

65779

65779 BASALTIC IMPACT MELT

12.71 g

INTRODUCTION: 65779 is a light gray, coherent, basaltic impact melt collected as a rake sample. One 4 mm, glass lined zap pit is present (Fig. 1), and there are abundant rusty spots.



FIGURE 1. Smallest scale division in mm. S-72-48819.

PETROLOGY: Dowty et al. (1974b) and Warner et al. (1976b) provide petrographic descriptions. This rock is a very fine-grained impact melt with small plagioclase needles (~0.05 mm long) subophitically enclosed by olivine and pyroxene (Fig. 2). Dark, glassy mesostasis is abundant. Plagioclase clasts account for 8% of the rock with a few small olivine clasts also present. Mineral compositions are shown in Figure 3 and tabulated by Dowty et al. (1976). Accessory phases include ilmenite, armalcolite, Fe-metal (3.7-5.9% Ni, 0.41-0.49% Co), troilite and schreibersite.

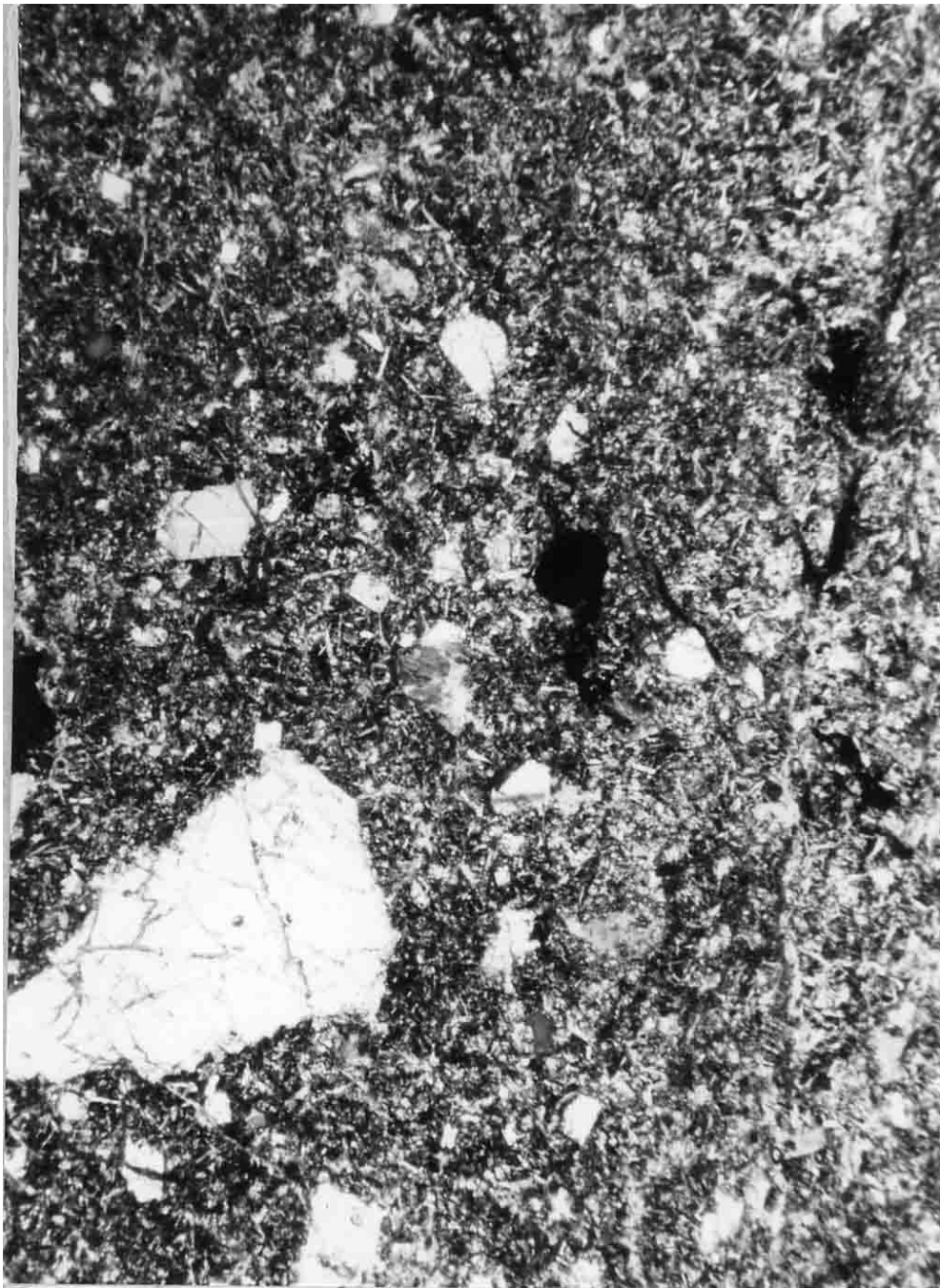


FIGURE 2. 65779,4. General basaltic melt, partly xpl. Width 2 mm.

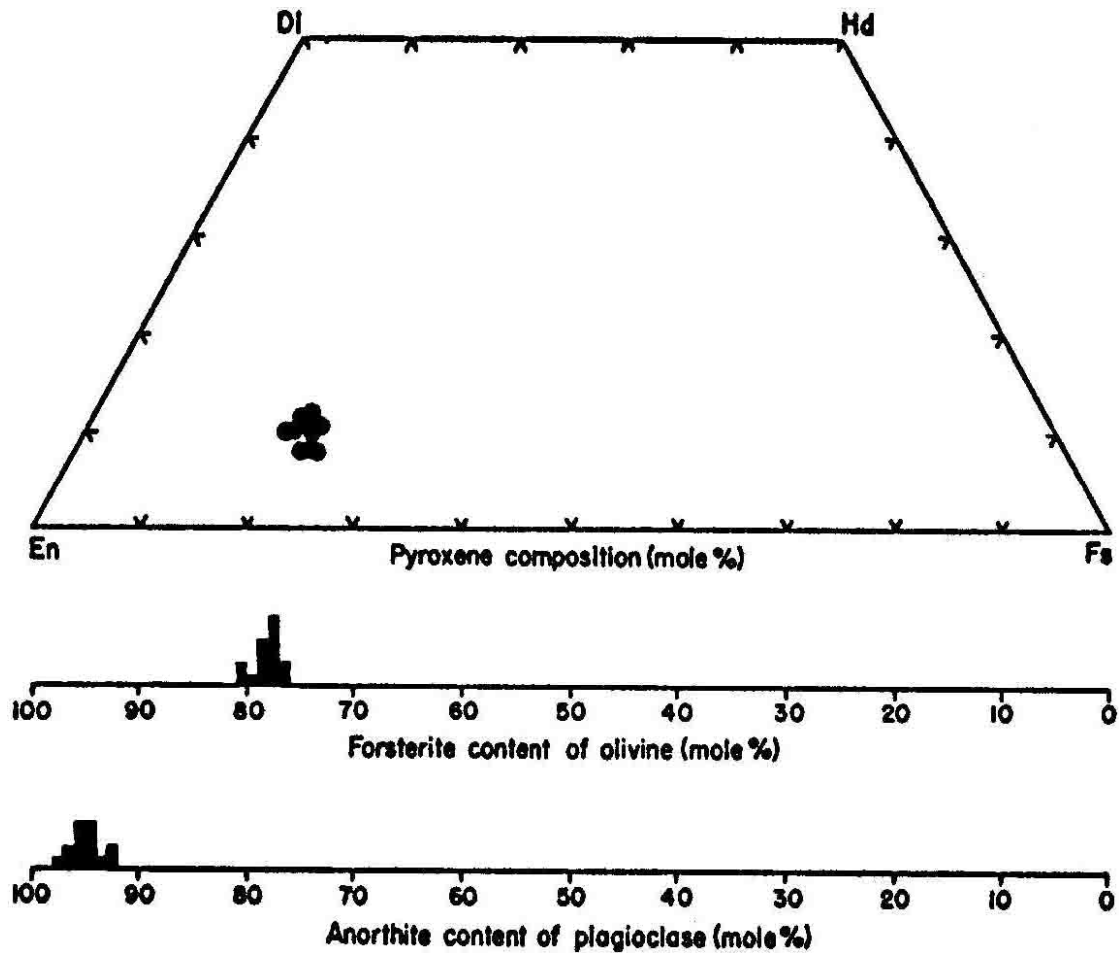


FIGURE 3. Mineral compositions; from R. Warner et al. (1976b).

CHEMISTRY: Major and trace element data are given by Wasson et al. (1977). Major elements by DBA are presented by Dowty et al. (1974b) and reproduced by Warner et al. (1976b).

The two analyses agree fairly well and indicate that 65779 is much less aluminous than the local bulk soils (Table 1). This rock is highly enriched in both incompatible elements and in siderophiles (Table 1).

PROCESSING AND SUBDIVISIONS: In 1973 four small chips (,1) were allocated to Keil for petrography. In 1976 several undocumented bits (,3) were allocated to Wasson for chemistry.

TABLE 1. Summary chemistry of 65779 (Wasson et al., 1977).

*SiO ₂	45.6	Sr	
TiO ₂	0.95	La	29.5
Al ₂ O ₃	23.6	Lu	1.24
Cr ₂ O ₃	0.17	Rb	
FeO	8.3	Sc	11.6
MnO	0.09	Ni	1080
MgO	10.0	Co	69
CaO	12.7	Ir ppb	26
Na ₂ O	0.50	Au ppb	24
K ₂ O	0.21	C	
*P ₂ O ₅	0.19	N	
		S	
		Zn	≤9.2
		Cu	

Oxides in wt%; others in ppm except as noted.
 *from DBA by Dowty et al. (1974b)