

Beaumont Basin Watermaster

2019 Consolidated Annual Report and Engineering Report

FINAL

2019 Watermaster Board

Art Vela, City of Banning, **Chairman**

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April 21, 2021

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April 21st, 2021

Art Vela, Chairman
Beaumont Basin Watermaster
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Subject: **Beaumont Basin Watermaster – Final Consolidated
Annual Report and Engineering Report for Calendar Year 2019**

Dear Mr. Vela:

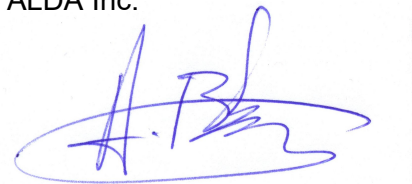
ALDA Inc., in association with Thomas Harder & Co. is pleased to submit to you, as Chairman of the Beaumont Basin Watermaster, the Beaumont Basin Watermaster Consolidated Annual Report and Engineering Report for Calendar Year 2019. This final report summarizes all production, spreading, water rights, and storage activities that took place during calendar year 2019. Further, it documents changes in water levels and storage conditions, provides an estimate of the Basin Operating Safe Yield for 2019, and documents the evaluation of water quality conditions in the basin.

This final report incorporates comments received on the December 12th, 2020 Revised Draft discussed at the February 18th, 2021 Special Meeting of the Beaumont Basin Watermaster. Memorandum 21-12, presented at that meeting, is including as Appendix I in this report documenting the comments received and the response to comments.

Should you have any questions on this matter, please contact us at 909-587-9916 during normal business hours.

Very truly yours

ALDA Inc.



F. Anibal Blandon, P.E.
Principal

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Abbreviations

ac-ft	acre-feet
ac-ft/yr	acre-feet per year
Banning	City of Banning
Basin	Beaumont Basin
BCVWD	Beaumont-Cherry Valley Water District
BMZ	Beaumont Management Zone
Beaumont	City of Beaumont
CDPH	California Department of Public Health
CVCOI	Cherry Valley Community of Interest
CY	calendar year
du	dwelling unit
FY	fiscal year
IRWMP	Integrated Regional Water Management Program
MCL	Maximum Contaminant Level
NL	Notification Level
NTU	Nephelometric Turbidity Units
OSWDS	On-Site Waste Disposal Systems
Pass Agency	San Gorgonio Pass Water Agency
SGPWA	San Gorgonio Pass Water Agency
SMWC	South Mesa Water Company
STWMA	San Timoteo Watershed Management Authority
STWMP	San Timoteo Watershed Management Program
SWP	State Water Project
TDS	Total Dissolved Solids
UCR	University of California, Riverside
USEPA	United States Environmental Protection Agency
Watermaster	Beaumont Basin Watermaster Committee
YVWD	Yucaipa Valley Water District

Section 1

Background

The Sixteenth Annual Report of the Beaumont Basin Watermaster Committee (Watermaster) consolidates the information about the basin previously presented in Annual Reports with the information presented in the bi-annual Engineer's Report. This report documents activities in the Beaumont Basin for Calendar Year 2019. Section 3 of the original annual report has been expanded and retitled as "Status of the Basin and Administration of the Judgment"; it documents the Administration of the Judgment as well as provides a status of conditions in the basin addressing water production, water levels, recharge of supplemental water, water transfers, and storage activities. In addition, a Water Quality section, Section 4, has been added to document water quality of selected compounds at selected wells, as well as basin wide concentrations for the 2015-19 period.

1.1 History of the Beaumont Basin Stipulated Judgment

In January 2001, the City of Beaumont (Beaumont), the Beaumont-Cherry Valley Water District (BCVWD), the South Mesa Water Company (SMWC), and the Yucaipa Valley Water District (YVWD) formed the San Timoteo Watershed Management Authority (STWMA). One of the initial tasks of STWMA was to develop a watershed-wide program to develop and implement a comprehensive management program for the San Timoteo watershed.

Phase I of the management program, documented in the San Timoteo Watershed Management Program, Phase I Report (WEI, 2002), included the following goals:

- Enhancing water supplies
- Protecting and enhancing water quality
- Optimizing the management of STWMA area groundwater basins
- Protecting riparian habitat in San Timoteo Creek and protecting/enhancing habitat in the STWMA area
- Equitably distributing the benefits and costs of developing the Integrated Regional Watershed Management Program for the San Timoteo watershed

One of the elements identified in the management plan to achieve the listed goals consisted in the establishment of a groundwater management entity for the Beaumont Basin. As a result of this initiative, two groups representing overlying users and water agencies with interest in this basin began negotiations in May 2002.

Over the next 18 months of negotiations, a Stipulated Agreement was developed and submitted to the Court. Honorable Judge Gary Tranbarger of the Superior Court of the State of California for the County of Riverside signed the Agreement, titled "San Timoteo Watershed Management Authority, vs. City of Banning, et al." (Case No. RIC 389197), on February 4, 2004, (the Judgment).

Pursuant to the Judgment, the Court appointed a five-member Watermaster Committee, consisting of representatives from each of the Appropriator parties: City of Banning, City of Beaumont, Beaumont Cherry Valley Water District (BCVWD), South Mesa Water Company (SMWC), and Yucaipa Valley Water District (YVWD). The effective date of the Judgment for accounting purposes was retroactively established to July 1, 2003.

The Court gave the responsibility of managing the Basin to the Watermaster by approving the Stipulated Agreement but retained continuing jurisdiction should there be any future need to resolve difficult questions among the Parties.

1.2 Essential Elements of the Judgment

Elements of the 2004 Judgment are as follows:

- All producers shall be allowed to pump sufficient water from the Basin to meet their respective requirements.
- The Safe Yield of the Basin was established at 8,650 ac-ft/yr to be distributed among the Overlying Producers. The Safe Yield of the Basin is to be re-evaluated every 10 years, at a minimum.
- The Overlying Parties can extract a combined total of 8,650 ac-ft/yr with individual rights set for each Overlying Producer. If an Overlying Party pumps more than five times its share of the operating Safe Yield in any five consecutive years, the overlying producer shall provide Watermaster with sufficient funds to replace the overproduction.
- A controlled overdraft of the basin was allowed to create enough additional storage capacity to prevent the waste of water. This controlled overdraft, also known as Temporary Surplus, allows Appropriators to extract up to 160,000 ac-ft of water from the basin over the 10-year period immediately following the Judgment inception. The Temporary Surplus will cease after the initial 10 years of operations.
- During the first ten years after adoption of the Judgment, the Appropriators have the right to extract a maximum of 16,000 ac-ft/yr not including storage credits from spreading supplemental water or transfers from Overlying Parties. The Temporary Surplus was divided among the Appropriators as follows:

✓ Beaumont Cherry Valley WD	42.51 percent or 6,802 ac-ft/yr
✓ City of Banning	31.43 percent or 5,029 ac-ft/yr
✓ South Mesa Water Company	12.48 percent or 1,997 ac-ft/yr
✓ Yucaipa Valley Water District	13.58 percent or 2,173 ac-ft/yr
- After the first 10 years of operation, Appropriators can extract only the amount each has in storage or credited to them. An Appropriator shall provide Watermaster with sufficient funds to replace any amount of overproduction that may have occurred over a five-year consecutive period.

- The Watermaster has the authority to enter into Groundwater Storage Agreements with local and regional agencies and individual producers for the storage of supplemental water, wellhead protection and recharge, well abandonment, well construction, monitoring, replenishment, mitigation of overdraft, and collection of assessments.
- Supplemental replenishment water can be in the form of recycled water, imported State Project Water, or other imported water. Replenishment can be accomplished by spreading and percolation, injection, or in-lieu use of surface water or imported water.
- A minimum of 200,000 ac-ft of groundwater storage capacity was reserved for conjunctive use. Any local or regional agency or individual producer that has a storage agreement with Watermaster can make reasonable beneficial use of the groundwater storage capacity for storage of supplemental water provided that it is in accordance with their storage agreement with Watermaster.
- Minimal producers, those producing less than 10 ac-ft/yr from the basin, and not listed in the Judgment, are exempt from the provisions of the Judgment.

1.3 Watermaster Responsibilities

Under the Judgment, the Watermaster is granted discretionary powers to develop and implement a groundwater management plan for the Beaumont Basin, including water quality and quantity considerations and being reflective of the provisions of the Judgment.

In carrying out its duties, Watermaster is responsible for providing the legal and practical means of ensuring that the waters of the Basin are put to maximum beneficial use. Specific responsibilities are summarized below.

1.- Administer the Beaumont Basin Judgment. Watermaster operates under the Judgment and the Rules and Regulations, which were originally adopted June 8, 2004, and subsequently amended in 2006 and 2008. The Rules and Regulations were most recently amended in 2019. The Judgment and the Rules and Regulations establish the procedures by which Watermaster accounts for the water resources of the Basin. Watermaster has the power to collect administrative assessments from all Appropriators and replenishment assessments from those parties (Appropriative and Overlying) pumping in excess of their pumping right to fund its operations. Each year, Watermaster publishes an Annual Report, which documents groundwater production, recharge activities, water transfers between appropriators, transfers of water rights from an overlying member to an appropriator in the Beaumont Basin.

2.- Approve Producer Activities. All producers must notify and obtain approval, as necessary, from Watermaster for activities, such as recharging water, transferring or exchanging water, storing local water, and storing or recovering supplemental water.

3.- Maintain and Improve Water Supply. On an annual basis, Watermaster determines the amount of groundwater that each producer is entitled to pump from the Basin without incurring a replenishment obligation. Further, Watermaster is responsible for facilitating and coordinating the acquisition, recharge, and storage of imported water or other local supplemental water to replenish and/or conjunctively manage the Basin to increase local supplies.

4.- Monitor and Understand the Basin. Watermaster is responsible for collecting information from producers, and other cooperating agencies, to enhance its knowledge of how the Basin works and manage it more effectively. Information collected by the Watermaster includes:

- Water production, water level, and water quality information from the Appropriator Parties.
- Water production and water level information from the Overlying Parties.
- Water level and water quality data collected by local agencies as part of their Maximum Benefit and Monitoring Program for the Beaumont Management Zone.
- Ground surface elevations from periodic surveys conducted to determine whether ground subsidence may be occurring because of over pumping from the basin.

5.- Maintain and Improve Water Quality. Watermaster coordinates and participates in local efforts to preserve and/or enhance the quality of groundwater in the Basin. It assists and encourages regulatory agencies to enforce water quality regulations that may influence the Basin groundwater sources and its surrounding resources. One of these programs is the Maximum Benefit Monitoring Program of the Beaumont Management Zone.

6.- Develop and Administer a Well Policy. Watermaster is responsible for developing a policy on the proper construction and abandonment of wells in the Basin. Through the adoption of Resolution 2004-04, the Watermaster adopted minimum standards for the construction, repair, abandonment and destruction of groundwater extraction wells in the Beaumont Basin. As part of this resolution, Watermaster adopted Riverside County Ordinance No. 682.3 and expanded it to require the installation of a sounding tube to facilitate the measurement of water levels on all future wells.

7.- Develop Contracts for Beneficial Programs and Services. Watermaster is responsible for developing and entering contracts for programs and services that are beneficial to the Basin on behalf of the Parties to the Judgment. This includes programs for conjunctively utilizing the Basin for the storage of supplemental water with other agencies and programs to implement and expand the direct or indirect use of recycled water.

8.- Provide Cooperative Leadership. Watermaster may act jointly or cooperate with other local, state, and/or federal agencies to develop and implement regional scale programs for the management of the Basin and its surrounding resources.

1.4 Watermaster Address

For the purposes of conducting Watermaster business and maintaining records, Watermaster's official address remains as follows:

Office of the Watermaster Secretary
C/O Beaumont-Cherry Valley Water District
560 Magnolia Avenue
Beaumont, CA 92223

1.5 Watermaster Website

Watermaster website address is www.beaumontbasinwatermaster.org. This website is maintained by the YVWD and it is used by the Watermaster to communicate its activities to the Parties and the public. The website contains copies of the Judgment, the Rules and Regulations, Annual Reports, and Engineer's Reports. In addition, it contains meeting minutes, meeting agendas, and other documents of interest.

1.6 Mission Statement

Watermaster adopted the following mission statement in October 2004:

"Watermaster's mission is to manage the yield of and storage within the Beaumont Basin to provide maximum benefit to the people dependent on it."

Section 2

Watermaster Activities

2.1 Makeup of the Board

During the February 6, 2019 regular meeting of the Beaumont Basin Watermaster, the current Watermaster Committee Officers were re-affirmed to their respective positions for 2019 as follows:

- Mr. Art Vela – Chairman
- Mr. George Jorritsma – Vice Chairman
- Mr. Dan Jaggars – Secretary
- Mr. Joseph Zoba – Treasurer

The Watermaster Representatives serving each Appropriative Party at the end of CY 2019 were as follows:

Agency	Representative	Alternate
City of Banning	Art Vela	Luis Cardenas
City of Beaumont	Vacant	Kyle Warsinski
Beaumont Cherry Valley Water District	Daniel Jaggars	Mark Swanson
South Mesa Water Company	George Jorritsma	Dave Armstrong
Yucaipa Valley Water District	Joseph Zoba	Jennifer Ares

Legal counsel during CY 2019 was provided by Alvarado Smith APC, represented by Keith McCullough and Thierry Montoya, while Engineering Services were provided by ALDA Inc., represented by Anibal Blandon, in association with Thomas Harder & Company, represented by Thomas Harder.

2.2 Watermaster Accomplishments and Activities During 2019

2.2.1 Watermaster Meetings

A total of six regular meetings were held during CY 2019 on the following dates:

- February 6, 2019
- June 5, 2019
- October 2, 2019
- March 27, 2019
- August 7, 2019
- December 4, 2019

In addition, there were two Special Meetings conducted on March 6, 2019 and June 25, 2019.

Agendas and approved minutes from each of the above regular and special meetings can be viewed at and/or downloaded from Watermaster's website or by making a request to the Watermaster Secretary. Pursuant to Resolution 2009-01, all Watermaster's public records are open for inspection during office hours, provided that a written request to inspect said records has been submitted.

2.2.2 Watermaster Committee Resolutions

During CY 2019, two resolutions were adopted.

Resolution 19-01, a Resolution of the Beaumont Basin Watermaster to amend the Judgment at the Riverside Superior Court's request to correct a clerical error – an incorrect reference to “8610 acre feet” on Judgment, Page 7, Line 26 – correcting such to “8650 acre feet”. A copy of the resolution is included under Appendix A.

Resolution 19-02, a Resolution of the Beaumont Basin Watermaster rescinds Section 7 of the Beaumont Basin Watermaster Rules and Regulations in its entirety with a new Section 7 of the Beaumont Basin Watermaster Rules and Regulations as provided in Attachment A of the Resolution and included here in Appendix A.

2.2.3 Items Discussed in 2019

This section presents a summary of topics addressed at Watermaster meetings. The Beaumont Basin Watermaster maintains official meeting minutes that report the items discussed and actions taken during normal and special meetings. A copy of the minutes for each meeting that took place in 2019 are included here under Appendix B. Official meeting minutes may also be accessed at: www.beaumontbasinwatermaster.org

The following items were discussed during the six regular meetings and two special meetings held in CY 2019 along with their resulting outcome.

Items Discussed During the February 6, 2019 Watermaster Committee Meeting

- Reorganization of the Beaumont Basin Watermaster Committee – Chairman, Vice-Chairman, Secretary, and Treasurer [Memorandum 19-01]. The current Watermaster Committee Officers were re-affirmed to their respective positions for 2019.
- Status Report on Water Level Monitoring throughout the Beaumont Basin through Jan 22, 2019 [Memorandum 19-02]. Engineer Blandon gave a status report of the water level monitoring throughout the basin and indicated that BCVWD Well No. 29 has been added as a monitoring well. He also indicated that the owners at potential monitoring sites are comfortable with having a probe in their wells, but not with signing contracts. One potential new monitoring well is Sharondale Well No. 1, which is operated by Clearwater Operations.

- Status Report on the Development of a Return Flow Methodology for the Beaumont Basin [Memorandum 19-03]. Mr. Ben Lewis, with Thomas Harder and Company, indicated that he has the needed data from BCVWD, YVWD, and the City of Banning; however, only the information provided by YVWD was tied to APNs. He further indicated that they have begun developing the methodology and expects to provide a draft technical memorandum by the March 27, 2019 meeting.
- Presentation of the Draft 2018 Consolidated Annual Report and Engineering Report [Memorandum 19-04]. Mr. Blandon provided a comprehensive presentation in terms of precipitation in the basin, production by appropriators and overlying users, wastewater discharges from the City of Beaumont, and spreading of imported water through the San Geronio Pass Water Agency. However, most of the discussion during the presentation focused on the transfers of water rights from Overlying Parties to Appropriators; specifically, the transfer of water rights from Oak Valley Partners to the YVWD to serve certain parcels in the Beaumont Basin. The main issue of disagreement was related to the timing as to when the transfers of water rights are perfected; input was given by most committee members as well as legal counsel and engineering staff with no agreement reached. The Committee scheduled a special meeting for March 6 at 11:00 AM to continue the discussion on this topic.
- Additional items included in the presentation of the draft report involved a discussion on the basin safe yield as well as water quality issues. Mr. Blandon presented a five-year analysis based on water quality information obtained from the State of California Department of Public Health; analysis of the data concluded that none of the primary state and federal standards were exceeded and that overall the water quality in the basin is good.

Items Discussed During the March 6, 2019 Special Watermaster Committee Meeting

- Discussion Regarding Draft Resolution No. 2019-01 Amending the Judgment at the Riverside Superior Court's Request to Correct a Clerical Error – An Incorrect Reference to “8,610 Acre-Feet” on Judgment, Page 7, Line 26 – Correcting Such to “8,650 Acre-Feet” [Memorandum 19-05]. Legal Counsel Montoya indicated no discussion is warranted; the Resolution has been approved and submitted to the Court.
- Discussion Regarding the 2018 Draft Annual Report and Review of Comments Received by the Consultant [Memorandum 19-06]. Engineer Blandon indicated that some comments were received and would be incorporated into the final report. Mr. Blandon also talked about comments on storage losses and the accounting of return flows and suggested that the Watermaster may consider policies to account for these issues when the time comes. Member Jagers noted there are many things to work out such as forms that are indicated in the Rules and Regulations but are not readily available. He believes it appropriate to form an Ad Hoc Committee to bring the rules current to today's basin management. The discussion focused on Section 3.4.2 of the report, “Transfers of Overlying Rights for Service by an Appropriator”, and centered around the issue of when the transfers become effective. Some members believe that the transfer occurs when

water is delivered to the end users resulting in an annual accounting of water delivered to specific users while other members reasoned that the transfer takes place when the overliyer indicates to the Watermaster that they will forgo this water prior to the actual service taking place. Further discussion ensued about the ambiguity of the perfection of the right. Member Jagggers reiterated the request for a policy with a clear path and meets the intent of the adjudication. Chair Vela suggested the engineer submit the minimum report to the state if the issue of overlying transfers to appropriators is not resolved by the next meeting.

Items Discussed During the March 27, 2019 Watermaster Committee Meeting

- Discussion Overview of the Consolidated Beaumont Basin Watermaster Rules and Regulation [Memorandum 19-07]. Member Zoba presented the current Rules and Regulations document for discussion. Chair Vela and member Warsinski requested a redline version of the document.
- Consideration of Resolution 2019-02 Amending Section 7 of the Rules and Regulations [Memorandum 19-08]. Member Jagggers reiterated the request for an Ad Hoc Committee and noted comments from the City of Beaumont. Members discussed options for the rules and regulations process. Counsel Montoya recommended appointment of an Ad Hoc Committee, to create a draft of amended rules and regulations and to publish for public comment. Counsel recommended no action on Resolution 2019-02; the Committee members voted unanimously to take No Action.
- Status Report on Water Level Monitoring throughout the Beaumont Basin through March 18, 2019 [Memorandum 19-09]. After Engineer Blandon made his presentation on water levels in the basin, member Jorristma requested information on how much water is pumped from the monitoring wells. Mr. Blandon explained that only two of the 16 monitoring wells are pumping wells.
- A Comparison of Production and Allowable Extractions through February 2019 [Memorandum 19-10]. There was no discussion.
- Certification of Groundwater Production and Imported Water Use During Calendar Year 2018 [Memorandum 19-11]. Mr. Blandon explained that the purpose of this certification was to meet reporting requirements to the State of California by April 1, 2019. The report contains information on the total amount of groundwater produced from the Beaumont Basin, the use of imported water, and the estimated change in storage that took place in 2018. Chairman Vela suggested that due to ongoing discussion regarding transfer of overlying rights, the title of the chart should be changed to “Appropriation of Overlying Rights from 2014. Member Warsinski suggested adding the word “unused” to clarify.

Items Discussed During the June 5, 2019 Regular Watermaster Committee Meeting

- Consideration of Resolution 2019-02 Amending Section 7 of the Rules and Regulations of the Beaumont Basin Watermaster [Memorandum 19-12]. Counsel Montoya explained that the Ad Hoc Committee met twice to review the Rules and Regulations regarding

transfer of rights from an overlying party to an appropriate party and how that supply would be earmarked and credited. Mr. Montoya recommended that the item be tabled to allow for additional discussion at the Ad Hoc Committee level to clear inconsistencies in the language of the Resolution. After Chair Vela called for public comment; there was none, the item was tabled.

- Status Report on Water Level Monitoring throughout the Beaumont Basin through May 27, 2019 [Memorandum 19-13]. Engineer Blandon updated the Committee on YVWD Well 34 where the sounding device had been lost and new equipment installed. He further indicated that Oak Valley No. 5 has had inconsistent levels as of late. Mr. Blandon also reported that two new monitoring wells had been added on the western portion of the basin; namely, BCVWD No. 29 and Tukwet B. Chair Vela updated the Committee on Well 15 indicating that the anticipated street project that would have affected the well has been shelved.
- A Comparison of Production and Allowable Extractions through April 2019 [Memorandum 19-14]. Engineer Blandon explained the purpose of the report and Mr. Jaggars noted a correction on the table.

Items Discussed During the June 25, 2019 Special Watermaster Committee Meeting

- Consideration of Resolution 2019-02 Amending Section 7 of the Rules and Regulations of the Beaumont Basin Watermaster [Memorandum No. 19-15]. Chair Vela indicated that this item was tabled at the previous meeting and asked for clarification on transfer and earmarked numbers. Counsel Montoya explained that the Resolution provides that instead of tracking the water by correspondence, it would be tracked by Form 5. Mr. Montoya explained that water is designated as “earmarked” meaning subject to transfer (not transferred yet) remains an overlying right until it is transferred (put to service); then the overliyer forgoes pumping the water that now has been transferred to the appropriator. He further indicated that there is no time limit for the transfer as long as the development is progressing. Member Zoba noted that the recitals of the Resolution mirror the verbiage in the Judgment while Mr. Montoya indicated that some provisions of the initial Rules and Regulations were removed because they were not consistent with the Judgment. Resolution 2019-02 was adopted unanimously with member Jorristma absent.

Items Discussed During the August 7, 2019 Regular Watermaster Committee Meeting

- Status Report of Water Level Monitoring throughout the Beaumont Basin through July 31, 2019 [Memorandum No. 19-16]. Engineer Blandon reported that no new wells have been added. He reported that levels at the monitoring wells downstream of the Noble Creek spreading grounds have risen substantially; water levels have increase close to 90 feet in the shallow aquifer and over 50 feet in the deep aquifer. He further noted that sudden changes in water level in Tukwet B coincide with the Ridgecrest recent earthquakes. He also explained that hourly maximum levels have been used at BCVWD No. 29 since this is a pumping well with pumping levels close to 55 feet lower than static levels.

- A comparison of Production and Allowable Extractions through June 2019 [Memorandum 19-17]. Engineer Blandon indicated that BCVWD has imported more than 6,000 ac-ft of water bringing their allowable production close to 8,000 ac-ft for the first half of the year; actual production was approximately 4,500 ac-ft or 55 percent of allowable. The City of Banning is at 54 percent of allowable production through June. SMWC and YVWD have not imported water and YVWD has not produced from the basin. Overall, production is approximately 50 percent of allowable production for the first half of the year.
- Return Flow Accounting Methodology [Memorandum 19-18]. Mr. Harder explained the analysis used delivery records with consideration given to parcels that overlap the adjudicated boundary. The results indicated that in Beaumont, based on delivery and WWTP records, 51 percent of the water was used indoors. Chair Vela pointed out that the calculated numbers for Beaumont do not coincide with Banning's where the indoor use has been estimated at 31.5 percent. There was also discussion on the impact of industrial and warehouse use of water as well as consideration for swimming pools and golf courses. Chair Vela suggested that all comments be provided to Mr. Harder and a revised version discussed at the next meeting.

Items Discussed During the October 2, 2019 Regular Watermaster Committee Meeting

- Status Report of Water Level Monitoring throughout the Beaumont Basin through September 22, 2019 [Memorandum 19-19]. Mr. Blandon presented highlights of the written report. Chair Vela asked about the status of Beaumont 15 well.
- A Comparison of Production vs. Allowable Extractions through August 2019 [Memorandum 19-20]. Mr. Blandon presented a comparison of production rights from the basin against actual production.
- Return Flow Analysis – Issues and Comments [Memorandum 19-21]. Mr. Harder indicated that comments have been received from Mr. Jaggars, but he has had no time to prepare a full response. Mr. Harder addressed comments in general related to accounting for indoor/outdoor use and types of water delivery. He also discussed return flow lag time and water quality and indicated that all comments will be incorporated into the next draft.
- Consideration of Change Order No. 1 for Task Order No. 17 for the Development of a Return Flow Methodology for the Beaumont Basin [Memorandum 19-22]. Mr. Harder explained that work in the original scope exceeded estimates by \$4,780.00 resulting from having to link consumption from over 10,000 parcels to APNs; a discussion ensued regarding the allocation of cost to the various agencies. The request for Change Order No. 1 was approved with Mr. Jorritsma abstaining since his agency does not serve any parcels in the Beaumont Basin.
- Status Report of the 2018 Annual Report [Memorandum 19-23]. Mr. Blandon indicated that the 2018 annual report could not be completed until proper direction is provided regarding the transfers of water rights from overlying users to appropriators.

Items Discussed During the December 4, 2019 Regular Watermaster Committee Meeting

- Status Report on Water Level Monitoring throughout the Beaumont Basin through November 19, 2019 [Memorandum 19-24]. Engineer Blandon indicated that minimal change in levels has been recorded in the northwest portion of the basin while levels continue to rise downstream of the Noble Creek spreading grounds in both the shallow and deep monitoring wells. He further indicated that water levels at Banning M-8 have decline over 33 feet since 2015 and continue to decline. Mr. Jaggars indicated that BCVWD No. 29 has returned to wintertime operation mode.
- A Comparison of Production and Allowable Extractions through October 2019 [Memorandum 19-25]. Mr. Blandon indicated that a significant amount of water (over 11,500 ac-ft) has been imported by BCVWD while the City of Banning has exceeded its production rights and it is currently at 118 percent of allotment. He further indicated that the City of Banning will have to either import additional water or use water from its storage account. Mr. Blandon documented that SMWC is currently at 55 percent while YVWD is at 56 percent of allowable production for the year.
- Independent Accountant's Financial Report of Agreed-Upon Procedures for the Beaumont Basin Watermaster [Memorandum 19-26]. Mr. Zoba presented the annual financial review of the records of the Treasurer. He noted that expenses and revenues have tapered but much of it is based on timing of annual reports and how consultant work rolls over from one fiscal year to the next. The report was received and filed by the Watermaster Committee. A copy of the Financial Audit is included in Appendix C.
- Discussion Regarding Task Order No. 20 with ALDA Inc. for the Preparation of the 2019 Consolidated Annual Report, Estimate of the Basin Safe Yield, Update of the Groundwater Model, and Associated Consulting Services for 2020 [Memorandum 19-27]. Engineer Blandon indicated that the cost for this new task to provide engineering support services in 2020 is the same cost as in the last two years. Task Order No. 20 was approved by a unanimous vote for a sum not to exceed \$95,970.00.
- Discussion Regarding Task Order No. 21 with ALDA Inc. for the Installation, Maintenance, and Data Collection of Water Level Monitoring Equipment in 2020 [Memorandum 19-28]. Engineer Blandon explained that this task will provide for the data collection, maintenance of up to 18 wells and reporting to the Watermaster. Task Order No. 21 was approved by a unanimous vote for the sum not to exceed \$21,520.00.
- Status of the Preparation of the 2018 Annual Report [Memorandum 19-29]. Engineer Blandon indicated that issues associated with Resolution 2019-02 have been discussed at length in the last several meetings and that they are affecting the completion of the 2018 annual report. He further stated that he would like the Watermaster Committee to provide guidance on this issue so that the draft report can be finalized. There was plenty of discussion between legal counsel and members of the Watermaster Committee on this issue without reaching an agreement. Member Zoba maintained that through the submission of Form 5, dated Nov 19, 2019, all the overlying rights from Oak Valley

Partners would be transferred to YVWD effective October 9, 2018; however, other members disagreed and were of the position that the overlying rights transferred to YVWD should be limited to 180.4 ac-ft for 2018 with the remainder effective in 2019. After much discussion, the Committee voted to instruct Engineer Blandon to complete the 2018 annual report based on the 180.4 ac-ft of overlying rights transferred during 2018.

2.2.3 Redetermination of Safe Yield

Under the Judgment (2003) the Safe Yield of the Beaumont Basin was established at 8,650 ac-ft/yr. to be distributed among the Overlying Producers. The Judgment indicates that the Safe Yield of the Beaumont Basin shall be redetermined at least every 10 years beginning 10 years after the date of entry of the Judgment (February 4, 2004).

At the February 2013 Watermaster meeting, the Watermaster Committee authorized a study to develop a hydrologic model of the groundwater basin to be used as a tool in the re-evaluation of the Safe Yield of the basin. At the February 2015 Watermaster Committee meeting a formal presentation of the final-draft document was made to provide members of the Committee with an opportunity to ask questions and addressed any unresolved issues. The final document was presented for approval and adoption at the April 2015 Watermaster Committee meeting.

Resolution No. 2015-01 was adopted at the April 1st, 2015 Regular Watermaster Committee meeting. Through this resolution, the Final 2013 Reevaluation of the Beaumont Basin Safe Yield Report and Redetermination of the Safe Yield of the Beaumont Basin were adopted.

The Beaumont Basin Watermaster Committee re-determined the Safe Yield of the Beaumont Basin to be 6,700 ac-ft per year.

2.3 Storage Applications and Agreements

The first applications to use the Basin for storage purposes were approved in FY 2005-06 when Watermaster approved applications by Banning, BCVWD, SMWC, and YVWD to store up to 135,000 ac-ft of water in the Basin. The City of Beaumont's application to store water was approved by Watermaster in FY 2007-08 bringing the total storage allocation to 157,000 ac-ft. In FY 2009-10, Watermaster approved additional applications by Banning, BCVWD, Beaumont, and YVWD to increase the total storage allowed to 260,000 ac-ft. It is our understanding that the Watermaster Committee has not yet amended the respective Storage Agreements to reflect the current storage limits.

An application for a storage agreement was received by the Watermaster from the San Gorgonio Pass Water Agency (SGPWA) in mid-2010 and brought for discussion during the summer of 2012. The initial application was rejected because it was determined to be incomplete.

An application for a storage agreement was also received from the Morongo Band of Mission Indians at the December 2012 meeting. The Watermaster Committee deemed the application incomplete and requested further information from the applicant to address

questions posed by members of the Committee. This application was subsequently approved at the June 5, 2013 meeting allowing the Morongo Band of Mission Indians to store up to 20,000 ac-ft of imported water in the basin.

A new application for Groundwater Storage Agreement was developed in early 2013; the application was presented and discussed at several Watermaster Committee meetings where input was received, and questions were addressed. The new application was approved by the Watermaster Committee in August 2013 and will be used for future applicants.

After development of new forms and procedures, a new application by SGPWA was received in early 2016 to develop a Groundwater Storage Agreement. This application was discussed over several Watermaster Committee meetings and was finally approved at the June 7, 2017 regular meeting under Resolution 17-01. The approval of this application allows the SGPWA to store up to 10,000 ac-ft of imported water in the Beaumont Groundwater Basin.

As of December 31, 2019, the total storage allowed stands at 290,000 ac-ft; storage limits by participant are presented below. Amounts of water in storage by participant are discussed under Section 3.

▪ City of Banning	80,000 ac-ft
▪ City of Beaumont	30,000 ac-ft
▪ Beaumont Cherry Valley WD	80,000 ac-ft
▪ South Mesa Water Company	20,000 ac-ft
▪ Yucaipa Valley Water District	50,000 ac-ft
▪ Morongo Band of Mission Indians	20,000 ac-ft
▪ San Gorgonio Pass Water Agency	10,000 ac-ft

2.4 Rules and Regulations

The original Rules and Regulations of the Watermaster were adopted on June 8, 2004. The Judgment provides for their periodic update as deemed necessary by the Watermaster. On September 9, 2008, the Watermaster adopted Rule and Regulation 7.8, entitled “Availability of Unused Overlying Production and Allocation to the Appropriator Parties”. The objective of this rule is to define the process through which unused production by Overlying Parties is allocated to the Appropriator Parties. The unused water will be allocated based on each Appropriator’s percent share of the operating Safe Yield, as described in Exhibit C of the Judgment. This allocation will have no impact on the legal water rights owned by the Overlying Parties in subsequent years. The initial allocation to take place on or after February 4, 2009.

Under Resolution 2019-02, adopted on June 25, 2019, the Beaumont Basin Watermaster rescinded Section 7 of the Beaumont Basin Watermaster Rules and Regulations in its entirety and replaced it as provided in Attachment A of the resolution, included under Appendix A of this annual report. Under this resolution, the Beaumont Basin Watermaster also updated Form 5 entitled, “Notice to Adjust Rights of an Overlying Party due to Proposed Provision of Water Service by an Appropriator” and Form 7 entitled, “Notice to Transfers of Appropriator Production Right of Operating Yield Between Appropriators” as provided in Attachment “A” to the Resolution.

2.5 Active Party List

Part VII, Paragraph 1 of the Judgment, indicates that Watermaster shall maintain an updated list of parties to whom notices are to be sent for service. Said list should include names, addresses for the Parties or their successors. A copy of the list has been included with this annual report as Appendix D.

2.6 Financial Management

The Watermaster must develop and administer a budget for all administrative, operational, and capital costs it incurs. The following discussion summarizes the budget established for the Fiscal Year 2019 operations.

2.6.1 Budget

The budget for Fiscal Year 2019-20 was initially approved at the Feb 5, 2020 Watermaster Committee meeting under Memorandum 20-02. The approved budget provided funding for Administrative expenses in the amount of \$246,600.00, an increase of \$98,590.00 or 66.6 percent from the final budget for prior year of \$148,010.00. The approved budget did not include any funds for Special Projects.

The following table presents a comparison between the final budgets for FY 2017-18, final budget for FY 2018-19, and approved budget for FY 2019-20.

<i>Operating Expense</i>	<i>FY 2017-18 Final Budget</i>	<i>FY 2018-19 Final Budget</i>	<i>FY 2019-20 Approved Budget</i>
<u>Administrative Expenses</u>			
Bank Fees and Interest	\$ 80.00	\$ 18.00	\$ 50.00
Miscellaneous and Meetings	\$ 0.00	\$ 0.00	\$ 250.00
Acquisition/computation & Annual Report	\$ 100,000.00	\$ 15,078.00	\$ 100,000.00
Annual Audit	\$ 1,200.00	\$ 0.00	\$ 1,300.00
Engineering Services	\$ 5,000.00	\$ 65,313.00	\$ 50,000.00
Monitoring and Data Acquisition	\$ 23,000.00	\$ 44,567.00	\$ 50,000.00
Meter Installation and Repair	\$ 0.00	\$ 0.00	\$ 10,000.00
Legal Expenses	\$ 37,500.00	\$ 23,034.00	\$ 25,000.00
Reserve Funding	\$ 0.00	\$ 0.00	\$ 10,000.00
	\$ 166,780.00	\$ 148,010.00	\$ 246,600.00
<u>Special Project Expenses</u>			
Engineering	\$ 0.00	\$ 0.00	\$ 0.00
Litigation	\$ 0.00	\$ 0.00	\$ 0.00
	\$ 0.00	\$ 0.00	\$ 0.00
Total Operating Expense	\$ 166,780.00	\$ 148,010.00	\$ 246,600.00

2.6.2 Financial Audit

The Beaumont Basin Watermaster has a financial audit performed on annually on a fiscal year basis. The audit assists in properly accounting for the revenues and expenses of the Watermaster and tracking the financial resources of the agency. The detailed audit report for FY 2019, prepared by Rogers, Anderson, Malody, and Scott, LLP, was presented, received, and filed as Watermaster under Memorandum No. 19-26 on December 4, 2019. This report is included under Appendix C.

Section 3

Status of the Basin and Administration of the Judgment

The Beaumont Basin Watermaster is responsible for the accounting of groundwater production, recharge of supplemental water, groundwater transfers and storage activities in the Beaumont Basin. Since the inception of the Judgment accounting has been conducted on a fiscal year basis starting on July 1, 2003.

Through the adoption of Resolution No. 2011-01, on September 21, 2011, Watermaster changed the accounting from a fiscal year basis to a calendar year basis starting in CY 2011. The conversion of Fiscal Year basis to Calendar Year basis was documented in the Annual Report for CY 2011 adopted by the Board in early 2013. The annual report for CY 2019 builds on the information presented in previous annual reports.

3.1 Climate, Hydrology and Hydrogeology

3.1.1 Climate

The Beaumont Basin is in a semi-arid region characterized by warm summers and mild winters with average summer high temperatures in the mid to upper 90s (Fahrenheit) and average winter low temperatures in the mid to low 40s. Precipitation in the region occurs as snowfall in the upper elevations of the San Bernardino Mountains to the north and rainfall in the Basin. Annual precipitation in the Beaumont Basin, as recorded at the County of Riverside's Beaumont Station 013, averaged 17.14 inches over the 100-year period between 1920 and 2019. On the average during this 100-year period, 11.98 inches of precipitation, or 69.9 percent of total, fell during the winter between December and March. Over the last 25 years (1995-2019), precipitation has averaged 14.63 inches of rain which is approximately 85 percent of the 100-year average precipitation. Precipitation in 2019 provided by the County of Riverside was 23.34 inches.

Figure 3-1 illustrates annual precipitation at this station for the 25-year reporting period between 1995 and 2019 including a plot of the cumulative departure from the mean (CDFM) precipitation. This parameter is used to assess the occurrence, duration, and extent of wet and dry precipitation cycles. Upper trending periods in the graph represent periods with above average precipitation such as the 1995-98 period; average precipitation during this period was 21.27 inches or close to 24 percent above the long-term average. Other above average precipitation periods include the 2003-05 period. Conversely, down trending periods indicate periods of below average precipitation as in the 2011-18 period when average precipitation was only 11.23 inches or approximately 66 percent of the 100-year average.

Notwithstanding the significantly above average precipitation recorded in 2019, the Basin has been in a dry period that began in 2011. During the last 10 years, two of the five years with the lowest precipitation ever recorded at Station 13 have occurred; 7.4 inches (lowest ever) in 2013 and 8.07 inches in 2009. It should be noted that the average precipitation during the base period (1997-2001) used to determine the Safe Yield of the Basin was 13.43 inches,

close to 25 percent below the 100-year long-term average for the Basin and approximately eight percent below the 25-year precipitation average of 14.63 inches.

3.1.2 Surface Water Hydrology

There are three significant drainage systems that overlie the Beaumont Basin: the San Timoteo Creek drainage system which is tributary to the Santa Ana River; the Potrero Creek drainage system in the San Jacinto watershed; and the Smith Creek drainage system tributary to the White Water River which is part of the Salton Sea drainage basin.

Surface water flows originate in the San Bernardino Mountains to the north of the Basin. The streams and creeks that flow into the Beaumont Basin are dry for most of the year with occasional runoff during rainfall events. There are no stream gages in the Basin that can be used to estimate surface water recharge to the Basin or discharge from the Basin.

3.1.3 Hydrogeology

3.1.3.1 Regional Geologic Context

The Beaumont Basin is in the San Gorgonio Pass, a low-relief highland that is bordered on the north by the San Bernardino Mountains, on the southeast by the San Jacinto Mountains, and on the west by the San Timoteo Badlands. Surface sediments in the Beaumont Basin and nearby lowlands consist of unconsolidated to semi consolidated Quaternary alluvium. Surrounding the alluvial sediments are semi consolidated rocks of the San Timoteo Formation and igneous and metamorphic rocks that make up the San Jacinto and San Bernardino Mountains (see Figure 3-2). The San Timoteo Formation is composed primarily of sandstone, conglomerate, siltstone, and mudstone (Rewis, et al., 2007). The igneous and metamorphic rocks form the crystalline basement rocks in the area (Bloyd, 1971). The unconsolidated Quaternary alluvium and the upper portion of the underlying San Timoteo Formation constitute the water-bearing aquifer of the Beaumont Basin (Rewis, et al., 2007).

3.1.3.2 Faults

The boundaries of the Beaumont Basin are based on faults that often form barriers to groundwater flow (Bloyd, 1971). Major faults in the area include the Banning and Cherry Valley faults, which form the northern boundary of the basin (see Figure 3-2). Groundwater levels within the Beaumont Basin are generally lower than groundwater levels in the surrounding areas. Along the Banning Fault, groundwater levels on the north side of the fault and outside the basin are as much as 400 ft higher than groundwater levels on the south side of the fault and inside the basin. The same condition has been observed along the southern Beaumont Basin boundary. The southern boundary of the basin was postulated by Bloyd (1971) based on groundwater level differences in the area. No fault has ever formally been mapped at this southern boundary. The San Timoteo Fault was identified by USGS (2006) but does not correlate to the adjudicated boundary.

3.1.3.3 Groundwater Occurrence and Flow

Groundwater in the Beaumont Basin occurs at depth in the Quaternary alluvium and the underlying San Timoteo Formation. Groundwater flow within the Beaumont Basin generally depends on location with respect to a groundwater flow divide which occurs in the center of the basin, approximately coincident with the Noble Creek drainage (see Figure 3-2). West of the Noble Creek drainage, groundwater generally flows to the northwest and ultimately as underflow beneath San Timoteo Wash. East of the Noble Creek drainage, groundwater flows to the southeast towards the City of Banning.

The groundwater system in the Beaumont Basin is replenished from multiple sources. These include:

- Infiltration of precipitation within the unlined portions of natural streams
- Subsurface seepage across fault boundaries
- Return flow from irrigation and individual septic systems
- Artificial recharge in man-made basins (e.g., Noble Creek Recharge Facility).

Groundwater discharges from the Beaumont Basin primarily occur from:

- Groundwater production
- Underflow out of the basin at the downgradient margins
- Rising water in San Timoteo Creek
- Evapotranspiration

3.2 Production

The Beaumont Basin Watermaster is responsible for the tracking and accounting of groundwater production by all producers named in the Judgment regardless of the amount of groundwater produced. Other producers, not listed in the Judgment, and pumping less than 10 ac-ft /yr., also known as minimal producers, are exempt from the provisions of the Judgment. Figure 3-3 illustrates the location of all production wells that belong to the Appropriators and Overlying parties of the Judgment.

3.2.1 Appropriative Party Production

There are five Appropriative Producers; namely, City of Banning, City of Beaumont, the BCVWD, the SMWC, and the YVWD. The amount that each Appropriator produces in any given year, without incurring a replenishment obligation, varies from year to year and results from a combination of:

- Their share of the Operating Yield, based on the Temporary Surplus of 16,000 ac-ft/yr for all Appropriators; applicable only between Fiscal Years 2004 and 2013
- Transfers from other Appropriators,
- Transfers of unused production from Overlying Producers,

- Conversion of Overlying rights to Appropriative rights
- Water withdrawn from their storage account, and
- New yield created by the Appropriator.

It should be noted that beginning in CY 2014, the Temporary Surplus is no longer available to the Appropriators as it officially ended after 10 years during Fiscal Year 2013.

Annual production by well for each of the five Appropriative Parties for the CY 2003-2014 period is summarized in Table 3-1A; this table also includes the Temporary Surplus Allocation and the amount of unused production that is eligible for storage for each Appropriator. Monthly production for the last five years of operation (CY 2015-19) are presented in a series of tables starting with Table 3-1B for CY 2015 and continuing annually through Table 3-1F for CY 2019. It should be noted that all production by Appropriators is currently being metered; however, no information is available as to the accuracy of existing meters.

During CY 2019, Appropriators pumped a combined amount of 14,121.50 ac-ft of groundwater from the Beaumont Basin. Production for the year was 908 ac-ft lower than in 2018, but higher than the annual production for each of the years in the 2015-17 period. Groundwater production in CY 2019 was 983 ac-ft higher than the five-year (2015-19) average of 13,138 ac-ft.

Compared to groundwater production totals for CY 2018, production for individual appropriators in CY 2019 was lower. The City of Banning production decreased by 6.3 percent while production by BCVWD and SMWC decreased by 8.8 and 9.4 respectively over 2018 values. Conversely, production by YVWD rose by 176 percent.

3.2.2 Overlying Party Production

Overlying Parties are defined in the Judgment as persons, or their assignees, that are part of the Judgment and who are owners of land which overlies the Beaumont Basin and have exercised Overlying Water Rights to pump therefrom. Overlying Parties include successors in interest and assignees. Overlying Producers were assigned a share of the Basin's Safe Yield, estimated in 2003 at 8,650 ac-ft/yr. Individual Overlying Producers may not pump more than five times their assigned share of the Basin's Safe Yield in any five-year consecutive period without incurring a replenishment obligation.

Currently, there are 17 Overlying Producers in the Basin pumping from 21 groundwater wells. All active wells operated by the larger producers are metered. Meters were installed by individual owners or as part of an effort initiated by Watermaster in 2013 to obtain a closer production accounting from Overlying Parties. Production from metered wells represented close to 99 percent of the total production by Overlying Parties in CY 2019.

The remaining wells, operated by smaller producers, did not have meters for some or most of 2019 and their production is estimated using the water duty method. This method was initially proposed by Wildermuth Environmental Inc. (WEI), during the preparation of the 2005-06 Annual Report. After being accepted by the Watermaster, an updated water duty method was developed

by WEI and it has been used since. The estimate of unmetered production for the CY 2019 Annual Report uses the updated method developed by WEI as detailed in Appendix E.

Similar to the production reported for the Appropriators, a series of tables were developed to report monthly and annual production from the Overlying Parties on a calendar year basis. Starting with Table 3-2A, annual production is documented for CY 2003-14; Table 3-2B through 3-2F summarize monthly production by Overlying well for CY 2015 through CY 2019, respectively. In addition, these tables show their share of the Safe Yield and the amount of unused water for each Overlying Party. It should be noted that these tables have been revised to reflect updated production records from Plantation by the Lake for the 2013-16 Period.

Production by Plantation by the Lake records, during the 2013 to 2016 period, were provided in million gallons; however, research conducted early in 2017 indicated that the number should have been reported in million cubic feet instead. This result in a documented under production by a factor of 7.48 (gallons per cubic foot). Production by this Overlying user continues to be refined and has been confirmed for 2017, 2018, and 2019.

During CY 2019, Overlying Producers produced an estimated 1,773.90 ac-ft; this level of production is approximately 20 percent lower than in CY 2018 and 26 percent lower than in CY 2017. Compared to the five-year average of 2,084.4 ac-ft/yr, Overlying Producers pumped 15 percent less water.

3.2.3 2003-2019 Annual Production Summary

Annual production for all Appropriators and Overlying Parties since 2003 is summarized in Table 3-3A on a calendar year basis for the 2003 to 2010 calendar years while Table 3-3B documents annual production for CY 2011 through CY 2019. It should be noted that production from 2003 only includes production for the second half of the year. Since July 2003, a total of 262,160 ac-ft has been pumped from the Beaumont Basin; an estimated 83.6 percent of this total has been pumped by Appropriators. The percentage of groundwater production from Appropriators has steadily increased since the Judgment inception from a low of 74.3 percent registered in CY 2003 to a high of 87.2 percent recorded in CY 2014 and to an all-time high of 88.8 percent in 2019. Over the last five years, production by appropriators has averaged 86.2 percent of total extractions.

Groundwater production peaked in CY 2007 when close to 20,000 ac-ft were pumped from the basin; since, it declined steadily through 2010 to approximately 13,600 ac-ft; however, production during the 2011-14 period increased by 26.1 percent to 17,281 ac-ft. Since 2014, production declined significantly in 2015 by over 4,000 ac-ft and began climbing again through CY 2018. Production in CY 2019 of 15,895 ac-ft was approximately eight percent lower than in CY 2018 and four percent higher than the 2015-19 five-year average. Annual total production by appropriators and overlying parties is depicted in Figure 3-4 along with the potential amount of water allocation to appropriators by year.

3.3 Groundwater Recharge

The Watermaster is responsible for maintaining an annual account of all water artificially recharged in the Beaumont Basin and any losses of water supplies or Safe Yield resulting from such recharge water. Sources of groundwater recharge include imported water from the State Water Project (SWP), recycled water, and new yield sources developed in the basin since the Judgment inception in July 2003. The Watermaster has maintained the accounting of groundwater recharge; however, losses from the basin, estimated in the recently completed (Sep 2018) Beaumont Basin Storage Analysis, have not been incorporated into the accounting of storage in the basin. The Watermaster may adopt a policy to address storage losses in the future. Table 3-4 presents a summary of the annual groundwater recharge in the Beaumont Basin since 2003 on a calendar year basis.

3.3.1 State Water Project Water Recharge

Deliveries of imported water are conducted through the San Geronio Pass Water Agency, which is the State Water Contractor for this area. BCVWD's Noble Creek spreading facility located in the vicinity of Beaumont Avenue and Cherry Valley Boulevard, has been until now the primary facility in the Beaumont Basin where imported water can be delivered for recharge. The location of this spreading facility is depicted in Figure 3-3. In 2019, the SGPWA completed the construction of a new spreading facility southwest of the intersection of Beaumont Avenue and Brookside Avenue; spreading of imported water at this location took place for the first time in December when the SGPWA spread 257.8 ac-ft.

The BCVWD began taking deliveries of imported water for groundwater recharge in the Fall of 2006 when 3,501 ac-ft were spread pursuant to the storage and recharge agreement on file with Watermaster. Deliveries of imported water for BCVWD increased over the next five years peaking in CY 2011 at 7,979 ac-ft and declining through 2015 to an all-time low of 2,773 ac-ft. Over the last four years, BCVWD has spread close to 50,000 ac-ft of imported water at the Noble Creek facilities. A total of 97,887 ac-ft of imported water have been spread on behalf of this agency since CY 2006 as documented in Table 3-4. In CY 2019, BCVWD spread 13,645 ac-ft of imported water.

The City of Banning began purchasing imported water for recharge at the BCVWD's Noble Creek facility in July 2008 and has since recharged 13,692 ac-ft in accordance with their storage agreement on file with Watermaster. During CY 2012 and 2013, Banning spread an average of 100 ac-ft per month; spreading in CY 2014 and 2015 was reduced to approximately half of that amount. However, spreading in CY 2016 and 2017 increased significantly to 1,477 ac-ft and 1,350 ac-ft respectively. In CY 2019, Banning spread 250 ac-ft of imported water.

In addition to imported water deliveries to BCVWD and the City of Banning at BCVWD's Noble Creek facility, SGPWA has also delivered significant quantities of imported water at the Little San Geronio Creek Spreading Ponds. These spreading ponds are located outside the adjudicated boundary of the Beaumont Basin and to the north of the Banning Fault, as shown in Figure 3-3. Spreading of imported water at these spreading ponds is likely to be a source of subsurface recharge to the Beaumont Basin; however, Watermaster has not adopted this

finding. Subsurface recharge across the Banning Fault was investigated as part of the Safe Yield of the Basin determination study, completed in early 2015.

Deliveries of imported water by the SGPWA to the Little San Geronio Creek Spreading Ponds began in August 2003; the agency has since recharged a total of 10,508 ac-ft averaging 808 ac-ft/yr. Deliveries in CY 2013, at 881 ac-ft, were less than half of the amount spread in the previous two years. Deliveries in CY 2014 through CY 2018 were practically non-existent as less than 44 ac-ft were spread in those five years combined. Under Resolution 17-01, adopted on June 7, 2017, the SGPWA entered into a storage agreement with the Beaumont Basin Watermaster to spread up to 10,000 ac-ft of imported water in the Beaumont Basin subject to certain conditions. As part of their application, the SGPWA recently completed the construction of their spreading facilities, as noted earlier, and spread 257.8 ac-ft in 2019 at this location.

3.3.2 Treated Wastewater Recharge

The City of Beaumont owns and operates the Beaumont Wastewater Treatment Plant. The Plant was originally designed and permitted to discharge up to 4.0 mgd of tertiary treated wastewater; current capacity is 6.0 mgd. Discharges from this plant are not permitted for recycled water use at this time.

Prior to March 2010, tertiary treated water from this plant was discharged at Discharge Point No. 1 (DP-001) in Cooper's Canyon for continued beneficial use by riparian habitat where it infiltrates into the San Timoteo Management Zone and outside the Beaumont Basin. Starting in March 2010, Beaumont began deliveries to DP-007, located along an unnamed tributary of Marshall Creek, as shown in Figure 3-3. It is believed that a portion of the treated wastewater discharged at this location reaches and recharges the Beaumont Basin. Deliveries of treated wastewater to DP-007 were terminated by the City of Beaumont in the Fall of 2015.

In CY 2019, the City of Beaumont discharged an estimated 4,112 ac-ft of tertiary treated wastewater at DP-001 in Cooper's Canyon. Treated wastewater discharges were 8.2 percent higher than in CY 2018. Monthly discharges at DP-001 varied slightly from a low 3.59 mgd in July to a high of 3.80 mgd in September; the average for the year was 3.67 mgd. Monthly treated wastewater discharges by the City since 2007 are summarized in Table 3-5.

3.3.3 New Yield Stormwater Recharge

Before accounting for any new yield resulting from the recharge of local surface water, not initially considered as part of the Basin Safe Yield, Watermaster needs to develop a methodology to quantify and credit the New Yield to the party that creates the new recharge. According to Part VI Paragraph 5.V of the Judgment, Watermaster shall make an independent scientific assessment of the estimated new yield created by each proposed project. It is our understanding that the City of Beaumont has been recharging local waters at various locations in the Basin and would like to receive credit for the New Yield developed. For Beaumont to receive credit however, Watermaster will need to develop the methodology to compute and credit the New Yield dating back to the Judgment inception in February 2003 or since delivery of flows began, whichever is latest.

3.4 Water Transfers and Adjustments of Rights

The Stipulated Judgment and Section 7 of the Watermaster Rules and Regulations, as replaced by Ordinance 2019-2 in June 2019, provide for the adjustment of rights by and between Appropriators and Overlying Parties. These documents indicate that Watermaster shall maintain an accounting for all transfers and include said transfers in the Annual Report or other relevant document. There are three types of transfers that Watermaster accounts for:

1. Transfer of water rights and/or water in storage between Appropriators;
2. Transfer of water rights from Overlying producers to an Appropriator in exchange for water service; and,
3. Allocation of unused Overlying Water to the Appropriator Parties based on their share of the Operating Safe Yield.

According to Part VI, Administration, Paragraph 5Y of the Judgment, the Safe Yield of the Beaumont Basin shall be re-determined at least every 10 years after the date of entry of the Judgment, February 4, 2004. In 2015 the Safe Yield of the Beaumont Basin was re-determined and estimated at 6,700 ac-ft/yr. This amount represents a 22.54 percent reduction from the previous estimate of 8,650 ac-ft/yr. Table 3-6 presents the initial and revised production rights from individual Overlying producers and compares them against actual groundwater production during the 2015-19 five-year period for each user. Annual average groundwater production during this period for all Overlying producers combined was estimated at 2,084.4 ac-ft/yr; representing approximately 31.1 percent of the revised Safe Yield. Individually, none of the Overlying producers produced more than their allowable production rights during this five-year period; California Oak Valley Golf and Resort LLC averaged the highest percentage of their respective allocation at 86.9 percent followed by Plantation by the Lake at 77.5 percent and Sharondale Mesa Owner Association at 66.0 percent. Tukwet Canyon Golf Club followed at an average of 55.6 percent of their Overlying right.

3.4.1 Transfers between Appropriators

According to Section 7.2 of the Rules and Regulations, as replaced under Resolution 2019-02 (See Appendix "A"), an Appropriator may transfer all or a portion of its production right or water in storage that exceeds its supply needs to another Appropriator.

In January 2008, the SMWC and the BCVWD entered into a transfer agreement that allows BCVWD the option to purchase all water that SMWC determines to be available for transfer from their storage account. As part of the agreement, each year the SMWC estimates the amount of water available for transfer and offers it to the BCVWD for purchase prior to offering it to other Appropriators. Since the beginning of the agreement, SMWC has transferred 9,500 ac-ft of water to BCVWD with 3,500 ac-ft transferred in CY 2011. SMWC also transferred 1,500 ac-ft of water to Banning in CY 2007. The purchase agreements and transfers between these agencies are on file with Watermaster.

Water transfers between Appropriators were not reported during CY 2019.

3.4.2 Transfers of Overlying Rights for Service by an Appropriator

The Stipulated Judgment, under Part III, Declaration of Adjustment of Rights, Section 3(B), provides that *“to the extent any Overlying Party requests, and uses its Exhibit “B”, Column 4 water to obtain water service from an Appropriative Party, an equivalent volume of potable groundwater shall be earmarked by the Appropriative Party which will serve the Overlying Party, up to the volume of the Overlying Water Rights as reflected in Column 4 of Exhibit “B” for the purpose of serving the Overlying Party”*.

The Stipulated Judgment, under Part III, Section 3(C), states that if an Overlying Party receives water service from an Appropriative Party, *“the Overlying Party shall forebear the use of that volume of the Overlying Water Right earmarked by the Appropriative Party. The Appropriator Party providing such service shall have the right to produce the volume of water foregone by the Overlying Party, in addition to other rights otherwise allocated to the Appropriator Party”*.

Under Resolution 17-02, adopted on August 30, 2017, Oak Valley Partners L.P. (“OVP”) agreed to transfer its Overlying water rights to particular development parcels, intending to secure commitments from YVWD to provide water services to development phases of OVP’s Summerwind Ranch Specific Plan (Project), located in the Beaumont Basin. The Stipulated Judgment allocated OVP an Overlying production right of 1,806 ac-ft based on the initial Safe Yield of 8,650 ac-ft/yr. OVPs rights have been adjusted to 1,398.86 ac-ft based on the recalculated Safe Yield of 6,700 ac-ft/yr as approved by the Watermaster on April 1, 2015. Overlying rights and Overlying-Appropriative rights will be adjusted every 10 years based on the recalculation of the Safe Yield of the Beaumont Basin.

In 2018 Oak Valley Partners transferred a combined total of 180.4 ac-ft in Overlying rights to YVWD upon YVWD’s water service commitments to serve certain Project parcels in the Beaumont Basin. In a similar manner, an additional 2.65 ac-ft of former OVP’s Overlying rights were transferred to YVWD in early 2019. Transfers over these two years total as follows:

Assigned Overlying-Appropriative Right	Watermaster Notification Date	Earmarked Amount (ac-ft)
Assignment No. 1	3/28/2018	90.94
Assignment No. 2	8/1/2018	59.89
Assignment No. 3	10/3/2018	29.57
Assignment No. 4	1/11/2019	2.65
Total		183.05

The transfer of the above amount reduced OVP’s Overlying rights to 1,215.81 ac-ft/yr for 2019. In the future OVP’s rights will remain at this level or adjusted down as additional rights are transferred to YVWD. Starting in 2018, YVWD is free to use its Appropriative rights, as

denoted above, by either pumping from the basin, transferring to other Appropriators, or adding to its storage account. Copies of the letter sent by YVWD in calendar year 2019 notifying the Beaumont Basin Watermaster Committee of the above transfers are included in Appendix F.

Under Resolution 2019-02, adopted on June 25, 2019, the Beaumont Basin Watermaster rescinded Section 7 of the Beaumont Basin Watermaster Rules and Regulations in its entirety and replaced it as provided in Attachment A of the resolution, included under Appendix A of this annual report. Under this resolution, the Beaumont Basin Watermaster also updated Form 5 entitled, “Notice to Adjust Rights of an Overlying Party due to Proposed Provision of Water Service by an Appropriator” and Form 7 entitled, “Notice to Transfers of Appropriator Production Right of Operating Yield Between Appropriators”.

At the Dec 4, 2019 Watermaster Meeting, YVWD submitted a Form 5, signed Nov 19, 2019, documenting the transfer of OVP’s all original 1,806 / revised 1,398.90 ac-ft (“Earmarked Water”) of Overlying Water Rights to the YVWD effective on October 9, 2018. This issue was extensively discussed between legal counsel and members of the Watermaster Committee. Details are summarized in Section 2.2.3, beginning on Page 2-7, under Memorandum 19-29, of this report. Minutes for all Watermaster meetings in 2019 are presented in Appendix B. A copy of Form 5 submitted by YVWD is included under Appendix G. Discussion of OVP’s transfer of water rights to YVWD continued in 2020.

3.4.3 Allocation of Unused Overlying Water

Section 7.3 of the Rules and Regulations, as replaced under Resolution 2019-02 (See Appendix “A”), outlines the process for distributing the volume of adjudicated water not produced by the Overlying Parties to the Appropriators. Under this section, if an Overlying Party produces less than five times of their share of the Safe Yield in any five-year period, the quantity of groundwater not produced by that Overlying Party shall be made available for allocation to the Appropriators. Transferring of unused production from Overlying Users does not diminish their legal right to produce in subsequent years.

Since the inception of the Judgment, transfers of unused production by Overlying Users have been made on a fiscal year basis coinciding with the preparation of the annual report. Preparing the annual report on a calendar year basis required that the transfers of unused production also be made on the same basis. Based on the five-year format used in the Rules and Regulations, transfers to the Appropriator Parties for CY 2019 were based on unused production from Overlying Users in CY 2014. This required the recalculation of Overlying Users production, back to July 2003, on a calendar year basis. Under this format, unused production from the second half of 2003, with adjusted water rights for half of the year, was allocated to Appropriators for CY 2008. Table 3-7 summarizes the volume of unused Overlying water for CY 2003 through CY 2019. While groundwater production by Overlying Users has decreased by over 40 percent since 2004, the volume of unused overlying water has correspondingly increased from 5,053 ac-ft/yr in CY 2006 to a maximum of 6,679 ac-ft during CY 2011. The amount of unused production decreased starting in CY 2014 to slightly over

4,600 ac-ft/yr because of reduced Overlying allocations resulting from the new basin Safe Yield of 6,700 ac-ft/yr.

Table 3-7 presents the allocation of unused Overlying water to each Appropriator based on their share of the Safe Yield and the schedule set forth under Section 7.3 of the Rules and Regulations, as replaced under Resolution 2019-02. It should be noted that this schedule has been modified to reflect a calendar year basis for allocation. Under the modified schedule, unused Overlying production in CY 2014, estimated at 4,481 ac-ft, is allocated to Appropriators during CY 2019. Unused Overlying production during CY 2019, adjusted by reductions on OVP's rights, is estimated at 4,743 ac-ft. This amount would be allocated to Appropriators during CY 2024.

3.5 Storage Accounting

Section 6.7 of the Watermaster Rules and Regulations indicates that Watermaster shall calculate additions, extractions, and losses of all water stored and any losses of water supplies or Safe Yield resulting from such water stored. This section further indicates that Watermaster shall keep and maintain for public record an annual accounting thereof. While additions (spreading) and extractions (pumping) are easily quantifiable, losses from storage are more difficult to estimate. The completion of the "Beaumont Basin Storage Loss Analysis" in September 2018 estimates storage losses under various spreading scenarios; however, Watermaster has not develop a methodology to adjust storage accounts and their corresponding losses.

3.5.1 Annual Storage Consolidation

Consistent with the new reporting format to document extractions, spreading and other groundwater activities on a calendar year basis, Table 3-8 represents the consolidation of each Appropriator's storage account from CY 2003 through CY 2019. This table includes annual production by Appropriator, their share of Temporary Surplus, Appropriative rights, supplemental water recharge in its various forms, transfers between Appropriators, potable deliveries to parcels previously owned by Overlying Users, and transfers of unused water from Overlying Users. At the end of 2018, an overall total of 113,291.70 ac-ft of water were stored in the Basin for future use; this total increased in CY 2019 by 4,695.60 ac-ft to a cumulative total of 117,987.30 ac-ft. Increased spreading of imported water by BCVWD and the City of Banning along with newly acquired Appropriative rights by YVWD were the primary reasons for the increase in storage. Despite of the expiration of the Temporary Surplus allocation at the end of CY 2013, the amount of water in storage at the end of CY 2019 was 11,174.70 ac-ft higher. The amount of water in storage by party at the beginning and end of CY 2019 is presented below. Figure 3-5 compares the amount of water in storage to the storage limit for each party with storage accounts.

Agency / Party to the Judgment	Calendar Year 2019 (ac-ft)		
	Beginning	Ending	Change
City of Banning	52,196.6	51,733.6	-463.0
BCVWD	34,913.4	39,322.6	4,409.2
City of Beaumont	0.0	0.0	0.0
South Mesa Water Company	9,559.0	9,787.5	228.6
Yucaipa Valley Water District	16,622.8	16,885.7	263
Morongo Band of Mission Indians	0.0	0.0	0.0
San Geronio Pass Water Agency	0.0	257.8	257.8
TOTAL in storage	113,291.7	117,987.3	4,695.6

3.6 Changes in Groundwater Levels in the Beaumont Basin

3.6.1 Analysis of Groundwater Level Changes

Changes in groundwater flow and groundwater levels between 2018 and 2019 were evaluated using a calibrated groundwater flow model that was previously developed to reevaluate the Safe Yield of the Beaumont Basin (TH&Co, 2015) and refined in May 2016 (TH&Co, 2016). For this analysis, the existing calibrated model was updated with groundwater pumping, recharge, and groundwater levels through the end of 2019. A hand-generated groundwater contour map was created for December 2019 and compared to the corresponding map for December 2018 to evaluate changes in groundwater flow patterns and basin-wide changes in groundwater levels. The hand-generated groundwater contour maps for 2018 and 2019 are shown on Figures 3-6 and 3-7, respectively.

Groundwater flow direction and gradient within the Beaumont Basin varies depending on location with respect to a groundwater flow divide which occurs in the center of the basin approximately coincident with the Noble Creek drainage. In the western portion of the basin, groundwater generally flows toward a groundwater depression near BCVWD Well 29 or west towards San Timoteo Wash. In the eastern part of the basin, groundwater flows to the southeast towards the City of Banning. The groundwater flow directions did not change significantly between 2018 and 2019.

Basin-wide groundwater level trends in the Beaumont Basin were evaluated based on hydrographs from eight key wells and the groundwater level change map developed by subtracting the 2018 groundwater surface from the 2019 groundwater surface. The total change in storage between the Fall 2018 and the Fall 2019 is shown in Figure 3-8. In the northwest portion of the basin (YVWD 34 and Singleton Ranch 7), groundwater levels remained stable in CY 2019. At Tukwet Canyon Golf Club C, although groundwater levels had

been steadily declining between 2003 and 2018, they were relatively stable between December 2018 and December 2019. When evaluated on a long-term basis, groundwater levels in wells in the western portion of the basin have shown a general long-term decline since approximately 2005.

As shown on Figure 3-9, groundwater levels in the north central portion of the basin were relatively stable or increasing in the vicinity of the Noble Creek Artificial Recharge facility. Groundwater levels in BCVWD NC-4D, located on the center of the recharge facility rose approximately 10 ft between December 2018 and December 2019 (see Figure 3-8).

In the south-central portion of the basin, groundwater levels at Oak Valley No. 1 continue to decline in 2019 by approximately 13 ft but started to recover at the end of the year. At BCVWD Well No. 2, groundwater levels have been steadily declining since April 2019. At Banning Well C-4 (southeast Beaumont Basin), groundwater levels are highly variable and likely influenced by groundwater pumping. As judged by the highest peaks in the hydrograph, the overall groundwater level trend at this well has been downward from approximately 2016.

Groundwater levels in the northeast portion of the basin (USGS Highland Springs Monitoring Well - 335714116565002) have been trending upward since 2010.

3.6.2 Analysis of Change in Groundwater Storage

Basin-wide change in groundwater storage between December 2018 and December 2019 was analyzed as a function of the difference in groundwater levels across the basin and the specific yield of the aquifer sediments. Groundwater level change across the basin was analyzed using the following procedure:

1. The December 2018 and 2019 hand-generated groundwater contour maps were each converted into three-dimensional raster surfaces.
2. The basin was discretized into 100-ft by 100-ft grid cells.
3. Attributes were assigned to each grid cell including groundwater level change and specific yield.
4. The resulting attribute table was processed in a Geographic Information System (GIS) for calculating the change in storage.

The specific yield distribution used for the analysis was obtained from the calibrated groundwater flow model used to evaluate the Safe Yield of the Beaumont Basin, as summarized in TH&Co (2015).

Results of the analysis show an increase in groundwater storage within the adjudicated basin of approximately 2,268 ac-ft during this one-year period. The model may be underestimating the positive storage change in the Noble Creek Recharge area. Most of the western area showed decreases in groundwater in storage.

3.7 Operating Safe Yield

For purposes of this annual report, the annual operating Safe Yield (OSY) describes the net infiltration to the adjudicated groundwater basin (not including artificial recharge) for any given year. It is noted that the OSY is different than the Operating Yield, which is a function of the unused overlying production (Appropriative Water) and Temporary Surplus, as described in the Beaumont Basin Judgment (San Timoteo Management Authority v. Banning et al., 2004).

Operating Safe Yield is estimated based on the following equation:

$$OSY = \frac{\Sigma P + \Delta S - \Sigma AR}{\Delta T}$$

where:

ΣP	=	The sum of groundwater production (ac-ft)
ΔS	=	The change in groundwater storage (ac-ft)
ΣAR	=	The sum of groundwater recharge (ac-ft)
ΔT	=	The time over which the OSY is estimated (years)

Total Beaumont Basin groundwater production in calendar year 2019 was 15,895 ac-ft (see Table 3-3). Total artificial recharge in calendar year 2019 was 14,153 ac-ft (see Table 3-4). It is noted that only the Noble Creek Recharge Facility recharge was used in the analysis of OSY (recharge at the Little San Geronio Creek facility is not included because it is outside the adjudicated area). The change in groundwater storage estimate is based on the analysis of groundwater levels described earlier in this analysis. The period over which the OSY is evaluated is one year. The resulting OSY is estimated as:

$$OSY = \frac{15,895 + 2,268 - 14,153}{1} = 4,010 \text{ ac-ft}$$

It is emphasized that the OSY, as presented herein, is based on one year of data. When evaluated on a long-term basis, this methodology can be used to estimate the long-term Safe Yield of the basin, as defined in the Beaumont Basin Judgment. As required by the Judgment, the Safe Yield of the basin was reevaluated in 2013. The Safe Yield will be reevaluated again in 2023.

It is noted that the change in groundwater storage used to estimate the annualized Safe Yield is based on a calibrated model, as described herein. As additional hydrogeological data are collected and incorporated into the model, it can be refined to produce more representative groundwater storage change estimates. It is also noted that there are several data limitations that could impact the OSY estimate. These limitations include:

- Accuracy of Overlying Production Data – Production data from many of the Overlying Parties is not metered but is estimated based on a water duty method (Wildermuth Environmental, 2012). In addition to inherent limitations in this methodology, there are,

in some cases, discrepancies between groundwater production estimated using the water duty method and production reported by individual parties to the California State Water Resources Control Board. Resolution of Overlyer Production is anticipated to affect the OSY (plus or minus) on the order of hundreds of ac-ft (not thousands).

- Change in Storage Calculation – Although groundwater storage change estimates will always have inherent uncertainty, it is possible to develop more representative results through collection and analysis of additional data. These data include:
 - ✓ Static groundwater levels from dedicated non-pumping wells. There is evidence that groundwater levels measured in some wells had not recovered fully between pumping cycles in the well and were not, therefore, representative of true static conditions. This can be addressed by waiting longer after pumping to collect groundwater levels or constructing/designating non-pumping groundwater monitoring wells in strategic areas.
 - ✓ Measurement of surface water flow in selected drainages, hydrogeological data near Noble Creek and San Timoteo Creek, and hydrogeological analysis of faults in the basin to help achieve a better calibrated model, resulting in more accurate groundwater head distributions. Bettering our understanding of the hydrogeology of this area will help improve the accuracy of the model and its output.

3.8 Recommendations

The Rules and Regulations, initially adopted in June 2004, were developed with the understanding that they should be revisited and/or revised from time to time to make sure they were consistent with the provisions of the Judgment. Revisions to the Rules and Regulations have been made over the years with the latest revisions changing the reporting of Watermaster activities from a fiscal year basis to a calendar year basis and replacing Section 7 in its entirety.

In September 2018, a study to estimate groundwater losses from the basin was completed for Watermaster. In this study groundwater losses from the basin resulting from spreading of imported or outside water at selected locations in the basin was estimated. The study has been accepted by the Watermaster Committee; however, a methodology to address this issue is yet to be developed.

Watermaster may conduct additional studies in the future in support of:

- ✓ Developing a methodology to account for new yield from capturing local stormwater in the basin, and
- ✓ Developing a methodology to account for recycled water recharge in the basin.

In preparing this annual report and through the review of previous annual reports, we have identified several issues/activities that should be considered by the Watermaster to ensure accurate accounting of production, transfers, recharge, and storage. It should be noted that

many of the recommendations provided in this section have been previously documented in prior annual reports. Our recommendations are as follows:

- Develop a protocol to increase the accuracy and consistency of data reported to the Watermaster. Watermaster should identify a person and/or entity to be the central repository for data collection, transfer, and exchange. This person/entity shall be responsible for the collection and distribution of all groundwater production, water level, groundwater recharge, and water quality information. Quality control of the data in its various forms including checks for errors, omissions, and inconsistencies between the reporting agencies and/or parties should be part of this process.

As indicated earlier, Watermaster should revisit the Rules and Regulations to ensure that its activities are consistent with the requirements of the Judgment. The following inconsistencies between guidelines provided in this document and current Watermaster activities were identified:

- Watermaster has not conducted a meter maintenance program, as required under Section 3.1 of the Rules and Regulations, to make sure groundwater production is reported accurately. Individual parties may or may not maintain and calibrate their production meters at acceptable intervals.
- Under Section 3.2 of the Rules and Regulations, producers producing in an excess of 10 ac-ft/yr. should report monthly by the 15th day of the ensuing month while those producing less should file on an annual basis by the 15th of July. This provision should be revised as it was written for fiscal year accounting. Overlying Parties producing less than 10 ac-ft/yr should report by the 15th of January now that calendar year accounting is used. Proper supporting information should be provided.

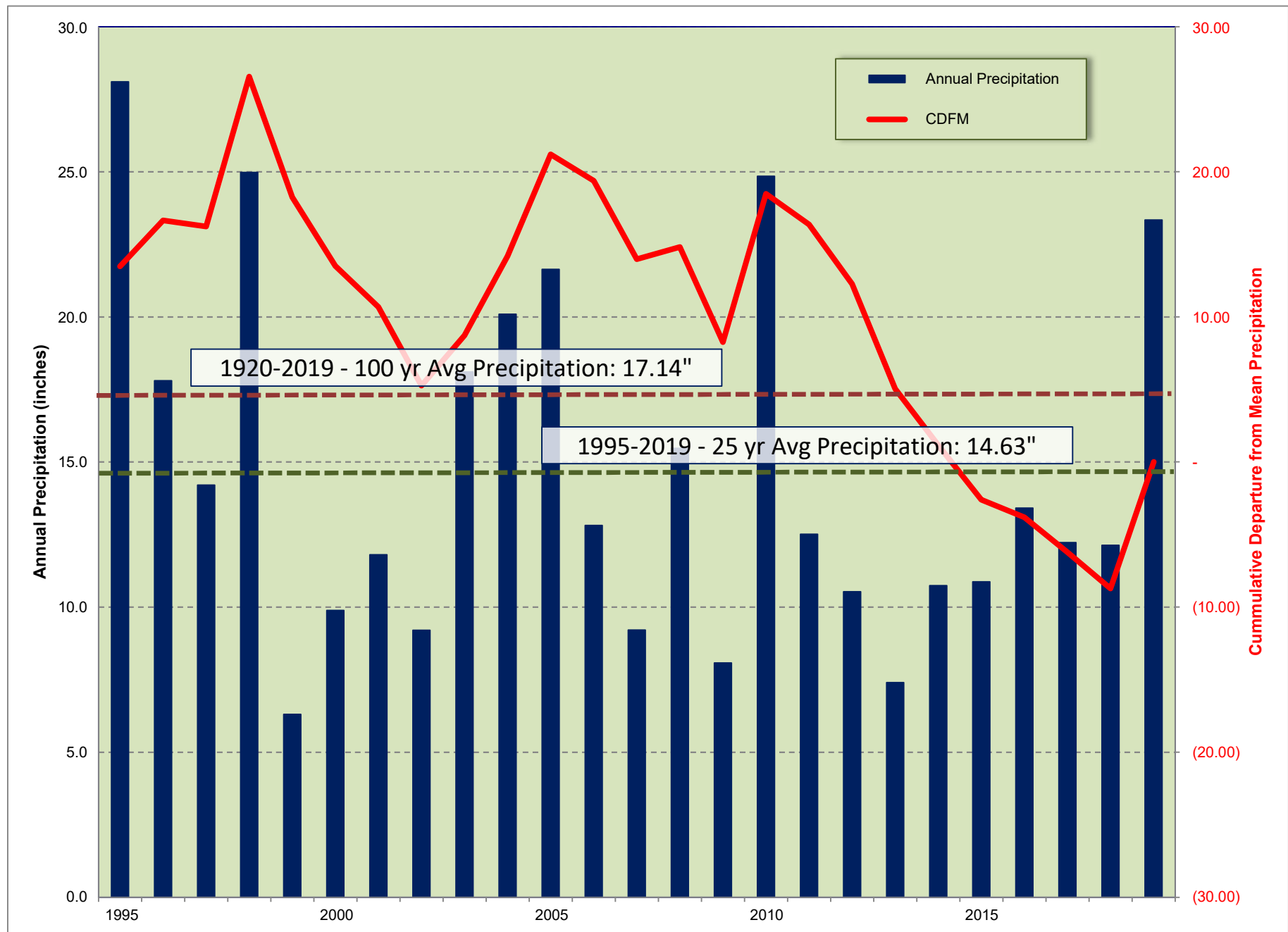
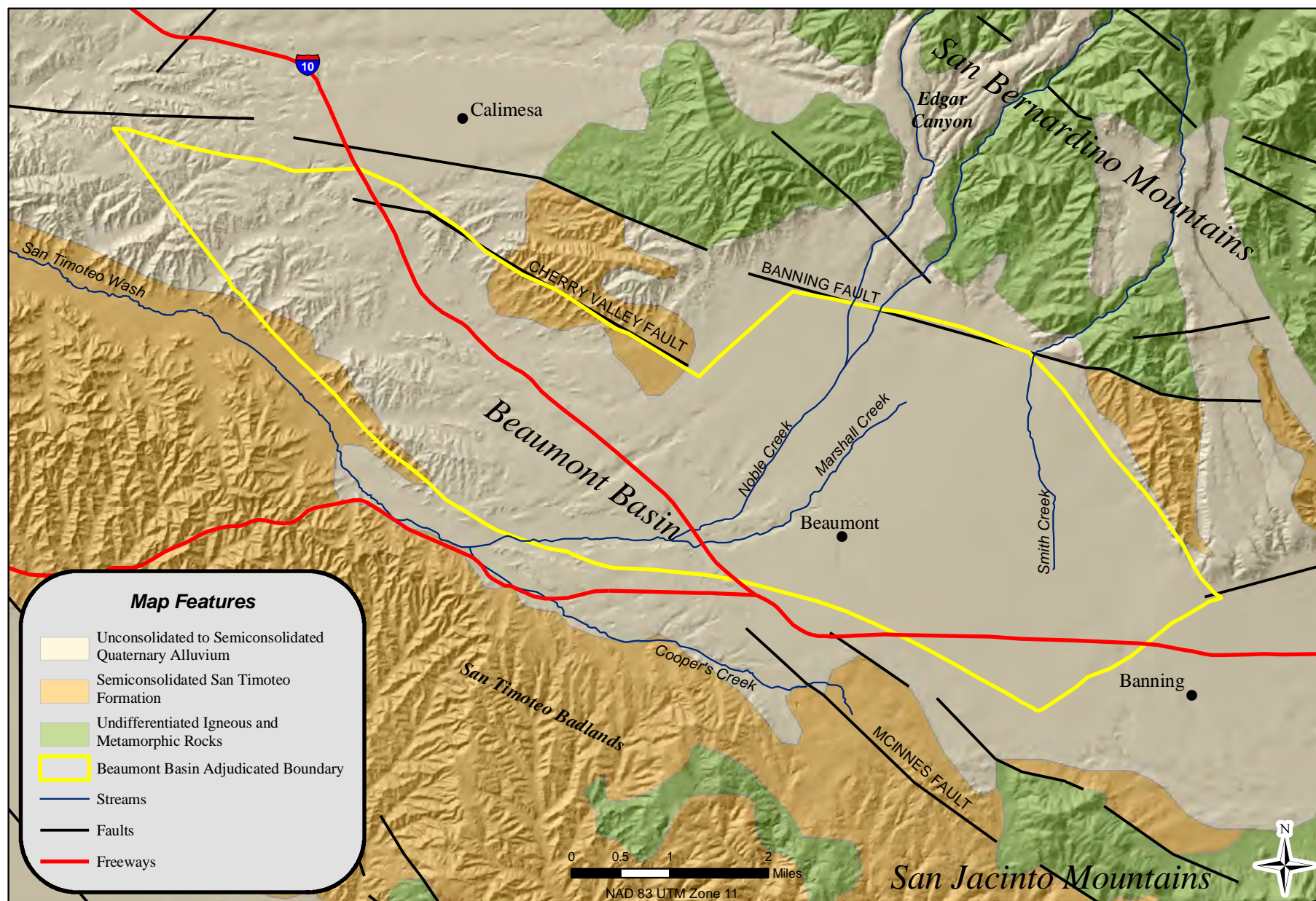
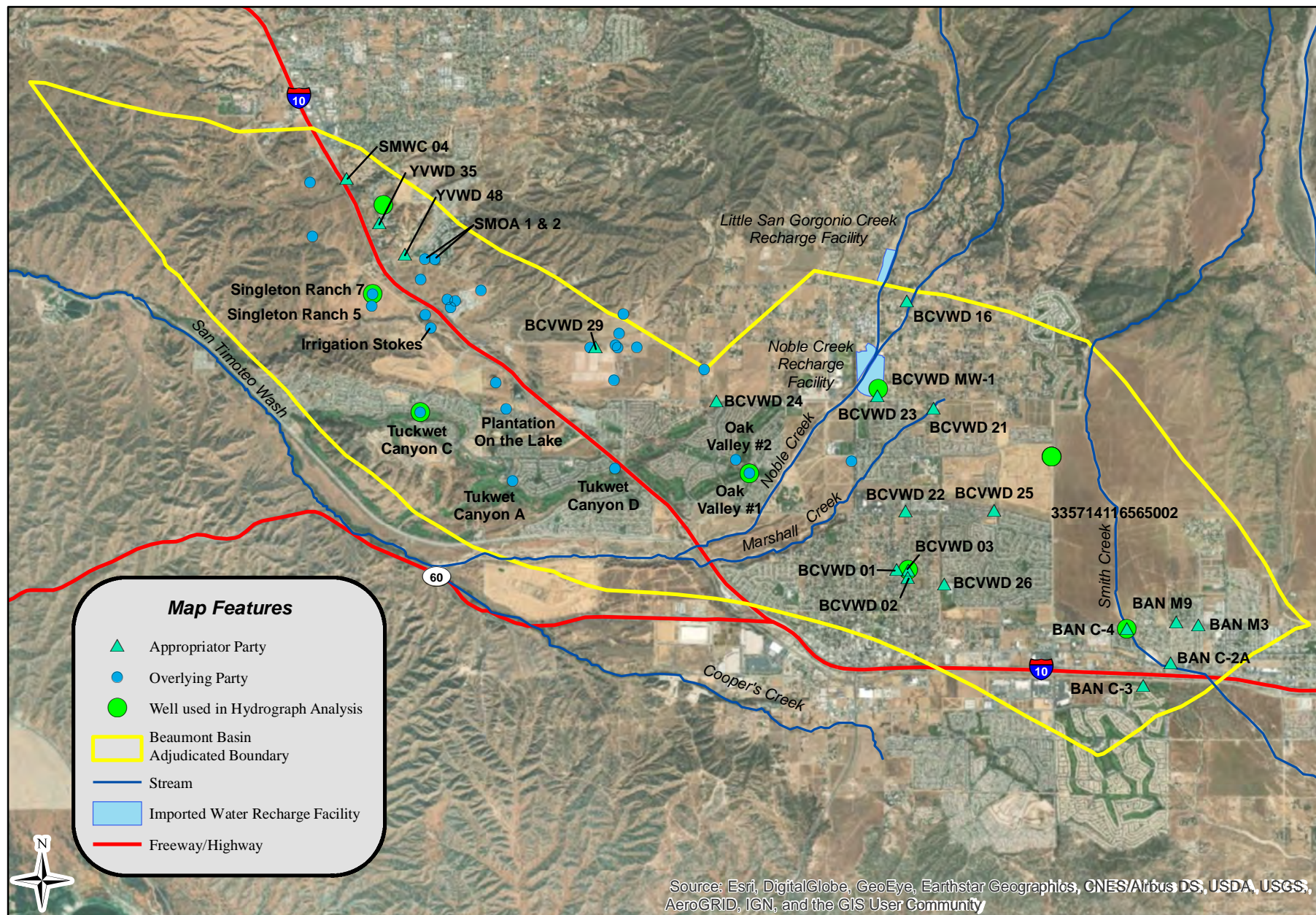


Figure 3-1
Annual Precipitation with Cummulative Departure from the Mean (1995-2019)





Alda, Inc. in association with
Thomas Harder & Co.
 Groundwater Consulting

0 0.5 1 2 Miles
 NAD 83 UTM Zone 11

**Well Locations in the
 Beaumont Basin**
 Figure 3-3

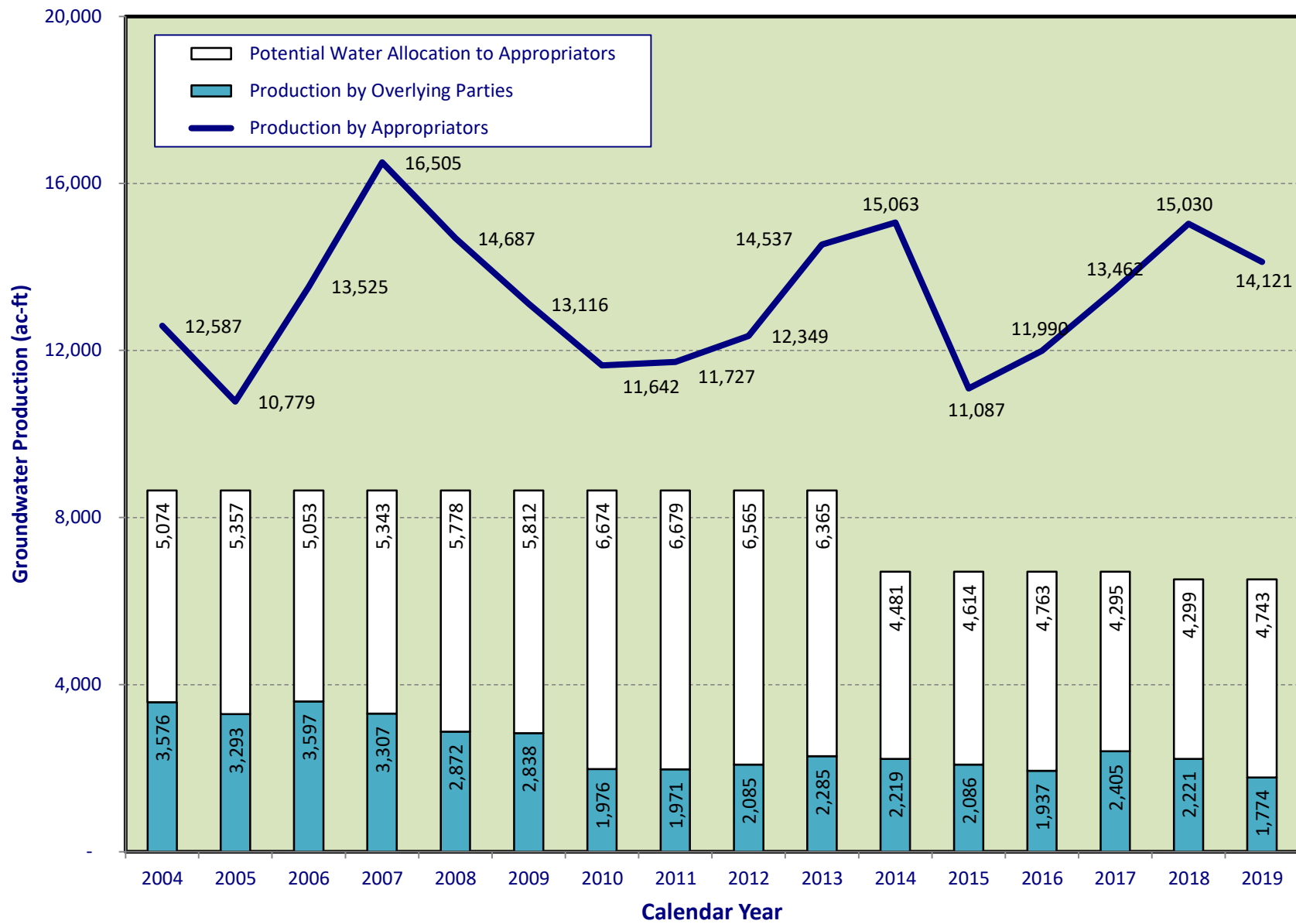


Figure 3-4
Annual Production by Appropriators and Overlying Users (2004-19)

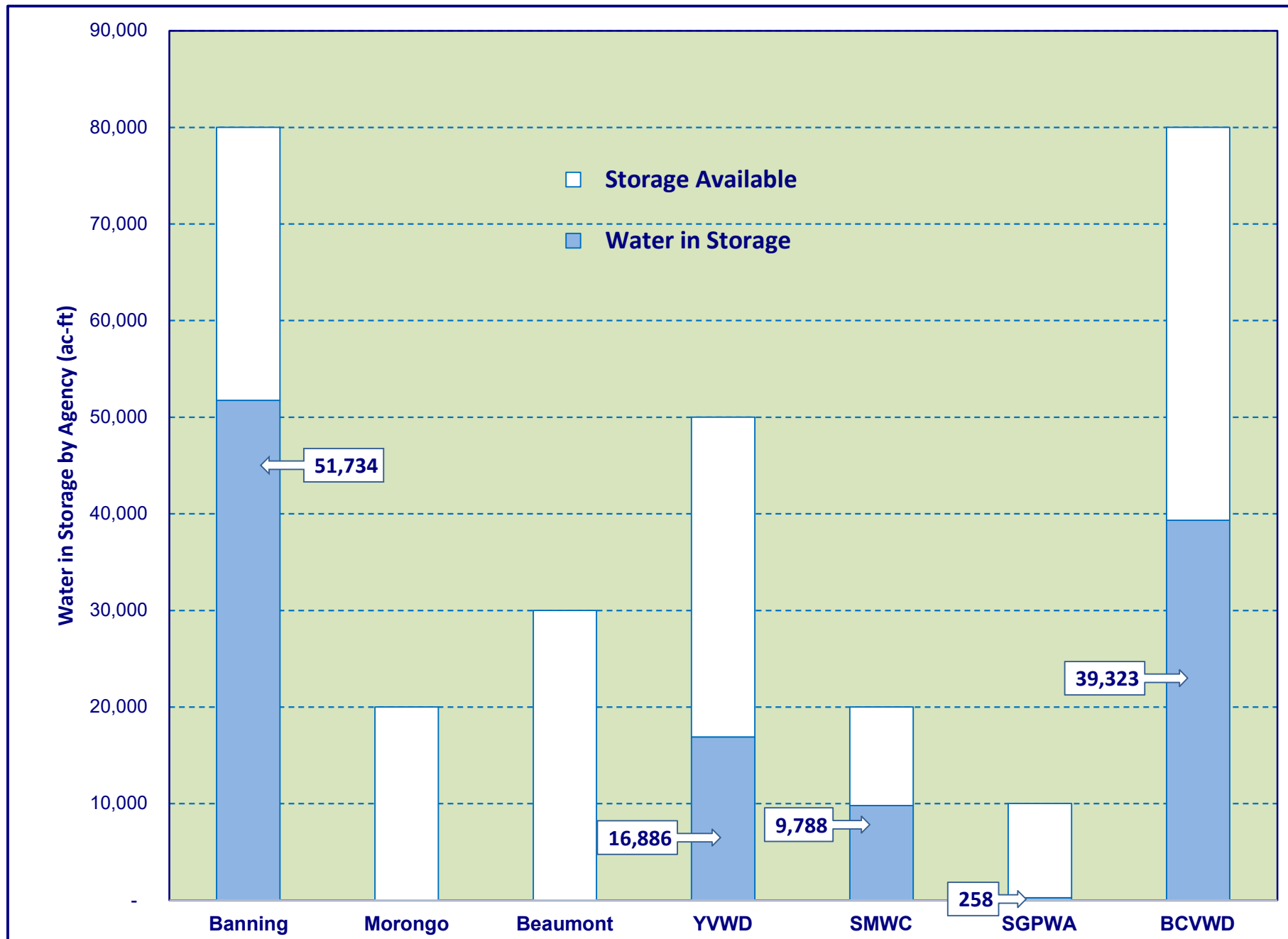
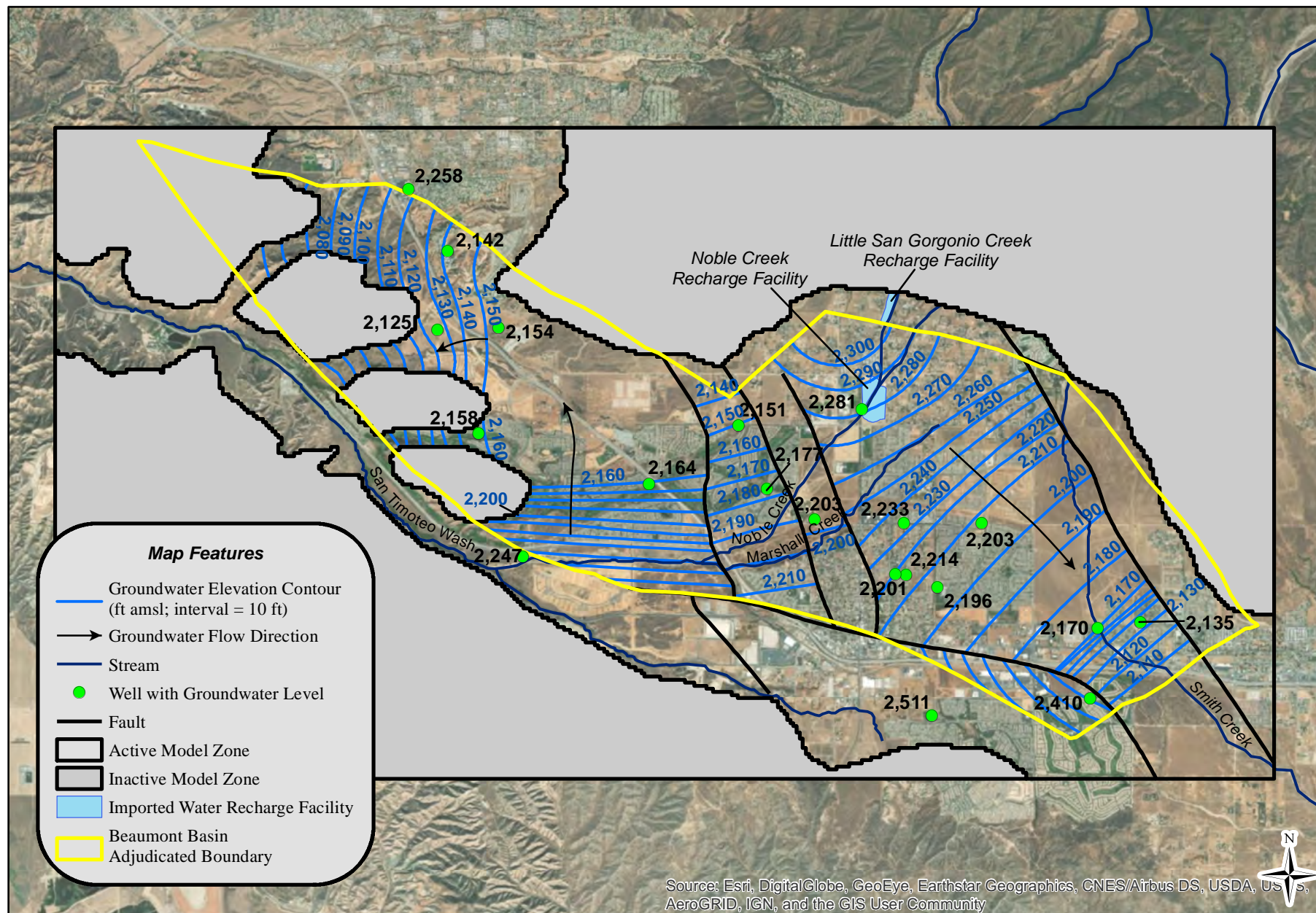


Figure 3-5
Groundwater Storage by Agency/User as of 2019



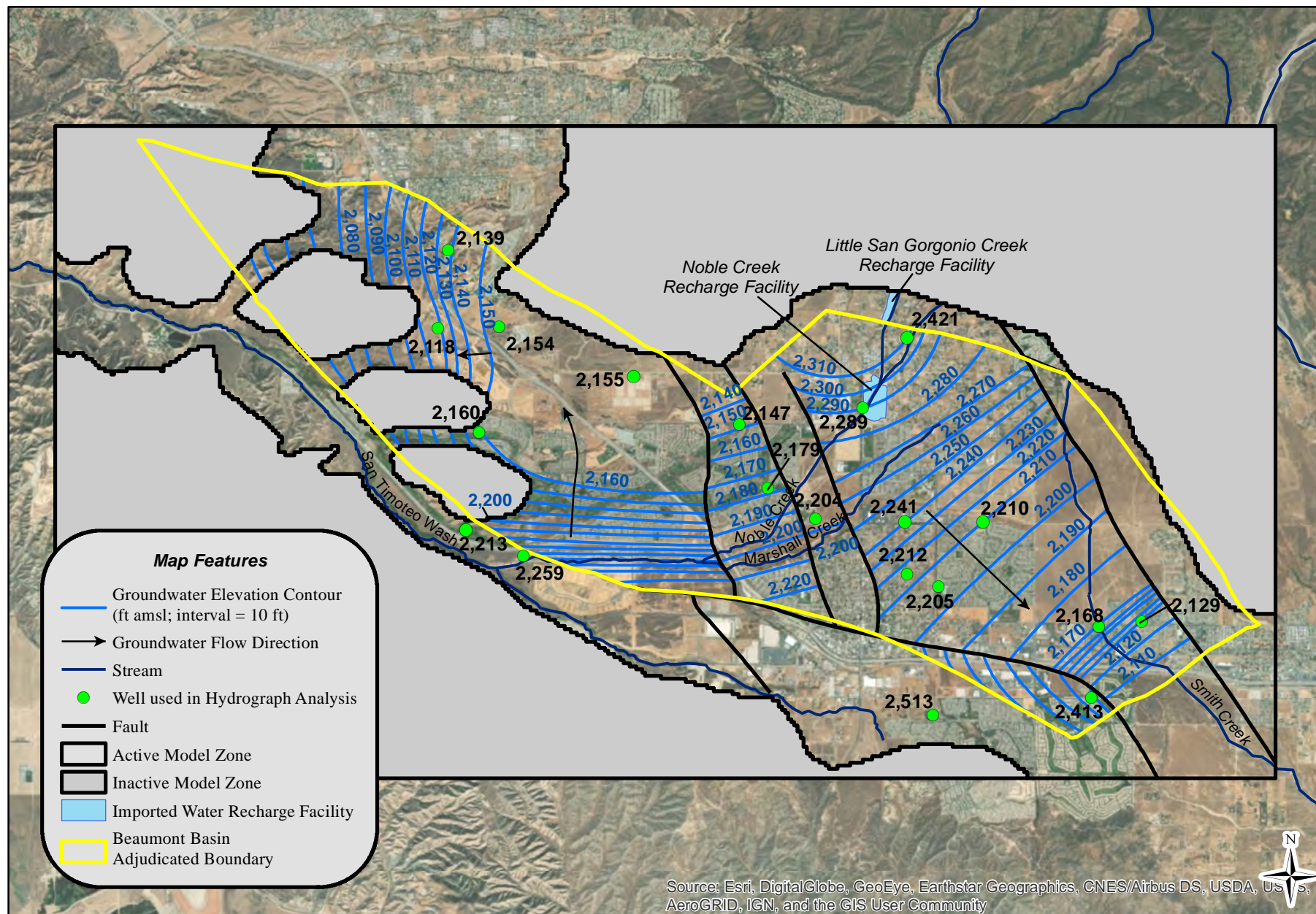
Alda, Inc. in association with

Thomas Harder & Co.
Groundwater Consulting

0 0.5 1 2
Miles
NAD 83 UTM Zone 11

**Groundwater Elevation Contours
in the Beaumont Basin - December 2018**

Figure 3-6



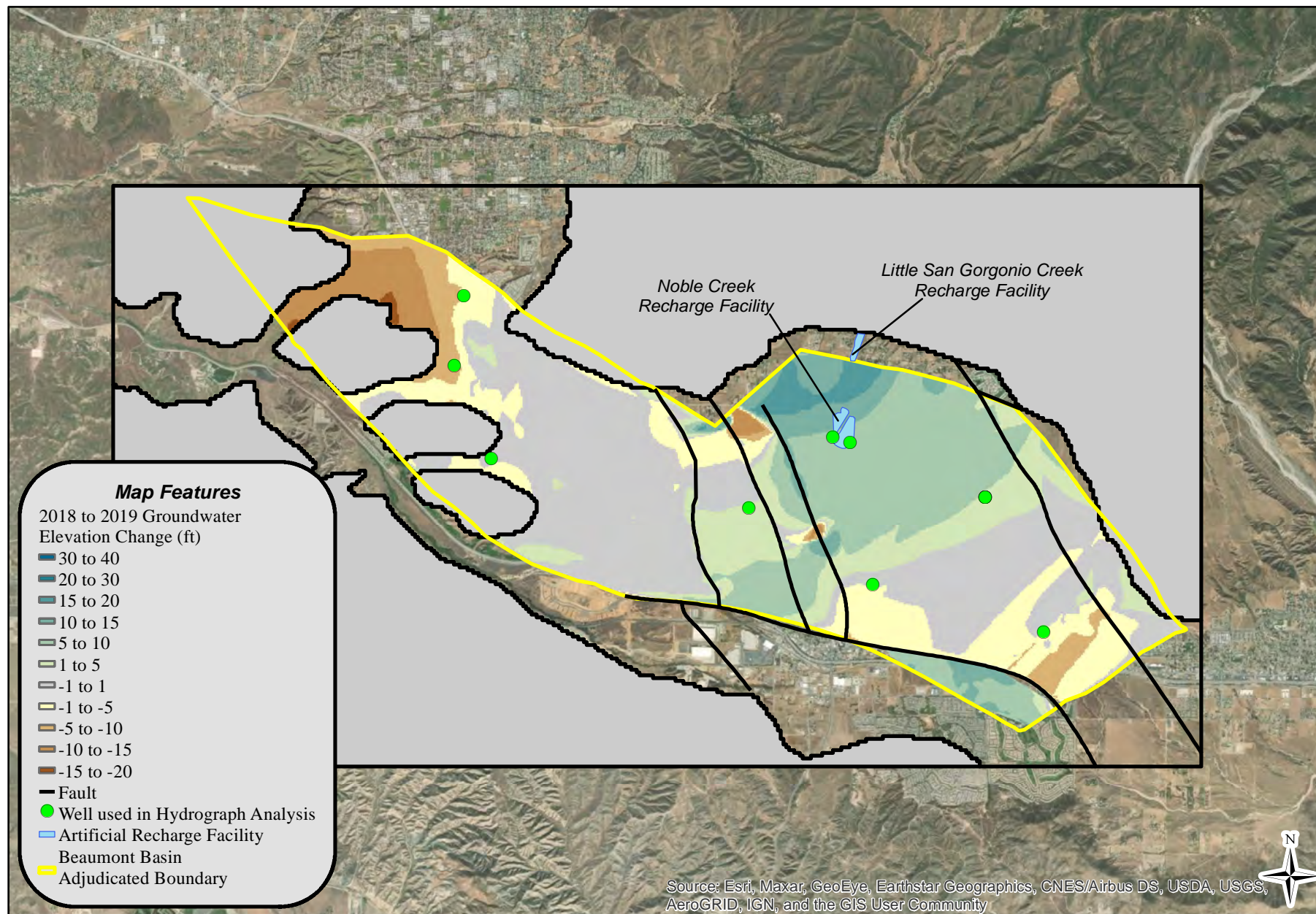
Alda, Inc. in association with

Thomas Harder & Co.
Groundwater Consulting

0 0.5 1 2
Miles
NAD 83 UTM Zone 11

**Groundwater Elevation Contours
in the Beaumont Basin - December 2019**

Figure 3-7



Alda, Inc. in association with

Thomas Harder & Co.
Groundwater Consulting

0 0.5 1 2
Miles
NAD 83 CA State Plane Zone 6

Change in Groundwater Elevation
2018 - 2019

Figure 3-8

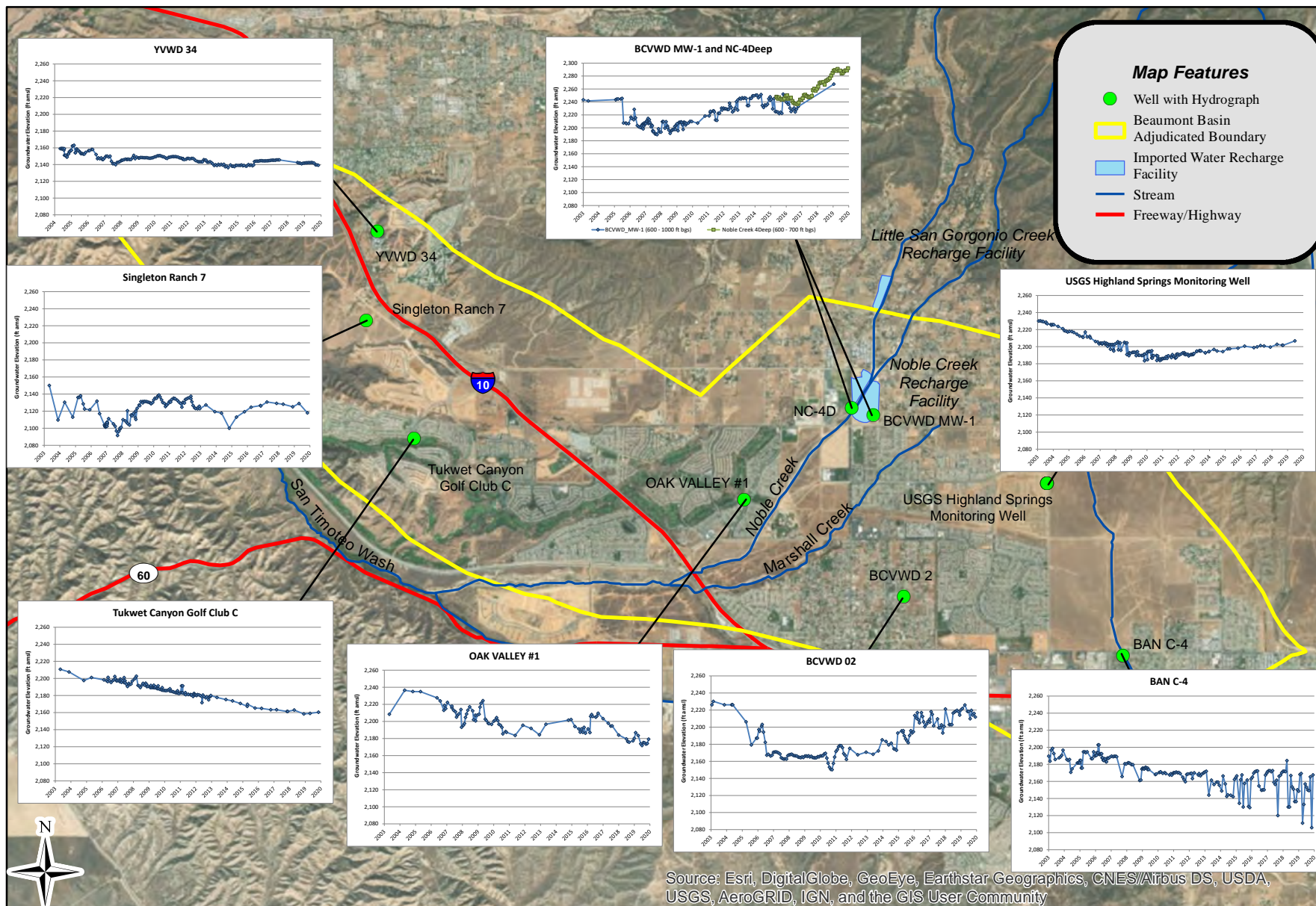


Table 3-1A
Appropriator Producer - Summary of Annual Production (2003 to 2014)

Owner & Well Name	Water Production by Well (ac-ft/yr) ⁽¹⁾											
	2003 ⁽²⁾	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Banning, City of	Temporary Surplus Allocation: 5,029 ac-ft/yr for the 2003-13 Period											
Well C2-A	619.2	710.7	0.4	6.8	288.1	382.3	119.8	26.8	32.5	13.1	115.5	530.5
Well C3	517.7	1,026.6	521.2	235.3	511.6	552.5	733.0	843.0	776.6	607.9	626.7	526.8
Well C4	448.3	1,135.7	387.8	276.8	673.9	664.3	472.6	51.4	197.5	73.0	858.5	857.7
Well M3	525.7	169.8	532.8	671.9	726.0	583.3	294.8	80.0	335.1	344.2	499.9	670.0
Well M9	63.3	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
From BCVWD ⁽³⁾	0.0	354.5	366.4	636.7	572.9	751.3	474.8	142.5	0.0	0.0	0.0	0.0
<i>Annual Production</i>	2,174.2	3,397.3	1,808.6	1,827.5	2,772.6	2,933.6	2,095.0	1,143.6	1,341.7	1,038.3	2,100.7	2,585.1
Eligible for Storage ⁽⁴⁾	340.3	1,631.7	3,220.4	3,201.5	2,256.4	2,095.4	2,934.0	3,885.4	3,687.3	3,990.7	413.8	0.0
Beaumont Cherry Valley Water District	Temporary Surplus Allocation: 6,802 ac-ft/yr for the 2003-13 Period											
Well 1	5.9	978.3	1,244.2	1,149.1	1,283.8	976.9	894.1	809.1	461.7	93.9	294.9	6.9
Well 2	960.2	1,628.2	117.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 3	675.1	936.0	841.6	749.7	1,357.3	1,310.2	1,139.5	775.6	535.6	716.6	789.2	1,281.8
Well 16	554.6	1,103.7	735.6	537.7	348.3	414.9	452.0	11.9	153.8	255.0	360.8	182.2
Well 21	832.8	1,252.5	2,299.5	1,996.3	2,424.7	2,446.1	1,784.1	8.7	1,473.3	2,035.0	2,141.1	2,560.7
Well 22	483.3	1,125.3	405.7	1,062.6	1,056.8	1,105.3	265.1	381.7	95.1	514.7	358.9	1.0
Well 23	0.0	204.3	1,747.9	1,963.9	3,018.3	2,491.7	982.7	1,930.4	982.1	854.6	787.3	1,081.0
Well 24				2,231.7	2,467.1	2,093.1	2,045.4	2,199.6	2,045.7	1,764.1	1,526.5	1,066.7
Well 25						127.6	1,060.7	1,300.4	1,188.6	1,680.9	2,033.4	2,386.8
Well 26						495.9	1,187.9	1,312.2	1,435.3	1,280.9	1,257.9	521.9
Well 29							797.1	834.4	1,060.3	966.1	1,547.3	1,716.5
To Banning ⁽³⁾	0.0	-354.5	-366.4	-636.7	-572.9	-751.3	-474.8	-142.5	0.0	0.0	0.0	0.0
<i>Annual Production</i>	3,511.9	6,873.9	7,025.6	9,054.1	11,383.3	10,710.5	10,133.9	9,421.3	9,431.3	10,162.0	11,097.4	10,805.5
Eligible for Storage ⁽⁴⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Mesa Water Company	Temporary Surplus Allocation: 1,996 ac-ft/yr for the 2003-13 Period											
3rd No. 4 Well	223.2	482.5	663.2	616.0	665.8	470.9	382.2	405.0	419.9	448.5	308.4	473.7
<i>Annual Production</i>	223.2	482.5	663.2	616.0	665.8	470.9	382.2	405.0	419.9	448.5	308.4	473.7
Eligible for Storage ⁽⁴⁾	774.8	1,513.5	1,332.8	1,380.0	1,330.2	1,525.2	1,613.8	1,591.0	1,576.1	1,547.5	689.7	0.0
Yucaipa Valley Water District	Temporary Surplus Allocation: 2,173 ac-ft/yr for the 2003-13 Period											
Well 35	58.9	226.3	117.5	220.0	163.8	3.2	0.0	0.0	0.0	0.0	0.0	0.0
Well 48	1,103.5	1,607.4	1,163.7	1,807.2	1,519.1	568.8	504.4	672.4	534.1	700.1	1,030.8	1,198.5
<i>Annual Production</i>	1,162.4	1,833.7	1,281.3	2,027.3	1,682.9	572.0	504.4	672.4	534.1	700.1	1,030.8	1,198.5
Eligible for Storage ⁽⁴⁾	0.0	339.3	891.7	145.7	490.1	1,601.0	1,668.6	1,500.6	1,638.9	1,472.9	55.7	0.0
<i>Annual Production</i>	7,071.7	12,587.4	10,778.6	13,524.9	16,504.6	14,687.0	13,115.6	11,642.3	11,727.1	12,348.9	14,537.2	15,062.8
Eligible for Storage	1,115.1	3,484.5	5,445.0	4,727.2	4,076.7	5,221.5	6,216.4	6,977.0	6,902.3	7,011.1	1,159.2	0.0

1.- Calendar Year Production. All values rounded and subject to revision based on receipt of more accurate information.

2.- 2003 Production only includes from July to December to account for first half of Fiscal Year 2004 Production.

3.- Pursuant to Part I, Paragraph 3 B of the Judgment, and a separate Agreement (a copy of which is on file with the Watermaster).

4.- Volume of water available for storage is equal to the positive difference between the temporary surplus allocation and the volume of groundwater produced by each agency. Temporary surplus based on 16,000 ac-ft/yr allocated from Fiscal Year 2004 to Fiscal Year 2013. Annual allocation is as follows: a) City of Banning, 5,029 ac-ft/yr, b) Beaumont Cherry Valley Water District, 6,802 ac-ft/yr, c) South Mesa Water Company, 1,996 ac-ft/yr, and d) Yucaipa Valley Water District, 2,173 ac-ft/yr. Allocations for 2003 and 2013 are based on 50 percent of the annual allocation to account for half of the year only. There is no temporary allocation after 2013.

Table 3-1B
Appropriator Producer - Summary of Production for Calendar Year 2015 (ac-ft)

Owner & Well Name	Water Production by Appropriator (ac-ft) ⁽¹⁾												Total Production
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Banning, City of													
Well C2-A	3.8	13.0	55.3	3.3	2.0	1.7	3.2	2.6	28.2	4.6	0.4	0.5	118.6
Well C3	0.3	0.0	35.3	41.0	22.9	59.5	43.9	60.0	38.3	26.5	50.9	11.6	390.2
Well C4	3.2	2.7	7.5	1.4	5.1	94.0	100.4	89.4	55.1	103.0	69.9	39.9	571.8
Well M3	0.1	10.1	58.3	88.6	91.9	84.8	94.2	83.6	53.8	1.2	18.1	13.1	597.7
Well M9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
From BCVWD ⁽²⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	7.4	25.9	156.5	134.2	122.0	240.0	241.7	235.6	175.3	135.2	139.3	65.1	1,678.3
Beaumont Cherry Valley Water District													
Well 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Well 16	5.6	24.4	49.7	75.3	81.7	83.1	72.5	60.3	51.4	73.6	57.0	41.8	676.3
Well 21	166.9	184.6	230.4	218.9	185.3	218.2	216.1	224.9	200.5	204.2	192.8	191.9	2,434.5
Well 22	40.0	108.3	30.6	86.1	7.5	74.6	128.2	116.1	121.1	55.5	13.4	3.0	784.4
Well 23	184.7	121.3	199.1	246.6	232.9	267.5	261.9	241.3	216.7	226.2	167.1	143.9	2,509.1
Well 24	54.6	5.7	97.1	69.0	64.7	179.4	124.6	106.8	60.1	24.5	49.4	27.3	863.1
Well 25	0.0	61.1	10.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.9
Well 26	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8
Well 29	80.4	95.7	102.6	113.2	112.0	156.7	155.7	163.3	151.3	138.4	114.5	93.0	1,476.9
Egg Ranch Well	10.5	8.1	7.1	15.1	0.0	34.0	6.8	14.9	25.3	0.0	17.3	0.5	139.5
To Banning ⁽²⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	559.6	609.2	727.4	824.2	684.2	1,013.4	965.6	927.5	826.4	722.4	611.4	501.5	8,972.8
South Mesa Water Company													
3rd No. 4 Well	20.10	19.95	21.55	27.08	21.72	36.95	34.27	37.80	28.89	27.91	21.03	19.90	317.2
Subtotal	20.1	20.0	21.6	27.1	21.7	37.0	34.3	37.8	28.9	27.9	21.0	19.9	317.2
Yucaipa Valley Water District													
Well 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 48	7.5	10.0	43.0	12.8	4.3	5.8	6.1	20.4	3.4	0.0	0.1	5.8	119.2
Subtotal	7.5	10.0	43.0	12.8	4.3	5.8	6.1	20.4	3.4	0.0	0.1	5.8	119.2
Total	594.7	665.0	948.6	998.3	832.2	1,296.2	1,247.7	1,221.3	1,034.0	885.5	771.9	592.3	11,087.4

(1) - All values rounded and subject to revision based on receipt of more accurate information

(2) - Pursuant to Part I, Paragraph 3 B of the Judgment, and a separate Agreement (a copy of which is on file with the Watermaster).

Table 3-1C
Appropriator Producer - Summary of Production for Calendar Year 2016 (ac-ft)

Owner & Well Name	Water Production by Appropriator (ac-ft) ⁽¹⁾												Total Production
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Banning, City of													
Well C2-A	4.1	0.7	0.2	0.2	1.9	17.4	32.9	30.1	1.1	2.0	0.0	3.5	94.2
Well C3	15.5	21.9	0.2	5.8	20.1	50.0	50.9	70.6	55.5	23.0	3.0	1.5	317.8
Well C4	25.5	0.9	12.0	8.3	11.8	92.8	121.5	121.2	101.9	91.9	14.2	0.5	602.3
Well M3	0.4	0.4	0.0	0.4	22.3	92.9	95.7	95.8	90.3	58.4	1.7	0.1	458.5
Well M9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
From BCVWD ⁽²⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	45.4	23.9	12.5	14.8	56.0	253.0	301.0	317.7	248.8	175.3	18.8	5.5	1,472.7
Beaumont Cherry Valley Water District													
Well 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 16	68.6	67.5	61.8	66.6	80.2	75.0	91.4	74.0	37.7	70.1	47.9	20.8	761.5
Well 21	221.1	196.3	223.2	201.2	234.2	246.1	245.0	295.8	258.9	225.3	193.1	153.3	2,693.3
Well 22	0.0	2.6	0.0	0.0	40.5	111.8	144.7	177.7	164.2	155.8	67.5	7.0	871.8
Well 23	19.9	85.8	113.9	152.0	213.6	250.9	273.2	257.9	228.1	228.1	160.6	153.7	2,137.8
Well 24	30.4	48.9	19.1	1.5	0.0	188.0	241.6	216.5	145.8	38.6	104.9	62.2	1,097.3
Well 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 26	23.3	65.8	54.6	74.6	101.9	123.3	151.8	293.5	25.1	99.6	82.8	31.7	1,127.9
Well 29	77.3	101.7	98.7	104.3	91.7	141.6	198.7	36.8	181.8	89.9	183.7	84.2	1,390.4
Egg Ranch Well	11.6	8.4	2.6	7.0	3.1	11.1	7.4	11.2	11.4	0.2	2.7	3.0	79.8
To Banning ⁽²⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	452.1	577.0	573.9	607.2	765.2	1,147.9	1,353.7	1,363.4	1,052.9	907.6	843.2	515.9	10,159.8
South Mesa Water Company													
3rd No. 4 Well	16.9	21.9	23.3	24.7	28.1	38.4	47.1	45.6	37.6	27.9	23.6	17.6	352.6
Subtotal	16.9	21.9	23.3	24.7	28.1	38.4	47.1	45.6	37.6	27.9	23.6	17.6	352.6
Yucaipa Valley Water District													
Well 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 48	0.7	0.7	1.0	0.0	0.0	1.4	0.0	0.0	0.9	0.0	0.0	0.0	4.6
Subtotal	0.7	0.7	1.0	0.0	0.0	1.4	0.0	0.0	0.9	0.0	0.0	0.0	4.6
Total	515.0	623.5	610.6	646.6	849.3	1,440.7	1,701.9	1,726.7	1,340.2	1,110.8	885.6	539.0	11,989.7

(1) - All values rounded and subject to revision based on receipt of more accurate information

(2) - Pursuant to Part I, Paragraph 3 B of the Judgment, and a separate Agreement (a copy of which is on file with the Watermaster).

Table 3-1D
Appropriator Producer - Summary of Production for Calendar Year 2017 (ac-ft)

Owner & Well Name	Water Production by Appropriator (ac-ft) ⁽¹⁾												Total Production
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Banning, City of													
Well C2-A	0.8	0.3	0.8	0.3	0.0	4.6	3.8	2.0	0.7	3.7	1.4	0.2	18.6
Well C3	0.9	0.3	1.5	69.3	113.5	87.0	92.5	76.4	49.9	4.6	16.0	0.1	512.1
Well C4	1.2	0.5	48.5	20.8	7.6	73.5	91.4	76.8	73.3	64.2	26.6	14.2	498.4
Well M3	0.0	0.3	0.4	1.5	14.3	76.4	94.3	92.1	87.5	47.2	0.2	0.2	414.4
Well M9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
From BCVWD ⁽²⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	3.0	1.4	51.2	91.9	135.4	241.5	282.0	247.2	211.4	119.7	44.1	14.7	1,443.5
Beaumont Cherry Valley Water District													
Well 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 16	9.0	10.3	3.6	2.3	50.3	89.4	112.4	113.8	84.6	68.2	78.8	58.0	680.6
Well 21	141.5	87.6	144.2	196.3	39.5	394.9	290.1	294.4	240.9	210.7	196.2	169.5	2,405.7
Well 22	0.0	0.0	2.1	1.6	37.3	111.1	172.9	167.2	140.1	102.8	1.0	2.6	738.6
Well 23	147.7	169.0	113.3	209.2	264.7	265.3	268.8	263.6	178.5	0.0	107.1	256.8	2,244.0
Well 24	0.0	6.9	152.6	227.0	194.4	171.2	129.7	121.1	187.7	212.5	149.0	159.0	1,711.1
Well 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	232.4	120.2	0.0	352.6
Well 26	9.0	10.4	57.8	133.6	154.5	163.9	174.9	170.0	152.5	161.1	127.4	130.1	1,445.1
Well 29	54.7	54.3	95.7	161.8	174.9	221.8	324.2	255.6	231.5	189.2	144.2	142.7	2,050.5
Egg Ranch Well	0.0	1.9	11.6	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.4
To Banning ⁽²⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	361.8	340.4	580.9	940.7	915.5	1,417.6	1,472.8	1,385.7	1,215.8	1,176.9	923.8	918.7	11,650.7
South Mesa Water Company													
3rd No. 4 Well	15.7	12.9	17.7	25.0	36.7	41.9	45.6	51.0	37.1	34.7	27.6	22.2	368.1
Subtotal	15.7	12.9	17.7	25.0	36.7	41.9	45.6	51.0	37.1	34.7	27.6	22.2	368.1
Yucaipa Valley Water District													
Well 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total	380.5	354.8	649.8	1,057.6	1,087.7	1,700.9	1,800.4	1,684.0	1,464.2	1,331.4	995.5	955.6	13,462.4

(1) - All values rounded and subject to revision based on receipt of more accurate information

(2) - Pursuant to Part I, Paragraph 3 B of the Judgment, and a separate Agreement (a copy of which is on file with the Watermaster).

Table 3-1E
Appropriator Producer - Summary of Production for Calendar Year 2018 (ac-ft)

Owner & Well Name	Water Production by Appropriator (ac-ft) ⁽¹⁾												Total Production
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Banning, City of													
Well C2-A	3.2	1.1	0.5	0.5	0.4	22.8	24.8	37.9	69.0	11.0	4.0	0.1	175.5
Well C3	0.0	0.9	0.2	0.2	0.7	68.6	67.8	79.1	79.8	103.7	107.2	13.4	521.7
Well C4	0.6	4.3	3.2	30.6	66.6	58.2	87.2	100.5	118.3	135.0	139.7	113.0	857.2
Well M3	0.2	0.2	0.1	56.6	86.7	81.5	89.4	86.6	86.0	56.6	46.6	0.1	590.5
Well M9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
From BCVWD ⁽²⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	52.6	28.6	119.8
Subtotal	4.1	6.5	4.0	87.9	154.4	231.2	269.2	304.1	353.0	344.9	350.1	155.2	2,264.6
Beaumont Cherry Valley Water District													
Well 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 3	0.0	0.0	0.0	0.0	7.8	99.0	19.0	0.0	0.0	0.0	0.0	0.0	125.9
Well 16	20.6	6.3	15.6	12.7	12.7	54.5	22.5	21.2	2.8	5.5	0.8	0.6	176.0
Well 21	193.0	163.9	179.2	215.1	258.0	284.3	294.3	294.0	284.3	196.7	242.6	186.1	2,791.4
Well 22	0.7	18.6	16.8	80.4	155.1	53.2	0.0	0.0	0.0	0.0	0.0	0.0	324.9
Well 23	247.9	177.8	125.8	189.6	201.8	214.9	268.5	248.1	237.7	208.8	157.3	81.0	2,359.3
Well 24	72.9	147.1	110.0	201.9	166.2	237.9	261.0	237.9	217.0	206.1	222.4	142.0	2,222.5
Well 25	0.0	0.0	2.5	108.9	227.8	261.2	272.7	251.9	273.4	224.5	247.7	190.3	2,060.8
Well 26	94.1	75.3	6.1	0.0	0.0	0.0	88.1	183.6	159.8	120.7	111.6	50.0	889.4
Well 29	112.3	119.8	89.5	111.2	0.0	94.5	233.3	238.8	185.5	150.2	29.8	13.9	1,378.7
Egg Ranch Well	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
To Banning ⁽²⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-38.6	-52.6	-28.6	-119.8
Subtotal	741.6	708.9	545.4	919.9	1,029.6	1,299.5	1,459.3	1,475.6	1,360.7	1,074.0	959.5	635.3	12,209.2
South Mesa Water Company													
3rd No. 4 Well	20.1	14.5	14.4	26.9	30.0	42.7	51.4	46.5	44.0	31.4	26.9	16.1	364.9
Subtotal	20.1	14.5	14.4	26.9	30.0	42.7	51.4	46.5	44.0	31.4	26.9	16.1	364.9
Yucaipa Valley Water District													
Well 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 48	0.0	0.0	0.0	92.1	0.0	0.0	0.1	60.8	0.2	7.7	30.3	0.0	191.2
Subtotal	0.0	0.0	0.0	92.1	0.0	0.0	0.1	60.8	0.2	7.7	30.3	0.0	191.2
Total	765.7	729.9	563.9	1,126.8	1,214.0	1,573.3	1,779.9	1,886.9	1,757.9	1,458.0	1,366.8	806.7	15,029.9

(1) - All values rounded and subject to revision based on receipt of more accurate information

(2) - Pursuant to Part I, Paragraph 3 B of the Judgment, and a separate Agreement (a copy of which is on file with the Watermaster).

Table 3-1F
Appropriator Producer - Summary of Production for Calendar Year 2019 (ac-ft)

Owner & Well Name	Water Production by Appropriator (ac-ft) ⁽¹⁾												Total Production
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Banning, City of													
Well C2-A	6.0	25.4	17.5	0.6	3.7	11.2	25.7	39.0	44.8	26.3	0.9	1.4	202.4
Well C3	0.8	0.4	0.2	1.3	0.0	38.3	78.8	53.2	0.0	0.0	0.0	0.0	172.8
Well C4	105.4	7.4	15.8	146.7	144.5	110.0	100.0	109.9	118.0	61.6	80.7	6.4	1,006.4
Well M3	4.9	50.2	51.1	32.0	4.4	56.2	84.0	82.8	79.7	81.8	77.0	74.8	679.0
Well M9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
From BCVWD ⁽²⁾	16.9	1.0	4.8	10.0	5.4	6.5	6.0	3.6	0.6	3.6	0.7	1.6	60.8
Subtotal	133.9	84.4	89.3	190.6	157.9	222.2	294.6	288.6	243.1	173.3	159.3	84.2	2,121.4
Beaumont Cherry Valley Water District													
Well 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Well 16	0.1	0.0	0.4	1.2	0.0	3.1	0.0	8.3	9.2	20.8	6.2	1.9	51.1
Well 21	186.1	168.1	71.1	240.8	206.3	237.4	256.9	242.5	227.1	256.6	237.3	158.7	2,488.8
Well 22	0.0	0.0	0.0	7.5	6.1	123.1	116.2	106.4	91.5	90.7	65.1	5.0	611.7
Well 23	82.1	106.1	42.6	85.9	27.3	113.3	240.6	280.6	229.9	189.5	176.2	172.3	1,746.4
Well 24	89.9	21.6	133.9	211.0	108.1	179.7	201.9	249.7	206.6	195.4	186.7	86.6	1,871.1
Well 25	196.2	95.2	201.4	216.7	249.4	244.6	307.7	298.4	280.5	277.1	171.9	59.1	2,598.4
Well 26	15.7	0.0	26.2	130.2	57.6	130.1	125.9	155.4	151.2	139.3	113.9	17.3	1,062.7
Well 29	6.3	5.4	1.6	0.0	4.4	49.7	194.9	224.4	167.0	76.5	30.1	10.4	770.8
Egg Ranch Well	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
To Banning ⁽²⁾	-16.9	-1.0	-4.8	-10.0	-5.4	-6.5	-6.0	-3.6	-0.6	-3.6	-0.7	-1.6	-60.8
Subtotal	560.2	395.5	472.5	883.2	653.9	1,074.5	1,438.0	1,562.1	1,362.5	1,242.4	986.5	509.7	11,140.8
South Mesa Water Company													
3rd No. 4 Well	12.8	11.8	14.2	25.5	22.5	38.9	53.6	54.4	39.8	22.9	20.7	13.5	330.7
Subtotal	12.8	11.8	14.2	25.5	22.5	38.9	53.6	54.4	39.8	22.9	20.7	13.5	330.7
Yucaipa Valley Water District													
Well 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well 48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	148.0	110.4	83.6	76.7	110.0	528.6
Subtotal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	148.0	110.4	83.6	76.7	110.0	528.6
Total	706.9	491.6	576.1	1,099.3	834.3	1,335.5	1,786.1	2,053.0	1,755.8	1,522.2	1,243.2	717.4	14,121.5

(1) - All values rounded and subject to revision based on receipt of more accurate information

(2) - Pursuant to Part I, Paragraph 3 B of the Judgment, and a separate Agreement (a copy of which is on file with the Watermaster).

Table 3-2A
Overlying Producer - Summary of Production for Calendar Year 2003 through 2014 (ac-ft)

Owner and Well Name	Metered	Annual Water Production by Overlying Producer ^{(1) (2)}											
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Beckman, Walter M.	No	16.2	27.0	22.4	11.5	8.3	12.7	12.9	6.4	9.0	9.0	2.1	0.9
California Oak Valley Golf and Resort LLC ⁽³⁾													
Oak Valley #1	Yes			523.2	453.6	181.7	596.9	135.7	304.2	0.0	0.0	266.8	55.4
Oak Valley #2	Yes			180.7	377.9	597.3	183.5	631.0	260.9	0.0	0.0	359.0	361.6
Subtotal		736.2	728.6	703.9	831.5	779.0	780.4	766.7	565.1	517.3	517.3	625.8	417.0
Merlin Properties	No	3.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6
Oak Valley Partners, LP ⁽⁴⁾													
Haskell Ranch-Main	N/A	29.4	19.6	300.0	300.0	300.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Singleton Ranch #5	No	180.0	300.0	40.2	2.1	2.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Singleton Ranch #7	Yes	85.8	111.1	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Irrigation Stokes	No	6.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		301.2	440.7	350.2	312.1	312.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Plantation on the Lake LLC ⁽⁶⁾	Yes	178.6	340.9	310.2	350.1	344.2	354.0	352.3	337.2	344.7	344.7	326.7	403.8
Rancho Calimesa Mobile Home Park	No	35.4	68.3	68.3	68.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3	16.2
Roman Catholic Bishop of San Bernardino	No	46.8	59.1	55.6	59.0	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0
Sharondale Mesa Owners Association													
Well No.1	Yes	98.6	111.0	98.4	97.0	130.1	102.9	80.3	67.7	81.0	79.2	72.0	78.0
Well No.2	Yes	5.7	47.0	82.6	91.6	52.3	90.4	74.0	64.6	52.0	66.0	75.0	59.3
Subtotal		104.3	158.0	181.0	188.6	182.3	193.3	154.3	132.3	133.0	145.3	147.0	137.3
Tukwet Canyon Golf Club ⁽⁵⁾													
Well A	Yes	130.8	268.0	217.2	341.7	329.1	11.2	204.4	118.6	118.4	217.5	198.1	277.6
Well C	Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Well D	Yes	660.6	1,078.6	995.9	1,411.6	1,269.9	1,126.4	954.2	733.2	764.5	766.8	900.3	950.3
Subtotal		791.4	1,346.7	1,213.1	1,753.4	1,599.1	1,137.6	1,158.6	851.8	882.9	984.3	1,098.4	1,227.9
Stearns, Leonard M. and Dorothy D.	No	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.7	0.7	0.7	0.7	0.7
Sunny-Cal Egg and Poultry Company	N/A	226.0	404.4	385.4	2.6	2.7	4.2	4.2	3.8	4.2	4.3	4.3	4.3
Sunny-Cal North - Manheim, M & Berman	No				13.2	2.3	2.3	2.3	2.1	2.3	2.4	2.4	2.4
Nikodinov, Nick	No				0.7	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.8
McAmis, Ronald L.	No				0.5	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.6
Aldama, Nicolas and Amalia	No				0.8	0.8	0.9	0.8	0.8	0.9	0.9	0.9	0.9
Gutierrez, Hector, et al.	No				1.4	1.4	1.4	1.4	1.3	1.4	1.4	1.4	1.4
Darmont, Boris and Miriam	No				0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
TOTAL		2,440.8	3,576.3	3,292.6	3,596.7	3,306.5	2,563.6	2,530.1	1,976.5	1,971.4	2,085.4	2,284.8	2,218.7

1.- All values rounded and subject to revision based on receipt of more accurate information.

2.- Annual production is estimated for Overlying parties with un-metered wells.

3.- Metering began in late 2004 and was not reported monthly. One total production value for each well was reported to Watermaster for FY 2003/04 . For the conversion to CY accounting, it was assumed that CY 2004 production for this entity was equal to FY 2003/04 production.

4.- Provided copies of state filing with annual calendar year totals for each well. Production values for Singleton Ranch #5 and Irrigation Stokes are estimated by Oak Valley Partners through 2007. Starting in 2008, production was reduced to an estimated 2.5 ac-ft/yr as agricultural use of the land ended. Estimate based on water use by a single farm house, a small office, and a small cattle population.

5.- The Southern California Section of the PGA of America changed to East Valley Golf Club in 2007 and to Tukwet Canyon Golf Course in 2010. Monthly production provided by the Morongo Band of Mission Indians - 03/14.

6.- Production from Plantation on the Lake LLC is subject to revision pending updated information to be provided by Overlying User.

Table 3-2B
Overlying Producer - Summary of Production for Calendar Year 2015 (ac-ft)

Owner and Well Name	Metered	Monthly Water Production by Overlying Producer ¹												Total ² Production	Overlying Water Right	Unused Overlying Allocation
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Beckman, Walter M. ⁽³⁾	Yes	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	58.1	57.2
California Oak Valley Golf and Resort LLC ⁽⁴⁾																
Oak Valley #1	Yes	22.2	0.0	34.5	56.4	40.1	66.6	35.1	59.9	111.6	31.3	25.3	2.8	485.6		
Oak Valley #2	Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	193.8	11.7	60.0	0.0	265.5		
Subtotal		22.2	0.0	34.5	56.4	40.1	66.6	35.1	59.9	305.4	43.0	85.3	2.8	751.1	735.8	0.0
Merlin Properties	No	Water Duty Method Used to Estimate Annual Production												1.6	426.0	424.4
Oak Valley Partners, LP ⁽⁵⁾														2.5	1,398.9	1,396.4
Plantation on the Lake LLC	Yes	39.7	19.3	17.4	24.3	26.2	32.1	20.9	24.8	28.2	27.3	21.6	20.2	302.1	450.0	147.9
Rancho Calimesa Mobile Home Park ⁽⁶⁾																
Well No.1	Yes	1.2	1.1	1.1	1.5	0.8	0.8	1.2	1.2	0.9	1.2	1.1	1.0	13.2		
Well No.2	No	0.8	1.0	0.9	0.9	0.8	0.8	1.0	1.0	0.8	0.8	0.8	0.8	10.2		
Subtotal		1.9	2.1	2.0	2.4	1.7	1.7	2.2	2.2	1.7	1.9	1.9	1.8	23.4	116.2	92.7
Roman Catholic Bishop of San Bernardino		Water Duty Method Used to Estimate Annual Production												0.0	119.3	119.3
Sharondale Mesa Owners Association ⁽⁶⁾																
Well No.1	Yes	2.5	3.9	0.5	0.2	1.9	5.1	6.3	9.6	8.4	8.9	7.9	1.8	57.1		
Well No.2	Yes	2.4	3.2	6.6	9.3	5.3	3.9	1.9	0.0	0.0	0.0	0.0	4.5	37.0		
Subtotal		4.9	7.2	7.1	9.5	7.2	9.0	8.2	9.6	8.4	8.9	7.9	6.3	94.1	154.9	60.8
Tukwet Canyon Golf Club ⁽⁷⁾																
Well A	Yes	6.0	1.6	3.3	4.3	1.5	12.4	6.4	5.1	1.8	1.9	0.7	3.2	48.1		
Well D	Yes	42.1	53.7	51.7	89.2	55.4	120.3	93.3	104.8	95.5	59.3	50.9	34.1	850.5		
Subtotal		48.1	55.4	55.0	93.5	56.9	132.7	99.7	109.8	97.3	61.2	51.6	37.3	898.6	1,704.0	805.4
Stearns, Leonard M. and Dorothy D.	No	Water Duty Method Used to Estimate Annual Production												0.7	154.9	154.2
Sunny-Cal Egg and Poultry Company	No	Water Duty Method Used to Estimate Annual Production												4.3	1,115.0	1,110.6
Albor Properties III, LP	No	Water Duty Method Used to Estimate Annual Production												2.4	232.4	229.9
Nikodinov, Nick	No	Water Duty Method Used to Estimate Annual Production												0.8	15.5	14.7
McAmis, Ronald L.	No	Water Duty Method Used to Estimate Annual Production												0.6	3.9	3.3
Aldama, Nicolas and Amalia	No	Water Duty Method Used to Estimate Annual Production												0.9	5.4	4.6
Gutierrez, Hector, et al.	No	Water Duty Method Used to Estimate Annual Production												1.4	7.7	6.3
Darmont, Boris and Miriam	No	Water Duty Method Used to Estimate Annual Production												0.4	1.9	1.6
TOTAL														2,085.8	6,700.0	4,629.5

1.- All values rounded and subject to revision based on receipt of more accurate information in the future.

2.- Total production is estimated for Overlying parties with un-metered wells.

3.- Mr. Beckman has not provided production since 2014.

4.- Monthly production provided by BCVWD.

5.- Starting in 2008, the parcels owned by Oak Valley Partners were no longer used for agricultural purposes. An annual production of 2.5 ac-ft has been estimated since.

6.- Monthly production since 2011 provided by Clearwater Solutions, a company in charge of operating the water system.

7.- Monthly production provided by the Morongo Band of Mission Indians.

Table 3-2C
Overlying Producer - Summary of Production for Calendar Year 2016 (ac-ft)

Owner and Well Name	Metered	Monthly Water Production by Overlying Producer ¹												Total ² Production	Overlying Water Right	Unused Overlying Allocation
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Beckman, Walter M. ⁽³⁾	Yes	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	58.1	57.2
California Oak Valley Golf and Resort LLC ⁽⁴⁾																
Oak Valley #1	Yes	23.7	12.6	4.3	18.7	20.9	75.0	113.5	106.2	31.7	5.6	4.1	2.2	418.5		
Oak Valley #2	Yes	44.6	43.9	5.5	11.1	26.9	0.0	0.0	0.0	1.8	0.1	0.0	0.0	133.9		
Subtotal		68.2	56.5	9.8	29.8	47.8	75.0	113.5	106.2	33.4	5.7	4.1	2.2	552.3	735.8	183.5
Merlin Properties	No	Water Duty Method Used to Estimate Annual Production												1.6	426.0	424.4
Oak Valley Partners, LP ⁽⁵⁾														2.5	1,398.9	1,396.4
Plantation on the Lake LLC	Yes	14.5	15.6	17.9	19.5	16.8	28.7	34.4	35.1	38.3	33.7	20.9	17.9	293.4	450.0	156.6
Rancho Calimesa Mobile Home Park ⁽⁶⁾																
Well No.1	Yes	1.0	1.0	0.6	1.7	2.5	3.3	3.0	3.4	3.7	2.8	2.7	1.1	26.9		
Well No.2	No	0.7	0.6	0.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.9	4.2		
Subtotal		1.7	1.6	1.1	2.9	2.5	3.3	3.0	3.4	3.7	2.8	3.1	2.0	31.2	116.2	85.0
Roman Catholic Bishop of San Bernardino		Water Duty Method Used to Estimate Annual Production												0.0	119.3	119.3
Sharondale Mesa Owners Association ⁽⁶⁾																
Well No.1	Yes	2.7	3.7	4.7	2.7	5.1	6.6	3.5	0.3	7.2	5.3	5.8	2.9	50.5		
Well No.2	Yes	2.3	2.7	1.4	4.0	3.3	4.0	5.5	4.3	1.6	0.0	2.8	2.5	34.3		
Subtotal		5.0	6.4	6.1	6.7	8.4	10.6	9.0	4.5	8.9	5.3	8.6	5.4	84.8	154.9	70.1
Tukwet Canyon Golf Club ⁽⁷⁾																
Well A	Yes	0.8	0.7	14.1	0.7	1.7	4.7	7.9	11.7	5.7	1.4	0.6	0.5	50.6		
Well D	Yes	18.2	39.1	17.1	43.8	78.6	138.6	134.9	162.8	124.8	85.7	58.4	6.0	908.1		
Subtotal		19.1	39.8	31.2	44.5	80.2	143.2	142.8	174.5	130.5	87.2	59.1	6.5	958.6	1,704.0	745.4
Stearns, Leonard M. and Dorothy D.	No	Water Duty Method Used to Estimate Annual Production												0.7	154.9	154.2
Sunny-Cal Egg and Poultry Company	No	Water Duty Method Used to Estimate Annual Production												4.3	1,115.0	1,110.6
Albor Properties III, LP	No	Water Duty Method Used to Estimate Annual Production												2.4	232.4	229.9
Nikodinov, Nick	No	Water Duty Method Used to Estimate Annual Production												0.8	15.5	14.7
McAmis, Ronald L.	No	Water Duty Method Used to Estimate Annual Production												0.6	3.9	3.3
Aldama, Nicolas and Amalia	No	Water Duty Method Used to Estimate Annual Production												0.9	5.4	4.6
Gutierrez, Hector, et al.	No	Water Duty Method Used to Estimate Annual Production												1.4	7.7	6.3
Darmont, Boris and Miriam	No	Water Duty Method Used to Estimate Annual Production												0.4	1.9	1.6
TOTAL														1,936.7	6,700.0	4,763.3

1.- All values rounded and subject to revision based on receipt of more accurate information in the future.

2.- Total production is estimated for Overlying parties with un-metered wells.

3.- Mr. Beckman has not provided production since 2014.

4.- Monthly production provided by BCVWD.

5.- Starting in 2008, the parcels owned by Oak Valley Partners were no longer used for agricultural purposes. An annual production of 2.5 ac-ft has been estimated since.

6.- Monthly production since 2011 provided by Clearwater Solutions, a company in charge of operating the water system.

7.- Monthly production provided by the Morongo Band of Mission Indians.

Table 3-2D
Overlying Producer - Summary of Production for Calendar Year 2017 (ac-ft)

Owner and Well Name	Metered	Monthly Water Production by Overlying Producer ¹												Total ² Production	Overlying Water Right	Unused Overlying Allocation
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Beckman, Walter M. ⁽³⁾	Yes	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	58.1	57.2
California Oak Valley Golf and Resort LLC ⁽⁴⁾																
Oak Valley #1	Yes	0.0	0.0	0.0	0.0	0.0	0.0	38.9	88.3	40.8	0.0	0.0	0.0	168.1		
Oak Valley #2	Yes	6.3	6.5	125.4	54.7	61.6	75.0	129.4	0.0	52.7	10.1	80.1	60.1	661.9		
Subtotal		6.3	6.5	125.4	54.7	61.6	75.0	168.3	88.3	93.5	10.1	80.1	60.1	830.0	735.8	0.0
Merlin Properties	No	Water Duty Method Used to Estimate Annual Production												1.6	426.0	424.4
Oak Valley Partners, LP ⁽⁵⁾														2.5	1,398.9	1,396.4
Plantation on the Lake LLC	Yes	11.7	9.0	9.6	20.2	26.9	28.9	35.8	38.6	73.5	55.6	61.1	47.1	417.8	450.0	32.2
Rancho Calimesa Mobile Home Park ⁽⁶⁾																
Well No.1	Yes	1.0	1.0	0.6	1.7	2.5	3.3	3.0	3.4	3.7	2.8	2.7	1.1	26.9		
Well No.2	No	0.7	0.6	0.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.9	4.2		
Subtotal		1.7	1.6	1.1	2.9	2.5	3.3	3.0	3.4	3.7	2.8	3.1	2.0	31.2	116.2	85.0
Roman Catholic Bishop of San Bernardino		Water Duty Method Used to Estimate Annual Production												0.0	119.3	119.3
Sharondale Mesa Owners Association ⁽⁶⁾																
Well No.1	Yes	1.4	1.3	4.2	5.4	5.2	8.4	10.5	9.2	9.1	8.7	6.0	5.4	74.7		
Well No.2	Yes	1.4	1.2	3.3	4.0	3.8	4.1	4.0	3.7	3.9	4.3	5.1	4.4	43.2		
Subtotal		2.7	2.5	7.4	9.3	9.0	12.5	14.5	13.0	13.0	13.0	11.2	9.8	117.9	154.9	37.0
Tukwet Canyon Golf Club ⁽⁷⁾																
Well A	Yes	0.4	0.8	0.6	7.9	6.2	15.4	12.3	6.1	2.9	12.4	0.7	0.5	66.3		
Well C	Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Well D	Yes	0.0	4.7	48.3	94.9	111.7	130.5	58.2	137.6	112.1	101.8	58.4	67.1	925.1		
Subtotal		0.4	5.5	48.8	102.8	117.9	145.9	70.5	143.7	115.0	114.1	59.1	67.6	991.4	1,704.0	712.7
Stearns, Leonard M. and Dorothy D.	No	Water Duty Method Used to Estimate Annual Production												0.7	154.9	154.2
Sunny-Cal Egg and Poultry Company	No	Water Duty Method Used to Estimate Annual Production												4.3	1,115.0	1,110.6
Albor Properties III, LP	No	Water Duty Method Used to Estimate Annual Production												2.4	232.4	229.9
Nikodinov, Nick	No	Water Duty Method Used to Estimate Annual Production												0.8	15.5	14.7
McAmis, Ronald L.	No	Water Duty Method Used to Estimate Annual Production												0.6	3.9	3.3
Aldama, Nicolas and Amalia	No	Water Duty Method Used to Estimate Annual Production												0.9	5.4	4.6
Gutierrez, Hector, et al.	No	Water Duty Method Used to Estimate Annual Production												1.4	7.7	6.3
Darmont, Boris and Miriam	No	Water Duty Method Used to Estimate Annual Production												0.4	1.9	1.6
TOTAL														2,404.7	6,700.0	4,389.4

1.- All values rounded and subject to revision based on receipt of more accurate information in the future.

2.- Total production is estimated for Overlying parties with un-metered wells.

3.- Mr. Beckman has not provided production since 2014.

4.- Monthly production provided by BCVWD.

5.- Starting in 2008, the parcels owned by Oak Valley Partners were no longer used for agricultural purposes. An annual production of 2.5 ac-ft has been estimated since.

6.- Monthly production since 2011 provided by Clearwater Solutions, a company in charge of operating the water system.

7.- Monthly production provided by the Morongo Band of Mission Indians.

Table 3-2E
Overlying Producer - Summary of Production for Calendar Year 2018 (ac-ft)

Owner and Well Name	Metered	Monthly Water Production by Overlying Producer ¹												Total ² Production	Overlying Water Right	Unused Overlying Allocation
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Beckman, Walter M. ⁽³⁾	Yes	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	58.1	57.2
California Oak Valley Golf and Resort LLC ⁽⁴⁾																
Oak Valley #1	Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Oak Valley #2	Yes	34.8	8.7	23.1	16.3	39.5	72.5	76.2	91.6	68.0	75.2	53.8	13.4	573.0		
Subtotal		34.8	8.7	23.1	16.3	39.5	72.5	76.2	91.6	68.0	75.2	53.8	13.4	573.1	735.8	162.8
Merlin Properties	No	Water Duty Method Used to Estimate Annual Production												1.6	426.0	424.4
Oak Valley Partners, LP ⁽⁵⁾														2.5	1,218.5	1,216.0
Plantation on the Lake LLC	Yes	42.0	44.5	27.6	23.0	30.6	33.1	40.8	44.1	83.9	63.6	33.7	4.2	471.2	450.0	-21.2
Rancho Calimesa Mobile Home Park ⁽⁶⁾																
Well No.1	Yes	2.3	2.0	2.1	2.7	2.4	2.9	3.9	3.7	2.9	3.3	2.3	2.2	32.7		
Well No.2	No	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Subtotal		2.3	2.0	2.1	2.7	2.4	2.9	3.9	3.7	2.9	3.3	2.3	2.2	32.7	116.2	83.4
Roman Catholic Bishop of San Bernardino		Water Duty Method Used to Estimate Annual Production												0.0	119.3	119.3
Sharondale Mesa Owners Association ⁽⁶⁾																
Well No.1	Yes	3.2	4.4	2.4	5.4	8.0	8.5	8.0	10.4	12.8	10.9	7.6	3.8	85.4		
Well No.2	Yes	2.7	3.2	2.1	3.9	2.4	2.9	5.1	3.1	1.3	0.0	1.4	2.8	31.0		
Subtotal		5.9	7.7	4.4	9.3	10.4	11.4	13.1	13.5	14.2	10.9	9.0	6.6	116.4	154.9	38.5
Tukwet Canyon Golf Club ⁽⁷⁾																
Well A	Yes	0.9	0.5	0.7	1.4	0.9	4.1	13.6	13.5	7.5	2.9	0.7	0.8	47.5		
Well C	Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Well D	Yes	37.3	40.8	18.3	88.3	78.9	124.6	149.1	133.8	120.0	81.4	67.6	23.4	963.5		
Subtotal		38.2	41.2	19.0	89.8	79.8	128.7	162.7	147.3	127.5	84.2	68.3	24.2	1,010.9	1,704.0	693.1
Stearns, Leonard M. and Dorothy D.	No	Water Duty Method Used to Estimate Annual Production												0.7	154.9	154.2
Sunny-Cal Egg and Poultry Company	No	Water Duty Method Used to Estimate Annual Production												4.3	1,115.0	1,110.6
Albor Properties III, LP	No	Water Duty Method Used to Estimate Annual Production												2.4	232.4	229.9
Nikodinov, Nick	No	Water Duty Method Used to Estimate Annual Production												0.8	15.5	14.7
McAmis, Ronald L.	No	Water Duty Method Used to Estimate Annual Production												0.6	3.9	3.3
Aldama, Nicolas and Amalia	No	Water Duty Method Used to Estimate Annual Production												0.9	5.4	4.6
Gutierrez, Hector, et al.	No	Water Duty Method Used to Estimate Annual Production												1.4	7.7	6.3
Darmont, Boris and Miriam	No	Water Duty Method Used to Estimate Annual Production												0.4	1.9	1.6
TOTAL														2,220.7	6,519.6	4,298.9

1.- All values rounded and subject to revision based on receipt of more accurate information in the future.

2.- Total production is estimated for Overlying parties with un-metered wells.

3.- Mr. Beckman has not provided production since 2014.

4.- Monthly production provided by BCVWD.

5.- Starting in 2008, the parcels owned by Oak Valley Partners were no longer used for agricultural purposes. An annual production of 2.5 ac-ft has been estimated since. As part of Resolution 2017-02, OVP transferred 180.40 ac-ft of its Overlying rights to YVWD in 2018; OVP's rights were reduced to 1,218.47 ac-ft.

6.- Monthly production since 2011 provided by Clearwater Solutions, a company in charge of operating the water system.

7.- Monthly production provided by the Morongo Band of Mission Indians.

Table 3-2F
Overlying Producer - Summary of Production for Calendar Year 2019 (ac-ft)

Owner and Well Name	Metered	Monthly Water Production by Overlying Producer ¹												Total ² Production	Overlying Water Right	Unused Overlying Allocation
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Beckman, Walter M. ⁽³⁾	Yes	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	58.1	57.2
California Oak Valley Golf and Resort LLC ⁽⁴⁾																
Oak Valley #1	Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Oak Valley #2	Yes	8.9	3.6	8.1	24.1	36.7	58.9	69.3	102.7	63.1	59.0	55.2	0.0	489.6		
Subtotal		8.9	3.6	8.1	24.1	36.7	58.9	69.3	102.7	63.1	59.0	55.2	0.0	489.6	735.8	246.3
Merlin Properties	No	Water Duty Method Used to Estimate Annual Production												1.6	426.0	424.4
Oak Valley Partners, LP ⁽⁵⁾														2.5	1,215.8	1,213.3
Plantation on the Lake LLC	Yes	12.4	7.8	18.1	25.3	21.3	32.1	34.4	39.0	34.4	8.7	10.1	14.9	258.7	450.0	191.3
Rancho Calimesa Mobile Home Park ⁽⁶⁾																
Well No.1	Yes	1.5	1.6	1.2	1.4	1.6	1.9	2.8	3.2	3.3	3.1	2.6	2.4	26.7		
Well No.2	No	0.5	0.5	2.5	-0.9	0.7	1.5	0.0	0.0	0.0	0.0	0.0	0.6	5.4		
Subtotal		2.0	2.1	3.7	0.5	2.3	3.4	2.8	3.2	3.3	3.1	2.6	3.0	32.1	116.2	84.1
Roman Catholic Bishop of San Bernardino		Water Duty Method Used to Estimate Annual Production												0.0	119.3	119.3
Sharondale Mesa Owners Association ⁽⁶⁾																
Well No.1	Yes	2.8	2.5	1.5	7.1	3.3	6.2	7.8	7.4	6.9	10.1	8.2	4.0	67.8		
Well No.2	Yes	2.2	1.7	1.8	1.0	2.6	3.9	4.5	3.7	5.2	1.8	0.0	2.0	30.4		
Subtotal		5.0	4.2	3.4	8.1	5.9	10.1	12.3	11.1	12.1	12.0	8.2	6.0	98.3	154.9	56.6
Tukwet Canyon Golf Club ⁽⁷⁾																
Well A	Yes	0.4	0.7	0.9	1.6	0.9	8.2	6.8	0.0	1.4	0.9	0.8	0.9	23.4		
Well C	Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Well D	Yes	9.8	0.1	1.7	85.7	29.4	103.2	169.2	155.5	128.1	104.1	64.5	4.2	855.5		
Subtotal		10.2	0.8	2.5	87.3	30.3	111.4	176.0	155.5	129.5	105.0	65.3	5.0	878.8	1,704.0	825.2
Stearns, Leonard M. and Dorothy D.	No	Water Duty Method Used to Estimate Annual Production												0.7	154.9	154.2
Sunny-Cal Egg and Poultry Company	No	Water Duty Method Used to Estimate Annual Production												4.3	1,115.0	1,110.6
Albor Properties III, LP	No	Water Duty Method Used to Estimate Annual Production												2.4	232.4	229.9
Nikodinov, Nick	No	Water Duty Method Used to Estimate Annual Production												0.8	15.5	14.7
McAmis, Ronald L.	No	Water Duty Method Used to Estimate Annual Production												0.6	3.9	3.3
Aldama, Nicolas and Amalia	No	Water Duty Method Used to Estimate Annual Production												0.9	5.4	4.6
Gutierrez, Hector, et al.	No	Water Duty Method Used to Estimate Annual Production												1.4	7.7	6.3
Darmont, Boris and Miriam	No	Water Duty Method Used to Estimate Annual Production												0.4	1.9	1.6
TOTAL														1,773.9	6,517.0	4,743.0

1.- All values rounded and subject to revision based on receipt of more accurate information in the future.

2.- Total production is estimated for Overlying parties with un-metered wells.

3.- Mr. Beckman has not provided production since 2014.

4.- Monthly production provided by BCVWD.

5.- Starting in 2008, the parcels owned by Oak Valley Partners were no longer used for agricultural purposes. An annual production of 2.5 ac-ft has been estimated since. As part of Resolution 2017-02, OVP transferred 180.40 ac-ft of its Overlying rights to YVWD in 2018, an additional 2.65 ac-ft were transferred in 2019. These transfers have reduced OVP's Overlying rights to 1,215.82 ac-ft.

6.- Monthly production since 2011 provided by Clearwater Solutions, a company in charge of operating the water system.

7.- Monthly production provided by the Morongo Band of Mission Indians.

Table 3-3A
Production Summary for Appropriator and Overlying Producers in the Beaumont Basin
2003 through 2010 - Calendar Year Accounting (ac-ft)

	Annual Production (ac-ft)							
	2003 ¹	2004	2005	2006	2007	2008	2009	2010
Appropriator Parties								
Banning, City of	2,174.2	3,397.3	1,808.6	1,827.5	2,772.6	2,933.6	2,095.0	1,143.6
Beaumont-Cherry Valley Water District	3,511.9	6,873.9	7,025.6	9,054.1	11,383.3	10,710.5	10,133.9	9,421.3
South Mesa Water Company	223.2	482.5	663.2	616.0	665.8	470.9	382.2	405.0
Yucaipa Valley Water District	1,162.4	1,833.7	1,281.3	2,027.3	1,682.9	572.0	504.4	672.4
Subtotal	7,071.7	12,587.4	10,778.6	13,524.9	16,504.6	14,687.0	13,115.6	11,642.3
Overlying Parties								
Beckman, Walter M	16.2	27.0	22.4	11.5	8.3	12.7	12.9	6.4
California Oak Valley Golf and Resort LLC	736.2	728.6	703.9	831.5	779.0	780.4	766.7	565.1
Merlin Properties	3.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
Oak Valley Partners, LP	301.2	440.7	350.2	312.1	312.1	310.5	310.5	2.5
Plantation on the Lake LLC	178.6	340.9	310.2	350.1	344.2	354.0	352.3	337.2
Rancho Calimesa Mobile Home Park	35.4	68.3	68.3	68.3	69.3	69.3	69.3	69.3
Roman Catholic Bishop of San Bernardino	46.8	59.1	55.6	59.0	0.7	0.7	0.7	0.0
Sharondale Mesa Owners Association	104.3	158.0	181.0	188.6	182.3	193.3	154.3	132.3
Tukwet Canyon Golf Club ²	791.4	1,346.7	1,213.1	1,753.4	1,599.1	1,137.6	1,158.6	851.8
Stearns, Leonard M. and Dorothy D.	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.7
Sunny-Cal Egg and Poultry Company	226.0	404.4	385.4	2.6	2.7	4.2	4.2	3.8
Albor Properties III, LP ³				13.2	2.3	2.3	2.3	2.1
Nikodinov, Nick				0.7	0.8	0.8	0.7	0.7
McAmis, Ronald L.				0.5	0.6	0.6	0.5	0.5
Aldama, Nicolas and Amalia				0.8	0.8	0.9	0.8	0.8
Gutierrez, Hector, et. al.				1.4	1.4	1.4	1.4	1.3
Darmont, Boris and Miriam				0.4	0.4	0.4	0.4	0.4
Subtotal	2,440.8	3,576.3	3,292.6	3,596.7	3,306.5	2,871.6	2,838.2	1,976.5
Total	9,512.5	16,163.6	14,071.3	17,121.6	19,811.1	17,558.6	15,953.7	13,618.8

1.- 2003 groundwater production only includes Jul-Dec time period.

2.- Formerly known as the East Valley Golf Course and the Southern California Section of the PGA of America.

3.- Formerly Known as Sunny Cal North - Manheim, Manheim & Berman.

Table 3-3B
Production Summary for Appropriator and Overlying Producers in the Beaumont Basin
2011 through 2019 - Calendar Year Accounting (ac-ft)

	Annual Production (ac-ft)								
	2011	2012	2013	2014	2015	2016	2017	2018	2019
Appropriator Parties									
Banning, City of	1,341.7	1,038.3	2,100.7	2,585.1	1,678.3	1,472.7	1,443.5	2,264.6	2,121.41
Beaumont-Cherry Valley Water District	9,431.3	10,162.0	11,097.4	10,805.5	8,972.8	10,159.8	11,650.7	12,209.2	11,140.77
South Mesa Water Company	419.9	448.5	308.4	473.7	317.2	352.6	368.1	364.9	330.69
Yucaipa Valley Water District	534.1	700.1	1,030.8	1,198.5	119.2	4.6	0.1	191.2	528.63
Subtotal	11,727.1	12,348.9	14,537.2	15,062.8	11,087.4	11,989.7	13,462.4	15,029.9	14,121.5
Overlying Parties									
Beckman, Walter M	9.0	9.0	2.1	0.9	0.9	0.9	0.9	0.9	0.9
California Oak Valley Golf and Resort LLC	517.3	517.3	625.8	417.0	751.1	552.3	830.0	573.1	489.6
Merlin Properties	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Oak Valley Partners, LP	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Plantation on the Lake LLC	344.7	344.7	326.7	403.8	302.1	293.4	417.8	471.2	258.7
Rancho Calimesa Mobile Home Park	69.3	69.3	69.3	16.2	23.4	31.2	31.2	32.7	32.1
Roman Catholic Bishop of San Bernardino	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sharondale Mesa Owners Association	133.0	145.3	147.0	137.3	94.1	84.8	117.9	116.4	98.3
Tukwet Canyon Golf Club ¹	882.9	984.3	1,098.4	1,227.9	898.6	958.6	991.4	1,010.9	878.8
Stearns, Leonard M. and Dorothy D.	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Sunny-Cal Egg and Poultry Company	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Albor Properties III, LP ²	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Nikodinov, Nick	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
McAmis, Ronald L.	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Aldama, Nicolas and Amalia	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Gutierrez, Hector, et. al.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Darmont, Boris and Miriam	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Subtotal	1,971.4	2,085.4	2,284.8	2,218.7	2,085.7	1,936.7	2,404.7	2,220.7	1,773.9
Total	13,698.4	14,434.3	16,821.9	17,281.5	13,173.1	13,926.4	15,867.1	17,250.6	15,895.4

1.- Formerly known as the East Valley Golf Course and the Southern California Section of the PGA of America.

2.- Formerly Known as Sunny Cal North - Manheim, Manheim & Berman.

Table 3-4
Annual Supplemental Recharge to the Beaumont Basin -- Calendar Year Accounting

Year	Supplemental Recharge (ac-ft)				
	Banning ¹	Beaumont	BCVWD ¹	SGPWA ²	Total
2003	-	-	-	-	-
2004	-	-	-	813.8	813.8
2005	-	-	-	687.4	687.4
2006	-	-	3,501.0	777.7	4,278.7
2007	-	-	4,501.0	541.3	5,042.3
2008	1,534.0	-	2,399.0	1,047.4	4,980.4
2009	2,741.2	-	2,741.2	823.4	6,305.8
2010	1,338.0	-	5,727.0	1,222.3	8,287.3
2011	800.0	-	7,979.0	1,842.0	10,621.0
2012	1,200.0	-	7,783.0	1,827.2	10,810.2
2013	1,200.0	-	7,403.0	881.8	9,484.8
2014	608.0	-	4,405.0	16.5	5,029.5
2015	694.0	-	2,773.0	9.2	3,476.2
2016	1,477.0	-	9,319.0	17.8	10,813.8
2017	1,350.0	-	13,590.0	-	14,940.0
2018	500.0	-	12,121.0	-	12,621.0
2019	250.0	-	13,645.0	257.8	14,152.8
Totals	13,692.2	-	97,887.2	10,765.6	122,345.0

1.- SWP water recharged in the BCVWD Noble Creek Recharge Facility

2.- Through 2018, the SGPWA recharged imported water at the Little San Geronio Creek Spreading Ponds, located just to the north of the basin boundary. Starting in 2019, the SGPWA recharges at their new spreading basins located at the southwest corner of Beaumont Blvd and Brookside Ave. Imported water recharged at this location will be credited to the agency in their storage account.

Treated Wastewater Daily Average Discharges (mgd) to DDP1 - Coopers's Canyon

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average (mgd)	Annual (ac-ft)
2007	2.32	2.17	2.25	2.23	2.61	2.57	2.57	2.66	2.66	2.67	2.63	2.50	2.49	2,789
2008	2.44	2.79	2.49	2.65	2.55	2.59	2.55	2.59	2.60	2.50	2.57	2.65	2.58	2,888
2009	2.52	2.66	2.56	2.58	2.59	2.56	2.44	2.63	2.60	2.61	2.63	2.69	2.59	2,901
2010	2.83	2.65	2.66	2.60	2.00	1.88	1.94	1.96	1.94	2.00	2.04	2.22	2.22	2,492
2011	2.07	2.12	2.06	2.01	2.04	2.25	2.23	2.13	2.10	2.08	2.19	2.13	2.12	2,371
2012	2.19	2.64	2.19	2.23	2.29	2.24	2.28	2.29	2.24	2.70	2.38	2.33	2.33	2,613
2013	2.76	2.80	2.80	2.81	2.78	2.78	2.81	2.82	2.89	2.83	2.21	2.50	2.73	3,061
2014	2.62	2.22	2.45	2.48	2.61	2.62	2.61	2.74	2.87	2.74	2.99	3.12	2.67	2,995
2015	2.87	2.94	2.97	2.90	2.92	2.98	2.99	3.10	3.08	3.08	3.06	3.11	3.00	3,361
2016	3.15	3.06	3.01	3.07	3.11	3.15	3.15	3.26	3.22	3.18	3.19	3.30	3.15	3,533
2017	3.36	3.26	3.17	3.35	3.22	3.18	3.21	3.31	3.32	3.26	3.29	3.31	3.27	3,663
2018	3.37	3.28	3.33	3.32	3.30	3.31	3.41	3.51	3.47	3.42	3.51	3.47	3.39	3,800
2019	3.61	3.61	3.64	3.66	3.69	3.61	3.59	3.72	3.80	3.64	3.77	3.72	3.67	4,112

Treated Wastewater Daily Average Discharges (mgd) to DDP7 - Marshall's Canyon

[illegible]

Table 3-6
Overlying Parties Production Rights Allocation Based on Revised Safe Yield

Overlying Party to the 2003 Judgment	Initial Overlying Water Right through 2013	New Overlying Water Right Starting in 2014	5-Year (2015-19) Average Production (ac-ft)	5-Year (2015-19) Running Avg % of Water Right
California Oak Valley Golf and Resort LLC ⁽¹⁾	950.0	735.8	639.2	86.9%
Plantation on the Lake LLC	581.0	450.0	348.6	77.5%
Sharondale Mesa Owners Association	200.0	154.9	102.3	66.0%
Tukwet Canyon Golf Club	2,200.0	1,704.0	947.7	55.6%
Rancho Calimesa Mobile Home Park	150.0	116.2	30.1	25.9%
Gutierrez, Hector, et al.	10.0	7.7	1.4	18.5%
Darmont, Boris and Miriam	2.5	1.9	0.4	18.1%
Aldama, Nicolas and Amalia	7.0	5.4	0.9	16.0%
McAmis, Ronald L.	5.0	3.9	0.6	14.5%
Nikodinov, Nick	20.0	15.5	0.8	5.0%
Beckman, Walter M.	75.0	58.1	0.9	1.5%
Albor Properties III, LP	300.0	232.4	2.4	1.0%
Stearns, Leonard M. and Dorothy D.	200.0	154.9	0.7	0.5%
Sunny-Cal Egg and Poultry Company	1,439.5	1,115.0	4.3	0.4%
Merlin Properties	550.0	426.0	1.6	0.4%
Oak Valley Partners, LP ⁽²⁾	1,806.0	1,398.9	2.5	0.2%
Roman Catholic Bishop of San Bernardino	154.0	119.3	0.0	0.0%
	8,650.0	6,700.0	2,084.4	31.1%

(1) - California Oak Valley Golf and Resort LLC exceeded its annual production right in 2015 and 2017; however, their average production over any five-year period has been below their overlying water right.

(2) - Under Resolution 17-02, adopted August 30, 2017, Oak Valley Partners LP (OVP) agreed to transfer its Overlying water rights to particular development parcels, intending to secure commitment from YVWD to provide water service to development phases of OVP's Summerwind Ranch Specific Plan (Project) located in the Beaumont Basin. In 2018 OVP transferred a combined total of 180.40 ac-ft in overlying rights to YVWD. In a similar manner, an additional 2.65 ac-ft of former OVP's Overlying water rights were transferred to YVWD in early 2019. These transfers have reduced OVP's Overlying water rights to 1,215.82 ac-ft.

Table 3-7
Summary of Unused Overlying Water and Allocation to Appropriators (ac-ft)

Accounting Year	Overlying Water Right	Overlying Production	Unused Overlying Water Right	Allocation Year	City of Banning	City of Beaumont	Beaumont Cherry Valley WD	South Mesa Water Co.	Yucaipa Valley Water District	Total
2003	4,325	2,441	1,884	2008	592	0	801	235	256	1,884
2004	8,650	3,576	5,074	2009	1,595	0	2,157	633	689	5,074
2005	8,650	3,293	5,357	2010	1,684	0	2,277	669	728	5,357
2006	8,650	3,597	5,053	2011	1,588	0	2,148	631	686	5,053
2007	8,650	3,307	5,343	2012	1,679	0	2,272	667	726	5,343
2008	8,650	2,872	5,778	2013	1,816	0	2,456	721	785	5,778
2009	8,650	2,838	5,812	2014	1,827	0	2,471	725	789	5,812
2010	8,650	1,976	6,674	2015	2,097	0	2,837	833	906	6,674
2011	8,650	1,971	6,679	2016	2,099	0	2,839	833	907	6,679
2012	8,650	2,085	6,565	2017	2,063	0	2,791	819	891	6,565
2013	8,650	2,285	6,365	2018	2,001	0	2,706	794	864	6,365
2014	6,700	2,219	4,481	2019	1,408	0	1,905	559	609	4,481
2015	6,700	2,086	4,614	2020	1,450	0	1,962	576	627	4,614
2016	6,700	1,937	4,763	2021	1,497	0	2,025	594	647	4,763
2017	6,700	2,405	4,295	2022	1,350	0	1,826	536	583	4,295
2018¹	6,520	2,221	4,299	2023	1,351	0	1,827	536	584	4,299
2019²	6,517	1,774	4,743	2024	1,491	0	2,016	592	644	4,743

1.- In 2018, Oak Valley Partners, through three assignments, transferred a combined total of 180.40 ac-ft of Overlying Rights to the YVWD to serve certain parcels in the Beaumont Basin.

2.- In 2019, Oak Valley Partners, through a single assignment, transferred an additional 2.65 ac-ft of Overlying Rights to the YVWD to serve certain parcels in the Beaumont Basin.

Table 3-8
Consolidation of Appropriator Production and Storage Accounts
Calendar Year Accounting (ac-ft) 2003 through 2019

Calendar Year	Storage Account Balance at Beginning of CY	Share of Surplus Water	Appropriative Rights	Production	Additions to Storage Account							Ending Account Balance
					Under / Over Production ⁽¹⁾	Overlying Users Parcel Conversion	Unused Overlying Production Allocation	Transfers Among Appropriators	SWP Water Recharge	Local Recharge	Total Additions to Storage Account	
City of Banning - Authorized Storage Account: 80,000 ac-ft												
2003	0.0	2,514.5	0.0	2,174.2	340.3	0.0	0.0	0.0	0.0	0.0	340.3	340.3
2004	340.3	5,029.0	0.0	3,397.3	1,631.7	0.0	0.0	0.0	0.0	0.0	1,631.7	1,972.0
2005	1,972.0	5,029.0	0.0	1,808.6	3,220.4	0.0	0.0	0.0	0.0	0.0	3,220.4	5,192.5
2006	5,192.5	5,029.0	0.0	1,827.5	3,201.5	0.0	0.0	0.0	0.0	0.0	3,201.5	8,393.9
2007	8,393.9	5,029.0	0.0	2,772.6	2,256.4	0.0	0.0	1,500.0	0.0	0.0	3,756.4	12,150.3
2008	12,150.3	5,029.0	0.0	2,933.6	2,095.4	0.0	592.2	0.0	1,534.0	0.0	4,221.6	16,371.9
2009	16,371.9	5,029.0	0.0	2,095.0	2,934.0	0.0	1,594.7	0.0	2,741.2	0.0	7,269.8	23,641.8
2010	23,641.8	5,029.0	0.0	1,143.6	3,885.4	0.0	1,683.8	0.0	1,338.0	0.0	6,907.2	30,549.0
2011	30,549.0	5,029.0	0.0	1,341.7	3,687.3	0.0	1,588.2	0.0	800.0	0.0	6,075.6	36,624.5
2012	36,624.5	5,029.0	0.0	1,038.3	3,990.7	0.0	1,679.5	0.0	1,200.0	0.0	6,870.2	43,494.7
2013	43,494.7	2,514.5	0.0	2,100.7	413.8	0.0	1,816.1	0.0	1,200.0	0.0	3,430.0	46,924.7
2014	46,924.7	0.0	0.0	2,585.1	-2,585.1	0.0	1,826.7	0.0	608.0	0.0	-150.4	46,774.3
2015	46,774.3	0.0	0.0	1,678.3	-1,678.3	0.0	2,097.5	0.0	694.0	0.0	1,113.2	47,887.5
2016	47,887.5	0.0	0.0	1,472.7	-1,472.7	0.0	2,099.1	0.0	1,477.0	0.0	2,103.4	49,990.8
2017	49,990.8	0.0	0.0	1,443.5	-1,443.5	0.0	2,063.2	0.0	1,350.0	0.0	1,969.8	51,960.6
2018	51,960.6	0.0	0.0	2,264.6	-2,264.6	0.0	2,000.6	0.0	500.0	0.0	236.0	52,196.6
2019	52,196.6	0.0	0.0	2,121.4	-2,121.4	0.0	1,408.5	0.0	250.0	0.0	-463.0	51,733.6

1 -- Negative values of under production indicate that the appropriator pumped more than its share of the operating yield.

Table 3-8
Consolidation of Appropriator Production and Storage Accounts
Calendar Year Accounting (ac-ft) 2003 through 2019

Calendar Year	Storage Account Balance at Beginning of CY	Share of Surplus Water	Appropriative Rights	Production	Additions to Storage Account							Ending Account Balance
					Under / Over Production ⁽¹⁾	Overlying Users Parcel Conversion	Unused Overlying Production Allocation	Transfers Among Appropriators	SWP Water Recharge	Local Recharge	Total Additions to Storage Account	
Beaumont Cherry Valley Water District - Authorized Storage Account: 80,000 ac-ft												
2003	0.0	3,401.0	0.0	3,511.9	-110.9	0.0	0.0	0.0	0.0	0.0	-110.9	-110.9
2004	-110.9	6,802.0	0.0	6,873.9	-71.9	0.0	0.0	0.0	0.0	0.0	-71.9	-182.8
2005	-182.8	6,802.0	0.0	7,025.6	-223.6	0.0	0.0	0.0	0.0	0.0	-223.6	-406.4
2006	-406.4	6,802.0	0.0	9,054.1	-2,252.1	0.0	0.0	0.0	3,501.0	0.0	1,248.9	842.5
2007	842.5	6,802.0	0.0	11,383.3	-4,581.3	0.0	0.0	1,500.0	4,501.0	0.0	1,419.7	2,262.2
2008	2,262.2	6,802.0	0.0	10,710.5	-3,908.5	0.0	801.0	2,500.0	2,399.0	0.0	1,791.5	4,053.7
2009	4,053.7	6,802.0	0.0	10,133.9	-3,331.9	0.0	2,156.8	2,000.0	2,741.2	0.0	3,566.1	7,619.8
2010	7,619.8	6,802.0	0.0	9,421.3	-2,619.3	0.0	2,277.4	0.0	5,727.0	0.0	5,385.1	13,004.9
2011	13,004.9	6,802.0	0.0	9,431.3	-2,629.3	0.0	2,148.1	3,500.0	7,979.0	0.0	10,997.8	24,002.8
2012	24,002.8	6,802.0	0.0	10,162.0	-3,360.0	0.0	2,271.5	0.0	7,783.0	0.0	6,694.5	30,697.3
2013	30,697.3	3,401.0	0.0	11,097.4	-7,696.4	0.0	2,456.4	0.0	7,403.0	0.0	2,163.0	32,860.3
2014	32,860.3	0.0	0.0	10,805.5	-10,805.5	0.0	2,470.6	0.0	4,405.0	0.0	-3,929.9	28,930.4
2015	28,930.4	0.0	0.0	8,972.8	-8,972.8	0.0	2,836.9	0.0	2,773.0	0.0	-3,362.8	25,567.6
2016	25,567.6	0.0	0.0	10,159.8	-10,159.8	0.0	2,839.1	0.0	9,319.0	0.0	1,998.3	27,565.9
2017	27,565.9	0.0	0.0	11,650.7	-11,650.7	0.0	2,790.6	0.0	13,590.0	0.0	4,729.9	32,295.7
2018	32,295.7	0.0	0.0	12,209.2	-12,209.2	0.0	2,705.9	0.0	12,121.0	0.0	2,617.7	34,913.4
2019	34,913.4	0.0	0.0	11,140.8	-11,140.8	0.0	1,905.0	0.0	13,645.0	0.0	4,409.2	39,322.6

1 -- Negative values of under production indicate that the appropriator pumped more than its share of the operating yield.

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					Under / Over Production ⁽¹⁾	Overlying Users Parcel Conversion	Unused Overlying Production Allocation	Transfers Among Appropriators	SWP Water Recharge	Local Recharge	Total Additions to Storage Account	
City of Beaumont - Authorized Storage Account: 30,000 ac-ft												
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2004	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2005	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2007	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2008	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2011	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2013	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2016	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1 -- Negative values of under production indicate that the appropriator pumped more than its share of the operating yield.

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Calendar Year	Storage Account Balance at Beginning of CY	Share of Surplus Water	Appropriative Rights	Production	Additions to Storage Account							Ending Account Balance
					Under / Over Production ⁽¹⁾	Overlying Users Parcel Conversion	Unused Overlying Production Allocation	Transfers Among Appropriators	SWP Water Recharge	Local Recharge	Total Additions to Storage Account	
South Mesa Water Company - Authorized Storage Account: 20,000 ac-ft												
2003	0.0	998.0	0.0	223.2	774.8	0.0	0.0	0.0	0.0	0.0	774.8	774.8
2004	774.8	1,996.0	0.0	482.5	1,513.5	0.0	0.0	0.0	0.0	0.0	1,513.5	2,288.3
2005	2,288.3	1,996.0	0.0	663.2	1,332.8	0.0	0.0	0.0	0.0	0.0	1,332.8	3,621.1
2006	3,621.1	1,996.0	0.0	616.0	1,380.0	0.0	0.0	0.0	0.0	0.0	1,380.0	5,001.1
2007	5,001.1	1,996.0	0.0	665.8	1,330.2	0.0	0.0	-3,000.0	0.0	0.0	-1,669.8	3,331.3
2008	3,331.3	1,996.0	0.0	470.9	1,525.2	0.0	235.2	-2,500.0	0.0	0.0	-739.7	2,591.6
2009	2,591.6	1,996.0	0.0	382.2	1,613.8	0.0	633.2	-2,000.0	0.0	0.0	247.0	2,838.6
2010	2,838.6	1,996.0	0.0	405.0	1,591.0	0.0	668.6	0.0	0.0	0.0	2,259.6	5,098.2
2011	5,098.2	1,996.0	0.0	419.9	1,576.1	0.0	630.6	-3,500.0	0.0	0.0	-1,293.3	3,805.0
2012	3,805.0	1,996.0	0.0	448.5	1,547.5	0.0	666.9	0.0	0.0	0.0	2,214.4	6,019.3
2013	6,019.3	998.0	0.0	308.4	689.7	0.0	721.1	0.0	0.0	0.0	1,410.8	7,430.1
2014	7,430.1	0.0	0.0	473.7	-473.7	0.0	725.3	0.0	0.0	0.0	251.6	7,681.7
2015	7,681.7	0.0	0.0	317.2	-317.2	0.0	832.9	0.0	0.0	0.0	515.7	8,197.4
2016	8,197.4	0.0	0.0	352.6	-352.6	0.0	833.5	0.0	0.0	0.0	480.9	8,678.3
2017	8,678.3	0.0	0.0	368.1	-368.1	0.0	819.3	0.0	0.0	0.0	451.2	9,129.5
2018	9,129.5	0.0	0.0	364.9	-364.9	0.0	794.4	0.0	0.0	0.0	429.5	9,559.0
2019	9,559.0	0.0	0.0	330.7	-330.7	0.0	559.3	0.0	0.0	0.0	228.6	9,787.5

1 -- Negative values of under production indicate that the appropriator pumped more than its share of the operating yield.

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Calendar Year	Storage Account Balance at Beginning of CY	Share of Surplus Water	Appropriative Rights	Production	Additions to Storage Account							Ending Account Balance
					Under / Over Production ⁽¹⁾	Overlying Users Parcel Conversion	Unused Overlying Production Allocation	Transfers Among Appropriators	SWP Water Recharge	Local Recharge	Total Additions to Storage Account	
Morongo Band of Mission Indians - Authorized Storage Account: 20,000 ac-ft												
2013	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2016	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
San Gorgonio Pass Water Agency - Authorized Storage Account: 10,000 ac-ft												
2018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	257.8	0.0	257.8	257.8

1 -- Negative values of under production indicate that the appropriator pumped more than its share of the operating yield.

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Calendar Year	Storage Account Balance at Beginning of CY	Share of Surplus Water	Appropriative Rights	Production	Additions to Storage Account							Ending Account Balance
					Under / Over Production ⁽¹⁾	Overlying Users Parcel Conversion	Unused Overlying Production Allocation	Transfers Among Appropriators	SWP Water Recharge	Local Recharge	Total Additions to Storage Account	
Yucaipa Valley Water District - Authorized Storage Account: 50,000 ac-ft												
2003	0.0	1,086.5	0.0	1,162.4	-75.9	0.0	0.0	0.0	0.0	0.0	-75.9	-75.9
2004	-75.9	2,173.0	0.0	1,833.7	339.3	0.0	0.0	0.0	0.0	0.0	339.3	263.4
2005	263.4	2,173.0	0.0	1,281.3	891.7	0.0	0.0	0.0	0.0	0.0	891.7	1,155.1
2006	1,155.1	2,173.0	0.0	2,027.3	145.7	0.0	0.0	0.0	0.0	0.0	145.7	1,300.8
2007	1,300.8	2,173.0	0.0	1,682.9	490.1	0.0	0.0	0.0	0.0	0.0	490.1	1,790.9
2008	1,790.9	2,173.0	0.0	572.0	1,601.0	0.0	255.9	0.0	0.0	0.0	1,856.8	3,647.8
2009	3,647.8	2,173.0	0.0	504.4	1,668.6	0.0	689.0	0.0	0.0	0.0	2,357.6	6,005.4
2010	6,005.4	2,173.0	0.0	672.4	1,500.6	0.0	727.5	0.0	0.0	0.0	2,228.1	8,233.5
2011	8,233.5	2,173.0	0.0	534.1	1,638.9	0.0	686.2	0.0	0.0	0.0	2,325.1	10,558.6
2012	10,558.6	2,173.0	0.0	700.1	1,472.9	0.0	725.6	0.0	0.0	0.0	2,198.5	12,757.1
2013	12,757.1	1,086.5	0.0	1,030.8	55.7	0.0	784.7	0.0	0.0	0.0	840.4	13,597.6
2014	13,597.6	0.0	0.0	1,198.5	-1,198.5	0.0	789.2	0.0	0.0	0.0	-409.2	13,188.4
2015	13,188.4	0.0	0.0	119.2	-119.2	0.0	906.3	0.0	0.0	0.0	787.1	13,975.4
2016	13,975.4	0.0	0.0	4.6	-4.6	0.0	907.0	0.0	0.0	0.0	902.4	14,877.8
2017	14,877.8	0.0	0.0	0.1	-0.1	0.0	891.5	0.0	0.0	0.0	891.3	15,769.2
2018	15,769.2	0.0	0.0	191.2	-191.2	180.4	864.4	0.0	0.0	0.0	853.6	16,622.8
2019	16,622.8	0.0	0.0	528.6	-528.6	183.1	608.6	0.0	0.0	0.0	263.0	16,885.7

1 -- Negative values of under production indicate that the appropriator pumped more than its share of the operating yield.

Table 3-8
Consolidation of Appropriator Production and Storage Accounts
Calendar Year Accounting (ac-ft) 2003 through 2019

Calendar Year	Storage Account Balance at Beginning of CY	Share of Surplus Water	Appropriative Rights	Production	Additions to Storage Account							Ending Account Balance
					Under / Over Production ⁽¹⁾	Overlying Users Parcel Conversion	Unused Overlying Production Allocation	Transfers Among Appropriators	SWP Water Recharge	Local Recharge	Total Additions to Storage Account	
Totals - All Agencies with Storage Accounts												
2003	0.0	8,000.0	0.0	7,071.7	928.3	0.0	0.0	0.0	0.0	0.0	928.3	928.3
2004	928.3	16,000.0	0.0	12,587.4	3,412.6	0.0	0.0	0.0	0.0	0.0	3,412.6	4,340.9
2005	4,340.9	16,000.0	0.0	10,778.6	5,221.4	0.0	0.0	0.0	0.0	0.0	5,221.4	9,562.3
2006	9,562.3	16,000.0	0.0	13,524.9	2,475.1	0.0	0.0	0.0	3,501.0	0.0	5,976.1	15,538.3
2007	15,538.3	16,000.0	0.0	16,504.6	-504.6	0.0	0.0	0.0	4,501.0	0.0	3,996.4	19,534.8
2008	19,534.8	16,000.0	0.0	14,687.0	1,313.0	0.0	1,884.2	0.0	3,933.0	0.0	7,130.2	26,665.0
2009	26,665.0	16,000.0	0.0	13,115.6	2,884.4	0.0	5,073.7	0.0	5,482.4	0.0	13,440.6	40,105.6
2010	40,105.6	16,000.0	0.0	11,642.3	4,357.7	0.0	5,357.4	0.0	7,065.0	0.0	16,780.0	56,885.6
2011	56,885.6	16,000.0	0.0	11,727.1	4,272.9	0.0	5,053.3	0.0	8,779.0	0.0	18,105.2	74,990.9
2012	74,990.9	16,000.0	0.0	12,348.9	3,651.1	0.0	5,343.5	0.0	8,983.0	0.0	17,977.6	92,968.5
2013	92,968.5	8,000.0	0.0	14,537.2	-6,537.2	0.0	5,778.4	0.0	8,603.0	0.0	7,844.2	100,812.7
2014	100,812.7	0.0	0.0	15,062.8	-15,062.8	0.0	5,811.8	0.0	5,013.0	0.0	-4,237.9	96,574.8
2015	96,574.8	0.0	0.0	11,087.4	-11,087.4	0.0	6,673.5	0.0	3,467.0	0.0	-946.9	95,627.9
2016	95,627.9	0.0	0.0	11,989.7	-11,989.7	0.0	6,678.6	0.0	10,796.0	0.0	5,484.9	101,112.8
2017	101,112.8	0.0	0.0	13,462.4	-13,462.4	0.0	6,564.6	0.0	14,940.0	0.0	8,042.2	109,155.0
2018	109,155.0	0.0	0.0	15,029.9	-15,029.9	180.4	6,365.2	0.0	12,621.0	0.0	4,136.7	113,291.7
2019	113,291.7	0.0	0.0	14,121.5	-14,121.5	183.1	4,481.3	0.0	14,152.8	0.0	4,695.6	117,987.3

1 -- Negative values of under production indicate that the appropriator pumped more than its share of the operating yield.

Section 4

Water Quality Conditions

The purpose of this section is to document the water quality conditions in the Beaumont Basin during the 2015-2019 reporting period. TDS and nitrate concentrations in the basin are compared against groundwater quality objectives for anti-degradation and maximum benefit as established by the Regional Board for TDS and Nitrate (as N) in the Beaumont Management Zone (BMZ). In addition, water quality concentrations for a number of compounds were compared against Federal and State Drinking Water Standards. Figure 4-1 depicts all the wells that have groundwater quality data for the reporting period.

Sources and Availability of Water Quality Information

There are two main sources of data used in the assessment of water quality conditions in the Beaumont Basin and near surroundings; namely, the California Department of Public Health database and the Beaumont Management Zone Maximum Benefit Monitoring Program. The database obtained from the CDPH, which focuses on drinking water sources, contains 3,914 water quality results for the 2015-2019 reporting period. Water quality from the BMZ Maximum Benefit Monitoring Program was also available for the same period.

4.1 Comparison with Management Zone Objectives

Groundwater quality objectives for anti-degradation and maximum benefit have been established by the Regional Board for TDS and Nitrate (as N) in the BMZ, which encompasses portions of the Beaumont Basin, the Singleton and South Beaumont basins, and limited portions of Edgar Canyon above the Banning Fault as illustrated in Figure 4-1. The anti-degradation objectives are based on the historic ambient TDS and nitrate-nitrogen concentration of 230 mg/L and 1.5 mg/L respectively.

Maximum benefit objectives were adopted by the Regional Board in 2004 at the request of STWMA and the City of Beaumont to allow for recharge of imported water and the reuse of recycled water. The maximum benefit objectives, set to 330 mg/L for TDS and 5.0 mg/L for Nitrate (as N), are relatively low compared to other basins and are protective of the beneficial uses of the Basin groundwater. According to the Basin Plan, salt mitigation will be required once the ambient TDS and Nitrate (as N) concentration exceeds the BMZ maximum benefit objectives.

4.1.1 Total Dissolved Solids

Figure 4-2 shows the maximum TDS concentrations for 59 wells measured within and in the vicinity of the Beaumont Basin wells during the 2015-2019 reporting period. A total of 31 wells are located inside the basin with the remaining 28 in the Singleton Basin / Edgar Canyon and the South Beaumont Basin areas.

The maximum TDS concentrations for wells owned by appropriators within the basin ranged from 130 to 350 mg/L and averaged 229 mg/L; this average of maximum concentrations at

each well is 26 mg/L lower than the average maximum TDS concentration reported in the 2008-11 Engineering Report of 255 mg/L. This indicates TDS concentrations have been trending slightly lower in the last 10 years. Of the 12 overlying wells within the basin, TDS concentrations ranged from 100 to 320 mg/L and average 248 mg/L, slightly higher than the average for appropriator's wells.

In the Singleton Basin / Edgar Canyon area, the maximum TDS concentration ranged from 236 mg/L to 400 mg/L and averaged 282 mg/L. The average TDS concentration for all samples in this area was 268 mg/L.

In the South Beaumont Basin, the maximum TDS concentration ranged from 270 mg/L to 840 mg/L and averaged 489 mg/L. The average TDS concentration for all samples in this basin was 426 mg/L.

Average and maximum TDS concentrations for all sampled wells within the basin are as follows:

Well Classification	Count	Samples	Average Concentration	Avg Max Concentration
Beaumont Groundwater Basin				
Appropriators	15	24	224	229
Overliers	12	49	229	248
Other	4	20	259	273
Total	31	93		
Singleton Basin / Edgar Canyon Area				
All Wells	17	27	268	282
South Beaumont Basin				
All Wells	11	55	426	489

Of the 27 wells owned by appropriators and overlayers, 12 wells had a maximum concentration below the anti-degradation objective of 230 mg/L, 14 wells were between the anti-degradation and maximum benefit objective of 330 mg/L, and one (BCVWD No. 16) exceeded the maximum benefit objective for the BMZ at 350 mg/L. None of the production wells samples exceeded the secondary federal or state drinking water standard for TDS (500 mg/L). BCVWD wells along Edgar Canyon were not included in the analysis of domestic wells.

In the Singleton Basin / Edgar Canyon area, none of the wells had a maximum concentration below the anti-degradation objective, 15 wells were between the anti-degradation and maximum benefit objective of 330 mg/L, and the remaining two wells exceeded the maximum objective, no wells exceeded the secondary drinking standard.

In the South Beaumont Basin, none of the wells had a maximum TDS concentration below the anti-degradation objective while three wells were below the maximum objective. The remaining eight wells exceeded the maximum objective. Most of the wells with the highest TDS concentrations are in the South Beaumont Basin.

4.1.2 Nitrate-Nitrogen

Figure 4-3 shows the maximum Nitrate (as N) concentrations for 59 wells measured within and in the vicinity of the Beaumont Basin wells during the 2015-2019 reporting period. A total of 31 wells are located inside the basin with the remaining 28 in the Singleton Basin / Edgar Canyon and the South Beaumont Basin areas.

Maximum Nitrate (as N) concentrations for domestic wells owned by Appropriators ranged from 0.89 mg/L to 7.33 mg/L and averaged 2.63 mg/L. Maximum concentrations for overlying wells were slightly higher as they ranged from 0.25 to 6.60 mg/L and averaged 3.55 mg/L. The average concentration for all domestic wells was 2.46 mg/L.

In the Singleton Basin / Edgar Canyon area, the maximum Nitrate (as N) concentration ranged from 0.61 to 14.0 mg/L and averaged 3.47 mg/L. The average concentration for all samples in this area was 2.91 mg/L.

In the South Beaumont Basin, the maximum Nitrate (as N) concentration ranged from 3.1 to 22.0 mg/L and averaged 11.31 mg/L. The average concentration for all samples in this area was 10.29 mg/L.

Average and maximum Nitrate (as N) concentrations for all sampled wells within the basin are as follows:

Well Classification	No. of Wells	Samples	Average Concentration	Avg Max Concentration
Beaumont Groundwater Basin				
Appropriators	15	139	2.14	2.63
Overliers	12	111	2.87	3.55
Other	4	20	1.06	1.13
Total	31	270		
Singleton Basin / Edgar Canyon Area				
All Wells	17	61	2.91	3.47
South Beaumont Basin				
All Wells	11	80	10.29	11.31

Of the 27 wells owned by appropriators and overlayers, only three wells had a maximum concentration below the anti-degradation objective of 1.5 mg/L, an additional 18 wells were below the maximum benefit objective of 5.0 mg/L. Six wells exceeded the maximum benefit objective for the BMZ. None of the production wells samples exceeded the primary federal or state drinking water standard for Nitrate (as N) of 10 mg/L.

In the Singleton Basin / Edgar Canyon area, four wells had a maximum concentration below the anti-degradation objective, another ten wells had concentrations between the anti-degradation and maximum objective while three wells exceeded the maximum benefit objective of 5.0 mg/L.

In the South Beaumont Basin, only two wells had a maximum concentration below the maximum objective while the remaining nine exceed it with six of these wells also exceeding drinking water standards. There were no wells with nitrate concentrations below the anti-degradation limit.

4.1.3 Nitrate Studies in the Beaumont Management Zone

Rising nitrate concentrations observed in 2005 along the northern portion of the Basin prompted STWMA to launch an investigation in 2006 to determine the potential impact on groundwater quality from on-site waste disposal systems (OSWDS) commonly used in the Cherry Valley Community of Interest (CVCOI). STWMA retained the services of Wildermuth Environmental Inc. (WEI) to conduct this study.

The results of this study were disputed by the Beaumont Board of Supervisors' Groundwater Quality Evaluation Committee (Committee) as they identified potential shortcomings in sampling design and project execution. The Committee recommended that an independent assessment be conducted. They recommended that the second study should expand the study area, consider reasonable build-out projections and other sources of groundwater contamination. This independent study was conducted by scientist at the University of California, Riverside and funded as a Supplemental Environmental Project by the State Water Resources Control Board. The results of this study were published in early 2012. A summary and their findings are presented below for information purposes only.

Summary of Wildermuth Environmental Inc. Study

This study is titled: "*Water Quality Impacts from On-Site Waste Disposal Systems in the Cherry Valley Community of Interest*" (WEI, 2007). The bases for this study include the following:

- A review of scientific literature,
- A field study to estimate nitrogen concentrations in soil water below selected OSWDS,
- A tracer study of nitrogen isotope and pharmaceutical and personal care products (PPCP) to confirm the presence of effluent from OSWDS,
- An estimation of current and future discharge from OSWDS to groundwater,

- A planning-level evaluation of basin impacts using the groundwater flow and nitrate transport model, and
- A review of the threshold used in California to compel sewerage when OSWDS contaminate or threaten to contaminate groundwater.

The results of the investigation are summarized as follows:

- Parcel density in the CVCOI violates the minimum half-acre parcel size requirement of the Regional Board to be on a septic system.
- Water produced from high nitrate wells in the area has a nitrogen isotopic signature and contain PPCPs consistent with discharge from OSWDS.
- Present contribution of OSWDS discharges is estimated at 665 ac-ft/yr.; this represents about five percent of total recharge to the BMZ. At ultimate buildout, there will be between 4,900 to 8,800 OSWDS in the CVCOI. Discharge contribution from these OSWDS is estimated between 1,700 and 3,100 ac-ft/yr. representing 13 to 21 percent of total recharge to the BMZ.
- At 4,900 lots, the contributions from OSWDS will significantly impact water quality to the point that well head treatment will be required at certain well locations to meet drinking water standards. At 8,800 lots, the contributions from OSWDS will rendered the entire BMZ non-potable.
- Left unmitigated, OSWDS discharges will contribute enough nitrate to exceed the Basin Plan objectives for the BMZ.
- There is sufficient evidence of groundwater contamination by OSWDS to warrant the Regional Board to issue a prohibition on new OSWDS in the CVCOI.

According to WEI, because of this investigation, the County of Riverside issued a moratorium, followed by a permanent prohibition on the installation of septic systems in Cherry Valley unless the septic system is designed to remove at least 50 percent of the nitrogen in the wastewater. In 2009, the County passed a new ordinance that removed the prohibition on conventional OSWDS. WEI further indicates that the Regional Board initiated a process in 2009 that may lead to amending the Basin Plan prohibiting conventional OSWDS and regulating the discharges to meet antidegradation objectives.

Summary of University of California, Riverside Study

This study is titled: *“Water Quality Assessment of the Beaumont Management Zone: Identifying Sources of Groundwater Contamination Using Chemical and Isotopic Tracers” (UCR, 2012).*

The study divides the BMZ into four distinct zones; their location is depicted in Figure 2 of the UCR report (not included here). A brief description of the zones is as follows:

Zone 1 – Region Influenced by Wastewater Treatment Plant Effluent. This zone occupies the southernmost area of the BMZ. Water quality in this zone is influenced by effluent from the City of Beaumont wastewater treatment plant.

Zone 2 – Wildland and Low-Density Septic Disposal Region. This zone is defined as the area uphill of Edgar Canyon to the north of Cherry Valley. Water quality in this area had low to moderate concentrations of TDS and nitrate.

Zone 3 – Urban Region with On-site Septic Disposal Systems. This zone overlies the Cherry Valley area including the area around the Noble Creek and Little San Gorgonio Spreading Ponds. Human waste from homes and business in this zone is primarily disposed of in on-site waste disposal systems.

Zone 4 – Urban Region with Consolidate Sewer System. Zone 4 comprises those portions of the City of Beaumont utilizing a municipal wastewater system.

The UCR report attempted to answer a series of questions; the questions and a summary of their response is provided below.

1.- Can different groundwater regions within the BMZ be defined using isotope, PPCP, and general chemical parameters?

According to the study,

- Zone 1 was characterized by relatively high levels of PPCPs, and it has the highest likelihood for nitrate contamination from human waste.
- Zone 2 had detectable levels of some PPCPs. Septic contributions to groundwater are relatively minor.
- Zone 3 had several wells with clear signs of contamination by septic systems. Groundwater in the central portion of Cherry Valley appeared to be more strongly affected by septic systems than on the periphery of Cherry Valley.
- Zone 4 shows the fewest signs of human waste as most homes are served by consolidated sewer systems.

1A.- Do areas with septic systems have different chemistry than areas with sewers?

The report indicates that there are statistically significant differences between groundwater in areas with septic systems and groundwater where sewer service is available. The concentrations of PPCPs, TDS, Nitrate-N, the sum of base cations, Boron, and Isotopes of Nitrate were all significantly higher in areas with septic systems than in areas with sewer service.

1B.- Do areas where groundwater recharge with water from the State Water Project or wastewater treatment plant effluent have different chemistry from other areas?

Strong evidence of nitrate deriving from human waste was detected in Zone 1 as well as strong biological attenuation of nitrate transported in groundwater.

2.- What sources contribute nitrate to groundwater of the BMZ?

The report indicates that in Zone 1 the isotopes of nitrate values overlap those expected for human or animal waste. Similarly, in Zone 3 the isotopic composition of water suggests a high

probability of inputs of nitrate from human or animal waste. The presence of PPCPs in most samples indicates the possibility that septic systems are contaminating groundwater within the central part of Cherry Valley.

3.- How much nitrate from human waste is making its way into the groundwater of the BMZ?

The report documents the following findings:

- Mixing models suggest that between 18 to 30 percent of the nitrate in central Cherry Valley groundwater is derived from septic systems.
- If septic systems were completely phased out, nitrate concentrations in central Cherry Valley groundwater could decline by 30 percent once a steady state condition is achieved. The time to reach a steady state is anticipated to be shorter than in other portions of the BMZ due to relatively high rates of recharge in Zone 3.
- Mass balance calculations show that nitrate-nitrogen inputs from septic systems is one of the largest inputs of nitrogen to groundwater in the BMZ.
- If the waste from septic tanks were to be conveyed to the City of Beaumont WWTP, about 30 percent of the current input of nitrate from human waste to groundwater would be removed.

4.2 Comparison with Federal and State Drinking Water Standards

The California Department of Health Services (CDPH) maintains an active water quality database of all public and private drinking water wells throughout the state. This database, available at CDPH's website, was assessed for the 2015-2019 reporting period for 20 domestic production wells in the Beaumont Basin. The objective of this analysis was to determine whether any of these potable wells exceeded the Primary or Secondary Federal and State standards or the notification levels set by the state. Federal standards are set by the United States Environmental Protection Agency (USEPA) while state standards in California are set by CDPH. Primary standards at the federal and state level are enforceable criteria that have been established to protect the public against consumption of drinking water contaminants that present a risk to human health. Secondary standards are not enforceable standards; they have been established for aesthetic qualities of water, such as taste, color, and others. Contaminants with a secondary MCL are not considered to present a risk to human health at the established maximum level. Notification levels (NL) are not enforceable standards; however, they require that municipal water suppliers notify the public if the NL for a chemical has been exceeded.

A total of 3,914 water quality results were extracted from the CDPH database for all domestic production wells in the Beaumont Basin. Results were obtained for 31 minerals and inorganic chemicals and over 140 organic compounds sampled during the reporting period. The results of the analysis indicate that not a single well exceeded the primary Federal or State MCL for any of the analytes tested; however, one well (BCVWD No. 3 – August 2016) exceeded the secondary MCL for Iron (300 ug/L) during the reporting period. In addition, the California Notification Limit for Vanadium (100 ug/day) was exceeded once at SMWC Well No. 4 during the reporting period.

Appendix H contains summary statistics of the analytical results for the reporting period for selected chemicals that have a federal or state drinking water standard as reported in the CDPH website.

4.2.1 Nitrate and Total Dissolved Solids (TDS)

A total of 204 samples were collected and analyzed for Nitrate; 34 of these samples were also analyzed for TDS. The current primary MCL for Nitrate is 45 ppm (mg/L) as NO_3 ; the secondary MCL for TDS is 500 mg/L. The table below presents a summary of Nitrate and TDS concentration, including the number of samples taken, average and maximum concentrations recorded, for all 20 domestic wells in the Beaumont Basin. This table indicates that none of the domestic wells in the Beaumont Basin are near the MCL or the notification level of 80 percent MCL, 36 mg/L for Nitrate and 400 mg/L for TDS. Highest concentrations during the reporting period were recorded at BCVWD Well No. 16 with 33.0 mg/L of Nitrates and 350 mg/L of dissolved salts.

Table 4-1
Nitrate (NO₃) and TDS Summary for Domestic Wells (2015-19)

Agency/ Well No.	Nitrate as NO ₃			Total Dissolved Solids (TDS)		
	Count	Avg	Max	Count	Ave	Max
City of Banning						
Well C-2A	5	8.6	9.0	1	240	240
Well C-3	6	7.6	8.1	1	170	170
Well C-4	5	4.3	5.0	1	190	190
Well M-3	6	9.0	9.9	2	290	300
Beaumont Cherry Valley Water District						
Well 03	2	4.8	7.7	1	240	240
Well 16	33	26.9	33	2	340	350
Well 21	33	14.6	16.2	2	280	290
Well 22	4	6.3	13.5	2	240	260
Well 23	14	10.9	13.1	3	230	260
Well 24	5	7.5	8.1	2	210	210
Well 25	4	5.1	7.2	1	230	230
Well 26	2	3.4	4.0	1	180	180
Well 29	4	9.2	10.4	2	215	220
Yucaipa Valley Water District						
Well 48	5	8.6	9.9	3	157	210
South Mesa Water Company						
Well 4	12	16.8	22.1	2	185	190
Overlying Users						
Sharondale 1	21	20.8	27	2	290	320
Sharondale 2	14	22.1	26.6	2	290	320
Plantation 1	4	8.3	9.0	1	270	270
RCMHP 1	7	20.1	24.8	2	260	260
RCMHP 2	18	24.2	27.9	2	270	270

4.2.2 Trace Metals

As indicated earlier, not a single domestic well exceeded the primary federal and state standards during the reporting period. This represents a significant improvement over previous reporting periods when several wells exceeded the MCL for trace metals. Trace metals are briefly discussed here and compared to previous reporting periods.

Aluminum. There were 32 water samples taken during the reporting period and tested for aluminum. Aluminum concentration at all wells, except the city of Banning M-3 Well, was below 50 ug/L, significantly below the secondary MCL of 200 ug/L. Banning M-3 had a maximum concentration of 57 ug/L. Aluminum above the MCL can add color to water. One well exceeded the MCL during the FY 2004-08 reporting period.

Arsenic. The current MCL for Arsenic has been set to 10 ug/L. There were 34 water samples collected and tested for arsenic during the reporting period with most wells reporting under 2.0 ug/L. The highest arsenic concentration was observed at SMWC's Well No. 4; arsenic concentration at this well has increased from 4.2 ug/L in 2009, to 4.6 ug/L in 2012, to the highest value of 5.2 ug/L in April 2013. Latest value, recorded in April 2019, arsenic concentration was down to 3.8 ug/L. YVWD reported a concentration of 2.5 ug/L in July 2017 at Well No. 48. Based on the latest values reported, arsenic continues to be a non-issue in the Beaumont basin.

Iron. A total of 32 water samples were taken during the reporting period and tested for iron. In most cases iron concentration was below 100 ug/L., which is significantly below the current secondary MCL of 300 ug/L. However, there is one well that exceeded the MCL during the 2014-19 period, BCVWD Well No. 3 at 450 ug/L (Aug 2016). Iron at a concentration above the MCL can impact color, odor, and taste in water. Five wells exceeded the MCL during the FY 2004-08 reporting period.

Lead. There were 32 water samples collected and tested for lead during the reporting period. Lead concentrations were all below 0.005 mg/L (5 ppb), which is well below the current primary MCL of 0.015 mg/L (15 ppb). Slightly higher concentrations were reported before 2014 at BCVWD Well No. 25 (0.0065 mg/L) and at Rancho Calimesa Mobile Home Park Well No. 1 (0.0058 mg/L). One well exceeded the MCL during the FY 2004-08 reporting period.

Manganese. There were 32 water samples taken during the reporting period and tested for Manganese. Manganese concentration at all wells was below 20 ug/L, significantly below the secondary MCL of 50 ug/L. Manganese can significantly impact color and taste in water at concentrations above the MCL. One monitoring well exceeded the secondary MCL during the FY 2004-08 reporting period.

Total Chromium. A total of 32 water samples were taken during the reporting period and tested for total chromium. The highest reported concentrations of total chromium were observed in December 2018 at BCVWD Well 26 at 16 ug/L and in March 2017 at Banning C-3 at 15 ug/L. Both values are significantly below the current state primary MCL of 50 ug/L. One well exceeded the state primary MCL during the FY 2004-08 reporting period.

Vanadium. Three water samples were tested for vanadium during the reporting period from SMWC's Well 4 and YVWD No. 48. Vanadium at the SMWC well has been consistently hovering around 100 ug/L doubling the state notification level of 50 ug/L. Vanadium concentration at YVWD No. 48 was 25 ug/L in 2014 but increase to 90 ug/L in the summer of 2017.

Copper. There were 32 water samples collected and tested for copper during the reporting period. None of the wells tested during the reporting period exceeded the detection limit of 50 ug/L. This concentration is significantly below the state primary MCL of 1,300 ug/L. This is consistent with previous reporting periods.

Zinc. There were 32 water samples collected and tested for zinc during the reporting period. Zinc concentration in all wells was below 50 ug/L (ppb), which is significantly lower than the current secondary MCL of 5.0 mg/l (ppm).

4.2.3 Organic Compounds

There were over 2,200 lab results for 143 organic compounds during the reporting period. Concentrations of these compounds in most cases were below the detection limit for purpose of reporting or just above it. Organics of special concern include the following:

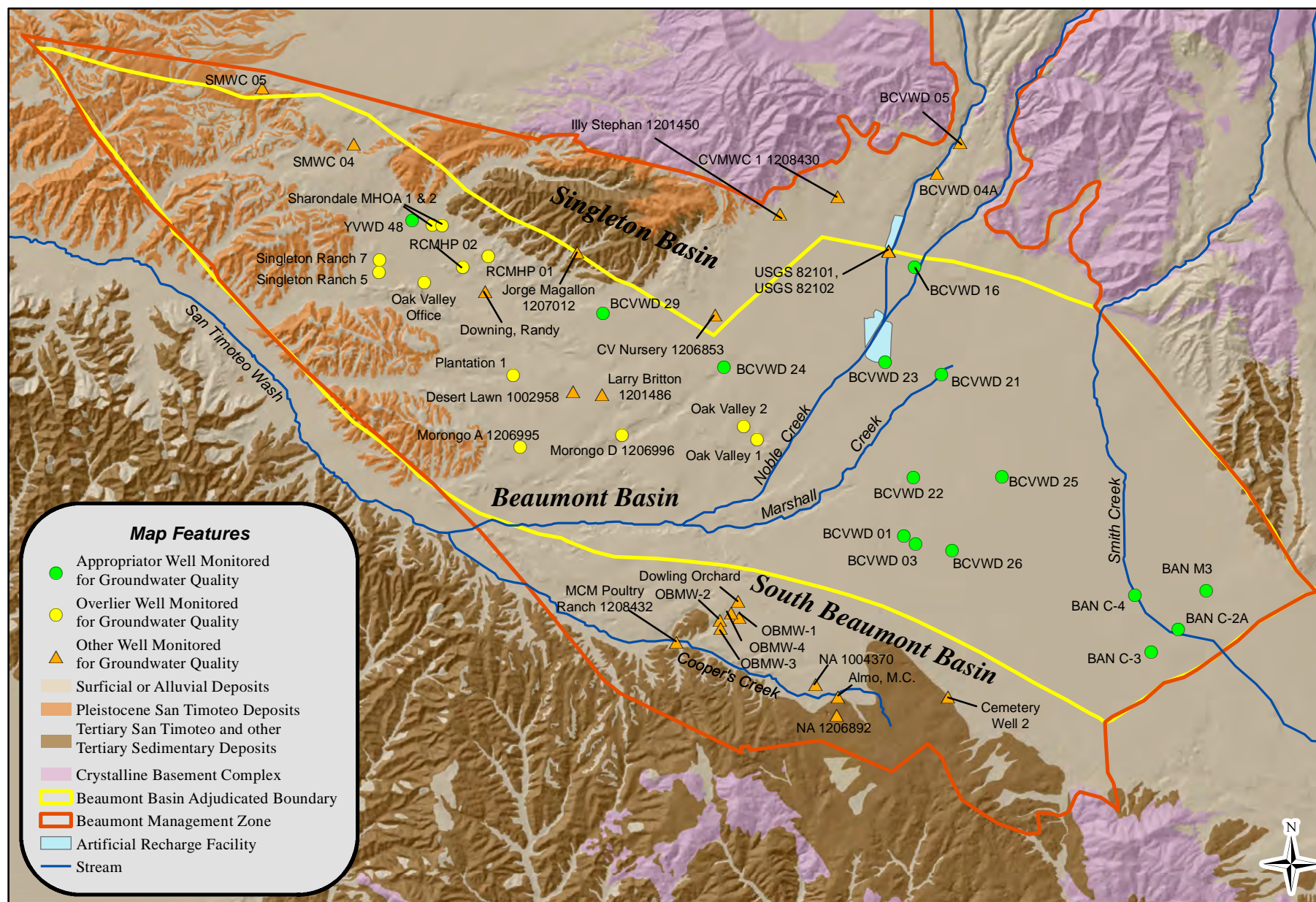
- ✓ TCE – Trichloroethylene (TCE) – 30 samples collected all reported below detection limit of 0.5 ug/L. Current MCL is 5 ug/L.
- ✓ Tetrachloroethylene (PCE) - 30 samples collected all reported below detection limit of 0.5 ug/L. Current MCL is 5 ug/L.
- ✓ Dibromo-chloropropane (DBCP) - 20 samples collected with most below the detection limit of 0.01 ug/L; just three samples above this limit at BCVWD Well No. 23 at 0.048 ug/L (Jun 2019), 0.044 ug/L (Dec 2018), and at 0.028 ug/L (Dec 2015). These concentrations are significantly below the current MCL of 0.2 ug/L.

4.2.4 pH

There are two secondary standards for pH, a lower limit of 6.5 and an upper limit of 8.5. There were two wells exceeding the upper MCL for pH during the reporting period, SMWC Well No. 4 at 8.8 (April 2016) and YVWD Well 48 at 8.7 (Jul 17). In addition, there are several wells with pH in the 8.0 to 8.4 range including Sharondale Mesa HOA Well No. 1 at 8.4, BCVWD Wells No. 23, 25, and 26 and Sharondale Mesa HOA Well No. 2 at 8.3, BCVWD Wells No. 21 and 29 and the City of Banning Well M-3 at 8.2. The lowest pH was reported from BCVWD Well No. 22 at 7.4. Four wells in the basin exceeded the upper limit for pH during the FY 2004-08 reporting period.

4.2.5 Turbidity

Turbidity is a measure of the cloudiness of water and is used to indicate water quality and filtration effectiveness. All production wells in the Basin were tested for turbidity and none exceeded the primary federal and state MCL of 5 NTU. A total of 32 water samples were tested for turbidity.



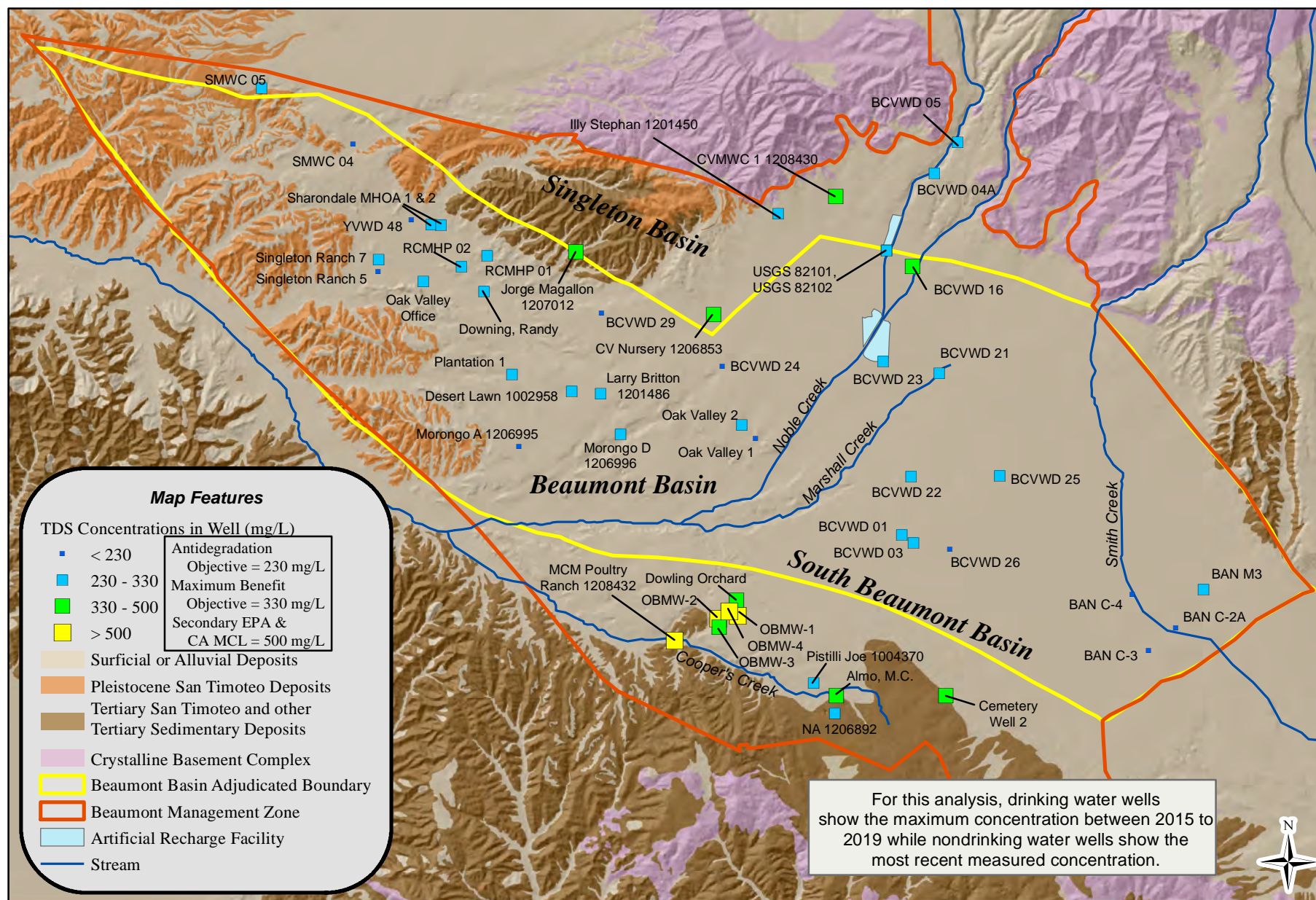
Alda, Inc. in association with

Thomas Harder & Co.
Groundwater Consulting

0 0.5 1 2 Miles
NAD 83 UTM Zone 11

**Wells with Groundwater Quality Data
in the Beaumont Basin**

Figure 4-1



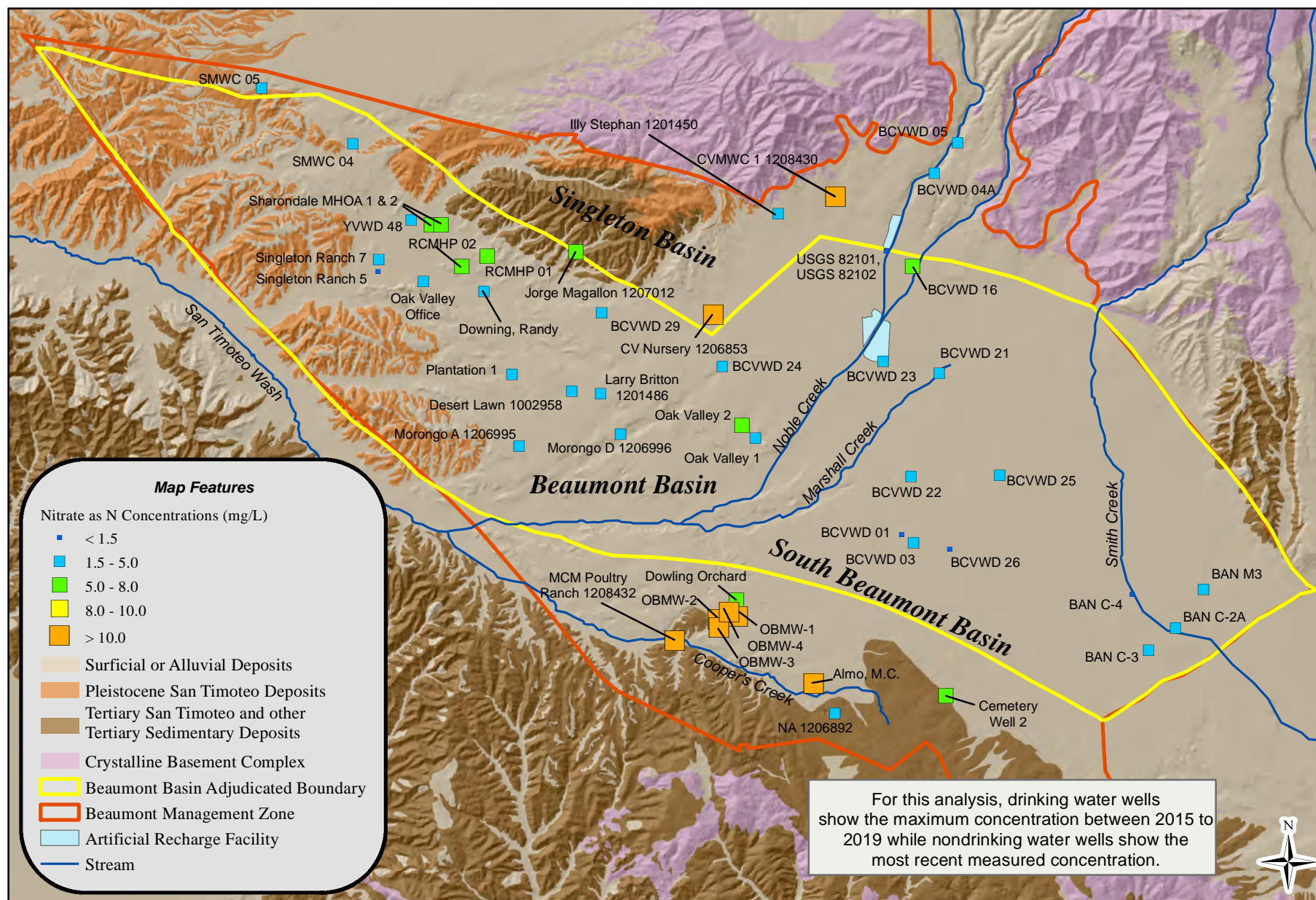
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Groundwater Consulting

0 0.5 1 2 Miles
NAD 83 UTM Zone 11

**Total Dissolved Solids in Groundwater
(Maximum Concentrations 2015 to 2019)**

Figure 4-2



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Nitrate in Groundwater
(Maximum Concentrations 2015 to 2019)

Figure 4-3

Section 5

Land Subsidence

In the first ten years of operations under the Judgment, a temporary surplus was established that allows up to 160,000 acre-ft of overdraft within the Basin. The purpose of the temporary surplus was to create room for the safe storage of supplemental water and to reduce losses from the basin. A major concern is that overdraft of the groundwater basin may lead to the lowering of groundwater levels and, subsequently, to land subsidence and ground fissuring. To proactively address this concern, the STWMA and the Watermaster developed a monitoring program specifically to assess the occurrence of subsidence from past groundwater pumping and future pumping. To implement this program, the STWMA, on behalf of the Watermaster, successfully applied for an AB303 Grant from the California Department of Water Resources (DWR)

The Subsidence Monitoring Program was established in 2005. Initially, ground level information for the 1928 to 2000 period was analyzed. In mid to late 2006, 72 benchmark monuments were installed across the Basin and in nearby basins and an initial ground-level survey conducted to establish the initial elevations of all benchmarks. A second survey was conducted in 2007. A comparison analysis of the two surveying efforts reveals little vertical change; in addition, this minimum subsidence was evenly distributed across the Basin. According to the program, the ground level survey of all benchmarks was to be conducted on a tri-annual basis with the next round of survey scheduled for the spring of 2009. The 2009 survey was not conducted by Watermaster since it was determined that the level of subsidence was minimal. No additional surveys are scheduled at this time.