

**78579****High-Ti Mare Basalt****6.07 g, 2.4 x 2.0 x 1.0 cm****INTRODUCTION**

Sample 78579 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**

The texture of mare basalt 78579 is transitional between olivine-

microporphyritic and plagioclase-poikilitic. The mineralogical mode is ~48% pyroxene, 28% plagioclase, 16% ilmenite, and 4% silica. There is also a trace of olivine, armalcolite, and tranquillityite.

**MINERAL CHEMISTRY**

Warner et al. (1978f) determined the compositions of all the minerals in 78579 (Fig. 3).

**WHOLE-ROCK CHEMISTRY**

Murali et al. (1977b) have reported the chemical composition of 78579 (Table 1 and Fig. 4).



Figure 1: Photograph of 78579. Scale is 1 cm. S73-21031.

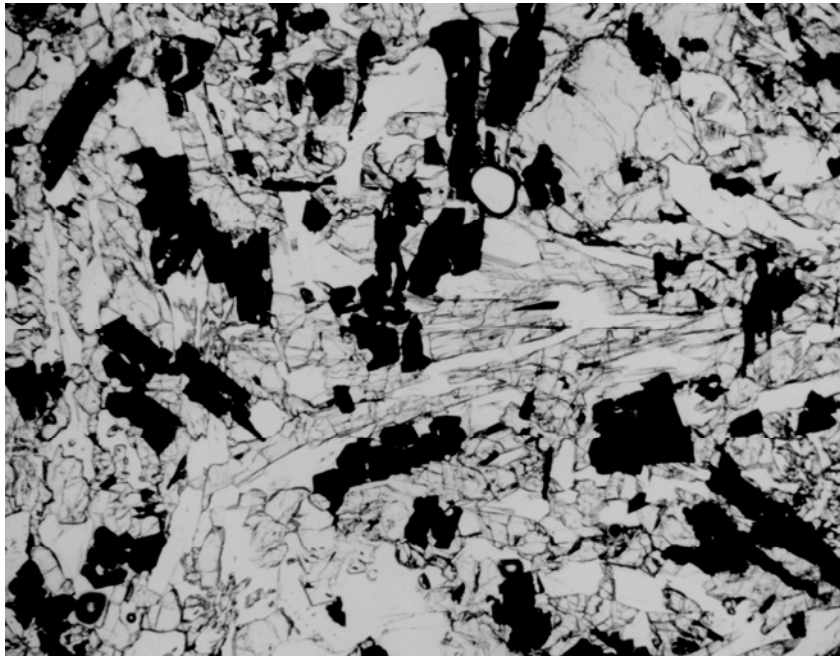


Figure 2: Photomicrograph of thin section 78579,4. Field of view is 3 x 4 mm.

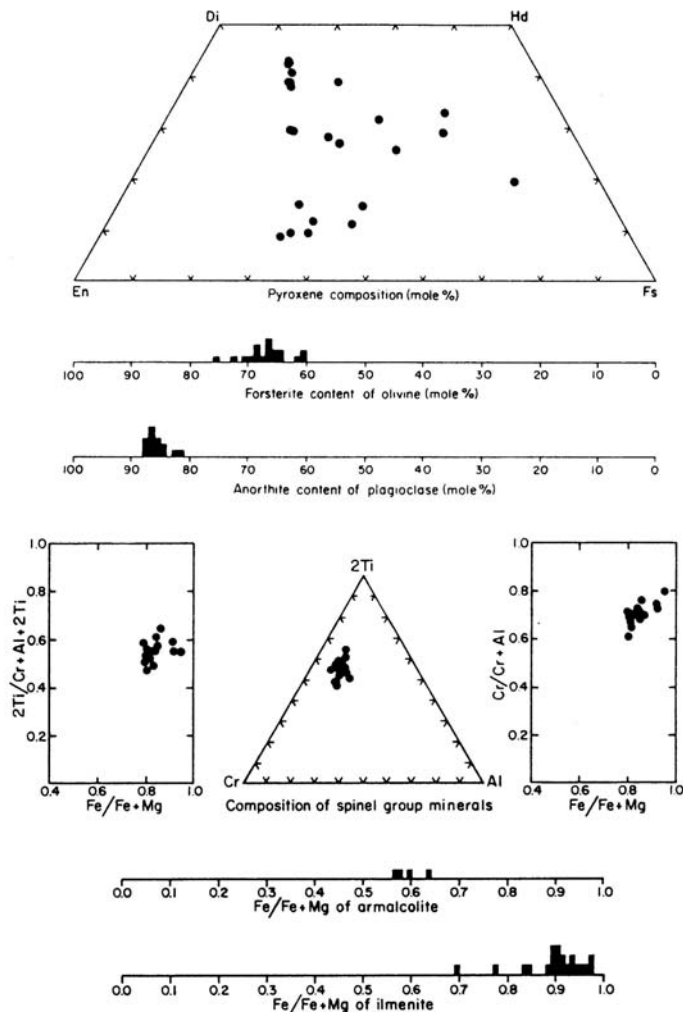


Figure 3: Mineral compositions for 78579. From Warner et al. (1978f).

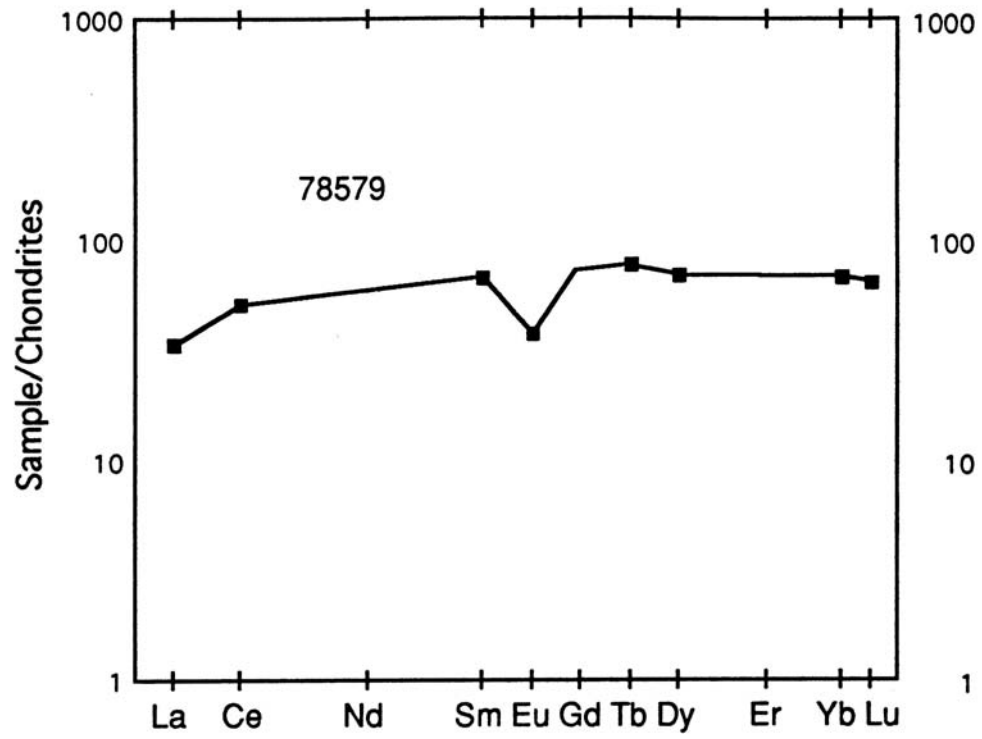


Figure 4: Normalized rare earth element diagram of 78579. Data from Murali et al. (1977b).

**Table 1: Whole-rock chemistry of 78579.**  
From Murali et al. (1977b).

<b>Split Technique</b>	<b>,1 INAA</b>
SiO <sub>2</sub> (wt%)	–
TiO <sub>2</sub>	12.0
Al <sub>2</sub> O <sub>3</sub>	8.5
Cr <sub>2</sub> O <sub>3</sub>	0.447
FeO	19.8
MnO	0.241
MgO	8.2
CaO	9.9
Na <sub>2</sub> O	0.37
K <sub>2</sub> O	0.064
Nb (ppm)	
Zr	
Hf	9.7
Ta	1.8
Co	17.9
Sc	77
La	7.9
Ce	31
Nd	
Sm	9.9
Eu	2.14
Gd	
Tb	2.8
Dy	17
Er	
Yb	11.1
Lu	1.54
Ge (ppb)	
Ir	
Au	