Exhibit JO-1

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

In the Matter of the California American Water Ryan Ranch Unit, Hearing on Insufficient Physical Supplies	)))	Hearing Date: January 21, 2009

DECLARATION OF JOSEPH W. OLIVER

WATER RESOURCES MANAGER

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DECLARATION OF JOSEPH W. OLIVER

I, Joseph W. Oliver, provide the following prepared declaration (**Exhibit JO-1**) under penalty of perjury and in relation to the Monterey Peninsula Water Management District (MPWMD or District) hearing on insufficient physical supplies to the California American Water (CAW or Cal-Am) Ryan Ranch Unit Water Distribution System (WDS). The following are true statements to the best of my knowledge and belief.

Q1. PLEASE STATE YOUR NAME AND QUALIFICATIONS.

1. My name is Joseph W. Oliver. My education includes a bachelor's degree in geology, and master's degree in geology, specializing in hydrogeology, from Indiana University. I am a registered Professional Geologist (No. 4604) and Certified Hydrogeologist (No. 164) in California, and a Certified Professional Hydrogeologist (No. 964) with the American Institute of Hydrology. My professional membership includes the National Ground Water Association and the California Groundwater Association. I have 30 years of professional experience in the field of ground water hydrology, working for government agencies and private industry. I have been working at the Monterey Peninsula Water Management District (MPWMD or District) for the past 23 years, where I am presently employed as the Water Resources Manager. My resume is provided as **Exhibit JO-2.**

2. During my employment with the MPWMD, I have been involved in analysis and development of the ground-water resources within the District, with particular emphasis on the Monterey Peninsula Water Resources System (MPWRS). The MPWRS includes the Carmel River Alluvial Aquifer and the Seaside Ground Water Basin. A map depicting areas included in the MPWRS is included as **Exhibit JO-3**. I have authored or co-authored numerous technical documents related to the ground-water resources of the District, and have served as project manager on all hydrogeologic investigations conducted for the District since 1985. My work at the MPWMD has included development and review of technical documents prepared for Water Distribution System (WDS) evaluations, and development of guidelines and procedures to evaluate the adequacy of WDS production wells.

3. The Ryan Ranch Unit service area is within the Laguna Seca Subarea of the Seaside Groundwater Basin. I have had personal involvement with regard to groundwater resource issues of the Ryan Ranch system since 1989.

Q2. PLEASE PROVIDE A BRIEF SUMMARY OF WATER SUPPLY STUDIES AND DEVELOPMENT OF THE RYAN RANCH WATER DISTRIBUTION SYSTEM.

4. A listing of pertinent reports and other key technical documents and actions is provided in **Exhibit JO-4.** The first water supply wells for the Ryan Ranch system were drilled in 1978, and the first report evaluating the system's supply was conducted in February 1981 by consultant John Logan, who prepared the report for the representative of the property owner, Wallace Holm Architects, Inc. The February 1981 Logan report evaluated the system supply at 158 acre-feet per year (AFY) production; 144 AFY demand, with 10% system losses, and recommended that the four system production wells be operated at a maximum 50% utilization. Subsequent to the February 1981 report, a series of reviews and supplementary reports were prepared prior to the approval of the creation of the Ryan Ranch Water Distribution System (WDS) by the MPWMD Board on December 13, 1982. This approval was set at a system capacity (production limit) of 60 acre-feet per year (AFY) and an expansion capacity (connection limit) of 30 connections. MPWMD Board approval for expansion of the Ryan Ranch WDS was approved on September 24, 1984, with a system capacity increase to 100.5 AFY. Beginning in June 1988, a series of three reports were prepared by the consulting firm of Staal, Gardner & Dunne, Inc. to evaluate the current well capacity of the system and compare with updated demand projections. Subsequently, on April 10, 1989, the Ryan Ranch WDS permit was approved to increase in the system capacity to 175 AFY, and expansion capacity to 190 connections. The Ryan Ranch WDS was approved for annexation into the CAW system on November 13, 1989 for operation as a separate unit of the CAW main system, with no changes to the system capacity or expansion capacity limits. No changes to the Ryan Ranch WDS permit have occurred since that time.

5. A summary of annual water production for the Ryan Ranch WDS is provided in **Exhibit JO-5**. This table includes reported production by each well in the system, water transferred from the CAW main system to the Ryan Ranch system, total system production (i.e., wells plus

transferred water), reported deliveries to customers in the system, system unaccounted-for-water (UAW) (i.e., the percentage difference between production and deliveries), reported active connections, and production and delivery per active connection. Reported total annual Ryan Ranch system production has varied from a low of 15.25 AF in Reporting Year 1991 to a high of 92.07 AF in Water Year 2002. Reported total system production in the most recent year, Water Year 2008, was 81.93 AF.

Q3. PROVIDE A BRIEF DESCRIPTION OF WELL PRODUCTION LIMITATIONS WITHIN THE RYAN RANCH SERVICE AREA.

6. As described above, the Ryan Ranch WDS service area is located within the Laguna Seca Subarea of the Seaside Groundwater Basin. A map showing the location of the Ryan Ranch Unit service area in the southwestern portion of the Laguna Seca Subarea is provided in **Exhibit JO-6**. A listing of the production wells that have been completed for system supply purposes within the Ryan Ranch Unit service area since early system development is shown in **Exhibit JO-7**. A map depicting the general location of Ryan Ranch Unit production wells is shown in **Exhibit JO-8**. It is notable that, with two exceptions (Well #3 and Well #6), the production wells are located along the northern boundary of the Ryan Ranch service area. This is a deliberate occurrence that is due to the hydrogeologic conditions beneath the service area. Much of the Laguna Seca Subarea encompasses a northwest-trending syncline -- a fold in rocks in which the strata dip inwards from both sides towards the axis. The Ryan Ranch area is located along the southwestern flank of this syncline. The best hydrogeologic location for placing wells is near the axis of the syncline, where depth, thickness and saturation are likely to be the greatest. Within the Ryan Ranch service area, the best well locations are all along the service area's northern boundary, closest to the axis of the syncline, which is located to the north of this boundary. There are two principal aquifer units in the Laguna Seca Subarea – the upper unit is the Paso Robles Formation and the lower unit is the Santa Margarita Sandstone. Even at these northerly well locations within

the Ryan Ranch service area, however, there is little to no saturation within the Paso Robles Formation and limited saturated thickness in the Santa Margarita Sandstone, relative to other locations within the Laguna Seca Subarea that are closer to the synclinal axis. This intrinsic hydrogeologic limitation has constrained the options for locating production wells in the Ryan Ranch service area.

Q4. DISCUSS PREVIOUS RYAN RANCH PRODUCTION WELL CAPACITIES.

7. A listing of production well capacity data that have been compiled, evaluated and reported in technical documents since early development of the Ryan Ranch water supply system is provided in **Exhibit JO-9**. As reported in February 1981, the system supply consisted of four wells with a combined production capacity of 234 gallons per minute (GPM). The reported system production capacity declined between 1981 and 1988, but increased to 300 GPM as reported in February 1989, with the replacement of one well and the completion of one new well, for a total of five active wells in the system. Reported total production capacity has declined since 1989, and the most recent (2008) production capacity is 122 GPM, based on three wells (two active wells and one standby well).

8. **Exhibit JO-10** provides CAW correspondence to the MPWMD and to Ryan Ranch customers regarding production problems the company has had with its Ryan Ranch wells.

Q5. PROVIDE AN UNDERSTANDING OF THE CURRENT RYAN RANCH SYSTEM PRODUCTION CAPACITY, AS RELATED TO EXISTING AND PERMITTED DEMAND.

9. A memorandum describing my evaluation of the Ryan Ranch Unit well production capacity compared with existing and permitted system demand is shown in **Exhibit JO-11**. Briefly summarized, there are three cases by which to consider the Ryan Ranch well capacity: 122 GPM, 101 GPM and 67 GPM. For the 122 GPM capacity, the least conservative case

evaluated (i.e., with both primary wells and standby well in service), current well production capacity is sufficient to meet existing Average Day Demand (ADD), existing Maximum Day Demand (MDD), and permitted ADD, but not sufficient to meet permitted MDD. For the 101 GPM capacity, the middle case evaluated (i.e., with both primary wells and without the standby well), current well production capacity is sufficient to meet existing ADD, but not sufficient to meet existing MDD, permitted ADD or permitted MDD. For the 67 GPM capacity, the most conservative case evaluated (i.e., with the largest producing well out of service), current well production capacity is sufficient to meet existing ADD, but not sufficient to meet existing MDD, permitted ADD or permitted MDD. Based on this analysis, it is my recommendation that the Ryan Ranch WDS production capacity be considered at the middle case – 101 GPM production capacity. This case is reasonable given the most recent operating condition of the Ryan Ranch system in WY 2008. This production capacity corresponds to an annual production volume of 72 AFY, based on a MDD to ADD peaking factor of 2.25. The derivation of this daily peaking factor is described in **Exhibit JO-11**.

Executed on January 20, 2009, at Monterey, California.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

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