

Tucson Water Fact Sheet

1, 4-Dioxane Detected in TCE Plume

In recent studies by the U. S. Environmental Protection Agency (USEPA), the compound 1,4-dioxane was detected in groundwater supplies associated with TCE contamination in California. When Tucson Water was informed about these results, the utility immediately began monitoring for 1,4-dioxane in the groundwater delivered to the Tucson Airport Area Remediation Project (TARP) TCE Treatment Plant and has detected minute amounts of the compound. The level of 1,4-dioxane in the water at the treatment plant is approximately 1.5 ppb (parts per billion), only slightly above the detection limit of 1.0 ppb and well below any preliminary health related standards.

Once these monitoring results were confirmed, Tucson Water made this information available to the Arizona Department of Environmental Quality (ADEQ), the USEPA, and the members of the Unified Citizens' Advisory Board that monitors the TARP program.

1,4-Dioxane is a solvent commonly found in cosmetics and toiletries, paints and varnishes, and is also used as a stabilizer for volatile compounds similar to TCE. (**Please Note: This compound should *not* be confused with dioxin.**) Although the USEPA has not set a Maximum Contaminant Level for 1,4-dioxane in drinking water, that Agency has listed the compound as a probable human carcinogen and has set a Preliminary Remediation Goal of 6.1 ppb and a health-based advisory level of 3 ppb.

In addition to testing the wells serving the TARP facility, Tucson Water conducted additional tests within the plume of TCE contamination and found levels of 1,4-dioxane ranging from non-detectable to 12.0 ppb. Because most of the water reaching the TARP Treatment Plant comes from wells with no detectable 1,4-dioxane, the level of the compound at the plant is approximately 1.5 ppb. (ADEQ has reported finding a single sample from an area distant from the TARP wells that contained 57 ppb.)

The air-stripping process used at the TARP Treatment Plant does not appear to reduce the level of 1,4-dioxane in the treated water, and the level remains the same both before and after treatment. Tucson Water has begun regular monitoring of the water for 1,4-dioxane at the TARP facility and the TCE plume. The utility is examining alternative methods capable of reducing the concentration of 1,4-dioxane in the water should levels of the compound in groundwater approach the USEPA Preliminary Remediation Guideline level or any future USEPA drinking water standard.