



FACT SHEET
ANNUAL LONG-TERM GROUNDWATER MONITORING RESULTS
SERVICING OF RESIDENTIAL CARBON FILTER SYSTEMS
SIX MILE RICHARDSON HIGHWAY
FAIRBANKS, ALASKA

JANUARY 2003

What's New

This fact sheet reports the results of the annual groundwater sampling event that was performed during the fall 2002 in the Six Mile Richardson Highway area.

Background Information

The sampling event had two major components: the annual long-term groundwater monitoring program, and the sampling and servicing of contaminated residential wells.

The annual long-term groundwater monitoring program began in 1995 in response to the discovery of an area-wide trichloroethene (TCE) groundwater contaminant plume. The long-term monitoring program consists of sampling a series of permanent monitoring wells and selected residential wells that are either strategically located within, or nearby the TCE plume.

The second component consists of sampling residential well that are impacted by the TCE plume above 70% of the safe drinking water level and servicing the household water treatment systems that were installed at these residences. Most treatment systems were installed in 1995/1996.

Additional background and historical information can be found in previously published fact sheets (e.g., February 2002, January 2001, December 1991, etc.)

Summary of Water Test Results

There are no significant changes from last year's sampling results.

The TCE concentration levels in most wells (monitoring wells and residential wells) continue to slowly decline. In general, the regional TCE plume remains stable in overall size and location (see Figure 1).

In some wells the concentration level decreases are statistically significant (i.e., not by chance alone or beyond expected natural variability) and are occurring at a predictable rate. The rate of decrease varies from well to well, depending upon the well's location within the TCE plume.

In other wells, the concentration level fluctuates but remains essentially constant. Additional permanent monitoring wells were installed in recent years to gain a better understanding of this condition.

In a few of the new monitoring wells, the concentration levels slightly increased. There have not been a sufficient number of sampling events at these wells to determine if the increases are statistically significant or just the result of natural variability.

Figure 2 shows the TCE concentration levels for the residences sampled in the Six Mile Subdivision area.

One residential well was sampled in 2002 that had not been sampled since 1995. The 2002 TCE concentration level was greater than the 1995 level but still below 70% of the safe drinking water level of 5 parts per billion (ppb) for TCE, the level established in 1995 to determine which households would be eligible for treatment systems. This residential well will be included in subsequent sampling events to ensure that there is not a statistically significant increase.

Only three residences are known to have TCE in their well water above the safe drinking water standard in 2002 as compared to twelve residences in 1995. However, it should be noted that two of the twelve residences sampled in 1995 did not allow re-sampling in 2002 and it is unknown if these two homes are still above the safe drinking water standard.

The TCE concentration levels in the three residential wells that remain above the safe drinking water standard are either slowly decreasing or remaining constant.

Assessment of Residential Water Treatment Systems

The activated carbon filters were changed in the water treatment systems at all homes where the water tested above 70% of the safe drinking water standard. Annual servicing and inspection did not reveal anything unexpected. All systems were determined adequate to remove the contaminants to nearly non-detect levels.

Other Monitoring Information

There are five TCE source areas located on two separate properties that are generating individual TCE plumes. The individual plumes are merging together in some manner to form the larger area-wide TCE plume. The purpose of the additional monitoring wells is to understand the interaction and dynamics of the individual plumes and the internal dynamics of the larger plume.

In late summer 2002, a series of temporary well points were installed in strategic locations to help identify the optimum location of the additional permanent monitoring wells. One location was determined to be in the meridian of the New Richardson Highway near the new Badger Road overpass. Construction in the meridian will be completed by late spring 2003. After completion, the additional permanent monitoring wells will be installed.

Questions, Comments, or Need for Additional Information

If you have any questions or comments, or need additional information, please contact the ADEC project manager, Douglas Bauer, at (907) 451-2192 or at Doug_Bauer@envircon.state.ak.us.