

PRELIMINARY ORGANIC ANALYSIS OF THE APOLLO 12 CORES

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Abstract

A computer-coupled, high-sensitivity mass spectrometer has been used to estimate the amount and kind of organic matter in the double core (12025 and 12028) from Apollo 12. The concentrations of total organic matter in the core samples ranged from 0.2 to 2.2 ppm. The major volatile compounds present were hydrocarbons of varying degrees of unsaturation displaying ions to the m/e 250 range. Several organic polymers were found in various samples (eg. polystyrene in 12028,4 and 12025,1 and teflon in 12025,2). Most of the samples evolve CO₂ and lower amounts of SO₂ at higher temperatures during the analyses. In one sample (12028,2) where the hydrocarbon background was lowest, there was an indication (based on the

observations of m/e 78 and 91 late in the heating cycle) that pyrolysis of endogenous organic matter takes place. The level was estimated to be approximately 100 ppb.