

71527**High-Ti Mare Basalt****2.19 g****INTRODUCTION**

See "Rake Sample Descriptions" and "Table of Rake Samples", as well as Fig. 1.

PETROGRAPHY AND MINERAL CHEMISTRY

Warner et al. (1978) described the petrography and mineral chemistry of 71527. During the preparation of the catalog we examined thin section 71527,3 and found it to be a fine- to medium-grained basalt. It is dominated by "bow-tie" intergrowths of plagioclase and pyroxene (0.1-0.4mm). Ilmenite (up to 0.8mm) and olivine

(0.7mm) phenocrysts are present. Olivine exhibits minor resorption features at the margins. No armalcolite is present and ilmenite contains only minor rutile and chromite exsolution lamellae. Native Fe and troilite (<0.1mm) are usually associated with ilmenite.

WHOLE-ROCK CHEMISTRY

Murali et al. (1977) reported the whole-rock composition of 71527,1 in a study of Apollo 17 rake samples (Table 1). 71527 is classified as a Type A Apollo 17 high-Ti basalt using the classification scheme of Rhodes

et al. (1976) and Warner et al. (1979). This sample contains 12.8 wt% TiO₂ with a MG# of 48.0. The REE profile (Fig. 2) is LREE-depleted with a maximum in the MREE. The HREE are more abundant (relative to chondrites) than the LREE. A negative Eu anomaly is present [(Eu/Eu*) = 0.52].

PROCESSING

Of the original 2.19g of 71527,0, approximately 2.04g remains. 71527,1 was used for INAA and thin section ,3 was taken from this irradiated sample.



Figure 1: Hand specimen photograph of 71527. Small divisions on scale are in millimeters.

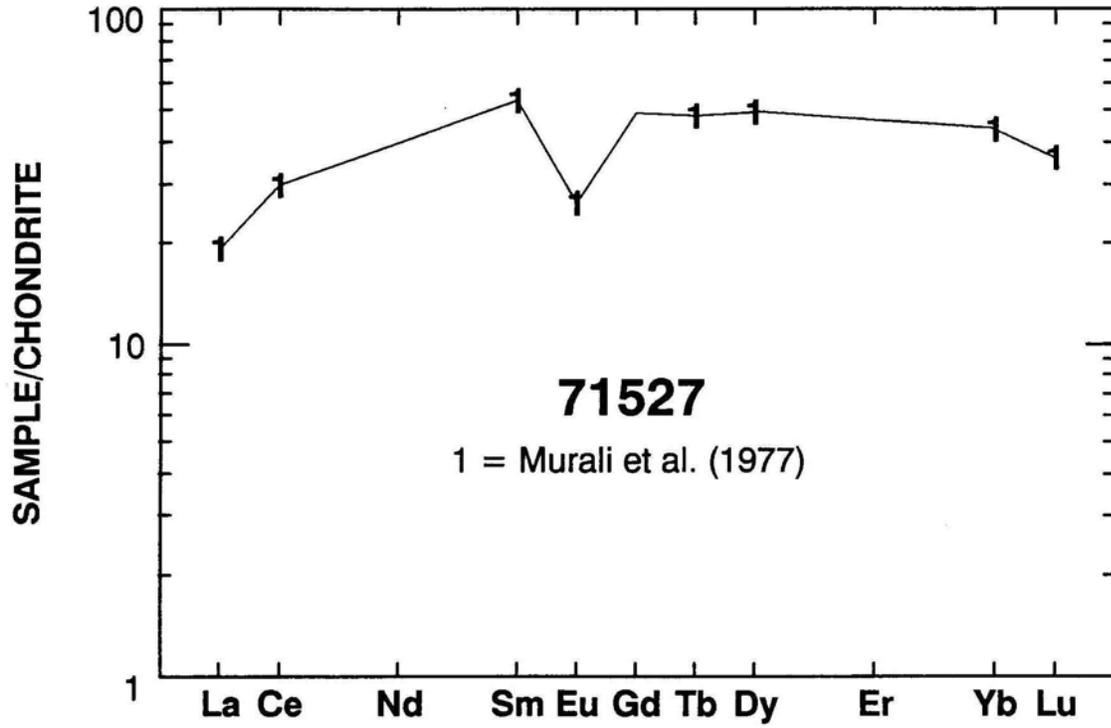


Figure 2: Chondrite -normalized rare-earth element plot of 71527. Data from Murali et al. (1977).

Table 1: Whole-rock chemistry of 71527.
Data from Murali et al. (1977).

Sample 71527,1 Method N		Sample 71527,1 Method N	
SiO ₂ (wt %)		Cu	
TiO ₂	12.8	Ni	
Al ₂ O ₃	9.1	Co	17.0
Cr ₂ O ₃	0.408	V	100
FeO	19.3	Sc	77
MnO	0.255	La	6.4
MgO	10.0	Ce	26
CaO	10.1	Nd	
Na ₂ O	0.42	Sm	10.9
K ₂ O	0.066	Eu	2.05
P ₂ O ₅		Gd	
S		Tb	2.8
Nb (ppm)		Dy	17
Zr		Er	
Hf	9.1	Yb	9.7
Ta	1.8	Lu	1.23
U		Ga	
Th		F	
W		Cl	
Y		C	
Sr		N	
Rb		H	
Li		He	
Ba		Ge (ppb)	
Cs		Ir	
Be		Au	
Zn		Ru	
Pb		Os	

Analysis by: N = INAA.