

Initial K-Ar and Paleomagnetic Results
Of the Melka-Konture Early Man Sites Ethiopia

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Introduction

In the 1975 field season, 4 preliminary K-Ar samples and 34 preliminary paleomagnetic samples were taken from the Melka-Konture Early Man sites, Ethiopia. The K-Ar ages ranged from .72 to 1.5 m.y. The polarities of the magnetic samples were all reversed or intermediate.

Paleomagnetic Results

Sampling procedures and laboratory equipment are identical to those described by Schmitt and Nairn (this conference). All samples were subjected to progressive demagnetization. The stages were N.R.M., 50, 100, 150, 200, 250, 300, 350, 500, 750 and 1000 oe. Many samples were of normal polarity at N.R.M., but all exhibited a reversed or intermediate polarity by 250 to 500 oe.

K-Ar Results

Sample descriptions and locations and analytical data are given below.

Sample #	Description	Run #	% K	Nanoliters Ar 40/g	% Rad. Argon	Age m.y.
75-3	Glass shards from small tuff below tuft A.	AA-1402	4.27	.250	12.9	1.46
		1426	4.34	.226	12.5	1.30
75-4	Glass shards from tuff A	AA-1401	4.34	.233	11.0	1.35
		1424	4.33	.182	11.6	1.06
75-5	Glass shards from welded tuff high in section	AA-1400	3.56	.102	7.3	.72
75-6	Sanidine from S.S. Below tuff C.	AA-1396	4.90	.300	39.9	1.53
		1405	4.82	.284	29.1	1.48

Samples were run on an MS-10 mass spectrometer using an Ar 38 spike. Argon was extracted by heating in a quartz tube in line with the mass spectrometer.

The low argon content of the repeat run of ET-75-4 may be due to its having been accidentally heated to about 350°C for several hours prior to analysis. The age of sample ET-75-5 should be interpreted cautiously given the young age of the sample and the lack of a repeat analysis. The sanidine from sample ET-75-6 was rounded and is thus considered detrital. Consequently, the age must be considered a maximum age.

Interpretation

The most acceptable interpretation of this limited initial data is that the sediments were deposited during the Matuyama Reversed Epoch. The 1.5 m.y. maximum age indicates they are of post-Gilsá age. The sampling density of the magnetic samples is not sufficient to determine if the Jaramillo Event is present in the sequence. Interpretation of the ages on samples ET-75-3 (1.5 and 1.3 m.y.) and ET-75-4 (1.3 m.y.) as the actual age of those samples is consistent with the magnetic data.