## COPPER, IRON, MANGANESE, AND ZINC BEHAVIOR IN NORTH FORK CLEAR CREEK, COLORADO<sup>1</sup>

B. A. Butler<sup>2</sup>, J. R. Ranville<sup>3</sup>, and P. E. Ross<sup>4</sup>

**Abstract:** The behavior of metals in aquatic environments is often complex and poorly understood. Gaining an understanding of a given metal's behavior is of importance, primarily for reasons of toxicity in a water body. This poster presents and compares spatial trends in copper, iron, manganese, and zinc over different hydrologic regimes in a mining-impacted stream: the North Fork of Clear Creek. Copper and iron are transported primarily as particulate metals; manganese and zinc are transported primarily as dissolved metals. Flow appears to control the amount of metals lost from the water column, most likely through settling to the streambed.

Additional Key Words: Iron oxyhydroxides, AMD

<sup>&</sup>lt;sup>1</sup>Poster paper presented at the 7<sup>th</sup> International Conference on Acid Rock Drainage (ICARD), March 26-30, 2006, St. Louis MO. R.I. Barnhisel (ed.) Published by the American Society of Mining and Reclamation (ASMR), 3134 Montavesta Road, Lexington, KY 40502

<sup>&</sup>lt;sup>2</sup>Barbara Butler, Division of Environmental Science & Engineering, Colorado School of Mines, Golden, CO, 80401, e-mail: <a href="mailto:bharvey@mines.edu">bharvey@mines.edu</a> <sup>3</sup>James Ranville, Department of Chemistry & Geochemistry, Colorado School of Mines, Golden, CO 80401, e-mail: <a href="mailto:jranvill@mines.edu">jranvill@mines.edu</a> <sup>4</sup>Philippe Ross, Division of Environmental Science & Engineering, Colorado School of Mines, Golden, CO 80401, email: <a href="mailto:pross@mines.edu">pross@mines.edu</a>.