

**California Regional Water Quality Control Board
Santa Ana Region**

October 26, 2012

ITEM: 13

SUBJECT: Perchlorate in Groundwater in the Rialto-Colton Basin, Santa Ana Region

DISCUSSION:

Perchlorate was first detected in several municipal water supply wells in the Rialto-Colton Basin in 1997. Perchlorate is an ion that results from the dissolution of perchlorate salts. Perchlorate salts are manufactured for use by industry. Perchlorate salts (e.g., ammonium perchlorate) are used as an oxidizer in the manufacture of solid rocket propellant, fireworks, pyrotechnics, flares, and other incendiary and explosive devices. Perchlorate salts are highly soluble, and once the perchlorate ion has been mobilized, it can easily reach groundwater. Perchlorate does not readily biodegrade, making it a challenging and persistent contaminant in the environment. Studies have shown that perchlorate in low concentrations can interfere with the function of the thyroid in humans.

The concentrations of perchlorate in the municipal supply wells initially were below the California Department of Public Health (DPH) action level (non-regulatory advisory level, now called the notification level or NL), which was 18 parts per billion (ppb) at that time. Between 1997 and 1999, improved analytical technology was developed, enabling laboratory detection of perchlorate at concentrations as low as 4 ppb. In January 2002, the DPH lowered the NL to 4 ppb. As a result, municipal supply wells in the Rialto-Colton Basin that contained perchlorate were taken out of service. The current DPH maximum contaminant level (MCL) for perchlorate in drinking water is 6 ppb.

The perchlorate-impacted municipal supply wells in the Rialto-Colton Basin are currently undergoing wellhead treatment, or have remained out of service. The drinking water that is served to the public is safe.

Sources of Perchlorate

Two perchlorate source areas have been identified in Rialto:

1. The former Broco site was a 20-acre hazardous waste treatment, storage and disposal facility, which accepted wastes, including wastes containing perchlorate, during the period from approximately 1966 to 1987. The Broco site and surrounding property were acquired by the County of San Bernardino in 1993.

Adjacent to the County property is a former fireworks manufacturing facility, which is now known as the Stonehurst site. This combined perchlorate source area is generally referred to as the County/Stonehurst site, and a groundwater contaminant plume containing perchlorate and trichloroethylene (TCE) is emanating from this area.

2. A 160-acre site northeast of the County property was formerly occupied by the U.S. Department of Defense, various weapons contractors, fireworks manufacturers and distributors. The use and disposal of perchlorate at the 160-acre site took place between 1942 and 1987. A plume of groundwater contamination containing perchlorate and TCE is also emanating from the 160-acre site.

Investigation Activities and Legal Challenges

Regional Board staff issued Investigation Orders to 22 potentially responsible parties (PRPs) beginning in 2002. In accordance with the Investigation Orders, a number of investigations were conducted in both of the perchlorate source areas in Rialto. Investigations related to the 160-acre site took place between 2002 and 2008. In 2006, Regional Board staff proposed a Cleanup and Abatement Order against some of the PRPs that had occupied the 160-acre site. That Order was subject to challenges from the PRPs, and in 2007 the State Water Board commenced a review of the Regional Board's actions and inactions pertaining to the 160-acre site and assumed jurisdiction over the proposed Cleanup and Abatement Order.

Agency Roles

1. Regional Board
 - The Regional Board is the lead agency overseeing the remediation of perchlorate contamination from the County's property. The Board adopted a Cleanup and Abatement Order in 2003 (revised in 2004), which requires the County to clean up the contaminated groundwater and provide replacement water for City of Rialto Well #3 (CR #3). In accordance with the CAO, the County performs groundwater extraction and treatment to remove perchlorate and TCE at CR #3. In addition, the County has installed two contingency wells to ensure the ongoing capture and cleanup of the contamination. Operation of the remediation system began in 2006. To date, the County has spent approximately \$20 million on groundwater remediation.
 - The Regional Board is the lead agency for the Stonehurst property. Investigations have identified several perchlorate source areas at the property. The County's remediation system captures any groundwater that may be impacted by perchlorate from the Stonehurst property.
2. USEPA
 - In 2009, USEPA added the 160-acre site to its National Priorities List as the B.F. Goodrich Superfund Site. USEPA now shares jurisdiction over the 160-

acre site with the State Water Board. In September 2010, USEPA adopted a Record of Decision (ROD), which identified an interim remedy to begin cleanup of contaminated groundwater from the site. In 2012, USEPA reached a tentative agreement with some of the PRPs to implement the remedy described in the ROD. Design work for the remedy is in progress.

Litigation and Potential Settlements

Litigation involving the Cities of Rialto and Colton, the PRPs, and USEPA has been ongoing for several years. USEPA recently announced that it had reached tentative settlements with some of the parties to the litigation. As noted above, one of these settlements would provide for implementation of an interim groundwater remedy for the 160-acre site. Related to these tentative settlements, the settling parties have proposed to enter into administrative settlement agreements that would be subject to the approval of the State Water Board. Staff will provide an update at the Board meeting on the progress toward finalizing these settlements.