

78578**High-Ti Mare Basalt****17.13 g, 3.6 x 1.7 x 1.7 cm****INTRODUCTION**

Sample 78578 was collected as part of the large rake sample at Station 8 (Keil et al., 1974). This sample is a coarse-grained, vuggy, ilmenite-rich mare basalt (Fig. 1).

PETROGRAPHY

Fig. 2 illustrates the plagioclase-poikilitic texture of this ilmenite

basalt. It has about 51% pyroxene, 28% plagioclase, and 16% ilmenite with a trace of olivine, silica, annalcolite, tranquillityite, and baddeleyite.

MINERAL CHEMISTRY

The mineral compositions were reported in Warner et al. (1978f) (Fig. 3).

WHOLE-ROCK CHEMISTRY

Laul et al. (1975b) and Warner et al. (1975b) have reported the chemical composition of 78578 (Table 1 and Fig. 4). It is a high-Ti basalt with typical REE pattern.



Figure 1: Photograph of 78578. Scale is 1 cm. S73-21032.

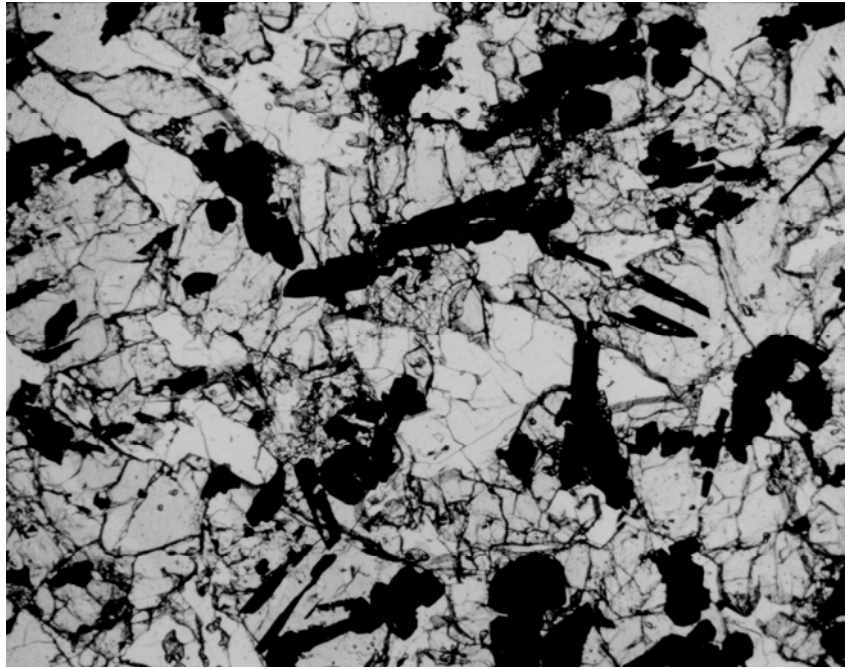


Figure 2: Photomicrograph of thin section 78578.7. Field of view is 3 x 4 mm.

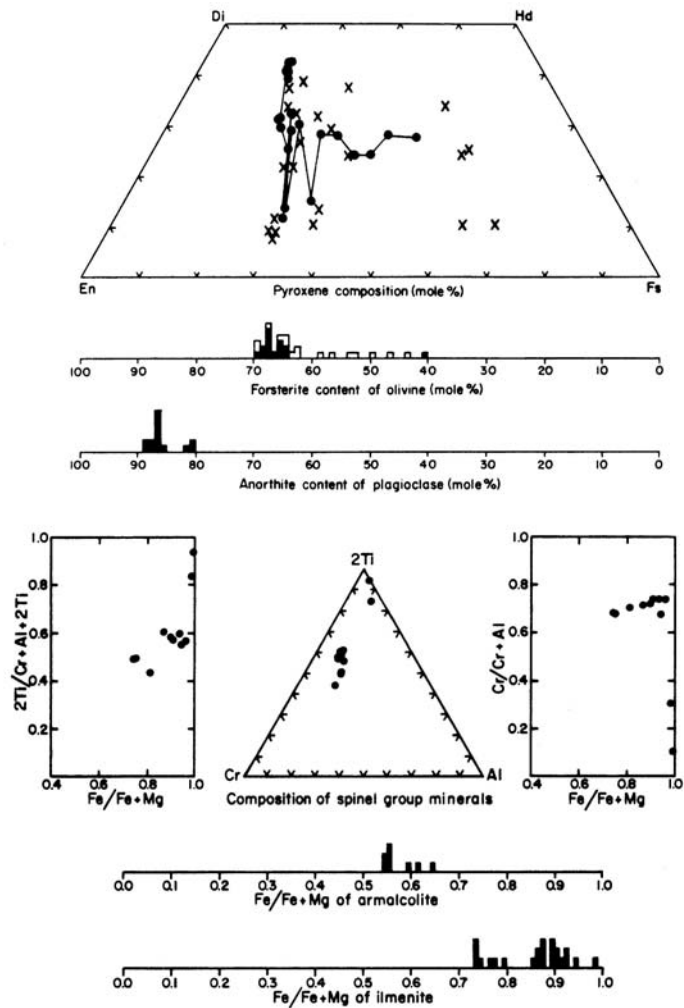


Figure 3: Mineral compositions for 78578. From Warner et al. (1978f).

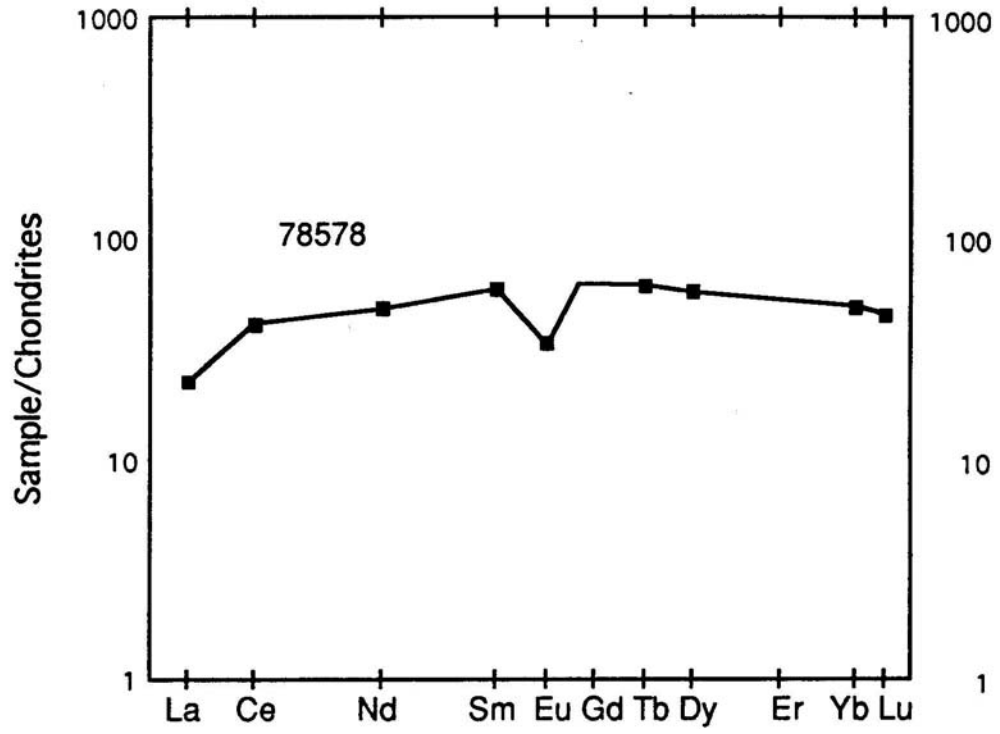


Figure 4: Normalized rare earth element diagram of 78578. Data from Warner et al. (1975b).

Table 1: Whole-rock chemistry of 78578.
From Warner et al. (1975b).

Split Technique	³ INAA
SiO ₂ (wt%)	–
TiO ₂	11.2
Al ₂ O ₃	9.0
Cr ₂ O ₃	0.42
FeO	18.6
MnO	0.23
MgO	8.2
CaO	10
Na ₂ O	0.4
K ₂ O	0.07
Nb (ppm)	
Hf	7.7
Ta	1.5
Co	19.4
Sc	75
La	5.4
Ce	25
Nd	22
Sm	8.6
Eu	1.9
Gd	
Tb	2.2
Dy	14
Er	
Yb	7.8
Lu	1.1
Ge (ppb)	
Ir	
Au	