

Major Element Abundances in  
Apollo 12 Rocks and Fines  
by 14 MeV Neutron Activation

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Abstract:

Abundances of oxygen, silicon, aluminum, magnesium and iron in seven rocks and four samples of fines collected by the Apollo 12 mission have been determined by instrumental 14 MeV neutron activation. These five elements constitute approximately 90% of the mass of these materials. The abundances for Type A, Type AB, Type B, and Type D, respectively, are: O-39.3, 39.4, 40.4, 42.0%; Si-20.7, 21.2, 21.4, 23.0%; Al-4.3, 5.1, 4.8, 6.7%; Mg-6.9, 4.5, 4.5 to 10.1, 6.6%; Fe-15.5, 14.7, 15.1, 12.6%. These results and separately published results (Morgan and Ehmann, 1970) on an additional five chips and three powders derived from rock 12013 are discussed and compared to the results obtained on the Apollo 11 materials.

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