



# River Terrace Laundromat

Soldotna, Alaska

## Current Status

DEC initiated a November 2002 pilot study using bioaugmentation (injection of bacteria) to assist in the degradation of contamination. The Hydrogen Releasing Compound (HRC) was effective in degrading the perchloroethylene (PCE) into cis-1,2-dichloroethylene (cis-DCE), but further degradation into non-toxic substances was not occurring.

The bacteria were injected into several groundwater monitoring points and the initial results were positive. The levels of degradation compounds increased above previous concentrations, and DEC is considering this approach in other areas of the site to further assist in the degradation of the PCE contamination. DEC has joined with the U.S. Geological Survey in evaluating the bioaugmentation process, and a decision regarding its possible use is anticipated in the near future.

Recent groundwater monitoring work was conducted in September and October 2003, and January 2004. HRC was also injected for a third time in selected monitoring points in November 2003.

The monitor data indicates that the groundwater treatment process is working and will continue to be evaluated to determine future treatment and/or cleanup alternatives at this property. The assessment data identified a "hot spot" area (area with elevated PCE concentrations) in the deeper groundwater but it is limited in extent and will be incorporated into the site cleanup plan.

## Future Actions

**The treatment of the groundwater contamination at the River Terrace site remains the major issue and will continue.** The groundwater monitoring results indicate progress in reducing the concentrations of the contaminants, and the plan is to continue to use and expand the treatment process to other areas of the site. Additional injections of HRC and the expansion of "biological augmentation" (introduction of bacterial colonies) will continue. In May 2004, an investigation is scheduled to analyze the sediment along the shoreline of the River Terrace property for contaminant concentrations and compare them to previous sampling events. The sediment findings will assist the Department in evaluating the effectiveness of cleanup actions to date.

## Background

River Terrace Laundromat, currently operated as River Terrace RV Park, is located on the bank of the Kenai River in downtown Soldotna. A dry cleaning firm operated there from the 1960's to the 1980's.

In 1992, DEC investigated a complaint regarding leaking barrels at this site, and discovered 22 barrels containing used oil and other substances. One barrel was labeled "Perchloroethylene," a dry cleaning solvent also known as PCE. The degree of soil and groundwater contamination wasn't discovered until 1997. Soil cleanup began in earnest that fall, and groundwater cleanup began in fall 2000, prior to contamination migrating into the Kenai River.

The majority of contaminated soil that was practical to excavate --3,300 cu. yds. -- was successfully treated. Some soil contamination in deep pockets (39 feet below ground surface) remains in the lower plume area.

The groundwater at this site was contaminated by PCE. A treatment technology using Hydrogen Releasing Compound was initiated in 2000. The technology has been effective in breaking down the PCE but the degradation process resulted in elevated levels of secondary contamination (cis-DCE). The persistence of this contamination resulted in a study to indicate there was an absence of the bacteria necessary to break it down to its non-toxic compounds.

## Public Health and Environmental Concerns

Groundwater and some soil contaminated with PCE and its breakdown products are the main threat to public health and the environment.

PCE is listed by EPA as highly toxic and is a suspected human carcinogen. Avenues of human exposure have been blocked, so the area of concern is now protection of the Kenai River, specifically its sediments, from contamination.

## For more information:

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