

# SHORING & CUTOFF WALL SYSTEM

FORMER BULK PLANT

Case History, No. 19

July, 1998

## Problem

Historic operation of a former upgradient bulk plant dating back to the 1920s resulted in hydrocarbon contamination of soil and groundwater at the plant and neighboring properties in North Vancouver, B.C. requiring remediation.

## Solution

A Waterloo Barrier® cutoff wall was installed at the property lines of the sites, effectively splitting the contaminant plume into two separate entities. On one side of the cutoff wall, extraction wells and a shallow drain were installed and operated to prevent overtopping and/ or movement of contaminated groundwater around the wall. On the other side, the contaminated soil was excavated and replaced with clean fill. Two types of shoring systems were installed to provide supports for the excavation. Figure 1 shows the installed shoring system that consisted of Waterloo Barrier® sheet piling, steel walers and A.B. Chance® helical tie-back anchors. Figure 2 shows the second type of shoring system that consisted of Waterloo Barrier® sheet pile wall on the up gradient, a temporary conventional sheet pile wall, steel walers and struts. This shoring system was required because no access was granted to install the tie-backs into the neighbouring properties. All of the temporary sheet piles, steel walers, steel struts, and tie-backs were removed once the contaminated soil was excavated and replaced with clean fill. The Waterloo Barrier® sheet pile cutoff wall was left in place to prevent any migration of upgradient contaminants into the remediated area.



Figure 1. Tie-back Anchor System



Figure 2. Walers and Struts System

## SITE SUMMARY

**Barrier:** 35,000 square feet of Waterloo Barrier® WZ95  
**Sealant:** WBS-301-Cementitious based grout  
**Depth:** Between 9 m & 15 m of Piling

**Start:** July 12, 1998  
**Finish:** September 1998  
**Consultant:** Various