

RARE GAS ANALYSES OF APOLLO 11 AND 12 CORE TUBES

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The results of replicate noble gas analyses of samples selected at different levels of four core tubes and other fine material from Apollo 11 and 12 are presented. Both noble gas abundances and isotopic ratios are generally similar to composite results for the surface fine material at the two different landing sites. Exposure ages, derived from the noble gas content in several isolated rock fragments and in the coarse crystalline stratum of the Apollo 12 long core tube, are mostly about 500 m.y., several hundreds of million years older than ages determined on surface rocks. The radiogenic argon content of a small anorthositic fragment indicates a minimum gas retention age of > 4 billion years.