DETERMINATION OF REE AND Ba IN FIVE APOLLO 17 SAMPLES

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Thus far we have analyzed five Apollo 17 samples for rare-earth elements (REE) and Ba by employing the mass spectrometric, stable isotope dilution technique.

With the exception of 72441, the Leedey-normalized REE patterns have been found to be smooth in general. It is worth pointing out that 72441 is sieved fines ($<$ 1mm) and that other samples (fines, breccia and basalt) are free from artificial mechanical separation.

Two unsieved fines (74220 and 74266) from the station 4 and a fine basalt (70215) appear to show solid-type (1) REE patterns, suggesting the once separation as solid-type material system. A "blue gray" breccia (73235) contrasts with the above samples in showing a liquid-type REE pattern.

The points for La, Nd, Sm, Gd, Er and Lu of the breccia analyzed fall on a straight line mostly within the deviations less than 1%. Meanwhile, Ce and Yb deviate from the line in the positive direction by 8.4 and 6.9%, respectively (2, 3). Also a small negative deviation (3.5%) of Dy is recognized. Such a small effect on Dy has not been escaped from our notice about 15101, the Peace River chondrite (2) and the Allende inclusion (4). A further scrutinity about the Ce anomaly will be advanced elsewhere by one (N. N.) of our team.

Drop of Lu from the smooth curve has been observed for 70215, 74260 and 72441. So far as the samples investigated by us are concerned, a Lu drop like this was found for the first time about these Apollo 17 samples. (A re-examination of this Lu drop is still being done by us.)

REFERENCES

(1) A. Masuda (1972) Nature Phys. Sci. 235, 132.
(2) A. Masuda, N. Nakamura, H. Kurasawa and T. Tanaka (1972) Geochim. Cosmochim. Acta Suppl. 3, Vol. 2, 1307.
(3) A. Masuda and N. Nakamura (1973) Geochem. J. 7, 179.
(4) T. Tanaka and A. Masuda (1973) Icarus 19, 523.

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