	2018
CVWD	-	07S07E01M01S	-110.10	2018	4/27/2018	4.70	2018
CVWD	-	07S07E01M01S	-110.10	2018	5/25/2018	6.10	2018
CVWD	-	07S07E01M01S	-110.10	2018	6/27/2018	7.60	2018
CVWD	-	07S07E01M01S	-110.10	2018	7/27/2018	7.50	2018
CVWD	-	07S07E01M01S	-110.10	2018	8/30/2018	7.70	2018
CVWD	-	07S07E01M01S	-110.10	2018	9/28/2018	6.30	2018
CVWD	-	07S07E02G02S	-98.90	2017	10/27/2017	-6.90	2018
CVWD	-	07S07E02G02S	-98.90	2017	12/1/2017	-4.60	2018
CVWD	-	07S07E02G02S	-98.90	2018	1/5/2018	-2.30	2018
CVWD	-	07S07E02G02S	-98.90	2018	2/2/2018	-4.60	2018
CVWD	-	07S07E02G02S	-98.90	2018	2/26/2018	-0.40	2018
CVWD	-	07S07E02G02S	-98.90	2018	3/30/2018	-0.40	2018
CVWD	-	07S07E02G02S	-98.90	2018	4/27/2018	-0.40	2018
CVWD	-	07S07E02G02S	-98.90	2018	5/25/2018	-0.40	2018
CVWD	-	07S07E02G02S	-98.90	2018	6/27/2018	-0.40	2018
CVWD	-	07S07E02G02S	-98.90	2018	7/27/2018	-2.70	2018
CVWD	-	07S07E03A01S	-72.00	2017	10/27/2017	13.60	2018
CVWD	-	07S07E03A01S	-72.00	2017	12/1/2017	13.00	2018
CVWD	-	07S07E03A01S	-72.00	2018	1/5/2018	17.40	2018
CVWD	-	07S07E03A01S	-72.00	2018	1/31/2018	20.80	2018
CVWD	-	07S07E03A01S	-72.00	2018	2/26/2018	19.80	2018
CVWD	-	07S07E03A01S	-72.00	2018	3/29/2018	18.80	2018
CVWD	-	07S07E03A01S	-72.00	2018	4/27/2018	19.10	2018
CVWD	-	07S07E03A01S	-72.00	2018	5/25/2018	18.60	2018
CVWD	-	07S07E03A01S	-72.00	2018	6/26/2018	18.80	2018
CVWD	-	07S07E03A01S	-72.00	2018	7/27/2018	18.00	2018
CVWD	-	07S07E03A01S	-72.00	2018	8/30/2018	17.50	2018
CVWD	-	07S07E03A01S	-72.00	2018	9/27/2018	17.20	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2017	10/27/2017	42.00	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2017	12/1/2017	40.20	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	1/5/2018	46.50	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	1/31/2018	50.60	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	2/26/2018	48.80	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	3/29/2018	47.40	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	4/27/2018	48.00	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	5/25/2018	46.80	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	6/26/2018	47.10	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	7/27/2018	46.00	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	8/30/2018	43.40	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	9/27/2018	45.40	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2017	10/27/2017	41.30	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2017	12/1/2017	39.40	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	1/5/2018	45.50	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	1/31/2018	49.60	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	2/26/2018	48.10	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	3/29/2018	46.70	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	4/27/2018	47.10	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	5/25/2018	46.20	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	6/26/2018	46.40	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	7/27/2018	45.20	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	8/30/2018	43.30	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	9/27/2018	44.70	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2017	10/26/2017	87.40	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2017	12/1/2017	87.70	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	1/5/2018	92.80	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	1/31/2018	97.30	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	2/26/2018	94.30	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	3/29/2018	92.80	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	4/27/2018	93.10	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	5/24/2018	91.70	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	6/26/2018	91.20	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	7/26/2018	89.90	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	8/30/2018	89.10	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	9/27/2018	90.40	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2017	10/26/2017	88.40	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2017	12/1/2017	89.40	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	1/5/2018	94.40	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	1/31/2018	98.30	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	2/26/2018	95.10	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	3/28/2018	93.70	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	4/27/2018	94.10	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	5/24/2018	92.30	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	6/26/2018	92.00	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	7/26/2018	90.20	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	8/31/2018	89.20	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	9/27/2018	90.90	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2017	10/26/2017	123.20	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2017	12/1/2017	121.20	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	1/5/2018	127.30	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	1/31/2018	131.70	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	2/26/2018	130.40	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	3/29/2018	128.80	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	4/27/2018	128.10	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	5/24/2018	128.10	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	6/26/2018	128.10	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	7/26/2018	127.10	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	8/30/2018	125.40	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	9/27/2018	126.50	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2017	10/26/2017	108.30	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2017	12/1/2017	105.10	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	1/5/2018	113.00	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	1/31/2018	118.90	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	2/26/2018	115.10	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	3/29/2018	113.50	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	4/27/2018	113.90	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	5/24/2018	112.30	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	6/28/2018	112.90	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	7/26/2018	110.00	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	8/30/2018	109.20	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	9/27/2018	110.60	2018
CVWD	-	07S07E03G02S	-46.20	2017	10/27/2017	40.90	2018
CVWD	-	07S07E03G02S	-46.20	2017	12/1/2017	39.60	2018
CVWD	-	07S07E03G02S	-46.20	2018	1/5/2018	45.80	2018
CVWD	-	07S07E03G02S	-46.20	2018	1/31/2018	48.80	2018
CVWD	-	07S07E03G02S	-46.20	2018	2/26/2018	38.30	2018
CVWD	-	07S07E03G02S	-46.20	2018	3/29/2018	44.80	2018
CVWD	-	07S07E03G02S	-46.20	2018	4/27/2018	45.60	2018
CVWD	-	07S07E03G02S	-46.20	2018	5/25/2018	44.60	2018
CVWD	-	07S07E03G02S	-46.20	2018	6/26/2018	46.40	2018
CVWD	-	07S07E03G02S	-46.20	2018	7/27/2018	45.70	2018
CVWD	-	07S07E03G02S	-46.20	2018	8/30/2018	43.10	2018
CVWD	-	07S07E03G02S	-46.20	2018	9/27/2018	42.80	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2017	10/29/2017	128.40	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2017	12/1/2017	125.50	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	1/5/2018	134.90	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	1/31/2018	139.60	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	2/26/2018	135.40	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	3/29/2018	133.50	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	4/27/2018	134.20	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	5/24/2018	133.30	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	6/26/2018	134.00	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	7/26/2018	134.70	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	8/31/2018	129.90	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	9/27/2018	130.70	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2017	10/26/2017	128.20	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2017	12/1/2017	125.50	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	1/5/2018	135.00	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	1/31/2018	139.40	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	2/26/2018	135.20	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	3/29/2018	133.30	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	4/27/2018	133.90	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	5/24/2018	132.40	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	6/26/2018	133.80	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	7/26/2018	134.30	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	8/30/2018	129.50	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	9/27/2018	130.60	2018
CVWD	ARTESIAN	07S08E02L03S	-164.10	2017	11/6/2017	0.20	2018
CVWD	ARTESIAN	07S08E02L03S	-164.10	2017	12/1/2017	1.00	2018
CVWD	ARTESIAN	07S08E02L03S	-164.10	2017	12/6/2017	0.20	2018
CVWD	ARTESIAN	07S08E02L03S	-164.10	2018	4/20/2018	-0.90	2018
CVWD	ARTESIAN	07S08E02L03S	-164.10	2018	8/15/2018	2.70	2018
CVWD	-	07S08E07R03S	-89.30	2017	12/6/2017	62.70	2018
CVWD	-	07S08E07R03S	-89.30	2018	4/19/2018	62.00	2018
CVWD	-	07S08E07R03S	-89.30	2018	8/14/2018	62.90	2018
CVWD	-	07S08E09N01S	-135.30	2017	12/6/2017	19.20	2018
CVWD	-	07S08E09N01S	-135.30	2017	12/6/2017	19.60	2018
CVWD	-	07S08E09N01S	-135.30	2018	4/20/2018	19.70	2018
CVWD	-	07S08E09N01S	-135.30	2018	8/14/2018	19.70	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2017	10/26/2017	-6.20	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2017	12/1/2017	-1.80	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	1/5/2018	-4.60	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	1/31/2018	-1.30	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	2/26/2018	-2.30	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	3/29/2018	-1.30	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	4/27/2018	-9.00	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	5/24/2018	-8.00	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	6/26/2018	-2.70	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	7/26/2018	-2.30	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	8/31/2018	-2.30	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	9/27/2018	-1.80	2018
CVWD	-	07S08E14N01S	-175.00	2017	12/5/2017	6.20	2018
CVWD	-	07S08E14N01S	-175.00	2018	4/20/2018	6.40	2018
CVWD	-	07S08E14N01S	-175.00	2018	8/15/2018	6.90	2018
CVWD	-	07S08E17A04S	-119.00	2017	12/6/2017	38.70	2018
CVWD	-	07S08E17A04S	-119.00	2018	4/19/2018	39.70	2018
CVWD	-	07S08E17A04S	-119.00	2018	8/14/2018	38.80	2018
CVWD	-	07S08E17G01S	-81.10	2017	12/7/2017	76.80	2018
CVWD	-	07S08E17G01S	-81.10	2018	4/19/2018	73.90	2018
CVWD	-	07S08E17G01S	-81.10	2018	8/14/2018	74.10	2018
CVWD	ARTESIAN	07S08E25H01S	-208.50	2017	11/29/2017	17.00	2018
CVWD	ARTESIAN	07S08E25H01S	-208.50	2018	4/17/2018	19.20	2018
CVWD	ARTESIAN	07S08E25H01S	-208.50	2018	8/9/2018	12.80	2018
CVWD	-	07S08E26H02S	-188.50	2017	12/5/2017	10.20	2018
CVWD	-	07S08E26H02S	-188.50	2018	4/20/2018	17.10	2018
CVWD	-	07S08E26H02S	-188.50	2018	8/15/2018	13.80	2018
CVWD	-	07S08E29G01S	81.10	2017	12/7/2017	245.90	2018
CVWD	-	07S08E29G01S	81.10	2018	4/19/2018	245.60	2018
CVWD	-	07S08E29G01S	81.10	2018	8/21/2018	247.10	2018
CVWD	-	07S08E29P01S	167.30	2017	12/12/2017	330.40	2018
CVWD	-	07S08E29P01S	167.30	2018	4/20/2018	329.60	2018
CVWD	-	07S08E29P01S	167.30	2018	8/21/2018	330.90	2018
CVWD	-	07S08E29P02S	155.00	2017	12/12/2017	315.80	2018
CVWD	-	07S08E29P02S	155.00	2018	4/20/2018	316.80	2018
CVWD	-	07S08E29P02S	155.00	2018	8/21/2018	319.40	2018
CVWD	-	07S08E29P03S	175.60	2017	12/12/2017	336.80	2018
CVWD	-	07S08E29P03S	175.60	2018	4/20/2018	338.80	2018
CVWD	-	07S08E29P03S	175.60	2018	8/21/2018	340.20	2018
CVWD	-	07S08E29P04S	162.90	2017	12/12/2017	328.30	2018
CVWD	-	07S08E29P04S	162.90	2018	4/20/2018	326.70	2018
CVWD	-	07S08E29P04S	162.90	2018	8/21/2018	329.10	2018
CVWD	-	07S08E31R01S	236.20	2017	12/6/2017	288.70	2018
CVWD	-	07S08E31R01S	236.20	2018	4/19/2018	288.70	2018
CVWD	-	07S08E31R01S	236.20	2018	8/13/2018	288.80	2018
CVWD	-	07S08E32A01S	88.70	2017	12/12/2017	257.90	2018
CVWD	-	07S08E32A01S	88.70	2018	4/20/2018	257.20	2018
CVWD	-	07S08E32A01S	88.70	2018	8/21/2018	259.90	2018
CVWD	-	07S08E33B01S	21.80	2017	12/6/2017	202.80	2018
CVWD	-	07S08E33B01S	21.80	2018	4/19/2018	201.20	2018
CVWD	-	07S08E33B01S	21.80	2018	8/14/2018	203.90	2018
CVWD	-	07S08E35D01S	-130.90	2017	12/5/2017	45.10	2018
CVWD	-	07S08E35D01S	-130.90	2018	4/19/2018	43.10	2018
CVWD	-	07S08E35D01S	-130.90	2018	8/14/2018	44.80	2018
CVWD	ARTESIAN	07S08E36B01S	-204.80	2017	11/29/2017	-1.60	2018
CVWD	ARTESIAN	07S08E36B01S	-204.80	2018	4/17/2018	-1.80	2018
CVWD	ARTESIAN	07S08E36B01S	-204.80	2018	8/9/2018	-0.60	2018
CVWD	ARTESIAN	07S09E07J01S	-185.40	2017	11/22/2017	-5.00	2018
CVWD	ARTESIAN	07S09E07J01S	-185.40	2018	4/13/2018	-3.20	2018
CVWD	ARTESIAN	07S09E07J01S	-185.40	2018	8/9/2018	-7.30	2018
CVWD	ARTESIAN	07S09E08R01S	-166.40	2017	11/21/2017	-1.80	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	ARTESIAN	07S09E08R01S	-166.40	2018	4/13/2018	-0.40	2018
CVWD	ARTESIAN	07S09E08R01S	-166.40	2018	8/8/2018	-1.80	2018
CVWD	-	07S09E14C01S	-64.60	2017	11/28/2017	93.80	2018
CVWD	-	07S09E14C01S	-64.60	2018	4/13/2018	93.20	2018
CVWD	-	07S09E14C01S	-64.60	2018	8/8/2018	93.50	2018
CVWD	ARTESIAN	07S09E16M03S	-191.40	2017	11/28/2017	0.80	2018
CVWD	ARTESIAN	07S09E16M03S	-191.40	2017	11/28/2017	1.80	2018
CVWD	ARTESIAN	07S09E16M03S	-191.40	2018	4/13/2018	2.60	2018
CVWD	ARTESIAN	07S09E16M03S	-191.40	2018	8/8/2018	5.30	2018
CVWD	ARTESIAN	07S09E18H01S	-197.90	2017	11/28/2017	-1.80	2018
CVWD	ARTESIAN	07S09E18H01S	-197.90	2018	4/17/2018	-1.80	2018
CVWD	ARTESIAN	07S09E18H01S	-197.90	2018	8/9/2018	-6.40	2018
CVWD	-	07S09E23N01S	-187.70	2017	11/28/2017	8.30	2018
CVWD	-	07S09E23N01S	-187.70	2018	4/17/2018	5.90	2018
CVWD	-	07S09E23N01S	-187.70	2018	8/8/2018	6.60	2018
CVWD	ARTESIAN	07S09E30R01S	-203.20	2018	4/17/2018	-28.80	2018
CVWD	ARTESIAN	07S09E30R01S	-203.20	2018	8/9/2018	-20.70	2018
CVWD	ARTESIAN	07S09E30R02S	-203.10	2018	4/17/2018	-13.60	2018
CVWD	ARTESIAN	07S09E30R02S	-203.10	2018	8/9/2018	-15.20	2018
CVWD	-	07S09E30R03S	-203.00	2017	10/4/2017	10.40	2018
CVWD	-	07S09E30R03S	-203.00	2017	12/5/2017	11.60	2018
CVWD	-	07S09E30R03S	-203.00	2018	4/17/2018	10.90	2018
CVWD	-	07S09E30R03S	-203.00	2018	8/9/2018	10.00	2018
CVWD	-	07S09E30R04S	-203.00	2017	10/4/2017	11.80	2018
CVWD	-	07S09E30R04S	-203.00	2017	12/15/2017	12.40	2018
CVWD	-	07S09E30R04S	-203.00	2018	4/17/2018	10.20	2018
CVWD	-	07S09E30R04S	-203.00	2018	8/9/2018	8.50	2018
CVWD	-	08S08E01N01S	-173.30	2017	12/5/2017	10.30	2018
CVWD	-	08S08E01N01S	-173.30	2018	4/19/2018	9.70	2018
CVWD	-	08S08E01N01S	-173.30	2018	8/13/2018	9.60	2018
CVWD	-	08S08E03L01S	-58.60	2017	12/5/2017	122.30	2018
CVWD	-	08S08E03L01S	-58.60	2018	4/19/2018	123.50	2018
CVWD	-	08S08E03L01S	-58.60	2018	8/13/2018	123.10	2018
CVWD	-	08S08E24A01S	-155.20	2017	12/5/2017	59.90	2018
CVWD	-	08S08E24A01S	-155.20	2018	4/18/2018	58.70	2018
CVWD	-	08S08E24A01S	-155.20	2018	8/10/2018	57.40	2018
CVWD	-	08S08E24L01S	-110.80	2017	12/5/2017	107.30	2018
CVWD	-	08S08E24L01S	-110.80	2018	4/18/2018	104.90	2018
CVWD	-	08S08E24L01S	-110.80	2018	8/10/2018	102.80	2018
CVWD	-	08S09E07M01S	-205.60	2017	12/5/2017	0.00	2018
CVWD	-	08S09E07M01S	-205.60	2018	4/18/2018	0.00	2018
CVWD	-	08S09E07M01S	-205.60	2018	8/10/2018	0.00	2018
CVWD	-	08S09E07N01S	-206.30	2017	11/22/2017	4.30	2018
CVWD	-	08S09E07N01S	-206.30	2018	4/18/2018	3.70	2018
CVWD	-	08S09E07N01S	-206.30	2018	8/10/2018	2.40	2018
CVWD	-	08S09E07N02S	-206.30	2017	11/22/2017	5.60	2018
CVWD	-	08S09E07N02S	-206.30	2018	4/18/2018	4.20	2018
CVWD	-	08S09E07N02S	-206.30	2018	8/10/2018	3.80	2018
CVWD	-	08S09E07N03S	-206.90	2018	8/10/2018	-3.20	2018
CVWD	-	08S09E07N04S	-206.90	2018	4/18/2018	-0.50	2018
CVWD	-	08S09E07N04S	-206.90	2018	8/10/2018	-3.60	2018
CVWD	-	08S09E30A01S	-152.30	2017	11/29/2017	71.80	2018
CVWD	-	08S09E30A01S	-152.30	2018	4/18/2018	72.10	2018
CVWD	-	08S09E30A01S	-152.30	2018	8/9/2018	69.40	2018
CVWD	-	08S09E31Q03S	2.00	2017	11/29/2017	243.70	2018
CVWD	-	08S09E31Q03S	2.00	2018	4/18/2018	244.10	2018

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	08S09E31Q03S	2.00	2018	8/10/2018	255.50	2018
CVWD	-	08S09E31Q04S	14.00	2017	11/29/2017	247.40	2018
CVWD	-	08S09E31Q04S	14.00	2018	4/18/2018	247.90	2018
CVWD	-	08S09E31Q04S	14.00	2018	8/10/2018	246.80	2018
CVWD	-	08S09E31R01S	-17.80	2017	11/29/2017	207.40	2018
CVWD	-	08S09E31R01S	-17.80	2018	4/18/2018	207.30	2018
CVWD	-	08S09E31R01S	-17.80	2018	8/10/2018	209.00	2018
CVWD	-	08S09E31R03S	-9.00	2017	11/29/2017	223.80	2018
CVWD	-	08S09E31R03S	-9.00	2018	4/18/2018	223.80	2018
CVWD	-	08S09E31R03S	-9.00	2018	8/10/2018	222.90	2018
CVWD	-	08S09E32C01S	-145.30	2017	10/26/2017	80.70	2018
CVWD	-	08S09E32C01S	-145.30	2017	12/1/2017	81.20	2018
CVWD	-	08S09E32C01S	-145.30	2018	1/5/2018	82.00	2018
CVWD	-	08S09E32C01S	-145.30	2018	1/31/2018	86.50	2018
CVWD	-	08S09E32C01S	-145.30	2018	2/26/2018	86.60	2018
CVWD	-	08S09E32C01S	-145.30	2018	3/29/2018	82.60	2018
CVWD	-	08S09E32C01S	-145.30	2018	4/27/2018	81.10	2018
CVWD	-	08S09E32C01S	-145.30	2018	5/25/2018	80.90	2018
CVWD	-	08S09E32C01S	-145.30	2018	6/26/2018	80.50	2018
CVWD	-	08S09E32C01S	-145.30	2018	7/26/2018	80.10	2018
CVWD	-	08S09E32C01S	-145.30	2018	8/31/2018	79.40	2018
CVWD	-	08S09E32C01S	-145.30	2018	9/27/2018	79.20	2018
CVWD	-	08S09E32G01S	-148.50	2017	10/26/2017	77.20	2018
CVWD	-	08S09E32G01S	-148.50	2017	12/1/2017	72.90	2018
CVWD	-	08S09E32G01S	-148.50	2018	1/5/2018	77.90	2018
CVWD	-	08S09E32G01S	-148.50	2018	1/31/2018	77.90	2018
CVWD	-	08S09E32G01S	-148.50	2018	2/26/2018	77.30	2018
CVWD	-	08S09E32G01S	-148.50	2018	3/29/2018	77.10	2018
CVWD	-	08S09E32G01S	-148.50	2018	4/27/2018	76.70	2018
CVWD	-	08S09E32G01S	-148.50	2018	5/25/2018	76.50	2018
CVWD	-	08S09E32G01S	-148.50	2018	6/26/2018	76.00	2018
CVWD	-	08S09E32G01S	-148.50	2018	7/26/2018	75.70	2018
CVWD	-	08S09E32G01S	-148.50	2018	8/31/2018	75.00	2018
CVWD	-	08S09E32G01S	-148.50	2018	9/27/2018	74.70	2018
CVWD	-	08S09E32G02S	-142.40	2017	10/26/2017	79.40	2018
CVWD	-	08S09E32G02S	-142.40	2017	12/1/2017	79.20	2018
CVWD	-	08S09E32G02S	-142.40	2018	1/5/2018	79.80	2018
CVWD	-	08S09E32G02S	-142.40	2018	1/31/2018	79.70	2018
CVWD	-	08S09E32G02S	-142.40	2018	2/26/2018	79.50	2018
CVWD	-	08S09E32G02S	-142.40	2018	3/29/2018	79.30	2018
CVWD	-	08S09E32G02S	-142.40	2018	4/27/2018	78.80	2018
CVWD	-	08S09E32G02S	-142.40	2018	5/25/2018	78.90	2018
CVWD	-	08S09E32G02S	-142.40	2018	6/26/2018	78.50	2018
CVWD	-	08S09E32G02S	-142.40	2018	7/26/2018	78.00	2018
CVWD	-	08S09E32G02S	-142.40	2018	8/31/2018	78.40	2018
CVWD	-	08S09E32G02S	-142.40	2018	9/27/2018	77.50	2018
CVWD	-	08S09E33N01S	-133.60	2017	11/29/2017	92.60	2018
CVWD	-	08S09E33N01S	-133.60	2018	4/18/2018	92.40	2018
CVWD	-	08S09E33N01S	-133.60	2018	8/10/2018	92.70	2018

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