

OLDHAMITE: NOT JUST IN METEORITES

Karl W. Peterson, Dorit M. Hammerling, Lawrence L. Sutter,
Tom J. VanDam, George R. Dewey

Transportation Materials Research Center
Department of Civil and Environmental Engineering
Michigan Technological University - Houghton, Michigan

ABSTRACT: Oldhamite, (CaS) has been recognized as a constituent of meteorites for over one hundred years. Aside from meteorites, and the occasional volcanic glass, blast furnace slag (BFS) is probably the most common source of oldhamite on planet Earth. The oldhamite in the slag aggregate examined in this study was mostly present as dendritic inclusions within melilite crystals. Thin sections prepared from concrete pavements incorporating BFS aggregate show evidence of oldhamite dissolution. Simplified chemical models suggest that oldhamite in contact with cement pore water may undergo dissolution.