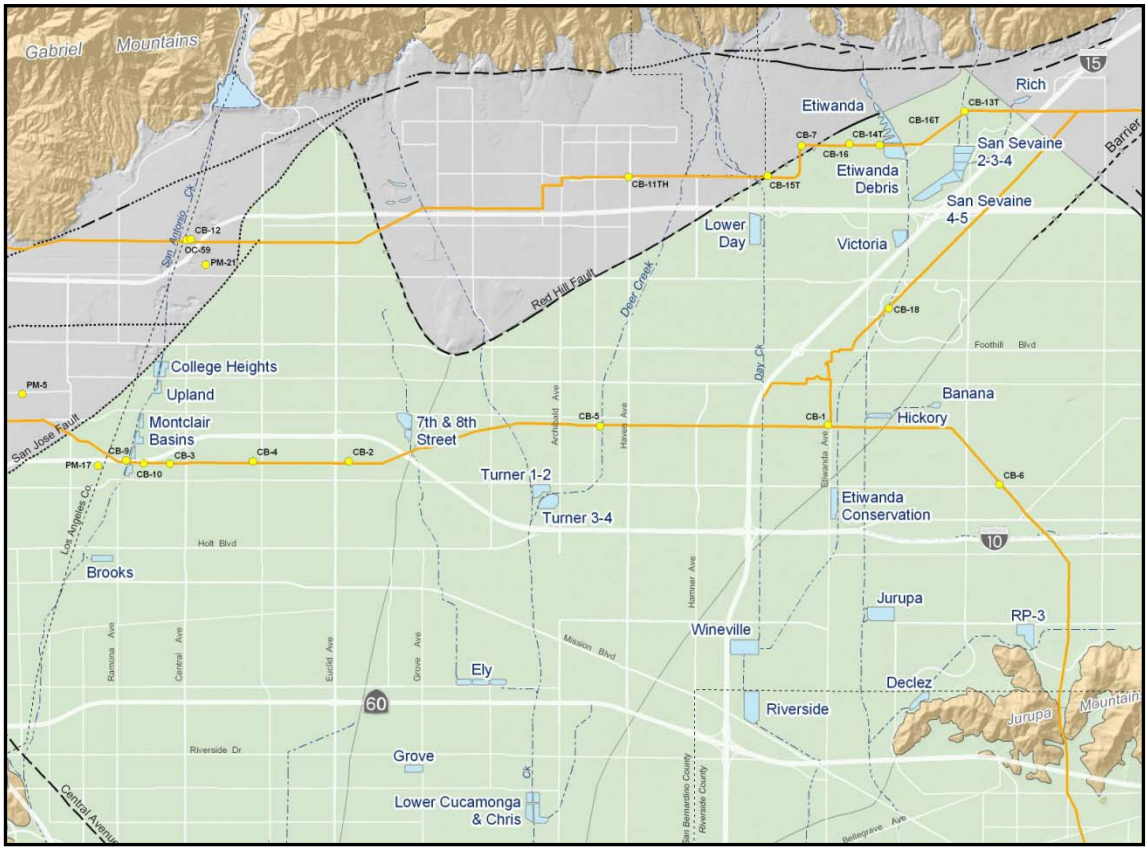
Chino Basin Recycled Water Groundwater Recharge Program

2012

Annual Report



May 1, 2013

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Chris Berch, P.E.
Manager of Planning & Environmental Compliance

Peter Kavounas, P.E.
General Manager

May 1, 2013

Regional Water Quality Control Board, Santa Ana Region
Attention: Mr. Kurt V. Berchtold
3737 Main Street, Suite 500
Riverside, California 92501-3348

Subject: Transmittal of the Annual Report for 2012
Chino Basin Recycled Water Groundwater Recharge Program

Dear Mr. Berchtold:

The Inland Empire Utilities Agency (IEUA) and the Chino Basin Watermaster (CBWM) hereby submit the *2012 Annual Report* for the *Recycled Water Groundwater Recharge Program*. The recycled water groundwater recharge program is being implemented by IEUA and CBWM and its annual reporting is pursuant to requirements of the following orders:

- California Regional Water Quality Control Board, Santa Ana Region. Order No. R8-2007-0039. Water Recycling Requirements for Inland Empire Utilities Agency and Chino Basin Watermaster. Chino Basin Recycled Water Groundwater Recharge Program: Phase I and Phase II Projects, San Bernardino County, June 29, 2007.
- California Regional Water Quality Control Board, Santa Ana Region. Monitoring and Reporting Program No. R8-2007-0039 for Inland Empire Utilities Agency and Chino Basin Watermaster. Chino Basin Recycled Water Groundwater Recharge Program: Phase I and Phase II Projects, San Bernardino County, June 29, 2007.
- California Regional Water Quality Control Board, Santa Ana Region. Order No. R8-2009-0057 Amending Order No. R8-2007-0039 for Inland Empire Utilities Agency and Chino Basin Watermaster. Chino Basin Recycled Water Groundwater Recharge Program: Phase I and Phase II Projects, San Bernardino County, October 23, 2009.
- California Regional Water Quality Control Board, Santa Ana Region. Revised Monitoring and Reporting Program No. R8-2007-0039 for Inland Empire Utilities Agency and Chino Basin Watermaster. Chino Basin Recycled Water Groundwater Recharge Program: Phase I and Phase II Projects, San Bernardino County, October 27, 2010.

ACTIVITIES, FINDINGS, AND CONCLUSIONS

The following bullets summarize the principal activities, findings, and conclusions of the *Recycled Water Groundwater Recharge Program* for 2012:

- Highlights of the 2012 calendar year include the submittal of the San Sevaine 5 Basin Start-Up Period Report (IEUA, 2012e), the Victoria Basin Start-Up Period Report (IEUA, 2012f), and

annual program recharge of 17,195 acre-feet (AF), which includes 9,372 AF of storm water and dry weather flows; 7,823 AF of recycled water; and 0 AF of imported water.

- During 2012, recycled water monitoring was conducted in accordance with MRP No. R8-2007-0039. No turbidity, coliform, total organic carbon (TOC), or dissolved oxygen (DO) compliance limits were exceeded during 2012. No primary or secondary regulated contaminants limits were exceeded during 2012.
- During 2012, two notifications were made to the CDPH and Regional Board regarding the exceedance of the total nitrogen (TN) limit of 5 mg/L for the average of two consecutive sample results at the Hickory East Basin compliance lysimeter (HKYE-LYS-25). Suspension of recycled water delivery is not required until four consecutive weekly samples exceed 5 mg/L.
- No corrective actions were necessary for RP-1 and RP-4. No unit process changes occurred during 2012.
- In-aquifer blending of recycled water, diluent water, and native groundwater is evident at monitoring wells in the vicinity of 8th Street, Banana, Hickory, Brooks, Ely, Turner, and RP3 Basins. For 8th Street, Banana, and Hickory Basins, blending was observed to be occurring both in the area of the groundwater mound and downgradient. Evidence includes variations in water chemistry, variations in water levels, and recharge ratios of water sources.
- At the end of 2012, the volume-based 120-month running average recycled water contributions (RWCs), inclusive of groundwater underflow, by basin were: 8th Street - 21%; Banana - 34%; Brooks - 16%; Ely - 11%, Hickory - 22%, RP3 - 12%; San Sevaine 5 - 4%; Turner Basin Cells 1&2 - 6%; Turner Basin Cells 3&4 - 22%; and Victoria - 24%. These basins are all in compliance with their maximum RWC limits determined during their respective start-up periods.
- CBWM has verified in the Recycled Water Groundwater Recharge Quarterly Reports that there was no reported pumping of groundwater in 2012 for domestic or municipal use from the zones that extend 500 feet and 6-months underground travel time from the 8th Street, Banana, Brooks, Ely, Hickory, Turner, RP3, San Sevaine, and Victoria recharge sites.
- Sufficient data exist to estimate approximate arrival times of recycled water at monitoring wells 8TH-1/1 (21 months) for 8th Street Basin; BRK-1/1 (5 months) and BRK-1/2 (24 months) for Brooks Basin; BH-1 (2 months) for Hickory Basin; California Speedway Infield Well (37 months) for Banana Basin; TRN-1 (3.2 months) for Turner Cell 1; TRN-2 (13 months) and Ontario Well No. 25 (48 months) for Turner Cell 4, respectively; and RP3-1 (3.3 months) for RP3 Basin Cell 1. Other program monitoring wells have yet to indicate arrival of recycled water.
- Comparison of the pre-recharge elevation contour map (Fall 2003) with the most recent post-program start-up groundwater contour map (Spring 2012, draft) indicates minor regional changes in groundwater elevation are present but indicate the recharge program and pumping patterns have not significantly changed groundwater flow directions. The 2012 groundwater elevations in the program monitoring wells have generally changed less than the contour interval (25 feet) used in the 2003, 2006, 2008, and 2010 groundwater elevation maps. A deeper and larger area pumping depression has developed in the vicinity the Chino Desalter well field (planned hydraulic control) and a smaller pumping depression (perhaps seasonal) has developed in Pomona west of Brooks Basin. Some changes in the contouring style/methodology are evident between the 2003 and 2012 maps. For example, the

groundwater contours in the area north of Victoria and San Sevaine basins were interpreted for the 2003 map, but were not interpreted for the 2012 map.

DECLARATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments thereto; and that, based on my inquiry of the individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Executed on the 25th day of April 2013 in the Cities of Chino and Rancho Cucamonga.

Chris Berch, P.E.
Manager of Planning & Environmental Compliance

Peter Kavounas, P.E.
General Manager

Chino Basin Recycled Water Groundwater Recharge Program

2012 Annual Report

Prepared by:

Inland Empire Utilities Agency

Andrew Campbell, P.G., C.HG.

Groundwater Recharge Coordinator

Bonita Fan

Sr. Environmental Compliance Officer

Reviewed and Approved by:

Chris Berch, P.E.

Manager of Planning & Environmental Compliance

Inland Empire Utilities Agency

May 1, 2013

TABLE OF CONTENTS

List of Tables

List of Figures

LIST OF APPENDICES

1 INTRODUCTION

This is the 2012 Annual Report for the Chino Basin Recycled Water Groundwater Recharge Program. Inland Empire Utilities Agency (IEUA), Chino Basin Watermaster (CBWM), Chino Basin Water Conservation District, and San Bernardino County Flood Control District are partners in the implementation of the Chino Basin Recycled Water Groundwater Recharge Program. This is part of a comprehensive program to enhance water supply reliability and improve the groundwater quality in local drinking water wells throughout the Chino Groundwater Basin by increasing the recharge of storm water, imported water and recycled water. Figure 1-1 is a location map of the recharge basin locations used in the Recycled Water Groundwater Recharge Program. Recycled water recharge operations for 8th Street, Banana, Brooks, Ely, Hickory, RP3, Turner, San Sevaine, and Victoria Basins have previously been summarized in the four 2012 quarterly reports to the Regional Board Water Quality Control Board (Regional Board), which document the recharge activities for these basins already having begun recharge with recycled water. Highlights of the 2012 calendar year include the submittal of the San Sevaine 5 Basin Start-Up Period Report (IEUA, 2012e), the Victoria Basin Start-Up Period Report (IEUA, 2012f), and annual program recharge of 17,195 acre-feet (AF), which includes 9,372 AF of storm water and dry weather flows; 7,823 AF of recycled water; and 0 AF of imported water.

1.1 Requirements of Order No. R8-2007-0039

This Recycled Water Groundwater Recharge Program is subject to the requirements found in the following documents issued by the California Regional Water Quality Control Board Santa Ana Region:

- Order No. R8-2007-0039 Water Recycling Requirements for Inland Empire Utilities Agency and Chino Basin Watermaster, Chino Basin Recycled Water Groundwater Recharge Program, Phase I and Phase II Projects, San Bernardino County, June 29, 2007;
- Monitoring and Reporting Program No. R8-2007-0039 for Inland Empire Utilities Agency and Chino Basin Watermaster, Chino Basin Recycled Water Groundwater Recharge Program Phase I and Phase II Projects, San Bernardino County, June 29, 2007;
- Order No. R8-2009-0057 Amending Order No. R8-2007-0039 for Inland Empire Utilities Agency and Chino Basin Watermaster, Chino Basin Recycled Water Groundwater Recharge Program: Phase I and Phase II Projects, San Bernardino County, October 23, 2009; and
- Revised Monitoring and Reporting Program No. R8-2007-0039 for Inland Empire Utilities Agency and Chino Basin Watermaster. Chino Basin Recycled Water Groundwater Recharge Program: Phase I and Phase II Projects, San Bernardino County, October 27, 2010.

The Monitoring and Reporting Program (MRP) describes the requirements for the Annual Reports. The following is an excerpt from Section VI of the MRP:

3. The annual report shall include the following:
   a. A list of the analytical methods employed for each test and associated laboratory quality assurance/quality control procedures. The report shall restate, for the record, the laboratories used by the users to monitor compliance with this Order and their status of certification. Upon request by Regional Board staff, the users shall also provide a summary of performance.
   b. A mass balance to ensure that blending is occurring in the aquifer at each recharge basin. Recharge water groundwater flow paths shall be determined annually from groundwater elevation contours and compared to the flow and transport model's flow paths, travel of recharge waters, including leading edge of the recharged water plume, any anticipated changes. The flow and transport model shall be updated to match as closely as possible the actual flow patterns observed within the aquifer if the flow paths have significantly changed.
   c. A summary of corrective actions taken as a result of violations, suspensions of recharge, detections of monitored constituents and any observed trends, information on the travel of the recycled water (estimated location of the leading edge), description of any changes in operation of any unit processes or facilities, and description of any anticipated changes, including any impacts on other unit processes.
   d. A summary of calibration records for equipments, such as pH meters, flow meters, turbidity meters, and lysimeters.
   e. All downgradient public drinking water systems. A summary discussion on whether domestic drinking water wells extracted water within the buffer zone defined by the area less than 500 feet and 6 months underground travel time from the recharge basins, including the actions/measures that were undertaken to prevent reoccurrence. If there were none, a statement to that effect shall be written.
   f. A summary of the results and recommendations of any tracer testing conducted during the past year.
4. At least one year after the blended recharged water has reached at least one groundwater monitoring well, the users shall submit a report to the CDHS and Regional Board evaluating the compliance with the minimum underground retention time, distance to the nearest point of extraction, blending, and the maximum RWC requirements. The annual report shall include water quality data on turbidity, coliform, total nitrogen, dissolved oxygen, regulated contaminants, TOC, and non-regulated contaminants compliance.

1.2 Organization of the Annual Report

The annual report contains two main sections: Section 2: Recycled Water Quality Monitoring and Section 3: Groundwater Recharge Monitoring. Supporting documents for these sections are included in the 2012 quarterly reports or are provided as appendices to this report. Section 2 discusses compliance with recycled water production specifications and other water quality requirements. Section 3 discusses the blending and movement of recycled water in the groundwater basin.

2 RECYCLED WATER QUALITY MONITORING

2.1 Water Quality Specifications

During 2012, recycled water monitoring was conducted in accordance with the required frequency for all parameters as specified in MRP No. R8-2007-0039. All monitoring and compliance data for the year can be found in the quarterly reports submitted to the Regional Board (IEUA 2012a, 2012b, 2012c, 2013).

2.1.1 Detections and Compliance with Narrative Limits

Recycled Water Specifications A.5 though A.9 are narrative limits in the permit. The 2012 recycled water monitoring data and associated limits for specifications A.5 through A.9 are shown in Table 2-1 and 2-2 of the quarterly monitoring reports. The monitoring and compliance for these parameters is based on the analysis of the two separate recycled water sources, Regional Plant No. 1 (RP-1) and Regional Plant No. 4 (RP-4). In accordance with MRP No. R8-2007-0039, the required monitoring frequency for turbidity and pH is continuous; total coliform is daily; total inorganic nitrogen, total nitrogen, and total organic carbon is weekly; and total dissolved solids is monthly. None of the narrative limits for turbidity, coliform, total dissolved solids, total inorganic nitrogen, total nitrogen, pH, or total organic carbon were exceeded during 2012. During 2012, two notifications were made to the CDPH and Regional Board regarding the exceedance of the total nitrogen (TN) limit of 5 mg/L for the average of two consecutive sample results at the Hickory East Basin compliance lysimeter (HKYE-LYS-25).

2.1.2 Detections and Compliance with Regulated and Non-regulated Contaminants

Recycled Water Specifications A.1 through A.3 (Tables I, II, and III in Order No. R8-2007-0039) specifies limits for constituents with primary maximum contaminant levels (MCLs) and secondary MCLs. The monitoring for compliance of these parameters is based on the analysis of a sample collected at a recycled water sampling point along the distribution pipeline. The sample point is the turnout to GenOn Energy (formerly known as Reliant Energy), as it represents a mixture of recycled water from both RP-1 and RP-4. The 2012 recycled water monitoring data and associated limits for specifications A.1 through A.3 are shown in Table 2-3 of the quarterly monitoring reports. Compliance determination for these constituents is based on 4-quarter running averages. In accordance with MRP No. R8-2007-0039, the required monitoring frequency for constituents with primary MCLs is quarterly and constituents with secondary MCLs is annually. During 2012, the 4-quarter running average concentrations for constituents with MCLs did not exceed compliance limits.

Non-regulated contaminants include the remaining priority pollutants, endocrine disrupting chemicals & pharmaceuticals, and unregulated chemicals. These constituents do not have associated limits; however require annual monitoring in accordance with MRP No. R8-2007-0039 (Table II. Recycled Water Monitoring). The non-regulated contaminants monitoring data for recycled water can be found in Table 2-4 of the quarterly monitoring report corresponding to

the annual sampling month specified in the MRP. In 2012, the annual sampling for recycled water took place during the second quarter of 2012.

The compliance sampling point for Total Trihalomethanes (TTHMs) and Total Haloacetic Acids (HAA5) are not at the GenOn Energy Turnout. TTHMs and HAA5 compliance sampling is performed at the recharge basins prior to the recycled water reaching the groundwater table. During 2012, compliance sampling for TTHMs and HAA5 was collected at lysimeters actively receiving recycled water from basins. Compliance for TTHMs and HAA5 were consistently met throughout 2012 at the selected lysimeters.

2.2 Title 22 Results from Nearest Potable Wells

Table 2-1 contains Title 22 drinking water quality data collected quarterly for the nearest potable water supply well located downgradient of recharge sites that have initiated recharge using recycled water. The Title 22 parameters included in this table are the same as those parameters tested for recycled water. The annual requirement for the discussion on downgradient public drinking water systems is discussed in further detail in Section 3.4 of this report. Location maps for wells monitored for the recharge program are presented on Figures 2-1 through 2-7 for Hickory & Banana, Turner, 7th & 8th Street, Ely, Brooks, RP3, and San Sevaine & Victoria Basins, respectively.

2.3 Laboratory Certifications and Test Methods

The IEUA and MWH Laboratories were utilized for the analytical testing required during the recycled water recharge program. Both of the laboratories are California Department of Public Health Environmental Laboratory Accreditation Program (ELAP) certified, pursuant to the California Environmental Laboratory Improvement Act. MWH Laboratories became Eurofins Eaton Analytical (EEA) in 2012. The IEUA laboratory certification is valid through October 2014 and the MWH Laboratories/EAA laboratory certification is valid through January 2014.

To ensure the quality and reliability of test measurements and results, specific programs and procedures have been developed by both the IEUA and EEA. The 2005 Annual Report (WEI, 2006) contained an electronic copy of the QA/QC manual from each laboratory, including analytical methodologies; this information has not changed since last reported. The 2012 Annual Laboratory QA/QC Data Summary Report was also submitted to the Regional Board as an attachment in IEUA's 2012 Annual NPDES Report.

2.4 Calibration Summary

Field parameters temperature, pH, conductivity, dissolved oxygen, oxidation/reduction potential were recorded during monitoring well sampling using a QED MP20 Multiparameter Meter. This instrument utilizes a flow-cell to allow water to flow through the meter chamber without exposure to the atmosphere. Field analytical instruments used throughout this project were maintained and calibrated each day of use. Calibration was conducted according to instructions provided by the instrument manufacturer.

2.5 Violations, Suspensions, and Corrective Actions

No operational problems or corrective actions at RP-1 or RP-4 were initiated based on regulatory monitoring at the GenOn Energy Turnout and at the recharge basins.

In December 2011, TN exceeded the 5 mg/L limit for the average of two consecutive sample results at the Hickory East Basin 25-foot lysimeter, HKYE-LYS-25. On December 30, 2011, the California Department of Public Health and the Regional Board were both given verbal and e-mail notifications regarding these exceedances and the subsequent cessation of recycled water deliveries until the reason for the possible diminished effectiveness of soil-aquifer treatment for TN could be evaluated. Subsequent notifications for TN exceedances were also sent via e-mail on August 19, 2012 and December 7, 2012. IEUA has hypothesized that due to the limited ability to recharge recycled water and storm water/local runoff consistently throughout 2012, Hickory Basin has not had a sufficient opportunity to re-cultivate the nitrate-reducing bacterial population in the soil. Groundwater samples of TN from the Banana-Hickory monitoring well (BH-1) continue to be below 5 mg/L.

Groundwater monitoring wells are monitored quarterly for the parameters listed in Groundwater Water Monitoring Program V.1. Table 1 and annually at monitoring wells specified in the Phase II Findings of Fact, Attachment A, for constituents with primary MCLs and action levels.

Turbidity of samples collected from several monitoring wells exceeded the secondary MCL, for water from a potable water supply well, of 5 NTU. For these monitoring wells, namely 8TH-1/1, BH-1/2, Bishop of San Bernardino Corporation (Ely), BRK-1/1, BRK-2/1, DCZ-1/1, Ely MW1 (Philadelphia), Ely MW2 (Walnut), RP3-1/2, Southridge JHS (RP3), VCT-1/1, and VCT-2/2, additional well purging has and will continue to be performed for wells where turbidity levels are elevated.

TDS and EC are slightly higher than the secondary MCLs (500 mg/L and 900 µmhos/cm, respectively) in the RP3 basin area wells (ALCOA MW1, ALCOA MW3, and Southridge JHS) and Ely MW2 (Walnut). The wells south of Ely and near RP3 are located in an area with historically high EC levels (>1,000 µmhos/cm).

Color exceeded the secondary MCL of 15 units in monitoring wells BH-1/2, Bishop of San Bernardino Corporation (Ely), BRK-2/1, Ely MW1 (Philadelphia), Southridge JHS, VCT-1/1, and VCT-2/2. Odor exceeded the secondary MCL of 3 TON at Ely MW1. The pH was above the secondary MCL of 8.5 at VCT-2/2.

Total recoverable manganese at Bishop of San Bernardino Corporation (Ely) and dissolved manganese at Ely MW1 and RP3-1/2 exceeded the secondary MCL of 50 µg/L. Total recoverable iron was above the secondary MCL of 300 µg/L at Ely Basin – Riverside Well, which is used for private irrigation. Total recoverable iron was also exceeded at the Bishop of San Bernardino Corporation well due to the pump column repair. The iron concentration should decrease with continued use of the well following the repair.

Some of the monitoring wells in the 8th Street, Banana & Hickory, Brooks, Ely, RP3, and Declez monitoring networks also have NO_3-N concentrations above the primary MCL of 10 mg/L. These higher levels are characteristic of groundwater quality in the local area where historically the NO_3-N concentrations ranges from 10-30 mg/L.

During annual sampling, dissolved nickel was above the MCL of 100 µg/L at 8TH-1/1 and BRK-2/1. Nickel can occur naturally in soils, groundwater, and surface water where nickel-bearing rocks are present. Nickel is often used in electroplating, stainless steel and alloy products, mining, and refining. Nickel-bearing rocks include meteorites and ultramafic rocks formed in the Earth's mantle. Due to the general lack of ultramafic rocks in Chino Basin and the rarity of meteorites in the environment, an industrial source is suspected for the nickel concentrations found in groundwater samples from these wells. The Brooks Basin surrounding area is industrial; however, the 8th Street Basin surrounding area is largely suburban. Perchlorate concentrations above the MCL of 6 µg/L were detected at BRK-1/2 which is characteristic of several production wells in the Pomona area.

2.6 Unit Process Changes and Anticipated Impact on Water Quality

No unit process changes occurred during the 2012 calendar year, therefore there was no impact on water quality.

2.7 Summary of Chemical Usage

The summary of treatment chemicals used on a monthly basis at RP-1 and RP-4 during the 2012 calendar year is presented in Table 2-2.

3 GROUNDWATER RECHARGE MONITORING

3.1 Summary of Recharge Operations

Groundwater recharge using recycled water has been initiated in 8th Street, Banana, Brooks, Ely, Hickory, RP3, Turner, San Sevaine, and Victoria Basins. In February 2012, some recycled water was drained to Declez basin from maintenance activities at the RP3 basins. Declez basin will not be initiated with continual recycled water recharge until the Wineville pipeline extension is completed in late 2014. During 2012, IEUA's recycled water recharge totaled 7,823 AF. Of this volume, 50% was recharged in three basins, namely 8th Street, Banana, and RP3 Basins.

Basin	2012 Recycled Water Recharge (AF)	Percent of 2012 Recycled Water Recharge
8th Street	1,425	18%
Banana	1,043	13%
Brooks	744	10%
Declez	65	1%
Ely	217	3%
Hickory	706	9%
RP3	1,445	18%
San Sevaine	684	9%
Turner	498	6%
Victoria	1,004	13%
Total	7,823	100%

Appendix A of this report contains the monthly groundwater recharge summaries for all sites in the recycled water groundwater recharge program. Recharge volumes, including diluent and recycled water volumes, are presented in the quarterly reports (IEUA, 2012a, 2012b, 2012c, and 2013), but are repeated in this section's discussion of RWC (recycled water contribution) management plans. Of note, the San Sevaine 5 Basin and Victoria Basin Start-Up Period reports were submitted to the Regional Board in 2012 (IEUA, 2012e & 2012f).

3.2 In-Aquifer Blending of Recycled Water

Section IV.B.3.b of the MRP requires the annual report include:

> A mass balance to ensure that blending is occurring in the aquifer at each recharge basin.

In-aquifer blending of recharge using recycled water and diluent water can be shown in two ways. The first is the mass balance of relative volumes of the recharge water sources - recycled water and diluent water, including storm water / local runoff, underflow, and imported water - presented in the RWC Management Plans. The second is by comparison of relative concentrations of water quality parameters that have distinct concentrations in both the

background groundwater and the recycled water used for recharge, such as EC (electrical conductivity), TDS (total dissolved solids), and chloride.

While both these methods are appropriate, they should be used together as evidence of in-aquifer blending. They are appropriate as the horizontal groundwater flow travel velocity away from the recharge site is much slower than the vertical recharge percolation velocity. This velocity difference results in the development of the groundwater mound of recharged water beneath a recharge site. In-aquifer blending occurs as the accumulating water sources comprising the mound dissipate away from the basin. As discussed in the following subsections, blending is evidenced by concentration changes in the monitoring wells located downgradient from the recharge sites. Location maps for wells monitored for the recharge program are presented on Figures 2-1 through 2-7. The volume-based percentage expresses a reasonably anticipated blending as recharge moves towards distant monitoring wells. Actual blending, however, will likely be greater as the recharged water blends with groundwater in storage.

3.2.1 Evidence of Blending Based on Volume

The 2012 monthly recharge volumes by water type are presented in Appendix A and in the historical recharge portion of the RWC Management Plans (Appendix B). Recycled water and diluent water are typically recharged in distinct batches. However, there can be some blending of local runoff with recycled water as it is delivered to the basins, or if storm water enters a basin already containing some recycled water. Variations in the delivery period for batches of diluent water and recycled water provide a level of blending. Dilution with groundwater already in storage is accounted for by the utilization of groundwater underflow in the calculation of running average RWC.

To be conservative, initial use of the fraction of groundwater underflow used as a diluent water source in the RWC calculation is either October 2009 (the date the permit amendment was adopted allowing for its use) or the first month of a basin's recycled water recharge (if after October 2009). Underflow was calculated using the Darcy flow equation with input parameters originating from Chino Basin Watermaster's calibrated groundwater flow model. Conservatively, the underflow calculation was made using only the upper-most sediments (upper model layer), and thus does not included potential mixing of recycled water recharge with groundwater in the deeper sediments (lower model layer).

The running average RWC calculation is equal to:

Recycled Water 120-Month Total / (Recycled Water + Diluent Water 120-Month Total)

At the end of December 2012, the (volume-based) running average RWC for basins having initiated recharge using recycled water were as follows:

Basin	RWC Limit	120-Mo. Running Avg. RWC
8th Street	28%	21%
Banana	36%	34%
Brooks	42%	16%
Ely	29%	11%
Hickory	36%	22%
RP3	50%	12%
San Sevaine 5	27%	4%
Turner 1&2	24%	6%
Turner 3&4	45%	22%
Victoria	50%	24%

Maximum RWC and the RWC management plans are discussed in more detail in Section 3.3. The volume-based percentages express reasonably anticipated blending as recharge waters move towards distant monitoring wells.

3.2.2 Evidence of Blending Based on Water Quality

Time-series graphs of EC (electrical conductivity), TDS (total dissolved solids), and chloride were prepared for monitoring wells adjacent the recharge sites to help identify occurrence of blending within the aquifer. The graphs depicting trends in EC, TDS, and chloride are presented in Appendix C. The graphed data are tabulated in prior quarterly reports. In general, background groundwater concentrations of EC, TDS, and chloride are much lower than recycled water used for recharge. Blending can be gauged based on how rapidly these concentrations change and for how long the change persists. The degree of blending can be estimated based on the proportional relationship of the recycled water EC and the background groundwater EC. For wells showing EC increases associated with recycled water recharge, Table 3-1 provides an estimated range of the peak percent recycled water observed at a given well in the past year.

8th Street Basin Area

For the 8th Street Basin area, the 2009-10 increase in chloride concentrations in the shallower monitoring well (8TH-1/1), was interpreted to indicate the arrival of recycled water recharged in 2007 and 2008. The break in recycled water delivery between September 2008 and August 2009 shows up at the end of 2010 as the downward trend of EC, TDS, and chloride at this well. This represents an approximate 21-month travel time for recharge in the north portion of 8th Street Basin to percolate to the water table and travel to 8TH-1/1. This corresponds well with the previous estimate of 22 months. In late 2010, the sampling pump and pressure transducer at 8TH-1/1 fell to the bottom of the well and required retrieval and replacement. Thus, the well was not sampled from October 2010 until December 2011. In 2012, there is a noticeable increase in the percent recycled water at this well site as indicated by increased concentrations of EC, TDS, and chloride. As presented in Table 3-1, the highest percentage of recycled water in the groundwater mound at 8TH-1/1 during 2012 was approximately 39% to 62% based on EC and chloride variations.

From mid 2011 and through 2012, the deeper casing of 8TH-1/2 shows a slight increase in EC, TDS, and chloride concentrations. After trending downward since the well was constructed,

these increases suggest recycled water recharge from 2007 and 2008 may have started to arrive in the deeper casing after a travel time of roughly 46 months. Continued monitoring of these parameters at the deeper casing water quality is needed to identify with certainty the arrival of recycled water at this depth. Recycled water arrival would be confirmed should these concentrations continue to rise above baseline concentrations at this location and depth. As presented in Table 3-1, the highest percentage of recycled water in the groundwater mound at 8TH-1/2 during 2012 reached approximately 11% to 22% based preliminarily on EC and chloride variations.

The shallower casing of monitoring well 8TH-2 (8TH-2/1), located approximately 2,500 feet farther from 8TH-1, shows cyclical seasonal variations in EC, TDS, and chloride that make the arrival of recycled water difficult to evaluate. Arrival of recycled water at 8TH-2/1 would likely be observed as a longer-term increase in the cyclical annual peaks of EC, TDS, and chloride, which have yet to be observed. In 2009, the deeper casing at monitoring well 8TH-2 (8TH-2/2) showed a steady increase in chloride above seasonal fluctuations starting around February 2009 and peaking in July 2009. A steady decline in concentration followed the peak and continued through 2012. The steady multi-year decline, despite continued recycled water recharge, suggests the peak in 2009 was not due to the arrival of recycled water at this location as previously suspected. A brief rise in EC and TDS occurred in spring and summer 2012; however, more evidence is needed to determine arrival time of recycled water at this location.

Banana & Hickory Basins Area

In the Banana and Hickory Basins area, monitoring well BH-1 casing 2 (BH-1/2) (adjacent to Hickory Basin) had large changes in EC, TDS, and chloride (100 to 150-mg/L TDS difference) that began in early 2008, peaked in mid-2009, and continued through 2012. These changes are attributed to the initiation and continued recharge of recycled water at Hickory and Banana Basins. Generally consistent EC, TDS, and chloride concentrations of the groundwater at BH-1/2 in 2010 through 2012 suggest a stabilized and perhaps sustained peak RWC with historical operations at Hickory and Banana Basins. As presented in Table 3-1 based on EC and chloride variations, the highest percent recycled water in the groundwater mound at BH-1/2 during 2012 reached approximately 44% to 52%.

The California Speedway Infield Well, south of Banana Basin, shows gradual increases for EC, TDS, and chloride concentrations (150-mg/L TDS and 15 mg/L chloride differences) since the initiation of recycled water recharge. The gradual increase is to be expected with gradual blending as groundwater moves away from the basin (compare with the 150 to 200-mg/L variation at the basin area mound). The well was down for repairs from July 2010-July 2011 and was not sampled. Travel time from Banana Basin to the California Speedway well based on these data is approximately 29 months. As presented in Table 3-1 based on EC and chloride variations, the highest percent recycled water in the groundwater at the California Speedway Infield Well during 2012 reached approximately 13% to 62%.

The EC, TDS, and chloride data suggest recycled water recharge has not reached downgradient wells California Speedway No. 2, Reliant East, FWC 37A, and Ontario Well No. 20. Slight increase in EC, TDS, and chloride are seen at California Speedway No. 2 since late 2009, but the small steady increases are also observed in background monitoring well FWC 37A.

Brooks Basin Area

For the Brooks Basin area, monitoring wells are located at the basin (BRK-1) and downgradient of the basin (BRK-2). Recycled water recharge began in September 2008. EC, TDS, and chloride concentrations at BRK-1/1 show seasonal increases and decreases through its history likely related to recharge activity. Concentration increases of 100 mg/L for TDS and 50 mg/L for chloride have been observed and attributed to the presence of recycled water at BRK-1/1. In the deeper casing (BRK-1/2), smaller increases in EC, TDS, and chloride began in January 2010 and continued through 2012. Concentration increases of 70 mg/L for TDS and 10 mg/L for chloride have been observed and are attributed to the presence of recycled water at BRK-1/2. As presented in Table 3-1 based on EC and chloride variations, the highest percent recycled water in the groundwater mound at the recharge basin during 2012 reached approximately 43% to 92% at BRK-1/1 and approximately 15% to 30% at BRK-1/2. These data show that blending is occurring in the aquifer beneath Brooks Basin.

The chloride concentrations at BRK-2/1 show a 35-mg/L stepped increase in late 2010 and coincides with a 100 umhos/cm decrease in EC. While this may indicate the arrival of recycled water recharge in the shallower casing groundwater, continued observations at this well will be necessary to identify, with certainty, the presence of recycled water. BRK-2/2 continues to generally have steady concentrations of EC, TDS and chloride through 2012.

Ely Basin Area

Groundwater in the area directly south of Ely Basin (south of the 60 Freeway) lies on the northern perimeter of the Chino Groundwater Basin with high background TDS and nitrate concentrations. Groundwater in this area has TDS concentrations between 500 and 1,000 mg/L, as is typical of lands in the Chino Basin with irrigation history (CBWM, 2003). Recycled water has been recharged at Ely Basin since 1999. Quarterly sampling of the Ely area monitoring wells began in 2007, when the site was incorporated in the program's recharge permit.

For Ely Basin, monitoring wells are located at the basin (Philadelphia well) and downgradient (Walnut well and Riverside well). Historical recycled water recharge is estimated to have traveled to and beyond the three monitoring wells directly downgradient of Ely basin due to their proximity to the basin (0.0 miles, 0.5 mile and 1.0 mile for the Philadelphia, Walnut, and Riverside wells, respectively). At the two downgradient wells, the high background concentrations of EC, TDS, and chloride make it difficult to identify the arrival of lower concentration storm water and recycled water.

The 2012 sample results at the Philadelphia well indicate the presence of recycled water. TDS has increased about 100 mg/L between 2009 and late 2010, with a 50-mg/L decreasing TDS trend and similar EC and chloride concentrations between 2011 and 2012. As presented in Table 3-1 based on EC and chloride variations, the highest percent recycled water in the groundwater at the Philadelphia well during 2012 reached approximately 8% to 32%. The Philadelphia well water quality data indicate blending is occurring in the aquifer beneath the Ely Basin.

The EC, TDS, and chloride concentrations at the Walnut well during 2007, 2008, and 2011 were nearly double the concentrations found in recycled water and therefore are not attributed to recycled water recharge activities at Ely Basin. During mid 2008 through mid 2011, the historical

low TDS at the Walnut well ranged from approximately 400 to 450 mg/L, but ranges between 500 and 850 mg/L outside these dates. The lower TDS concentrations may be linked with intense periods of storm water and recycled water recharge that would dilute the higher TDS groundwater. The volume-based percent recycled water recharged at Ely basin has been about 11% since July 2005, when detailed diluent water records began.

Further downgradient, the EC, TDS, and chloride of groundwater at the Riverside well are relatively stable and do not indicate any impacts from recycled water or diluent water recharge from 2007 through 2012.

Turner Basin Area

The Turner Basin area monitoring well TRN-1 (at Turner 1) has historical and temporal variations in EC, TDS, and chloride (100 to 200 mg/L for TDS) that can be attributed to cycles of recycled water recharge. Since the recycled water start-up period at Turner 1 (2006-2007), recycled water deliveries have been limited, and thus EC, TDS, and chloride concentrations have been decreasing towards background levels. This indicates recycled water recharge blending with groundwater and its movement away from Turner 1. As presented in Table 3-1 based on EC and chloride variations, the highest percent recycled water in the groundwater mound at Turner 1 during 2012 was 3% to 13% at TRN-1/2.

At monitoring well TRN-2 (adjacent to Turner 4), the EC, TDS, and chloride concentrations dipped and moderately rose in 2010, delayed several months from past recharge activities. In 2011 and 2012, variations continued in EC, TDS, and chloride concentrations in response to recycled water delivery periods. The slower, more steady, and smaller relative concentration changes at monitoring wells TRN-2/1 and TRN-2/2 (compared to TRN-1) suggests that recharge from Turner 4 is more laterally distributed when it reaches the groundwater table. This is consistent with the slower recharge rates observed at Turner 4, and supports more immediate aquifer blending beneath Turner 4 in comparison with Turner 1. As presented in Table 3-1 based on EC and chloride variations, the highest percent recycled water in the groundwater mound at the Turner 4 basin during 2012 was approximately 50% to 64%. The TRN-1 and TRN-2 data show recycled water blending is occurring with groundwater in the aquifer beneath the Turner Basins.

The downgradient Ontario Well No. 25 shows a slight increase in EC (75 umhos/cm), TDS (40 mg/L), and chloride (10 mg/L) above background levels that suggest recycled water arrival in July 2010. Little variation in these parameters was evident in 2012. Estimated travel time based on these water quality data is approximately 48 months. As presented in Table 3-1 based on EC and chloride variations, the highest percent recycled water in the groundwater at Ontario Well No. 25 during 2012 was approximately 13% to 34%.

In January 2009, downgradient Ontario Well No. 29 showed a slight stepped increase in TDS and chloride concentration similar in magnitude to the gradual rise at Ontario Well No. 25. However, the increase at Ontario Well No. 29 is within the range of background data. Ontario Well No. 29 was not sampled from October 2010 to October 2012 because the well was out of commission. These changes are not definitive changes that would correlate with groundwater recharge using recycled water. Additional data from future monitoring are required to assess the arrival and blending of recycled water at Ontario Well No. 29.

RP3 Basin Area

For the RP3 Basins area, the initiation of recycled water recharge occurred in June 2009. Since that time, EC and TDS data alone from monitoring well RP3-1 (both casings) at cell 1 are inconclusive as to the degree of recycled water recharge blending with local groundwater. Since July 2010, the EC and TDS data in both casings have been dramatically and steadily decreasing. By 2011, EC and TDS were trending below pre-recycled water recharge background concentrations. This is likely due to the increase in storm water recharge at the RP3 basin site since February 2009 following the completion of a diversion from San Sevaine Channel to Jurupa Basin and the subsequent pumping of these waters to the RP3 basin site. By April 2012, EC, TDS, and chloride concentrations reached historical lows for this well and then began to increase slightly through the end of 2012. Due to the high background EC and TDS concentrations and a supplemental storm water source, it may be several years before EC and TDS can be used as a reliable blending indicator for the RP3 basin site.

The chloride concentrations at RP3-1/1 are more indicative of recharge induced changes and were used to estimate recycled water blending with groundwater and other recharge waters. As presented in Table 3-1 based on chloride variations alone, the highest percent recycled water in the groundwater mound at RP3-1 during 2012 was approximately 41%.

Downgradient well ALCOA-1 showed spikes in EC, TDS, and chloride in 2011 and in 2012. These increased concentrations are greater in magnitude than their respective concentrations in recycled water, and thus are likely due to salt contamination moving past the well. The background concentrations at ALCOA-1 are similar to that of recycled water. More data are required to correlate the arrival of recycled water at ALCOA-1.

Downgradient well ALCOA-3 has higher EC, TDS, and chloride concentrations that ALCOA-1. In 2012, ALCOA-3 groundwater showed decreasing and increasing EC, TDS, and chloride concentrations, which suggests salt contamination moving past the well site. From April to October 2012, EC, TDS, and chloride concentrations dropped (250 µmhos/cm for EC, 250 mg/L for TDS, and 60 mg/L chloride), only to rebound upwards in the forth quarter sample. More data are required to correlate the arrival of recycled water at ALCOA-3.

The Southridge Junior High School (JHS) well water quality data continue to show a slight but gradual decrease in EC, TDS, and Cl concentrations since quarterly sampling began in 2009. The data suggest recycled water recharge has not reached the downgradient Southridge JHS well. The background concentrations at the Southridge JHS well are similar to that of recycled water.

San Sevaine & Victoria Basins Area

Monitoring of San Sevaine and Victoria Basins area wells began in late 2009 and continued through 2012. Initiation of recycled water recharge began in these two basins in mid-2010. The 2010 through 2012 trends in EC, TDS, and chloride have yet to indicate the arrival of recycled water at these monitoring points. Victoria Basin mound monitoring well VCT-1/1 has shown a slight increase in EC, TDS, and chloride concentrations in May 2011 that will be further evaluated with additional data collected in 2013.

3.3 RWC Management Plan

The RWC Management Plan is a necessary tool to demonstrate how IEUA and CBWM will meet the maximum RWC following the start-up period of a recharge site. In 2009, IEUA and CBWM received a permit amendment from the RWQCB Order No. R8-2009-0057 that allows for a 120-month RWC averaging period (previously a 60-month period) and for the inclusion of a fraction of groundwater underflow as a diluent water source in the RWC calculation. In 2010, the National Water Research Institute (NWRI) convened an independent expert panel to review the amendment and evaluate if the amendment provided an equal level of public protection. The panel supported the proposed Darcian method of quantifying site specific groundwater underflow; but recommended that, to be conservative (from a mixing standpoint), the fraction of the underflow used should only include the uppermost aquifer layers of higher hydraulic conductivity.

The RWC Management Plans presented in this report include the 120-month averaging period and the use of a fraction of the basin groundwater underflow. The RWC Management Plans are updated to reflect the actual operation of the basin during the previous calendar year and to forecast average operations for the next 120 months. Appendix B contains the RWC Management Plans for 8th Street, Banana, Brooks, Ely, Hickory, RP3, San Sevaine 5, Turner Basin Cells 1&2, Turner Basin Cells 3&4, and Victoria Basins.

Each RWC Management Plan was developed using historical diluent water and recycled water recharge and projections of diluent water and planned recycled water deliveries. Storm water projections are based on the historical averages of diluent recharge for the corresponding months. With each subsequent operational year, storm water projections will be updated to include the past year's historical data. For a conservative approach to the RWC calculation, imported water forecasts are not used as diluent water to calculate the projected RWC.

Following the recharge permit amendment to allow groundwater underflow as diluent, the 2009 Annual Report (IEUA and CBWM, 2010a) contained RWC Management Plans showing underflow occurring since the historical initiation of recycled water recharge in a basin. However, upon further discussion with CDPH, the use of a fraction of groundwater underflow in the RWC calculations was revised in October 2009 (the month the amendment was issued) for basins already receiving recycled water. For basins that start recycled water recharge after the permit amendment, the use of underflow in the RWC calculation begins upon the month of recycled water recharge initiation. This change in underflow application in RWC calculation was made for the 2010 and subsequent annual reports. For basins initiated with recycled water recharge after October 2009, by the 120th month of recycled water recharge operations, there will be a full 120 months of underflow in the RWC calculation for each basin.

Within these limits of historical recharge, storm water projections, and groundwater underflow, planned recycled water deliveries are forecasted to either maximize the available basin capacity or maintain the volume-based RWC within the maximum RWC limit. While the plan contains calculations for up to 120 months of historical data, the graphed RWC Management Plans (Appendix B) show only the previous 60 months of recharge and projections for the next 120 months. The volume-based RWC is a calculation of the percent recycled water infiltrated based on a 120-month rolling average.

Table 3-2 lists the volume-based RWC actual at the end of 2012 for each recharge site. The recharge sites are all in compliance with their maximum RWC limits. Based on future projections of diluent recharge, the RWC Management Plans show that recycled water deliveries for each basin can continue to be made and remain in compliance with their RWC limits.

3.4 Buffer Zone/Travel Time Compliance

Section VI.B.3.e of the M&RP requires the annual report to include the following:

> A summary discussion on whether domestic drinking water wells extracted water within the buffer zone defined by the area less than 500 feet and 6 months underground travel time from the recharge basins, including the actions/measures that were undertaken to prevent reoccurrence. If there were none, a statement to that effect shall be written.

As stated in the cover letters of the 2012 quarterly reports, CBWM has certified that there was no reported pumping of groundwater in 2012 for domestic or municipal use from the zones that extend 500 feet and 6 months underground travel time from the 8th Street, Banana, Brooks, Ely, Hickory, RP3, San Sevaine, Turner, and Victoria Basins. In fact, there are no domestic or municipal production wells in the buffer zones of the aforementioned recharge sites.

3.4.1 Recharge Water Arrival Times

As documented in annual reports and basin start-up period reports, sufficient data exist to estimate arrival times of recycled water at monitoring wells: 8TH-1/1 and 8TH-1/2 for 8th Street Basin; BRK-1/1 and BRK-1/2 for Brooks Basin; BH-1 for Hickory Basin; California Speedway Infield Well for Banana Basin; TRN-1 and TRN-2 for Turner 1 and Turner 4, respectively; Ontario Well No. 25 for Turner 4; and RP3-1/1 and RP3-1/2 for RP3 Basins. The evaluations of arrival time are based in part on the water chemistry data presented in Appendix C. Arrival times can be determined from notable increases in EC, TDS, and/or chloride concentrations above background, excluding natural seasonal variations.

8th Street Basin Area

Travel time from 8th Street Basin through the vadose zone and along groundwater flow paths to monitoring well 8TH-1/1 is estimated by steadily increasing concentrations of EC, TDS, and chloride beginning in July 2009 and continuing through 2012. Recharge began at 8th Street Basin on November 7, 2007, thus the travel estimate for 8TH-1/1 is approximately 660 days (22 months). The travel time to the further downgradient monitoring well 8TH-2/2 had appeared to be more rapid (perhaps a more direct flow path), and was preliminarily estimated to be approximately 402 days (13 months) based on chloride data (IEUA and CBWM, 2009). While this difference between wells was conceivable and was supported by continued observations of EC, TDS, and chloride in 2010, the water quality data from 2011 and 2012 at this location no longer support this estimate. This is evidenced by the decline in EC, TDS, and chloride below background concentrations with no influence from recycled water recharged in 2009 and 2010, as would be expected with the prior estimate of a 402-day travel time.

Banana & Hickory Basins Area

Travel time from Hickory Basin through the vadose zone and along groundwater flow paths to monitoring well BH-1 was documented at approximately 59 days (IEUA and CBWM, 2009). The California Speedway Infield Well has demonstrated a small but gradual increase in EC, TDS,

and chloride from September 2005 through the end of 2012. Travel time from Banana Basin to California Speedway Infield Well is estimated at 890 days (29 months) based on a stepped increase in EC, TDS, and chloride concentrations beginning between data collected on October 9, 2007 and January 7, 2008 (IEUA and CBWM, 2009). The modeled travel time to the California Speedway Infield Well was 682 days (22 months) (CH2MHill, 2003). Other Banana-Hickory monitoring wells have not yet shown definitive variations in EC, TDS, and chloride that would signal arrival of recycled water at these well sites. Data collected in 2012 are consistent with the prior data interpretations.

Brooks Basin Area

Travel time from Brooks Basin through the vadose zone to the shallow casing of mound monitoring well BRK-1 (BRK-1/1) located at the basin was initially interpreted from EC changes to be approximately 7 days (IEUA and CBWM, 2010a) due to the observation of a 200 µmhos/cm EC increase following initiation of recycled water recharge. However, more recent data from 2009 and the completion of the Brooks Basin Start-Up Period report suggested the earlier data were anomalous and document the travel time estimate to be approximately 150 days (5 months) based on trends in EC, TDS, and chloride data. Evaluation of 2010 and 2011 EC, TDS, and chloride data indicate recycled water arrived at the deeper casing of BRK-1 (BRK-1/2) in January 2010 for a travel time of approximately 526 days (17 months). At the downgradient monitoring well BRK-2, variations of EC, TDS, and chloride concentrations following recharge are similar to the background variations prior to recycled water recharge, which makes identification of travel time to this well difficult. The 2012 EC, TDS, and chloride data at BRK-2 (casings BRK-2/1 and BRK-2/2) continue to be within the range of the background concentration; however an increase in chloride concentration at BRK-2/1 throughout summer 2011 may suggest the arrival of recycled water. More data are required to determine the arrival time.

Ely Basin Area

Groundwater in the Ely Basin area has high background TDS and nitrate concentrations from a history of irrigation. Due to the seasonal variations of concentrations at the Philadelphia, Walnut, and Riverside Wells, arrival times are difficult to determine. Recycled water recharge began in 1999 and thus it is estimated that recycled water has already arrived and traveled beyond these wells.

Turner Basin Area

Travel time from Turner Basins through the vadose zone to the groundwater was documented at 97 days (3 months) and 285 days (9 months) to monitoring wells TRN-1 and TRN-2, respectively (IEUA and CBWM, 2009). Both monitoring wells have two casings, with the shallower being designated /1 and the deeper being designated /2. TRN-1/1 is not currently sampled as it was constructed above the water table for future mound sampling, if needed. Original modeling (CH2MHill, 2003) for the Turner recharge site predicted a 109-day travel time to each of these wells. Recycled water continued to be detected at TRN-2 (as elevated EC) through mid-2012 with resumption of recycled water recharge to Turner 4. A decrease in EC, TDS, and chloride concentrations at TRN-1 indicates that recycled water recharged during the start-up period has migrated away from this location since July 2008, after the high volume recharge start-up period ended in 2007. The travel time from Turner Basins to downgradient

Ontario Well No. 25 suggest a travel time of 1,475 days (48 months) (IEUA and CBWM, 2011). Downgradient monitoring well, Ontario Well No. 29, has not yet shown variations in EC, TDS, and chloride that could signal arrival of recycled water at these well sites. Data collected in 2012 are consistent with the prior data interpretations.

RP3 Basin Area

Travel time from RP3 Basin (cell 1) through the vadose zone to the shallower casing of mound monitoring well RP3-1/1 (located at on the west side of cell 1) was initially interpreted in the 2009 Annual Report (IEUA and CBWM, 2010a) to be approximately 14 days based on observation of EC changes. However, 2009 through 2010 data and RP3 Basin Start-Up Period Report findings indicate the earlier data did not represent the arrival of recycled water, but was instead evidence of vadose zone flushing (IEUA and CBWM, 2010b). The EC and water level trends support a travel time estimate of approximately 99 days. While the background EC prior to recycled water recharge was 1,000 to 1,100 µmhos/cm, initiation of storm water recharge operations at cell 1 in February 2009 appears to have pushed the higher EC water from the vadose zone, raising the well water EC to 1,400 µmhos/cm. Recycled water recharge began on June 2, 2009 and a 400-µmhos/cm decrease in EC was observed in this mound monitoring well by August 25, 2009. The approximately 99-day travel time to the well is corroborated by the hydrograph of well casing RP3-1/1 (Appendix D), which shows an approximately +90-day delay between the mid-September 2010 recharge low and the mid-December 2010 water level low. Recycled water has also been observed as a chloride increase in both the shallow and the deep casing RP3-1/1 and RP3-1/2 in the summer of 2010, approximately 12 months after initiation of the basin with recycled water. The longer time to observe a chloride response is likely due to background noise of water purged from the vadose zone.

San Sevaine & Victoria Basins Area

There is currently insufficient data from wells in the area to establish travel times of recharge to monitoring wells for these basins. The well data for these basins will be reviewed again for the 2013 annual report.

3.4.2 Leading Edge of Recycled Water in Aquifer

The leading edges of groundwater containing a component of recycled water were evaluated for the various recharge sites using monitoring well data. Such data include groundwater elevations changes and changes in EC, TDS, and/or chloride concentrations. Water quality data were discussed in the above subsections. Appendix D contains basin-specific water level hydrographs, with discussion in Section 3.5.2 of water level mounding due to recycled water recharge. Location maps for wells monitored for the recharge program are presented in Figures 2-1 through 2-7. Evaluation of basin-specific water chemistry and water level data indicate recycled water recharge has passed the first monitoring wells located downgradient of 8th Street, Banana, Brooks, Ely, Hickory, Turner Basins, and RP3 Basins. Only two production wells used for monitoring near the basins show a water quality change from background concentrations that would be associated with recycled water recharge; specifically, California Speedway Infield Well for Banana & Hickory Basins and Ontario Well No. 25 for Turner 4.

3.4.3 Tracer Test Results

No tracer tests were conducted in 2012, nor are any planned for the current program.

3.5 Groundwater Elevations

Section VI.B.3.b of the M&RP requires the annual report to include a discussion of groundwater elevations and flow paths:

> Recharge water groundwater flow paths shall be determined annually from groundwater elevation contours and compared to the flow and transport model's flow paths, travel of recharge waters, including leading edge of the recharged water plume, any anticipated changes. The flow and transport model shall be updated to match as closely as possible the actual flow patterns observed within the aquifer if the flow paths have significantly changed.

3.5.1 Current Elevation vs. Modeled Elevation

Groundwater elevations from the recharge program monitoring wells and many other wells are used by CBWM to periodically prepare groundwater elevation contours of the Chino groundwater basin. Groundwater contour maps were prepared for 1997, 2000, 2003, 2006, 2008, and 2010. These groundwater elevation maps from the Chino Basin Watermaster's *Biennial State of the Basin Reports* are presented in Appendix E. Chino Basin Watermaster has prepared as a spring 2012 water elevation contour map, but as it was still in draft at the time this report was finalized. It was thus not included in Appendix E due to its draft status. While the draft 2012 map was reviewed for discussion in this report, the final map will be included in the 2013 Annual Report.

A comparison of the pre-recharge elevation contour map (Fall 2003) with the most recent post-program start-up groundwater contour map (Spring 2012, draft) indicates several things. First, minor regional changes in groundwater elevation are present but indicate the recharge program and pumping patterns have not significantly changed groundwater flow directions. The small groundwater elevation changes between these maps can be attributed, in part, to seasonal differences between the two water level data sets. With the exception of local recharge mounds at basins evident from well hydrographs, the 2012 groundwater elevations in the program monitoring wells have changed less than the contour interval (25 feet) used in the 2003, 2006, 2008, 2010, and 2012 groundwater elevation maps. Small differences in groundwater flow direction are noticeable for 8th Street and Ely Basins between the 2003 and 2012 maps, but neither is significant enough to warrant a re-evaluation of monitoring well locations. Second, a deeper and larger area pumping depression has developed in the vicinity the Chino Desalter (hydraulic control) well field and a smaller pumping depression (perhaps seasonal) has developed in Pomona west of Brooks Basin. Thirdly, there are some changes in the contouring style/methodology between the 2003 and 2012 maps. For example, the groundwater contours in the area north of Victoria and San Sevaine Basins were interpreted for the 2003 map, but were not interpreted for the 2010 and 2012 maps.

3.5.2 Water Level Trends in Monitoring Wells

Appendix D contains hydrographs of groundwater elevations, from basin start-up periods through 2012, for wells constructed for the monitoring program. Location maps for wells monitored for the recharge program are presented on Figures 2-1 through 2-7. Plotted on the hydrographs is the daily recharge for the nearest recharge site(s). These hydrographs can be used to identify local increases in groundwater elevations and their correlation with local recharge. Generally these wells are mound monitoring wells at basins or the next monitoring well downgradient of the recharge site.

8th Street Basin Area

The hydrographs of the 8th Street Basin mound monitoring well (8TH-1) show 5- to 10-foot seasonal fluctuations and a longer-term 10-foot increasing trend in water levels between 2008 and 2012. There are missing water level data for both casings at 8TH-1 in 2011 due to the loss and replacement of the pressure transducers and pumps at the well. Hand-measured water levels supplemented the hydrographs during that time. The hydrograph for downgradient well 8TH-2 shows about a 15-foot increasing water level trend between 2009 and 2012. Short duration downward spikes in the 8TH-2 hydrograph are indicative of nearby groundwater pumping activities.

Brooks Basin Area

The hydrographs for the Brooks Basin mound monitoring well (BRK-1) show 2- to 10- foot seasonal fluctuations in water level but have been relatively stable annually between 2009 and 2012. The larger groundwater elevation fluctuations in the deeper casing are due to a greater influence from nearby groundwater production at that depth. Prior to the generally stable period of 2009 to 2012, water levels at BRK-1 generally declined approximately 5 feet during 2008. The shallower casing (BRK/1/1) was redeveloped during 2010 and due to the removal of monitoring equipment thus does not have a continuous water level record in 2010. From 2009 to 2012, the hydrograph of the downgradient (intermediate) monitoring well BRK-2 shows a similarly stable trend as BRK-1 with the exception of slightly larger seasonal fluctuations and pumping influences. The decline in water levels during 2008 for BRK-2 was approximately 10 feet. The rising water levels of the BRK-1 hydrographs correlate well with about a 3-months lag from recharge activity at Brooks Basin.

Banana & Hickory Basins Area

The hydrograph for the Banana and Hickory Basins mound monitoring well (BH-1) shows a 15-foot steady decline in water level between 2006 and 2009. In 2009 through 2011, the BH-1 hydrograph has remained relative stable annually with 5-foot season fluctuations. The 2011 peak and trough seasonal fluctuations appear delayed between 3 and 4 months from peak recharge activities. In 2012, the hydrograph shows a general 10 foot increase in water levels above the 2009 through 2011 levels. Impacts on water elevations due to recharge at Hickory and Banana Basins are muted and delayed due to the over 400-foot depth to the water table at this location.

Turner Basin Area

The hydrograph of the two Turner Basin monitoring wells, TRN-1 and TRN-2, both show 10- to 25-foot increases in groundwater elevation with a delay of 1 to 2 months associated with peaks in recharge. The annual low water elevations of September 2007 to September 2009 are generally the same elevation. More recently, the annual lows of September 2009 through September 2012 show a 20-foot rise suggesting recharge at Turner Basins is having a positive impact on regional water levels in their vicinity.

RP3 Basin Area

The hydrograph of the RP3 Basin mound monitoring well, RP3-1, shows a good correlation with recharge activity at the basin. In 2007 and 2008, the water elevation did not vary by more than

2 to 3 feet with recharge activity. However, after initiation of Jurupa Basin for diverting storm water and recycled water and for subsequently pumping to the RP3 site, annual recharge volumes increased. For 2009 through 2011, dramatic increases in groundwater elevations occurred, followed by a decrease in groundwater elevation in late 2012 when the RP3 basin was off line for maintenance.

San Sevaine & Victoria Basins Area

The hydrograph for the San Sevaine Basins mound monitoring well (SS-1) shows a steady 5-foot decrease through 2010, followed by a similar 5-foot rise in 2011 and remaining stable throughout 2012. SS-1 was installed in spring 2010 and does not have sufficient water level history to correlate with recharge at the San Sevaine Basins.

The Victoria Basin level transducer installed in April 2010 was found to be faulty and only manual measurements are plotted until April 2011. VCT-1 was installed in spring 2010 and does not have sufficient water level history to correlate with recharge at the Victoria Basin and upgradient San Sevaine Basins. The hydrograph of the Victoria Basin downgradient (intermediate) monitoring well (VCT-2/2) shows 5- to 8-foot seasonal water level fluctuations in 2010 through 2012. This well was installed in spring 2010 and does not have sufficient water level history to correlate with recharge at the San Sevaine and Victoria Basins.

4 REFERENCES

California Regional Water Quality Control Board, Santa Ana Region, 2007a, Order No. R8-2007-0039 Water Recycling Requirements for Inland Empire Utilities Agency and Chino Basin Watermaster, Chino Basin Recycled Water Groundwater Recharge Program, Phase I and Phase II Projects, San Bernardino County.

California Regional Water Quality Control Board, Santa Ana Region, 2007b, Monitoring and Reporting Program No. R8-2007-0039 for Inland Empire Utilities Agency and Chino Basin Watermaster Chino Basin Recycled Water Groundwater Recharge Program Phase I and Phase II Projects, San Bernardino County.

California Regional Water Quality Control Board, Santa Ana Region, 2009, Order No. R8-2009-0057 Amending Order No. R8-2007-0039 for Inland Empire Utilities Agency and Chino Basin Watermaster. Chino Basin Recycled Water Groundwater Recharge Program: Phase I and Phase II Projects, San Bernardino County.

California Regional Water Quality Control Board, Santa Ana Region, 2010, Revised Monitoring and Reporting Program No. R8-2007-0039 for Inland Empire Utilities Agency and Chino Basin Watermaster. Chino Basin Recycled Water Groundwater Recharge Program: Phase I and Phase II Projects, San Bernardino County.

CH2MHill, 2003, Title 22 Engineering Report, Phase 1 Chino Basin Recycled Water Groundwater Recharge Program.

Chino Basin Watermaster and Inland Empire Utilities Agency, 2003, Optimum Basin Management Program, Chino Basin Dry-Year Yield Program, Modeling Report, Volume III.

Inland Empire Utilities Agency and Chino Basin Watermaster, 2006 October, Phase II Chino Basin Recycled Water Groundwater Recharge Project Title 22 Engineering Report March 2006, Addendum 1 – Inclusion of Ely Basin in Phase II Recycled Water Groundwater Recharge Project.

Inland Empire Utilities Agency, 2012a, Chino Basin Recycled Water Groundwater Recharge Program Quarterly Monitoring Report January through March 2012.

Inland Empire Utilities Agency, 2012b. Chino Basin Recycled Water Groundwater Recharge Program. Quarterly Monitoring Report April through June 2012.

Inland Empire Utilities Agency, 2012c, Chino Basin Recycled Water Groundwater Recharge Program. Quarterly Monitoring Report July through September 2012.

Inland Empire Utilities Agency, 2012d, Chino Basin Recycled Water Groundwater Recharge Program, 2011 Annual Report, May 1, 2012.

Inland Empire Utilities Agency, 2012e, Start-Up Period Report for San Sevaine 5 Basin, February 8, 2012.

Inland Empire Utilities Agency, 2012f, Start-Up Period Report for Victoria Basin, February 8, 2012.

Inland Empire Utilities Agency, 2013, Chino Basin Recycled Water Groundwater Recharge Program. Quarterly Monitoring Report October through December 2012.

Inland Empire Utilities Agency and Wildermuth Environmental, Inc., 2006, Chino Basin Recycled Water Groundwater Recharge Program, 2005 Annual Report, May 1, 2006.

Inland Empire Utilities Agency and Chino Basin Watermaster, 2010a, Chino Basin Recycled Water Groundwater Recharge Program, 2009 Annual Report, May 1, 2010.

Inland Empire Utilities Agency and Chino Basin Watermaster, 2010b, Start-Up Period Report for RP3 Basin, December 13, 2010.

Inland Empire Utilities Agency and Chino Basin Watermaster, 2011, Chino Basin Recycled Water Groundwater Recharge Program, 2005 Annual Report, May 1, 2011.

TABLES

Table 2-1
Title 22 Results for Nearest Potable Well

	Sample Location	Date	TOC (mg/L)	Total Coliform (MPN/100mL)	pH	EC (µmho/cm)	TDS (mg/L)	Al (µg/L)	Color (units)	Cu (µg/L)	Corrosivity Index (SI)	Foaming Agents (mg/L)	Fe (µg/L)	Mn (µg/L)	MTBE (µg/L)	Odor Threshold (TON)	Ag (µg/L)	Thiobencarb (µg/L)	Turbidity (NTU)	Zn (µg/L)	Cl (mg/L)	Hardness (mg $CaCO_3$/L)	Na (mg/L)	SO_4 (mg/L)	NH_3-N (mg/L)	NO_2-N (mg/L)	NO_3-N (mg/L)	Nitrogen, Total (mg/L)	TKN (mg/L)	Alkalinity (mg $CaCO_3$/L)	Dissolved Oxygen (mg/L)
8th St	City of Ontario Well No. 35	02/01/12	<0.10	<1.1	7.9	354	216	<25	<3	0.8	0.2	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.08	<1	7	137	24	21	<0.1	<0.02	2.5	2.5	<0.5	143	4.3
		04/23/12	<0.10	<1.1	7.9	355	230	<25	<3	<0.5	0.2	<0.05	<15	<1	<0.5	2	<0.25	<0.2	0.07	2	13	143	22	22	<0.1	0.25	2.6	2.9	<0.5	146	4.7
		07/02/12	0.12	<1.1	7.7	345	216	<25	3	1.2	0.2	<0.05	15	<1	<0.5	1	<0.25	<0.2	0.08	3	8	138	24	21	<0.1	0.11	2.5	2.6	<0.5	141	4.4
		10/17/12	<0.10	1	7.7	385	242	<25	<3	0.5	0.2	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.07	<1	16	167	19	41	<0.1	<0.02	7.1	7.1	<0.5	156	4.1
Banana & Hickory	City of Ontario Well No. 20	02/01/12	<0.10	<1.1	8.1	360	234	<25	*<3*	0.5	0.3	<0.05	<15	<1	<0.5	<1	<0.25	<0.2	0.17	<1	7	169	14	6	<0.1	<0.02	2.1	2.1	<0.5	168	5.7
		04/16/12	<0.10	<1.1	7.8	360	236	<25	*<3*	0.5	0.4	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.23	1	8	167	14	6	0.1	0.28	2.2	3.0	<0.5	168	9.9
		07/03/12	0.12	<1.1	8.1	355	226	<25	<3	0.5	0.4	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.09	<1	9	173	14	7	<0.1	0.02	2.7	2.7	<0.5	166	7.5
		10/17/12	<0.10	<1.1	8.2	354	226	<25	<3	0.5	0.8	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.26	<1	16	170	14	12	<0.1	<0.02	4.4	4.4	<0.5	171	4.6
Brooks	Pomona Well No. 10	01/25/12	0.16	<1.1	8.1	550	342	<25	<3	1.0	0.4	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.22	3	44	261	11	40	<0.1	0.06	7.8	7.9	<0.5	146	6.2
		04/23/12	0.11	<1.1	7.8	540	350	<25	<3	3.8	0.4	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.11	21	40	257	12	41	<0.1	0.22	8.3	8.5	<0.5	148	6.9
		07/09/12	0.14	<1.1	7.7	540	324	<25	*<3*	<0.5	0.4	<0.05	<15	<1	<0.5	2	<0.25	<0.2	0.11	2	44	264	13	41	<0.1	<0.02	7.8	7.8	<0.5	145	6.1
		10/08/12	0.21	<1.1	7.5	530	348	<25	<3	<0.5	0.5	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.10	2	38	249	12	39	<0.1	0.18	7.3	8.1	<0.6	143	5.9
Ely	Bishop Of San Bernardino Corp.	01/24/12	0.21	<1.1	7.6	775	480	<25	*<3*	0.9	0.6	<0.05	27	2	<0.5	1	<0.25	<0.2	0.73	3	37	370	25	63	<0.1	0.07	*19.3*	19.4	<0.5	222	6.3
		04/23/12	0.17	<1.1	7.6	765	474	<25	<3	0.6	0.4	<0.05	23	2	<0.5	1	<0.25	<0.2	0.28	2	38	360	24	62	<0.1	0.26	*18.7*	19.0	<0.5	223	5.4
		07/09/12	0.21	1	7.5	775	492	<25	*<3*	0.9	0.5	<0.05	47	2	<0.5	1	<0.25	<0.2	0.47	2	38	386	26	62	<0.1	<0.02	*19.6*	19.6	<0.5	215	3.8
		10/08/12	0.39	<1.1	8.0	685	430	<25	*35*	4.0	0.5	<0.05	*7980*	*160*	<0.5	*3*	<0.25	<0.2	*52.7*	5	35	318	23	58	0.9	0.44	*13.5*	14.9	<1.0	195	5.5
		10/25/12						112		1.6			*1170*	30			<0.25		*7.03*	4											
RP-3	JCSD Well No. 17	01/26/12	0.14	<1.1	7.9	590	388	<25	<3	1.7	0.4	<0.05	<15	2	<0.5	<1	<0.25	<0.2	0.11	1	60	233	31	39	<0.1	0.04	*12.3*	12.3	<0.5	119	4.8
		04/24/12	0.14	<1.1	7.8	565	380	<25	<3	1.0	0.3	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.06	<1	60	219	29	39	<0.1	0.18	*11.4*	11.6	<0.5	120	3.5
		07/10/12	0.26	<1.1	7.9	580	370	<25	<3	1.0	0.5	<0.05	<15	<1	<0.5	1	<0.25	<0.2	<0.05	<1	61	237	31	37	<0.1	<0.02	9.8	9.8	<0.5	128	3.2
		10/18/12	0.22	<1.1	7.9	590	402	<25	<3	0.8	0.5	<0.05	<15	<1	<0.5	2	<0.25	<0.2	0.07	<1	70	233	30	35	<0.1	0.14	8.9	9.0	<0.5	130	4.4
San Sevaine	Unitex 91090	01/24/12	0.13	<1.1	7.3	395	254	<25	<3	<0.5	0.1	<0.05	<15	<1	<0.5	<1	<0.25	<0.2	0.21	4	29	171	17	28	0.3	0.08	2.2	2.3	<0.5	124	6.2
		04/18/12	<0.10	2.2	7.7	405	268	<25	<3	<0.5	0.0	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.10	4	32	174	16	27	<0.1	<0.02	1.7	1.7	<0.5	124	4.8
		07/11/12	0.13	<1.1	7.8	405	262	<25	<3	1.5	0.3	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.07	4	32	182	14	27	<0.1	0.16	1.7	1.9	<0.5	128	4.2
		10/09/12	0.16	1.1	7.7	405	254	<25	<3	<0.5	0.1	<0.05	<15	<1	<0.5	<1	<0.25	<0.2	0.08	2	32	178	14	27	<0.1	0.06	1.7	1.8	<0.5	122	6.0
Turner	City of Ontario Well No. 25	02/01/12	<0.10	<1.1	7.9	440	279	<25	<3	<0.5	0.3	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.09	<1	18	189	23	17	<0.1	<0.02	4.3	4.3	<0.5	173	5.6
		04/16/12	<0.10	<1.1	7.7	435	288	<25	*<3*	<0.5	0.3	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.15	<1	20	189	24	17	<0.1	0.27	4.4	4.7	<0.5	173	9.5
		07/03/12	0.14	<1.1	7.9	455	282	<25	*<3*	0.6	0.4	<0.05	<15	<1	<0.5	<1	<0.25	<0.2	0.12	<1	22	200	24	17	<0.1	<0.02	4.0	4.0	<0.5	173	6.0
		10/17/12	0.15	<1.1	7.8	462	292	<25	<3	<0.5	0.4	<0.05	<15	<1	<0.5	1	<0.25	<0.2	0.07	<1	47	195	24	32	<0.1	<0.02	7.8	7.8	<0.5	177	4.5
Victoria	CVWD No. 39	07/10/12	0.26	<1.1	7.9	284	194	<25	<3	6.3	0.1	<0.05	<15	<1	<0.5	2	<0.25	<0.2	0.06	2	5	107	25	10	<0.1	0.02	2.1	2.1	<0.5	123	3.3
		10/09/12	0.12	<1.1	7.7	285	226	<25	<3	1.2	-0.1	<0.05	25	<1	<0.5	<1	<0.25	<0.2	0.12	1	7	110	20	8	<0.1	0.13	2.7	2.8	<0.5	119	6.2
	Primary Maximum Contaminant Level							1000		1300					13			70									10				
	Secondary Maximum Contaminant Level				6.5-8.5	900	500	200	15	1000		0.5	300	50	5	3	100	1	5	5000	250			250							

Table 2-2
Regional Plants No. 1 & No. 4 Chemical Usage Summary

	RP-1 (Flow)								RP-1 (Tertiary)				RP-4					
	Ferric Chloride		HW Polymer		Sodium Hypochlorite-Odor Scrub		Sodium Hydroxide 50%		Aluminum Sulfate		Sodium Hypochlorite		Ferric Chloride		Aluminum Sulfate		Sodium Hypochlorite	
Month	Gal.	lbs.	Gal.	lbs.	Gal.	lbs.	Gal.	lbs.		lbs.	Gal.	lbs.	Gal.	lbs.	Gal.	lbs.	Gal.	lbs.
Jan-12	18,200	88,796	235	2,069	435	544	120	766		3,818	92,900	116,218	9,206	44,915	191	1,012	17,315	21,661
Feb-12	16,600	80,990	215	1,890	3,725	4,660	300	1,914		3,529	89,700	112,215	8,213	40,070	118	626	16,388	20,501
Mar-12	18,650	90,991	238	2,092	6,280	7,856	273	1,742		3,798	95,800	119,846	8,140	39,714	145	766	17,036	21,312
Apr-12	21,800	106,360	291	2,557	3,364	4,208	266	1,697		3,715	107,900	134,983	7,785	37,982	399	2,107	18,806	23,526
May-12	18,800	91,723	234	2,062	6,720	8,407	203	1,295		3,839	110,600	138,361	8,096	39,500	599	3,166	17,973	22,484
Jun-12	17,600	85,869	224	1,969	4,756	5,950	237	1,512		3,695	99,200	124,099	7,336	35,792	425	2,243	17,955	22,462
Jul-12	16,300	79,526	237	2,089	13,553	16,955	243	1,550		3,839	99,200	124,099	7,756	37,841	625	3,302	18,698	23,391
Aug-12	15,100	73,671	236	2,072	7,813	9,774	251	1,601		3,756	121,600	152,122	8,184	39,929	581	3,071	21,954	27,464
Sep-12	14,400	70,256	226	1,989	1,110	1,389	283	1,806		3,488	114,800	143,615	7,860	38,348	325	1,718	22,162	27,725
Oct-12	14,350	70,012	232	2,046	9,241	11,560	204	1,302		3,488	119,700	149,745	9,046	44,135	220	1,164	20,382	25,498
Nov-12	14,200	69,280	229	2,012	3,775	4,723	205	1,308		3,364	95,100	118,970	10,141	49,477	289	1,525	19,242	24,072
Dec-12	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA
Total	186,000	907,475	2,597	22,848	60,772	76,026	2,585	16,493		40,331	1,146,500	1,434,272	91,763	447,703	3,917	20,698	207,911	260,097

NA: Data not yet available

Table 3-1
Evidence of Blending Based on Water Quality
Mass Balance based on EC and Cl

Basin	Well	Well Position	Recycled Water EC (µmhos/cm)	Groundwater Background EC (µmhos/cm)	Peak EC at Well (µmhos/cm)	Mass-Balance Blend (max) (% Recycled Water)	Recycled Water Cl (µmhos/cm)	Groundwater Background Cl (µmhos/cm)	Peak Cl at Well (µmhos/cm)	Mass-Balance Blend (max) (% Recycled Water)
8th Street	8TH-1/1	Downgradient	750	170	395	39%	110	9	72	62%
	8TH-1/2	Downgradient	750	255	310	11%	110	13	34	22%
	8TH-2/1	Downgradient	Inconclusive evidence of recycled water arrival				Inconclusive evidence of recycled water arrival			
	8TH-2/2	Downgradient	Inconclusive evidence of recycled water arrival				Inconclusive evidence of recycled water arrival			
Banana & Hickory	BH-1/2	Mound	750	360	530	44%	110	10	62	52%
	California Speedway Infield	Downgradient	750	420	625	62%	110	11	24	13%
	California Speedway No. 2		Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
	Reliant East Well		Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
	Fontana Water Co. 37A		Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
	Ontario No. 20		Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
Brooks	BRK-1/1	Mound	750	460	585	43%	110	36	104	92%
	BRK-1/2	Mound	750	535	600	30%	110	16	30	15%
	BRK-2/1	Downgradient	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
	BRK-2/2	Downgradient	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
Ely	Philadelphia Well	Mound	750	245	405	32%	110	34	40	8%
	Walnut Well	Downgradient	Well impacted by regionally high TDS concentration				Well impacted by regionally high TDS concentration			
	Riverside Well	Downgradient	No EC fluctuation correlatable with recharge				No EC fluctuation correlatable with recharge			
Turner	TRN-1/2	Mound	750	390	400	3%	110	21	33	13%
	TRN-2/2	Mound	750	350	550	50%	110	9	74	64%
	Ontario No. 25	Downgradient	750	420	462	13%	110	14	47	34%
	Ontario No. 29	Downgradient	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
RP-3	RP3-1/1	Mound	Cannot be determine at this time due to high background EC				110	20	57	41%
	RP3-1/2	Mound	Cannot be determine at this time due to high background EC				110	20	55	39%
	Alcoa MW-3	Downgradient	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
	Alcoa MW-1	Downgradient	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
	IEUA Southridge JHS	Downgradient	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
San Sevaine & Victoria	SS1-1/1	Mound	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
	Unitex 91090	Crossgradient	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
	VCT-1/1	Mound	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
	VCT-2/2	Downgradient	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			
	CVWD No. 39	Downgradient	Inconclusive evidence of recycled water				Inconclusive evidence of recycled water			

Table 3-2
Volume-Based RWC Actuals by Basin

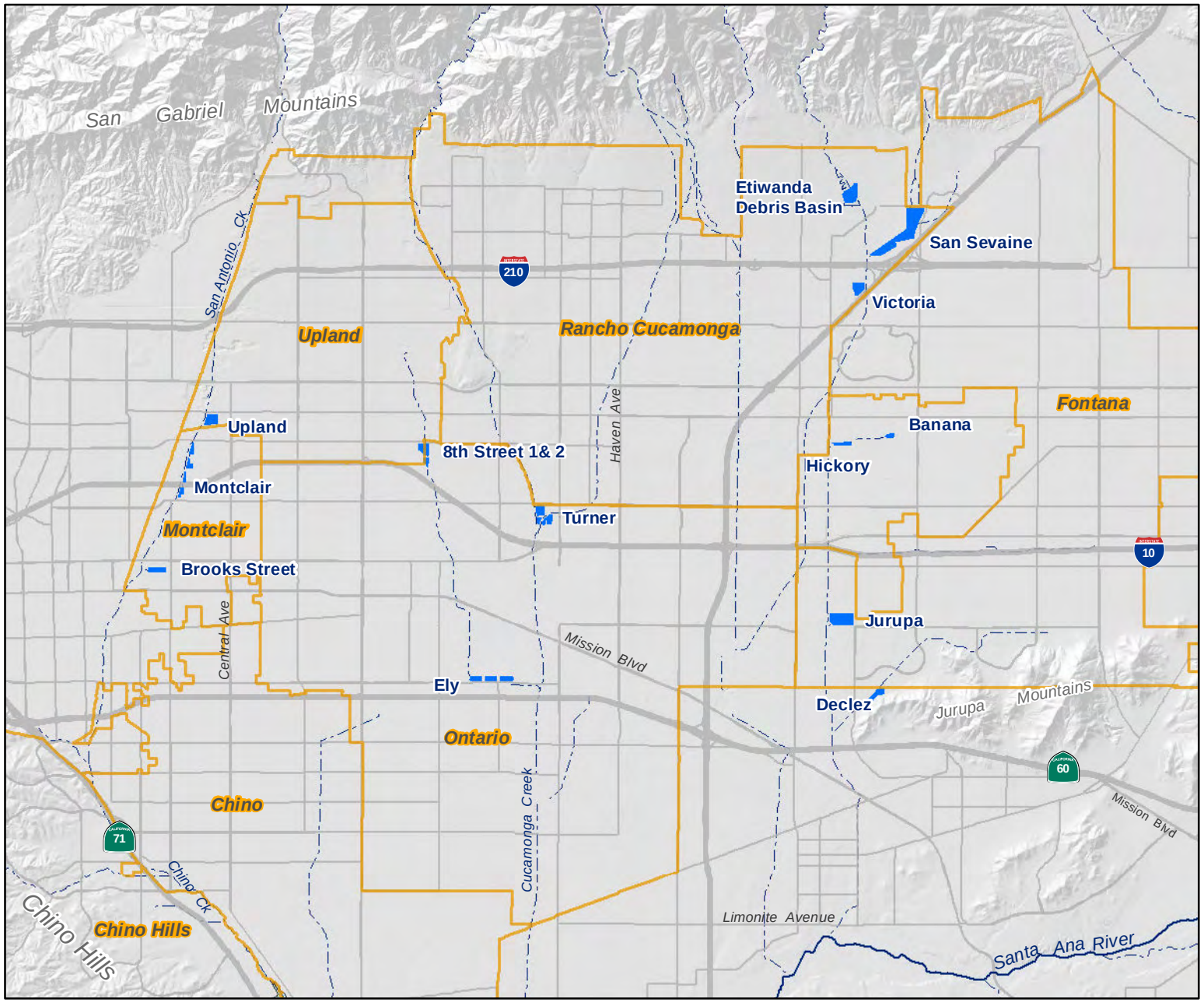
Basin	Owner	RW Start Up	Limit	2008*	2009**	2010	2011	2012
8th Street	SBCFCD	2007-10	28%	28%	23%	23%	21%	21%
Banana	SBCFCD	2005	36%	29%	30%	29%	32%	34%
Brooks	CBWCD	2008-09	42%	8%	30%	22%	18%	16%
Declez	SBCFCD	TBD	TBD	0%	0%	0%	0%	1%
Ely	CBWCD	2006	29%	17%	15%	12%	11%	11%
Hickory	SBCFCD	2005	36%	29%	29%	25%	22%	22%
RP3	IEUA	2009-10	50%	0%	17%	14%	12%	12%
San Sevaine 5	SBCFCD	2010-11	27%	0%	0%	1%	3%	4%
Turner 1&2	SBCFCD	2006-07	24%	12%	10%	8%	7%	6%
Turner 3&4	SBCFCD	2006-07	45%	20%	19%	19%	21%	22%
Victoria	SBCFCD	2010-11	50%	0%	0%	13%	19%	24%

* 2008 RWC Actuals are based on 60-months running average and exclusion of groundwater underflow as diluent water.

** 2009 RWC Actuals include groundwater underflow as a diluent source only after the October 2009 recharge permit amendment and upon initiation of recycled water recharge.

TBD To Be Determined. Declez basin has not been initiated with recycled water recharge, but received recycled water drained from RP3 basins prior to basin restoration activities.

FIGURES



Vicinity Map Legend

- Recharge Basins
- Rivers and Streams

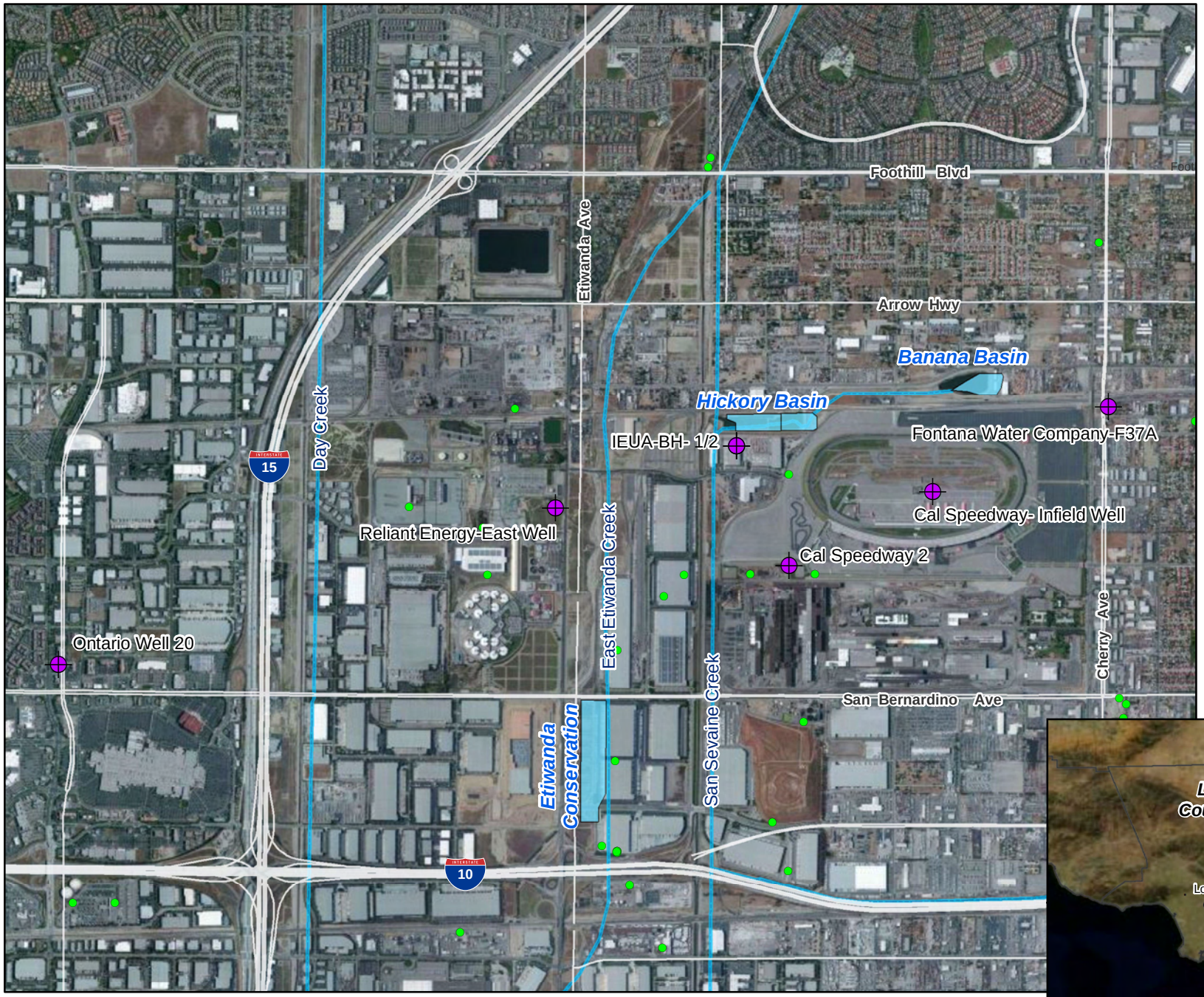
N
S

0 2 4 Miles

0 4 8 Kilometers

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Figure 1-1



Main Map Features

- Existing Monitoring Well
- "Other Wells"
- Rivers/Streams/Creeks
- Recharge Basins

Monitoring Well Network

Hickory and Banana Basins

Figure 2-1

Recycled Water Recharge Program

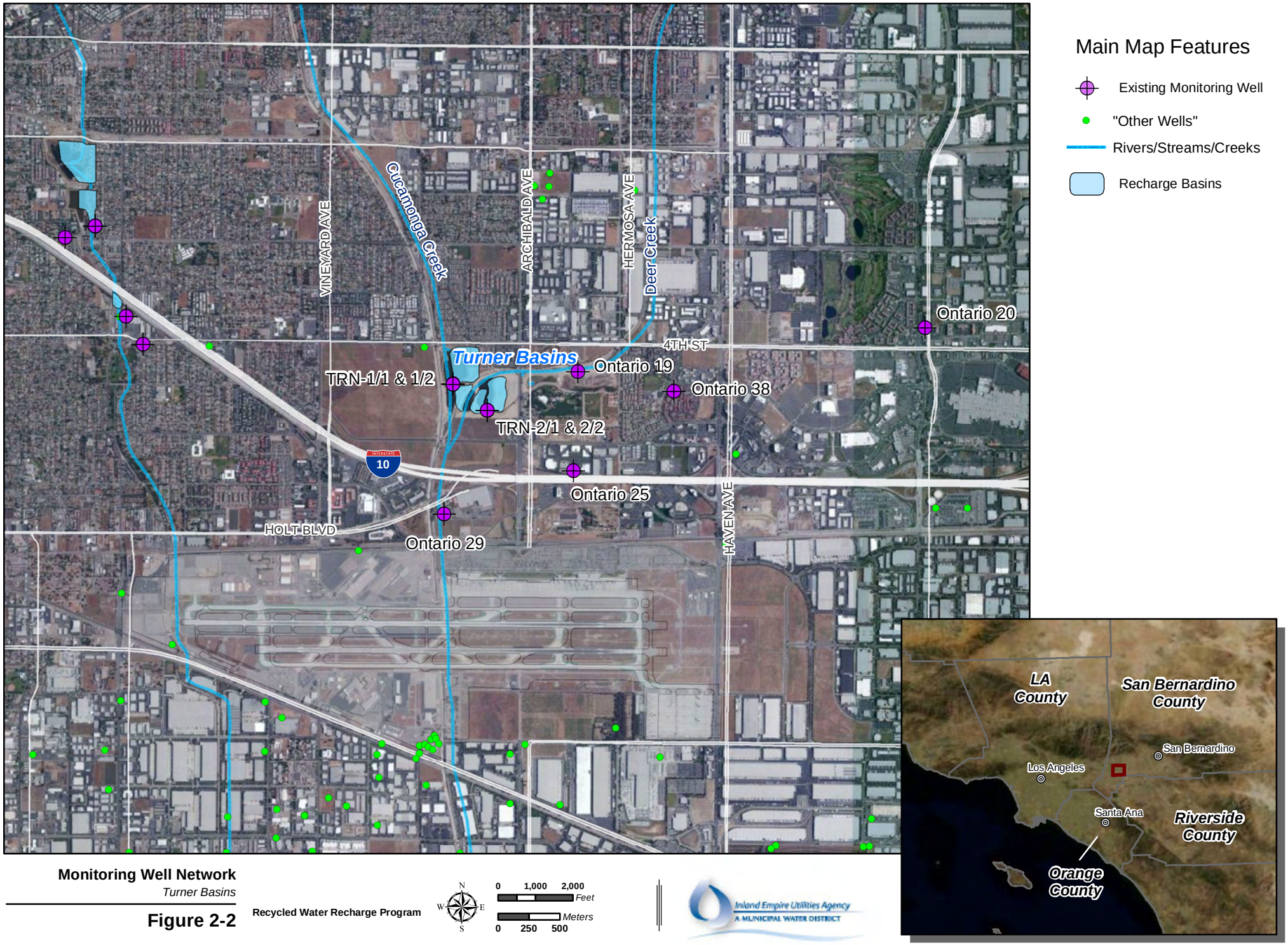
N W E S

0 1,000 2,000 Feet

0 250 500 Meters

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

20071106

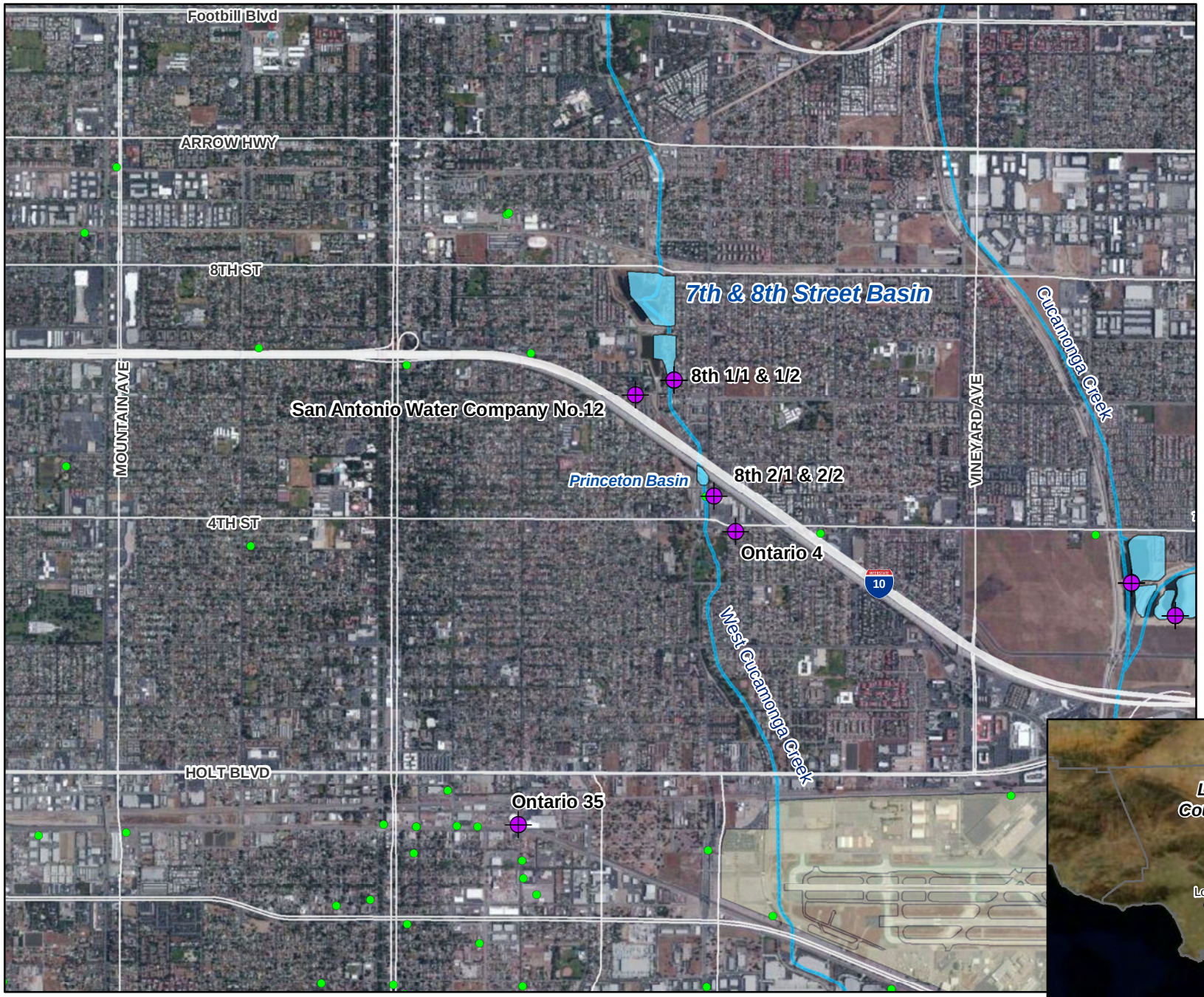


Monitoring Well Network

Turner Basins

Figure 2-2

Recycled Water Recharge Program



Main Map Features

- Existing Monitoring Well
- "Other Wells"
- Rivers/Streams/Creeks
- Recharge Basins

Monitoring Well Network

7th and 8th Street Basin

Figure 2-3

Recycled Water Recharge Program

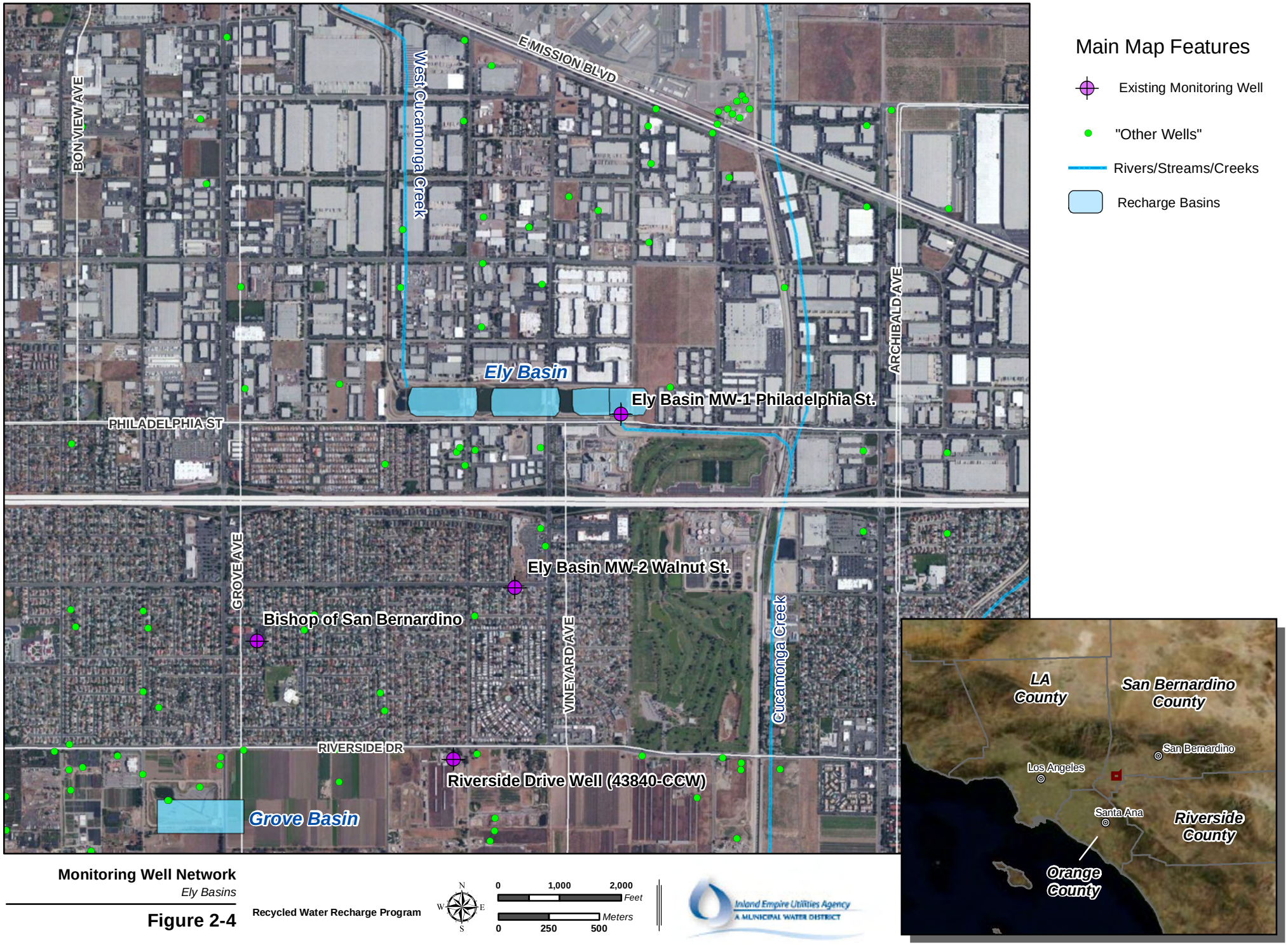
N W E S

0 1,000 2,000 Feet

0 250 500 Meters

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

20090513



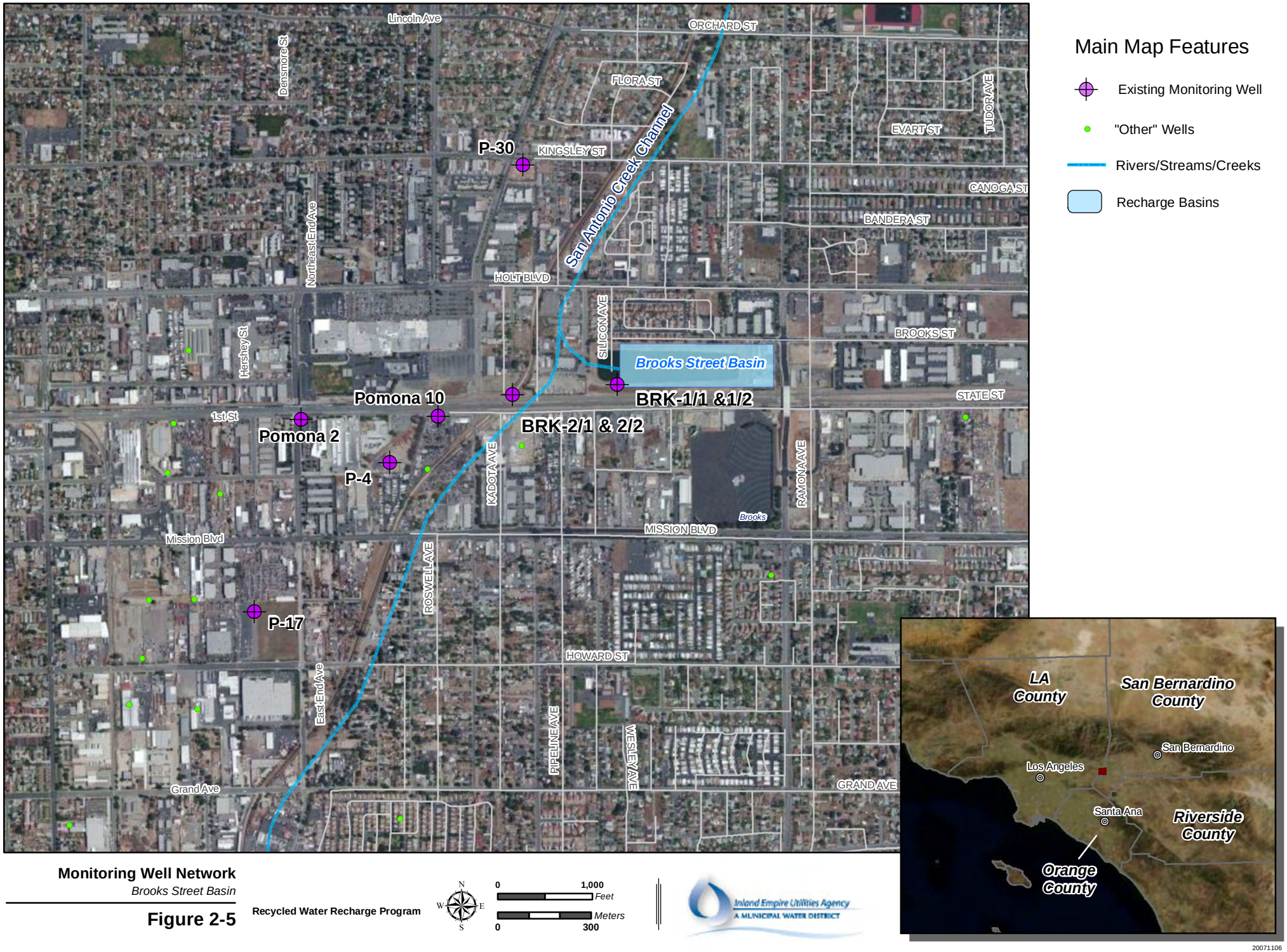
Monitoring Well Network

Ely Basins

Figure 2-4

Recycled Water Recharge Program

20071106



Monitoring Well Network

Brooks Street Basin

Figure 2-5

Recycled Water Recharge Program

N W E S

0 1,000 Feet

0 300 Meters

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

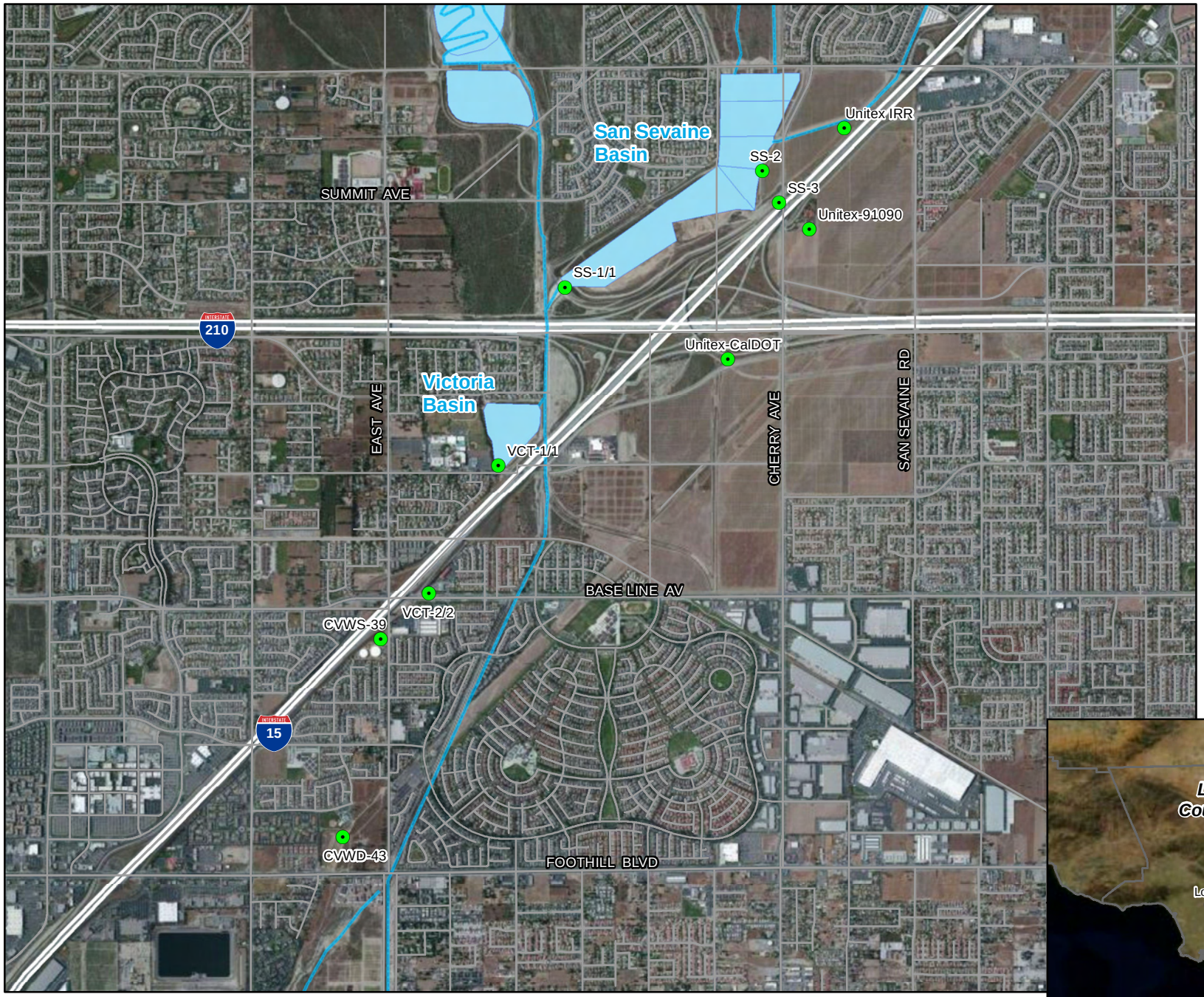
20071106

Monitoring Well Network

RP-3 Basin

Figure 2-6

Recycled Water Recharge Program



Main Map Features

- Existing Monitoring Well
- Rivers/Streams/Creeks
- Recharge Basins

Monitoring Well Network

San Sevaine and Victoria Basin

Figure 2-7

Recycled Water Recharge Program

N W E S

0 1,000 2,000 Feet

0 250 500 Meters

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

20071106

APPENDIX A

MONTHLY GROUNDWATER RECHARGE SUMMARIES

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

January 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MW	RW	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	**20**	-	N	**351**
Montclair 1, 2, 3 & 4	**60**	-	N	AF**
Brooks	**45**	-	**142**	
West Cucamonga Channel Drainage System				
8th Street	**56**	-	**16**	
7th Street	**1**	-	**11**	
Ely 1, 2, & 3	**89**	-	**64**	
Minor Drainage				
Grove	**47**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**146**	-	**29**	
Turner 3 & 4	**86**	-	**72**	MZ-2
Day Creek Channel Drainage System				**845**
Lower Day	**15**	-	X	AF**
Etiwanda Channel Drainage System				
Etiwanda Debris	**7**	-	X	
Victoria	**11**	-	-	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	**31**	-	-	
San Sevaine 5	**24**	-	**159**	
West Fontana Channel System				
Hickory	**49**	-	**16**	
Banana	**48**	-	**161**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1, 3, & 4	**63**	-	**91**	**556**
RP3 Cell 2	**41**	-	-	AF**
Declez	**87**	-	**65**	
Non-Replenishment Recharge**				
Brooks (MVWD) MZ-1	-			
Montclair (MVWD) MZ-1	-			
Upland (SAWCo) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Month Total = 1,752 AF	**926**	**0**	**826**	January 2012
Fiscal Year to Date Total Since July 1, 2011 = 31,689 AF	**4,030**	**22,560.1**	**5,099**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 1,752 AF	**926**	**0.0**	**826**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: Mar. 06, 12 Ver. 2

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

February 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MW	RW	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	**27**	-	N	**391**
Montclair 1, 2, 3 & 4	**83**	-	N	AF**
Brooks	**50**	-	**77**	
West Cucamonga Channel Drainage System				
8th Street	**112**	-	-	
7th Street	**42**	-	-	
Ely 1, 2, & 3	**95**	-	**6**	
Minor Drainage				
Grove	**36**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**221**	-	-	
Turner 3 & 4	**109**	-	**97**	MZ-2
Day Creek Channel Drainage System				**869**
Lower Day	**22**	-	X	AF**
Etiwanda Channel Drainage System				
Etiwanda Debris	**9**	-	X	
Victoria	**4**	-	-	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	**30**	-	-	
San Sevaine 5	**24**	-	**74**	
West Fontana Channel System				
Hickory	**59**	-	**83**	
Banana	**21**	-	**167**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1, 3, & 4	**155**	-	**160**	**570**
RP3 Cell 2	**21**	-	-	AF**
Declez	**46**	-	-	
Non-Replenishment Recharge**				
Brooks (MVWD) MZ-1	-			
Montclair (MVWD) MZ-1	-			
Upland (SAWCo) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Month Total = 1,830 AF	**1,166**	**0**	**664**	February 2012
Fiscal Year to Date Total Since July 1, 2011 = 33,519 AF	**5,196**	**22,560.1**	**5,763**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 3,582 AF	**2,092**	**0.0**	**1,490**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: Mar. 09, 12 Ver 2.

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

March 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MW	Recycled	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	**60**	-	N	**705**
Montclair 1, 2, 3 & 4	**176**	-	N	AF**
Brooks	**103**	-	**85**	
West Cucamonga Channel Drainage System				
8th Street	**220**	-	-	
7th Street	**61**	-	-	
Ely 1, 2, & 3	**247**	-	-	
Minor Drainage				
Grove	**99**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**295**	-	-	
Turner 3 & 4	**126**	-	**35**	
Day Creek Channel Drainage System				
Lower Day	**26**	-	X	MZ-2
Etiwanda Channel Drainage System				**1,177**
Etiwanda Debris	**23**	-	X	AF**
Victoria	**18**	-	-	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	**68**	-	-	
San Sevaine 5	**92**	-	**16**	
West Fontana Channel System				
Hickory	**53**	-	**79**	
Banana	**44**	-	**72**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1, 3, & 4	**169**	-	**94**	**616**
RP3 Cell 2	**53**	-	-	AF**
Declez	**184**	-	-	
Non-Replenishment Recharge**				
Brooks (MVWD) MZ-1	-			
Montclair (MVWD) MZ-1	-			
Upland (SAWCo) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Month Total = 2,498 AF	**2,117**	**0**	**381**	March 2012
Fiscal Year to Date Total Since July 1, 2011 = 36,017 AF	**7,313**	**22,560.1**	**6,144**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 6,080 AF	**4,209**	**0.0**	**1,871**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: May. 01, 12

ver 2

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

April 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MW	Recycled	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	**47**	-	N	**532**
Montclair 1, 2, 3 & 4	**189**	-	N	AF**
Brooks	**64**	-	**32**	
West Cucamonga Channel Drainage System				
8th Street	**168**	-	**21**	
7th Street	**55**	-	**13**	
Ely 1, 2, & 3	**135**	-	-	
Minor Drainage				
Grove	**46**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**258**	-	-	
Turner 3 & 4	**88**	-	**15**	MZ-2
Day Creek Channel Drainage System				**874**
Lower Day	**35**	-	X	AF**
Etiwanda Channel Drainage System				
Etiwanda Debris	**7**	-	X	
Victoria	**96**	-	**18**	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	**57**	-	-	
San Sevaine 5	**19**	-	**4**	
West Fontana Channel System				
Hickory	**30**	-	**66**	
Banana	**35**	-	**51**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1, 3, & 4	**177**	-	**147**	**682**
RP3 Cell 2	**43**	-	-	AF**
Declez	**133**	-	-	
Non-Replenishment Recharge**				
Brooks (MVWD) MZ-1	-			
Montclair (MVWD) MZ-1	**(57)**			
Upland (SAWCo) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Month Total = 1,992 AF	**1,625**	**0**	**367**	April 2012
Fiscal Year to Date Total Since July 1, 2011 = 38,009 AF	**8,938**	**22,560.1**	**6,511**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 8,072 AF	**5,834**	**0.0**	**2,238**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: May. 18, 12

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

May 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MWD	Recycled	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	-	-	N	**407**
Montclair 1, 2, 3 & 4	-	-	N	AF**
Brooks	**1**	-	**125**	
West Cucamonga Channel Drainage System				
8th Street	**3**	-	**26**	
7th Street	**22**	-	**230**	
Ely 1, 2, & 3	**3**	-	-	
Minor Drainage				
Grove	**4**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**14**	-	-	
Turner 3 & 4	**40**	-	**56**	
Day Creek Channel Drainage System				
Lower Day	**2**	-	X	MZ-2
Etiwanda Channel Drainage System				**453**
Etiwanda Debris	-	-	X	AF**
Victoria	**20**	-	**271**	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	-	-	-	
San Sevaine 5	-	-	**3**	
West Fontana Channel System				
Hickory	-	-	**40**	
Banana	-	-	**45**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1, 3, & 4	**56**	-	**375**	**488**
RP3 Cell 2	**5**	-	-	AF**
Declez	**7**	-	-	
Non-Replenishment Recharge**				
Brooks (MVWD) MZ-1	-			
Montclair (MVWD) MZ-1	-			
Upland (SAWCo) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Month Total = 1,348 AF	**177**	**0**	**1,171**	May 2012
Fiscal Year to Date Total Since July 1, 2011 = 39,357 AF	**9,115**	**22,560.1**	**7,682**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 9,420 AF	**6,011**	**0.0**	**3,409**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: Jun. 05, 12

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

June 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MWD	Recycled	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	-	-	N	**370**
Montclair 1, 2, 3 & 4	-	-	N	AF**
Brooks	-	-	**161**	
West Cucamonga Channel Drainage System				
8th Street	**3**	-	**19**	
7th Street	**18**	-	**169**	
Ely 1, 2, & 3	**12**	-	-	
Minor Drainage				
Grove	**5**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**20**	-	-	MZ-2
Turner 3 & 4	**25**	-	**65**	**412**
Day Creek Channel Drainage System				AF**
Lower Day	**2**	-	X	
Etiwanda Channel Drainage System				
Etiwanda Debris	-	-	X	
Victoria	**3**	-	**222**	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	-	-	-	
San Sevaine 5	-	-	**54**	
West Fontana Channel System				
Hickory	**2**	-	**2**	
Banana	-	-	**79**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1, 3, & 4	**46**	-	**181**	**321**
RP3 Cell 2	**14**	-	-	AF**
Declez	**1**	-	-	
Non-Replenishment Recharge**				
Brooks (MVWD) MZ-1	-			
Montclair (MVWD) MZ-1	-			
Upland (SAWCo) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Month Total = 1,103 AF	**151**	**0**	**952**	June 2012
Fiscal Year to Date Total Since July 1, 2011 = 40,460 AF	**9,266**	**22,560.1**	**8,634**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 10,523 AF	**6,162**	**0.0**	**4,361**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: Jul. 06, 12

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

July 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MW	Recycled	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	
Upland	-	-	N	MZ-1
Montclair 1, 2, 3 & 4	-	-	N	**191**
Brooks	**1**	-	**33**	AF**
West Cucamonga Channel Drainage System				
8th Street	**5**	-	**14**	
7th Street	**15**	-	**123**	
Ely 1, 2, & 3	**7**	-	-	
Minor Drainage				
Grove	**3**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**83**	-	-	
Turner 3 & 4	**25**	-	**51**	MZ-2
Day Creek Channel Drainage System				**468**
Lower Day	**1**	-	X	AF**
Etiwanda Channel Drainage System				
Etiwanda Debris	-	-	X	
Victoria	**3**	-	**94**	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	-	-	-	
San Sevaine 5	-	-	**122**	
West Fontana Channel System				
Hickory	**22**	-	**57**	
Banana	-	-	**41**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1,3, & 4	**36**	-	**12**	**104**
RP3 Cell 2	**14**	-	-	AF**
Declez	**1**	-	-	
Non-Replenishment Recharge**				
Brooks (MVWD) MZ-1	-			
Montclair (MVWD) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Month Total = 763 AF	**216**	**0.0**	**547**	July 2012
Fiscal Year to Date Total Since July 1, 2012 = 763 AF	**216**	**0.0**	**547**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 11,286 AF	**6,378**	**0.0**	**4,908**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: Aug. 15, 12

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

August 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MW	RW	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	-	-	N	**64**
Montclair 1, 2, 3 & 4	**2**	-	N	AF**
Brooks	**2**	-	**39**	
West Cucamonga Channel Drainage System				
8th Street	**17**	-	-	
7th Street	**4**	-	-	
Ely 1, 2, & 3	**7**	-	-	
Minor Drainage				
Grove	**3**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**36**	-	-	
Turner 3 & 4	**36**	-	**35**	**MZ-2**
Day Creek Channel Drainage System				**420**
Lower Day	**1**	-	X	AF**
Etiwanda Channel Drainage System				
Etiwanda Debris	-	-	X	
Victoria	**5**	-	**118**	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	**1**	-	-	
San Sevaine 5	-	-	**84**	
West Fontana Channel System				
Hickory	**50**	-	**44**	
Banana	-	-	**2**	
Declez Channel Drainage System				MZ-3
RP-3 Cells 1,3, & 4	-	-	-	**24**
RP-3 Cell 2	**12**	-	-	AF**
Declez	**10**	-	-	
Non-Replenishment Recharge**				
Brooks (MVWD) MZ-1	-			
Montclair (MVWD) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Month Total = 508 AF	**186**	-	**322**	August 2012
Fiscal Year to Date Total Since July 1, 2012 = 1,271 AF	**402**	-	**869**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 11,794 AF	**6,564**	**0.0**	**5,230**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: Sep. 11, 12

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

September 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MW	RW	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	-	-	N	**210**
Montclair 1, 2, 3 & 4	**88**	-	N	AF**
Brooks	**2**	-	**51**	
West Cucamonga Channel Drainage System				
8th Street	**13**	-	**63**	
7th Street	**20**	-	**61**	
Ely 1, 2, & 3	**5**	-	-	
Minor Drainage				
Grove	**2**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**31**	-	-	
Turner 3 & 4	**31**	-	**24**	MZ-2
Day Creek Channel Drainage System				**218**
Lower Day	**1**	-	X	AF**
Etiwanda Channel Drainage System				
Etiwanda Debris	-	-	X	
Victoria	**1**	-	**55**	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3,& 4	-	-	-	
San Sevaine 5	-	-	**39**	
West Fontana Channel System				
Hickory	**29**	-	-	
Banana	-	-	**188**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1,3, & 4	-	-	-	**207**
RP3 Cell 2	**4**	-	-	AF**
Declez	**15**	-	-	
Non-Replenishment Recharge**				
Brooks (MVWD) MZ-1	-			
Montclair (MVWD) MZ-1	**(88)**			
Turner (SAWCO) MZ-2	-			
Month Total = 635 AF	**154**	-	**481**	September 2012
Fiscal Year to Date Total Since July 1, 2012 = 1,906 AF	**556**	-	**1,350**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 12,429 AF	**6,718**	**0.0**	**5,711**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: Oct. 10, 12

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

October 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MW	RW	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	-	-	N	**340**
Montclair 1, 2, 3 & 4	**2**	-	N	AF**
Brooks	-	-	-	
West Cucamonga Channel Drainage System				
8th Street	**29**	-	**309**	
7th Street	-	-	-	
Ely 1, 2, & 3	**5**	-	-	
Minor Drainage				
Grove	**3**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**61**	-	-	
Turner 3 & 4	**22**	-	**9**	MZ-2
Day Creek Channel Drainage System				**347**
Lower Day	-	-	X	AF**
Etiwanda Channel Drainage System				
Etiwanda Debris	-	-	X	
Victoria	**1**	-	**131**	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	**1**	-	-	
San Sevaine 5	-	-	**63**	
West Fontana Channel System				
Hickory	**51**	-	-	
Banana	**11**	-	**103**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1,3, & 4	**10**	-	-	**266**
RP3 Cell 2	**8**	-	-	AF**
Declez	**134**	-	-	
Non-Replenishment Recharge Deduct **				
Brooks (MVWD) MZ-1	-			
Montclair (MVWD) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Upland	-			
Month Total = 953 AF	**338**	**0.0**	**615**	October 2012
Fiscal Year to Date Total Since July 1, 2012 = 2,859 AF	**894**	**0.0**	**1,965**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 13,382 AF	**7,056**	**0.0**	**6,326**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: Nov. 09, 13

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

November 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MW	RW	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	**5**	-	N	**345**
Montclair 1, 2, 3 & 4	**26**	-	N	AF**
Brooks	-	-	-	
West Cucamonga Channel Drainage System				
8th Street	**66**	-	**248**	
7th Street	-	-	-	
Ely 1, 2, & 3	**9**	-	**80**	
Minor Drainage				
Grove	**22**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**61**	-	-	
Turner 3 & 4	**30**	-	**5**	MZ-2
Day Creek Channel Drainage System				**563**
Lower Day	**8**	-	X	AF**
Etiwanda Channel Drainage System				
Etiwanda Debris	**1**	-	X	
Victoria	**6**	-	**71**	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	**6**	-	-	
San Sevaine 5	**8**	-	**66**	
West Fontana Channel System				
Hickory	**13**	-	**177**	
Banana	**5**	-	**120**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1,3, & 4	**69**	-	**154**	**401**
RP3 Cell 2	**32**	-	-	AF**
Declez	**21**	-	-	
Non-Replenishment Recharge**				
Upland (SAWCo) MZ-1	-			
Montclair (MVWD) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Month Total = 1,309 AF	**388**	**0.0**	**921**	November 2012
Fiscal Year to Date Total Since July 1, 2012 = 4,168 AF	**1,282**	**0.0**	**2,886**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 14,691 AF	**7,444**	**0.0**	**7,247**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: Feb. 20, 13 ver. 2

SUMMARY OF CHINO BASIN GROUNDWATER RECHARGE OPERATIONS

December 2012

Drainage System / Basin	Recharge Volume (AF)* SW/LR	MW	RW	Management Zone Subtotals
San Antonio Channel Drainage System				
College Heights	-	-	N	MZ-1
Upland	**61**	-	N	**543**
Montclair 1, 2, 3 & 4	**101**	-	N	AF**
Brooks	-	-	-	
West Cucamonga Channel Drainage System				
8th Street	**278**	-	**103**	
7th Street	-	-	-	
Ely 1, 2, & 3	**335**	-	**67**	
Minor Drainage				
Grove	**58**	N	N	
Cucamonga and Deer Creek Channel Drainage Systems				
Turner 1 & 2	**290**	-	-	
Turner 3 & 4	**47**	-	**5**	MZ-2
Day Creek Channel Drainage System				**1,148**
Lower Day	**61**	-	X	AF**
Etiwanda Channel Drainage System				
Etiwanda Debris	**15**	-	X	
Victoria	**19**	-	**21**	
San Sevaine Channel Drainage System				
San Sevaine 1, 2, 3, & 4	**44**	-	-	
San Sevaine 5	**35**	-	**1**	
West Fontana Channel System				
Hickory	**6**	-	**144**	
Banana	**49**	-	**15**	
Declez Channel Drainage System				MZ-3
RP3 Cells 1,3, & 4	**310**	-	**220**	**813**
RP3 Cell 2	**51**	-	-	AF**
Declez	**168**	-	-	
Non-Replenishment Recharge**				
Upland (SAWCo) MZ-1	-			
Montclair (MVWD) MZ-1	-			
Turner (SAWCO) MZ-2	-			
Month Total = 2,504 AF	**1,928**	**0**	**576**	December 2012
Fiscal Year to Date Total Since July 1, 2012 = 6,672 AF	**3,210**	**0.0**	**3,462**	Fiscal Year to Date
Calendar Year to Date Total Since Jan. 1, 2012 = 17,195 AF	**9,372**	**0.0**	**7,823**	Calendar Year to Date

SW : Storm Water, LR : Local Runoff (and GE, MVWD), MW : MWD Imported Water, RW : Recycled Water

\- : No stormwater/local runoff, or basin not in use due to maintenance or testing.

X : Turnouts not available - to be installed during future projects.

N : No turnout planned for installation.

* : Data are preliminary based on the data available at the time of this report preparation.

** : Management Zone Subtotals have deducted from them any Non-Replenishment Recharge, which is recharge originating from pumped groundwater and is not new water.

Printed: Feb. 20, 13

ver. 2

APPENDIX B

RWC MANAGEMENT PLANS

RWC Management Plan for 8th Street Basins

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2007/08	Jul '07	-2	16.	0.		16.	1,947	0.	0			
	Aug '07	-1	16.	0.		16.	1,963	0.	0	1963	0%	
	Sep '07	0	17.	0.		17.	1,980	128.1	128	2108	6%	START-UP
	Oct '07	1	42.	0.		42.	2,022	109.	237	2259	10%	
	Nov '07	2	81.	0.		81.	2,103	161.	398	2501	16%	
	Dec '07	3	224.	0.		224.	2,327	0.	398	2725	15%	
	Jan '08	4	335.	0.		335.	2,662	1.	399	3061	13%	
	Feb '08	5	98.	0.		98.	2,760	157.	556	3316	17%	
	Mar '08	6	21.	0.		21.	2,781	164.	720	3501	21%	
	Apr '08	7	11.	0.		11.	2,792	90.	810	3602	22%	
	May '08	8	90.	0.		90.	2,882	158.	968	3850	25%	SUP EXTEND
	Jun '08	9	15.	0.		15.	2,897	86.	1,054	3951	27%	
2008/09	Jul '08	10	29.	0.		29.	2,926	224.	1,278	4204	30%	
	Aug '08	11	15.	0.		15.	2,941	128.	1,406	4347	32%	
	Sep '08	12	15.	0.		15.	2,956	0.	1,406	4362	32%	
	Oct '08	13	16.	0.		16.	2,972	0.	1,406	4378	32%	
	Nov '08	14	137.	0.		137.	3,109	0.	1,406	4515	31%	
	Dec '08	15	352.	0.		352.	3,461	0.	1,406	4867	29%	
	Jan '09	16	35.	0.		35.	3,496	0.	1,406	4902	29%	
	Feb '09	17	458.	0.		458.	3,954	0.	1,406	5360	26%	
	Mar '09	18	21.	0.		21.	3,975	0.	1,406	5381	26%	
	Apr '09	19	15.	0.		15.	3,990	0.	1,406	5396	26%	HIST.
	May '09	20	16.	0.		16.	4,006	0.	1,406	5412	26%	
	Jun '09	21	0.	0.		0.	4,006	0.	1,406	5412	26%	
2009/10	Jul '09	22	19.	0.		19.	4,025	0.	1,406	5431	26%	
	Aug '09	23	33.	0.		33.	4,058	24.	1,430	5488	26%	
	Sep '09	24	18.	0.		18.	4,076	0.	1,430	5506	26%	
	Oct '09	25	74.	0.	310.2	384.2	4,461	0.	1,430	5891	24%	
	Nov '09	26	90.	3.	310.2	403.2	4,864	133.	1,563	6427	24%	
	Dec '09	27	303.	0.	310.2	613.2	5,477	93.	1,656	7133	23%	
	Jan '10	28	387.	0.	310.2	697.2	6,174	102.	1,758	7932	22%	
	Feb '10	29	474.	3.	310.2	787.2	6,961	0.	1,758	8719	20%	
	Mar '10	30	73.	0.	310.2	383.2	7,345	114.	1,872	9217	20%	
	Apr '10	31	206.	0.	310.2	516.2	7,861	100.	1,972	9833	20%	
	May '10	32	34.	0.	310.2	344.2	8,205	199.	2,171	10376	21%	
	Jun '10	33	33.	0.	310.2	343.2	8,548	302.	2,473	11021	22%	
2010/11	Jul '10	34	30.	0.	310.2	340.2	8,888	218.	2,691	11580	23%	
	Aug '10	35	28.	0.	310.2	338.2	9,227	106.	2,797	12024	23%	
	Sep '10	36	36.	0.	310.2	346.2	9,573	177.	2,974	12547	24%	
	Oct '10	37	89.	0.	310.2	399.2	9,972	288.	3,262	13234	25%	
	Nov '10	38	187.	0.	310.2	497.2	10,469	163.	3,425	13894	25%	ADDED SUP DATA
	Dec '10	39	499.	0.	310.2	809.2	11,278	20.	3,445	14724	23%	
	Jan '11	40	110.	0.	310.2	420.2	11,699	167.	3,612	15311	24%	
	Feb '11	41	276.	0.	310.2	586.2	12,285	83.	3,695	15980	23%	
	Mar '11	42	250.	0.	310.2	560.2	12,845	23.	3,718	16563	22%	
	Apr '11	43	24.	0.	310.2	334.2	13,179	181.	3,899	17078	23%	
	May '11	44	33.	218.	310.2	561.2	13,740	243.	4,142	17883	23%	HISTORICAL
	Jun '11	45	21.	325.3	310.2	656.5	14,397	202.	4,344	18741	23%	
2011/12	Jul '11	46	10.	190.6	310.2	510.8	14,908	88.	4,432	19340	23%	
	Aug '11	47	11.	221.6	310.2	542.8	15,451	46.	4,478	19929	22%	
	Sep '11	48	8.	160.	310.2	478.2	15,929	2.	4,480	20409	22%	
	Oct '11	49	43.	0.	310.2	353.2	16,282	0.	4,480	20762	22%	
	Nov '11	50	138.	0.	310.2	448.2	16,730	0.	4,480	21210	21%	
	Dec '11	51	76.	0.	310.2	386.2	17,116	0.	4,480	21597	21%	
	Jan '12	52	57.	0.	310.2	367.2	17,484	27.	4,507	21991	20%	
	Feb '12	53	154.	0.	310.2	464.2	17,948	0.	4,507	22455	20%	
	Mar '12	54	281.	0.	310.2	591.2	18,539	0.	4,507	23046	20%	
	Apr '12	55	223.	0.	310.2	533.2	19,072	34.	4,541	23613	19%	
	May '12	56	25.	0.	310.2	335.2	19,407	256.	4,797	24205	20%	
	Jun '12	57	21.	0.	310.2	331.2	19,739	188.	4,985	24724	20%	
2012/13	Jul '12	58	20.	0.	310.2	330.2	20,069	137.	5,122	25191	20%	
	Aug '12	59	21.	0.	310.2	331.2	20,400	0.	5,122	25522	20%	
	Sep '12	60	33.	0.	310.2	343.2	20,743	124.	5,246	25989	20%	
	Oct '12	61	29.	0.	310.2	339.2	21,083	309.	5,555	26638	21%	
	Nov '12	62	66.	0.	310.2	376.2	21,459	248.	5,803	27262	21%	
	Dec '12	63	278.	0.	310.2	588.2	22,047	103.	5,906	27953	21%	
	Jan '13	64	70.	0.	310.2	380.2	22,427	230.	6,136	28563	21%	
	Feb '13	65	90.	0.	310.2	400.2	22,827	226.	6,362	29189	22%	
	Mar '13	66	144.		310.2	454.2	23,282	100.	6,462	29744	22%	PLAN
	Apr '13	67	114.		310.2	424.2	23,706	150.	6,612	30318	22%	
	May '13	68	41.		310.2	351.2	24,057	200.	6,812	30869	22%	
	Jun '13	69	21.		310.2	331.2	24,388	0.	6,812	31200	22%	

RWC Management Plan for 8th Street Basins

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2013/14	Jul '13	70	17.		310.2	327.2	24,715	220.	7,032	31748	22%	
	Aug '13	71	16.		310.2	326.2	25,042	220.	7,252	32294	22%	
	Sep '13	72	26.		310.2	336.2	25,378	220.	7,472	32850	23%	
	Oct '13	73	58.		310.2	368.2	25,746	200.	7,672	33418	23%	
	Nov '13	74	100.		310.2	410.2	26,156	100.	7,772	33928	23%	
	Dec '13	75	234.		310.2	544.2	26,700	0.	7,772	34473	23%	
	Jan '14	76	146.		310.2	456.2	27,157	50.	7,822	34979	22%	
	Feb '14	77	245.		310.2	555.2	27,712	0.	7,822	35534	22%	
	Mar '14	78	144.		310.2	454.2	28,166	100.	7,922	36088	22%	
	Apr '14	79	114.		310.2	424.2	28,590	150.	8,072	36662	22%	
	May '14	80	41.		310.2	351.2	28,941	200.	8,272	37214	22%	
	Jun '14	81	21.		310.2	331.2	29,273	0.	8,272	37545	22%	
2014/15	Jul '14	82	17.		310.2	327.2	29,600	220.	8,492	38092	22%	PLANNED
	Aug '14	83	16.		310.2	326.2	29,926	220.	8,712	38638	23%	
	Sep '14	84	26.		310.2	336.2	30,262	220.	8,932	39194	23%	
	Oct '14	85	58.		310.2	368.2	30,631	200.	9,132	39763	23%	
	Nov '14	86	100.		310.2	410.2	31,041	100.	9,232	40273	23%	
	Dec '14	87	234.		310.2	544.2	31,585	0.	9,232	40817	23%	
	Jan '15	88	146.		310.2	456.2	32,041	50.	9,282	41323	22%	
	Feb '15	89	245.		310.2	555.2	32,596	0.	9,282	41878	22%	
	Mar '15	90	144.		310.2	454.2	33,051	100.	9,382	42433	22%	
	Apr '15	91	114.		310.2	424.2	33,475	150.	9,532	43007	22%	
	May '15	92	41.		310.2	351.2	33,826	200.	9,732	43558	22%	
	Jun '15	93	21.		310.2	331.2	34,157	0.	9,732	43889	22%	
2015/16	Jul '15	94	17.		310.2	327.2	34,484	220.	9,952	44437	22%	
	Aug '15	95	16.		310.2	326.2	34,811	220.	10,172	44983	23%	
	Sep '15	96	26.		310.2	336.2	35,087	220.	10,392	45479	23%	
	Oct '15	97	58.		310.2	368.2	35,322	200.	10,592	45915	23%	
	Nov '15	98	100.		310.2	410.2	35,673	100.	10,692	46365	23%	
	Dec '15	99	234.		310.2	544.2	36,157	0.	10,692	46849	23%	
	Jan '16	100	146.		310.2	456.2	36,497	50.	10,742	47239	23%	
	Feb '16	101	245.		310.2	555.2	36,810	0.	10,742	47552	23%	
	Mar '16	102	144.		310.2	454.2	36,938	100.	10,842	47780	23%	
	Apr '16	103	114.		310.2	424.2	37,133	150.	10,992	48125	23%	
	May '16	104	41.		310.2	351.2	37,434	200.	11,192	48626	23%	
	Jun '16	105	21.		310.2	331.2	37,750	0.	11,192	48942	23%	
2016/17	Jul '16	106	17.		310.2	327.2	38,065	220.	11,412	49478	23%	
	Aug '16	107	16.		310.2	326.2	38,385	220.	11,632	50018	23%	
	Sep '16	108	26.		310.2	336.2	38,700	220.	11,852	50552	23%	
	Oct '16	109	58.		310.2	368.2	39,027	200.	12,052	51080	24%	
	Nov '16	110	100.		310.2	410.2	39,396	100.	12,152	51548	24%	
	Dec '16	111	234.		310.2	544.2	39,860	0.	12,152	52012	23%	
	Jan '17	112	146.		310.2	456.2	40,258	50.	12,202	52460	23%	
	Feb '17	113	245.		310.2	555.2	40,645	0.	12,202	52847	23%	
	Mar '17	114	144.		310.2	454.2	41,061	100.	12,302	53363	23%	
	Apr '17	115	114.		310.2	424.2	41,396	150.	12,452	53849	23%	
	May '17	116	41.		310.2	351.2	41,706	200.	12,652	54358	23%	
	Jun '17	117	21.		310.2	331.2	41,995	0.	12,652	54647	23%	
2017/18	Jul '17	118	17.		310.2	327.2	42,306	220.	12,872	55178	23%	PLANNED
	Aug '17	119	16.		310.2	326.2	42,616	220.	13,092	55708	24%	
	Sep '17	120	26.		310.2	336.2	42,935	220.	13,184	56119	23%	
	Oct '17	121	58.		310.2	368.2	43,262	200.	13,275	56537	23%	
	Nov '17	122	100.		310.2	410.2	43,591	100.	13,214	56805	23%	
	Dec '17	123	234.		310.2	544.2	43,911	0.	13,214	57125	23%	
	Jan '18	124	146.		310.2	456.2	44,032	50.	13,263	57295	23%	
	Feb '18	125	245.		310.2	555.2	44,490	0.	13,106	57596	23%	
	Mar '18	126	144.		310.2	454.2	44,923	100.	13,042	57965	22%	
	Apr '18	127	114.		310.2	424.2	45,336	150.	13,102	58438	22%	
	May '18	128	41.		310.2	351.2	45,597	200.	13,144	58741	22%	
	Jun '18	129	21.		310.2	331.2	45,913	0.	13,058	58971	22%	
2018/19	Jul '18	130	17.		310.2	327.2	46,212	220.	13,054	59266	22%	
	Aug '18	131	16.		310.2	326.2	46,523	220.	13,146	59669	22%	
	Sep '18	132	26.		310.2	336.2	46,844	220.	13,366	60210	22%	
	Oct '18	133	58.		310.2	368.2	47,196	200.	13,566	60762	22%	
	Nov '18	134	100.		310.2	410.2	47,469	100.	13,666	61135	22%	
	Dec '18	135	234.		310.2	544.2	47,662	0.	13,666	61328	22%	
	Jan '19	136	146.		310.2	456.2	48,083	50.	13,716	61799	22%	
	Feb '19	137	245.		310.2	555.2	48,180	0.	13,716	61896	22%	
	Mar '19	138	144.		310.2	454.2	48,613	100.	13,816	62429	22%	
	Apr '19	139	114.		310.2	424.2	49,022	150.	13,966	62988	22%	
	May '19	140	41.		310.2	351.2	49,358	200.	14,166	63524	22%	
	Jun '19	141	21.		310.2	331.2	49,689	0.	14,166	63855	22%	

RWC Management Plan for 8th Street Basins

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2019/20	Jul '19	142	17.		310.2	327.2	49,997	220.	14,386	64383	22%	
	Aug '19	143	16.		310.2	326.2	50,290	220.	14,582	64872	22%	
	Sep '19	144	26.		310.2	336.2	50,608	220.	14,802	65410	23%	
	Oct '19	145	58.		310.2	368.2	50,592	200.	15,002	65594	23%	
	Nov '19	146	100.		310.2	410.2	50,599	100.	14,969	65568	23%	
	Dec '19	147	234.		310.2	544.2	50,530	0.	14,876	65406	23%	
	Jan '20	148	146.		310.2	456.2	50,289	50.	14,824	65113	23%	
	Feb '20	149	245.		310.2	555.2	50,057	0.	14,824	64881	23%	
	Mar '20	150	144.		310.2	454.2	50,128	100.	14,810	64938	23%	
	Apr '20	151	114.		310.2	424.2	50,036	150.	14,860	64896	23%	
	May '20	152	41.		310.2	351.2	50,043	200.	14,861	64904	23%	
	Jun '20	153	21.		310.2	331.2	50,031	0.	14,559	64590	23%	
2020/21	Jul '20	154	17.		310.2	327.2	50,018	220.	14,561	64579	23%	P L A N N E D
	Aug '20	155	16.		310.2	326.2	50,006	220.	14,675	64681	23%	
	Sep '20	156	26.		310.2	336.2	49,996	220.	14,718	64714	23%	
	Oct '20	157	58.		310.2	368.2	49,965	200.	14,630	64595	23%	
	Nov '20	158	100.		310.2	410.2	49,878	100.	14,567	64445	23%	
	Dec '20	159	234.		310.2	544.2	49,613	0.	14,547	64160	23%	
	Jan '21	160	146.		310.2	456.2	49,649	50.	14,430	64079	23%	
	Feb '21	161	245.		310.2	555.2	49,618	0.	14,347	63965	22%	
	Mar '21	162	144.		310.2	454.2	49,512	100.	14,424	63936	23%	
	Apr '21	163	114.		310.2	424.2	49,602	150.	14,393	63995	22%	
	May '21	164	41.		310.2	351.2	49,392	200.	14,350	63742	23%	
	Jun '21	165	21.		310.2	331.2	49,067	0.	14,148	63215	22%	
2021/22	Jul '21	166	17.		310.2	327.2	48,884	220.	14,280	63164	23%	
	Aug '21	167	16.		310.2	326.2	48,667	220.	14,454	63121	23%	
	Sep '21	168	26.		310.2	336.2	48,525	220.	14,672	63197	23%	
	Oct '21	169	58.		310.2	368.2	48,540	200.	14,872	63412	23%	
	Nov '21	170	100.		310.2	410.2	48,502	100.	14,972	63474	24%	
	Dec '21	171	234.		310.2	544.2	48,660	0.	14,972	63632	24%	
	Jan '22	172	146.		310.2	456.2	48,749	50.	14,995	63744	24%	
	Feb '22	173	245.		310.2	555.2	48,840	0.	14,995	63835	23%	
	Mar '22	174	144.		310.2	454.2	48,703	100.	15,095	63798	24%	
	Apr '22	175	114.		310.2	424.2	48,594	150.	15,211	63805	24%	
	May '22	176	41.		310.2	351.2	48,610	200.	15,155	63765	24%	
	Jun '22	177	21.		310.2	331.2	48,610	0.	14,967	63577	24%	
2022/23	Jul '22	178	17.		310.2	327.2	48,607	220.	15,050	63657	24%	
	Aug '22	179	16.		310.2	326.2	48,602	220.	15,270	63872	24%	
	Sep '22	180	26.		310.2	336.2	48,595	220.	15,366	63961	24%	
	Oct '22	181	58.		310.2	368.2	48,624	200.	15,257	63881	24%	
	Nov '22	182	100.		310.2	410.2	48,658	100.	15,109	63767	24%	
	Dec '22	183	234.		310.2	544.2	48,614	0.	15,006	63620	24%	
	Jan '23	184	146.		310.2	456.2	48,690	50.	14,826	63516	23%	
	Feb '23	185	245.		310.2	555.2	48,845	0.	14,600	63445	23%	
	Mar '23	186	144.		310.2	454.2	48,845	100.	14,600	63445	23%	
	Apr '23	187	114.		310.2	424.2	48,845	150.	14,600	63445	23%	
	May '23	188	41.		310.2	351.2	48,845	200.	14,600	63445	23%	
	Jun '23	189	21.		310.2	331.2	48,845	0.	14,600	63445	23%	

Notes:

DW = Diluent Water; Total DW is the sum of Stormwater & Local Runoff (SW), Imported Water from the State Water Project (MWD), and groundwater underflow.

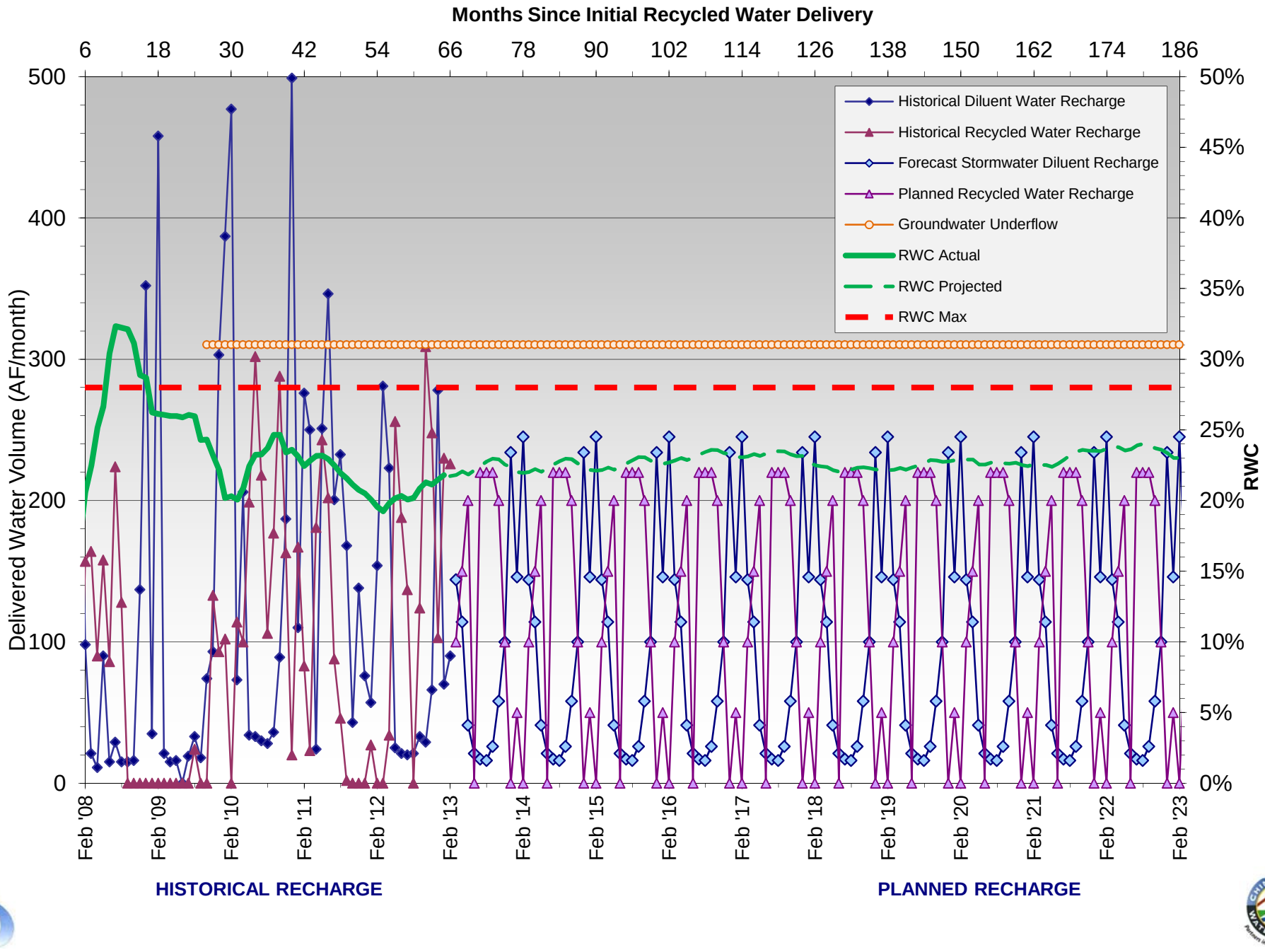
RW = Recycled Water

RWC = 120-month running total of recycled water / 120-month running total of all diluent and recycled water.

While an RWC calculation is provided starting on the first month of RW recharge, 120 months of data may not be available until 10 years of recharge operations.

RWC maximum = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC) determined from a recharge site's start-up period

RWC Management Plan - 8th Street Basins



RWC Management Plan for Banana Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2007/08	Jul '07	24	0.	0		0.	2,946.5	0.	1,242.1	4189	30%	
	Aug '07	25	0.	0		0.	2,946.5	0.	1,242.1	4189	30%	
	Sep '07	26	3.	0		3.	2,949.5	0.	1,242.1	4192	30%	
	Oct '07	27	2.	0		2.	2,951.5	0.	1,242.1	4194	30%	
	Nov '07	28	35.	0		35.	2,986.5	0.	1,242.1	4229	29%	
	Dec '07	29	22.	0		22.	3,008.5	0.	1,242.1	4251	29%	
	Jan '08	30	130.	0		130.	3,138.5	0.	1,242.1	4381	28%	
	Feb '08	31	75.	0		75.	3,213.5	0.	1,242.1	4456	28%	
	Mar '08	32	0.	0		0.	3,213.5	0.	1,242.1	4456	28%	
	Apr '08	33	0.	0		0.	3,213.5	47.	1,289.1	4503	29%	
	May '08	34	3.	0		3.	3,216.5	38.	1,327.1	4544	29%	
	Jun '08	35	8.	0		8.	3,224.5	72.	1,399.1	4624	30%	
2008/09	Jul '08	36	31.	0		31.	3,255.5	0.	1,399.1	4655	30%	
	Aug '08	37	45.	0		45.	3,300.5	0.	1,399.1	4700	30%	
	Sep '08	38	34.	0		34.	3,334.5	0.	1,399.1	4734	30%	
	Oct '08	39	36.	0		36.	3,370.5	0.	1,399.1	4770	29%	
	Nov '08	40	50.	0		50.	3,420.5	0.	1,399.1	4820	29%	
	Dec '08	41	87.	0		87.	3,507.5	0.	1,399.1	4907	29%	
	Jan '09	42	5.	0		5.	3,512.5	40.	1,439.1	4952	29%	
	Feb '09	43	95.	0		95.	3,607.5	0.	1,439.1	5047	29%	
	Mar '09	44	0.	0		0.	3,607.5	0.	1,439.1	5047	29%	
	Apr '09	45	0.	0		0.	3,607.5	0.	1,439.1	5047	29%	
	May '09	46	0.	0		0.	3,607.5	0.	1,439.1	5047	29%	
	Jun '09	47	0.	0		0.	3,607.5	0.	1,439.1	5047	29%	
2009/10	Jul '09	48	0.	0		0.	3,607.5	0.	1,439.1	5047	29%	
	Aug '09	49	0.	0		0.	3,607.5	0.	1,439.1	5047	29%	
	Sep '09	50	0.	0		0.	3,607.5	0.	1,439.1	5047	29%	
	Oct '09	51	15.	0	151	166.3	3,773.8	129.	1,568.1	5342	29%	
	Nov '09	52	0.	0	151	151.3	3,925.1	181.	1,749.1	5674	31%	
	Dec '09	53	75.	0	151	226.3	4,151.4	67.	1,816.1	5967	30%	
	Jan '10	54	100.	0	151	251.3	4,402.7	75.	1,891.1	6294	30%	
	Feb '10	55	143.	0	151	294.3	4,697.	0.	1,891.1	6588	29%	
	Mar '10	56	17.	0	151	168.3	4,865.3	0.	1,891.1	6756	28%	
	Apr '10	57	66.	0	151	217.3	5,082.6	140.	2,031.1	7114	29%	
	May '10	58	0.	0	151	151.3	5,233.9	177.	2,208.1	7442	30%	
	Jun '10	59	0.	0	151	151.3	5,385.2	129.	2,337.1	7722	30%	
2010/11	Jul '10	60	0.	0	151	151.3	5,536.6	77	2,414.1	7951	30%	
	Aug '10	61	0.	0	151	151.3	5,687.9	54	2,468.1	8156	30%	
	Sep '10	62	0.	0	151	151.3	5,839.2	59	2,527.1	8366	30%	
	Oct '10	63	5.	0	151	156.3	5,967.2	48	2,575.1	8542	30%	
	Nov '10	64	16.	0	151	167.3	6,121.8	29	2,604.1	8726	30%	
	Dec '10	65	51.	0	151	202.3	6,324.1	0	2,604.1	8928	29%	
	Jan '11	66	10.	0	151	161.3	6,398.5	0	2,604.1	9003	29%	
	Feb '11	67	26.	0	151	177.3	6,453.6	0	2,604.1	9058	29%	
	Mar '11	68	0.	0	151	151.3	6,526.4	0	2,604.1	9130	29%	
	Apr '11	69	0.	0	151	151.3	6,616.6	0	2,604.1	9221	28%	
	May '11	70	0.	0	151	151.3	6,767.9	0	2,604.1	9372	28%	
	Jun '11	71	0.	0	151	151.3	6,919.2	0	2,604.1	9523	27%	
2011/12	Jul '11	72	31.	0	151	182.3	7,089.3	0	2,604.1	9693	27%	
	Aug '11	73	0.	0	151	151.3	7,240.6	135	2,739.1	9980	27%	
	Sep '11	74	0.	0	151	151.3	7,391.9	395	3,134.1	10526	30%	
	Oct '11	75	20.	0	151	171.3	7,563.3	404	3,538.1	11101	32%	
	Nov '11	76	30.	0	151	181.3	7,705.3	161	3,699.1	11404	32%	
	Dec '11	77	18.	0	151	169.3	7,857.9	245	3,944.1	11802	33%	
	Jan '12	78	48.	0	151	199.3	8,007.1	161.	4,105.1	12112	34%	
	Feb '12	79	21.	0	151	172.3	8,158.5	167.	4,272.1	12431	34%	
	Mar '12	80	44.	0	151	195.3	8,322.8	72	4,344.1	12667	34%	
	Apr '12	81	35.	0	151	186.3	8,496.	51	4,395.1	12891	34%	
	May '12	82	0.	0	151	151.3	8,646.5	45	4,440.1	13087	34%	
	Jun '12	83	0.	0	151	151.3	8,797.8	79	4,519.1	13317	34%	
2012/13	Jul '12	84	0.	0	151	151.3	8,949	41	4,560	13,509	34%	
	Aug '12	85	0.	0	151	151.3	9,100	2	4,562	13,662	33%	
	Sep '12	86	0.	0	151	151.3	9,252	188	4,750	14,002	34%	
	Oct '12	87	11.	0	151	162.3	9,414	103	4,853	14,267	34%	
	Nov '12	88	5.	0	151	156.3	9,531	120	4,973	14,505	34%	
	Dec '12	89	49.	0	151	200.3	9,672	15	4,988	14,661	34%	
	Jan '13	90	18.	0	151	169.3	9,842	28	5,016	14,858	34%	
	Feb '13	91	20.	0	151	171.3	9,933	2	5,018	14,951	34%	
	Mar '13	92	22.		151	173.3	10,067	100	5,118	15,185	34%	PLAN
	Apr '13	93	27.		151	178.3	10,158	0	5,118	15,276	34%	
	May '13	94	17.		151	168.3	10,265	150	5,268	15,533	34%	
	Jun '13	95	1.		151	152.3	10,417	150	5,418	15,835	34%	

RWC Management Plan for Banana Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2013/14	Jul '13	96	6.		151	157.3	10,575	150	5,568	16,143	34%	
	Aug '13	97	4.		151	155.3	10,730	0	5,568	16,298	34%	
	Sep '13	98	3.		151	154.3	10,884	0	5,568	16,452	34%	
	Oct '13	99	17.		151	168.3	11,053	100	5,668	16,721	34%	
	Nov '13	100	21.		151	172.3	11,191	100	5,768	16,959	34%	
	Dec '13	101	43.		151	194.3	11,348	100	5,868	17,216	34%	
	Jan '14	102	41.		151	192.3	11,536	100	5,968	17,504	34%	
	Feb '14	103	68.		151	219.3	11,671	100	6,068	17,740	34%	
	Mar '14	104	22.		151	173.3	11,817	100	6,168	17,985	34%	
	Apr '14	105	27.		151	178.3	11,995	0	6,168	18,163	34%	
	May '14	106	17.		151	168.3	12,163	150	6,318	18,481	34%	
	Jun '14	107	1.		151	152.3	12,315	150	6,468	18,783	34%	
2014/15	Jul '14	108	6.		151	157.3	12,472.5	150.	6,618.1	19091	35%	
	Aug '14	109	4.		151	155.3	12,627.8	0.	6,618.1	19246	34%	
	Sep '14	110	3.		151	154.3	12,782.1	0.	6,618.1	19400	34%	
	Oct '14	111	17.		151	168.3	12,887.6	100.	6,718.1	19606	34%	
	Nov '14	112	21.		151	172.3	13,042.9	100.	6,818.1	19861	34%	
	Dec '14	113	43.		151	194.3	13,211.9	100.	6,918.1	20130	34%	
	Jan '15	114	41.		151	192.3	13,310.6	100.	7,018.1	20329	35%	
	Feb '15	115	68.		151	219.3	13,419.1	100.	7,118.1	20537	35%	
	Mar '15	116	22.		151	173.3	13,567.5	100.	7,218.1	20786	35%	
	Apr '15	117	27.		151	178.3	13,726.5	0.	7,218.1	20945	34%	
	May '15	118	17.		151	168.3	13,880.2	150.	7,368.1	21248	35%	
	Jun '15	119	1.		151	152.3	14,032.5	150.	7,518.1	21551	35%	
2015/16	Jul '15	120	6.		151	157.3	13,998	150	7,648	21,646	35%	
	Aug '15	121	4.		151	155.3	14,153	0	7,394	21,547	34%	
	Sep '15	122	3.		151	154.3	14,307	0	7,266	21,573	34%	
	Oct '15	123	17.		151	168.3	14,447	100	7,340	21,787	34%	
	Nov '15	124	21.		151	172.3	14,619	100	7,432	22,051	34%	
	Dec '15	125	43.		151	194.3	14,794	100	7,522	22,316	34%	
	Jan '16	126	41.		151	192.3	14,981	100	7,572	22,552	34%	
	Feb '16	127	68.		151	219.3	15,178	100	7,617	22,794	33%	
	Mar '16	128	22.		151	173.3	15,296	100	7,717	23,012	34%	
	Apr '16	129	27.		151	178.3	15,438	0	7,717	23,155	33%	
	May '16	130	17.		151	168.3	15,550	150	7,867	23,416	34%	
	Jun '16	131	1.		151	152.3	15,702	150	7,970	23,672	34%	
2016/2017	Jul '16	132	6.		151	157.3	15,859	150	8,055	23,915	34%	
	Aug '16	133	4.		151	155.3	16,015	0	7,970	23,985	33%	
	Sep '16	134	3.		151	154.3	16,169	0	7,592	23,761	32%	
	Oct '16	135	17.		151	168.3	16,263	100	7,643	23,906	32%	
	Nov '16	136	21.		151	172.3	16,201	100	7,736	23,936	32%	
	Dec '16	137	43.		151	194.3	16,194	100	7,786	23,980	32%	
	Jan '17	138	41.		151	192.3	16,055	100	7,886	23,941	33%	
	Feb '17	139	68.		151	219.3	16,200	100	7,986	24,186	33%	
	Mar '17	140	22.		151	173.3	16,321	100	8,086	24,407	33%	
	Apr '17	141	27.		151	178.3	16,470	0	8,082	24,552	33%	
	May '17	142	17.		151	168.3	16,601	150	8,226	24,827	33%	
	Jun '17	143	1.		151	152.3	16,754	150	8,376	25,130	33%	
2017/2018	Jul '17	144	6.		151	157.3	16,911	150	8,526	25,437	34%	
	Aug '17	145	4.		151	155.3	17,066	0	8,526	25,592	33%	
	Sep '17	146	3.		151	154.3	17,217	0	8,526	25,743	33%	
	Oct '17	147	17.		151	168.3	17,384	100	8,626	26,010	33%	
	Nov '17	148	21.		151	172.3	17,521	100	8,726	26,247	33%	
	Dec '17	149	43.		151	194.3	17,693	100	8,826	26,519	33%	
	Jan '18	150	41.		151	192.3	17,756	100	8,926	26,682	33%	
	Feb '18	151	68.		151	219.3	17,900	100	9,026	26,926	34%	
	Mar '18	152	22.		151	173.3	18,073	100	9,126	27,199	34%	
	Apr '18	153	27.		151	178.3	18,252	0	9,079	27,331	33%	
	May '18	154	17.		151	168.3	18,417	150	9,191	27,608	33%	
	Jun '18	155	1.		151	152.3	18,561	150	9,269	27,830	33%	
2018/2019	Jul '18	156	6.		151	157.3	18,688	150	9,419	28,107	34%	
	Aug '18	157	4.		151	155.3	18,798	0	9,419	28,217	33%	
	Sep '18	158	3.		151	154.3	18,918	0	9,419	28,337	33%	
	Oct '18	159	17.		151	168.3	19,050	100	9,519	28,569	33%	
	Nov '18	160	21.		151	172.3	19,173	100	9,619	28,792	33%	
	Dec '18	161	43.		151	194.3	19,280	100	9,719	28,999	34%	
	Jan '19	162	41.		151	192.3	19,467	100	9,779	29,246	33%	
	Feb '19	163	68.		151	219.3	19,592	100	9,879	29,471	34%	
	Mar '19	164	22.		151	173.3	19,765	100	9,979	29,744	34%	
	Apr '19	165	27.		151	178.3	19,943	0	9,979	29,922	33%	
	May '19	166	17.		151	168.3	20,112	150	10,129	30,241	33%	
	Jun '19	167	1.		151	152.3	20,264	150	10,279	30,543	34%	

PLANNED

PLANNED

RWC Management Plan for Banana Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2019/2020	Jul '19	168	6.		151	157.3	20,421	150	10,429	30,850	34%	
	Aug '19	169	4.		151	155.3	20,576	0	10,429	31,005	34%	
	Sep '19	170	3.		151	154.3	20,731	0	10,429	31,160	33%	
	Oct '19	171	17.		151	168.3	20,733	100	10,400	31,133	33%	
	Nov '19	172	21.		151	172.3	20,754	100	10,319	31,073	33%	
	Dec '19	173	43.		151	194.3	20,722	100	10,352	31,074	33%	
	Jan '20	174	41.		151	192.3	20,663	100	10,377	31,040	33%	
	Feb '20	175	68.		151	219.3	20,588	100	10,477	31,065	34%	
	Mar '20	176	22.		151	173.3	20,593	100	10,577	31,170	34%	
	Apr '20	177	27.		151	178.3	20,554	0	10,437	30,991	34%	
	May '20	178	17.		151	168.3	20,571	150	10,410	30,981	34%	
	Jun '20	179	1.		151	152.3	20,572	150	10,431	31,003	34%	
2020/2021	Jul '20	180	6.		151	157.3	20,578	150	10,504	31,082	34%	
	Aug '20	181	4.		151	155.3	20,582	0	10,450	31,032	34%	
	Sep '20	182	3.		151	154.3	20,585	0	10,391	30,976	34%	
	Oct '20	183	17.		151	168.3	20,597	100	10,443	31,040	34%	
	Nov '20	184	21.		151	172.3	20,602	100	10,514	31,116	34%	
	Dec '20	185	43.		151	194.3	20,594	100	10,614	31,208	34%	
	Jan '21	186	41.		151	192.3	20,625	100	10,714	31,339	34%	P
	Feb '21	187	68.		151	219.3	20,667	100	10,814	31,481	34%	L
	Mar '21	188	22.		151	173.3	20,689	100	10,914	31,603	35%	A
	Apr '21	189	27.		151	178.3	20,716	0	10,914	31,630	35%	N
	May '21	190	17.		151	168.3	20,733	150	11,064	31,797	35%	N
	Jun '21	191	1.		151	152.3	20,734	150	11,214	31,948	35%	E
2021/2022	Jul '21	192	6.		151	157.3	20,709	150	11,364	32,073	35%	D
	Aug '21	193	4.		151	155.3	20,713	0	11,229	31,942	35%	
	Sep '21	194	3.		151	154.3	20,716	0	10,834	31,550	34%	
	Oct '21	195	17.		151	168.3	20,713	100	10,530	31,243	34%	
	Nov '21	196	21.		151	172.3	20,704	100	10,469	31,173	34%	
	Dec '21	197	43.		151	194.3	20,729	100	10,324	31,053	33%	
	Jan '22	198	41.		151	192.3	20,722	100	10,263	30,985	33%	
	Feb '22	199	68.		151	219.3	20,769	100	10,196	30,965	33%	
	Mar '22	200	22.		151	173.3	20,747	100	10,224	30,971	33%	
	Apr '22	201	27.		151	178.3	20,739	0	10,173	30,912	33%	
	May '22	202	17.		151	168.3	20,756	150	10,278	31,034	33%	
	Jun '22	203	1.		151	152.3	20,757	150	10,349	31,106	33%	
2022/2023	Jul '22	204	6.		151	157.3	20,763	150	10,458	31,221	33%	
	Aug '22	205	4.		151	155.3	20,767	0	10,456	31,223	33%	
	Sep '22	206	3.		151	154.3	20,770	0	10,268	31,038	33%	
	Oct '22	207	17.		151	168.3	20,776	100	10,265	31,041	33%	
	Nov '22	208	21.		151	172.3	20,792	100	10,245	31,037	33%	
	Dec '22	209	43.		151	194.3	20,786	100	10,330	31,116	33%	
	Jan '23	210	41.		151	192.3	20,809	100	10,402	31,211	33%	
	Feb '23	211	68.		151	219.3	20,857	100	10,500	31,357	33%	
	Mar '23	212	22.		151	173.3	20,857	100	10,500	31,357	33%	
	Apr '23	213	27.		151	178.3	20,857	0	10,500	31,357	33%	
	May '23	214	17.		151	168.3	20,857	150	10,500	31,357	33%	
	Jun '23	215	1.		151	152.3	20,857	150	10,500	31,357	33%	

Notes:

DW = Diluent Water; Total DW is the sum of Stormwater & Local Runoff (SW), Imported Water from the State Water Project (MWD), and groundwater underflow.

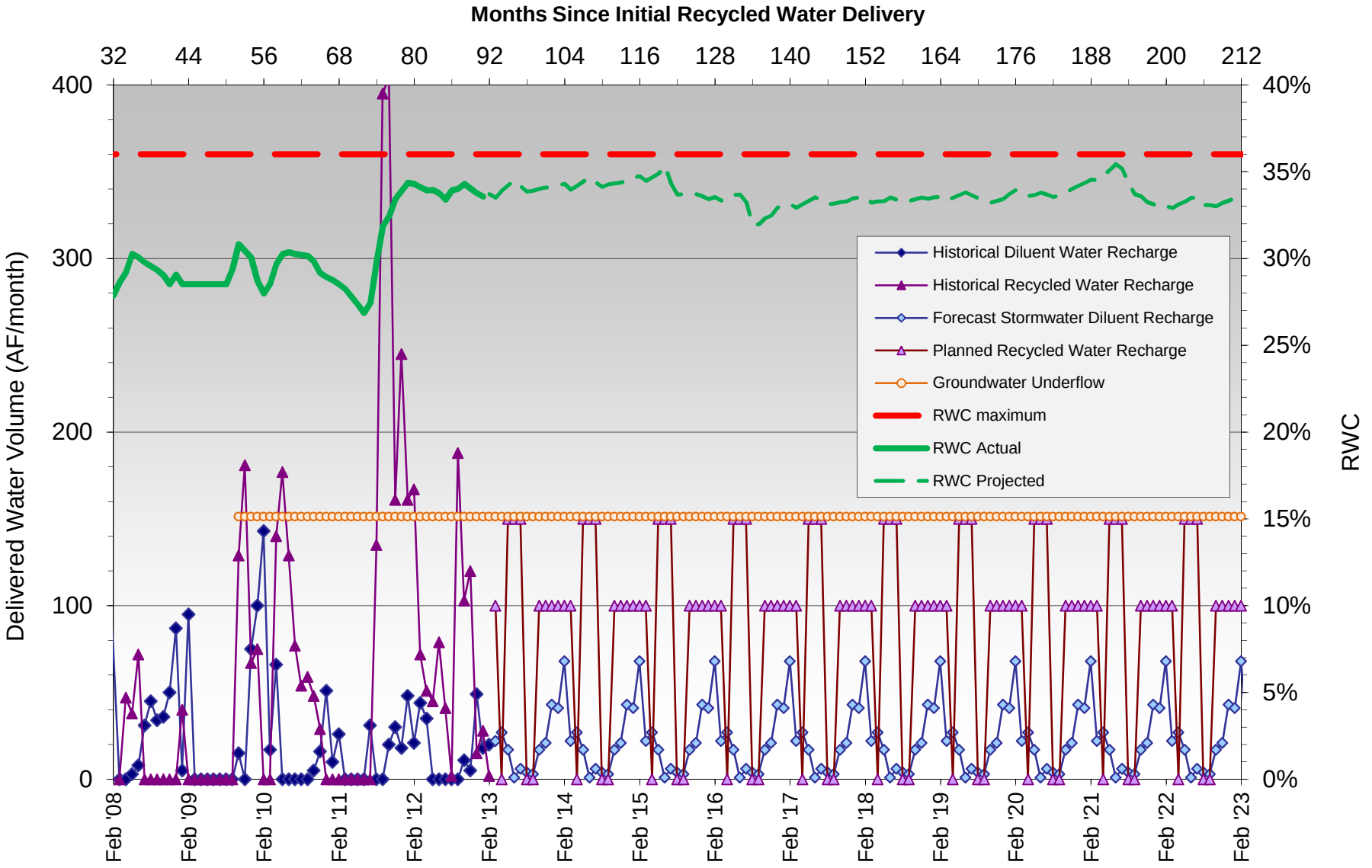
RW = Recycled Water

RWC = 120-month running total of recycled water / 120-month running total of all diluent and recycled water.

While an RWC calculation is provided starting on the first month of RW recharge, 120 months of data may not be available until 10 years of recharge operations.

RWC maximum = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC) determined from a recharge site's start-up period

RWC Management Plan for Banana Basin



HISTORICAL RECHARGE

PLANNED RECHARGE

RWC Management Plan for Brooks Street Basins

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2007/08	Jul '07	-13	0.	0.		0.	5479	0.	0	5479	0%	
	Aug '07	-12	0.	0.		0.	5479	0.	0	5479	0%	HISTORICAL
	Sep '07	-11	25.	0.		25.	5504	0.	0	5504	0%	
	Oct '07	-10	35.	0.		35.	5539	0.	0	5539	0%	
	Nov '07	-9	24.	0.		24.	5563	0.	0	5563	0%	
	Dec '07	-8	42.	0.		42.	5605	0.	0	5605	0%	
	Jan '08	-7	282.	0.		282.	5887	0.	0	5887	0%	
	Feb '08	-6	50.	0.		50.	5937	0.	0	5937	0%	
	Mar '08	-5	9.	0.		9.	5946	0.	0	5946	0%	
	Apr '08	-4	4.	0.		4.	5950	0.	0	5950	0%	
	May '08	-3	43.	0.		43.	5993	0.	0	5993	0%	
	Jun '08	-2	3.	0.		3.	5996	0.	0	5996	0%	
2008/09	Jul '08	-1	3.	0.		3.	5999	0.	0	5999	0%	
	Aug '08	0	16.	0.		16.	6015	117.	117	6132	2%	
	Sep '08	1	0.	0.		0.	6015	86.	203	6218	3%	
	Oct '08	2	0.	0.		0.	6015	166.	369	6384	6%	
	Nov '08	3	23.	0.		23.	6038	103.	472	6510	7%	
	Dec '08	4	162.	0.		162.	6200	88.	560	6760	8%	
	Jan '09	5	25.	0.		25.	6225	277.	837	7062	12%	
	Feb '09	6	208.	0.		208.	6433	20.	857	7290	12%	
	Mar '09	7	30.	0.		30.	6463	159.	1016	7479	14%	
	Apr '09	8	1.	0.		1.	6464	296.	1312	7776	17%	
	May '09	9	17.	0.		17.	6481	115.	1427	7908	18%	
	Jun '09	10	0.	0.		0.	6481	178.	1605	8086	20%	
2009/10	Jul '09	11	1.	0.		1.	6482	6.	1611	8093	20%	
	Aug '09	12	0.	0.		0.	6482	8.	1619	8101	20%	
	Sep '09	13	0.	0.		0.	6482	0.	1619	8101	20%	
	Oct '09	14	13.	0.	509.2	522.2	7004	184.	1803	8807	20%	
	Nov '09	15	4.	0.	509.2	513.2	7518	246.	2049	9567	21%	
	Dec '09	16	129.	0.	509.2	638.2	8156	144.	2193	10349	21%	
	Jan '10	17	251.	0.	509.2	760.2	8916	74.	2267	11183	20%	
	Feb '10	18	215.	0.	509.2	724.2	9640	54.	2321	11961	19%	
	Mar '10	19	27.	0.	509.2	536.2	10177	180.	2501	12678	20%	
	Apr '10	20	23.	0.	509.2	532.2	10709	235.	2736	13445	20%	
	May '10	21	2.	0.	509.2	511.2	11220	356.	3092	14312	22%	
	Jun '10	22	1.	0.	509.2	510.2	11730	208.	3300	15030	22%	
2010/11	Jul '10	23	1.	0.	509.2	510.2	12240	147.	3447	15687	22%	
	Aug '10	24	18.	0.	509.2	527.2	12768	275.	3722	16490	23%	
	Sep '10	25	1.	0.	509.2	510.2	13278	141.	3863	17141	23%	
	Oct '10	26	24.	0.	509.2	533.2	13811	130.	3993	17804	22%	
	Nov '10	27	44.	0.	509.2	553.2	14364	87.	4080	18444	22%	
	Dec '10	28	282.	0.	509.2	791.2	15156	34.	4114	19270	21%	
	Jan '11	29	112.	0.	509.2	621.2	15777	0.	4114	19891	21%	
	Feb '11	30	164.	0.	509.2	673.2	16450	0.	4114	20564	20%	
	Mar '11	31	142.	0.	509.2	651.2	17101	0.	4114	21215	19%	
	Apr '11	32	1.	0.	509.2	510.2	17611	174.	4288	21899	20%	
	May '11	33	10.	0.	509.2	519.2	18131	162.	4450	22581	20%	
	Jun '11	34	1.	0.	509.2	510.2	18641	223.	4673	23314	20%	
2011/12	Jul '11	35	2.	235.6	509.2	746.8	19388	0.	4673	24061	19%	
	Aug '11	36	2.	183.4	509.2	694.6	20082	0.	4673	24755	19%	
	Sep '11	37	12.	141.5	509.2	662.7	20745	0.	4673	25418	18%	
	Oct '11	38	18.	0.	509.2	527.2	21272	80.	4753	26025	18%	
	Nov '11	39	50.	0.	509.2	559.2	21832	36.	4789	26621	18%	
	Dec '11	40	16.	0.	509.2	525.2	22357	98.	4887	27244	18%	
	Jan '12	41	45.	0.	509.2	554.2	22911	142.	5029	27940	18%	
	Feb '12	42	50.	0.	509.2	559.2	23470	77.	5106	28576	18%	
	Mar '12	43	103.	0.	509.2	612.2	24082	85.	5191	29273	18%	
	Apr '12	44	64.	0.	509.2	573.2	24656	32.	5223	29879	17%	
	May '12	45	1.	0.	509.2	510.2	25166	125.	5348	30514	18%	
	Jun '12	46	0.	0.	509.2	509.2	25675	161.	5509	31184	18%	
2012/13	Jul '12	47	1.	0.	509.2	510.2	26185	33.	5542	31727	17%	
	Aug '12	48	2.	0.	509.2	511.2	26697	39.	5581	32278	17%	
	Sep '12	49	2.	0.	509.2	511.2	27208	51.	5632	32840	17%	
	Oct '12	50	0.	0.	509.2	509.2	27717	0.	5632	33349	17%	
	Nov '12	51	0.	0.	509.2	509.2	28226	0.	5632	33858	17%	
	Dec '12	52	0.	0.	509.2	509.2	28735	0.	5632	34367	16%	
	Jan '13	53	35.	0.	509.2	544.2	29280	342.	5974	35254	17%	
	Feb '13	54	26.	0.	509.2	535.2	29815	299.	6273	36088	17%	
	Mar '13	55	74.		509.2	583.2	30398	50.	6323	36721	17%	PLAN
	Apr '13	56	50.		509.2	559.2	30957	125.	6448	37405	17%	
	May '13	57	13.		509.2	522.2	31480	200.	6648	38128	17%	
	Jun '13	58	1.		509.2	510.2	31990	275.	6923	38913	18%	

RWC Management Plan for Brooks Street Basins

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2013/14	Jul '13	59	5.		509.2	514.2	32504	275.	7198	39702	18%	
	Aug '13	60	7.		509.2	516.2	33020	275.	7473	40493	18%	
	Sep '13	61	8.		509.2	517.2	33537	275.	7748	41285	19%	
	Oct '13	62	14.		509.2	523.2	34061	150.	7898	41959	19%	
	Nov '13	63	29.		509.2	538.2	34599	75.	7973	42572	19%	
	Dec '13	64	87.		509.2	596.2	35195	50.	8023	43218	19%	
	Jan '14	65	98.		509.2	607.2	35802	0.	8023	43825	18%	
	Feb '14	66	117.		509.2	626.2	36429	0.	8023	44452	18%	
	Mar '14	67	74.		509.2	583.2	37012	50.	8073	45085	18%	
	Apr '14	68	50.		509.2	559.2	37571	125.	8198	45769	18%	
	May '14	69	13.		509.2	522.2	38093	200.	8398	46491	18%	
	Jun '14	70	1.		509.2	510.2	38603	275.	8673	47276	18%	
2014/15	Jul '14	71	5.		509.2	514.2	39118	275.	8948	48066	19%	
	Aug '14	72	7.		509.2	516.2	39634	275.	9223	48857	19%	
	Sep '14	73	8.		509.2	517.2	40151	275.	9498	49649	19%	
	Oct '14	74	14.		509.2	523.2	40674	150.	9648	50322	19%	
	Nov '14	75	29.		509.2	538.2	41213	75.	9723	50936	19%	
	Dec '14	76	87.		509.2	596.2	41809	50.	9773	51582	19%	
	Jan '15	77	98.		509.2	607.2	42416	0.	9773	52189	19%	
	Feb '15	78	117.		509.2	626.2	43042	0.	9773	52815	19%	
	Mar '15	79	74.		509.2	583.2	43626	50.	9823	53449	18%	
	Apr '15	80	50.		509.2	559.2	44185	125.	9948	54133	18%	
	May '15	81	13.		509.2	522.2	44707	200.	10148	54855	18%	
	Jun '15	82	1.		509.2	510.2	45217	275.	10423	55640	19%	
2015/16	Jul '15	83	5.		509.2	514.2	45699	275.	10698	56397	19%	
	Aug '15	84	7.		509.2	516.2	46040	275.	10973	57013	19%	
	Sep '15	85	8.		509.2	517.2	45873	275.	11248	57121	20%	
	Oct '15	86	14.		509.2	523.2	46269	150.	11398	57667	20%	
	Nov '15	87	29.		509.2	538.2	46417	75.	11473	57890	20%	
	Dec '15	88	87.		509.2	596.2	46650	50.	11523	58173	20%	
	Jan '16	89	98.		509.2	607.2	47001	0.	11523	58524	20%	
	Feb '16	90	117.		509.2	626.2	47234	0.	11523	58757	20%	
	Mar '16	91	74.		509.2	583.2	47603	50.	11573	59176	20%	
	Apr '16	92	50.		509.2	559.2	47900	125.	11698	59598	20%	
	May '16	93	13.		509.2	522.2	48122	200.	11898	60020	20%	
	Jun '16	94	1.		509.2	510.2	48261	275.	12173	60434	20%	
2016/17	Jul '16	95	5.		509.2	514.2	48569	275.	12448	61017	20%	
	Aug '16	96	7.		509.2	516.2	48934	275.	12723	61657	21%	
	Sep '16	97	8.		509.2	517.2	49109	275.	12998	62107	21%	
	Oct '16	98	14.		509.2	523.2	49325	150.	13148	62473	21%	
	Nov '16	99	29.		509.2	538.2	49576	75.	13223	62799	21%	
	Dec '16	100	87.		509.2	596.2	49910	50.	13273	63183	21%	
	Jan '17	101	98.		509.2	607.2	50405	0.	13273	63678	21%	
	Feb '17	102	117.		509.2	626.2	50902	0.	13273	64175	21%	
	Mar '17	103	74.		509.2	583.2	51482	50.	13323	64805	21%	
	Apr '17	104	50.		509.2	559.2	51939	125.	13448	65387	21%	
	May '17	105	13.		509.2	522.2	52457	200.	13648	66105	21%	
	Jun '17	106	1.		509.2	510.2	52965	275.	13923	66888	21%	
2017/18	Jul '17	107	5.		509.2	514.2	53480	275.	14198	67678	21%	
	Aug '17	108	7.		509.2	516.2	53996	275.	14473	68469	21%	
	Sep '17	109	8.		509.2	517.2	54488	275.	14748	69236	21%	
	Oct '17	110	14.		509.2	523.2	54976	150.	14898	69874	21%	
	Nov '17	111	29.		509.2	538.2	55491	75.	14973	70464	21%	
	Dec '17	112	87.		509.2	596.2	56045	50.	15023	71068	21%	
	Jan '18	113	98.		509.2	607.2	56370	0.	15023	71393	21%	
	Feb '18	114	117.		509.2	626.2	56946	0.	15023	71969	21%	
	Mar '18	115	74.		509.2	583.2	57520	50.	15073	72593	21%	
	Apr '18	116	50.		509.2	559.2	58076	125.	15198	73274	21%	
	May '18	117	13.		509.2	522.2	58555	200.	15398	73953	21%	
	Jun '18	118	1.		509.2	510.2	59062	275.	15673	74735	21%	
2018/19	Jul '18	119	5.		509.2	514.2	59573	275.	15948	75521	21%	
	Aug '18	120	7.		509.2	516.2	60074	275.	16106	76180	21%	
	Sep '18	121	8.		509.2	517.2	60591	275.	16295	76886	21%	
	Oct '18	122	14.		509.2	523.2	61114	150.	16279	77393	21%	
	Nov '18	123	29.		509.2	538.2	61629	75.	16251	77880	21%	
	Dec '18	124	87.		509.2	596.2	62063	50.	16213	78276	21%	
	Jan '19	125	98.		509.2	607.2	62646	0.	15936	78582	20%	
	Feb '19	126	117.		509.2	626.2	63064	0.	15916	78980	20%	
	Mar '19	127	74.		509.2	583.2	63617	50.	15807	79424	20%	
	Apr '19	128	50.		509.2	559.2	64175	125.	15636	79811	20%	
	May '19	129	13.		509.2	522.2	64681	200.	15721	80402	20%	
	Jun '19	130	1.		509.2	510.2	65191	275.	15818	81009	20%	

PLANNED

PLANNED

RWC Management Plan for Brooks Street Basins

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2019/20	Jul '19	131	5.		509.2	514.2	65704	275.	16087	81791	20%	
	Aug '19	132	7.		509.2	516.2	66220	275.	16354	82574	20%	
	Sep '19	133	8.		509.2	517.2	66737	275.	16629	83366	20%	
	Oct '19	134	14.		509.2	523.2	66738	150.	16595	83333	20%	
	Nov '19	135	29.		509.2	538.2	66763	75.	16424	83187	20%	
	Dec '19	136	87.		509.2	596.2	66721	50.	16330	83051	20%	
	Jan '20	137	98.		509.2	607.2	66568	0.	16256	82824	20%	
	Feb '20	138	117.		509.2	626.2	66470	0.	16202	82672	20%	
	Mar '20	139	74.		509.2	583.2	66517	50.	16072	82589	19%	
	Apr '20	140	50.		509.2	559.2	66544	125.	15962	82506	19%	
	May '20	141	13.		509.2	522.2	66555	200.	15806	82361	19%	
	Jun '20	142	1.		509.2	510.2	66555	275.	15873	82428	19%	
2020/21	Jul '20	143	5.		509.2	514.2	66559	275.	16001	82560	19%	
	Aug '20	144	7.		509.2	516.2	66548	275.	16001	82549	19%	
	Sep '20	145	8.		509.2	517.2	66555	275.	16135	82690	20%	
	Oct '20	146	14.		509.2	523.2	66545	150.	16155	82700	20%	PLANNED
	Nov '20	147	29.		509.2	538.2	66530	75.	16143	82673	20%	
	Dec '20	148	87.		509.2	596.2	66335	50.	16159	82494	20%	
	Jan '21	149	98.		509.2	607.2	66321	0.	16159	82480	20%	
	Feb '21	150	117.		509.2	626.2	66274	0.	16159	82433	20%	
	Mar '21	151	74.		509.2	583.2	66206	50.	16209	82415	20%	
	Apr '21	152	50.		509.2	559.2	66255	125.	16160	82415	20%	
	May '21	153	13.		509.2	522.2	66258	200.	16198	82456	20%	
	Jun '21	154	1.		509.2	510.2	66258	275.	16250	82508	20%	
2021/22	Jul '21	155	5.		509.2	514.2	66026	275.	16525	82551	20%	
	Aug '21	156	7.		509.2	516.2	65847	275.	16800	82647	20%	
	Sep '21	157	8.		509.2	517.2	65702	275.	17075	82777	21%	
	Oct '21	158	14.		509.2	523.2	65698	150.	17145	82843	21%	
	Nov '21	159	29.		509.2	538.2	65677	75.	17184	82861	21%	
	Dec '21	160	87.		509.2	596.2	65748	50.	17136	82884	21%	
	Jan '22	161	98.		509.2	607.2	65801	0.	16994	82795	21%	
	Feb '22	162	117.		509.2	626.2	65868	0.	16917	82785	20%	
	Mar '22	163	74.		509.2	583.2	65839	50.	16882	82721	20%	
	Apr '22	164	50.		509.2	559.2	65825	125.	16975	82800	21%	
	May '22	165	13.		509.2	522.2	65837	200.	17050	82887	21%	
	Jun '22	166	1.		509.2	510.2	65838	275.	17164	83002	21%	
2022/23	Jul '22	167	5.		509.2	514.2	65842	275.	17406	83248	21%	
	Aug '22	168	7.		509.2	516.2	65847	275.	17642	83489	21%	
	Sep '22	169	8.		509.2	517.2	65853	275.	17866	83719	21%	
	Oct '22	170	14.		509.2	523.2	65867	150.	18016	83883	21%	
	Nov '22	171	29.		509.2	538.2	65896	75.	18091	83987	22%	
	Dec '22	172	87.		509.2	596.2	65983	50.	18141	84124	22%	
	Jan '23	173	98.		509.2	607.2	66046	0.	17799	83845	21%	
	Feb '23	174	117.		509.2	626.2	66137	0.	17500	83637	21%	
	Mar '23	175	74.		509.2	583.2	66137	50.	17500	83637	21%	
	Apr '23	176	50.		509.2	559.2	66137	125.	17500	83637	21%	
	May '23	177	13.		509.2	522.2	66137	200.	17500	83637	21%	
	Jun '23	178	1.		509.2	510.2	66137	275.	17500	83637	21%	

Notes:

DW = Diluent Water; Total DW is the sum of Stormwater & Local Runoff (SW), Imported Water from the State Water Project (MWD), and groundwater underflow.

RW = Recycled Water

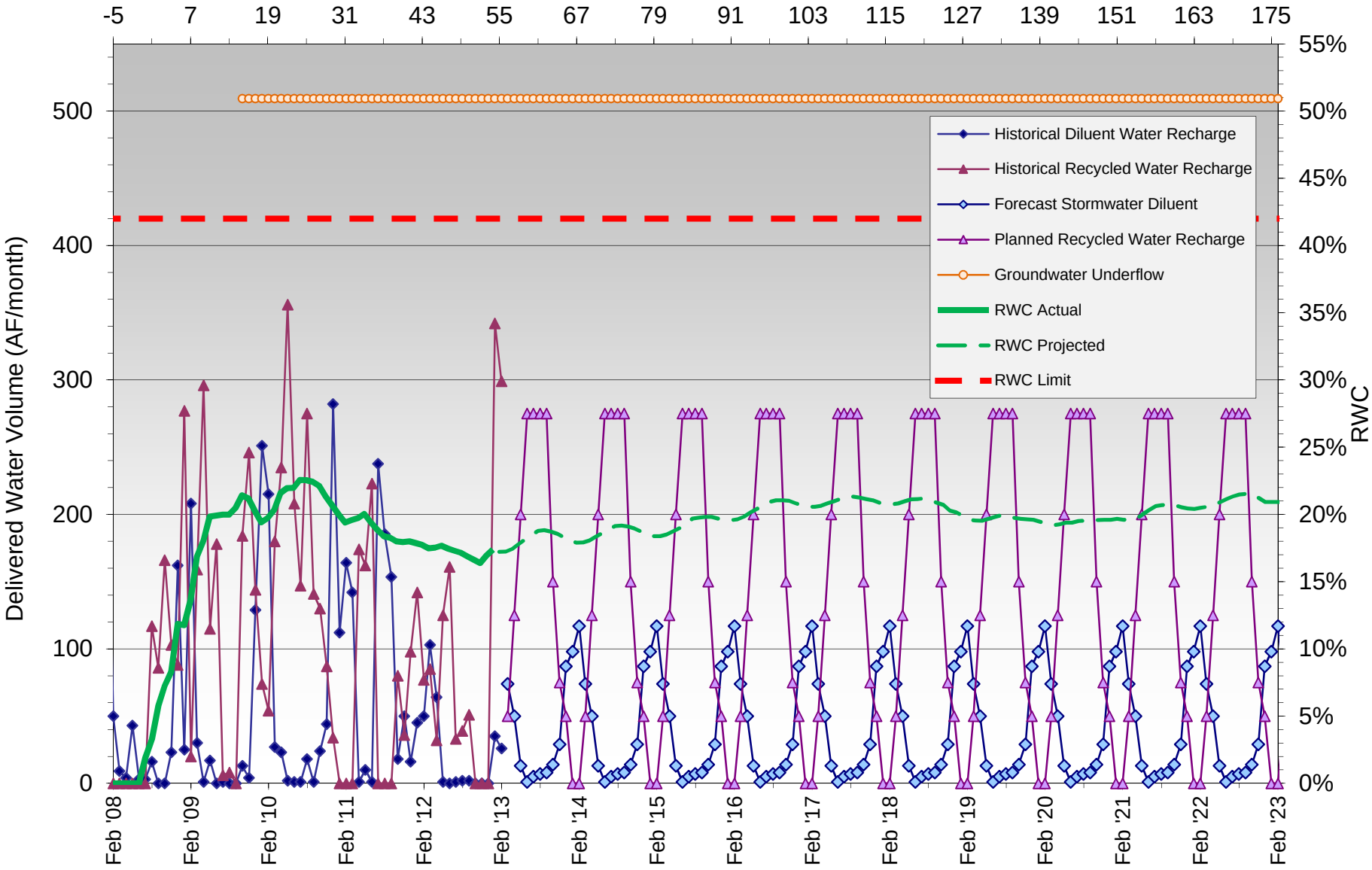
RWC = 120-month running total of recycled water / 120-month running total of all diluent and recycled water.

While an RWC calculation is provided starting on the first month of RW recharge, 120 months of data may not be available until 10 years of recharge operations.

RWC maximum = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC) determined from a recharge site's start-up period

RWC Management Plan - Brooks Street Basin

Months Since Initial Recycled Water Delivery



RWC Management Plan for Ely Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2007/2008	Jul '07	94	26	0		26	17,350	0	2,557	19,907	13%	
	Aug '07	95	29	0		29	17,368	0	2,557	19,925	13%	
	Sep '07	96	34	0		34	17,271	0	2,557	19,828	13%	
	Oct '07	97	34	0		34	17,197	0	2,557	19,754	13%	
	Nov '07	98	166	0		166	17,037	87	2,644	19,681	13%	
	Dec '07	99	257	0		257	16,964	53	2,697	19,661	14%	
	Jan '08	100	793	0		793	17,427	0	2,697	20,124	13%	
	Feb '08	101	233	0		233	17,330	0	2,697	20,027	13%	
	Mar '08	102	20	0		20	17,020	116	2,813	19,833	14%	
	Apr '08	103	30	0		30	16,753	116	2,929	19,682	15%	
	May '08	104	30	0		30	16,453	87	3,016	19,469	15%	
	Jun '08	105	18	0		18	16,310	0	3,016	19,326	16%	
2008/2009	Jul '08	106	17	0		17	16,176	67	3,083	19,259	16%	
	Aug '08	107	8	0		8	16,075	0	3,083	19,158	16%	
	Sep '08	108	5	0		5	15,952	0	3,083	19,035	16%	
	Oct '08	109	17	0		17	15,908	135	3,218	19,126	17%	
	Nov '08	110	114	0		114	15,937	88	3,306	19,243	17%	
	Dec '08	111	287	0		287	16,112	0	3,306	19,418	17%	
	Jan '09	112	38	0		38	15,938	39	3,345	19,283	17%	
	Feb '09	113	409	0		409	16,210	9	3,354	19,564	17%	
	Mar '09	114	48	0		48	16,095	0	3,354	19,449	17%	
	Apr '09	115	135	0		135	15,915	15	3,369	19,284	17%	
	May '09	116	68	0		68	15,885	11	3,380	19,265	18%	
	Jun '09	117	24	0		24	15,871	0	3,380	19,251	18%	
2009/2010	Jul '09	118	0	0		0	15,858	0	3,380	19,238	18%	
	Aug '09	119	21	0		21	15,804	0	3,380	19,184	18%	
	Sep '09	120	202	0		202	15,932	24	3,318	19,250	17%	
	Oct '09	121	187	0	286	473	16,342	102	3,255	19,597	17%	HISTORICAL
	Nov '09	122	282	0	286	568	16,904	120	3,259	20,163	16%	
	Dec '09	123	242	0	286	528	17,395	0	3,147	20,541	15%	
	Jan '10	124	319	0	286	605	17,881	0	3,119	21,000	15%	
	Feb '10	125	221	0	286	507	18,058	0	3,119	21,178	15%	
	Mar '10	126	104	0	286	390	18,129	0	3,119	21,248	15%	
	Apr '10	127	394	0	286	680	18,504	0	3,119	21,623	14%	
	May '10	128	98	0	286	384	18,757	0	3,119	21,876	14%	
	Jun '10	129	0	0	286	286	18,926	0	3,119	22,046	14%	
2010/2011	Jul '10	130	0	0	286	286	19,154	0	3,054	22,208	14%	
	Aug '10	131	0	0	286	286	19,434	0	2,909	22,342	13%	
	Sep '10	132	0	0	286	286	19,711	0	2,774	22,485	12%	
	Oct '10	133	29	0	286	315	19,876	114	2,762	22,638	12%	
	Nov '10	134	127	0	286	413	20,204	120	2,882	23,086	12%	
	Dec '10	135	572	0	286	858	20,946	12	2,894	23,840	12%	
	Jan '11	136	104	0	286	390	21,006	0	2,894	23,900	12%	
	Feb '11	137	323	0	286	609	21,285	43	2,937	24,223	12%	
	Mar '11	138	236	0	286	522	21,698	0	2,937	24,635	12%	
	Apr '11	139	3	0	286	289	21,712	107	3,044	24,757	12%	
	May '11	140	13	0	286	299	21,908	155	3,199	25,107	13%	
	Jun '11	141	8	83	286	377	22,272	206	3,376	25,648	13%	
2011/2012	Jul '11	142	18	285	286	589	22,847	176	3,552	26,399	13%	
	Aug '11	143	16	275	286	577	23,414	141	3,662	27,076	14%	
	Sep '11	144	19	325	286	630	24,018	6	3,490	27,508	13%	
	Oct '11	145	215	0	286	501	24,443	0	3,304	27,746	12%	
	Nov '11	146	211	0	286	497	24,611	0	3,194	27,806	11%	
	Dec '11	147	36	0	286	322	24,820	0	3,194	28,015	11%	
	Jan '12	148	89	0	286	375	25,018	64	3,258	28,276	12%	
	Feb '12	149	95	0	286	381	25,293	6	3,264	28,557	11%	
	Mar '12	150	247	0	286	533	25,607	0	3,264	28,872	11%	
	Apr '12	151	135	0	286	421	25,908	0	3,264	29,172	11%	
	May '12	152	3	0	286	289	26,111	0	3,264	29,375	11%	
	Jun '12	153	12	0	286	298	26,393	0	3,264	29,658	11%	
2012/2013	Jul '12	154	7	0	286	293	26,571	0	3,264	29,835	11%	
	Aug '12	155	7	0	286	293	26,728	0	3,264	29,992	11%	
	Sep '12	156	5	0	286	291	26,922	0	3,264	30,187	11%	
	Oct '12	157	5	0	286	291	27,034	0	3,264	30,298	11%	
	Nov '12	158	9	0	286	295	26,999	80	3,344	30,343	11%	
	Dec '12	159	335	0	286	621	27,290	67	3,411	30,702	11%	
	Jan '13	160	72	0	286	358	27,472	145	3,556	31,028	11%	
	Feb '13	161	37	0	286	323	27,465	225	3,781	31,246	12%	
	Mar '13	162	189		286	475	27,610	0	3,781	31,392	12%	PLAN
	Apr '13	163	205		286	491	27,771	0	3,781	31,553	12%	
	May '13	164	107		286	393	27,834	100	3,851	31,686	12%	
	Jun '13	165	40		286	326	28,049	150	3,847	31,896	12%	

RWC Management Plan for Ely Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2013/2014	Jul '13	166	40		286	326	28,270	120	3,967	32,237	12%	
	Aug '13	167	39		286	325	28,563	120	4,087	32,650	13%	
	Sep '13	168	67		286	353	28,905	120	4,207	33,112	13%	
	Oct '13	169	107		286	393	29,287	100	4,307	33,594	13%	
	Nov '13	170	169		286	455	29,638	60	4,367	34,005	13%	
	Dec '13	171	222		286	508	29,953	0	4,367	34,320	13%	
	Jan '14	172	232		286	518	30,438	0	4,367	34,805	13%	
	Feb '14	173	273		286	559	30,667	0	4,367	35,034	12%	
	Mar '14	174	189		286	475	30,968	0	4,367	35,335	12%	
	Apr '14	175	205		286	491	31,391	0	4,367	35,758	12%	
	May '14	176	107		286	393	31,767	100	4,462	36,229	12%	
	Jun '14	177	40		286	326	32,080	150	4,568	36,649	12%	
2014/2015	Jul '14	178	40		286	326	32,392	120	4,642	37,035	13%	
	Aug '14	179	39		286	325	32,623	120	4,714	37,338	13%	
	Sep '14	180	67		286	353	32,798	120	4,793	37,591	13%	
	Oct '14	181	107		286	393	32,861	100	4,870	37,731	13%	
	Nov '14	182	169		286	455	32,986	60	4,930	37,917	13%	
	Dec '14	183	222		286	508	33,165	0	4,930	38,095	13%	
	Jan '15	184	232		286	518	33,353	0	4,930	38,283	13%	
	Feb '15	185	273		286	559	33,582	0	4,930	38,512	13%	
	Mar '15	186	189		286	475	33,819	0	4,930	38,749	13%	
	Apr '15	187	205		286	491	34,135	0	4,930	39,065	13%	
	May '15	188	107		286	393	34,388	100	5,030	39,419	13%	
	Jun '15	189	40		286	326	34,712	150	5,180	39,892	13%	
2015/2016	Jul '15	190	40		286	326	35,038	120	5,300	40,338	13%	
	Aug '15	191	39		286	325	35,363	120	5,420	40,783	13%	
	Sep '15	192	67		286	353	35,716	120	5,540	41,257	13%	
	Oct '15	193	107		286	393	35,911	100	5,608	41,519	14%	
	Nov '15	194	169		286	455	36,351	60	5,668	42,020	13%	
	Dec '15	195	222		286	508	36,752	0	5,633	42,385	13%	
	Jan '16	196	232		286	518	37,080	0	5,613	42,693	13%	
	Feb '16	197	273		286	559	37,372	0	5,538	42,910	13%	
	Mar '16	198	189		286	475	37,509	0	5,538	43,047	13%	
	Apr '16	199	205		286	491	37,638	0	5,538	43,176	13%	
	May '16	200	107		286	393	37,996	100	5,638	43,634	13%	
	Jun '16	201	40		286	326	38,296	150	5,762	44,058	13%	
2016/2017	Jul '16	202	40		286	326	38,589	120	5,841	44,430	13%	
	Aug '16	203	39		286	325	38,904	120	5,955	44,859	13%	
	Sep '16	204	67		286	353	39,217	120	5,992	45,209	13%	
	Oct '16	205	107		286	393	39,556	100	6,061	45,617	13%	
	Nov '16	206	169		286	455	39,948	60	6,071	46,019	13%	
	Dec '16	207	222		286	508	40,371	0	6,029	46,400	13%	
	Jan '17	208	232		286	518	40,794	0	5,972	46,765	13%	
	Feb '17	209	273		286	559	41,203	0	5,949	47,152	13%	
	Mar '17	210	189		286	475	41,661	0	5,904	47,565	12%	
	Apr '17	211	205		286	491	42,094	0	5,863	47,957	12%	
	May '17	212	107		286	393	42,473	100	5,923	48,396	12%	
	Jun '17	213	40		286	326	42,781	150	6,066	48,847	12%	
2017/2018	Jul '17	214	40		286	326	43,081	120	6,186	49,267	13%	
	Aug '17	215	39		286	325	43,377	120	6,306	49,683	13%	
	Sep '17	216	67		286	353	43,696	120	6,426	50,122	13%	
	Oct '17	217	107		286	393	44,056	100	6,526	50,582	13%	
	Nov '17	218	169		286	455	44,345	60	6,499	50,844	13%	
	Dec '17	219	222		286	508	44,596	0	6,446	51,042	13%	
	Jan '18	220	232		286	518	44,321	0	6,446	50,767	13%	
	Feb '18	221	273		286	559	44,647	0	6,446	51,093	13%	
	Mar '18	222	189		286	475	45,102	0	6,330	51,432	12%	
	Apr '18	223	205		286	491	45,564	0	6,214	51,778	12%	
	May '18	224	107		286	393	45,927	100	6,227	52,154	12%	
	Jun '18	225	40		286	326	46,235	150	6,377	52,612	12%	
2018/2019	Jul '18	226	40		286	326	46,544	120	6,430	52,974	12%	
	Aug '18	227	39		286	325	46,861	120	6,550	53,411	12%	
	Sep '18	228	67		286	353	47,209	120	6,670	53,879	12%	
	Oct '18	229	107		286	393	47,586	100	6,635	54,221	12%	
	Nov '18	230	169		286	455	47,927	60	6,607	54,534	12%	
	Dec '18	231	222		286	508	48,148	0	6,607	54,755	12%	
	Jan '19	232	232		286	518	48,628	0	6,568	55,196	12%	
	Feb '19	233	273		286	559	48,778	0	6,559	55,337	12%	
	Mar '19	234	189		286	475	49,206	0	6,559	55,765	12%	
	Apr '19	235	205		286	491	49,562	0	6,544	56,106	12%	
	May '19	236	107		286	393	49,887	100	6,633	56,520	12%	
	Jun '19	237	40		286	326	50,189	150	6,783	56,972	12%	

PLANNED

PLANNED

RWC Management Plan for Ely Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2019/2020	Jul '19	238	40		286	326	50,515	120	6,903	57,418	12%	
	Aug '19	239	39		286	325	50,819	120	7,023	57,842	12%	
	Sep '19	240	67		286	353	50,971	120	7,119	58,090	12%	
	Oct '19	241	107		286	393	50,891	100	7,117	58,008	12%	
	Nov '19	242	169		286	455	50,778	60	7,057	57,835	12%	
	Dec '19	243	222		286	508	50,758	0	7,057	57,815	12%	
	Jan '20	244	232		286	518	50,671	0	7,057	57,728	12%	
	Feb '20	245	273		286	559	50,723	0	7,057	57,780	12%	
	Mar '20	246	189		286	475	50,808	0	7,057	57,865	12%	
	Apr '20	247	205		286	491	50,619	0	7,057	57,676	12%	
	May '20	248	107		286	393	50,628	100	7,157	57,785	12%	
	Jun '20	249	40		286	326	50,668	150	7,307	57,975	13%	
2020/2021	Jul '20	250	40		286	326	50,708	120	7,427	58,135	13%	
	Aug '20	251	39		286	325	50,747	120	7,547	58,294	13%	
	Sep '20	252	67		286	353	50,814	120	7,667	58,481	13%	
	Oct '20	253	107		286	393	50,892	100	7,653	58,545	13%	
	Nov '20	254	169		286	455	50,934	60	7,593	58,527	13%	
	Dec '20	255	222		286	508	50,584	0	7,581	58,165	13%	
	Jan '21	256	232		286	518	50,712	0	7,581	58,293	13%	
	Feb '21	257	273		286	559	50,662	0	7,538	58,200	13%	
	Mar '21	258	189		286	475	50,615	0	7,538	58,153	13%	
	Apr '21	259	205		286	491	50,817	0	7,431	58,248	13%	
	May '21	260	107		286	393	50,911	100	7,376	58,287	13%	
	Jun '21	261	40		286	326	50,860	150	7,320	58,180	13%	
2021/2022	Jul '21	262	40		286	326	50,597	120	7,264	57,861	13%	
	Aug '21	263	39		286	325	50,345	120	7,243	57,588	13%	
	Sep '21	264	67		286	353	50,068	120	7,357	57,425	13%	
	Oct '21	265	107		286	393	49,960	100	7,457	57,417	13%	
	Nov '21	266	169		286	455	49,918	60	7,517	57,435	13%	
	Dec '21	267	222		286	508	50,104	0	7,517	57,621	13%	
	Jan '22	268	232		286	518	50,247	0	7,453	57,700	13%	
	Feb '22	269	273		286	559	50,425	0	7,447	57,872	13%	
	Mar '22	270	189		286	475	50,367	0	7,447	57,814	13%	
	Apr '22	271	205		286	491	50,437	0	7,447	57,884	13%	
	May '22	272	107		286	393	50,541	100	7,547	58,088	13%	
	Jun '22	273	40		286	326	50,569	150	7,697	58,266	13%	
2022/2023	Jul '22	274	40		286	326	50,602	120	7,817	58,419	13%	
	Aug '22	275	39		286	325	50,634	120	7,937	58,571	14%	
	Sep '22	276	67		286	353	50,696	120	8,057	58,753	14%	
	Oct '22	277	107		286	393	50,798	100	8,157	58,955	14%	
	Nov '22	278	169		286	455	50,958	60	8,137	59,095	14%	
	Dec '22	279	222		286	508	50,845	0	8,070	58,915	14%	
	Jan '23	280	232		286	518	51,005	0	7,925	58,930	13%	
	Feb '23	281	273		286	559	51,241	0	7,700	58,941	13%	
	Mar '23	282	189		286	475	51,241	0	7,700	58,941	13%	
	Apr '23	283	205		286	491	51,241	0	7,700	58,941	13%	
	May '23	284	107		286	393	51,241	100	7,700	58,941	13%	
	Jun '23	285	40		286	326	51,241	150	7,700	58,941	13%	

PLANNED

Notes:

DW = Diluent Water; Total DW is the sum of Stormwater & Local Runoff (SW), Imported Water from the State Water Project (MWD), and groundwater underflow.

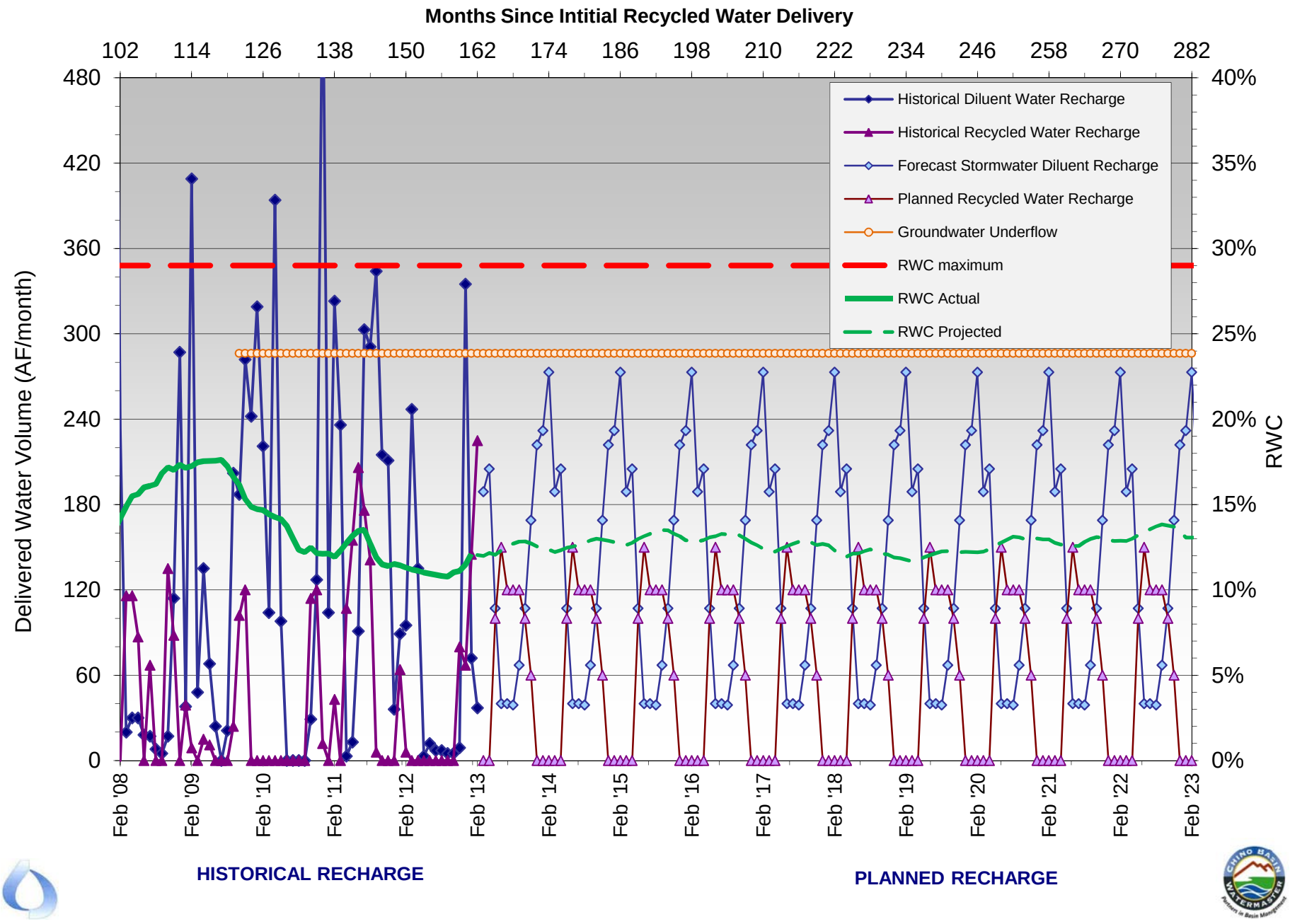
RW = Recycled Water

RWC = 120-month running total of recycled water / 120-month running total of all diluent and recycled water.

While an RWC calculation is provided starting on the first month of RW recharge, 120 months of data may not be available until 10 years of recharge operations.

RWC maximum = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC) determined from a recharge site's start-up period

RWC Management Plan for Ely Basin



RWC Management Plan for Hickory Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2007/08	Jul '07	22	93.	0.		93.	3645	141.	1305.3	4951	26%	
	Aug '07	23	93.	0.		93.	3738	78.	1383.3	5122	27%	
	Sep '07	24	92.	0.		92.	3830	15.	1398.3	5229	27%	
	Oct '07	25	73.	0.		73.	3903	22.8	1421.1	5324	27%	
	Nov '07	26	102.	0.		102.	4005	98.	1519.1	5524	27%	
	Dec '07	27	102.	0.		102.	4107	0.	1519.1	5626	27%	
	Jan '08	28	126.	0.		126.	4233	0.	1519.1	5752	26%	
	Feb '08	29	97.	0.		97.	4330	39.	1558.1	5888	26%	
	Mar '08	30	44.	0.		44.	4374	80.	1638.1	6012	27%	
	Apr '08	31	64.	0.		64.	4438	7.	1645.1	6083	27%	
	May '08	32	39.	0.		39.	4477	86.	1731.1	6208	28%	
	Jun '08	33	24.	0.		24.	4501	0.	1731.1	6232	28%	
2008/09	Jul '08	34	18.	0.		18.	4519	0.	1731.1	6250	28%	
	Aug '08	35	6.	0.		6.	4525	0.	1731.1	6256	28%	
	Sep '08	36	3.	0.		3.	4528	0.	1731.1	6259	28%	
	Oct '08	37	3.	0.		3.	4531	0.	1731.1	6262	28%	
	Nov '08	38	3.	0.		3.	4534	0.	1731.1	6265	28%	
	Dec '08	39	35.	0.		35.	4569	0.	1731.1	6300	27%	
	Jan '09	40	0.	0.		0.	4569	0.	1731.1	6300	27%	
	Feb '09	41	63.	0.		63.	4632	23.	1754.1	6386	27%	
	Mar '09	42	31.	0.		31.	4663	23.	1777.1	6440	28%	
	Apr '09	43	8.	0.		8.	4671	0.	1777.1	6448	28%	
	May '09	44	18.	0.		18.	4689	0.	1777.1	6466	27%	
	Jun '09	45	3.	0.		3.	4692	0.	1777.1	6469	27%	
2009/10	Jul '09	46	9.	0.		9.	4701	0.	1777.1	6478	27%	
	Aug '09	47	4.	0.		4.	4705	0.	1777.1	6482	27%	
	Sep '09	48	3.	0.		3.	4708	34.	1811.1	6519	28%	
	Oct '09	49	24.	7.	266.6	297.6	5006	189.	2000.1	7006	29%	
	Nov '09	50	26.	0.	266.6	292.6	5298	243.	2243.1	7542	30%	
	Dec '09	51	158.	0.	266.6	424.6	5723	93.	2336.1	8059	29%	
	Jan '10	52	214.	0.	266.6	480.6	6204	19.	2355.1	8559	28%	
	Feb '10	53	200.	0.	266.6	466.6	6670	0.	2355.1	9025	26%	HISTORICAL
	Mar '10	54	16.	0.	266.6	282.6	6953	61.	2416.1	9369	26%	
	Apr '10	55	46.	0.	266.6	312.6	7265	56.	2472.1	9738	25%	
	May '10	56	0.	0.	266.6	266.6	7532	111.	2583.1	10115	26%	
	Jun '10	57	0.	0.	266.6	266.6	7799	50.	2633.1	10432	25%	
2010/11	Jul '10	58	0.	0.	266.6	266.6	8065	21.	2654.1	10719	25%	
	Aug '10	59	0.	0.	266.6	266.6	8332	28.	2682.1	11014	24%	
	Sep '10	60	12.	0.	266.6	278.6	8611	285.	2967.1	11578	26%	
	Oct '10	61	13.	0.	266.6	279.6	8888	94.	3061.1	11950	26%	
	Nov '10	62	36.	0.	266.6	302.6	9191	51.	3112.1	12303	25%	
	Dec '10	63	149.	0.	266.6	415.6	9607	0.	3112.1	12719	24%	
	Jan '11	64	12.	0.	266.6	278.6	9875	50.	3162.1	13037	24%	
	Feb '11	65	79.	0.	266.6	345.6	10208	37.	3199.1	13407	24%	
	Mar '11	66	70.	0.	266.6	336.6	10538	0.	3199.1	13737	23%	
	Apr '11	67	0.	0.	266.6	266.6	10799	52.	3251.1	14050	23%	
	May '11	68	0.	2.	266.6	268.6	11067	84.	3335.1	14403	23%	
	Jun '11	69	0.	8.	266.6	274.6	11342	74.	3409.1	14751	23%	
2011/12	Jul '11	70	0.	0.	266.6	266.6	11607	14.	3423.1	15030	23%	
	Aug '11	71	4.	68.1	266.6	338.7	11946	0.	3423.1	15369	22%	
	Sep '11	72	32.	447.2	266.6	745.8	12692	20.	3443.1	16135	21%	
	Oct '11	73	17.	0.	266.6	283.6	12975	35.	3478.1	16453	21%	
	Nov '11	74	11.	0.	266.6	277.6	13192	202.	3680.1	16872	22%	
	Dec '11	75	1.	0.	266.6	267.6	13457	226.	3906.1	17364	22%	
	Jan '12	76	49.	0.	266.6	315.6	13738	16.	3922.1	17660	22%	
	Feb '12	77	59.	0.	266.6	325.6	14063	83.	4005.1	18068	22%	
	Mar '12	78	53.	0.	266.6	319.6	14379	79.	4084.1	18463	22%	
	Apr '12	79	30.	0.	266.6	296.6	14674	66.	4150.1	18824	22%	
	May '12	80	0.	0.	266.6	266.6	14941	40.	4190.1	19131	22%	
	Jun '12	81	2.	0.	266.6	268.6	15209	2.	4192.1	19402	22%	
2012/13	Jul '12	82	22.	0.	266.6	288.6	15498	57.	4249.1	19747	22%	
	Aug '12	83	50.	0.	266.6	316.6	15815	44.	4293.1	20108	21%	
	Sep '12	84	29.	0.	266.6	295.6	16110	0.	4293.1	20403	21%	
	Oct '12	85	51.	0.	266.6	317.6	16428	0.	4293.1	20721	21%	
	Nov '12	86	13.	0.	266.6	279.6	16626	177.	4470.1	21096	21%	
	Dec '12	87	6.	0.	266.6	272.6	16777	144.	4614.1	21391	22%	
	Jan '13	88	0.	0.	266.6	266.6	17043	115.	4729.1	21773	22%	
	Feb '13	89	8.	0.	266.6	274.6	17172	3.	4732.1	21904	22%	
	Mar '13	90	46.		266.6	312.6	17379	50.	4782.1	22161	22%	PLAN
	Apr '13	91	33.		266.6	299.6	17589	100.	4882.1	22472	22%	
	May '13	92	22.		266.6	288.6	17871	150.	5032.1	22903	22%	
	Jun '13	93	21.		266.6	287.6	18159	150.	5182.1	23341	22%	

RWC Management Plan for Hickory Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2013/14	Jul '13	94	27.		266.6	293.6	18452	150.	5332.1	23784	22%	
	Aug '13	95	23.		266.6	289.6	18742	150.	5482.1	24224	23%	
	Sep '13	96	29.		266.6	295.6	19037	150.	5632.1	24670	23%	
	Oct '13	97	30.		266.6	296.6	19334	100.	5732.1	25066	23%	
	Nov '13	98	30.		266.6	296.6	19626	50.	5782.1	25408	23%	
	Dec '13	99	69.		266.6	335.6	19926	0.	5782.1	25709	22%	
	Jan '14	100	58.		266.6	324.6	20251	0.	5782.1	26033	22%	
	Feb '14	101	98.		266.6	364.6	20486	0.	5782.1	26269	22%	
	Mar '14	102	46.		266.6	312.6	20744	50.	5832.1	26576	22%	
	Apr '14	103	33.		266.6	299.6	21044	100.	5932.1	26976	22%	
	May '14	104	22.		266.6	288.6	21332	150.	6082.1	27414	22%	
	Jun '14	105	21.		266.6	287.6	21620	150.	6232.1	27852	22%	
2014/15	Jul '14	106	27.		266.6	293.6	21914	150.	6382.1	28296	23%	
	Aug '14	107	23.		266.6	289.6	22203	150.	6532.1	28735	23%	
	Sep '14	108	29.		266.6	295.6	22499	150.	6682.1	29181	23%	
	Oct '14	109	30.		266.6	296.6	22678	100.	6782.1	29460	23%	
	Nov '14	110	30.		266.6	296.6	22972	50.	6832.1	29805	23%	
	Dec '14	111	69.		266.6	335.6	23269	0.	6832.1	30101	23%	
	Jan '15	112	58.		266.6	324.6	23444	0.	6832.1	30276	23%	
	Feb '15	113	98.		266.6	364.6	23681	0.	6832.1	30513	22%	
	Mar '15	114	46.		266.6	312.6	23966	50.	6882.1	30849	22%	
	Apr '15	115	33.		266.6	299.6	24262	100.	6982.1	31244	22%	
	May '15	116	22.		266.6	288.6	24499	150.	7132.1	31631	23%	
	Jun '15	117	21.		266.6	287.6	24567	150.	7282.1	31850	23%	
2015/16	Jul '15	118	27.		266.6	293.6	24596	150.	7432.1	32028	23%	
	Aug '15	119	23.		266.6	289.6	24398	150.	7582.1	31980	24%	
	Sep '15	120	29.		266.6	295.6	24563	150.	7593.3	32157	24%	
	Oct '15	121	30.		266.6	296.6	24838	100.	7600.6	32439	23%	
	Nov '15	122	30.		266.6	296.6	25135	50.	7558.3	32693	23%	
	Dec '15	123	69.		266.6	335.6	25463	0.	7526.7	32989	23%	
	Jan '16	124	58.		266.6	324.6	25775	0.	7443.8	33218	22%	
	Feb '16	125	98.		266.6	364.6	26105	0.	7364.6	33469	22%	
	Mar '16	126	46.		266.6	312.6	26391	50.	7414.6	33805	22%	
	Apr '16	127	33.		266.6	299.6	26647	100.	7514.6	34161	22%	
	May '16	128	22.		266.6	288.6	26852	150.	7664.6	34517	22%	
	Jun '16	129	21.		266.6	287.6	27096	150.	7814.6	34910	22%	
2016/2017	Jul '16	130	27.		266.6	293.6	27260	150.	7781.9	35042	22%	
	Aug '16	131	23.		266.6	289.6	27503	150.	7751.9	35255	22%	
	Sep '16	132	29.		266.6	295.6	27709	150.	7901.9	35611	22%	
	Oct '16	133	30.		266.6	296.6	27963	100.	7858.2	35821	22%	
	Nov '16	134	30.		266.6	296.6	28201	50.	7872.8	36074	22%	
	Dec '16	135	69.		266.6	335.6	28452	0.	7872.8	36325	22%	
	Jan '17	136	58.		266.6	324.6	28760	0.	7872.8	36633	21%	
	Feb '17	137	98.		266.6	364.6	29085	0.	7830.8	36916	21%	
	Mar '17	138	46.		266.6	312.6	29363	50.	7880.8	37244	21%	
	Apr '17	139	33.		266.6	299.6	29612	100.	7917.8	37530	21%	
	May '17	140	22.		266.6	288.6	29843	150.	8067.8	37911	21%	
	Jun '17	141	21.		266.6	287.6	30041	150.	8217.8	38258	21%	
2017/2018	Jul '17	142	27.		266.6	293.6	30241	150.	8226.8	38468	21%	
	Aug '17	143	23.		266.6	289.6	30438	150.	8298.8	38737	21%	
	Sep '17	144	29.		266.6	295.6	30641	150.	8433.8	39075	22%	
	Oct '17	145	30.		266.6	296.6	30865	100.	8511.	39376	22%	
	Nov '17	146	30.		266.6	296.6	31060	50.	8463.	39523	21%	
	Dec '17	147	69.		266.6	335.6	31293	0.	8463.	39756	21%	
	Jan '18	148	58.		266.6	324.6	31492	0.	8463.	39955	21%	
	Feb '18	149	98.		266.6	364.6	31759	0.	8424.	40183	21%	
	Mar '18	150	46.		266.6	312.6	32028	50.	8394.	40422	21%	
	Apr '18	151	33.		266.6	299.6	32264	100.	8487.	40751	21%	
	May '18	152	22.		266.6	288.6	32513	150.	8551.	41064	21%	
	Jun '18	153	21.		266.6	287.6	32777	150.	8701.	41478	21%	
2018/2019	Jul '18	154	27.		266.6	293.6	33052	150.	8851.	41903	21%	
	Aug '18	155	23.		266.6	289.6	33336	150.	9001.	42337	21%	
	Sep '18	156	29.		266.6	295.6	33629	150.	9151.	42780	21%	
	Oct '18	157	30.		266.6	296.6	33922	100.	9251.	43173	21%	
	Nov '18	158	30.		266.6	296.6	34216	50.	9301.	43517	21%	
	Dec '18	159	69.		266.6	335.6	34516	0.	9301.	43817	21%	
	Jan '19	160	58.		266.6	324.6	34841	0.	9301.	44142	21%	
	Feb '19	161	98.		266.6	364.6	35143	0.	9278.	44421	21%	
	Mar '19	162	46.		266.6	312.6	35424	50.	9305.	44729	21%	
	Apr '19	163	33.		266.6	299.6	35716	100.	9405.	45121	21%	
	May '19	164	22.		266.6	288.6	35986	150.	9555.	45541	21%	
	Jun '19	165	21.		266.6	287.6	36271	150.	9705.	45976	21%	

PLANNED

PLANNED

RWC Management Plan for Hickory Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2019/2020	Jul '19	166	27.		266.6	293.6	36556	150.	9855.	46411	21%	
	Aug '19	167	23.		266.6	289.6	36841	150.	10005.	46846	21%	
	Sep '19	168	29.		266.6	295.6	37134	150.	10121.	47255	21%	
	Oct '19	169	30.		266.6	296.6	37133	100.	10032.	47165	21%	
	Nov '19	170	30.		266.6	296.6	37137	50.	9839.	46976	21%	
	Dec '19	171	69.		266.6	335.6	37048	0.	9746.	46794	21%	
	Jan '20	172	58.		266.6	324.6	36892	0.	9727.	46619	21%	
	Feb '20	173	98.		266.6	364.6	36790	0.	9727.	46517	21%	
	Mar '20	174	46.		266.6	312.6	36820	50.	9716.	46536	21%	
	Apr '20	175	33.		266.6	299.6	36807	100.	9760.	46567	21%	
	May '20	176	22.		266.6	288.6	36829	150.	9799.	46628	21%	
	Jun '20	177	21.		266.6	287.6	36850	150.	9899.	46749	21%	
2020/2021	Jul '20	178	27.		266.6	293.6	36877	150.	10028.	46905	21%	
	Aug '20	179	23.		266.6	289.6	36900	150.	10150.	47050	22%	
	Sep '20	180	29.		266.6	295.6	36917	150.	10015.	46932	21%	
	Oct '20	181	30.		266.6	296.6	36934	100.	10021.	46955	21%	
	Nov '20	182	30.		266.6	296.6	36928	50.	10020.	46948	21%	
	Dec '20	183	69.		266.6	335.6	36848	0.	10020.	46868	21%	
	Jan '21	184	58.		266.6	324.6	36894	0.	9970.	46864	21%	PLANNED
	Feb '21	185	98.		266.6	364.6	36913	0.	9933.	46846	21%	
	Mar '21	186	46.		266.6	312.6	36889	50.	9983.	46872	21%	
	Apr '21	187	33.		266.6	299.6	36922	100.	10031.	46953	21%	
	May '21	188	22.		266.6	288.6	36942	150.	10097.	47039	21%	
	Jun '21	189	21.		266.6	287.6	36955	150.	10173.	47128	22%	
2021/2022	Jul '21	190	27.		266.6	293.6	36982	150.	10309.	47291	22%	
	Aug '21	191	23.		266.6	289.6	36933	150.	10459.	47392	22%	
	Sep '21	192	29.		266.6	295.6	36483	150.	10589.	47072	22%	
	Oct '21	193	30.		266.6	296.6	36496	100.	10654.	47150	23%	
	Nov '21	194	30.		266.6	296.6	36515	50.	10502.	47017	22%	
	Dec '21	195	69.		266.6	335.6	36583	0.	10276.	46859	22%	
	Jan '22	196	58.		266.6	324.6	36592	0.	10260.	46852	22%	
	Feb '22	197	98.		266.6	364.6	36631	0.	10177.	46808	22%	
	Mar '22	198	46.		266.6	312.6	36624	50.	10148.	46772	22%	
	Apr '22	199	33.		266.6	299.6	36627	100.	10182.	46809	22%	
	May '22	200	22.		266.6	288.6	36649	150.	10292.	46941	22%	
	Jun '22	201	21.		266.6	287.6	36668	150.	10440.	47108	22%	
2022/2023	Jul '22	202	27.		266.6	293.6	36673	150.	10533.	47206	22%	
	Aug '22	203	23.		266.6	289.6	36646	150.	10639.	47285	22%	
	Sep '22	204	29.		266.6	295.6	36646	150.	10789.	47435	23%	
	Oct '22	205	30.		266.6	296.6	36625	100.	10889.	47514	23%	
	Nov '22	206	30.		266.6	296.6	36642	50.	10762.	47404	23%	
	Dec '22	207	69.		266.6	335.6	36705	0.	10618.	47323	22%	
	Jan '23	208	58.		266.6	324.6	36763	0.	10503.	47266	22%	
	Feb '23	209	98.		266.6	364.6	36853	0.	10500.	47353	22%	
	Mar '23	210	46.		266.6	312.6	36853	50.	10500.	47353	22%	
	Apr '23	211	33.		266.6	299.6	36853	100.	10500.	47353	22%	
	May '23	212	22.		266.6	288.6	36853	150.	10500.	47353	22%	
	Jun '23	213	21.		266.6	287.6	36853	150.	10500.	47353	22%	

Notes:

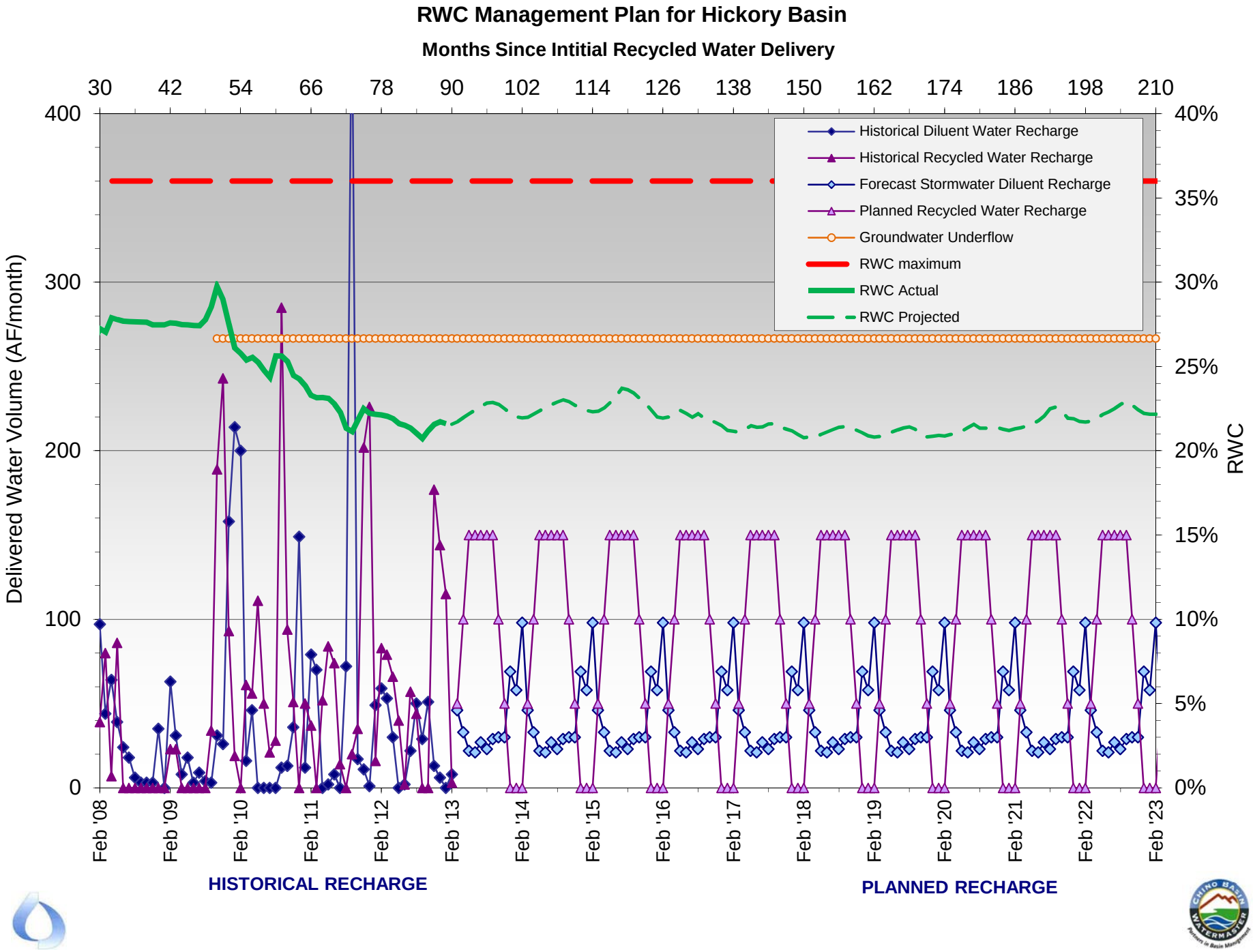
DW = Diluent Water; Total DW is the sum of Stormwater & Local Runoff (SW), Imported Water from the State Water Project (MWD), and groundwater underflow.

RW = Recycled Water

RWC = 120-month running total of recycled water / 120-month running total of all diluent and recycled water.

While an RWC calculation is provided starting on the first month of RW recharge, 120 months of data may not be available until 10 years of recharge operations.

RWC maximum = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC) determined from a recharge site's start-up period


RWC Management Plan for Hickory Basin
Months Since Intitial Recycled Water Delivery
30
42
54
66
78
90
102
114
126
138
150
162
174
186
198
210
Delivered Water Volume (AF/month)
RWC
400
300
200
100
0
40%
35%
30%
25%
20%
15%
10%
5%
0%
Historical Diluent Water Recharge
Historical Recycled Water Recharge
Forecast Stormwater Diluent Recharge
Planned Recycled Water Recharge
Groundwater Underflow
RWC maximum
RWC Actual
RWC Projected
Feb '08
Feb '09
Feb '10
Feb '11
Feb '12
Feb '13
Feb '14
Feb '15
Feb '16
Feb '17
Feb '18
Feb '19
Feb '20
Feb '21
Feb '22
Feb '23
HISTORICAL RECHARGE
PLANNED RECHARGE

RWC Management Plan for RP3 Basins

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2007/08	Jul '07	-23	0.	0.		0.	1,003.7	0.	0.0	1,003.7	0%	
	Aug '07	-22	3.	0.		3.	1,006.7	0.	0.0	1,006.7	0%	HISTORICAL
	Sep '07	-21	3.	0.		3.	1,009.7	0.	0.0	1,009.7	0%	
	Oct '07	-20	9.	0.		9.	1,018.7	0.	0.0	1,018.7	0%	
	Nov '07	-19	47.	0.		47.	1,065.7	0.	0.0	1,065.7	0%	
	Dec '07	-18	108.	0.		108.	1,173.7	0.	0.0	1,173.7	0%	
	Jan '08	-17	165.	0.		165.	1,338.7	0.	0.0	1,338.7	0%	
	Feb '08	-16	130.	0.		130.	1,468.7	0.	0.0	1,468.7	0%	
	Mar '08	-15	5.	0.		5.	1,473.7	0.	0.0	1,473.7	0%	
	Apr '08	-14	3.	0.		3.	1,476.7	0.	0.0	1,476.7	0%	
	May '08	-13	34.	0.		34.	1,510.7	0.	0.0	1,510.7	0%	
	Jun '08	-12	4.	0.		4.	1,514.7	0.	0.0	1,514.7	0%	
2008/09	Jul '08	-11	0.	0.		0.	1,514.7	0.	0.0	1,514.7	0%	
	Aug '08	-10	16.	0.		16.	1,530.7	0.	0.0	1,530.7	0%	
	Sep '08	-9	16.	0.		16.	1,546.7	0.	0.0	1,546.7	0%	
	Oct '08	-8	13.	0.		13.	1,559.7	0.	0.0	1,559.7	0%	
	Nov '08	-7	27.	0.		27.	1,586.7	0.	0.0	1,586.7	0%	
	Dec '08	-6	156.	0.		156.	1,742.7	0.	0.0	1,742.7	0%	
	Jan '09	-5	12.	0.		12.	1,754.7	0.	0.0	1,754.7	0%	
	Feb '09	-4	273.	0.		273.	2,027.7	0.	0.0	2,027.7	0%	
	Mar '09	-3	47.	0.		47.	2,074.7	0.	0.0	2,074.7	0%	
	Apr '09	-2	18.	0.		18.	2,092.7	0.	0.0	2,092.7	0%	
	May '09	-1	6.	0.		6.	2,098.7	0.	0.0	2,098.7	0%	
	Jun '09	0	0.	0.		0.	2,098.7	106.	106.0	2,204.7	5%	
2009/10	Jul '09	1	22.	0.		22.	2,120.7	84.	190.0	2,310.7	8%	
	Aug '09	2	30.	0.		30.	2,150.7	148.	338.0	2,488.7	14%	START-UP
	Sep '09	3	36.	0.		36.	2,186.7	220.	558.0	2,744.7	20%	
	Oct '09	4	122.	1.	903.8	1026.8	3,213.4	203.	761.0	3,974.4	19%	
	Nov '09	5	100.	0.	903.8	1003.8	4,217.2	287.	1,048.0	5,265.2	20%	
	Dec '09	6	373.	0.	903.8	1276.8	5,493.9	103.	1,151.0	6,644.9	17%	
	Jan '10	7	526.	0.	903.8	1429.8	6,923.7	76.	1,227.0	8,150.7	15%	
	Feb '10	8	370.	0.	903.8	1273.8	8,197.4	113.	1,340.0	9,537.4	14%	
	Mar '10	9	104.	0.	903.8	1007.8	9,205.2	213.	1,553.0	10,758.2	14%	
	Apr '10	10	128.	0.	903.8	1031.8	10,236.9	71.	1,624.0	11,860.9	14%	
	May '10	11	49.	0.	903.8	952.8	11,189.7	272.	1,896.0	13,085.7	14%	
	Jun '10	12	42.	0.	903.8	945.8	12,135.5	261.	2,157.0	14,292.5	15%	
2010/11	Jul '10	13	7.	0.	903.8	910.8	13,046.2	229.	2,386.0	15,432.2	15%	
	Aug '10	14	6.	0.	903.8	909.8	13,956.0	181.	2,567.0	16,523.0	16%	
	Sep '10	15	25.	0.	903.8	928.8	14,884.7	48.	2,615.0	17,499.7	15%	
	Oct '10	16	71.	0.	903.8	974.8	15,859.5	23.	2,638.0	18,497.5	14%	
	Nov '10	17	146.	0.	903.8	1049.8	16,909.2	193.	2,831.0	19,740.2	14%	
	Dec '10	18	744.	0.	903.8	1647.8	18,557.0	122.	2,953.0	21,510.0	14%	
	Jan '11	19	235.	0.	903.8	1138.8	19,695.7	103.	3,056.0	22,751.7	13%	
	Feb '11	20	315.	0.	903.8	1218.8	20,914.5	177.	3,233.0	24,147.5	13%	
	Mar '11	21	414.	0.	903.8	1317.8	22,232.3	126.	3,359.0	25,591.3	13%	
	Apr '11	22	142.	0.	903.8	1045.8	23,278.0	237.	3,596.0	26,874.0	13%	
	May '11	23	62.	298.9	903.8	1264.7	24,542.7	176.	3,772.0	28,314.7	13%	
	Jun '11	24	34.	583.2	903.8	1521.	26,063.6	184.	3,956.0	30,019.6	13%	
2011/12	Jul '11	25	80.	787.4	903.8	1771.2	27,834.8	253.	4,209.0	32,043.8	13%	
	Aug '11	26	31.	286.6	903.8	1221.4	29,056.1	15.	4,224.0	33,280.1	13%	HISTORICAL
	Sep '11	27	47.	567.2	903.8	1518.	30,574.1	30.	4,254.0	34,828.1	12%	
	Oct '11	28	138.	82.8	903.8	1124.6	31,698.6	182.	4,436.0	36,134.6	12%	
	Nov '11	29	122.	0.	903.8	1025.8	32,724.4	97.	4,533.0	37,257.4	12%	
	Dec '11	30	78.	0.	903.8	981.8	33,706.1	164.	4,697.0	38,403.1	12%	
	Jan '12	31	104.	0.	903.8	1007.8	34,713.9	91.	4,788.0	39,501.9	12%	
	Feb '12	32	176.	0.	903.8	1079.8	35,793.7	160.	4,948.0	40,741.7	12%	
	Mar '12	33	222.	0.	903.8	1125.8	36,919.4	94.	5,042.0	41,961.4	12%	
	Apr '12	34	220.	0.	903.8	1123.8	38,043.2	147.	5,189.0	43,232.2	12%	
	May '12	35	61.	0.	903.8	964.8	39,007.9	375.	5,564.0	44,571.9	12%	
	Jun '12	36	60.	0.	903.8	963.8	39,971.7	181.	5,745.0	45,716.7	13%	
2012/13	Jul '12	37	50.	0.	903.8	953.8	40,925.4	12.	5,757.0	46,682.4	12%	
	Aug '12	38	12.	0.	903.8	915.8	41,841.2	0.	5,757.0	47,598.2	12%	
	Sep '12	39	4.	0.	903.8	907.8	42,748.9	0.	5,757.0	48,505.9	12%	
	Oct '12	40	18.	0.	903.8	921.8	43,670.7	0.	5,757.0	49,427.7	12%	
	Nov '12	41	101.	0.	903.8	1004.8	44,675.5	154.	5,911.0	50,586.5	12%	
	Dec '12	42	361.	0.	903.8	1264.8	45,940.2	220.	6,131.0	52,071.2	12%	
	Jan '13	43	147.	0.	903.8	1050.8	46,991.0	353.	6,484.0	53,475.0	12%	
	Feb '13	44	113.	0.	903.8	1016.8	48,007.7	297.	6,781.0	54,788.7	12%	
	Mar '13	45	137.		903.8	1040.8	49,048.5	200.	6,981.0	56,029.5	12%	
	Apr '13	46	92.		903.8	995.8	50,044.2	200.	7,181.0	57,225.2	13%	PLAN
	May '13	47	36.		903.8	939.8	50,984.0	250.	7,431.0	58,415.0	13%	
	Jun '13	48	24.		903.8	927.8	51,911.7	250.	7,681.0	59,592.7	13%	

RWC Management Plan for RP3 Basins

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2013/14	Jul '13	49	26.		903.8	929.8	52,841.5	150.	7,831.0	60,672.5	13%	
	Aug '13	50	21.		903.8	924.8	53,766.2	100.	7,931.0	61,697.2	13%	
	Sep '13	51	28.		903.8	931.8	54,698.0	100.	8,031.0	62,729.0	13%	
	Oct '13	52	60.		903.8	963.8	55,661.8	100.	8,131.0	63,792.8	13%	
	Nov '13	53	80.		903.8	983.8	56,645.5	200.	8,331.0	64,976.5	13%	
	Dec '13	54	238.		903.8	1141.8	57,787.3	200.	8,531.0	66,318.3	13%	
	Jan '14	55	155.		903.8	1058.8	58,846.0	200.	8,731.0	67,577.0	13%	
	Feb '14	56	183.		903.8	1086.8	59,932.8	200.	8,931.0	68,863.8	13%	
	Mar '14	57	137.		903.8	1040.8	60,973.5	200.	9,131.0	70,104.5	13%	
	Apr '14	58	92.		903.8	995.8	61,969.3	200.	9,331.0	71,300.3	13%	
	May '14	59	36.		903.8	939.8	62,909.0	250.	9,581.0	72,490.0	13%	
	Jun '14	60	24.		903.8	927.8	63,836.8	250.	9,831.0	73,667.8	13%	
2014/15	Jul '14	61	26.		903.8	929.8	64,766.6	150.	9,981.0	74,747.6	13%	
	Aug '14	62	21.		903.8	924.8	65,691.3	100.	10,081.0	75,772.3	13%	
	Sep '14	63	28.		903.8	931.8	66,623.1	100.	10,181.0	76,804.1	13%	
	Oct '14	64	60.		903.8	963.8	67,586.8	100.	10,281.0	77,867.8	13%	
	Nov '14	65	80.		903.8	983.8	68,570.6	200.	10,481.0	79,051.6	13%	
	Dec '14	66	238.		903.8	1141.8	69,712.3	200.	10,681.0	80,393.3	13%	
	Jan '15	67	155.		903.8	1058.8	70,771.1	200.	10,881.0	81,652.1	13%	
	Feb '15	68	183.		903.8	1086.8	71,857.8	200.	11,081.0	82,938.8	13%	
	Mar '15	69	137.		903.8	1040.8	72,898.6	200.	11,281.0	84,179.6	13%	
	Apr '15	70	92.		903.8	995.8	73,894.3	200.	11,481.0	85,375.3	13%	
	May '15	71	36.		903.8	939.8	74,834.1	250.	11,731.0	86,565.1	14%	
	Jun '15	72	24.		903.8	927.8	75,761.9	250.	11,981.0	87,742.9	14%	
2015/16	Jul '15	73	26.		903.8	929.8	76,660.6	600.	12,581.0	89,241.6	14%	
	Aug '15	74	21.		903.8	924.8	77,554.4	600.	13,181.0	90,735.4	15%	
	Sep '15	75	28.		903.8	931.8	78,426.1	600.	13,781.0	92,207.1	15%	
	Oct '15	76	60.		903.8	963.8	79,311.9	600.	14,381.0	93,692.9	15%	
	Nov '15	77	80.		903.8	983.8	80,235.6	550.	14,931.0	95,166.6	16%	
	Dec '15	78	238.		903.8	1141.8	81,317.4	450.	15,381.0	96,698.4	16%	
	Jan '16	79	155.		903.8	1058.8	82,343.6	450.	15,831.0	98,174.6	16%	
	Feb '16	80	183.		903.8	1086.8	83,366.0	500.	16,331.0	99,697.0	16%	
	Mar '16	81	137.		903.8	1040.8	84,246.1	550.	16,881.0	101,127.1	17%	
	Apr '16	82	92.		903.8	995.8	85,114.9	600.	17,481.0	102,595.9	17%	
	May '16	83	36.		903.8	939.8	86,017.7	0.	17,481.0	103,498.7	17%	
	Jun '16	84	24.		903.8	927.8	86,920.4	0.	17,481.0	104,401.4	17%	
2016/17	Jul '16	85	26.		903.8	929.8	87,835.2	600.	18,081.0	105,916.2	17%	
	Aug '16	86	21.		903.8	924.8	88,723.9	600.	18,681.0	107,404.9	17%	
	Sep '16	87	28.		903.8	931.8	89,620.7	600.	19,281.0	108,901.7	18%	
	Oct '16	88	60.		903.8	963.8	90,551.4	600.	19,881.0	110,432.4	18%	
	Nov '16	89	80.		903.8	983.8	91,499.1	550.	20,431.0	111,930.1	18%	
	Dec '16	90	238.		903.8	1141.8	92,615.3	450.	20,881.0	113,496.3	18%	
	Jan '17	91	155.		903.8	1058.8	93,651.9	450.	21,331.0	114,982.9	19%	
	Feb '17	92	183.		903.8	1086.8	94,719.7	500.	21,831.0	116,550.7	19%	
	Mar '17	93	137.		903.8	1040.8	95,753.0	550.	22,381.0	118,134.0	19%	
	Apr '17	94	92.		903.8	995.8	96,744.8	600.	22,981.0	119,725.8	19%	
	May '17	95	36.		903.8	939.8	97,682.6	0.	22,981.0	120,663.6	19%	
	Jun '17	96	24.		903.8	927.8	98,608.3	0.	22,981.0	121,589.3	19%	
2017/18	Jul '17	97	26.		903.8	929.8	99,538.1	600.	23,581.0	123,119.1	19%	
	Aug '17	98	21.		903.8	924.8	100,459.8	600.	24,181.0	124,640.8	19%	
	Sep '17	99	28.		903.8	931.8	101,388.6	600.	24,781.0	126,169.6	20%	
	Oct '17	100	60.		903.8	963.8	102,343.3	600.	25,381.0	127,724.3	20%	
	Nov '17	101	80.		903.8	983.8	103,280.1	550.	25,931.0	129,211.1	20%	
	Dec '17	102	238.		903.8	1141.8	104,313.8	450.	26,381.0	130,694.8	20%	
	Jan '18	103	155.		903.8	1058.8	105,207.6	450.	26,831.0	132,038.6	20%	
	Feb '18	104	183.		903.8	1086.8	106,164.4	500.	27,331.0	133,495.4	20%	
	Mar '18	105	137.		903.8	1040.8	107,200.1	550.	27,881.0	135,081.1	21%	
	Apr '18	106	92.		903.8	995.8	108,192.9	600.	28,481.0	136,673.9	21%	
	May '18	107	36.		903.8	939.8	109,098.6	0.	28,481.0	137,579.6	21%	
	Jun '18	108	24.		903.8	927.8	110,022.4	0.	28,481.0	138,503.4	21%	
2018/19	Jul '18	109	26.		903.8	929.8	110,952.1	600.	29,081.0	140,033.1	21%	
	Aug '18	110	21.		903.8	924.8	111,860.9	600.	29,681.0	141,541.9	21%	
	Sep '18	111	28.		903.8	931.8	112,776.6	600.	30,281.0	143,057.6	21%	
	Oct '18	112	60.		903.8	963.8	113,727.4	600.	30,881.0	144,608.4	21%	
	Nov '18	113	80.		903.8	983.8	114,684.1	550.	31,431.0	146,115.1	22%	
	Dec '18	114	238.		903.8	1141.8	115,669.9	450.	31,881.0	147,550.9	22%	
	Jan '19	115	155.		903.8	1058.8	116,716.7	450.	32,331.0	149,047.7	22%	
	Feb '19	116	183.		903.8	1086.8	117,530.4	500.	32,831.0	150,361.4	22%	
	Mar '19	117	137.		903.8	1040.8	118,524.2	550.	33,381.0	151,905.2	22%	
	Apr '19	118	92.		903.8	995.8	119,501.9	600.	33,981.0	153,482.9	22%	
	May '19	119	36.		903.8	939.8	120,435.7	0.	33,981.0	154,416.7	22%	
	Jun '19	120	24.		903.8	927.8	121,363.4	0.	33,875.0	155,238.4	22%	

PLANNED

PLANNED

PLANNED

RWC Management Plan for RP3 Basins

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2019/20	Jul '19	121	26.		903.8	929.8	122,271.2	600.	34,391.0	156,662.2	22%	PLANNED
	Aug '19	122	21.		903.8	924.8	123,165.9	600.	34,843.0	158,008.9	22%	
	Sep '19	123	28.		903.8	931.8	124,061.7	600.	35,223.0	159,284.7	22%	
	Oct '19	124	60.		903.8	963.8	123,998.7	600.	35,620.0	159,618.7	22%	
	Nov '19	125	80.		903.8	983.8	123,978.7	550.	35,883.0	159,861.7	22%	
	Dec '19	126	238.		903.8	1141.8	123,843.7	450.	36,230.0	160,073.7	23%	
	Jan '20	127	155.		903.8	1058.8	123,472.7	450.	36,604.0	160,076.7	23%	
	Feb '20	128	183.		903.8	1086.8	123,285.7	500.	36,991.0	160,276.7	23%	
	Mar '20	129	137.		903.8	1040.8	123,318.7	550.	37,328.0	160,646.7	23%	
	Apr '20	130	92.		903.8	995.8	123,282.7	600.	37,857.0	161,139.7	23%	
	May '20	131	36.		903.8	939.8	123,269.7	0.	37,585.0	160,854.7	23%	
	Jun '20	132	24.		903.8	927.8	123,251.7	0.	37,324.0	160,575.7	23%	
2020/21	Jul '20	133	26.		903.8	929.8	123,270.7	600.	37,695.0	160,965.7	23%	
	Aug '20	134	21.		903.8	924.8	123,285.7	600.	38,114.0	161,399.7	24%	
	Sep '20	135	28.		903.8	931.8	123,288.7	600.	38,666.0	161,954.7	24%	
	Oct '20	136	60.		903.8	963.8	123,277.7	600.	39,243.0	162,520.7	24%	
	Nov '20	137	80.		903.8	983.8	123,211.7	550.	39,600.0	162,811.7	24%	
	Dec '20	138	238.		903.8	1141.8	122,705.7	450.	39,928.0	162,633.7	25%	
	Jan '21	139	155.		903.8	1058.8	122,625.7	450.	40,275.0	162,900.7	25%	
	Feb '21	140	183.		903.8	1086.8	122,493.7	500.	40,598.0	163,091.7	25%	
	Mar '21	141	137.		903.8	1040.8	122,216.7	550.	41,022.0	163,238.7	25%	
	Apr '21	142	92.		903.8	995.8	122,166.7	600.	41,385.0	163,551.7	25%	
	May '21	143	36.		903.8	939.8	121,841.8	0.	41,209.0	163,050.8	25%	
	Jun '21	144	24.		903.8	927.8	121,248.6	0.	41,025.0	162,273.6	25%	
2021/22	Jul '21	145	26.		903.8	929.8	120,407.2	600.	41,372.0	161,779.2	26%	
	Aug '21	146	21.		903.8	924.8	120,110.6	600.	41,957.0	162,067.6	26%	
	Sep '21	147	28.		903.8	931.8	119,524.4	600.	42,527.0	162,051.4	26%	
	Oct '21	148	60.		903.8	963.8	119,363.6	600.	42,945.0	162,308.6	26%	
	Nov '21	149	80.		903.8	983.8	119,321.6	550.	43,398.0	162,719.6	27%	
	Dec '21	150	238.		903.8	1141.8	119,481.6	450.	43,684.0	163,165.6	27%	
	Jan '22	151	155.		903.8	1058.8	119,532.6	450.	44,043.0	163,575.6	27%	
	Feb '22	152	183.		903.8	1086.8	119,539.6	500.	44,383.0	163,922.6	27%	
	Mar '22	153	137.		903.8	1040.8	119,454.6	550.	44,839.0	164,293.6	27%	
	Apr '22	154	92.		903.8	995.8	119,326.6	600.	45,292.0	164,618.6	28%	
	May '22	155	36.		903.8	939.8	119,301.6	0.	44,917.0	164,218.6	27%	
	Jun '22	156	24.		903.8	927.8	119,265.6	0.	44,736.0	164,001.6	27%	
2022/23	Jul '22	157	26.		903.8	929.8	119,241.6	600.	45,324.0	164,565.6	28%	
	Aug '22	158	21.		903.8	924.8	119,250.6	600.	45,924.0	165,174.6	28%	
	Sep '22	159	28.		903.8	931.8	119,274.6	600.	46,524.0	165,798.6	28%	
	Oct '22	160	60.		903.8	963.8	119,316.6	600.	47,124.0	166,440.6	28%	
	Nov '22	161	80.		903.8	983.8	119,295.6	550.	47,520.0	166,815.6	28%	
	Dec '22	162	238.		903.8	1141.8	119,172.6	450.	47,750.0	166,922.6	29%	
	Jan '23	163	155.		903.8	1058.8	119,180.6	450.	47,847.0	167,027.6	29%	
	Feb '23	164	183.		903.8	1086.8	119,250.6	500.	48,050.0	167,300.6	29%	
	Mar '23	165	137.		903.8	1040.8	119,250.6	550.	48,400.0	167,650.6	29%	
	Apr '23	166	92.		903.8	995.8	119,250.6	600.	48,800.0	168,050.6	29%	
	May '23	167	36.		903.8	939.8	119,250.6	0.	48,550.0	167,800.6	29%	
	Jun '23	168	24.		903.8	927.8	119,250.6	0.	48,300.0	167,550.6	29%	

Notes:

DW = Diluent Water; Total DW is the sum of Stormwater & Local Runoff (SW), Imported Water from the State Water Project (MWD), and groundwater underflow.

RW = Recycled Water

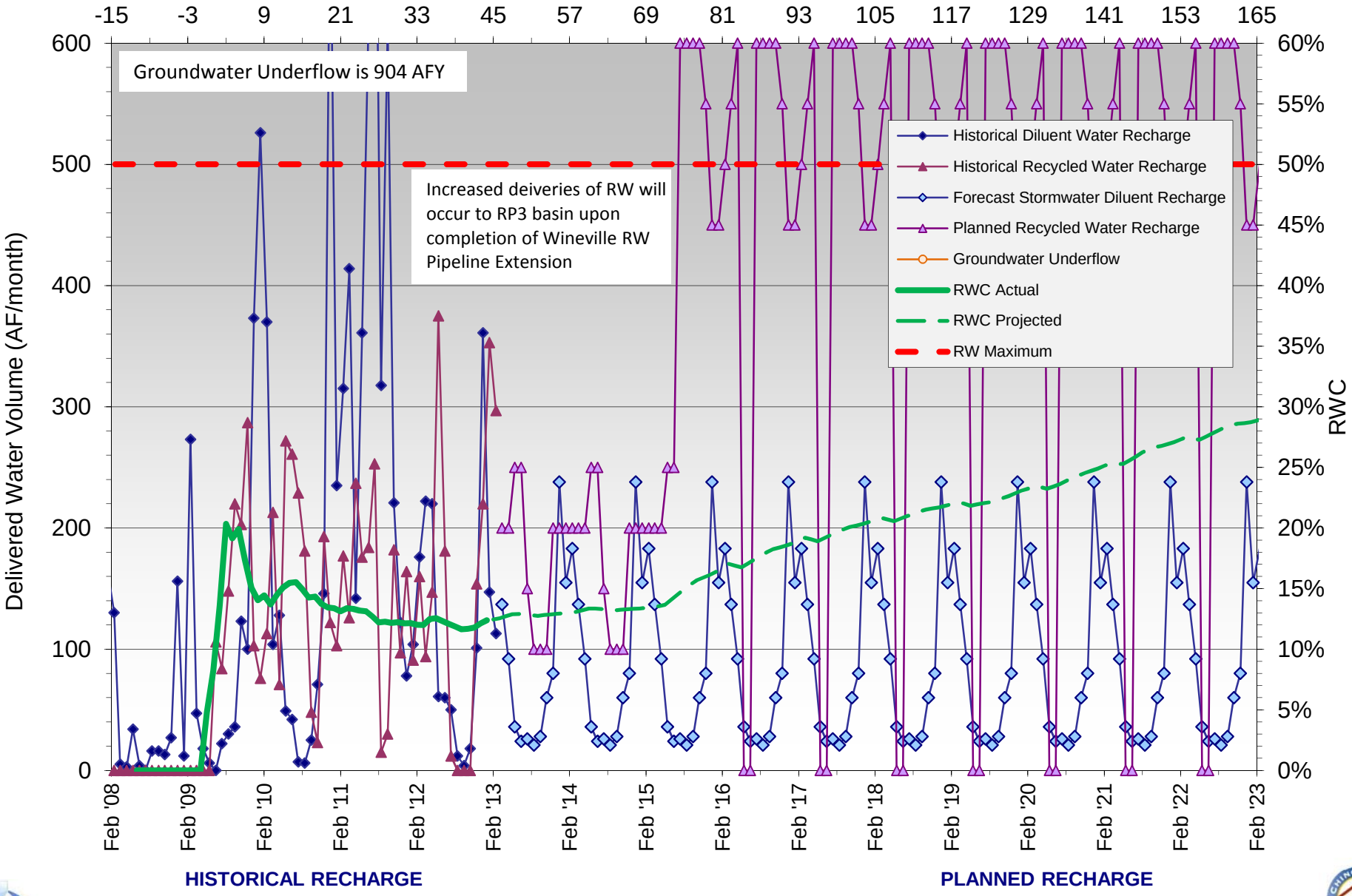
RWC = 120-month running total of recycled water / 120-month running total of all diluent and recycled water.

While an RWC calculation is provided starting on the first month of RW recharge, 120 months of data may not be available until 10 years of recharge operations.

RWC maximum = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC) determined from a recharge site's start-up period

RWC Management Plan - RP3 Basin

Months SInce Initial Recycled Water Delivery



RWC Management Plan for San Sevaine Basin 1 through 5

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2007/08	Jul '07	-36	0.	0.		0.	18100	0.	0	18100	0%	
	Aug '07	-35	0.	0.		0.	18100	0.	0	18100	0%	
	Sep '07	-34	2.	0.		2.	18102	0.	0	18102	0%	
	Oct '07	-33	6.	0.		6.	18108	0.	0	18108	0%	
	Nov '07	-32	37.	0.		37.	18145	0.	0	18145	0%	
	Dec '07	-31	75.	0.		75.	18220	0.	0	18220	0%	
	Jan '08	-30	553.	0.		553.	18773	0.	0	18773	0%	
	Feb '08	-29	29.	0.		29.	18802	0.	0	18802	0%	
	Mar '08	-28	0.	0.		0.	18802	0.	0	18802	0%	
	Apr '08	-27	0.	0.		0.	18802	0.	0	18802	0%	
	May '08	-26	47.	0.		47.	18849	0.	0	18849	0%	
	Jun '08	-25	0.	0.		0.	18849	0.	0	18849	0%	
2008/09	Jul '08	-24	0.	0.		0.	18849	0.	0	18849	0%	
	Aug '08	-23	0.	0.		0.	18849	0.	0	18849	0%	
	Sep '08	-22	0.	0.		0.	18849	0.	0	18849	0%	
	Oct '08	-21	0.	0.		0.	18849	0.	0	18849	0%	
	Nov '08	-20	8.	0.		8.	18857	0.	0	18857	0%	
	Dec '08	-19	86.	0.		86.	18943	0.	0	18943	0%	
	Jan '09	-18	16.	0.		16.	18959	0.	0	18959	0%	
	Feb '09	-17	107.	0.		107.	19066	0.	0	19066	0%	
	Mar '09	-16	8.	0.		8.	19074	0.	0	19074	0%	
	Apr '09	-15	0.	0.		0.	19074	0.	0	19074	0%	
	May '09	-14	0.	0.		0.	19074	0.	0	19074	0%	
	Jun '09	-13	0.	0.		0.	19074	0.	0	19074	0%	
2009/10	Jul '09	-12	0.	0.		0.	19074	0.	0	19074	0%	
	Aug '09	-11	0.	0.		0.	19074	0.	0	19074	0%	
	Sep '09	-10	0.	0.		0.	19074	0.	0	19074	0%	
	Oct '09	-9	56.	0.		56.	19130	0.	0	19130	0%	
	Nov '09	-8	21.	0.		21.	19151	0.	0	19151	0%	
	Dec '09	-7	334.	0.		334.	19485	0.	0	19485	0%	
	Jan '10	-6	290.	0.		290.	19775	0.	0	19775	0%	
	Feb '10	-5	223.	0.		223.	19998	0.	0	19998	0%	
	Mar '10	-4	16.	0.		16.	20014	0.	0	20014	0%	
	Apr '10	-3	53.	0.		53.	20067	0.	0	20067	0%	
	May '10	-2	0.	0.		0.	20067	0.	0	20067	0%	
	Jun '10	-1	0.	0.		0.	20067	0.	0	20067	0%	
2010/11	Jul '10	0	0.	0.		0.	20067	50.	50	20117	0%	
	Aug '10	1	0.	0.		0.	20067	44.	94	20161	0%	
	Sep '10	2	0.	0.		0.	20067	42.	136	20203	1%	
	Oct '10	3	95.	0.		95.	20162	73.	209	20371	1%	
	Nov '10	4	81.	0.	139.	220.	20382	13.	222	20604	1%	
	Dec '10	5	577.	0.	139.	716.	21098	32.	254	21352	1%	
	Jan '11	6	13.	0.	139.	152.	21250	72.	326	21576	2%	
	Feb '11	7	143.	0.	139.	282.	21532	0.	326	21858	1%	
	Mar '11	8	133.	0.	139.	272.	21804	0.	326	22130	1%	
	Apr '11	9	0.	0.	139.	139.	21943	0.	326	22269	1%	
	May '11	10	7.	537.9	139.	683.9	22627	36.	362	22989	2%	
	Jun '11	11	0.	1169.2	139.	1308.2	23935	34.	396	24331	2%	
2011/12	Jul '11	12	0.	1010.7	139.	1149.7	25084	113.	509	25593	2%	
	Aug '11	13	0.	11.2	139.	150.2	25235	90.	599	25834	2%	
	Sep '11	14	0.	205.6	139.	344.6	25579	0.	599	26178	2%	
	Oct '11	15	39.	0.	139.	178.	25757	0.	599	26356	2%	
	Nov '11	16	32.	0.	139.	171.	25928	0.	599	26527	2%	
	Dec '11	17	20.	0.	139.	159.	26087	0.	599	26686	2%	
	Jan '12	18	55.	0.	139.	194.	26281	159.	758	27039	3%	
	Feb '12	19	54.	0.	139.	193.	26474	74.	832	27306	3%	
	Mar '12	20	160.	0.	173.	333.	26807	16.	848	27655	3%	
	Apr '12	21	76.	0.	173.	249.	27056	4.	852	27908	3%	
	May '12	22	0.	0.	173.	173.	27229	3.	855	28084	3%	
	Jun '12	23	0.	0.	173.	173.	27402	54.	909	28311	3%	
2012/13	Jul '12	24	0.	0.	173.	173.	27575	122.	1031	28606	4%	
	Aug '12	25	1.	0.	173.	174.	27749	84.	1115	28864	4%	
	Sep '12	26	0.	0.	173.	173.	27922	39.	1154	29076	4%	
	Oct '12	27	1.	0.	173.	174.	28096	63.	1217	29313	4%	
	Nov '12	28	14.	0.	173.	187.	28283	66.	1283	29566	4%	
	Dec '12	29	79.	0.	173.	252.	28535	1.	1284	29819	4%	
	Jan '13	30	21.	0.	173.	194.	28729	59.	1343	30072	4%	
	Feb '13	31	9.	0.	173.	182.	28911	19.	1362	30273	4%	
	Mar '13	32	124.		173.	297.	29208	0.	1362	30570	4%	
	Apr '13	33	188.		173.	361.	29569	0.	1362	30931	4%	
	May '13	34	32.		173.	205.	29774	145.	1507	31281	5%	
	Jun '13	35	4.		173.	177.	29951	145.	1652	31603	5%	

HISTORICAL

HISTORICAL

START-UP

HISTORICAL

PLAN

RWC Management Plan for San Sevaine Basin 1 through 5

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2013/14	Jul '13	36	0.		173.	173.	30124	145.	1797	31921	6%	
	Aug '13	37	0.		173.	173.	30297	145.	1942	32239	6%	
	Sep '13	38	0.		173.	173.	30470	145.	2087	32557	6%	
	Oct '13	39	27.		173.	200.	30670	145.	2232	32902	7%	
	Nov '13	40	25.		173.	198.	30868	145.	2377	33245	7%	
	Dec '13	41	157.		173.	330.	31198	0.	2377	33575	7%	
	Jan '14	42	126.		173.	299.	31497	0.	2377	33874	7%	
	Feb '14	43	97.		173.	270.	31767	0.	2377	34144	7%	
	Mar '14	44	124.		173.	297.	32064	0.	2377	34441	7%	
	Apr '14	45	188.		173.	361.	32425	0.	2377	34802	7%	
	May '14	46	32.		173.	205.	32630	145.	2522	35152	7%	
	Jun '14	47	4.		173.	177.	32807	145.	2667	35474	8%	
2014/15	Jul '14	48	0.		173.	173.	32980	145.	2812	35792	8%	
	Aug '14	49	0.		173.	173.	33153	145.	2957	36110	8%	
	Sep '14	50	0.		173.	173.	33326	145.	3102	36428	9%	
	Oct '14	51	27.		173.	200.	33526	145.	3247	36773	9%	
	Nov '14	52	25.		173.	198.	33724	145.	3392	37116	9%	
	Dec '14	53	157.		173.	330.	34054	0.	3392	37446	9%	
	Jan '15	54	126.		173.	299.	34353	0.	3392	37745	9%	
	Feb '15	55	97.		173.	270.	34623	0.	3392	38015	9%	
	Mar '15	56	124.		173.	297.	34920	0.	3392	38312	9%	
	Apr '15	57	188.		173.	361.	35281	0.	3392	38673	9%	
	May '15	58	32.		173.	205.	35092	145.	3537	38629	9%	
	Jun '15	59	4.		173.	177.	34078	145.	3682	37760	10%	
2015/16	Jul '15	60	0.		173.	173.	33782	145.	3827	37609	10%	
	Aug '15	61	0.		173.	173.	33742	145.	3972	37714	11%	
	Sep '15	62	0.		173.	173.	33357	145.	4117	37474	11%	
	Oct '15	63	27.		173.	200.	32982	145.	4262	37244	11%	
	Nov '15	64	25.		173.	198.	32038	145.	4407	36445	12%	
	Dec '15	65	157.		173.	330.	31382	0.	4407	35789	12%	
	Jan '16	66	126.		173.	299.	30712	0.	4407	35119	13%	
	Feb '16	67	97.		173.	270.	29859	0.	4407	34266	13%	
	Mar '16	68	124.		173.	297.	29192	0.	4407	33599	13%	
	Apr '16	69	188.		173.	361.	28366	0.	4407	32773	13%	
	May '16	70	32.		173.	205.	27185	145.	4552	31737	14%	
	Jun '16	71	4.		173.	177.	26413	145.	4697	31110	15%	
2016/17	Jul '16	72	0.		173.	173.	26570	145.	4842	31412	15%	
	Aug '16	73	0.		173.	173.	25714	145.	4987	30701	16%	
	Sep '16	74	0.		173.	173.	24880	145.	5132	30012	17%	
	Oct '16	75	27.		173.	200.	24070	145.	5277	29347	18%	
	Nov '16	76	25.		173.	198.	23702	145.	5422	29124	19%	
	Dec '16	77	157.		173.	330.	23014	0.	5422	28436	19%	
	Jan '17	78	126.		173.	299.	22376	0.	5422	27798	20%	
	Feb '17	79	97.		173.	270.	22304	0.	5422	27726	20%	
	Mar '17	80	124.		173.	297.	22596	0.	5422	28018	19%	
	Apr '17	81	188.		173.	361.	22954	0.	5422	28376	19%	
	May '17	82	32.		173.	205.	23128	145.	5567	28695	19%	
	Jun '17	83	4.		173.	177.	23275	145.	5712	28987	20%	
2017/18	Jul '17	84	0.		173.	173.	23448	145.	5857	29305	20%	
	Aug '17	85	0.		173.	173.	23621	145.	6002	29623	20%	
	Sep '17	86	0.		173.	173.	23792	145.	6147	29939	21%	
	Oct '17	87	27.		173.	200.	23986	145.	6292	30278	21%	
	Nov '17	88	25.		173.	198.	24147	145.	6437	30584	21%	
	Dec '17	89	157.		173.	330.	24402	0.	6437	30839	21%	
	Jan '18	90	126.		173.	299.	24148	0.	6437	30585	21%	
	Feb '18	91	97.		173.	270.	24389	0.	6437	30826	21%	
	Mar '18	92	124.		173.	297.	24686	0.	6437	31123	21%	
	Apr '18	93	188.		173.	361.	25047	0.	6437	31484	20%	
	May '18	94	32.		173.	205.	25205	145.	6582	31787	21%	
	Jun '18	95	4.		173.	177.	25382	145.	6727	32109	21%	
2018/19	Jul '18	96	0.		173.	173.	25555	145.	6872	32427	21%	
	Aug '18	97	0.		173.	173.	25728	145.	7017	32745	21%	
	Sep '18	98	0.		173.	173.	25901	145.	7162	33063	22%	
	Oct '18	99	27.		173.	200.	26101	145.	7307	33408	22%	
	Nov '18	100	25.		173.	198.	26291	145.	7452	33743	22%	
	Dec '18	101	157.		173.	330.	26535	0.	7452	33987	22%	
	Jan '19	102	126.		173.	299.	26818	0.	7452	34270	22%	
	Feb '19	103	97.		173.	270.	26981	0.	7452	34433	22%	
	Mar '19	104	124.		173.	297.	27270	0.	7452	34722	21%	
	Apr '19	105	188.		173.	361.	27631	0.	7452	35083	21%	
	May '19	106	32.		173.	205.	27836	145.	7597	35433	21%	
	Jun '19	107	4.		173.	177.	28013	145.	7742	35755	22%	

PLANNED

PLANNED

RWC Management Plan for San Sevaine Basin 1 through 5

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2019/20	Jul '19	108	0.		173.	173.	28186	145.	7887	36073	22%	
	Aug '19	109	0.		173.	173.	28359	145.	8032	36391	22%	
	Sep '19	110	0.		173.	173.	28532	145.	8177	36709	22%	
	Oct '19	111	27.		173.	200.	28676	145.	8322	36998	22%	
	Nov '19	112	25.		173.	198.	28853	145.	8467	37320	23%	
	Dec '19	113	157.		173.	330.	28849	0.	8467	37316	23%	
	Jan '20	114	126.		173.	299.	28858	0.	8467	37325	23%	
	Feb '20	115	97.		173.	270.	28905	0.	8467	37372	23%	
	Mar '20	116	124.		173.	297.	29186	0.	8467	37653	22%	
	Apr '20	117	188.		173.	361.	29494	0.	8467	37961	22%	
	May '20	118	32.		173.	205.	29699	145.	8612	38311	22%	
	Jun '20	119	4.		173.	177.	29876	145.	8757	38633	23%	
2020/21	Jul '20	120	0.		173.	173.	30049	145.	8852	38901	23%	
	Aug '20	121	0.		173.	173.	30222	145.	8953	39175	23%	
	Sep '20	122	0.		173.	173.	30395	145.	9056	39451	23%	
	Oct '20	123	27.		173.	200.	30500	145.	9128	39628	23%	
	Nov '20	124	25.		173.	198.	30478	145.	9260	39738	23%	
	Dec '20	125	157.		173.	330.	30092	0.	9228	39320	23%	
	Jan '21	126	126.		173.	299.	30239	0.	9156	39395	23%	
	Feb '21	127	97.		173.	270.	30227	0.	9156	39383	23%	
	Mar '21	128	124.		173.	297.	30252	0.	9156	39408	23%	
	Apr '21	129	188.		173.	361.	30474	0.	9156	39630	23%	
	May '21	130	32.		173.	205.	29995	145.	9265	39260	24%	
	Jun '21	131	4.		173.	177.	28864	145.	9376	38240	25%	
2021/22	Jul '21	132	0.		173.	173.	27887	145.	9408	37295	25%	PLANNED
	Aug '21	133	0.		173.	173.	27910	145.	9463	37373	25%	
	Sep '21	134	0.		173.	173.	27739	145.	9608	37347	26%	
	Oct '21	135	27.		173.	200.	27761	145.	9753	37514	26%	
	Nov '21	136	25.		173.	198.	27788	145.	9898	37686	26%	
	Dec '21	137	157.		173.	330.	27959	0.	9898	37857	26%	
	Jan '22	138	126.		173.	299.	28064	0.	9739	37803	26%	
	Feb '22	139	97.		173.	270.	28141	0.	9665	37806	26%	
	Mar '22	140	124.		173.	297.	28105	0.	9649	37754	26%	
	Apr '22	141	188.		173.	361.	28217	0.	9645	37862	25%	
	May '22	142	32.		173.	205.	28249	145.	9787	38036	26%	
	Jun '22	143	4.		173.	177.	28253	145.	9878	38131	26%	
2022/23	Jul '22	144	0.		173.	173.	28253	145.	9901	38154	26%	
	Aug '22	145	0.		173.	173.	28252	145.	9962	38214	26%	
	Sep '22	146	0.		173.	173.	28252	145.	10068	38320	26%	
	Oct '22	147	27.		173.	200.	28278	145.	10150	38428	26%	
	Nov '22	148	25.		173.	198.	28289	145.	10229	38518	27%	
	Dec '22	149	157.		173.	330.	28367	0.	10228	38595	27%	
	Jan '23	150	126.		173.	299.	28472	0.	10169	38641	26%	
	Feb '23	151	97.		173.	270.	28560	0.	10150	38710	26%	
	Mar '23	152	124.		173.	297.	28560	0.	10150	38710	26%	
	Apr '23	153	188.		173.	361.	28560	0.	10150	38710	26%	
	May '23	154	32.		173.	205.	28560	145.	10150	38710	26%	
	Jun '23	155	4.		173.	177.	28560	145.	10150	38710	26%	

Notes:

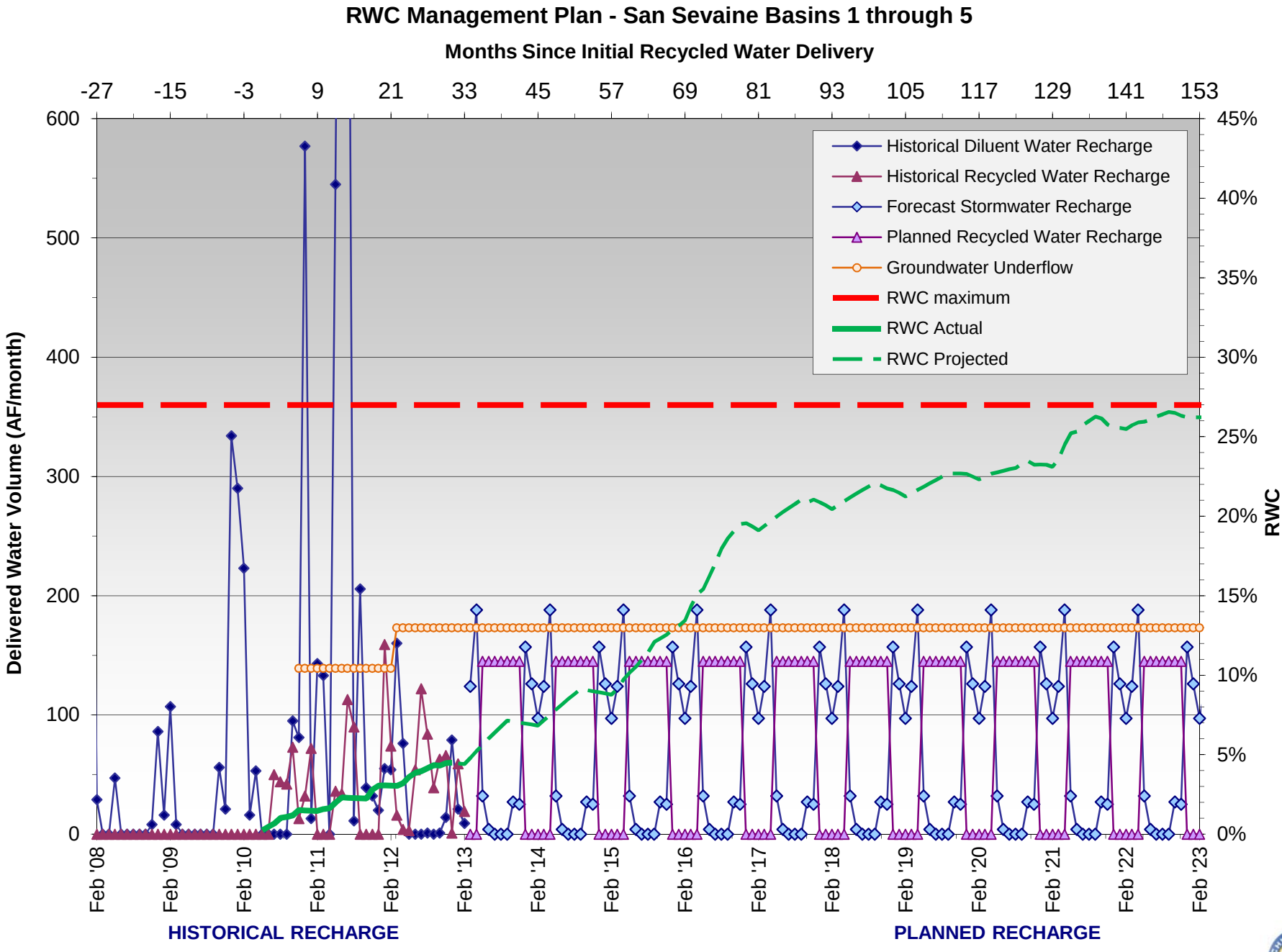
DW = Diluent Water; Total DW is the sum of Stormwater & Local Runoff (SW), Imported Water from the State Water Project (MWD), and groundwater underflow.

RW = Recycled Water

RWC = 120-month running total of recycled water / 120-month running total of all diluent and recycled water.

While an RWC calculation is provided starting on the first month of RW recharge, 120 months of data may not be available until 10 years of recharge operations.

RWC maximum = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC) determined from a recharge site's start-up period


RWC Management Plan - San Sevaine Basins 1 through 5
Months Since Initial Recycled Water Delivery
-27
-15
-3
9
21
33
45
57
69
81
93
105
117
129
141
153
Delivered Water Volume (AF/month)
600
500
400
300
200
100
0
RWC
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Historical Diluent Water Recharge
Historical Recycled Water Recharge
Forecast Stormwater Recharge
Planned Recycled Water Recharge
Groundwater Underflow
RWC maximum
RWC Actual
RWC Projected
Feb '08
Feb '09
Feb '10
Feb '11
Feb '12
Feb '13
Feb '14
Feb '15
Feb '16
Feb '17
Feb '18
Feb '19
Feb '20
Feb '21
Feb '22
Feb '23
HISTORICAL RECHARGE
PLANNED RECHARGE

RWC Management Plan for Turner Basin Cells 1 & 2

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2007/08	Jul '07	12	4.	0.		4.	3460	0.	620	4080	15%	
	Aug '07	13	38.	0.		38.	3498	0.	620	4118	15%	
	Sep '07	14	4.	0.		4.	3502	0.	620	4122	15%	
	Oct '07	15	62.	0.		62.	3564	0.	620	4184	15%	
	Nov '07	16	96.	0.		96.	3660	0.	620	4280	14%	
	Dec '07	17	215.	0.		215.	3875	0.	620	4495	14%	
	Jan '08	18	311.	0.		311.	4186	0.	620	4806	13%	
	Feb '08	19	251.	0.		251.	4437	0.	620	5057	12%	
	Mar '08	20	17.	0.		17.	4454	0.	620	5074	12%	
	Apr '08	21	14.	0.		14.	4468	0.	620	5088	12%	
	May '08	22	143.	0.		143.	4611	0.	620	5231	12%	
	Jun '08	23	11.	0.		11.	4622	0.	620	5242	12%	
2008/09	Jul '08	24	7.	0.		7.	4629	0.	620	5249	12%	
	Aug '08	25	3.	0.		3.	4632	0.	620	5252	12%	
	Sep '08	26	127.	0.		127.	4759	0.	620	5379	12%	
	Oct '08	27	80.	0.		80.	4839	28.	648	5487	12%	
	Nov '08	28	81.	0.		81.	4920	30.	678	5598	12%	
	Dec '08	29	344.	0.		344.	5264	0.	678	5942	11%	
	Jan '09	30	29.	0.		29.	5293	0.	678	5971	11%	
	Feb '09	31	345.	0.		345.	5638	0.	678	6316	11%	
	Mar '09	32	47.	0.		47.	5685	0.	678	6363	11%	
	Apr '09	33	11.	0.		11.	5696	0.	678	6374	11%	
	May '09	34	18.	0.		18.	5714	30.	708	6422	11%	
	Jun '09	35	77.	0.		77.	5791	9.	717	6508	11%	
2009/10	Jul '09	36	32.	0.		32.	5823	0.	717	6540	11%	
	Aug '09	37	19.	0.		19.	5842	20.	737	6579	11%	
	Sep '09	38	28.	0.		28.	5870	18.	755	6625	11%	
	Oct '09	39	80.	0.	67.3	147.3	6017	0.	755	6772	11%	
	Nov '09	40	49.	0.	67.3	116.3	6133	0.	755	6889	11%	
	Dec '09	41	401.	0.	67.3	468.3	6602	0.	755	7357	10%	
	Jan '10	42	294.	0.	67.3	361.3	6963	0.	755	7718	10%	
	Feb '10	43	330.	0.	67.3	397.3	7360	0.	755	8115	9%	
	Mar '10	44	34.	0.	67.3	101.3	7461	0.	755	8217	9%	
	Apr '10	45	158.	0.	67.3	225.3	7687	0.	755	8442	9%	
	May '10	46	38.	0.	67.3	105.3	7792	0.	755	8547	9%	
	Jun '10	47	0.	0.	67.3	67.3	7859	0.	755	8614	9%	
2010/11	Jul '10	48	23.	0.	67.3	90.3	7949	0.	755	8705	9%	
	Aug '10	49	53.	0.	67.3	120.3	8070	8.	763	8833	9%	
	Sep '10	50	57.	0.	67.3	124.3	8194	0.	763	8957	9%	
	Oct '10	51	90.	0.	67.3	157.3	8351	0.	763	9115	8%	
	Nov '10	52	165.	0.	67.3	232.3	8584	0.	763	9347	8%	
	Dec '10	53	365.	0.	67.3	432.3	9016	0.	763	9779	8%	
	Jan '11	54	190.	0.	67.3	257.3	9273	0.	763	10036	8%	
	Feb '11	55	233.	0.	67.3	300.3	9573	0.	763	10337	7%	
	Mar '11	56	264.	0.	67.3	331.3	9905	0.	763	10668	7%	
	Apr '11	57	333.	0.	67.3	400.3	10305	0.	763	11068	7%	
	May '11	58	181.	0.	67.3	248.3	10553	0.	763	11316	7%	
	Jun '11	59	90.	0.	67.3	157.3	10710	0.	763	11474	7%	
2011/12	Jul '11	60	16.	0.	67.3	83.3	10794	0.	763	11557	7%	
	Aug '11	61	22.	0.	67.3	89.3	10883	0.	763	11646	7%	
	Sep '11	62	2.	0.	67.3	69.3	10952	0.	763	11716	7%	
	Oct '11	63	0.	0.	67.3	67.3	11020	0.	763	11783	6%	
	Nov '11	64	81.	0.	67.3	148.3	11148	41.	804	11952	7%	
	Dec '11	65	88.	0.	67.3	155.3	11285	60.	864	12149	7%	
	Jan '12	66	146.	0.	67.3	213.3	11478	29.	893	12371	7%	
	Feb '12	67	221.	0.	67.3	288.3	11742	0.	893	12636	7%	
	Mar '12	68	295.	0.	67.3	362.3	12092	0.	893	12985	7%	
	Apr '12	69	258.	0.	67.3	325.3	12414	0.	893	13307	7%	
	May '12	70	14.	0.	67.3	81.3	12494	0.	893	13387	7%	
	Jun '12	71	20.	0.	67.3	87.3	12581	0.	893	13474	7%	
2012/13	Jul '12	72	83.	0.	67.3	150.3	12731	0.	893	13624	7%	
	Aug '12	73	36.	0.	67.3	103.3	12834	0.	893	13728	7%	
	Sep '12	74	31.	0.	67.3	98.3	12933	0.	893	13826	6%	
	Oct '12	75	61.	0.	67.3	128.3	13061	0.	893	13954	6%	
	Nov '12	76	61.	0.	67.3	128.3	13179	0.	893	14072	6%	
	Dec '12	77	290.	0.	67.3	357.3	13506	0.	893	14399	6%	
	Jan '13	78	149.	0.	67.3	216.3	13722	0.	893	14615	6%	
	Feb '13	79	116.	0.	67.3	183.3	13876	26.	919	14795	6%	
	Mar '13	80	111.		67.3	178.3	14022	50.	969	14991	6%	PLAN
	Apr '13	81	110.		67.3	177.3	14162	0.	969	15131	6%	
	May '13	82	51.		67.3	118.3	14228	0.	969	15197	6%	
	Jun '13	83	19.		67.3	86.3	14314	0.	969	15283	6%	

HISTORICAL

RWC Management Plan for Turner Basin Cells 1 & 2

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2013/14	Jul '13	84	14.		67.3	81.3	14395	0.	969	15364	6%	
	Aug '13	85	16.		67.3	83.3	14478	0.	969	15448	6%	
	Sep '13	86	32.		67.3	99.3	14578	90.	1059	15637	7%	
	Oct '13	87	47.		67.3	114.3	14692	90.	1149	15841	7%	
	Nov '13	88	75.		67.3	142.3	14834	80.	1229	16064	8%	
	Dec '13	89	182.		67.3	249.3	15084	0.	1229	16313	8%	
	Jan '14	90	121.		67.3	188.3	15272	0.	1229	16501	7%	
	Feb '14	91	150.		67.3	217.3	15489	0.	1229	16718	7%	
	Mar '14	92	111.		67.3	178.3	15667	0.	1229	16897	7%	
	Apr '14	93	110.		67.3	177.3	15845	50.	1279	17124	7%	
	May '14	94	51.		67.3	118.3	15963	90.	1369	17332	8%	
	Jun '14	95	19.		67.3	86.3	16049	90.	1459	17508	8%	
2014/15	Jul '14	96	14.		67.3	81.3	16130	0.	1459	17590	8%	
	Aug '14	97	16.		67.3	83.3	16214	0.	1459	17673	8%	
	Sep '14	98	32.		67.3	99.3	16313	90.	1549	17862	9%	P
	Oct '14	99	47.		67.3	114.3	16367	90.	1639	18006	9%	L
	Nov '14	100	75.		67.3	142.3	16378	80.	1719	18097	10%	A
	Dec '14	101	182.		67.3	249.3	16462	0.	1719	18181	9%	N
	Jan '15	102	121.		67.3	188.3	16554	0.	1719	18273	9%	N
	Feb '15	103	150.		67.3	217.3	16683	0.	1719	18403	9%	E
	Mar '15	104	111.		67.3	178.3	16796	0.	1719	18515	9%	D
	Apr '15	105	110.		67.3	177.3	16973	50.	1769	18743	9%	
	May '15	106	51.		67.3	118.3	17091	90.	1859	18950	10%	
	Jun '15	107	19.		67.3	86.3	17177	90.	1949	19127	10%	
2015/16	Jul '15	108	14.		67.3	81.3	17259	0.	1949	19208	10%	
	Aug '15	109	16.		67.3	83.3	17342	0.	1949	19291	10%	
	Sep '15	110	32.		67.3	99.3	17352	90.	2039	19391	11%	
	Oct '15	111	47.		67.3	114.3	17371	90.	2129	19500	11%	
	Nov '15	112	75.		67.3	142.3	17335	80.	2209	19544	11%	
	Dec '15	113	182.		67.3	249.3	17225	0.	2209	19434	11%	
	Jan '16	114	121.		67.3	188.3	17151	0.	2209	19361	11%	
	Feb '16	115	150.		67.3	217.3	17217	0.	2209	19426	11%	
	Mar '16	116	111.		67.3	178.3	16968	0.	2209	19178	12%	
	Apr '16	117	110.		67.3	177.3	16756	50.	2259	19015	12%	
	May '16	118	51.		67.3	118.3	16777	90.	2349	19126	12%	
	Jun '16	119	19.		67.3	86.3	16852	90.	2439	19292	13%	
2016/17	Jul '16	120	14.		67.3	81.3	16871	0.	2417	19288	13%	
	Aug '16	121	16.		67.3	83.3	16933	0.	2304	19237	12%	
	Sep '16	122	32.		67.3	99.3	16926	90.	2280	19206	12%	
	Oct '16	123	47.		67.3	114.3	16876	90.	2370	19246	12%	
	Nov '16	124	75.		67.3	142.3	16990	80.	2450	19439	13%	
	Dec '16	125	182.		67.3	249.3	17209	0.	2346	19555	12%	
	Jan '17	126	121.		67.3	188.3	17370	0.	2276	19645	12%	
	Feb '17	127	150.		67.3	217.3	17575	0.	2232	19807	11%	
	Mar '17	128	111.		67.3	178.3	17728	0.	2175	19903	11%	
	Apr '17	129	110.		67.3	177.3	17900	50.	2211	20111	11%	
	May '17	130	51.		67.3	118.3	18006	90.	2222	20228	11%	
	Jun '17	131	19.		67.3	86.3	18092	90.	2309	20401	11%	
2017/18	Jul '17	132	14.		67.3	81.3	18169	0.	2309	20478	11%	
	Aug '17	133	16.		67.3	83.3	18214	0.	2309	20523	11%	
	Sep '17	134	32.		67.3	99.3	18309	90.	2399	20708	12%	
	Oct '17	135	47.		67.3	114.3	18362	90.	2489	20851	12%	
	Nov '17	136	75.		67.3	142.3	18408	80.	2569	20977	12%	
	Dec '17	137	182.		67.3	249.3	18442	0.	2569	21011	12%	
	Jan '18	138	121.		67.3	188.3	18320	0.	2569	20889	12%	
	Feb '18	139	150.		67.3	217.3	18286	0.	2569	20855	12%	P
	Mar '18	140	111.		67.3	178.3	18447	0.	2569	21016	12%	L
	Apr '18	141	110.		67.3	177.3	18610	50.	2619	21229	12%	A
	May '18	142	51.		67.3	118.3	18586	90.	2709	21295	13%	N
	Jun '18	143	19.		67.3	86.3	18661	90.	2799	21460	13%	N
2018/19	Jul '18	144	14.		67.3	81.3	18735	0.	2799	21534	13%	E
	Aug '18	145	16.		67.3	83.3	18816	0.	2799	21615	13%	D
	Sep '18	146	32.		67.3	99.3	18788	90.	2889	21677	13%	
	Oct '18	147	47.		67.3	114.3	18822	90.	2951	21773	14%	
	Nov '18	148	75.		67.3	142.3	18883	80.	3001	21884	14%	
	Dec '18	149	182.		67.3	249.3	18789	0.	3001	21790	14%	
	Jan '19	150	121.		67.3	188.3	18948	0.	3001	21949	14%	
	Feb '19	151	150.		67.3	217.3	18820	0.	3001	21821	14%	
	Mar '19	152	111.		67.3	178.3	18951	0.	3001	21952	14%	
	Apr '19	153	110.		67.3	177.3	19118	50.	3051	22169	14%	
	May '19	154	51.		67.3	118.3	19218	90.	3111	22329	14%	
	Jun '19	155	19.		67.3	86.3	19227	90.	3192	22419	14%	

RWC Management Plan for Turner Basin Cells 1 & 2

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2019/20	Jul '19	156	14.		67.3	81.3	19277	0.	3192	22469	14%	
	Aug '19	157	16.		67.3	83.3	19341	0.	3172	22513	14%	
	Sep '19	158	32.		67.3	99.3	19412	90.	3244	22656	14%	
	Oct '19	159	47.		67.3	114.3	19379	90.	3334	22713	15%	
	Nov '19	160	75.		67.3	142.3	19405	80.	3414	22819	15%	
	Dec '19	161	182.		67.3	249.3	19186	0.	3414	22600	15%	
	Jan '20	162	121.		67.3	188.3	19013	0.	3414	22427	15%	
	Feb '20	163	150.		67.3	217.3	18833	0.	3414	22247	15%	
	Mar '20	164	111.		67.3	178.3	18910	0.	3414	22324	15%	
	Apr '20	165	110.		67.3	177.3	18862	50.	3464	22326	16%	
	May '20	166	51.		67.3	118.3	18875	90.	3554	22429	16%	
	Jun '20	167	19.		67.3	86.3	18894	90.	3644	22538	16%	
2020/21	Jul '20	168	14.		67.3	81.3	18885	0.	3644	22529	16%	
	Aug '20	169	16.		67.3	83.3	18848	0.	3636	22484	16%	
	Sep '20	170	32.		67.3	99.3	18823	90.	3726	22549	17%	
	Oct '20	171	47.		67.3	114.3	18780	90.	3816	22596	17%	
	Nov '20	172	75.		67.3	142.3	18690	80.	3896	22586	17%	
	Dec '20	173	182.		67.3	249.3	18507	0.	3896	22403	17%	
	Jan '21	174	121.		67.3	188.3	18438	0.	3896	22334	17%	
	Feb '21	175	150.		67.3	217.3	18355	0.	3896	22251	18%	
	Mar '21	176	111.		67.3	178.3	18202	0.	3896	22098	18%	
	Apr '21	177	110.		67.3	177.3	17979	50.	3946	21925	18%	P
	May '21	178	51.		67.3	118.3	17849	90.	4036	21885	18%	L
	Jun '21	179	19.		67.3	86.3	17778	90.	4126	21904	19%	A
2021/22	Jul '21	180	14.		67.3	81.3	17776	0.	4126	21902	19%	N
	Aug '21	181	16.		67.3	83.3	17770	0.	4126	21896	19%	N
	Sep '21	182	32.		67.3	99.3	17800	90.	4216	22016	19%	E
	Oct '21	183	47.		67.3	114.3	17847	90.	4306	22153	19%	D
	Nov '21	184	75.		67.3	142.3	17841	80.	4345	22186	20%	
	Dec '21	185	182.		67.3	249.3	17935	0.	4285	22220	19%	
	Jan '22	186	121.		67.3	188.3	17910	0.	4256	22166	19%	
	Feb '22	187	150.		67.3	217.3	17839	0.	4256	22095	19%	
	Mar '22	188	111.		67.3	178.3	17655	0.	4256	21911	19%	
	Apr '22	189	110.		67.3	177.3	17507	50.	4306	21813	20%	
	May '22	190	51.		67.3	118.3	17544	90.	4396	21940	20%	
	Jun '22	191	19.		67.3	86.3	17543	90.	4486	22029	20%	
2022/23	Jul '22	192	14.		67.3	81.3	17474	0.	4486	21960	20%	
	Aug '22	193	16.		67.3	83.3	17454	0.	4486	21940	20%	
	Sep '22	194	32.		67.3	99.3	17455	90.	4576	22031	21%	
	Oct '22	195	47.		67.3	114.3	17441	90.	4666	22107	21%	
	Nov '22	196	75.		67.3	142.3	17455	80.	4746	22201	21%	
	Dec '22	197	182.		67.3	249.3	17347	0.	4746	22093	21%	
	Jan '23	198	121.		67.3	188.3	17319	0.	4746	22065	22%	
	Feb '23	199	150.		67.3	217.3	17353	0.	4720	22073	21%	
	Mar '23	200	111.		67.3	178.3	17353	0.	4670	22023	21%	
	Apr '23	201	110.		67.3	177.3	17353	50.	4720	22073	21%	
	May '23	202	51.		67.3	118.3	17353	90.	4810	22163	22%	
	Jun '23	203	19.		67.3	86.3	17353	90.	4900	22253	22%	

Notes:

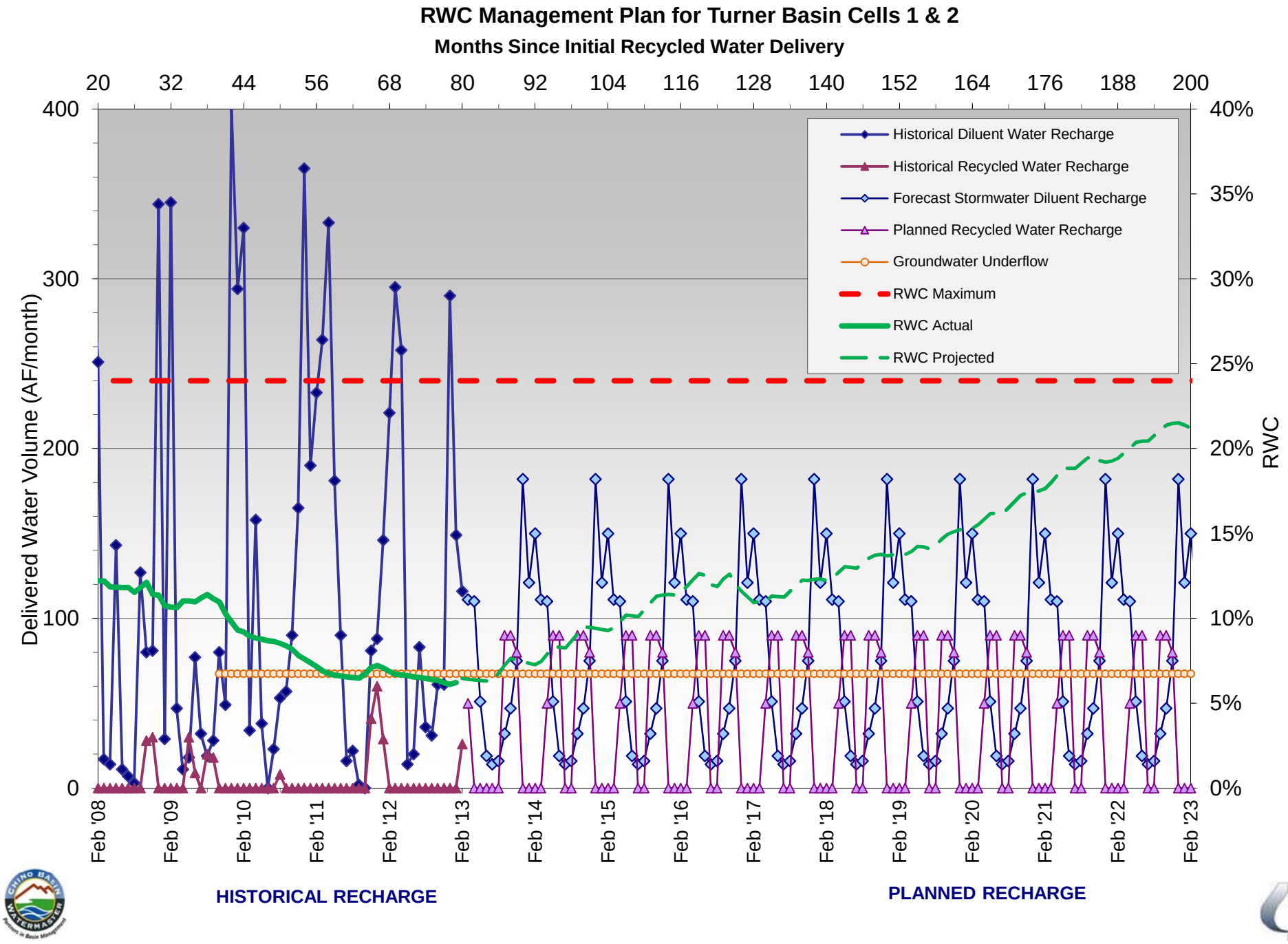
DW = Diluent Water; Total DW is the sum of Stormwater & Local Runoff (SW), Imported Water from the State Water Project (MWD), and groundwater underflow.

RW = Recycled Water

RWC = 120-month running total of recycled water / 120-month running total of all diluent and recycled water.

While an RWC calculation is provided starting on the first month of RW recharge, 120 months of data may not be available until 10 years of recharge operations.

RWC maximum = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC) determined from a recharge site's start-up period


RWC Management Plan for Turner Basin Cells 1 & 2
Months Since Initial Recycled Water Delivery
20
32
44
56
68
80
92
104
116
128
140
152
164
176
188
200
Delivered Water Volume (AF/month)
RWC
400
300
200
100
0
40%
35%
30%
25%
20%
15%
10%
5%
0%
Historical Diluent Water Recharge
Historical Recycled Water Recharge
Forecast Stormwater Diluent Recharge
Planned Recycled Water Recharge
Groundwater Underflow
RWC Maximum
RWC Actual
RWC Projected
Feb '08
Feb '09
Feb '10
Feb '11
Feb '12
Feb '13
Feb '14
Feb '15
Feb '16
Feb '17
Feb '18
Feb '19
Feb '20
Feb '21
Feb '22
Feb '23
HISTORICAL RECHARGE
PLANNED RECHARGE

RWC Management Plan for Turner Basin Cells 3 & 4

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2007/08	Jul '07	12	1.	0.		1.	2217	0.	612	2829	22%	
	Aug '07	13	10.	0.		10.	2227	0.	612	2839	22%	
	Sep '07	14	12.	0.		12.	2239	0.	612	2851	21%	
	Oct '07	15	3.	0.		3.	2242	0.	612	2854	21%	
	Nov '07	16	66.	0.		66.	2308	0.	612	2920	21%	
	Dec '07	17	62.	0.		62.	2370	0.	612	2982	21%	
	Jan '08	18	143.	0.		143.	2513	0.	612	3125	20%	
	Feb '08	19	9.	0.		9.	2522	0.	612	3134	20%	
	Mar '08	20	0.	0.		0.	2522	0.	612	3134	20%	
	Apr '08	21	4.	0.		4.	2526	0.	612	3138	19%	
	May '08	22	38.	0.		38.	2564	0.	612	3176	19%	
	Jun '08	23	28.	0.		28.	2592	0.	612	3204	19%	
2008/09	Jul '08	24	4.	0.		4.	2596	0.	612	3208	19%	
	Aug '08	25	5.	0.		5.	2601	0.	612	3213	19%	
	Sep '08	26	14.	0.		14.	2615	0.	612	3227	19%	
	Oct '08	27	37.	0.		37.	2652	66.	678	3330	20%	
	Nov '08	28	36.	0.		36.	2688	8.	686	3374	20%	
	Dec '08	29	50.	0.		50.	2738	0.	686	3424	20%	
	Jan '09	30	10.	0.		10.	2748	0.	686	3434	20%	
	Feb '09	31	68.	0.		68.	2816	0.	686	3502	20%	
	Mar '09	32	10.	0.		10.	2826	0.	686	3512	20%	
	Apr '09	33	2.	0.		2.	2828	0.	686	3514	20%	
	May '09	34	1.	0.		1.	2829	0.	686	3515	20%	
	Jun '09	35	0.	0.		0.	2829	0.	686	3515	20%	
2009/10	Jul '09	36	0.	0.		0.	2829	0.	686	3515	20%	
	Aug '09	37	0.	0.		0.	2829	0.	686	3515	20%	
	Sep '09	38	0.	0.		0.	2829	0.	686	3515	20%	
	Oct '09	39	0.	0.	59.7	59.7	2889	0.	686	3575	19%	
	Nov '09	40	3.	0.	59.7	62.7	2952	0.	686	3637	19%	
	Dec '09	41	98.	0.	59.7	157.7	3109	63.	749	3858	19%	
	Jan '10	42	185.	0.	59.7	244.7	3354	127.	876	4230	21%	
	Feb '10	43	175.	0.	59.7	234.7	3589	0.	876	4465	20%	
	Mar '10	44	114.	0.	59.7	173.7	3763	44.	920	4682	20%	
	Apr '10	45	83.	0.	59.7	142.7	3905	15.	935	4840	19%	
	May '10	46	27.	0.	59.7	86.7	3992	70.	1005	4997	20%	
	Jun '10	47	75.	0.	59.7	134.7	4127	40.	1045	5172	20%	
2010/11	Jul '10	48	95.	0.	59.7	154.7	4282	6.	1051	5332	20%	
	Aug '10	49	84.	0.	59.7	143.7	4425	22.	1073	5498	20%	
	Sep '10	50	54.	0.	59.7	113.7	4539	17.	1090	5629	19%	
	Oct '10	51	55.	0.	59.7	114.7	4654	0.	1090	5744	19%	
	Nov '10	52	39.	0.	59.7	98.7	4753	0.	1090	5842	19%	
	Dec '10	53	161.	0.	59.7	220.7	4973	0.	1090	6063	18%	
	Jan '11	54	1.	0.	59.7	60.7	5034	0.	1090	6124	18%	
	Feb '11	55	50.	0.	59.7	109.7	5144	0.	1090	6234	17%	
	Mar '11	56	49.	0.	59.7	108.7	5253	0.	1090	6342	17%	
	Apr '11	57	0.	0.	59.7	59.7	5312	0.	1090	6402	17%	
	May '11	58	0.	0.	59.7	59.7	5372	0.	1090	6462	17%	
	Jun '11	59	0.	0.	59.7	59.7	5432	0.	1090	6522	17%	
2011/12	Jul '11	60	0.	0.	59.7	59.7	5492	0.	1090	6581	17%	
	Aug '11	61	3.	54.6	59.7	117.3	5609	7.	1097	6706	16%	
	Sep '11	62	41.	144.5	59.7	245.2	5854	186.	1283	7137	18%	
	Oct '11	63	63.	0.	59.7	122.7	5977	223.	1506	7483	20%	
	Nov '11	64	66.	0.	59.7	125.7	6103	96.	1602	7704	21%	
	Dec '11	65	69.	0.	59.7	128.7	6232	52.	1654	7885	21%	
	Jan '12	66	86.	0.	59.7	145.7	6377	72.	1726	8103	21%	
	Feb '12	67	109.	0.	59.7	168.7	6546	97.	1823	8369	22%	
	Mar '12	68	126.	0.	59.7	185.7	6732	35.	1858	8589	22%	
	Apr '12	69	88.	0.	59.7	147.7	6880	15.	1873	8752	21%	
	May '12	70	40.	0.	59.7	99.7	6979	56.	1929	8908	22%	
	Jun '12	71	25.	0.	59.7	84.7	7064	65.	1994	9058	22%	
2012/13	Jul '12	72	25.	0.	59.7	84.7	7149	51.	2045	9193	22%	
	Aug '12	73	36.	0.	59.7	95.7	7245	35.	2080	9324	22%	
	Sep '12	74	31.	0.	59.7	90.7	7335	24.	2104	9439	22%	
	Oct '12	75	22.	0.	59.7	81.7	7417	9.	2113	9530	22%	
	Nov '12	76	30.	0.	59.7	89.7	7507	5.	2118	9624	22%	
	Dec '12	77	47.	0.	59.7	106.7	7614	5.	2123	9736	22%	
	Jan '13	78	15.	0.	59.7	74.7	7688	0.	2123	9811	22%	
	Feb '13	79	25.	0.	59.7	84.7	7773	0.	2123	9896	21%	
	Mar '13	80	81.		59.7	140.7	7914	0.	2123	10036	21%	PLAN
	Apr '13	81	55.		59.7	114.7	8029	0.	2123	10151	21%	
	May '13	82	23.		59.7	82.7	8111	0.	2123	10234	21%	
	Jun '13	83	25.		59.7	84.7	8196	0.	2123	10319	21%	

HISTORICAL

RWC Management Plan for Turner Basin Cells 3 & 4

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2013/14	Jul '13	84	17.		59.7	76.7	8273	60.	2183	10455	21%	
	Aug '13	85	19.		59.7	78.7	8352	90.	2273	10624	21%	
	Sep '13	86	18.		59.7	77.7	8429	90.	2363	10792	22%	
	Oct '13	87	35.		59.7	94.7	8524	90.	2453	10977	22%	
	Nov '13	88	43.		59.7	102.7	8627	90.	2543	11169	23%	
	Dec '13	89	84.		59.7	143.7	8771	40.	2583	11353	23%	
	Jan '14	90	83.		59.7	142.7	8913	40.	2623	11536	23%	
	Feb '14	91	83.		59.7	142.7	9056	40.	2663	11719	23%	
	Mar '14	92	81.		59.7	140.7	9197	90.	2753	11949	23%	
	Apr '14	93	55.		59.7	114.7	9311	60.	2813	12124	23%	
	May '14	94	23.		59.7	82.7	9394	0.	2813	12207	23%	
	Jun '14	95	25.		59.7	84.7	9479	0.	2813	12292	23%	
2014/15	Jul '14	96	17.		59.7	76.7	9556	60.	2873	12428	23%	
	Aug '14	97	19.		59.7	78.7	9634	90.	2963	12597	24%	
	Sep '14	98	18.		59.7	77.7	9712	90.	3053	12765	24%	
	Oct '14	99	35.		59.7	94.7	9686	90.	3143	12829	24%	
	Nov '14	100	43.		59.7	102.7	9661	90.	3233	12893	25%	
	Dec '14	101	84.		59.7	143.7	9587	40.	3273	12859	25%	
	Jan '15	102	83.		59.7	142.7	9472	40.	3313	12785	26%	
	Feb '15	103	83.		59.7	142.7	9383	40.	3353	12735	26%	
	Mar '15	104	81.		59.7	140.7	9349	90.	3443	12792	27%	
	Apr '15	105	55.		59.7	114.7	9464	60.	3503	12966	27%	
	May '15	106	23.		59.7	82.7	9546	0.	3503	13049	27%	
	Jun '15	107	25.		59.7	84.7	9631	0.	3503	13133	27%	
2015/16	Jul '15	108	17.		59.7	76.7	9708	60.	3563	13270	27%	
	Aug '15	109	19.		59.7	78.7	9786	90.	3653	13439	27%	
	Sep '15	110	18.		59.7	77.7	9864	90.	3743	13607	28%	
	Oct '15	111	35.		59.7	94.7	9959	90.	3833	13791	28%	
	Nov '15	112	43.		59.7	102.7	10062	90.	3923	13984	28%	
	Dec '15	113	84.		59.7	143.7	10081	40.	3963	14044	28%	
	Jan '16	114	83.		59.7	142.7	10149	40.	4003	14152	28%	
	Feb '16	115	83.		59.7	142.7	10221	40.	4043	14264	28%	
	Mar '16	116	81.		59.7	140.7	10190	90.	4133	14323	29%	
	Apr '16	117	55.		59.7	114.7	10045	60.	4193	14237	29%	
	May '16	118	23.		59.7	82.7	10055	0.	4193	14248	29%	
	Jun '16	119	25.		59.7	84.7	10053	0.	4193	14246	29%	
2016/17	Jul '16	120	17.		59.7	76.7	10100	60.	4115	14214	29%	
	Aug '16	121	19.		59.7	78.7	10145	90.	3970	14114	28%	
	Sep '16	122	18.		59.7	77.7	10200	90.	4020	14220	28%	
	Oct '16	123	35.		59.7	94.7	10230	90.	4110	14340	29%	
	Nov '16	124	43.		59.7	102.7	10317	90.	4200	14517	29%	
	Dec '16	125	84.		59.7	143.7	10447	40.	4174	14621	29%	
	Jan '17	126	83.		59.7	142.7	10580	40.	4183	14763	28%	
	Feb '17	127	83.		59.7	142.7	10714	40.	4202	14916	28%	
	Mar '17	128	81.		59.7	140.7	10850	90.	4276	15126	28%	
	Apr '17	129	55.		59.7	114.7	10962	60.	4328	15290	28%	
	May '17	130	23.		59.7	82.7	11037	0.	4271	15308	28%	
	Jun '17	131	25.		59.7	84.7	11112	0.	4271	15383	28%	
2017/18	Jul '17	132	17.		59.7	76.7	11187	60.	4331	15518	28%	
	Aug '17	133	19.		59.7	78.7	11256	90.	4421	15677	28%	
	Sep '17	134	18.		59.7	77.7	11322	90.	4511	15833	28%	
	Oct '17	135	35.		59.7	94.7	11414	90.	4601	16015	29%	
	Nov '17	136	43.		59.7	102.7	11450	90.	4691	16141	29%	
	Dec '17	137	84.		59.7	143.7	11532	40.	4731	16263	29%	
	Jan '18	138	83.		59.7	142.7	11532	40.	4771	16303	29%	
	Feb '18	139	83.		59.7	142.7	11666	40.	4811	16477	29%	
	Mar '18	140	81.		59.7	140.7	11806	90.	4901	16707	29%	
	Apr '18	141	55.		59.7	114.7	11917	60.	4961	16878	29%	
	May '18	142	23.		59.7	82.7	11962	0.	4961	16923	29%	
	Jun '18	143	25.		59.7	84.7	12019	0.	4961	16980	29%	
2018/19	Jul '18	144	17.		59.7	76.7	12091	60.	5021	17112	29%	
	Aug '18	145	19.		59.7	78.7	12165	90.	5111	17276	30%	
	Sep '18	146	18.		59.7	77.7	12229	90.	5201	17430	30%	
	Oct '18	147	35.		59.7	94.7	12287	90.	5225	17512	30%	
	Nov '18	148	43.		59.7	102.7	12353	90.	5307	17660	30%	
	Dec '18	149	84.		59.7	143.7	12447	40.	5347	17794	30%	
	Jan '19	150	83.		59.7	142.7	12580	40.	5387	17967	30%	
	Feb '19	151	83.		59.7	142.7	12655	40.	5427	18082	30%	
	Mar '19	152	81.		59.7	140.7	12785	90.	5517	18302	30%	
	Apr '19	153	55.		59.7	114.7	12898	60.	5577	18475	30%	
	May '19	154	23.		59.7	82.7	12980	0.	5577	18557	30%	
	Jun '19	155	25.		59.7	84.7	13065	0.	5577	18642	30%	

PLANNED

PLANNED

RWC Management Plan for Turner Basin Cells 3 & 4

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2019/2020	Jul '19	156	17.		59.7	76.7	13141	60.	5637	18778	30%	
	Aug '19	157	19.		59.7	78.7	13220	90.	5727	18947	30%	
	Sep '19	158	18.		59.7	77.7	13298	90.	5817	19115	30%	
	Oct '19	159	35.		59.7	94.7	13333	90.	5907	19240	31%	
	Nov '19	160	43.		59.7	102.7	13373	90.	5997	19370	31%	
	Dec '19	161	84.		59.7	143.7	13359	40.	5974	19333	31%	
	Jan '20	162	83.		59.7	142.7	13257	40.	5887	19144	31%	
	Feb '20	163	83.		59.7	142.7	13165	40.	5927	19092	31%	
	Mar '20	164	81.		59.7	140.7	13132	90.	5973	19105	31%	
	Apr '20	165	55.		59.7	114.7	13104	60.	6018	19122	31%	
	May '20	166	23.		59.7	82.7	13100	0.	5948	19048	31%	
	Jun '20	167	25.		59.7	84.7	13050	0.	5908	18958	31%	
2020/21	Jul '20	168	17.		59.7	76.7	12972	60.	5962	18934	31%	
	Aug '20	169	19.		59.7	78.7	12907	90.	6030	18937	32%	
	Sep '20	170	18.		59.7	77.7	12871	90.	6103	18974	32%	
	Oct '20	171	35.		59.7	94.7	12851	90.	6193	19044	33%	
	Nov '20	172	43.		59.7	102.7	12855	90.	6283	19138	33%	
	Dec '20	173	84.		59.7	143.7	12778	40.	6323	19101	33%	
	Jan '21	174	83.		59.7	142.7	12860	40.	6363	19223	33%	
	Feb '21	175	83.		59.7	142.7	12893	40.	6403	19296	33%	PLANNED
	Mar '21	176	81.		59.7	140.7	12925	90.	6493	19418	33%	
	Apr '21	177	55.		59.7	114.7	12980	60.	6553	19533	34%	
	May '21	178	23.		59.7	82.7	13003	0.	6553	19556	34%	
	Jun '21	179	25.		59.7	84.7	13028	0.	6553	19581	33%	
2021/22	Jul '21	180	17.		59.7	76.7	13045	60.	6613	19658	34%	
	Aug '21	181	19.		59.7	78.7	13006	90.	6696	19702	34%	
	Sep '21	182	18.		59.7	77.7	12839	90.	6600	19439	34%	
	Oct '21	183	35.		59.7	94.7	12811	90.	6467	19278	34%	
	Nov '21	184	43.		59.7	102.7	12788	90.	6461	19249	34%	
	Dec '21	185	84.		59.7	143.7	12803	40.	6449	19252	33%	
	Jan '22	186	83.		59.7	142.7	12800	40.	6417	19217	33%	
	Feb '22	187	83.		59.7	142.7	12774	40.	6360	19134	33%	
	Mar '22	188	81.		59.7	140.7	12729	90.	6415	19144	34%	
	Apr '22	189	55.		59.7	114.7	12696	60.	6460	19156	34%	
	May '22	190	23.		59.7	82.7	12679	0.	6404	19083	34%	
	Jun '22	191	25.		59.7	84.7	12679	0.	6339	19018	33%	
2022/23	Jul '22	192	17.		59.7	76.7	12671	60.	6348	19019	33%	
	Aug '22	193	19.		59.7	78.7	12654	90.	6403	19057	34%	
	Sep '22	194	18.		59.7	77.7	12641	90.	6469	19110	34%	
	Oct '22	195	35.		59.7	94.7	12654	90.	6550	19204	34%	
	Nov '22	196	43.		59.7	102.7	12667	90.	6635	19302	34%	
	Dec '22	197	84.		59.7	143.7	12704	40.	6670	19374	34%	
	Jan '23	198	83.		59.7	142.7	12772	40.	6710	19482	34%	
	Feb '23	199	83.		59.7	142.7	12830	40.	6750	19580	34%	
	Mar '23	200	81.		59.7	140.7	12830	90.	6840	19670	35%	
	Apr '23	201	55.		59.7	114.7	12830	60.	6900	19730	35%	
	May '23	202	23.		59.7	82.7	12830	0.	6900	19730	35%	
	Jun '23	203	25.		59.7	84.7	12830	0.	6900	19730	35%	

Notes:

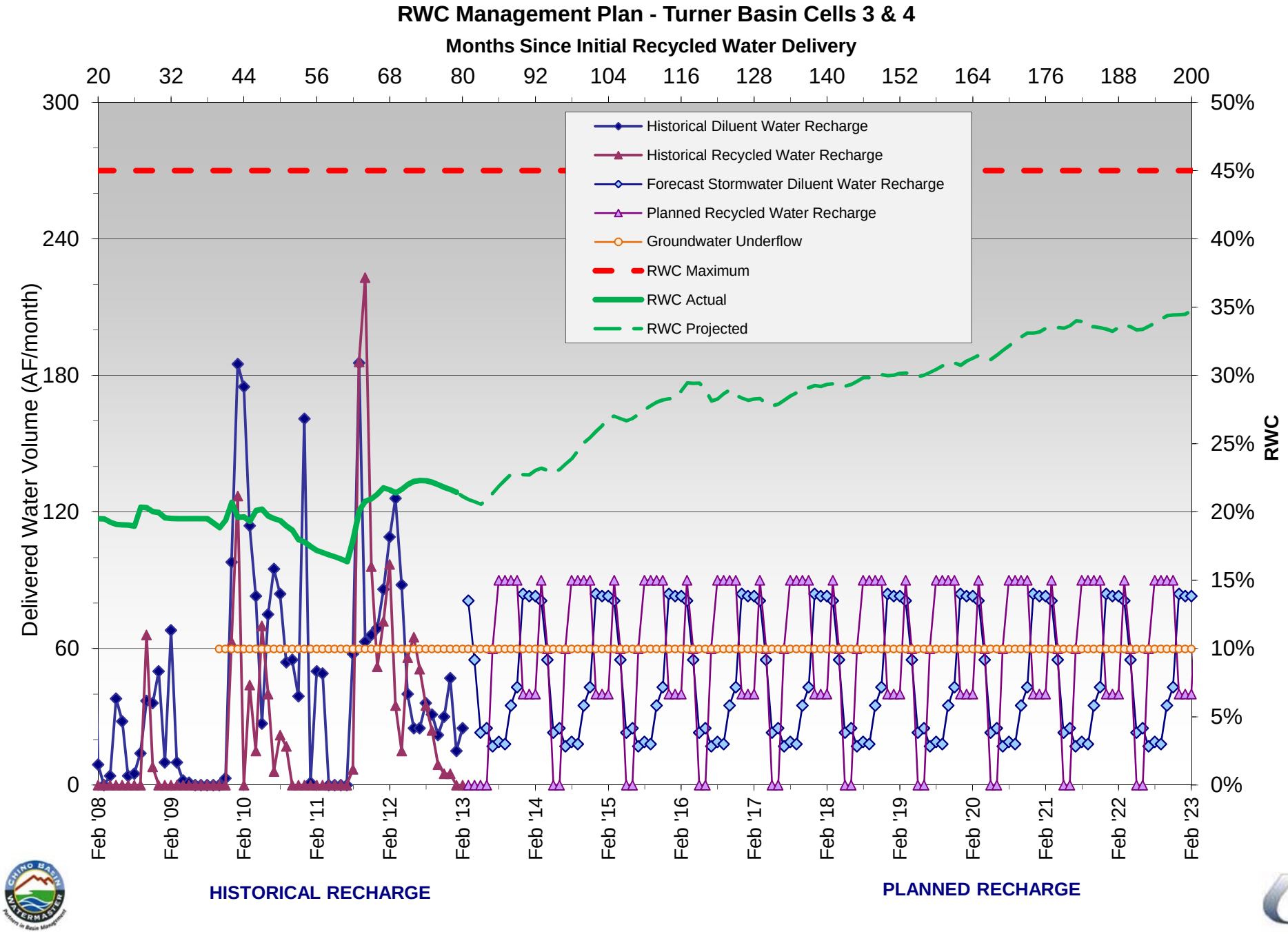
DW = Diluent Water; Total DW is the sum of Stormwater & Local Runoff (SW), Imported Water from the State Water Project (MWD), and groundwater underflow.

RW = Recycled Water

RWC = 120-month running total of recycled water / 120-month running total of all diluent and recycled water.

While an RWC calculation is provided starting on the first month of RW recharge, 120 months of data may not be available until 10 years of recharge operations.

RWC maximum = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC) determined from a recharge site's start-up period


RWC Management Plan - Turner Basin Cells 3 & 4
Months Since Initial Recycled Water Delivery
20
32
44
56
68
80
92
104
116
128
140
152
164
176
188
200
300
240
180
120
60
0
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
RWC
Delivered Water Volume (AF/month)
Historical Diluent Water Recharge
Historical Recycled Water Recharge
Forecast Stormwater Diluent Water Recharge
Planned Recycled Water Recharge
Groundwater Underflow
RWC Maximum
RWC Actual
RWC Projected
Feb '08
Feb '09
Feb '10
Feb '11
Feb '12
Feb '13
Feb '14
Feb '15
Feb '16
Feb '17
Feb '18
Feb '19
Feb '20
Feb '21
Feb '22
Feb '23
HISTORICAL RECHARGE
PLANNED RECHARGE

RWC Management Plan for Victoria Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2007/08	Jul '07	-38	0.	0.		0.	692.4	0.	0.	692.4	0%	
	Aug '07	-37	0.	0.		0.	692.4	0.	0.	692.4	0%	
	Sep '07	-36	5.	0.		5.	697.4	0.	0.	697.4	0%	
	Oct '07	-35	8.	0.		8.	705.4	0.	0.	705.4	0%	
	Nov '07	-34	49.	0.		49.	754.4	0.	0.	754.4	0%	
	Dec '07	-33	66.	0.		66.	820.4	0.	0.	820.4	0%	
	Jan '08	-32	180.	0.		180.	1,000.4	0.	0.	1,000.4	0%	
	Feb '08	-31	61.	0.		61.	1,061.4	0.	0.	1,061.4	0%	
	Mar '08	-30	2.	0.		2.	1,063.4	0.	0.	1,063.4	0%	
	Apr '08	-29	7.	0.		7.	1,070.4	0.	0.	1,070.4	0%	
	May '08	-28	46.	0.		46.	1,116.4	0.	0.	1,116.4	0%	
	Jun '08	-27	3.	0.		3.	1,119.4	0.	0.	1,119.4	0%	
2008/09	Jul '08	-26	3.	0.		3.	1,122.4	0.	0.	1,122.4	0%	MEASURED
	Aug '08	-25	3.	0.		3.	1,125.4	0.	0.	1,125.4	0%	
	Sep '08	-24	2.	0.		2.	1,127.4	0.	0.	1,127.4	0%	
	Oct '08	-23	4.	0.		4.	1,131.4	0.	0.	1,131.4	0%	
	Nov '08	-22	35.	0.		35.	1,166.4	0.	0.	1,166.4	0%	
	Dec '08	-21	74.	0.		74.	1,240.4	0.	0.	1,240.4	0%	
	Jan '09	-20	15.	0.		15.	1,255.4	0.	0.	1,255.4	0%	
	Feb '09	-19	95.	0.		95.	1,350.4	0.	0.	1,350.4	0%	
	Mar '09	-18	13.	0.		13.	1,363.4	0.	0.	1,363.4	0%	
	Apr '09	-17	3.	0.		3.	1,366.4	0.	0.	1,366.4	0%	
	May '09	-16	3.	0.		3.	1,369.4	0.	0.	1,369.4	0%	
	Jun '09	-15	0.	0.		0.	1,369.4	0.	0.	1,369.4	0%	
2009/10	Jul '09	-14	1.	0.		1.	1,370.4	0.	0.	1,370.4	0%	
	Aug '09	-13	0.	0.		0.	1,370.4	0.	0.	1,370.4	0%	
	Sep '09	-12	0.	0.		0.	1,370.4	0.	0.	1,370.4	0%	
	Oct '09	-11	37.	2.		39.	1,409.4	0.	0.	1,409.4	0%	
	Nov '09	-10	19.	0.		19.	1,428.4	0.	0.	1,428.4	0%	
	Dec '09	-9	89.	0.		89.	1,517.4	0.	0.	1,517.4	0%	
	Jan '10	-8	153.	0.		153.	1,670.4	0.	0.	1,670.4	0%	
	Feb '10	-7	174.	0.		174.	1,844.4	0.	0.	1,844.4	0%	
	Mar '10	-6	0.	0.		0.	1,844.4	0.	0.	1,844.4	0%	
	Apr '10	-5	20.	0.		20.	1,864.4	0.	0.	1,864.4	0%	
	May '10	-4	0.	0.		0.	1,864.4	0.	0.	1,864.4	0%	
	Jun '10	-3	1.	0.		1.	1,865.4	0.	0.	1,865.4	0%	
2010/11	Jul '10	-2	3.	0.		3.	1,868.4	0.	0.	1,868.4	0%	
	Aug '10	-1	2.	0.		2.	1,870.4	0.	0.	1,870.4	0%	
	Sep '10	0	2.	0.		2.	1,872.4	67.	67.	1,939.4	3%	START-UP
	Oct '10	1	15.	0.	139.	154.	2,026.3	153.	220.	2,246.3	10%	
	Nov '10	2	34.	0.	139.	173.	2,199.3	117.	337.	2,536.3	13%	
	Dec '10	3	242.	0.	139.	381.	2,580.2	42.	379.	2,959.2	13%	
	Jan '11	4	18.	0.	139.	157.	2,737.2	86.	465.	3,202.2	15%	
	Feb '11	5	72.	0.	139.	211.	2,948.1	67.	532.	3,480.1	15%	
	Mar '11	6	59.	0.	139.	198.	3,146.1	39.	571.	3,717.1	15%	
	Apr '11	7	5.	0.	139.	144.	3,290.1	0.	571.	3,861.1	15%	
	May '11	8	6.	68.8	139.	213.8	3,503.8	141.	712.	4,215.8	17%	
	Jun '11	9	3.	0.	105.	108.	3,611.8	61.	773.	4,384.8	18%	
2011/12	Jul '11	10	4.	0.	105.	109.	3,720.8	62.	835.	4,555.8	18%	
	Aug '11	11	1.	122.7	105.	228.7	3,949.5	52.	887.	4,836.5	18%	
	Sep '11	12	0.	158.3	105.	263.3	4,212.8	0.	887.	5,099.8	17%	
	Oct '11	13	30.	0.	105.	135.	4,347.8	0.	887.	5,234.8	17%	
	Nov '11	14	25.	0.	105.	130.	4,477.8	15.	902.	5,379.8	17%	
	Dec '11	15	9.	0.	105.	114.	4,591.8	25.	927.	5,518.8	17%	
	Jan '12	16	11.	0.	105.	116.	4,707.8	0.	927.	5,634.8	16%	
	Feb '12	17	4.	0.	105.	109.	4,816.8	0.	927.	5,743.8	16%	
	Mar '12	18	18.	0.	105.	123.	4,939.8	0.	927.	5,866.8	16%	
	Apr '12	19	96.	0.	105.	201.	5,140.8	18.	945.	6,085.8	16%	
	May '12	20	20.	0.	105.	125.	5,265.8	271.	1,216.	6,481.8	19%	
	Jun '12	21	3.	0.	105.	108.	5,373.8	222.	1,438.	6,811.8	21%	
2012/13	Jul '12	22	3.	0.	105.	108.	5,481.8	94.	1,532.	7,013.8	22%	HISTORICAL
	Aug '12	23	5.	0.	105.	110.	5,591.8	118.	1,650.	7,241.8	23%	
	Sep '12	24	1.	0.	105.	106.	5,697.8	55.	1,705.	7,402.8	23%	
	Oct '12	25	1.	0.	105.	106.	5,803.8	131.	1,836.	7,639.8	24%	
	Nov '12	26	6.	0.	105.	111.	5,914.8	71.	1,907.	7,821.8	24%	
	Dec '12	27	19.	0.	105.	124.	6,038.8	21.	1,928.	7,966.8	24%	
	Jan '13	28	35.	0.	105.	140.	6,178.8	12.	1,940.	8,118.8	24%	
	Feb '13	29	10.	0.	105.	115.	6,293.8	10.	1,950.	8,243.8	24%	
	Mar '13	30	30.		105.	135.	6,428.8	100.	2,050.	8,478.8	24%	PLAN
	Apr '13	31	32.		105.	137.	6,565.8	100.	2,150.	8,715.8	25%	
	May '13	32	16.		105.	121.	6,686.8	100.	2,250.	8,936.8	25%	
	Jun '13	33	4.		105.	109.	6,795.8	75.	2,325.	9,120.8	25%	

RWC Management Plan for Victoria Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2013/14	Jul '13	34	3.		105.	108.	6,903.8	50.	2,375.	9,278.8	26%	
	Aug '13	35	2.		105.	107.	7,010.8	0.	2,375.	9,385.8	25%	
	Sep '13	36	2.		105.	107.	7,117.8	0.	2,375.	9,492.8	25%	
	Oct '13	37	19.		105.	124.	7,241.8	170.	2,545.	9,786.8	26%	
	Nov '13	38	22.		105.	127.	7,368.8	170.	2,715.	10,083.8	27%	
	Dec '13	39	75.		105.	180.	7,548.8	100.	2,815.	10,363.8	27%	
	Jan '14	40	57.		105.	162.	7,710.8	100.	2,915.	10,625.8	27%	
	Feb '14	41	66.		105.	171.	7,881.8	100.	3,015.	10,896.8	28%	
	Mar '14	42	30.		105.	135.	8,016.8	160.	3,175.	11,191.8	28%	
	Apr '14	43	32.		105.	137.	8,153.8	170.	3,345.	11,498.8	29%	
	May '14	44	16.		105.	121.	8,274.8	170.	3,515.	11,789.8	30%	
	Jun '14	45	4.		105.	109.	8,383.8	170.	3,685.	12,068.8	31%	
2014/15	Jul '14	46	3.		105.	108.	8,491.8	170.	3,855.	12,346.8	31%	
	Aug '14	47	2.		105.	107.	8,598.8	0.	3,855.	12,453.8	31%	
	Sep '14	48	2.		105.	107.	8,705.8	0.	3,855.	12,560.8	31%	
	Oct '14	49	19.		105.	124.	8,829.8	170.	4,025.	12,854.8	31%	
	Nov '14	50	22.		105.	127.	8,956.8	170.	4,195.	13,151.8	32%	
	Dec '14	51	75.		105.	180.	9,136.8	100.	4,295.	13,431.8	32%	
	Jan '15	52	57.		105.	162.	9,298.8	100.	4,395.	13,693.8	32%	
	Feb '15	53	66.		105.	171.	9,469.8	100.	4,495.	13,964.8	32%	
	Mar '15	54	30.		105.	135.	9,604.8	160.	4,655.	14,259.8	33%	
	Apr '15	55	32.		105.	137.	9,682.8	170.	4,825.	14,507.8	33%	
	May '15	56	16.		105.	121.	9,777.8	170.	4,995.	14,772.8	34%	
	Jun '15	57	4.		105.	109.	9,874.8	170.	5,165.	15,039.8	34%	
2015/16	Jul '15	58	3.		105.	108.	9,982.8	170.	5,335.	15,317.8	35%	
	Aug '15	59	2.		105.	107.	10,089.8	0.	5,335.	15,424.8	35%	
	Sep '15	60	2.		105.	107.	10,196.8	0.	5,335.	15,531.8	34%	
	Oct '15	61	19.		105.	124.	10,271.8	170.	5,505.	15,776.8	35%	
	Nov '15	62	22.		105.	127.	10,398.8	170.	5,675.	16,073.8	35%	
	Dec '15	63	75.		105.	180.	10,569.4	100.	5,775.	16,344.4	35%	
	Jan '16	64	57.		105.	162.	10,705.6	100.	5,875.	16,580.6	35%	
	Feb '16	65	66.		105.	171.	10,834.	100.	5,975.	16,809.	36%	
	Mar '16	66	30.		105.	135.	10,859.2	160.	6,135.	16,994.2	36%	
	Apr '16	67	32.		105.	137.	10,937.5	170.	6,305.	17,242.5	37%	
	May '16	68	16.		105.	121.	11,029.8	170.	6,475.	17,504.8	37%	
	Jun '16	69	4.		105.	109.	11,126.8	170.	6,645.	17,771.8	37%	
2016/17	Jul '16	70	3.		105.	108.	11,226.1	170.	6,815.	18,041.1	38%	
	Aug '16	71	2.		105.	107.	11,330.	0.	6,815.	18,145.	38%	
	Sep '16	72	2.		105.	107.	11,434.	0.	6,815.	18,249.	37%	
	Oct '16	73	19.		105.	124.	11,549.9	170.	6,985.	18,534.9	38%	
	Nov '16	74	22.		105.	127.	11,672.9	170.	7,155.	18,827.9	38%	
	Dec '16	75	75.		105.	180.	11,764.1	100.	7,255.	19,019.1	38%	
	Jan '17	76	57.		105.	162.	11,911.4	100.	7,355.	19,266.4	38%	
	Feb '17	77	66.		105.	171.	12,012.7	100.	7,455.	19,467.7	38%	
	Mar '17	78	30.		105.	135.	12,139.4	160.	7,615.	19,754.4	39%	
	Apr '17	79	32.		105.	137.	12,241.4	170.	7,785.	20,026.4	39%	
	May '17	80	16.		105.	121.	12,355.4	170.	7,955.	20,310.4	39%	
	Jun '17	81	4.		105.	109.	12,455.4	170.	8,125.	20,580.4	39%	
2017/18	Jul '17	82	3.		105.	108.	12,563.4	170.	8,295.	20,858.4	40%	
	Aug '17	83	2.		105.	107.	12,670.4	0.	8,295.	20,965.4	40%	
	Sep '17	84	2.		105.	107.	12,772.4	0.	8,295.	21,067.4	39%	
	Oct '17	85	19.		105.	124.	12,888.4	170.	8,465.	21,353.4	40%	
	Nov '17	86	22.		105.	127.	12,966.4	170.	8,635.	21,601.4	40%	
	Dec '17	87	75.		105.	180.	13,080.4	100.	8,735.	21,815.4	40%	
	Jan '18	88	57.		105.	162.	13,062.4	100.	8,835.	21,897.4	40%	
	Feb '18	89	66.		105.	171.	13,172.4	100.	8,935.	22,107.4	40%	
	Mar '18	90	30.		105.	135.	13,305.4	160.	9,095.	22,400.4	41%	
	Apr '18	91	32.		105.	137.	13,435.4	170.	9,265.	22,700.4	41%	
	May '18	92	16.		105.	121.	13,510.4	170.	9,435.	22,945.4	41%	
	Jun '18	93	4.		105.	109.	13,616.4	170.	9,605.	23,221.4	41%	
2018/19	Jul '18	94	3.		105.	108.	13,721.4	170.	9,775.	23,496.4	42%	
	Aug '18	95	2.		105.	107.	13,825.4	0.	9,775.	23,600.4	41%	
	Sep '18	96	2.		105.	107.	13,930.4	0.	9,775.	23,705.4	41%	
	Oct '18	97	19.		105.	124.	14,050.4	170.	9,945.	23,995.4	41%	
	Nov '18	98	22.		105.	127.	14,142.4	170.	10,115.	24,257.4	42%	
	Dec '18	99	75.		105.	180.	14,248.4	100.	10,215.	24,463.4	42%	
	Jan '19	100	57.		105.	162.	14,395.4	100.	10,315.	24,710.4	42%	
	Feb '19	101	66.		105.	171.	14,471.4	100.	10,415.	24,886.4	42%	
	Mar '19	102	30.		105.	135.	14,593.4	160.	10,575.	25,168.4	42%	
	Apr '19	103	32.		105.	137.	14,727.4	170.	10,745.	25,472.4	42%	
	May '19	104	16.		105.	121.	14,845.4	170.	10,915.	25,760.4	42%	
	Jun '19	105	4.		105.	109.	14,954.4	170.	11,085.	26,039.4	43%	

PLANNED

RWC Management Plan for Victoria Basin

(120-month averaging period)

Calculation of Recycled Water Contribution (RWC) from Historical Diluent Water (DW) and Recycled Water (RW) Deliveries

Date		No. Mos. Since Initial RW Delivery	SW (AF)	MWD (AF)	Underflow (AF)	DW Total (AF)	DW 120-Month Total (AF)	RW (AF)	RW 120-Month Total (AF)	DW + RW 120-Month Total (AF)	RWC	Period
2019/20	Jul '19	106	3.		105.	108.	15,061.4	170.	11,255.	26,316.4	43%	
	Aug '19	107	2.		105.	107.	15,168.4	0.	11,255.	26,423.4	43%	
	Sep '19	108	2.		105.	107.	15,275.4	0.	11,255.	26,530.4	42%	
	Oct '19	109	19.		105.	124.	15,360.4	170.	11,425.	26,785.4	43%	
	Nov '19	110	22.		105.	127.	15,468.4	170.	11,595.	27,063.4	43%	
	Dec '19	111	75.		105.	180.	15,559.4	100.	11,695.	27,254.4	43%	
	Jan '20	112	57.		105.	162.	15,568.4	100.	11,795.	27,363.4	43%	
	Feb '20	113	66.		105.	171.	15,565.4	100.	11,895.	27,460.4	43%	
	Mar '20	114	30.		105.	135.	15,700.4	160.	12,055.	27,755.4	43%	
	Apr '20	115	32.		105.	137.	15,817.4	170.	12,225.	28,042.4	44%	
	May '20	116	16.		105.	121.	15,938.4	170.	12,395.	28,333.4	44%	
	Jun '20	117	4.		105.	109.	16,046.4	170.	12,565.	28,611.4	44%	
2020/21	Jul '20	118	3.		105.	108.	16,151.4	170.	12,735.	28,886.4	44%	
	Aug '20	119	2.		105.	107.	16,256.4	0.	12,735.	28,991.4	44%	
	Sep '20	120	2.		105.	107.	16,361.4	0.	12,668.	29,029.4	44%	
	Oct '20	121	19.		105.	124.	16,331.5	170.	12,685.	29,016.5	44%	
	Nov '20	122	22.		105.	127.	16,285.5	170.	12,738.	29,023.5	44%	
	Dec '20	123	75.		105.	180.	16,084.6	100.	12,796.	28,880.6	44%	
	Jan '21	124	57.		105.	162.	16,089.6	100.	12,810.	28,899.6	44%	
	Feb '21	125	66.		105.	171.	16,049.7	100.	12,843.	28,892.7	44%	
	Mar '21	126	30.		105.	135.	15,986.7	160.	12,964.	28,950.7	45%	
	Apr '21	127	32.		105.	137.	15,979.8	170.	13,134.	29,113.8	45%	
	May '21	128	16.		105.	121.	15,887.	170.	13,163.	29,050.	45%	PLANNED
	Jun '21	129	4.		105.	109.	15,888.	170.	13,272.	29,160.	46%	
2021/22	Jul '21	130	3.		105.	108.	15,887.	170.	13,380.	29,267.	46%	
	Aug '21	131	2.		105.	107.	15,765.3	0.	13,328.	29,093.3	46%	
	Sep '21	132	2.		105.	107.	15,609.	0.	13,328.	28,937.	46%	
	Oct '21	133	19.		105.	124.	15,598.	170.	13,498.	29,096.	46%	
	Nov '21	134	22.		105.	127.	15,595.	170.	13,653.	29,248.	47%	
	Dec '21	135	75.		105.	180.	15,661.	100.	13,728.	29,389.	47%	
	Jan '22	136	57.		105.	162.	15,707.	100.	13,828.	29,535.	47%	
	Feb '22	137	66.		105.	171.	15,769.	100.	13,928.	29,697.	47%	
	Mar '22	138	30.		105.	135.	15,781.	160.	14,088.	29,869.	47%	
	Apr '22	139	32.		105.	137.	15,717.	170.	14,240.	29,957.	48%	
	May '22	140	16.		105.	121.	15,713.	170.	14,139.	29,852.	47%	
	Jun '22	141	4.		105.	109.	15,714.	170.	14,087.	29,801.	47%	
2022/23	Jul '22	142	3.		105.	108.	15,714.	170.	14,163.	29,877.	47%	
	Aug '22	143	2.		105.	107.	15,711.	0.	14,045.	29,756.	47%	
	Sep '22	144	2.		105.	107.	15,712.	0.	13,990.	29,702.	47%	
	Oct '22	145	19.		105.	124.	15,730.	170.	14,029.	29,759.	47%	
	Nov '22	146	22.		105.	127.	15,746.	170.	14,128.	29,874.	47%	
	Dec '22	147	75.		105.	180.	15,802.	100.	14,207.	30,009.	47%	
	Jan '23	148	57.		105.	162.	15,824.	100.	14,295.	30,119.	47%	
	Feb '23	149	66.		105.	171.	15,880.	100.	14,385.	30,265.	48%	
	Mar '23	150	30.		105.	135.	15,880.	160.	14,445.	30,325.	48%	
	Apr '23	151	32.		105.	137.	15,880.	170.	14,515.	30,395.	48%	
	May '23	152	16.		105.	121.	15,880.	170.	14,585.	30,465.	48%	
	Jun '23	153	4.		105.	109.	15,880.	170.	14,680.	30,560.	48%	

Notes:

DW = Diluent Water; Total DW is the sum of Stormwater & Local Runoff (SW), Imported Water from the State Water Project (MWD), and groundwater underflow.

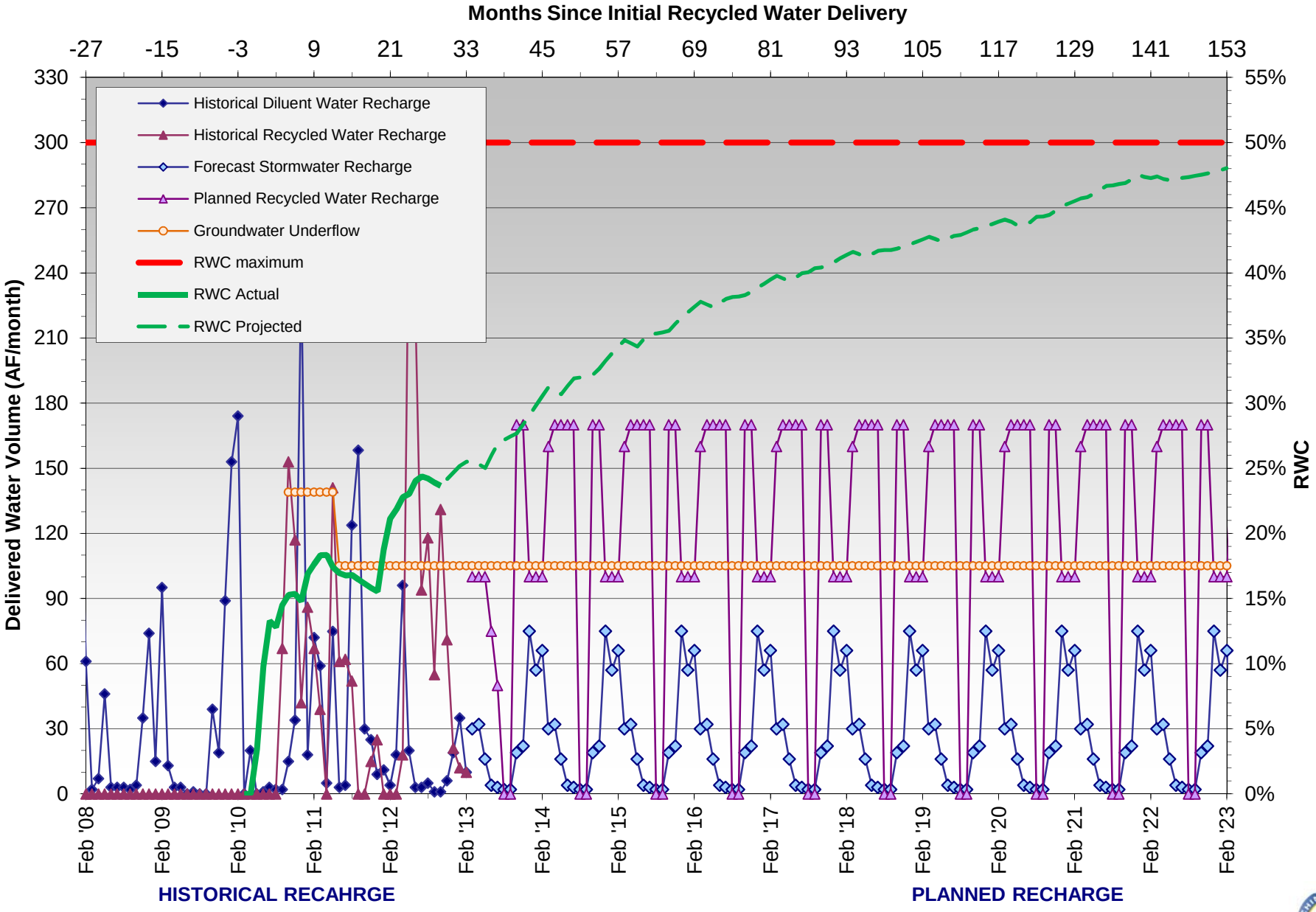
RW = Recycled Water

RWC = 120-month running total of recycled water / 120-month running total of all diluent and recycled water.

While an RWC calculation is provided starting on the first month of RW recharge, 120 months of data may not be available until 10 years of recharge operations.

RWC maximum = 0.5 mg/L / the Running Average of Total Organic Carbon (TOC) determined from a recharge site's start-up period

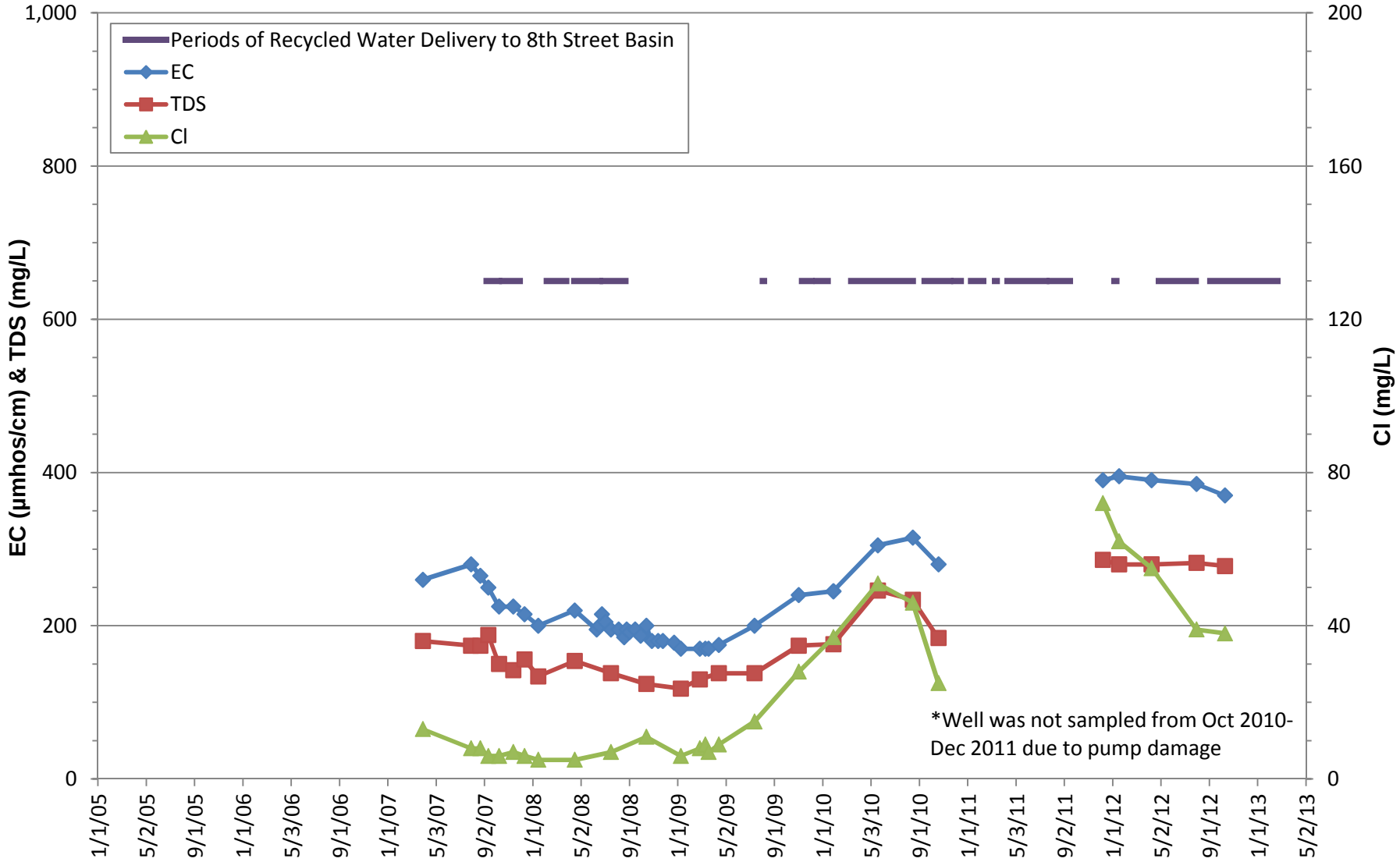
RWC Management Plan - Victoria Basin



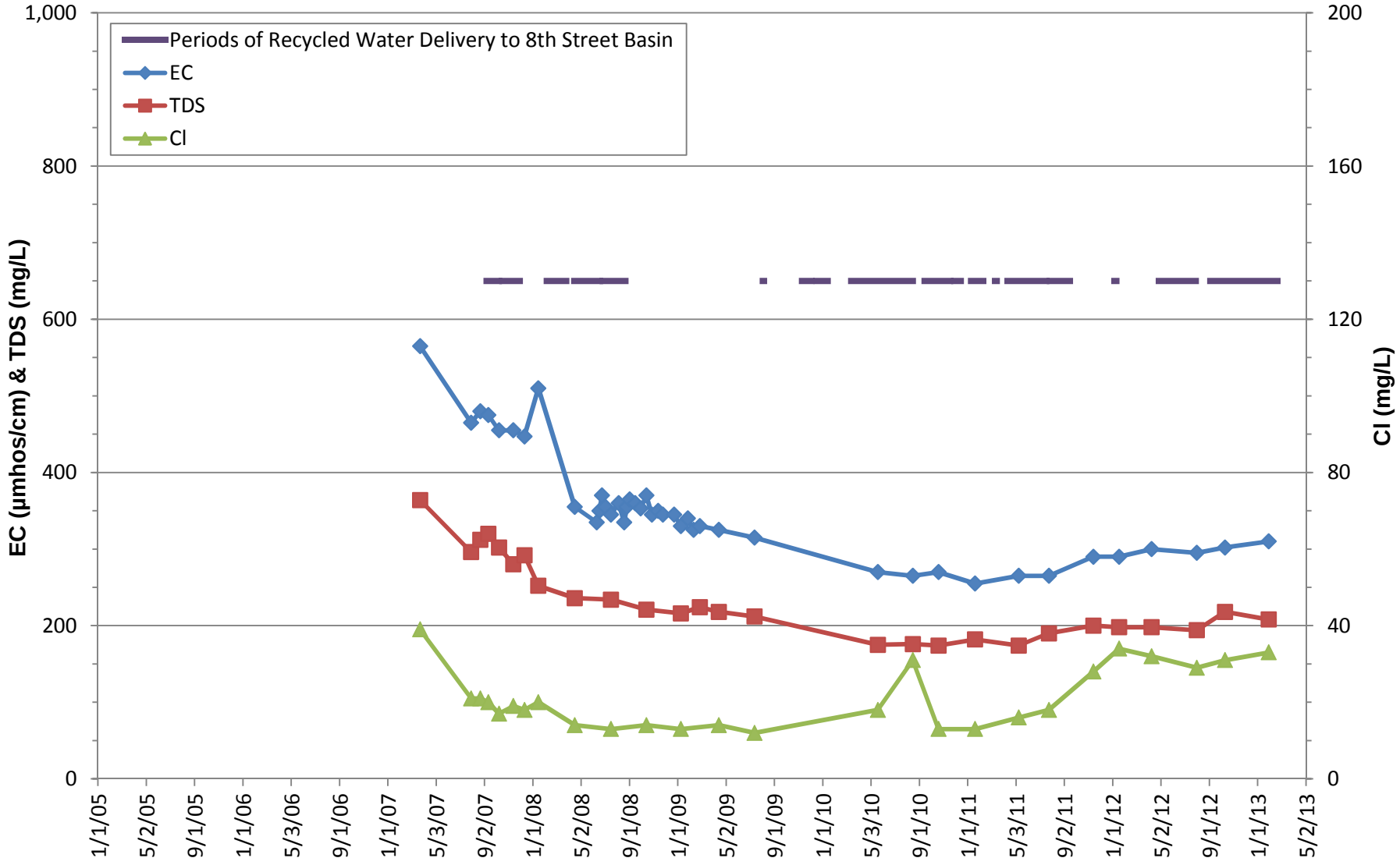
APPENDIX C

EVIDENCE FOR BLENDING:

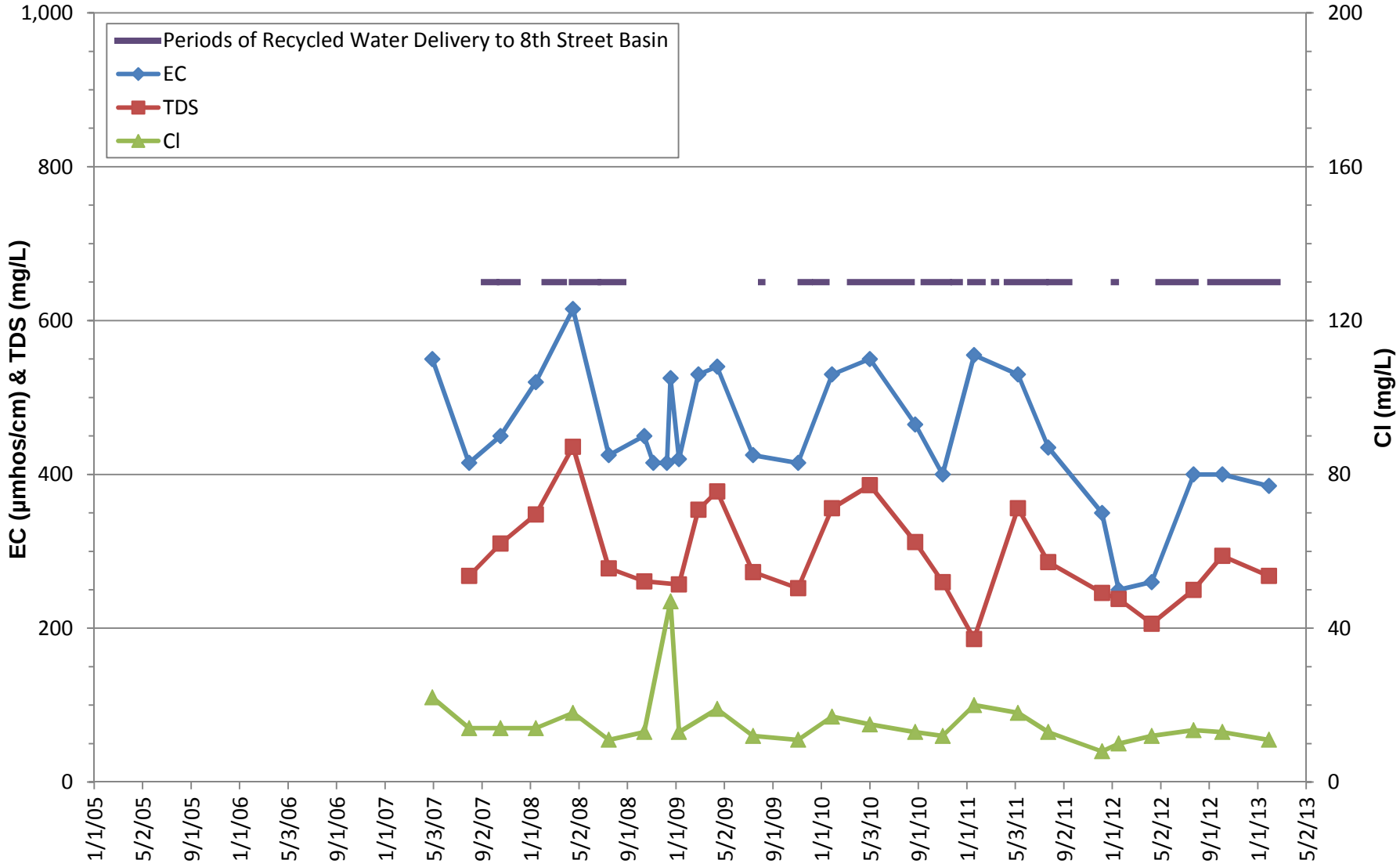
EC, TDS, CHLORIDE TIME-SERIES GRAPHS



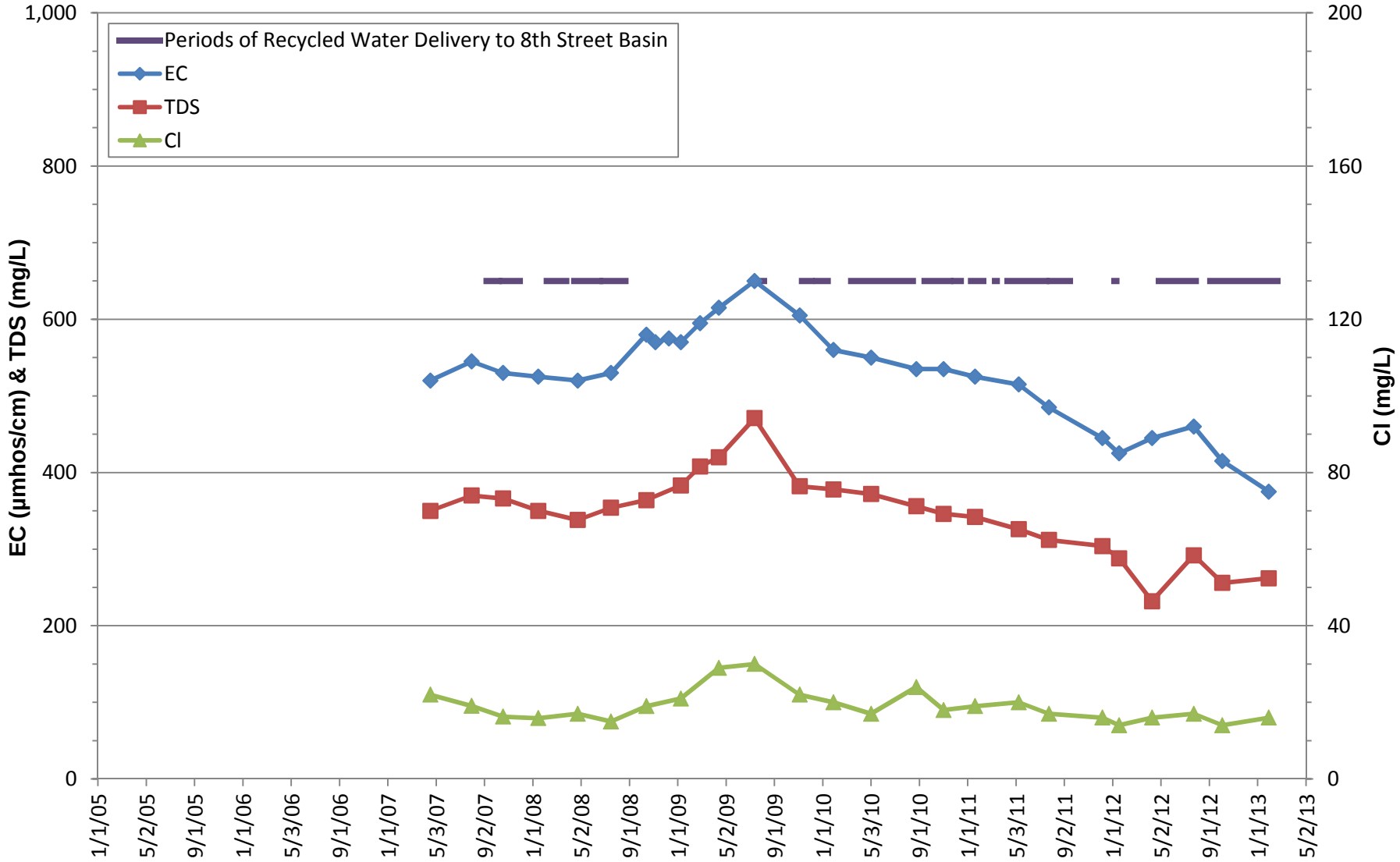
EC, TDS, CHLORIDE TRENDS
8TH STREET BASIN
MW 8TH-1/1



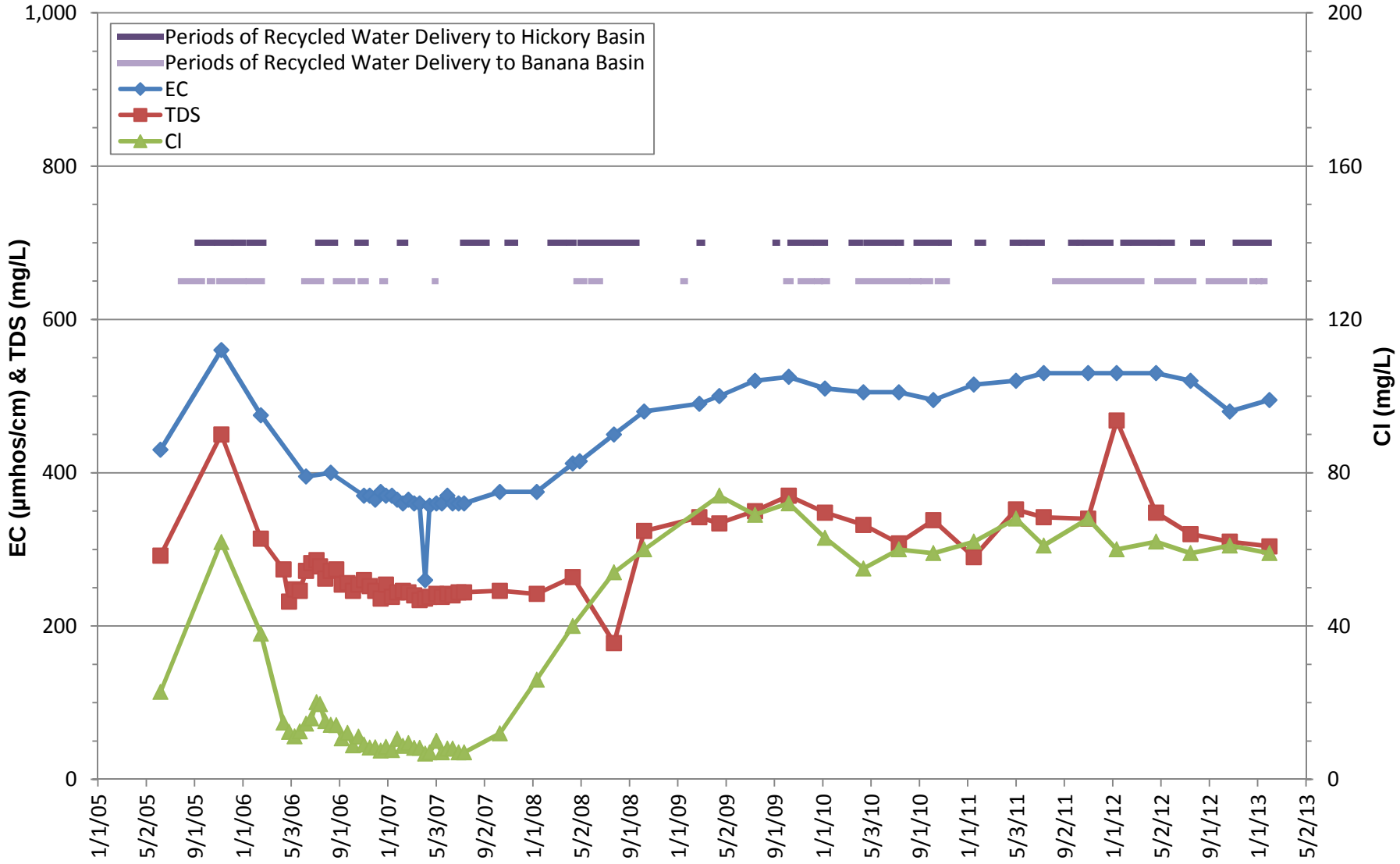
EC, TDS, CHLORIDE TRENDS
8TH STREET BASIN
MW 8TH-1/2



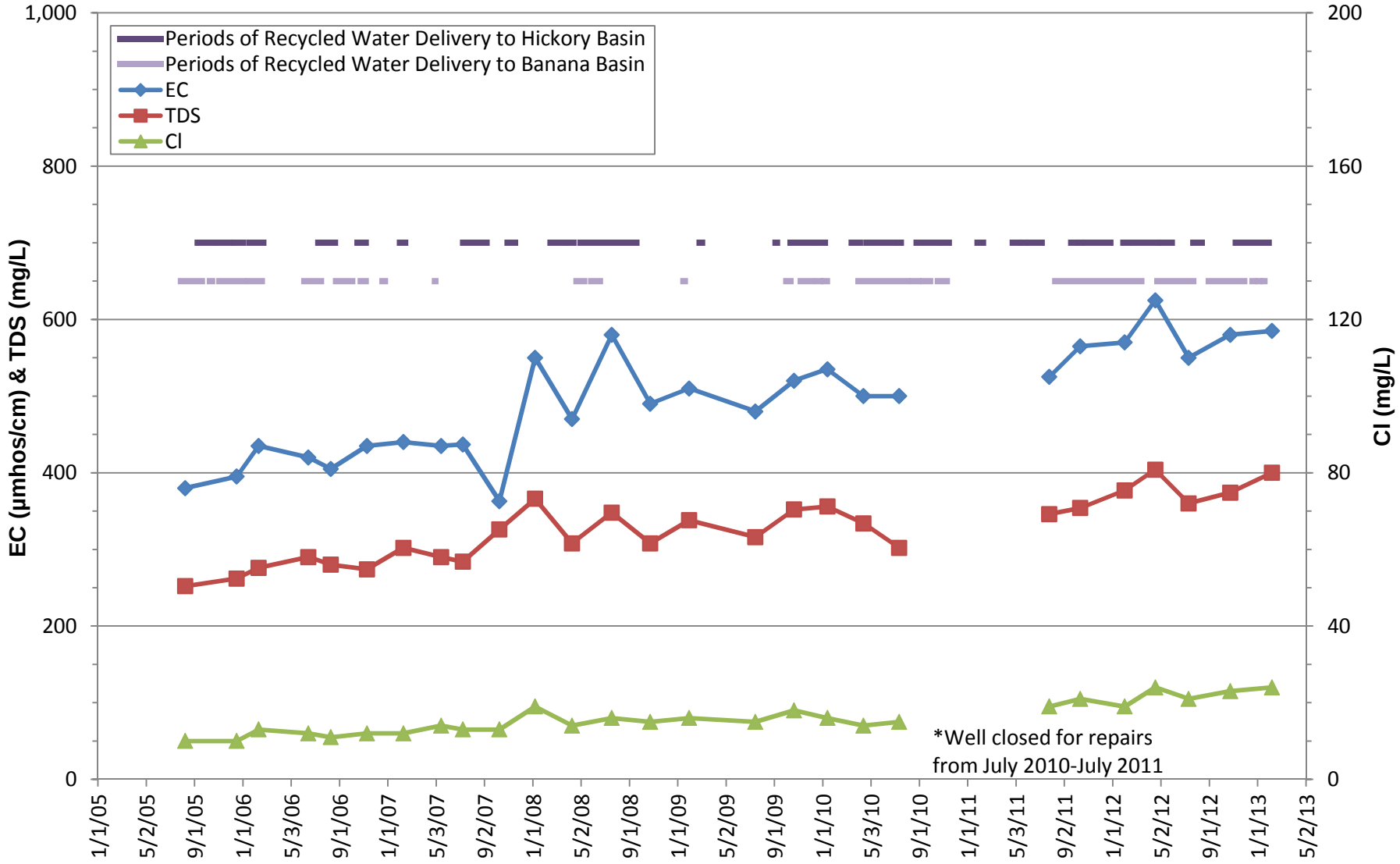
EC, TDS, CHLORIDE TRENDS
8TH STREET BASIN
MW 8TH-2/1



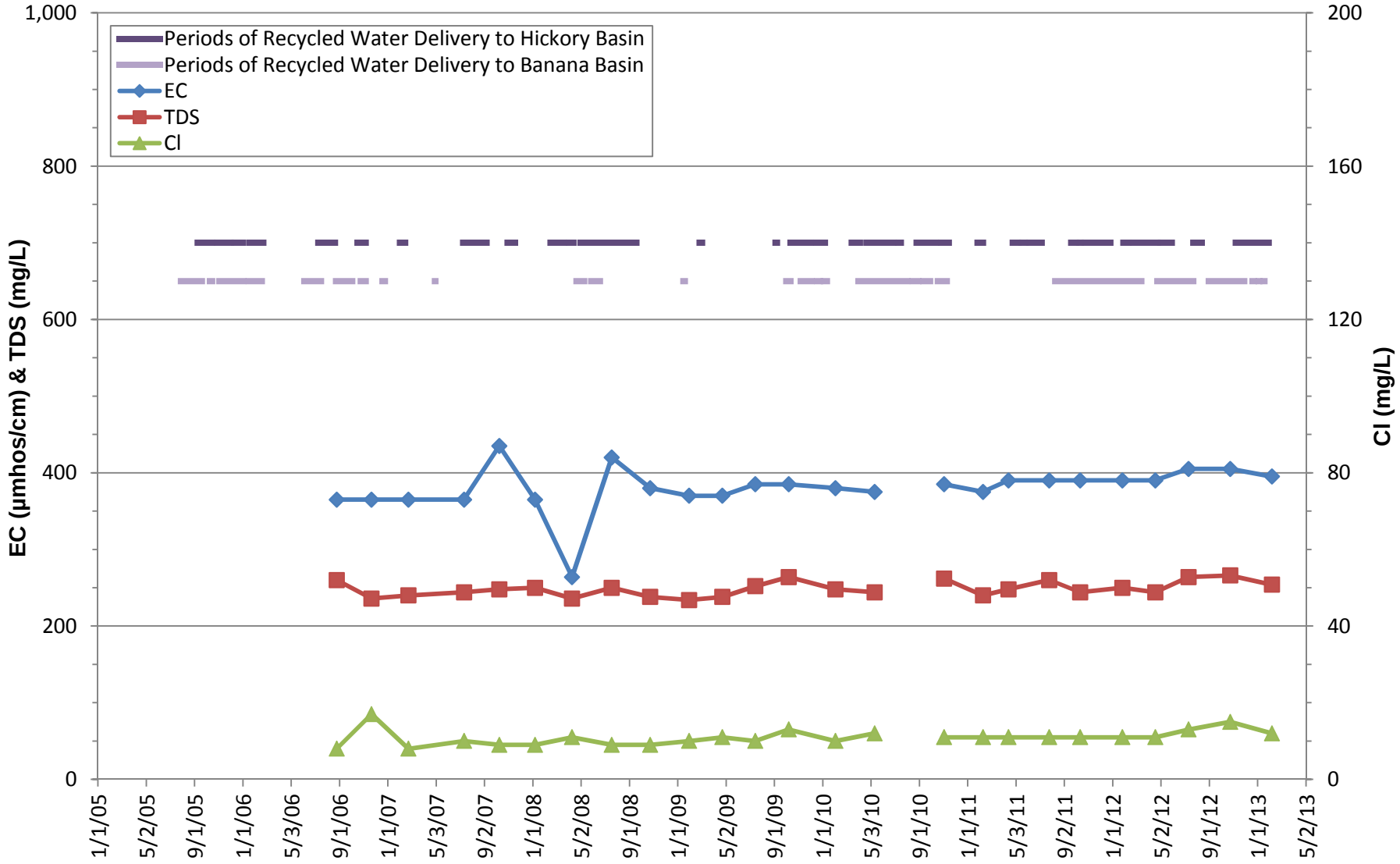
EC, TDS, CHLORIDE TRENDS
8TH STREET BASIN
MW 8TH-2/2



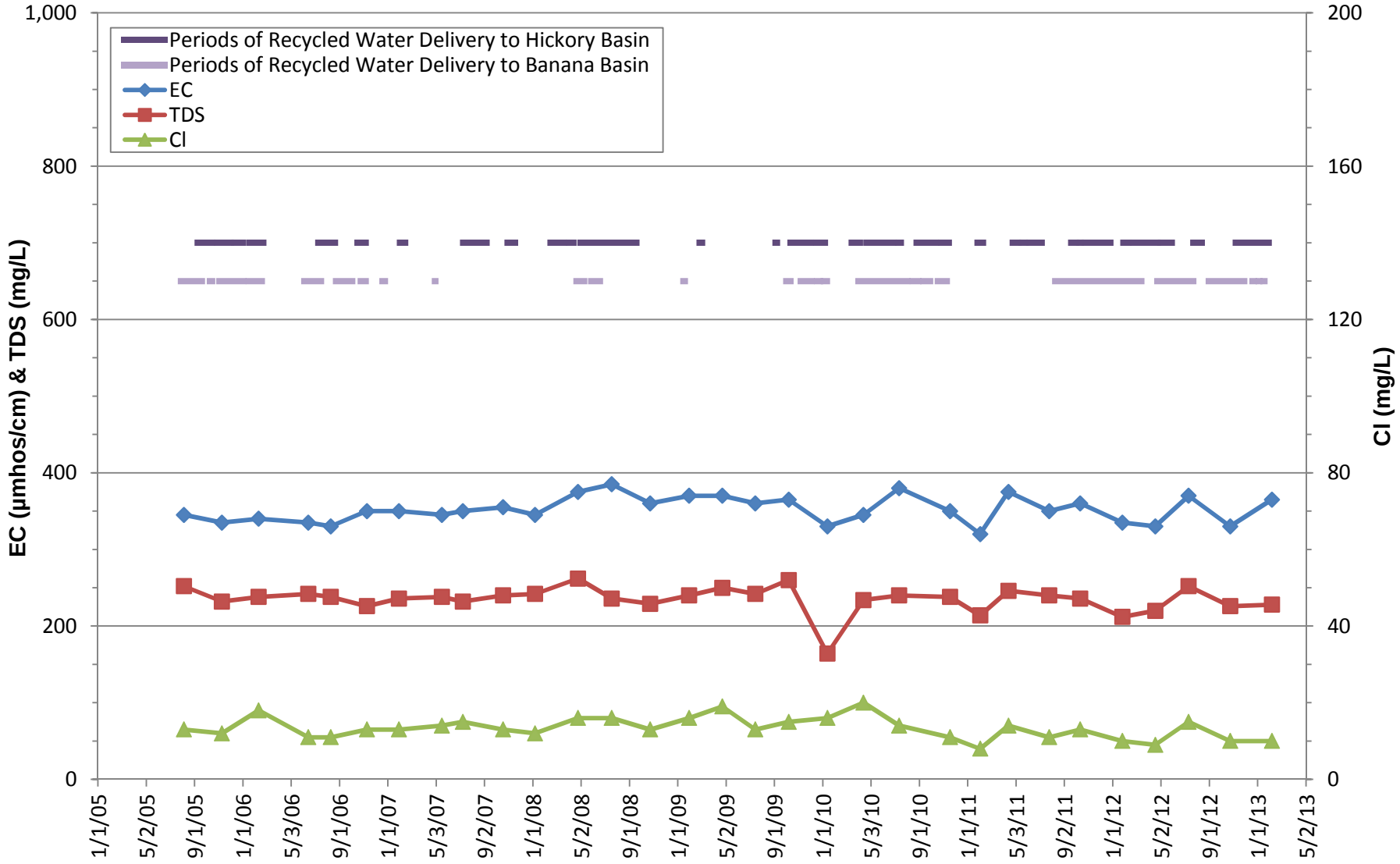
EC, TDS, CHLORIDE TRENDS
HICKORY BANANA BASINS
MW BH-1/2



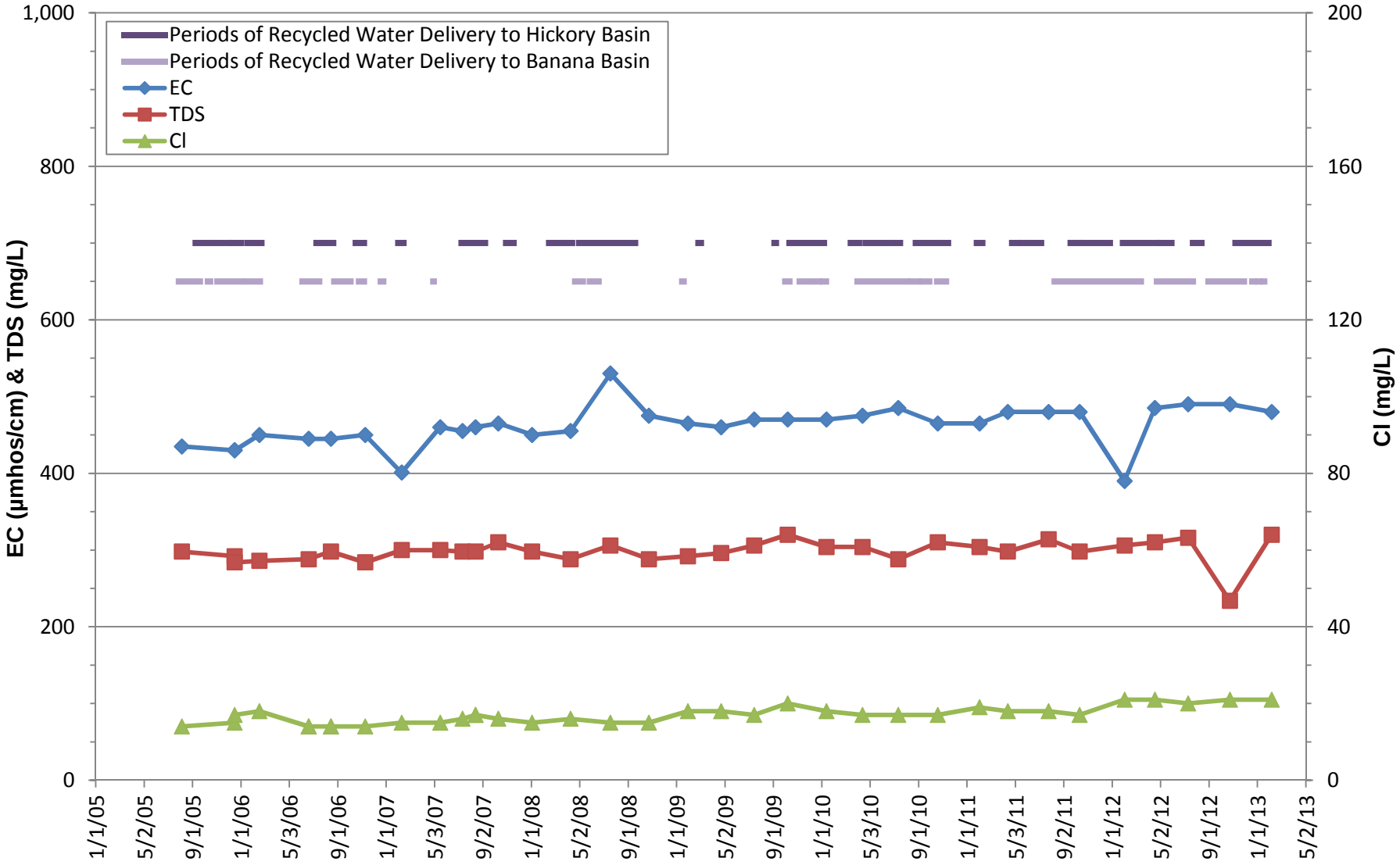
EC, TDS, CHLORIDE TRENDS
BANANA-HICKORY BASINS
CALIFORNIA SPEEDWAY INFIELD WELL



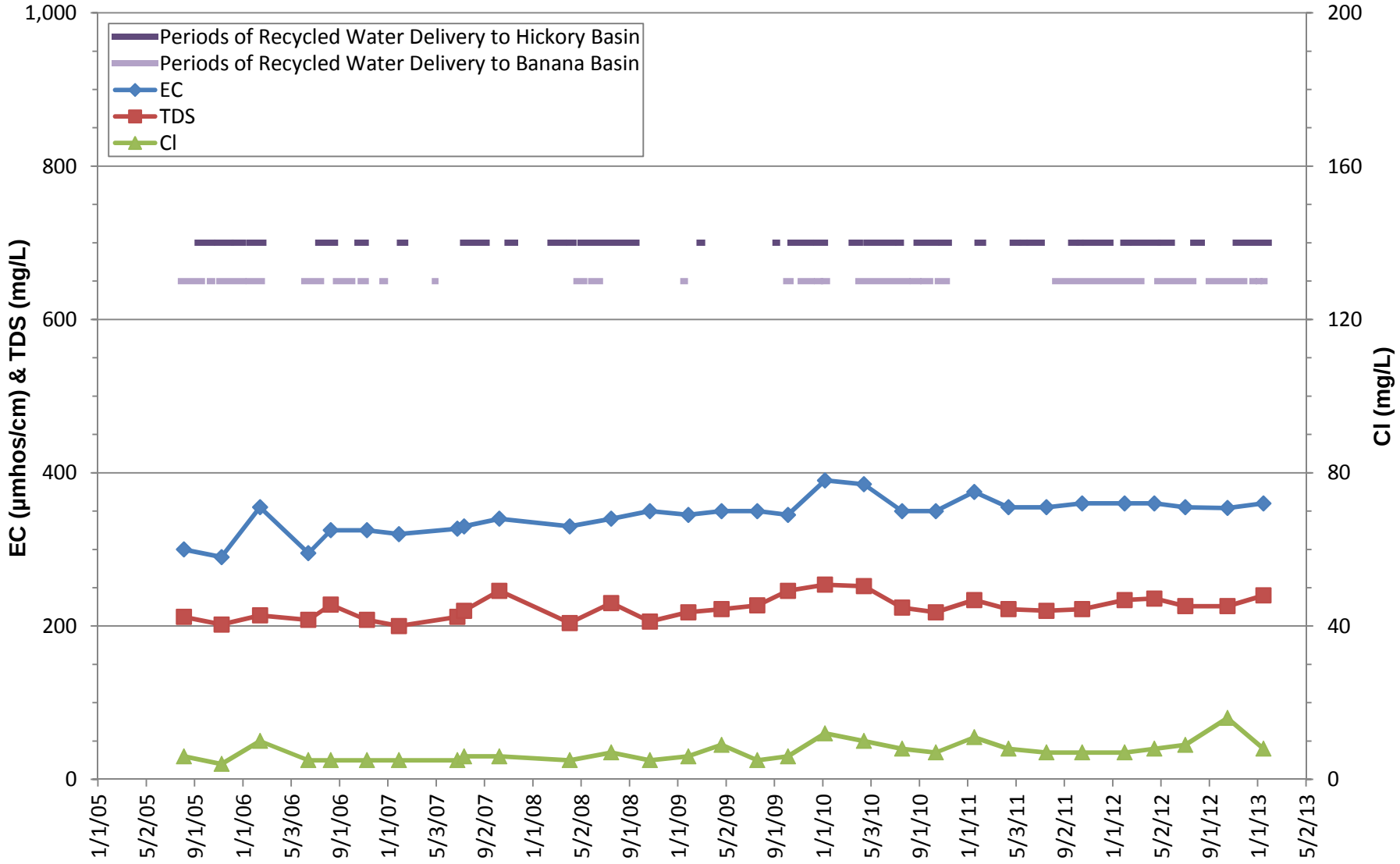
EC, TDS, CHLORIDE TRENDS
BANANA-HICKORY BASINS
CALIFORNIA SPEEDWAY NO. 2



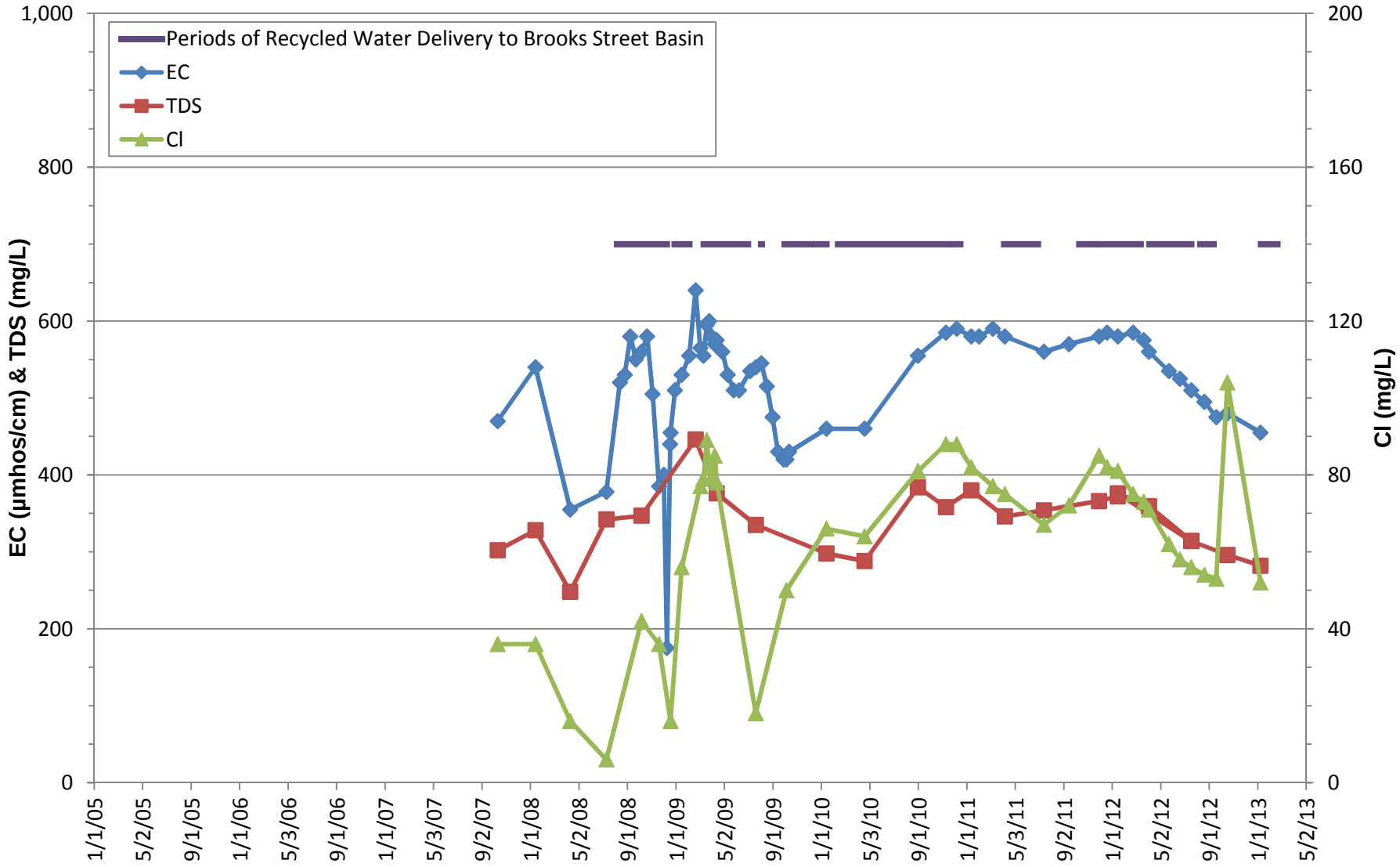
EC, TDS, CHLORIDE TRENDS
BANANA-HICKORY BASINS
RELIANT EAST WELL



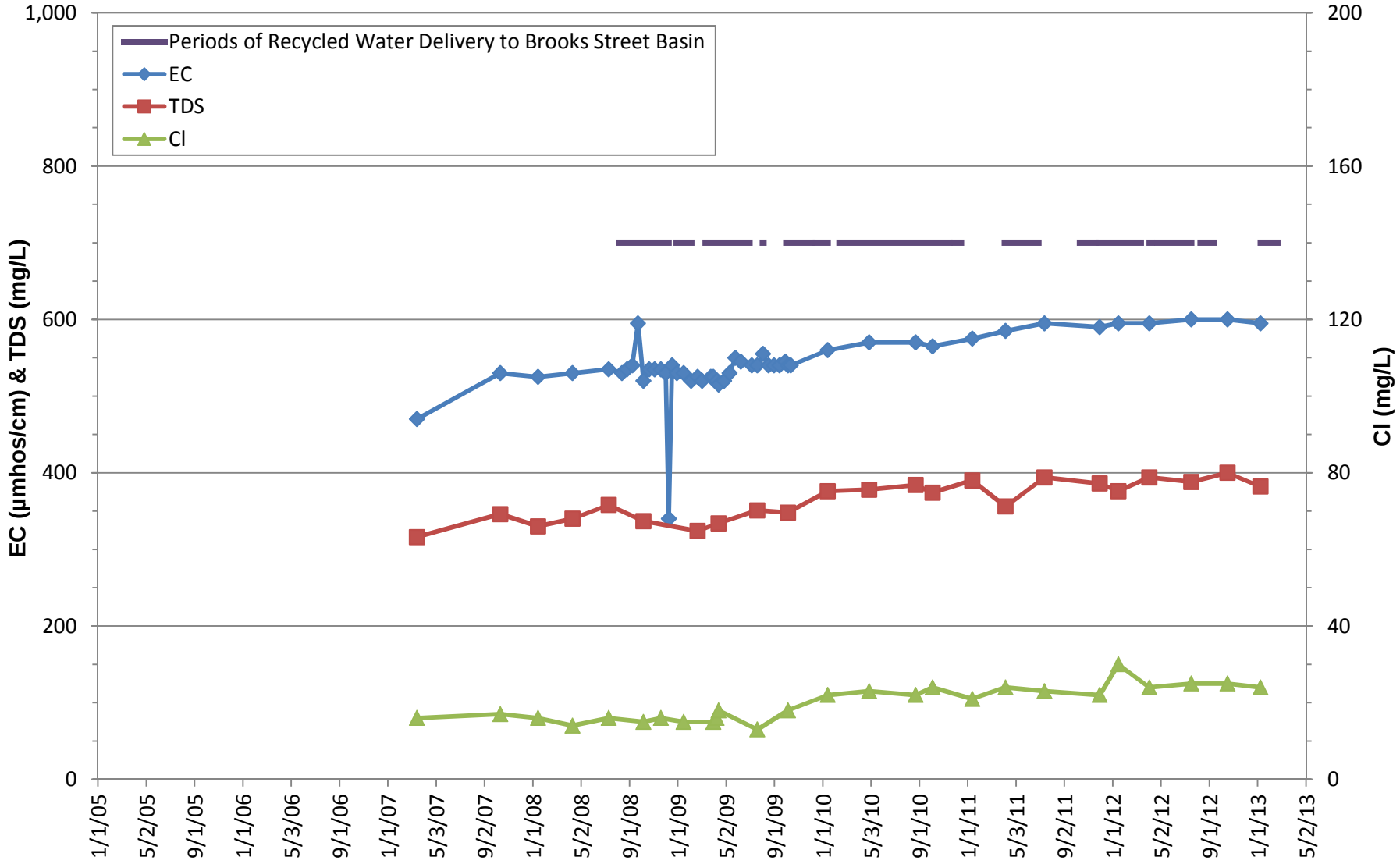
EC, TDS, CHLORIDE TRENDS
BANANA-HICKORY BASINS
FONTANA WATER CO. 37A



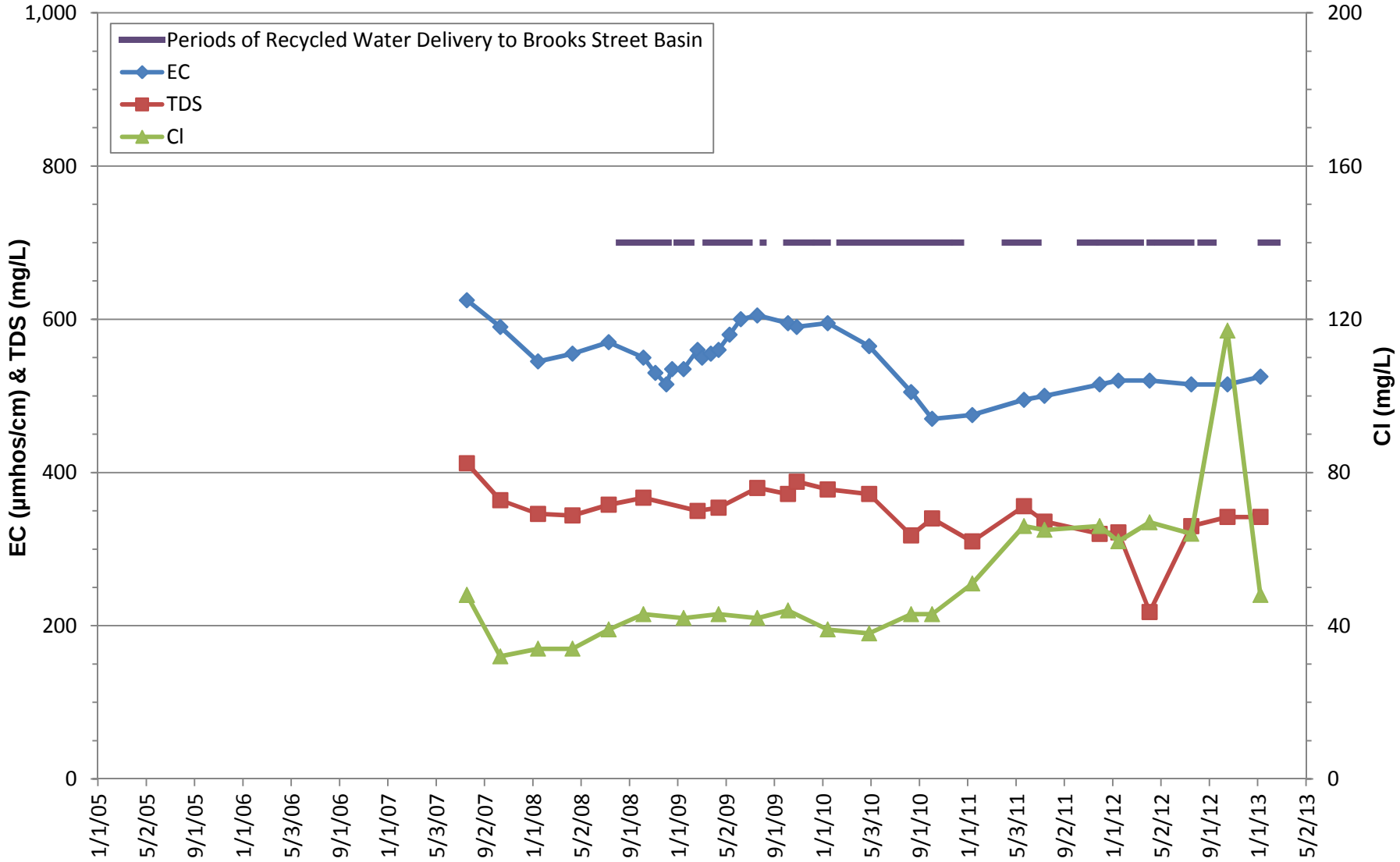
EC, TDS, CHLORIDE TRENDS
BANANA-HICKORY BASINS
ONTARIO NO. 20



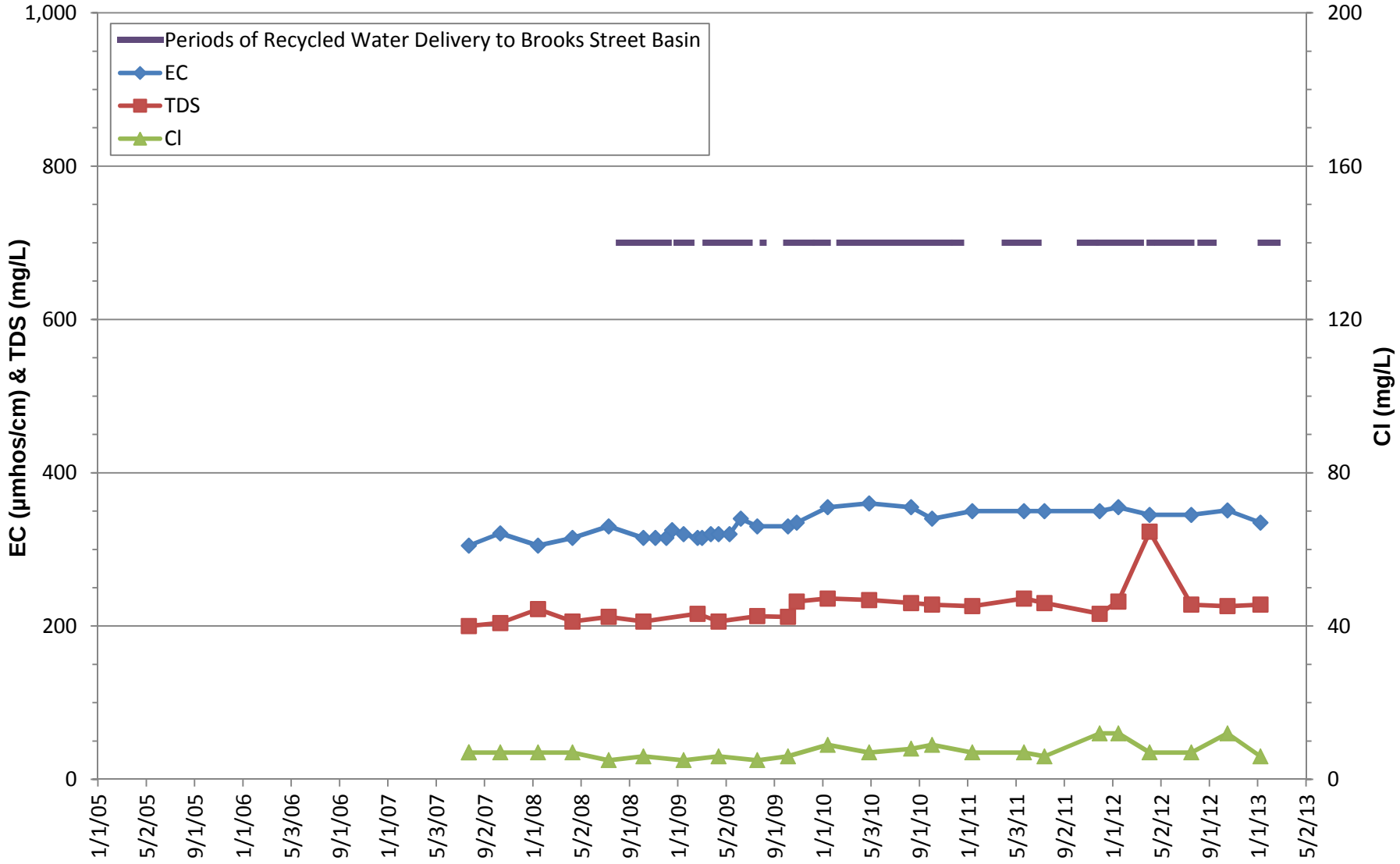
EC, TDS, CHLORIDE TRENDS
BROOKS STREET BASIN
MW BRK-1/1



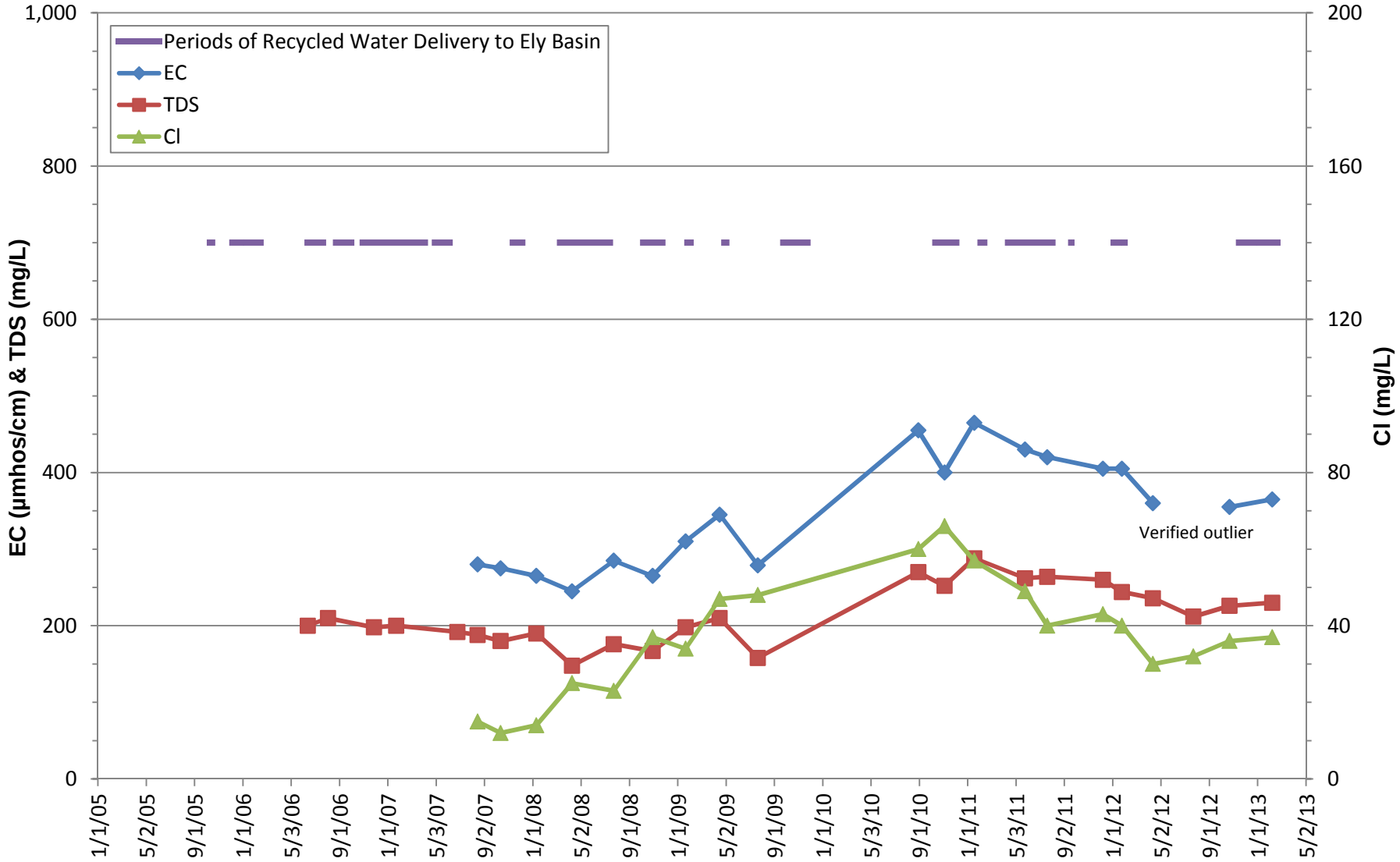
EC, TDS, CHLORIDE TRENDS
BROOKS STREET BASIN
MW BRK-1/2



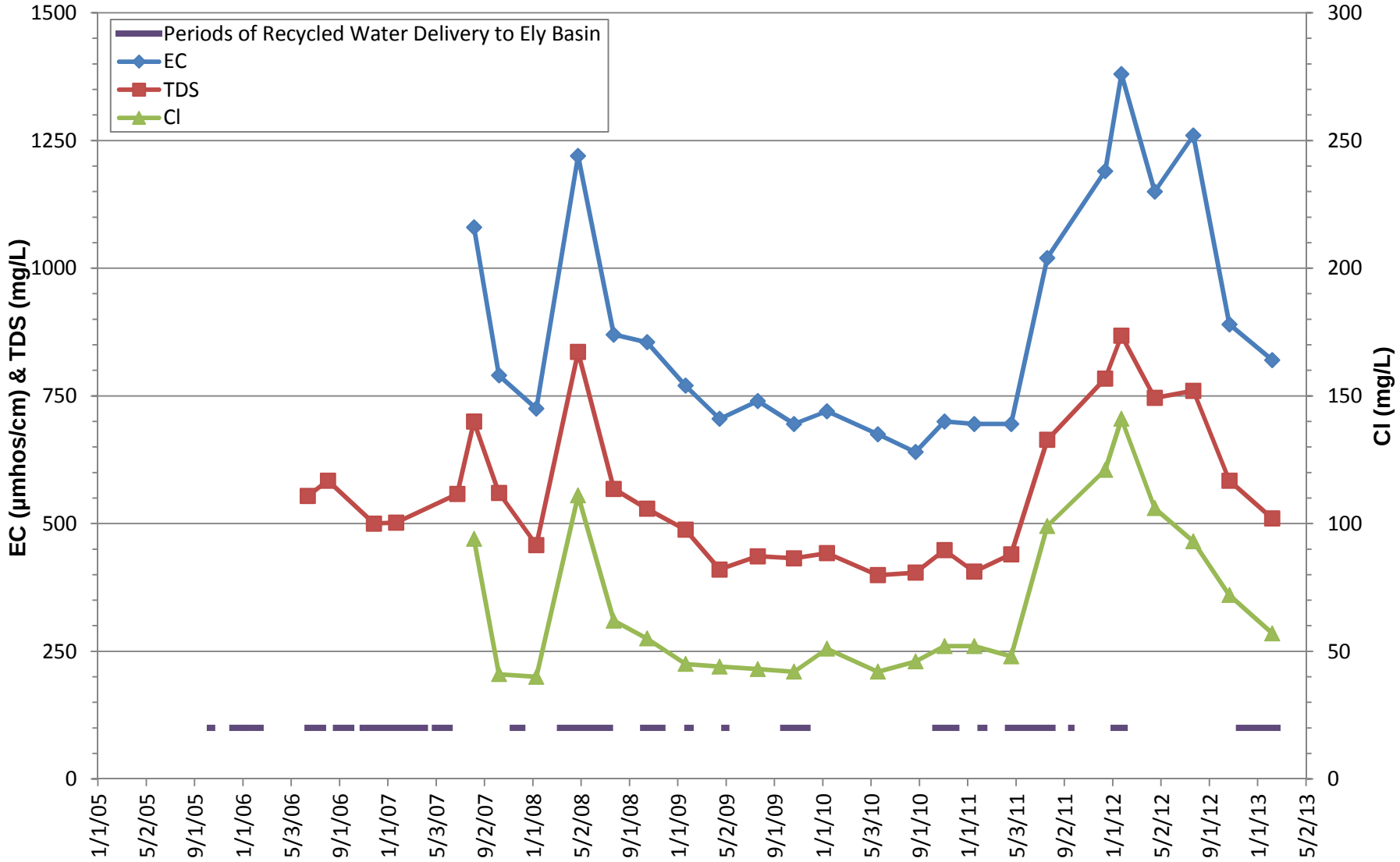
EC, TDS, CHLORIDE TRENDS
BROOKS STREET BASIN
MW BRK-2/1



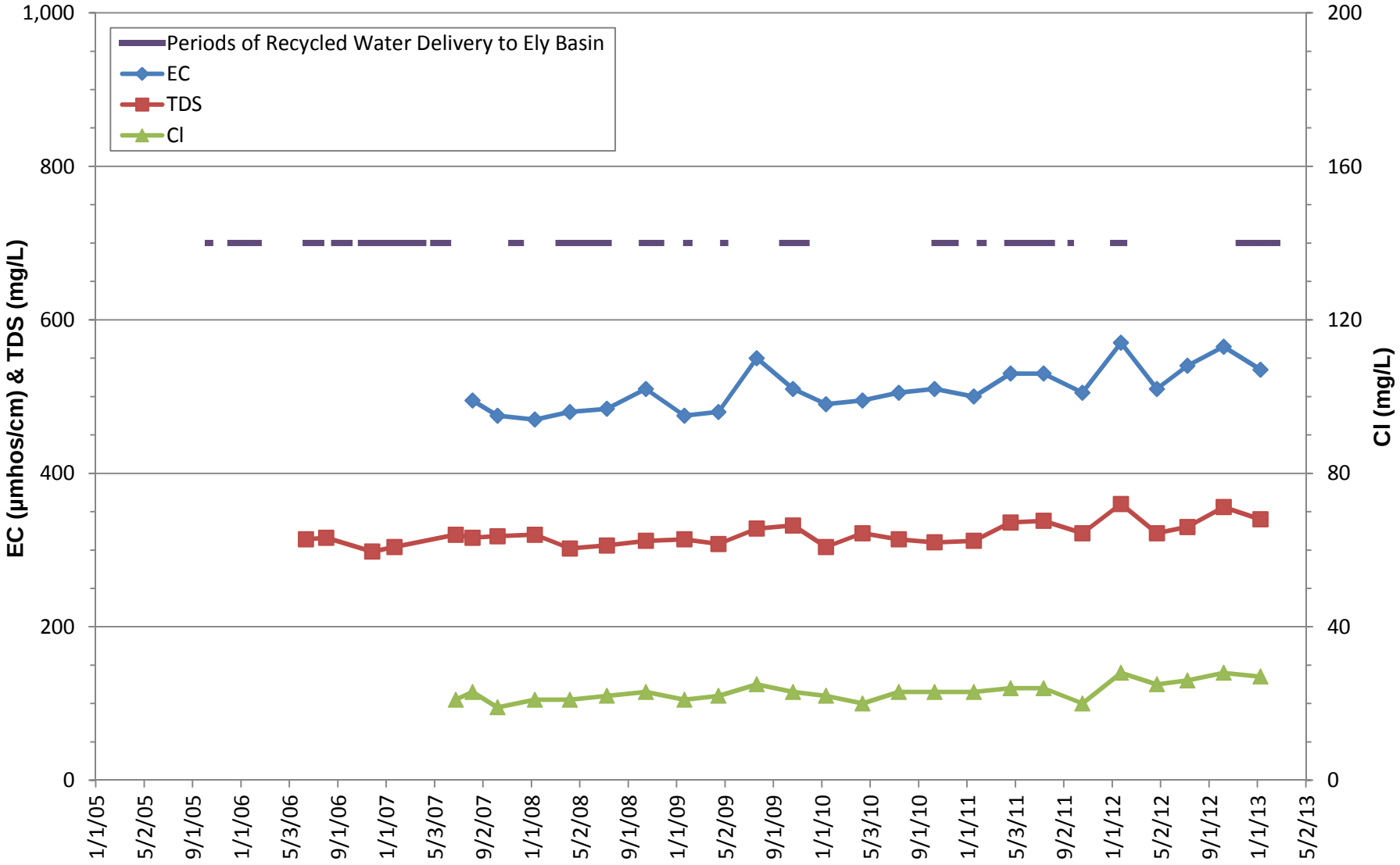
EC, TDS, CHLORIDE TRENDS
BROOKS STREET BASIN
MW BRK-2/2



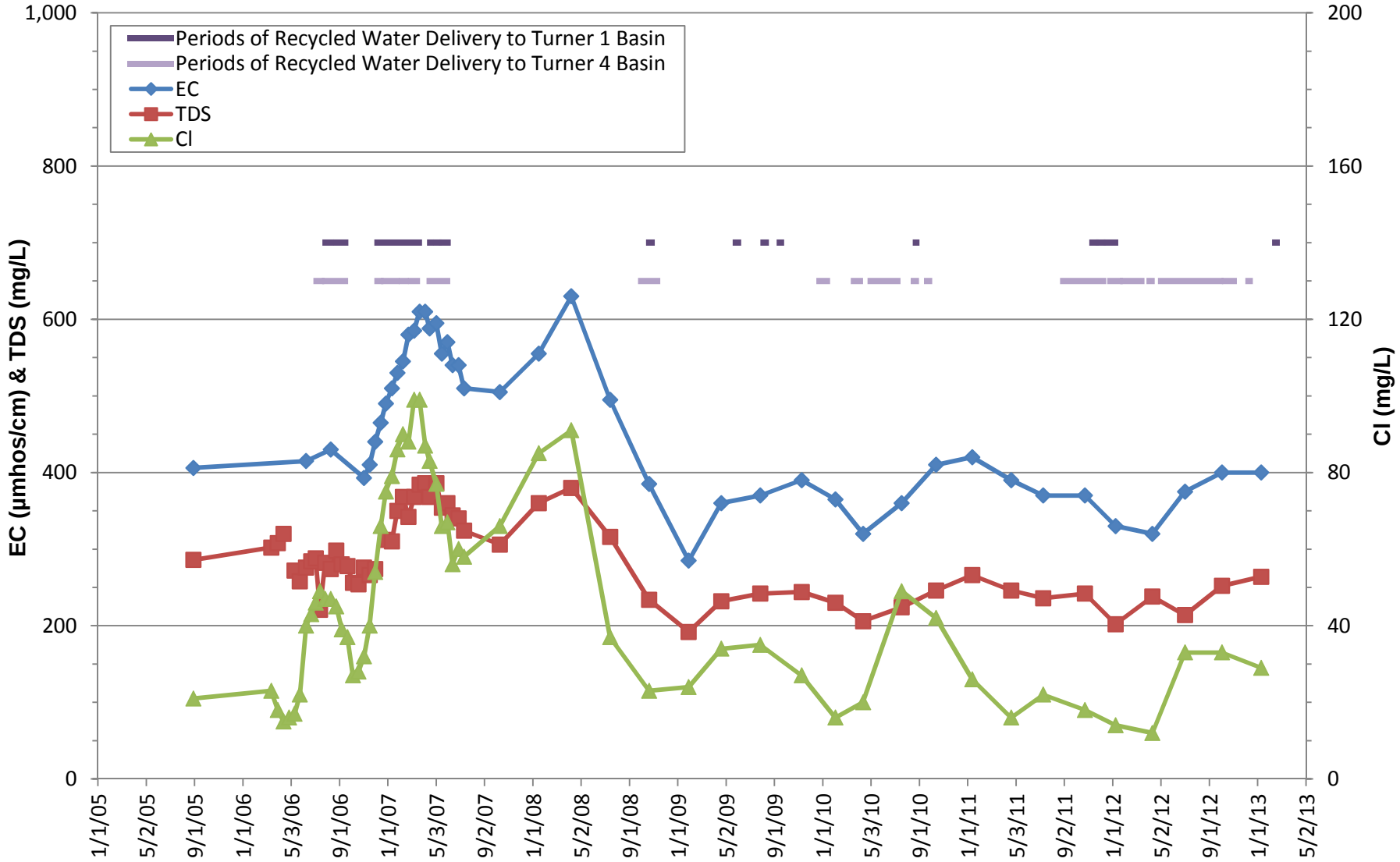
EC, TDS, CHLORIDE TRENDS
ELY BASIN
PHILADELPHIA WELL



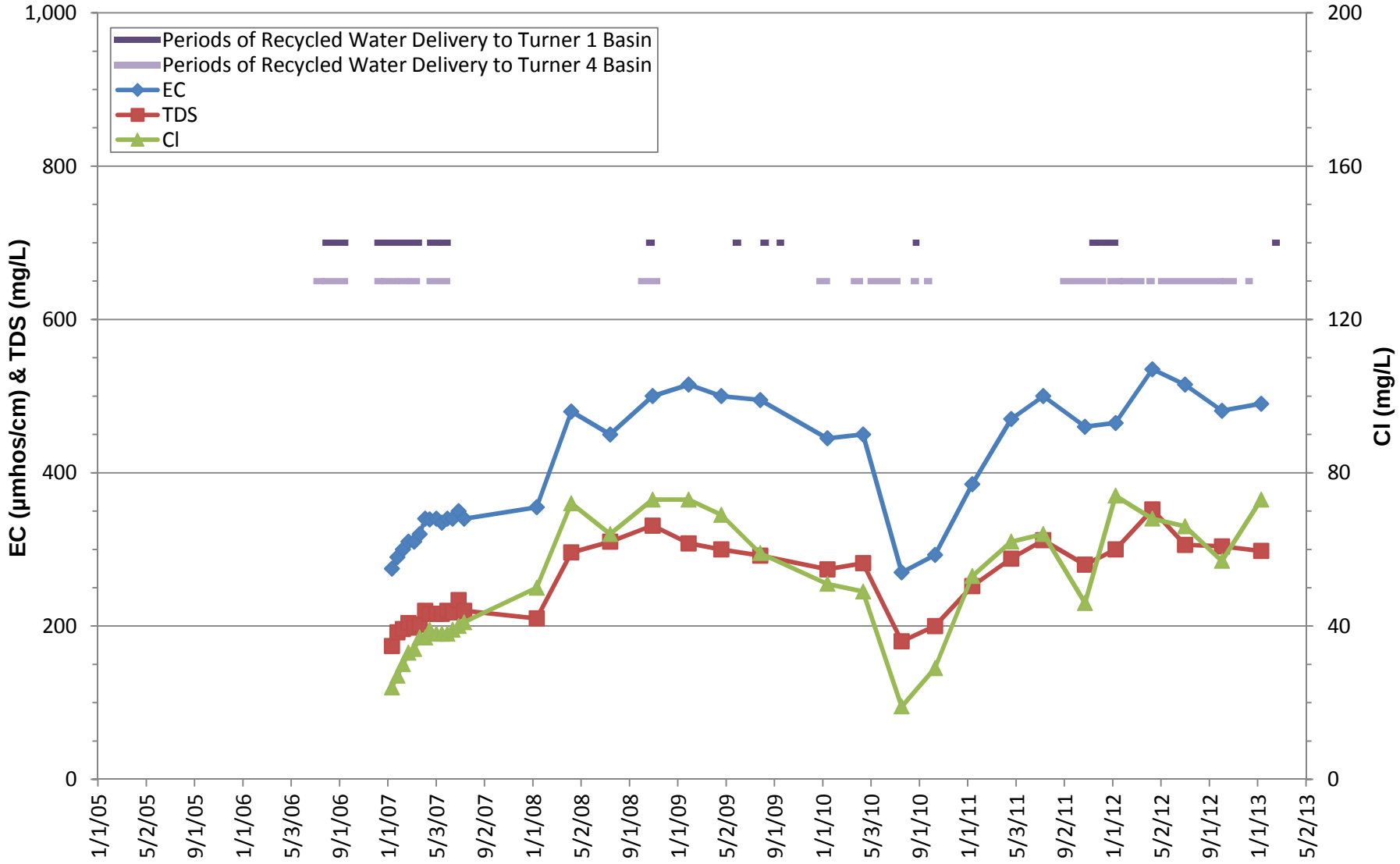
EC, TDS, CHLORIDE TRENDS
ELY BASIN
WALNUT WELL



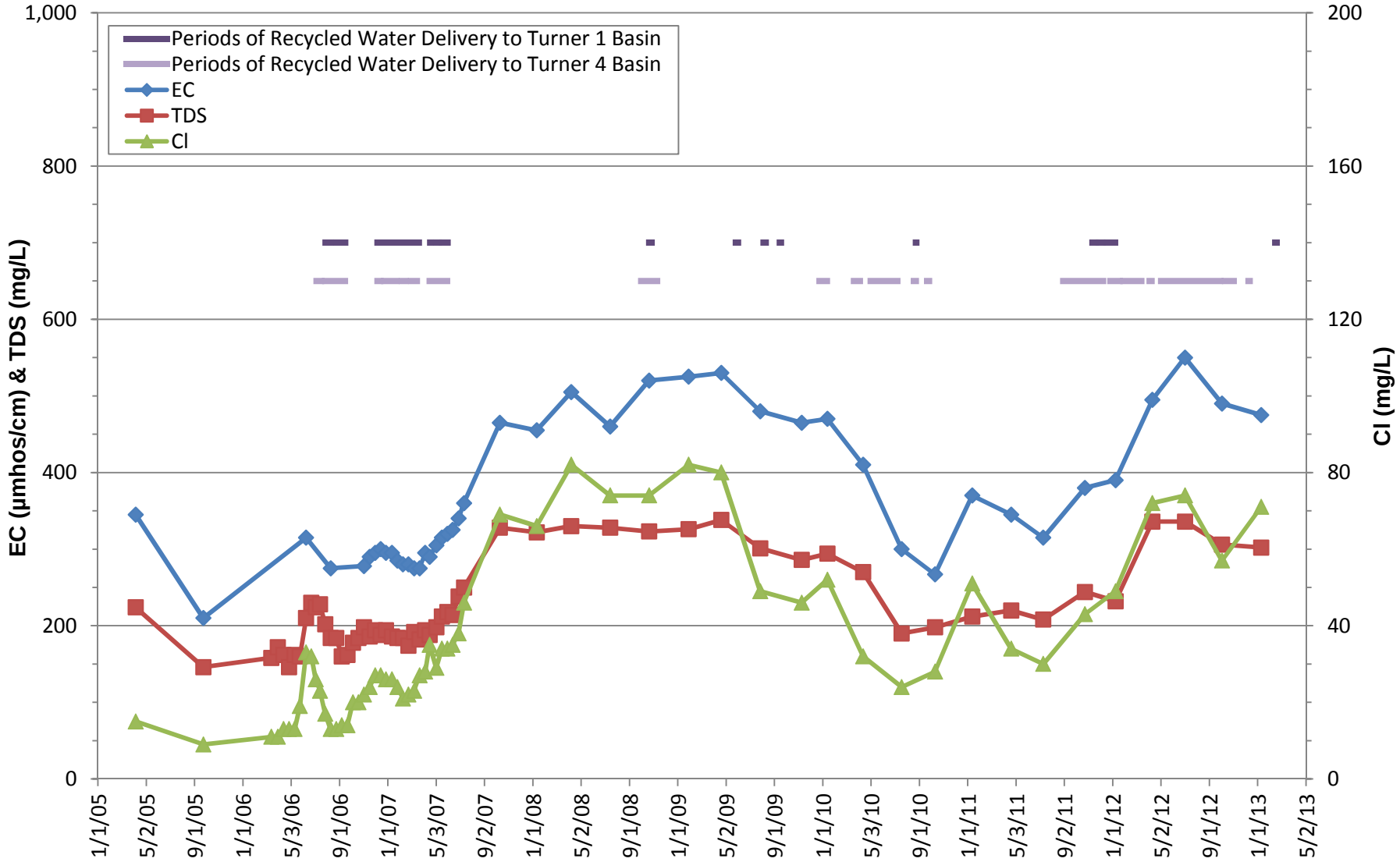
EC, TDS, CHLORIDE TRENDS
ELY BASIN
RIVERSIDE WELL



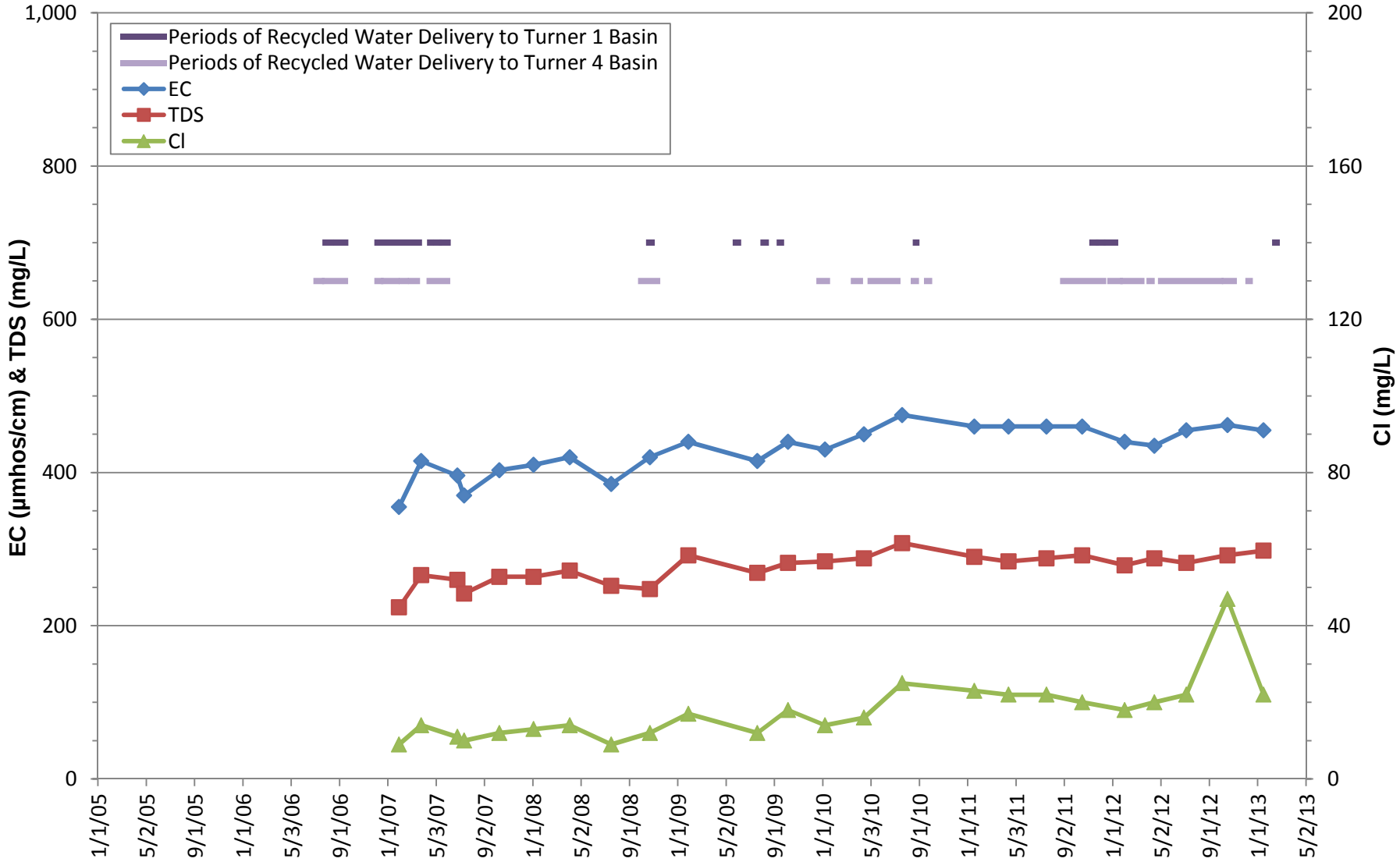
EC, TDS, CHLORIDE TRENDS
TURNER BASINS
MW TRN-1/2



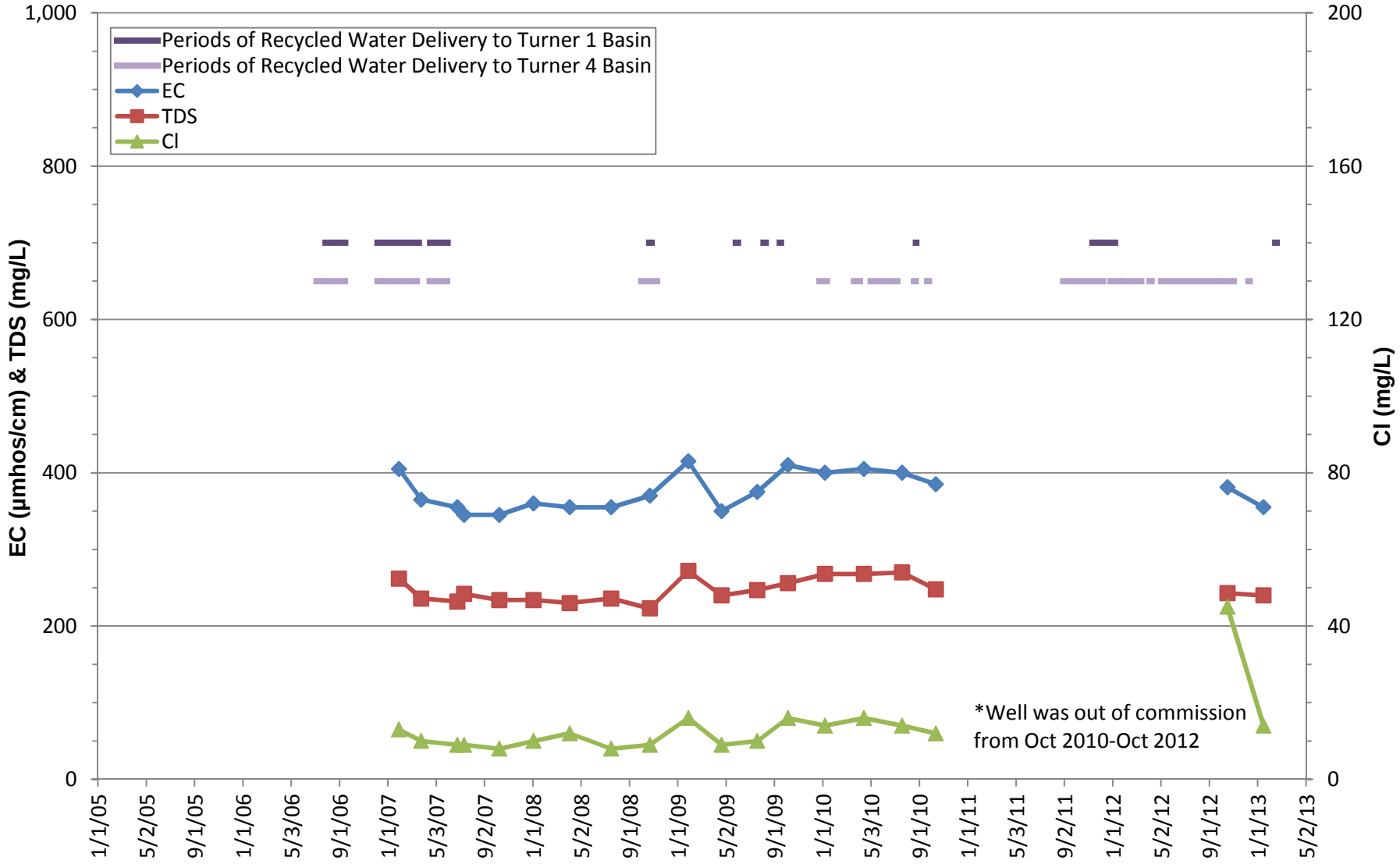
EC, TDS, CHLORIDE TRENDS
TURNER BASINS
MW TRN-2/1



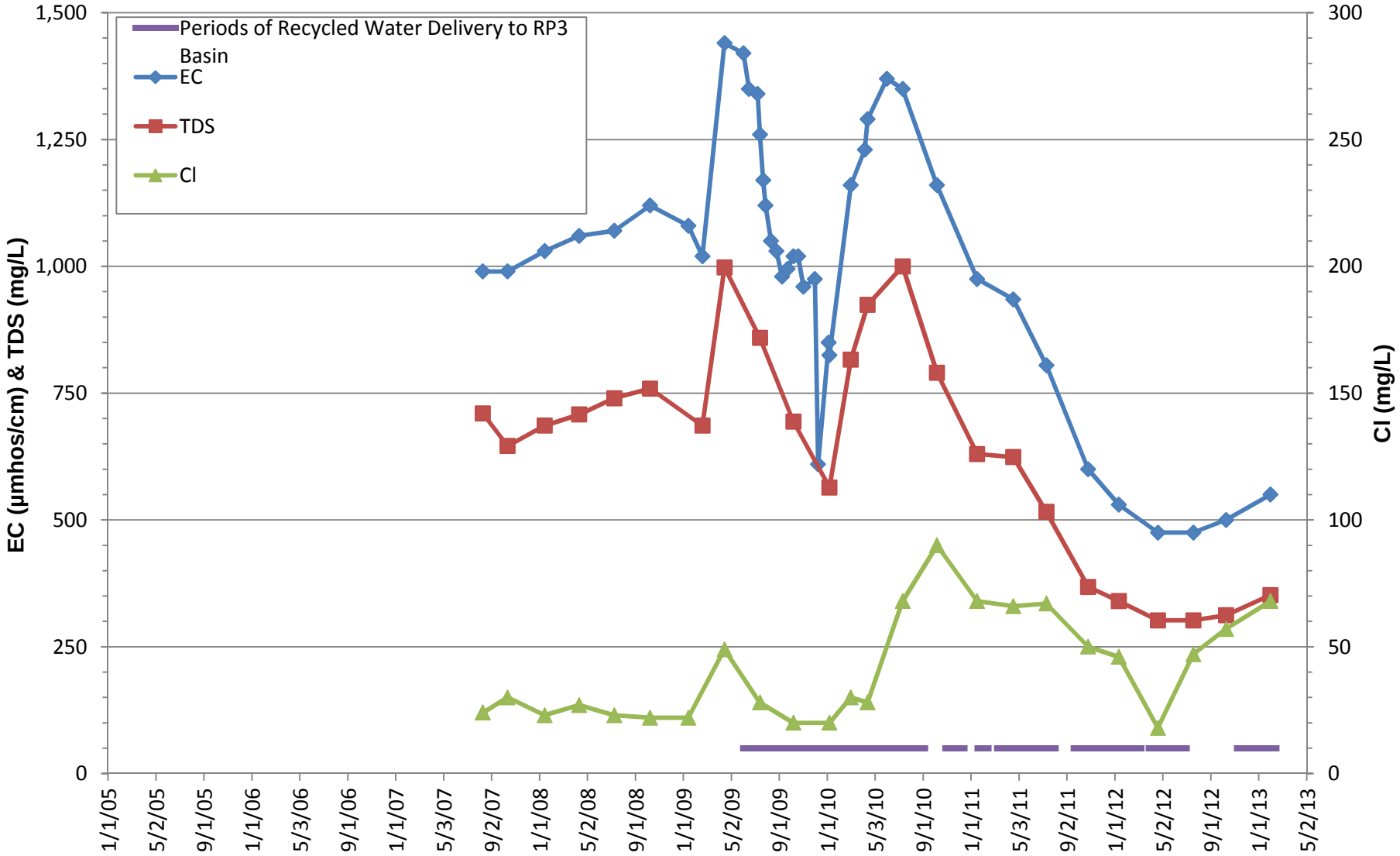
EC, TDS, CHLORIDE TRENDS
TURNER BASINS
MW TRN-2/2



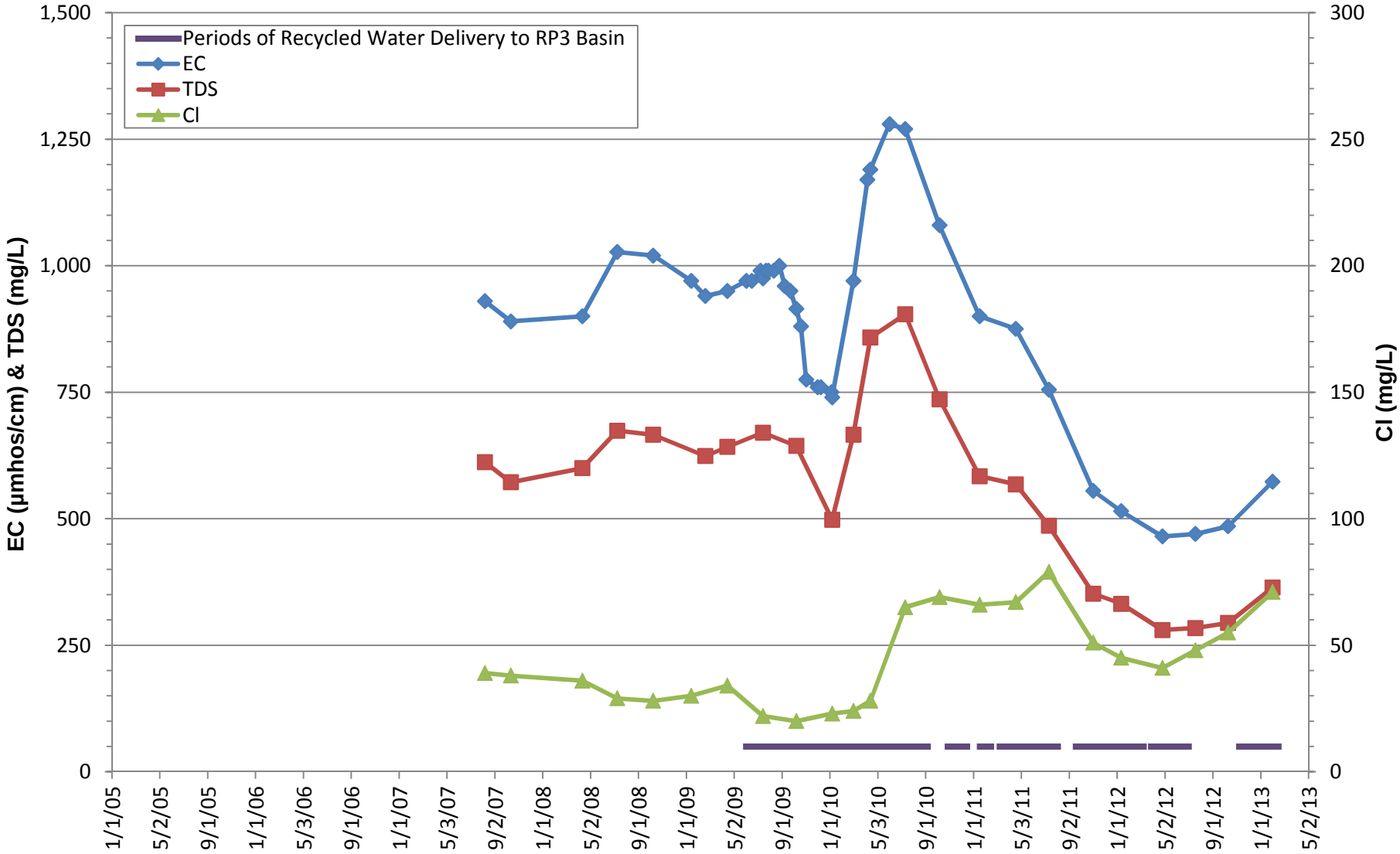
EC, TDS, CHLORIDE TRENDS
TURNER BASINS
ONTARIO NO. 25



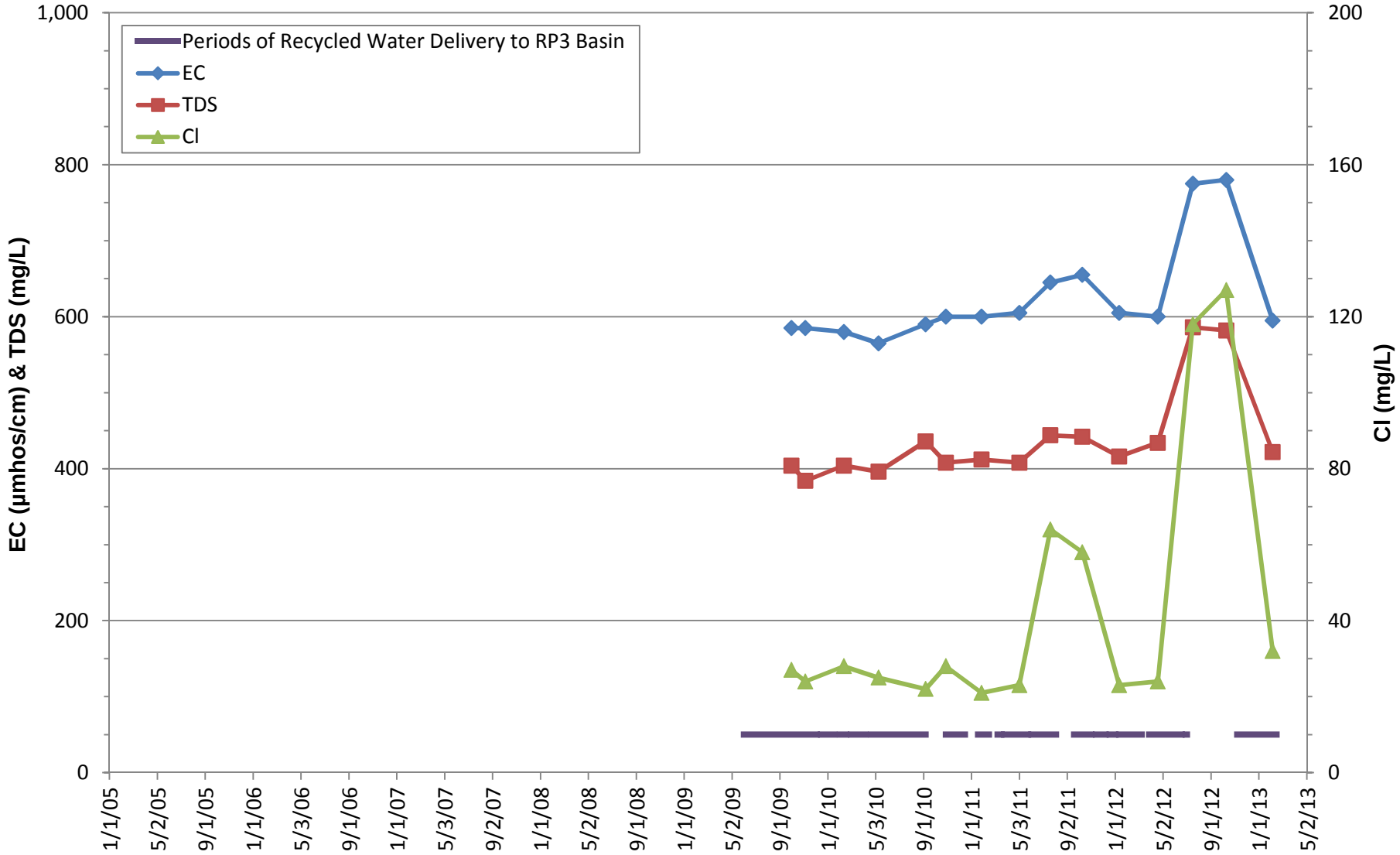
EC, TDS, CHLORIDE TRENDS
TURNER BASINS
ONTARIO NO. 29



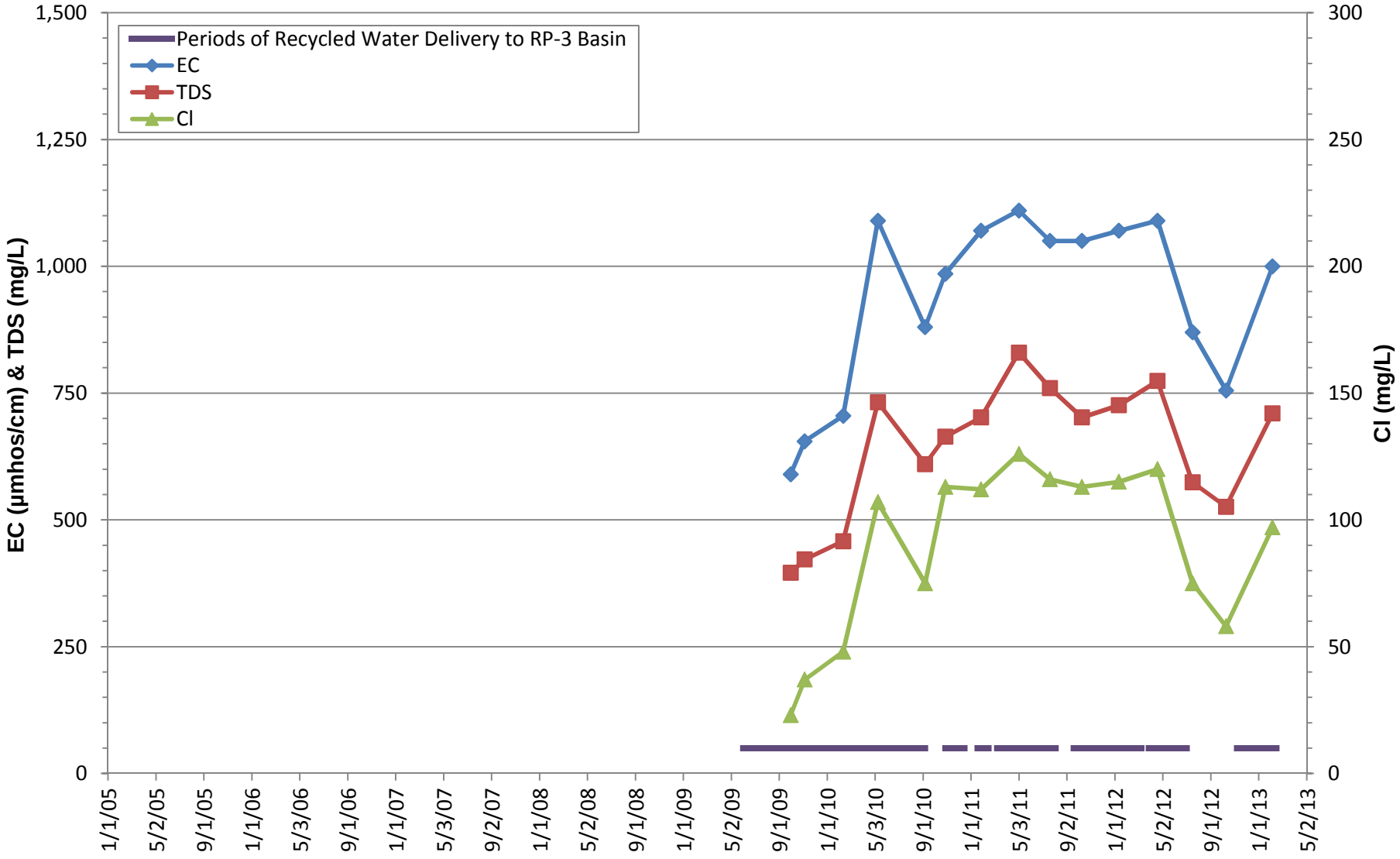
EC, TDS, CHLORIDE TRENDS
RP3 BASINS
RP3-1/1



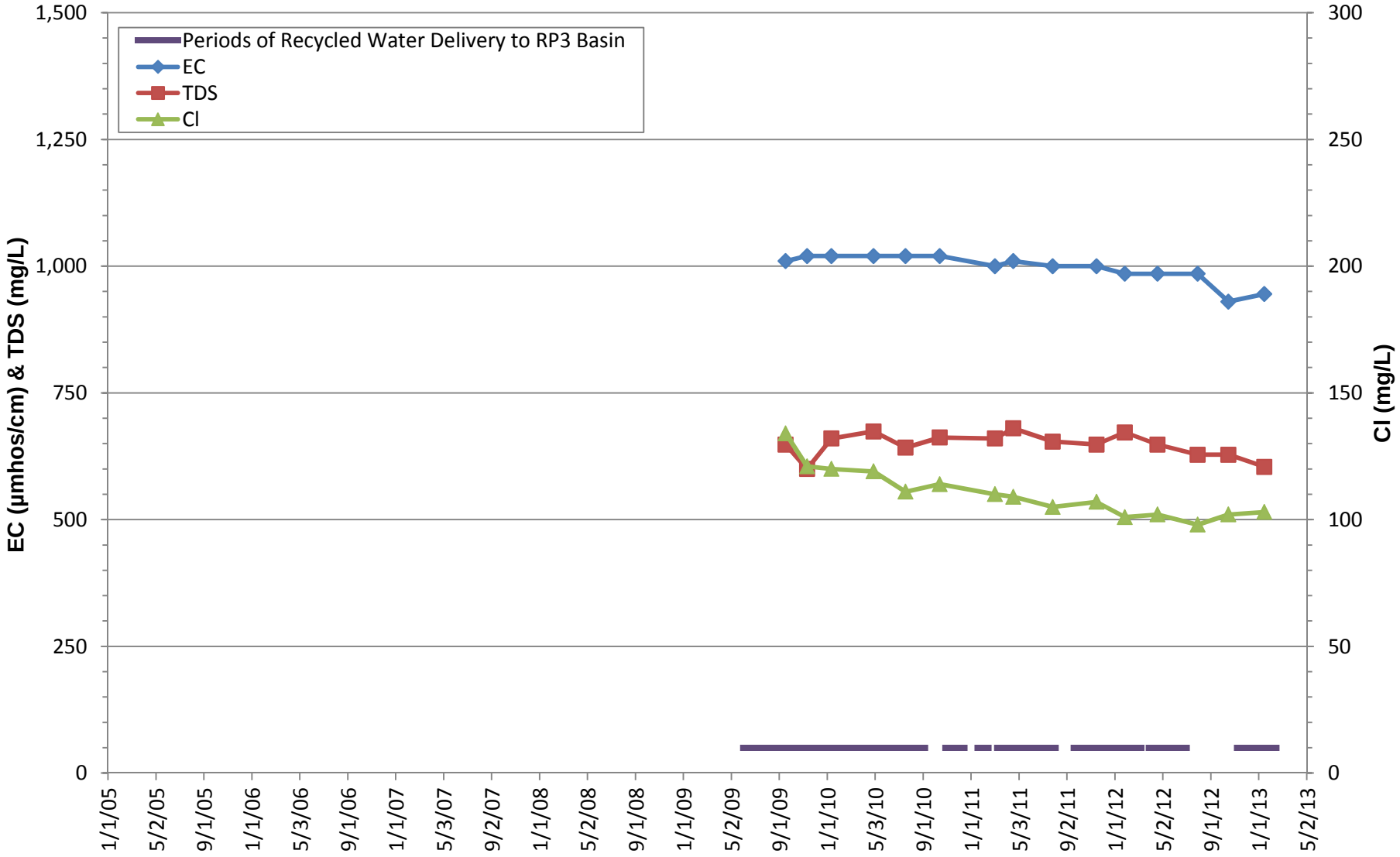
EC, TDS, CHLORIDE TRENDS
RP3 BASINS
RP3-1/2



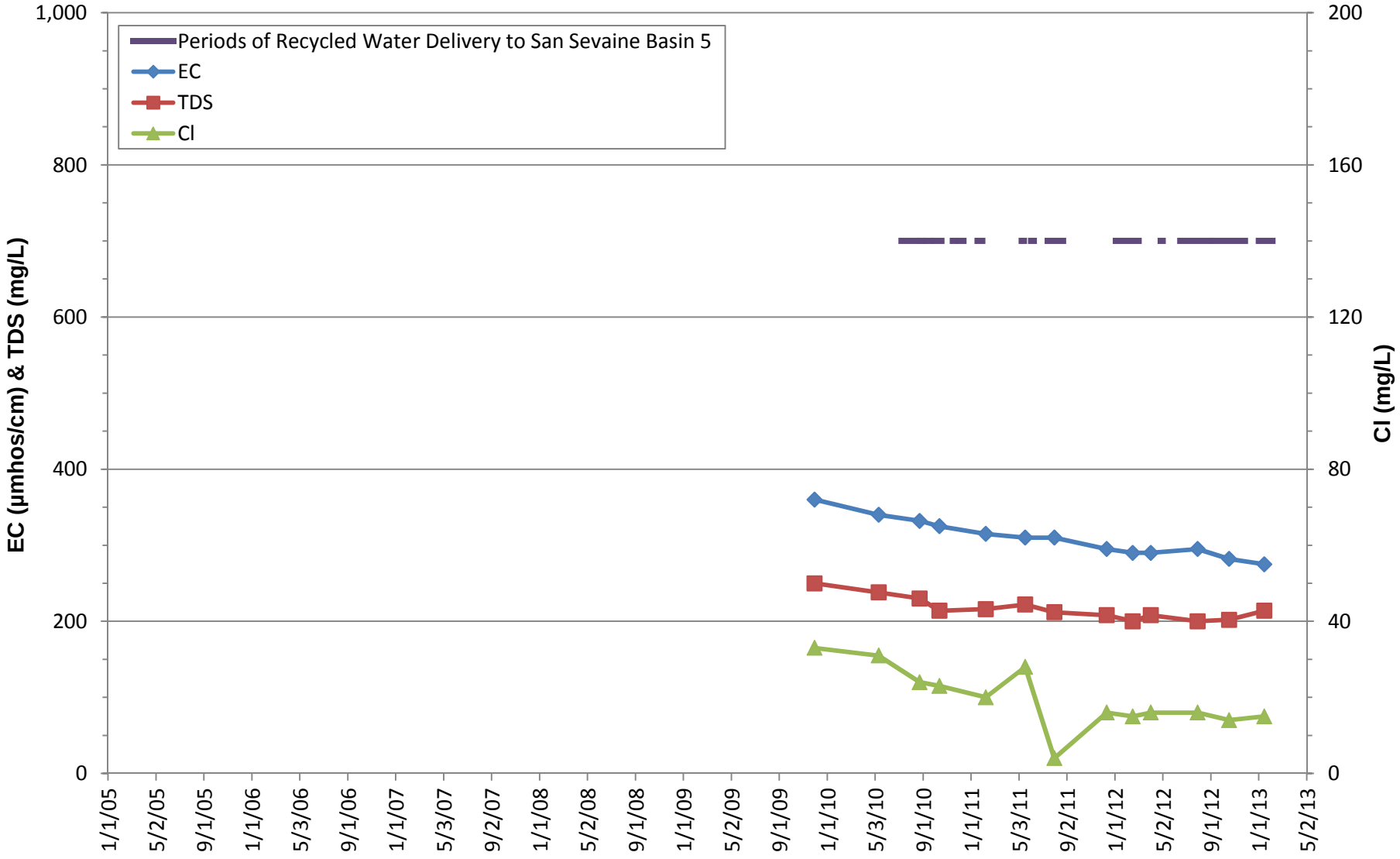
EC, TDS, CHLORIDE TRENDS
RP3 BASINS
ALCOA MW-1



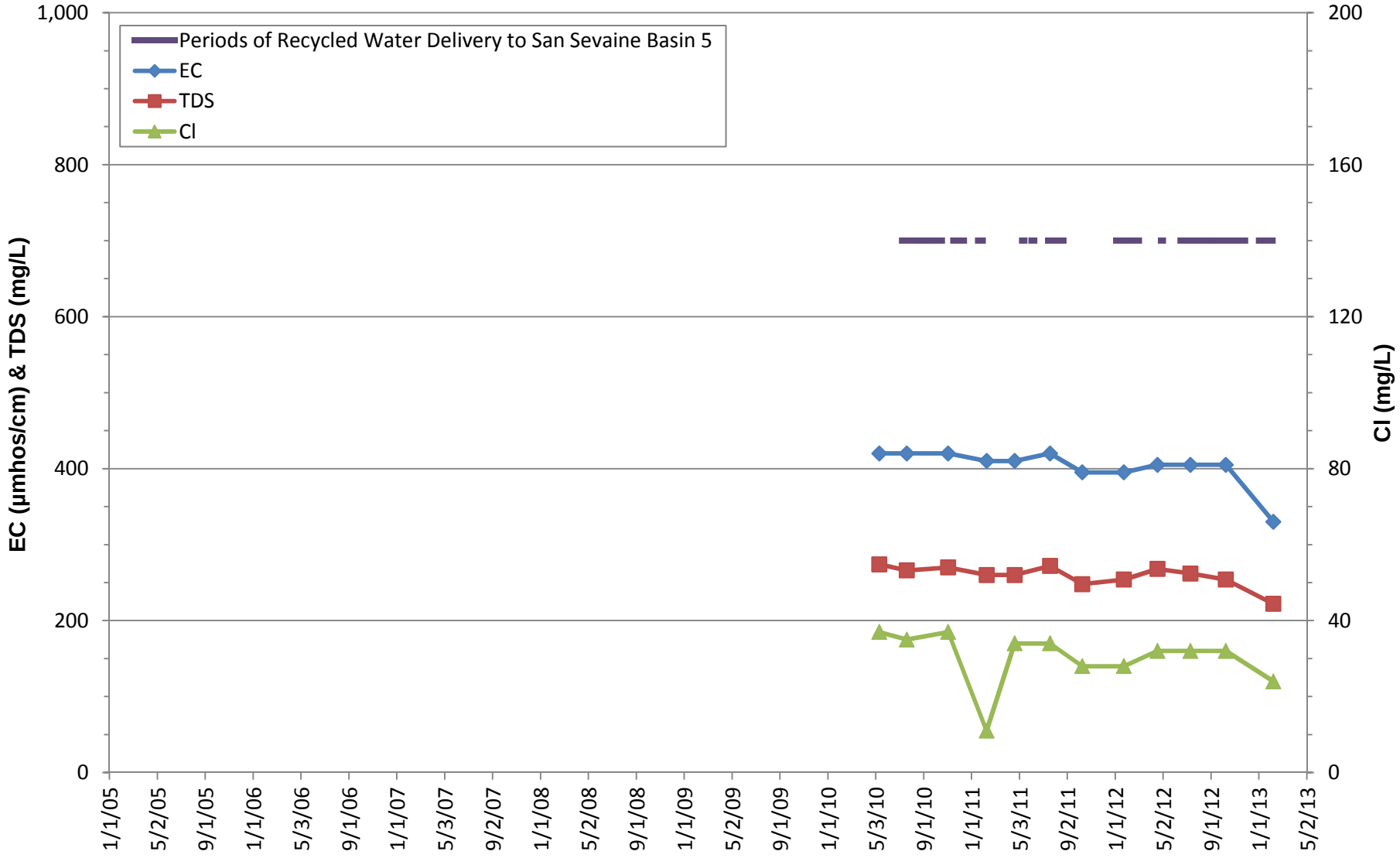
EC, TDS, CHLORIDE TRENDS
RP3 BASINS
ALCOA MW-3



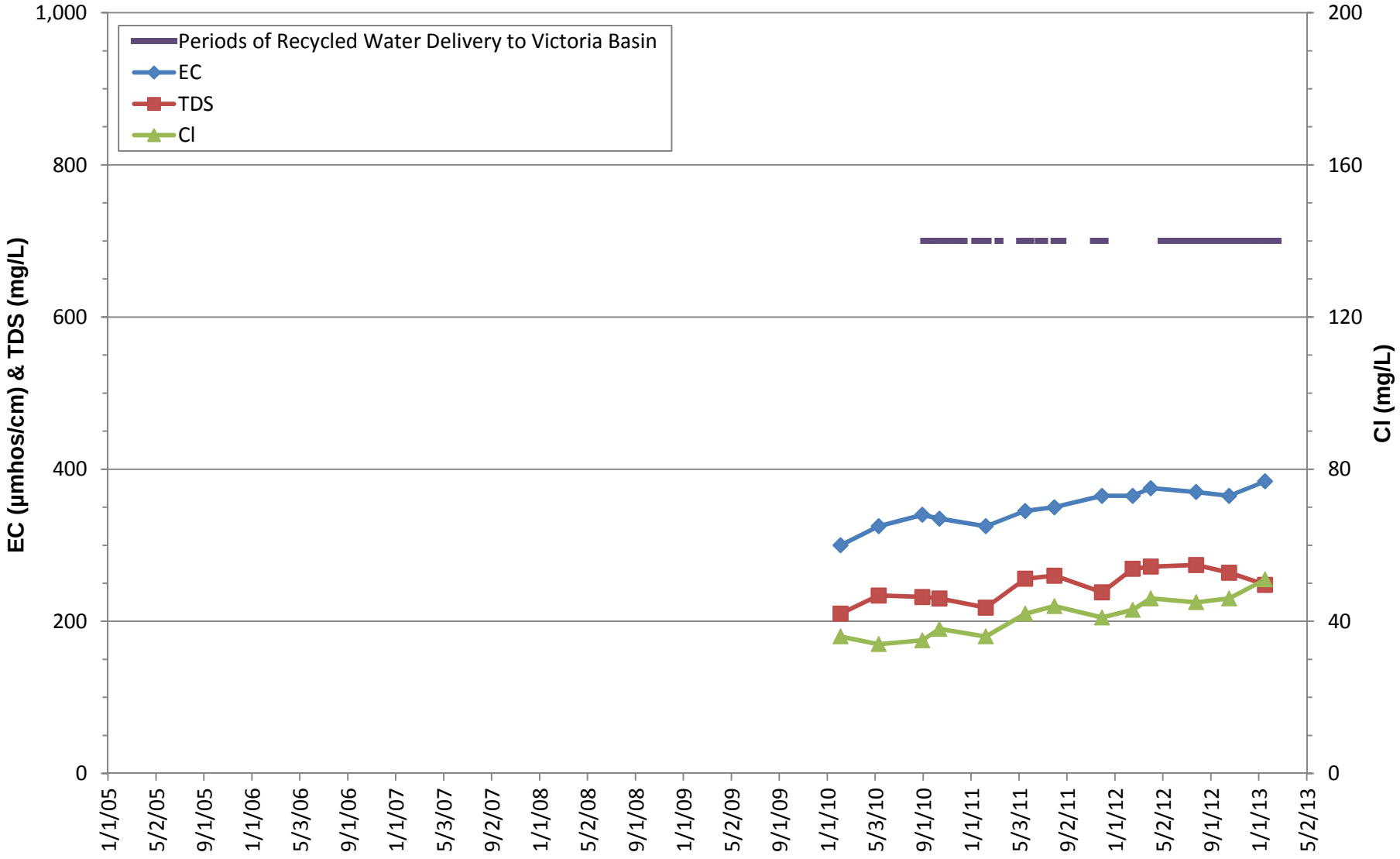
EC, TDS, CHLORIDE TRENDS
RP3 BASINS
Southridge JHS Well



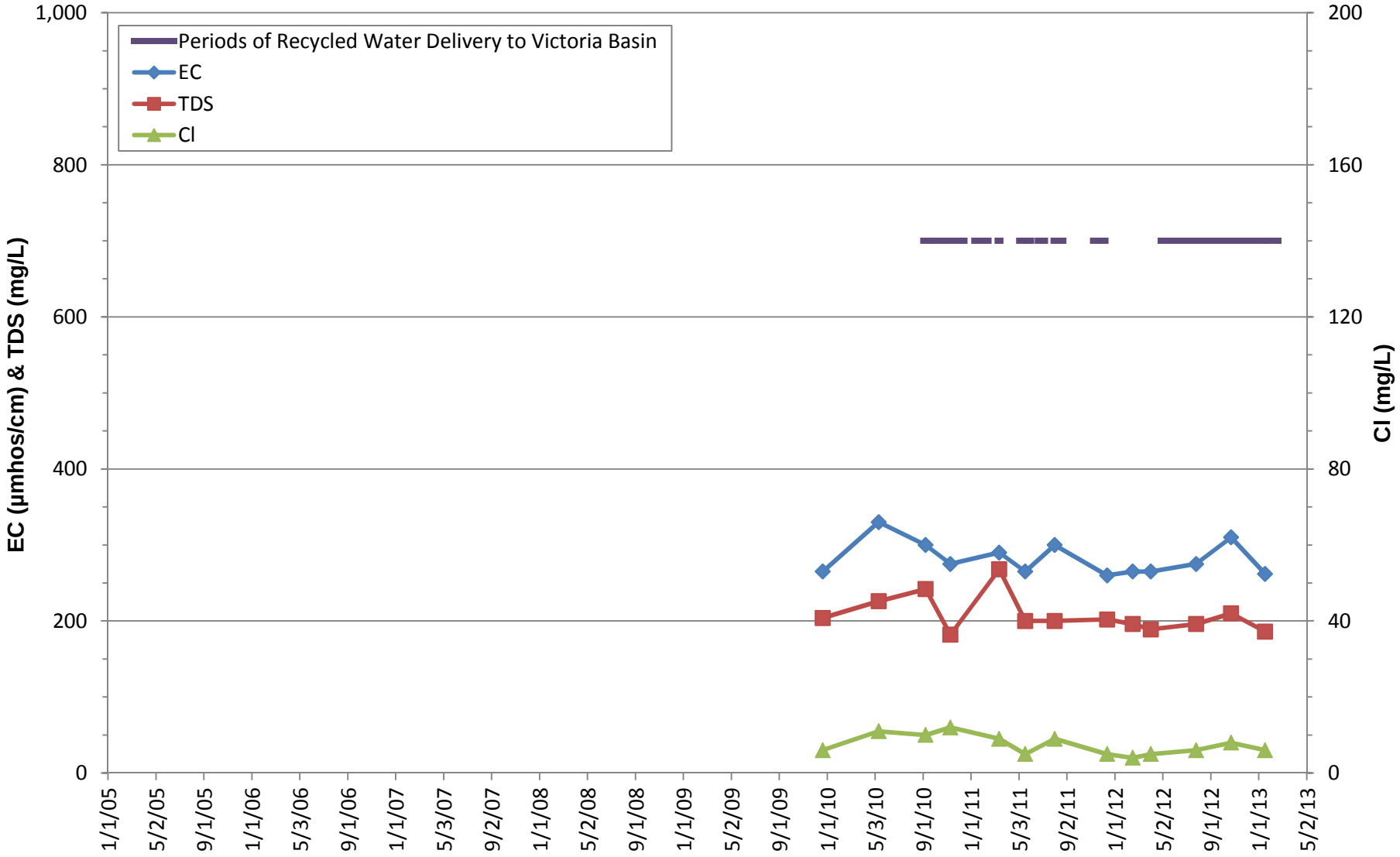
EC, TDS, CHLORIDE TRENDS
SAN SEVAINE BASINS
SS-1/1



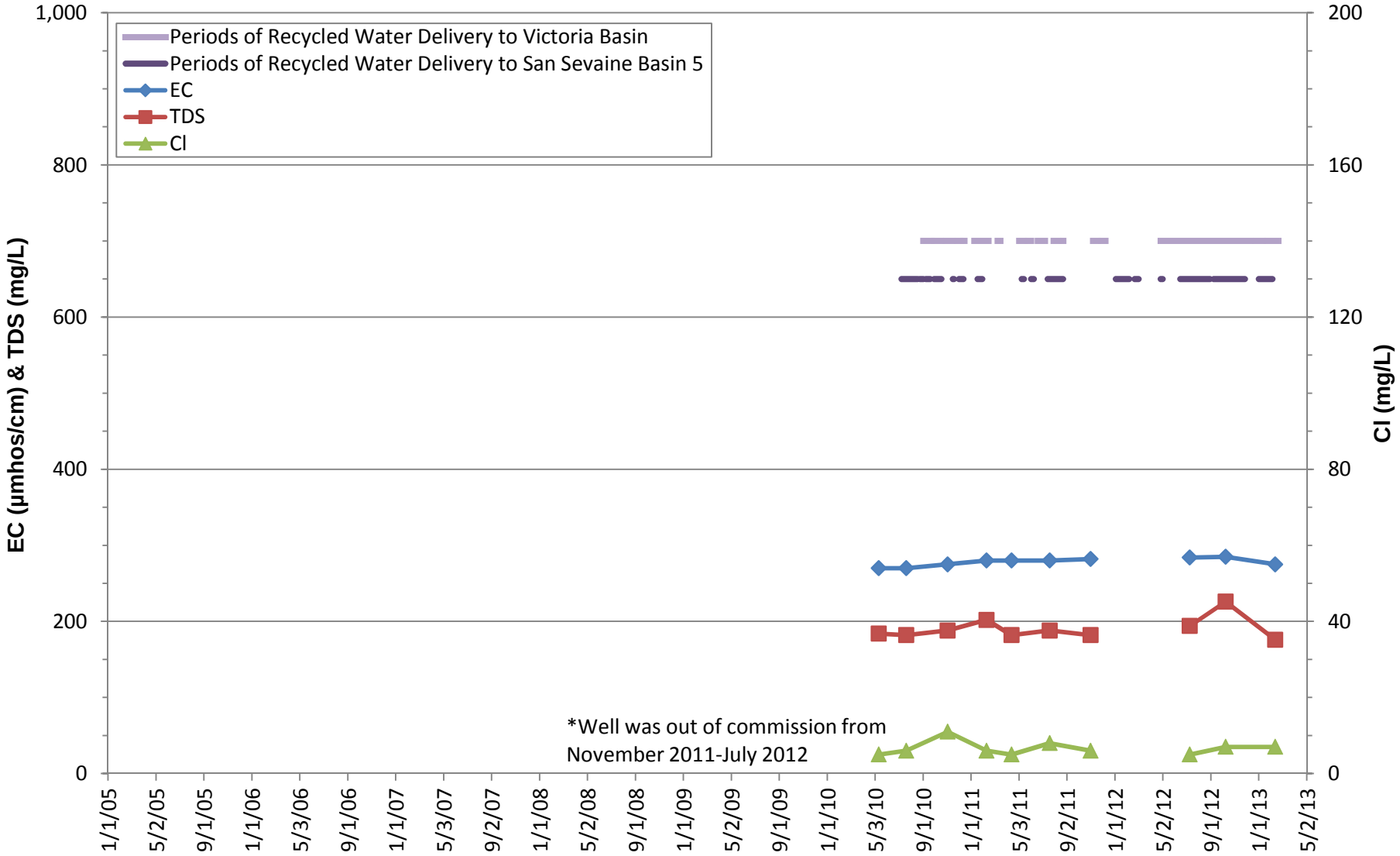
EC, TDS, CHLORIDE TRENDS
SAN SEVAINE BASINS
Unitex 91090



EC, TDS, CHLORIDE TRENDS
VICTORIA BASIN
VCT-1/1



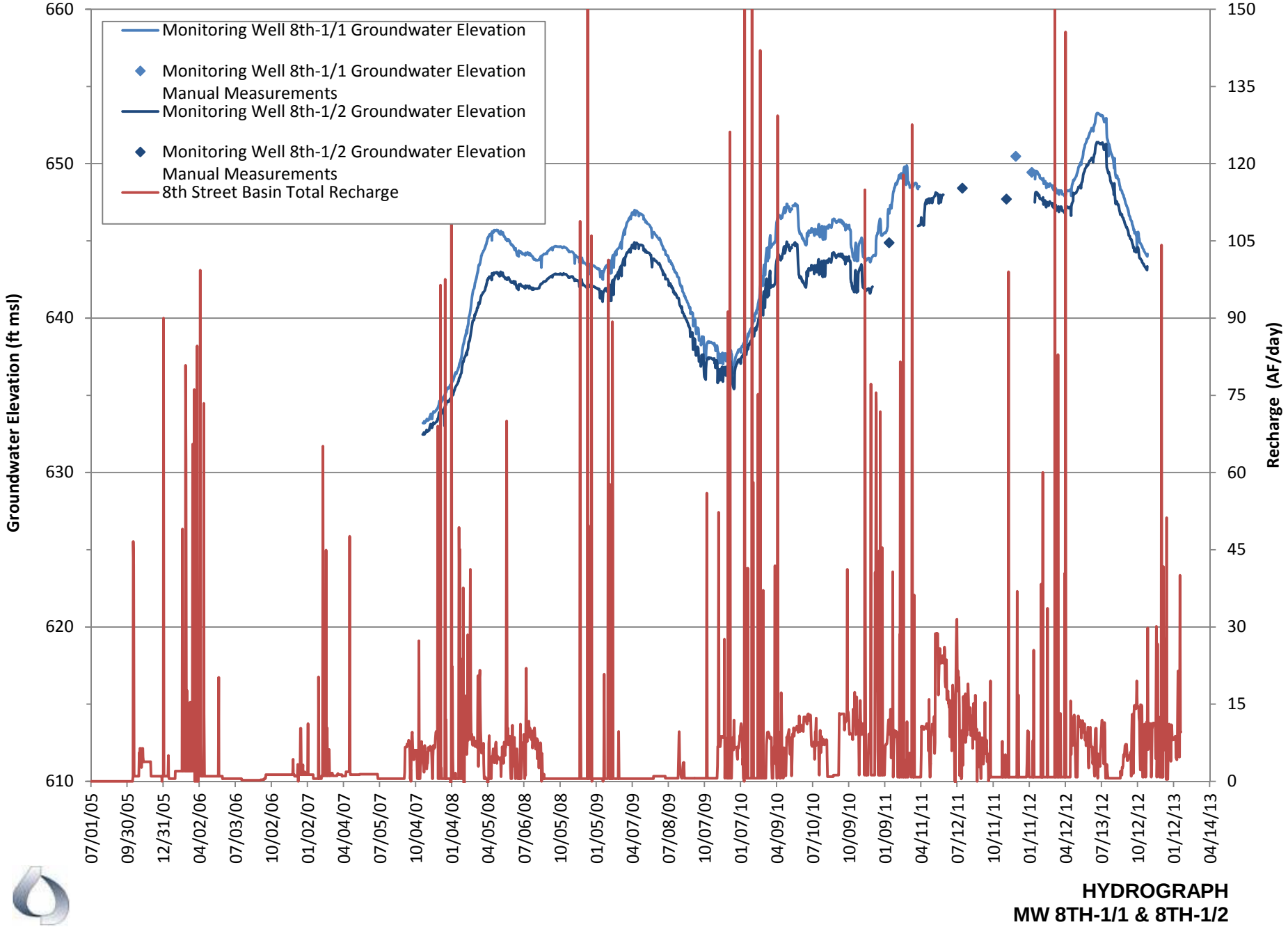
EC, TDS, CHLORIDE TRENDS
VICTORIA BASIN
VCT-2/2



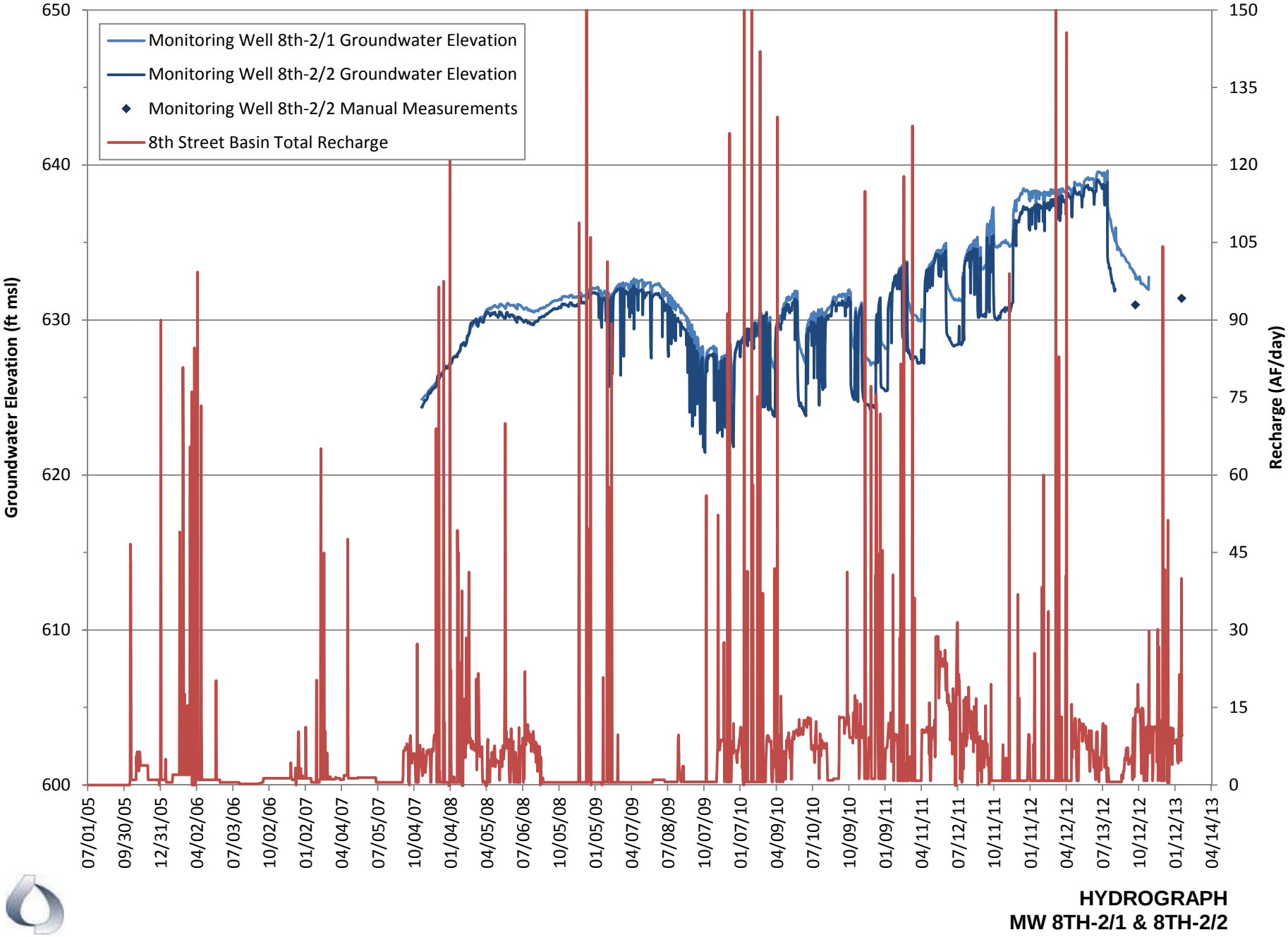
EC, TDS, CHLORIDE TRENDS
SAN SEVAINE & VICTORIA BASINS
CVWD Well No. 39

APPENDIX D

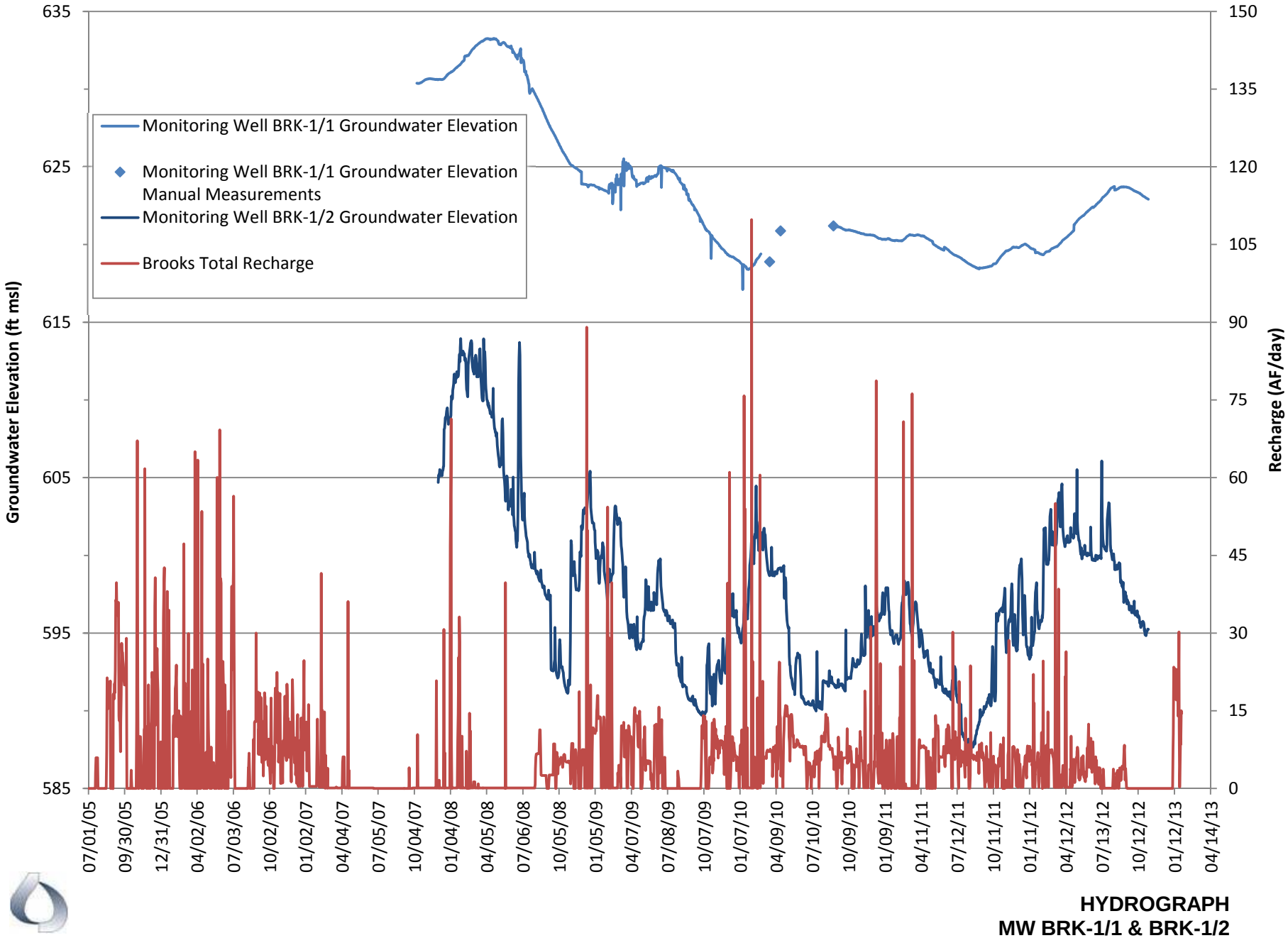
MONITORING WELL HYDROGRAPHS



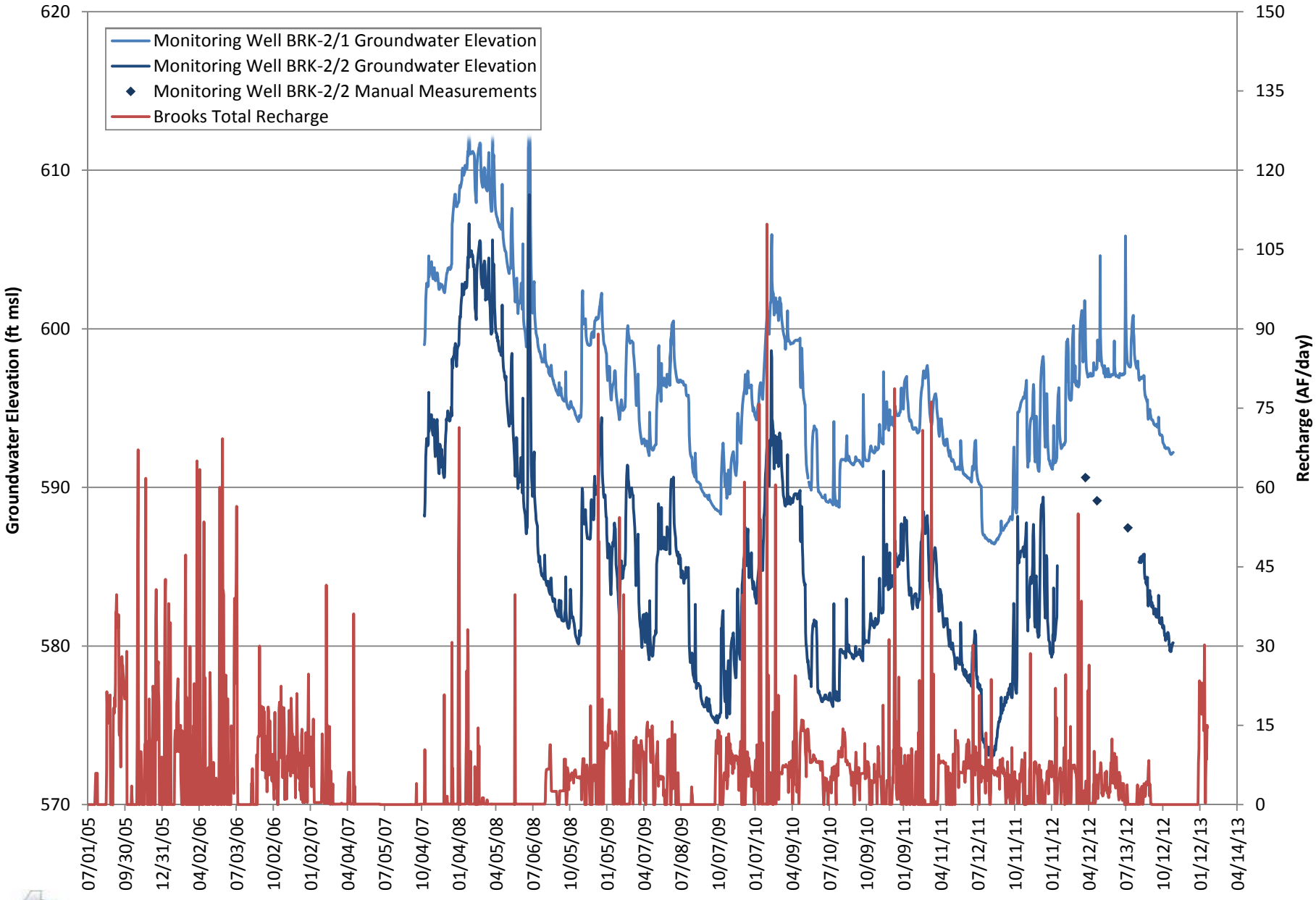
HYDROGRAPH
MW 8TH-1/1 & 8TH-1/2



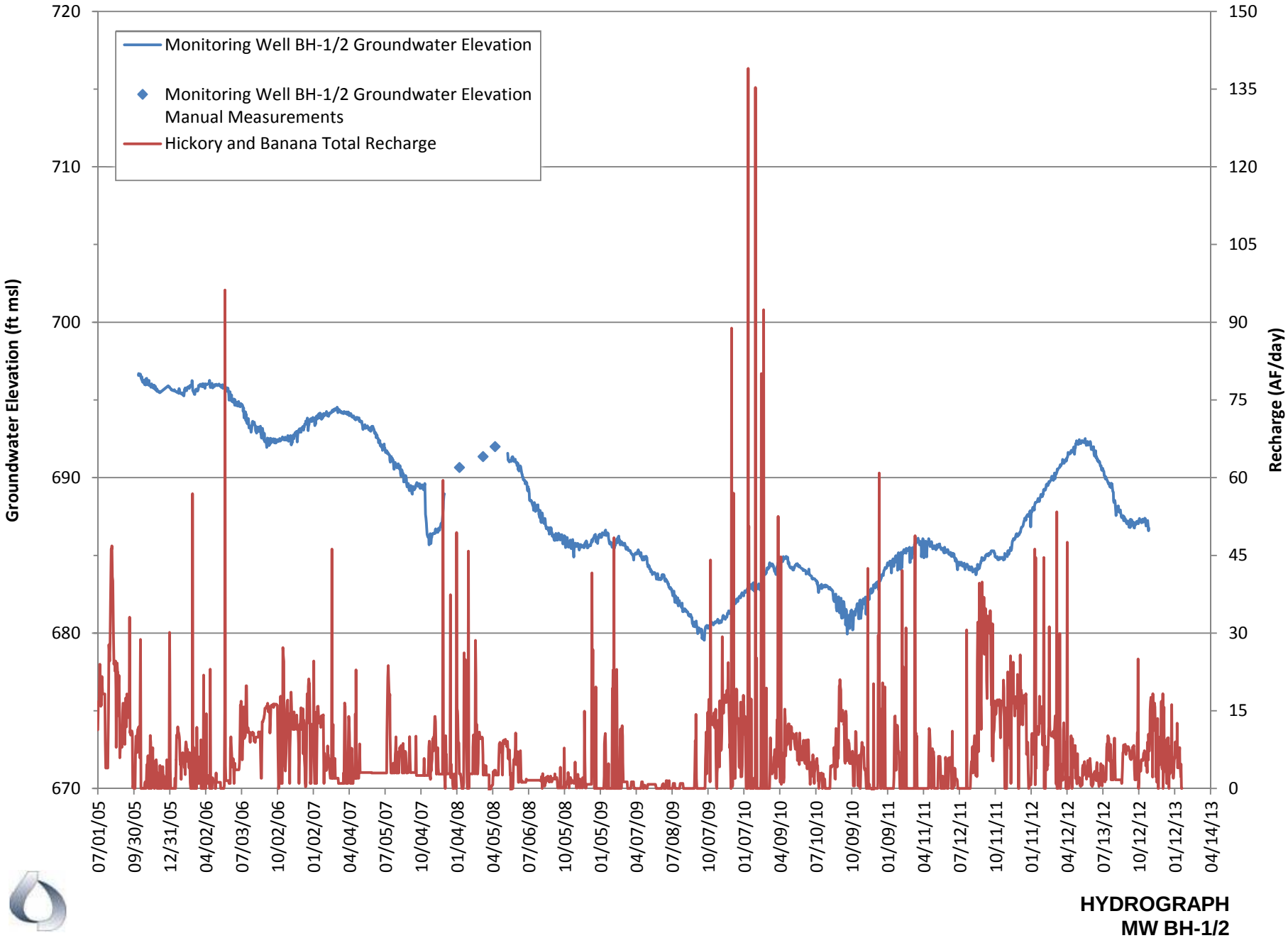
HYDROGRAPH
MW 8TH-2/1 & 8TH-2/2



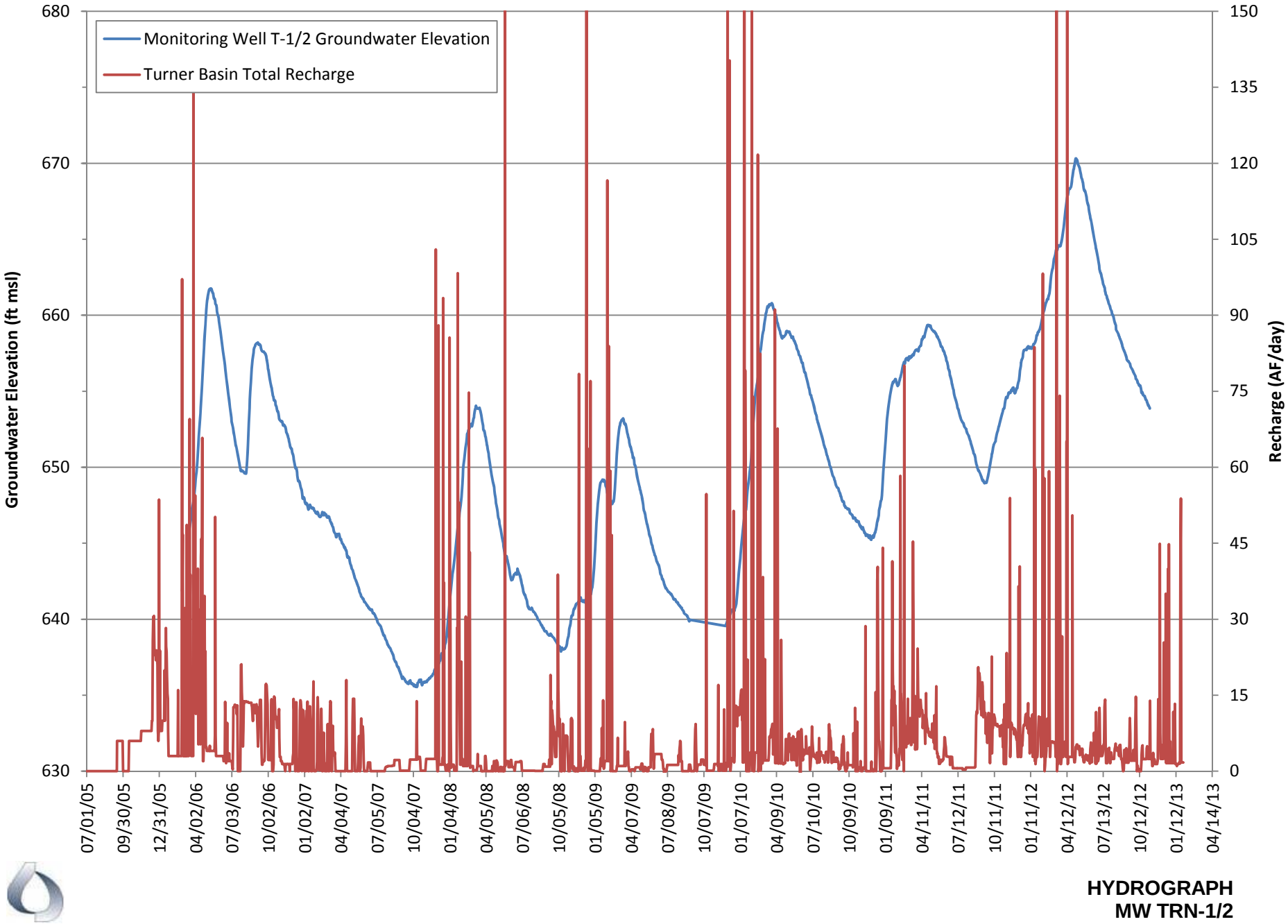
HYDROGRAPH
MW BRK-1/1 & BRK-1/2



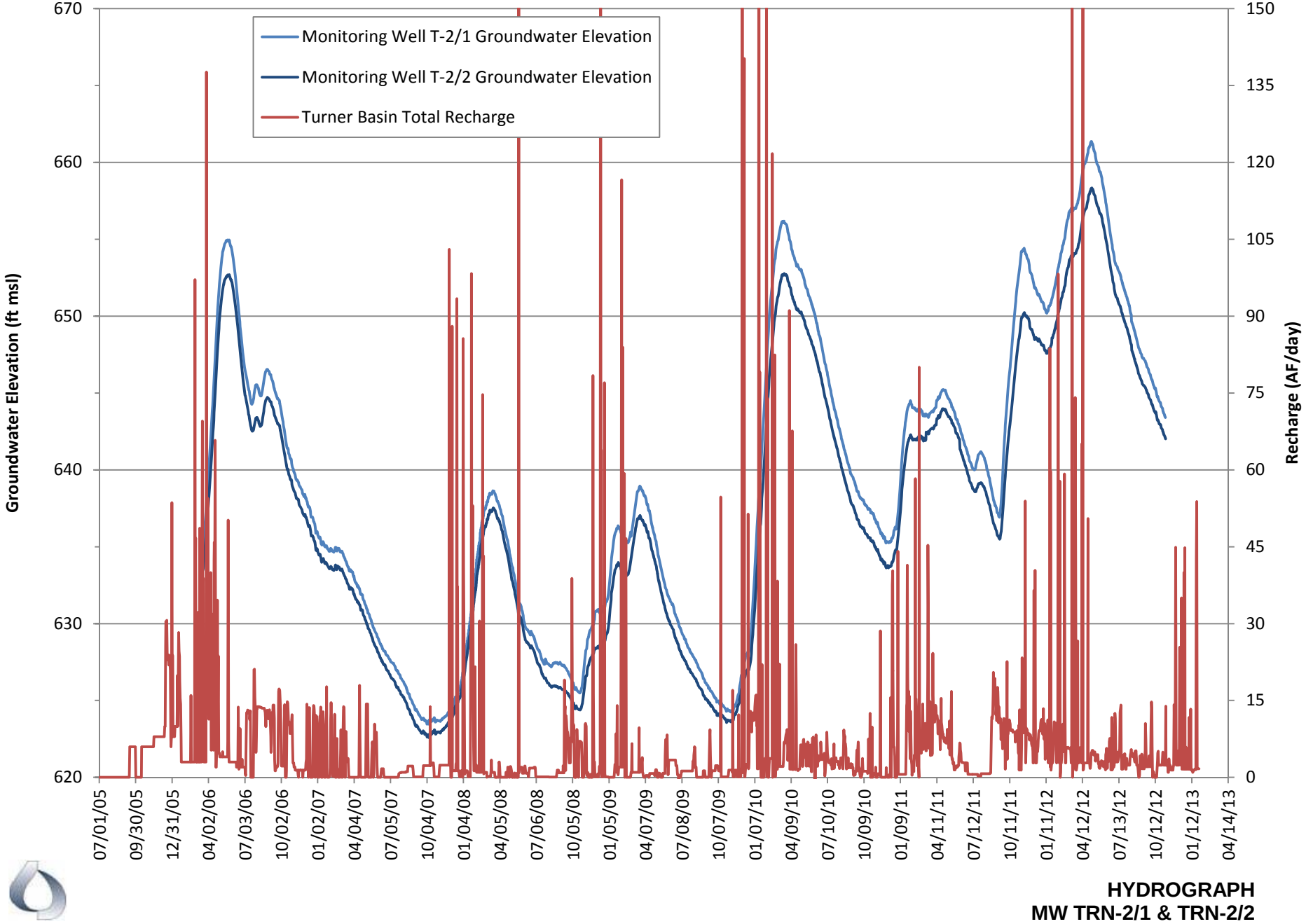
HYDROGRAPH
MW BRK-2/1 & BRK-2/2



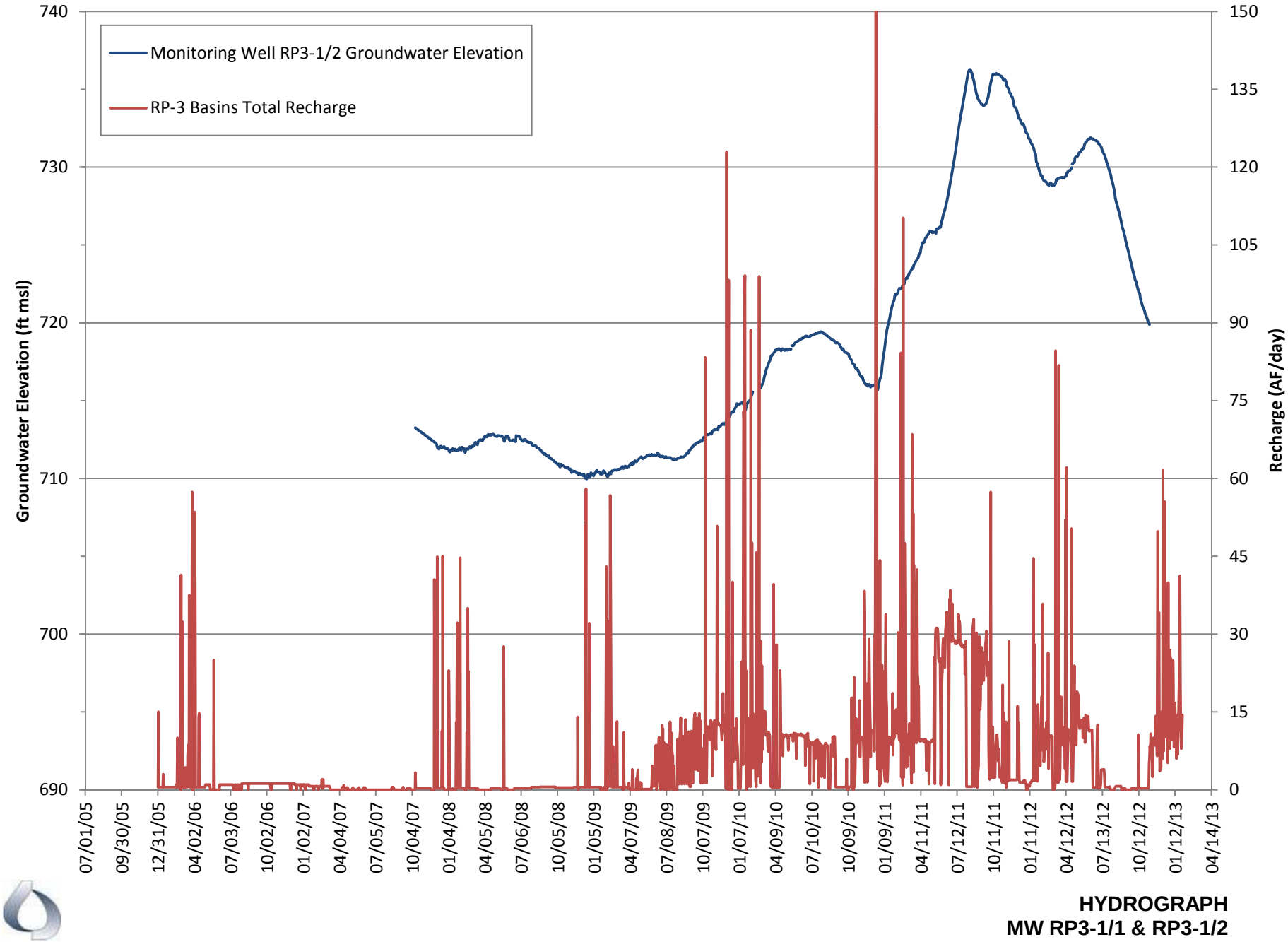
HYDROGRAPH
MW BH-1/2



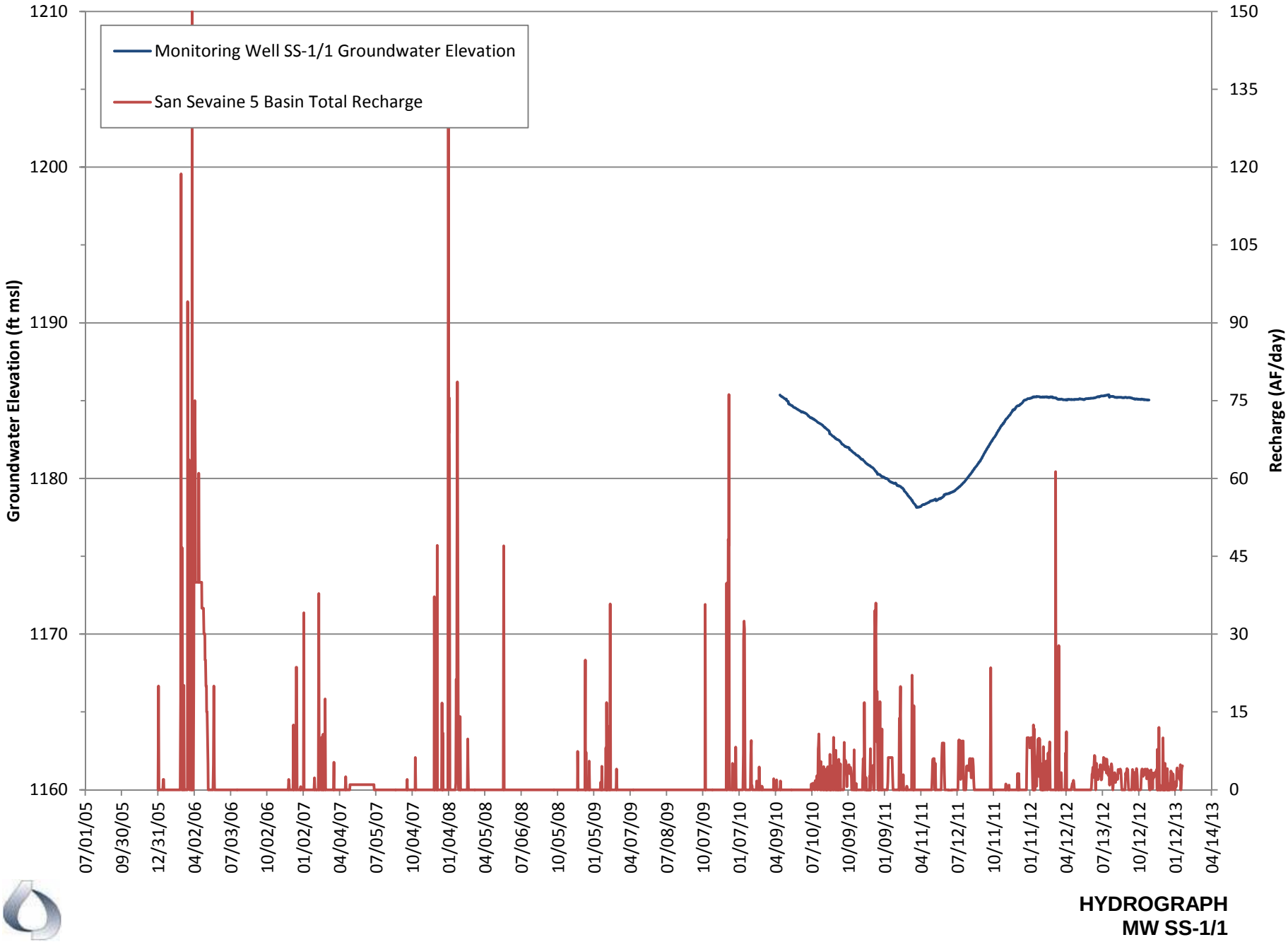
HYDROGRAPH
MW TRN-1/2



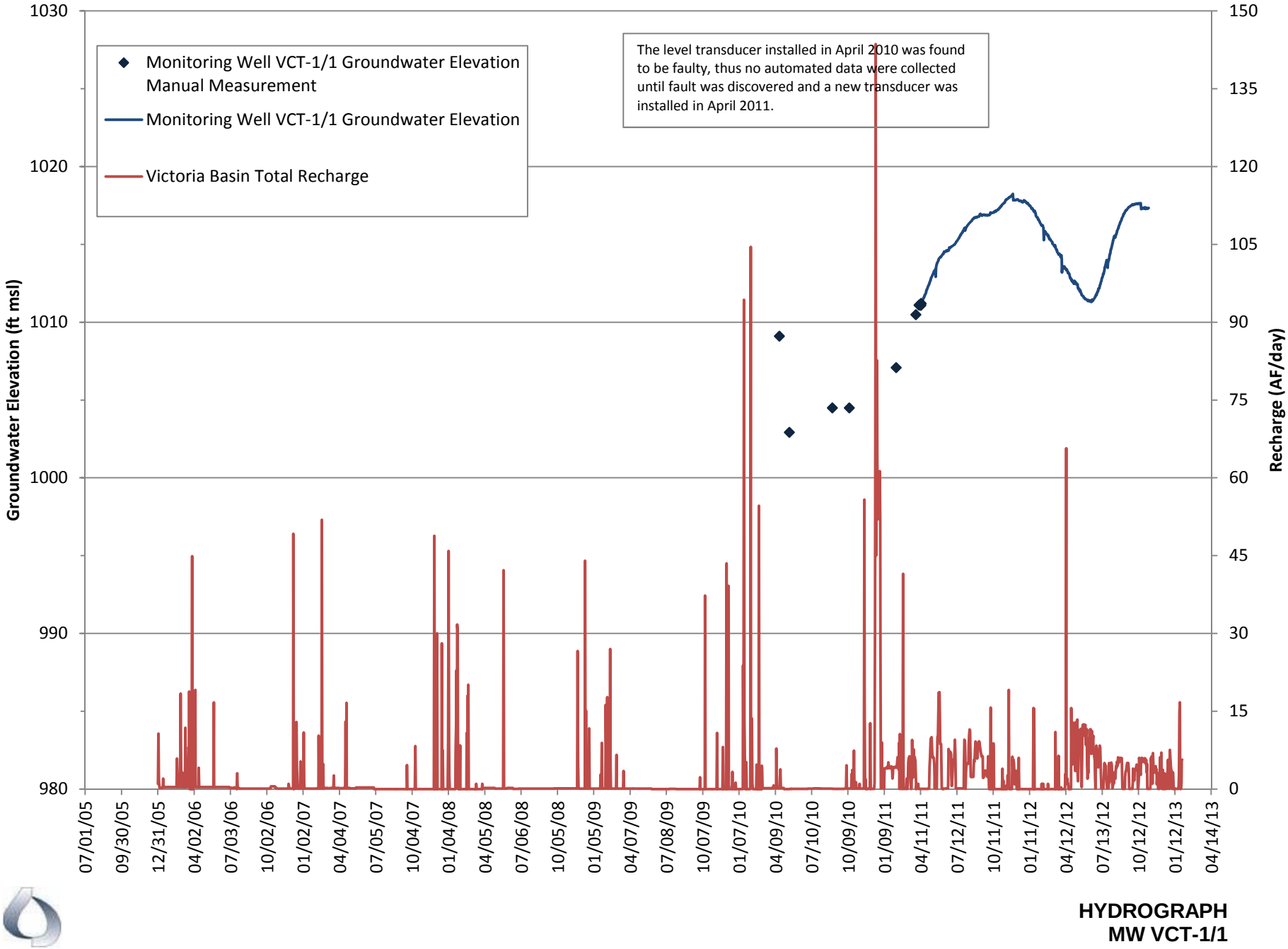
HYDROGRAPH
MW TRN-2/1 & TRN-2/2



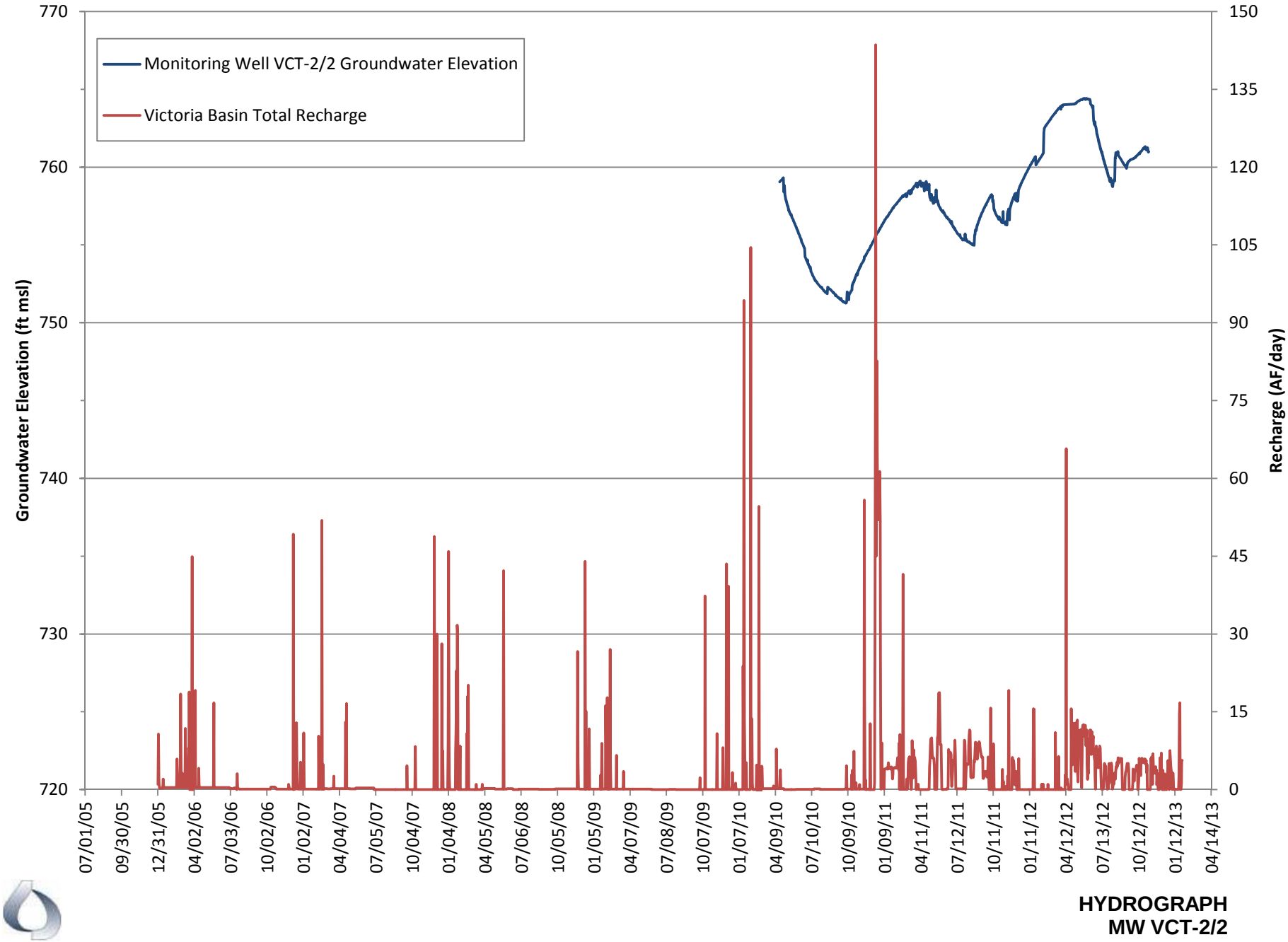
HYDROGRAPH
MW RP3-1/1 & RP3-1/2



HYDROGRAPH
MW SS-1/1



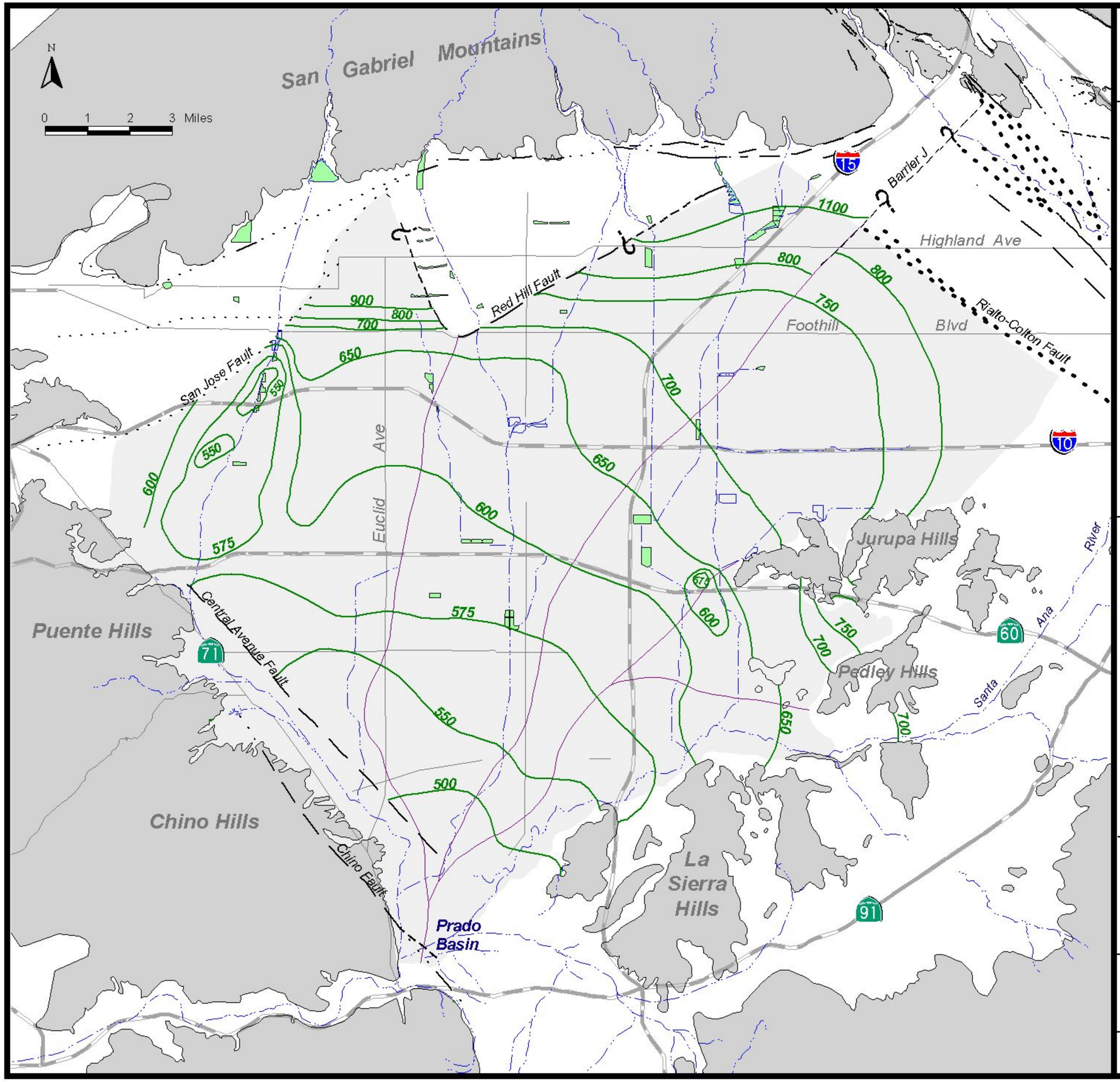
HYDROGRAPH
MW VCT-1/1



HYDROGRAPH
MW VCT-2/2

APPENDIX E

GROUNDWATER ELEVATION CONTOUR MAPS



Optimum Basin Management Program
Chino Basin Watermaster

Legend

- Fall 1997 Groundwater Elevation (ft-msl)
- Fault
  - Dashed Where Approximate
  - Dotted Where Concealed
  - Queried Where Uncertain
  - Large Dots Where Groundwater Barrier (Suspected Fault)
- Rivers & Streams
- Management Zone Boundary
- Hydrologic Chino Basin
- Recharge Basins
- Bedrock

Management Zone Index Map

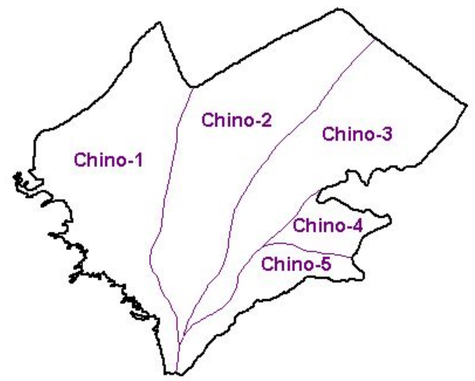


Figure 2-19
Fall 1997
Groundwater Elevation Map

WE WILDERMUTH ENVIRONMENTAL, INC.

Date: August 19, 1999

s:\clients\cbwm\obmp\task order 2\obmp documents\section 2\figures\figure 2-19.apr

117°40'0"W

117°20'0"W

34°0'0"N

San Gabriel Mountains

Fault Zone

Cucamonga

San Antonio Ck

Indian Hill Fault

San Jose Fault

Red Hill Fault

Barrier J

Sierra Ave

Lytle Ck

Loma Linda Fault

Riverside Ave

Waterman Ave

Foothill Blvd

Haven Ave

Day Ck

Etiwanda Ave

Euclid Ave

Central Ave

Holt Blvd

Mission Blvd

Riverside Dr

Cucamonga Ck

Bellegrave Ave

Limonite Ave

Chino Ck

Chino Fault

Central Avenue Fault

Rialto-Colton Fault

San Jacinto Fault

Shallow Aquifer-System unsaturated north of this line during Fall 2000

MZ-1

MZ-2

MZ-3

MZ-4

MZ-5

1000

800

775

750

725

700

675

650

625

600

575

550

525

500

585

565

Puente Hills

Los Angeles Co.

Chino Hills

San Bernardino County
Orange County

Prado Flood Control Basin

La Sierra Hills

Jurupa Mountains

San Bernardino County
Riverside County

Santa Ana River

Box Springs Mtns

Van Buren Blvd

Victoria Ave

El Sobrante de San Jacinto

15

10

60

71

91

215

Main Features

800 / 775 — Groundwater Elevation Contours -- Fall 2000 (feet above mean sea level)

Geology

Water-Bearing Sediments

- Quaternary Alluvium

Consolidated Bedrock

- Plio-Pleistocene Sedimentary Rocks
- Cretaceous to Miocene Sedimentary Rocks
- Pre-Tertiary Igneous and Metamorphic Rocks

Faults

- Location Certain
- Location Approximate
- Location Concealed
- Location Uncertain

Other Features

- Flood Control and Conservation Basins

Produced by:

WILDERMUTH ENVIRONMENTAL INC.

23692 Birtcher Drive
Lake Forest, CA 92630
949.420.3030
http://www.wildermuthenvironmental.com

Author: AEM
Update: WEL
Date: 20050714
File: Figure 8-03.mxd

0 1 2 3 4 Miles

0 2 4 6 KM

Inland Empire Utilities Agency

Phase II Recycled Water Groundwater Recharge Project

Groundwater Elevation Map Fall 2000

Figure 8-3

117°40'0"W

117°20'0"W

34°0'0"N

San Gabriel Mountains

Cucamonga Fault Zone

Red Hill Fault

Indian Hill Fault

San Jose Fault

Central Ave

Euclid Ave

Haven Ave

Etiwanda Ave

Foothill Blvd

Holt Blvd

Mission Blvd

Riverside Dr

Bellegrave Ave

Limonite Ave

Puente Hills

LA County

Chino Fault

Chino Hills

San Bernardino County
Orange County

Prado Flood Control Basin

La Sierra Hills

Main St

6th St

Van Buren Blvd

Victoria Ave

El Sobrante de San Jacinto

Barrier J

Sierra Ave

Barrier H

Riverside Ave

Lona Linda Fault

Barrier G

San Andreas Fault

Waterman Ave

San Jacinto Fault

Rialto-Colton Fault

Jurupa Mountains

San Bernardino County
Riverside County

Box Springs Mtns

Mission Blvd

1000
800
775
750
725
700
675
650
625
600
575
550
540
530
525
500
590
560

15
10
60
215
91

Main Features

800
775 Groundwater Elevation Contours (feet above mean sea-level)

Chino-I Desalter Well

Chino Basin Hydrologic Boundary

Geology

Water-Bearing Sediments

Quaternary Alluvium

Consolidated Bedrock

Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

Faults & Groundwater Divides

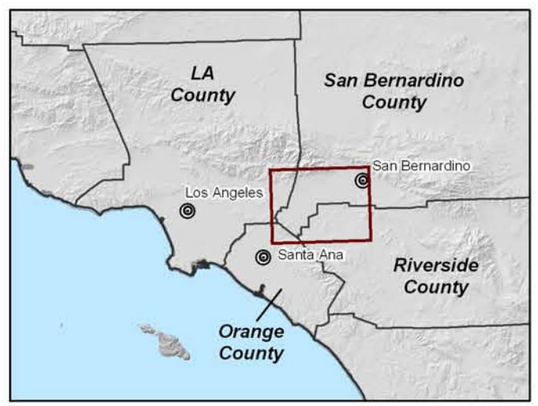
Location Certain

Location Approximate

Location Concealed

Location Uncertain

Groundwater Divide



Produced by:

WILDERMUTH ENVIRONMENTAL INC.

23692 Birtcher Drive
Lake Forest, CA 92630
949.420.3030
www.wildermuthenvironmental.com

Author: KD
Date: 20050627
File: Figure_3-6.mxd

0 1 2 3 4 Miles

0 2 4 6 KM

State of the Basin Report -- 2004
Groundwater Basin Operation and Response

Groundwater Elevation Contours

Fall 2003 -- Chino Basin

Figure 3-6

117°40'0"W

117°20'0"W

34°0'0"N

San Gabriel Mountains

Fault Zone

Cucamonga Basin

Claremont Basin

Pomona Basin

Rialto-Colton Basin

Puente Hills

Chino Hills

Prado Flood Control Basin

La Sierra Hills

Arlington Basin

Temescal Basin

El Sobrante de San Jacinto

Riverside Basins

Jurupa Mountains

San Bernardino County

Riverside County

Orange County

Los Angeles Co

Cucamonga

San Antonio Ck

Red Hill Fault

Indian Hill Fault

San Jose Fault

Chino Fault

Barrier J

Lytle Ck

Loma Linda Fault

Rialto-Colton Fault

San Jacinto Fault

Day Ck

Etiwanda Ave

Euclid Ave

Central Ave

Holt Blvd

Foothill Blvd

Riverside Dr

Mission Blvd

Cucamonga Ck

Chino Ck

Limonite Ave

Bellegrave Ave

Van Buren Blvd

Victoria Ave

Santa Ana River

15

210

215

10

60

71

91

1100

1000

800

775

725

700

650

625

600

575

550

525

500

Groundwater Elevation Contours
(feet above mean sea-level)

Other Features

- Chino Desalter Well
- Flood Control and Conservation Basins

Geology

Water-Bearing Sediments

- Quaternary Alluvium

Consolidated Bedrock

- Plio-Pleistocene Sedimentary Rocks
- Cretaceous to Miocene Sedimentary Rocks
- Pre-Tertiary Igneous and Metamorphic Rocks

Faults

- Location Certain
- Location Approximate
- Location Concealed
- Location Uncertain

Produced by:

WILDERMUTH ENVIRONMENTAL INC.

23692 Birtcher Drive
Lake Forest, CA 92630
949.420.3030
www.wildermuthenvironmental.com

Author: ETL

Date: 20070511

File: Figure_3-18.mxd

0 1 2 3 4 5 Miles

0 2 4 6 8 KM

DRAFT - 2007 CBWM Groundwater Model Documentation and Evaluation of the Peace II Project Description

Hydrogeologic Setting

Groundwater Elevation Contours

Fall 2006 -- Chino Basin

Figure 2-7a

117°40'0"W

117°20'0"W

34°0'0"N

San Gabriel Mountains

Cucamonga Fault Zone

Cucamonga Basin

Claremont Basin

Pomona Basin

Rialto-Colton Basin

Riverside Basins

Arlington Basin

Temescal Basin

Puente Hills

Chino Hills

La Sierra Hills

Jurupa Mountains

El Sobrante de San Jacinto

Prado Flood Control Basin

Indian Hill Fault

San Jose Fault

Red Hill Fault

Barrier J

Loma Linda Fault

San Jacinto Fault

Rialto-Colton Fault

Chino Fault

San Antonio Ck

Day Ck

Cucamonga Ck

Chino Ck

Lytle Ck

Santa Ana River

1100

1000

800

750

725

700

650

625

600

575

550

525

500

Foothill Blvd

Holt Blvd

Mission Blvd

Riverside Dr

Bellegrave Ave

Limonite Ave

Van Buren Blvd

Victoria Ave

Central Ave

Euclid Ave

Etiwanda Ave

Haven Ave

Sierra Ave

Riverside Ave

15

210

71

10

215

60

91

800 Groundwater Elevation Contours

775 (feet above mean sea-level)

Other Features

Management Zone Boundary (1, 2, 3, Chino East, Chino South)

Chino Desalter Well

Streams & Flood Control Channels

Flood Control & Conservation Basins

Geology

Water-Bearing Sediments

Quaternary Alluvium

Consolidated Bedrock

Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

Faults

Location Certain

Location Approximate

Location Concealed

Location Uncertain

Produced by:

WILDERMUTH ENVIRONMENTAL INC

23692 Birtcher Drive
Lake Forest, CA 92630
949.420.3030
www.wildermuthenvironmental.com

Author: ETL/CML

Date: 20090401

File: Figure_3-19.mxd

0 1 2 3 4 5 Miles

0 2 4 6 8 KM

2008 State of the Basin Report

Groundwater Levels

Groundwater Elevation Contours

Fall 2008 -- Chino Basin

Figure 3-19

117°40'0"W

117°20'0"W

34°0'0"N

San Gabriel Mountains

Cucamonga Fault Zone

Cucamonga Basin

Claremont Basin

Pomona Basin

Rialto-Colton Basin

Indian Hill Fault

San Jose Fault

Red Hill Fault

Barrier J

Lytle Ck

Loma Linda Fault

San Jacinto Fault

Rialto-Colton Fault

San Antonio Ck

Euclid Ave

Haven Ave

Day Ck

Etiwanda Ave

Sierra Ave

Riverside Ave

Foothill Blvd

Holt Blvd

Riverside Dr

Central Ave

Mission Blvd

Limonite Ave

Bellegrave Ave

Cucamonga Ck

San Sevaine Ck

Chino Ck

Santa Ana River

Jurupa Mountains

Puente Hills

Chino Hills

Prado Flood Control Basin

Temescal Basin

El Sobrante de San Jacinto

San Bernardino County

Orange County

Riverside County

Riverside Basins

F-30A

F35A

CVWD CB-5

CVWD CB-3

MVWD-10

O-17

O-16

P-11

C-10

Offsite MW3

Mil M-03

Mil M-06B

CH-16

CH-15A

XRef 404

XRef 425

JCSD-10

FC-932A2

XRef 4503

HCMP-9

SARWC-07

SARWC 11

HCMP-8

HCMP-2

HCMP-7

Archibald 1

750

700

675

650

625

600

575

550

525

725

775

800

825

850

This map displays contours of equal groundwater elevation across the Chino Basin during the spring of 2010. Groundwater flows from higher to lower elevations, perpendicular to the contours. As with Exhibit 21, this map indicates that groundwater was generally flowing in a south-southwest direction from the primary areas of recharge in the northern parts of the basin toward the Prado Flood Control Basin in the south. ***There continued to be a notable pumping depression in the groundwater-level surface in the northern portion of MZ1 (Montclair and Pomona areas). A discernible depression in groundwater levels developed around the eastern portion of the Chino Desalter well field, which has achieved hydraulic control in this area.*** This depression has merged with the depression around the JCSD well field and has also increased the hydraulic gradient from the Santa Ana River toward the desalter well field.

800 775 Groundwater Elevation Contours (feet above mean sea-level)

Boundry of Contoured Area (contours are not shown outside of this boundary due to lack of water level data)

Well used for Time History Analysis (Exhibits 16 through 20)

OBMP Management Zones

Chino Desalter Wells

Streams & Flood Control Channels

Flood Control & Conservation Basins

Geology

Water-Bearing Sediments

Quaternary Alluvium

Consolidated Bedrock

Undifferentiated Pre-Tertiary to Early Pleistocene Igneous, Metamorphic, and Sedimentary Rocks

Faults

Location Certain

Location Approximate

Approximate Location of Groundwater Barrier

Location Concealed

Location Uncertain

Produced by:
WILDERMUTH ENVIRONMENTAL INC.
23692 Birtcher Drive
Lake Forest, CA 92630
949.420.3030
www.wildermuthenvironmental.com

Author: TCR
Date: 20111027
File: Exhibit_22.mxd

0 1 2 3 4 5 Miles
0 2 4 6 8 KM

2010 State of the Basin
Groundwater Levels

Groundwater Elevation Contours

Spring 2010

Exhibit 22