Statement of

Celeste Cantú
General Manager
Santa Ana Watershed Project Authority

Before the U.S. House of Representatives
Committee on Resources
Subcommittee on Water and Power

"Sustainable Water Supplies for the West: Part 1 – Protecting Groundwater Resources"

April 10, 2007

Chairwoman Napolitano and members of the Subcommittee, I appreciate the opportunity to appear before you today to discuss the affects of perchlorate contamination on groundwater supply in the San Gabriel and Inland Empire.

In the semi-arid environment of the Santa Ana Watershed, groundwater is a major source of the public's drinking water supply. This is especially true in the Inland Empire area of Riverside and San Bernardino Counties. Thus, any contamination of this limited and precious resource is cause for concern. Perchlorate has emerged in this watershed as a significant issue.

Perchlorate salts are highly soluble and, when applied to soil (such as the application of fertilizer and waste material left over from the use of manufactured chemicals), will readily dissolve and move through the soil to the groundwater. Prior to 1997, perchlorate had not been detected in low concentrations in groundwater anywhere in the United States. This is because an analytical method did not exist to detect perchlorate at extremely low concentrations, and it was not known to be a common contaminant. However, in 1997, laboratory analytical methods were developed to allow detection of perchlorate at concentrations as low as 4 micrograms per liter (µg/l, or parts per billion) in water. In 2004, the California Office of Environmental Health Hazard Assessment established a public health goal of 6 µg/l for perchlorate in drinking water. As a result, the California Department of Health Services is now proposing a drinking water Maximum Contaminant Level (an enforceable regulatory standard) of 6 µg/l for perchlorate.

The most common practice for removing contaminants from groundwater involves the removal of the groundwater by pumping wells, and treating the water at the wellhead. However, in 1997, when perchlorate was first determined to be present at low concentrations in groundwater, a viable treatment method for removing low

concentrations of perchlorate in groundwater did not exist. Since that time, specialized polymer resins have been developed for the removal of low concentrations of perchlorate by a process called ion exchange. However, the capital and operation and maintenance costs for these ion exchange systems are very expensive.

Occurrence in groundwater

Since 1997, perchlorate has been detected in about 175 municipal drinking water wells in San Bernardino, Riverside and Orange Counties. About 145 of these wells are in the Inland Empire, and the remainder is in Orange County. About 50% of the municipal wells in the entire State that have detected perchlorate are in these three counties. Most of the detections throughout the State are in very low concentrations. Over 80% of the wells in the Inland Empire and Orange County with detectable levels of perchlorate are below 9 µg/l, and most of those are below 6 µg/l. All the wells are located in historical citrus areas. Therefore, it is likely that most of these wells contain perchlorate from the historical use of Chilean nitrate. However, in the Redlands and Rialto areas, where the highest concentrations of perchlorate have been detected, industrial operations have been identified as the source. The California Regional Water Quality Control Board, Santa Ana Region, has been the lead agency addressing perchlorate problems in these two areas

Rialto

.

In 2002, four water purveyors in the Rialto area shut down wells containing perchlorate, ultimately ceasing or limiting the use of 22 wells. This created a potential water supply shortage situation. The Regional Water Board pursued various mechanisms to obtain money to assist the four water purveyors with funding for wellhead treatment. Approximately $10,135,000 has been provided to the water purveyors. Currently, 10 of the 22 impacted wells have wellhead treatment. These efforts, while significant, are far less than what will be needed to address the overall anticipated needs for cleanup of perchlorate in the Rialto area.

It is evident that there are two perchlorate groundwater plumes in the Rialto area. Multi-port groundwater monitoring wells have been installed, and extensive soil investigations have been conducted. Five deep multi-level groundwater monitoring wells up to three miles downgradient from the site

Conclusion

While currently the contamination is costly, it is being addressed, and treated. At the current levels of 6 micrograms per liter, well water can be blended and safely delivered for potable use. Groundwater supplies along with current level of surface water imports provide the quantity and quality needed to meet water demands at the current and anticipated population levels. But should anyone of the major water sources be significantly reduced, be it imported water or groundwater or should be level of

acceptable concentrations be reduced, costs of treatment would be increased, making water expensive and supplies could be curtailed.

Chairwoman Napolitano and members of the Subcommittee, I appreciate your interest in the long term sustainability of the water supply in this rapidly growing and developing watershed.

Thank you