

## **INTERACTION OF ORGANIC CARBONS AND TRACE METALS IN THE BERKELEY PIT-LAKE WATER AND SEDIMENT.**

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The Berkeley Pit was an open-pit copper mine that operated from 1955 until 1982. Prior to this, mining was confined to underground operations for approximately 100 years. Pumping of the ground water infiltrating the Berkeley Pit and the underground workings ceased in 1982. The water table has been recovering since that time, filling the pit and the tunnels. The water in the pit is acidic with pH varying from 2.8 - 2.5 and is a classic example of acid rock drainage. The main objectives of this project will show: 1) isolation and identification of organic carbon in the Berkeley Pit Lake waters and sediments; 2) interaction between the organic carbon and trace metals; 3) laboratory controlled models of organic carbon and trace metal interaction. Carbon analysis on the water samples will be done using a Total Organic Carbon Analyzer. The solid samples from the sediments will be analyzed using the Total Organic Carbon Analyzer with a Solid Sampler, a Scintag X-Ray Diffractometer, and a Scanning Electron Microscope.