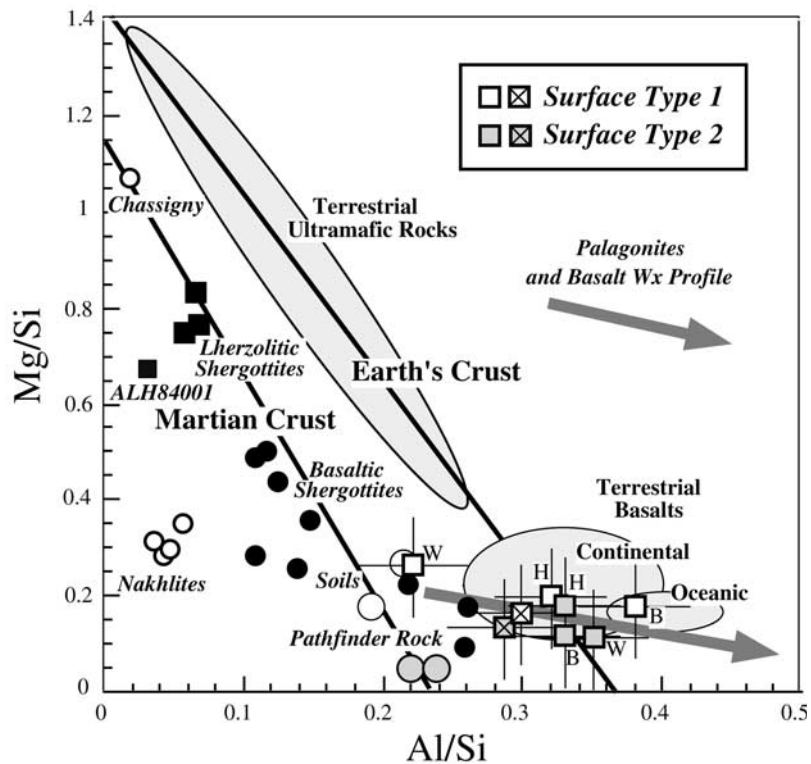


**Figure 10.** Molar variation diagrams illustrating leaching of soluble components during the chemical weathering of basalt [Nesbitt and Young, 1984; Nesbitt and Wilson, 1992]. Terrestrial weathering trends are shown by arrows. Surface type 2 compositions generally contain less leachable oxides and could have formed by chemical weathering of surface type 1 materials. The global dust composition (Table 1) does not correspond to either surface type or basaltic shergottites, nor to a simple mixture of any of these materials.



**Figure 11.** Mg/Si versus Al/Si diagram (wt. ratios), commonly used to distinguish igneous rocks from Mars and Earth. Surface type 1 and 2 compositions are displaced from the Martian trend and arrayed along a gray arrow defined by the compositions of terrestrial palagonitized basalts and a basalt weathering profile [McLennan, 2003]. Data sources as in Figure 2, plus Rieder *et al.* [1997]. Ratio error bars based on the relative error analysis of Wyatt *et al.* [2001].