

California Regional Water Quality Control Board
Santa Ana Region

April 27, 2012

ITEM: 10

SUBJECT: Status Report on the Volatile Organic Compound Groundwater Plume at Chino Airport, San Bernardino County

DISCUSSION:

Chino Airport is located about 3 miles southeast of the City of Chino, in the lower portion of the Chino Groundwater Basin (Chino – North Groundwater Management Zone). The Airport is owned by San Bernardino County, and is operated by the San Bernardino County Department of Airports. In the late-1980's, trichloroethylene (TCE) was detected in several agricultural wells located downgradient of the Airport. The County initiated an investigation and is continuing to characterize the boundaries of the groundwater plume prior to developing a remedial action plan. Although TCE is the primary volatile organic compound (VOC) in the plume, other VOCs are present in the plume at much lower concentrations than TCE. Recently, a groundwater extraction well was installed for the Chino I Desalter expansion, and high concentrations of TCE associated with the groundwater plume were detected in the well.

Background

Following the detection of TCE up to 44 micrograms per liter ($\mu\text{g/l}$) in several agricultural wells located downgradient of the Chino Airport in the late-1980s, Board staff conducted a preliminary investigation of the possible sources of the TCE and determined that Chino Airport was the likely source. In 1988, the Executive Officer requested the County to conduct an investigation of potential source areas at the Airport. The County identified potential source areas at the Airport, and submitted a time schedule in early 1990 for conducting a soil investigation and installing monitoring wells. In late 1990, the Executive Officer issued a cleanup and abatement order to the County, requiring submittal and implementation of a work plan for the soil investigation and any necessary soil cleanup, and following completion of the soil investigation, submittal of a work plan for the installation of groundwater monitoring wells and any necessary groundwater cleanup.

In the early 1990's, the County conducted soil investigations at twelve areas where TCE may have been discharged at the Airport. The investigations found TCE in only a few shallow soil samples, at very low concentrations. The investigations did not identify a TCE source area, or any soil that required cleanup. The County did not conduct a groundwater investigation and in 2000, Board staff notified the County that they were still obligated to conduct the groundwater investigation required by the cleanup and abatement order. The County submitted a draft work plan and time schedule in mid-2002, and after approval of the work plan by the County Board of Supervisors, the

County submitted the final work plan in early 2003. The Executive Officer approved the work plan, and the County installed five monitoring wells at the airport by mid-2003. The monitoring wells were installed in an effort to identify the area at the Airport that was the source of the TCE. Following one year of monitoring, TCE was detected up to 120 µg/l in a monitoring well along the western boundary of the Airport (the Drinking Water Maximum Contaminant Level for TCE is 5 µg/l). Because a source area was not identified in this investigation, the County submitted a work plan in mid-2004 for the installation of four additional groundwater monitoring wells at the Airport to better evaluate the groundwater flow direction and the presence of TCE in groundwater beneath the Airport. The monitoring wells were installed by mid-2005, and sampling of the wells through the end of 2006 found TCE as high as 800 µg/l in one of the new wells.

The County submitted an offsite groundwater investigation work plan in early 2007. The work plan proposed advancing borings to sample groundwater downgradient of the Airport for the purpose of characterizing the offsite plume. An offsite plume characterization report was submitted in mid-2007. TCE was detected in groundwater as high as 490 µg/l in the 23 borings that were completed. The County submitted a work plan in December 2007 for the installation of groundwater monitoring wells at three offsite locations, with three monitoring wells at each location, screened at different depths, to better define the offsite plume. However, the County experienced difficulties in obtaining approvals from their insurance company for this work due to the insurance company's interpretation of the 1990 cleanup and abatement order. In mid-2008, the Executive Officer issued a new, revised cleanup and abatement order, the County submitted a revised work plan in late 2008, and the County completed the installation of the wells in early-2009.

The County submitted a work plan in late-2009 for the installation of additional downgradient wells to further characterize the lateral and vertical extent of the offsite plume. By late-2010, the County installed groundwater monitoring wells at five offsite locations, with two monitoring wells at each location, screened at different depths. In mid-2011, the County submitted a work plan for installing additional off-site wells at seven locations, with two wells at each location, to further delineate the plume and support the development of a remedial action plan. The Executive Officer concurred with the work plan, and required that a well installation report on the completed wells be submitted by May 1, 2012.

Chino Desalter

The southwest corner of Chino Airport is located at the intersection of Kimball Avenue and Euclid Avenue. The Chino I Desalter facility, constructed in 1999, is located in the southwest corner of Kimball Avenue and Euclid Avenue, diagonally across from the Chino Airport. Several of the source wells for the Chino I Desalter are located on Euclid Avenue and Kimball Avenue, along the downgradient property boundary of the Chino Airport. In late-2000, one of the source wells for the Desalter along the Airport boundary detected TCE. By mid-2001, TCE was present in this well at concentrations up to 30 µg/l. An air stripping treatment process was subsequently constructed at the

Desalter facility to remove the TCE. Under an agreement with the County, the Chino Basin Desalter Authority (CDA), which is responsible for the Chino Desalters, took on the financial responsibility for removing the TCE from this well.

In about 2006, the Chino Basin Watermaster (CBW) approached the County regarding the CBW's proposed Chino Creek Desalter Well Field, a portion of which would be located downgradient of the Chino Airport. The purpose of the well field was to achieve hydraulic control of the Chino Basin, as required by the Regional Board for compliance with the Maximum Benefit Objectives for the Chino Basin, and the CBW's Optimum Basin Management Program. The groundwater produced from the well field would be used as source water for an expanded Chino I Desalter. The CBW developed different well field options. One option would accomplish hydraulic control only, and another option would accomplish hydraulic control and management (cleanup) of a portion of the Chino Airport plume. The CBW and the County discussed the costs that the County would be expected to be responsible for, with the plume management option, but the County and the CBW were not able to reach an agreement, and the CBW decided to proceed with the hydraulic control only option for the Chino Creek Desalter Well Field. On March 5, 2012, CDA met with Board staff to report that TCE was detected up to 450 µg/l during the drilling for one of the new wells in the Chino Creek Desalter Well Field.

Current Status

On February 1, 2012, the County notified Board staff that none of the wells in the work plan that the Executive Officer approved in mid-2011 had been installed, and the County requested a six-month extension to complete the work. The County stated that the reason for the request was that the County had not yet been able to obtain a right-of-entry agreement with the United States Army Corps of Engineers (Corps) for three of the seven proposed well locations. Board staff contacted the County's consultant in mid-February to discuss the delay in the work, and requested that the wells at the four proposed drilling locations, which are not located on Corps property, be installed as quickly as possible. On March 4, 2012, the County's consultant submitted a time schedule for installation of the wells at the four locations not on Corps property by August 2012, installation of the three wells on Corps property by November 2012, and submittal of the well installation report by March 2013, 10 months after the original May 2012 deadline established by the Executive Officer.

On March 28, 2012, the Executive Officer issued a Notice of Violation to the County, denying their request for an extension, and stating that the County's efforts to install all the wells as quickly as possible will be the primary factor in determining the extent of any enforcement action that may be taken for failing to comply with the May 1, 2012 completion date, pursuant to the cleanup and abatement order. The letter also required that monthly status reports be submitted.

Recommendation

Staff will update the Board on the County's progress at future Board meetings.