65777 POIKILITIC IMPACT MELT 16.53 g

INTRODUCTION: 65777 is a light gray, coherent, poikilitic impact melt collected as a rake sample (Fig. 1). Some splastl glass is present. Zap pits are rare.

PETROLOGY: A brief petrographic description and mineral compositions are given by Warner et al. (1976b). Texturally 65777 is a typical Apollo 16, fine-grained poikilitic impact melt. Oikocrysts of predominantly low-Ca pyroxene (~0.3 mm long) enclose abundant chadacrysts of plagioclase and subordinate olivine (Fig. 2). Clasts are relatively scarce. Mineral compositions are shown in Figure 3 and tabulated by Dowty et al. (1976). Accessory phases include ilmenite, armalcolite, Fe-metal (4-7.7% Ni, 0.4-0.7% Co) and a "K-rich phase" (11.4-13.2% K_2O) (Warner et al., 1976b).

FIGURE 1. Smallest scale division in mm. S-72-48813.

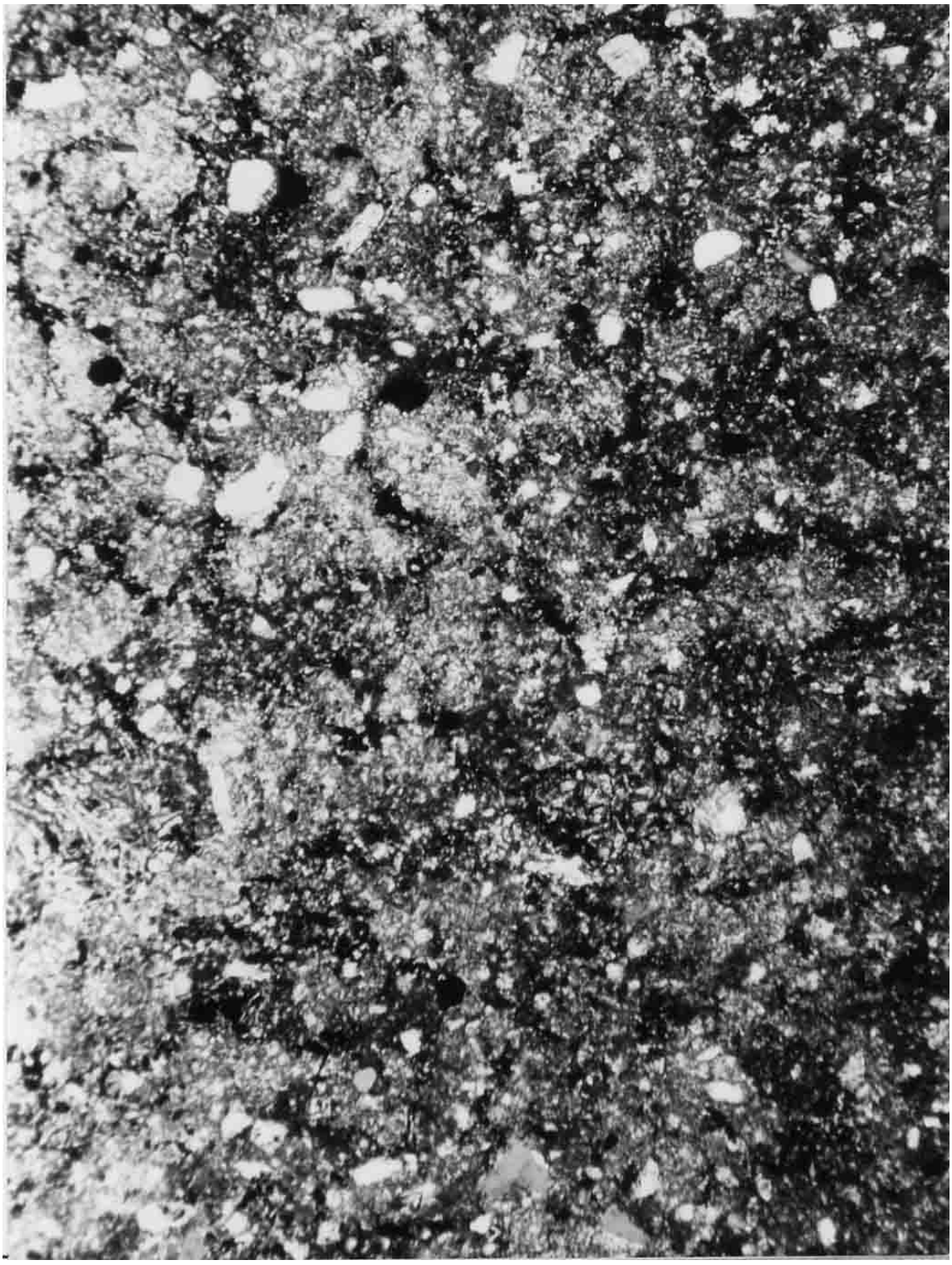

FIGURE 2. 65777,2. General view, partly xpl. Width 2 mm.

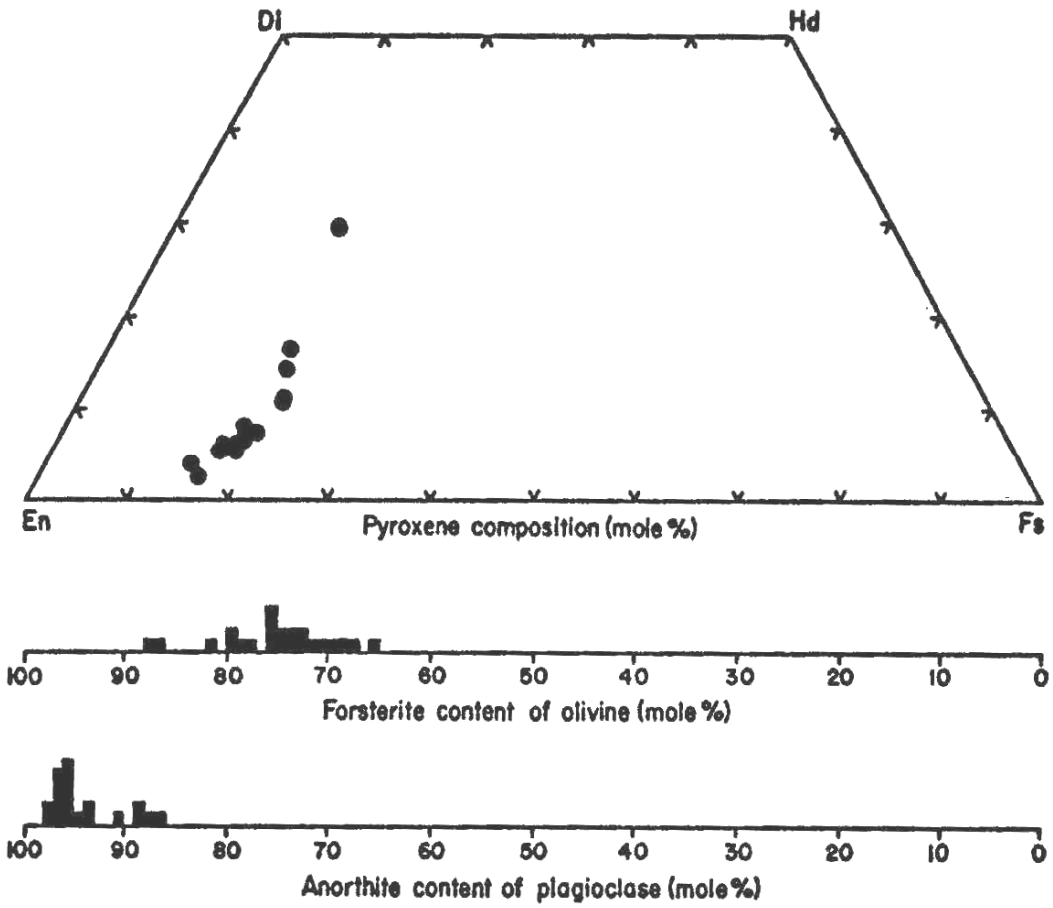

FIGURE 3. Mineral compositions; from R. Warner et al. (1976b).

CHEMISTRY: Major and trace element data are presented by Laul and Schmitt (1973). Warner et al. (1976b) give a defocussed electron beam analysis (DBA). Ca and K abundances are reported by Schaeffer and Schaeffer (1977) in an Ar geochronological study.

These data show 65777 to be compositionally similar to the well-studied poikilitic rocks such as 60315 (Table 1); alumina is relatively low for a highlands rock and incompatible elements and siderophiles are exceptionally high (Table 1).

TABLE 1. Summary chemistry of 65777 (from Laul and Schmitt, 1973).

*SiO_2	47.7	Sr		
TiO_2	1.2	La		53
Al_2O_3	18.5	Lu		2.1
FeO	9.0	Rb		
MnO	0.106	Sc		14
MgO	~10	Ni		1100
CaO	11.3	Co		59
Na_2O	0.660	Ir	ppb	17
K_2O	0.37	Au	ppb	22
*P_2O_5	0.43	C		
		N		
		S		
Oxides in wt%; others in ppm except as noted.		Zn		
(* from Warner et al., 1976b DBA)		Cu		

RADIOGENIC ISOTOPES/GEOCHRONOLOGY: Ar isotopic data are provided by Schaeffer and Schaeffer (1977). These data yield an ^{40}Ar-^{39}Ar plateau age of 3.72 ± 0.02 b.y. The low temperature fractions show evidence of large ^{40}Ar losses by diffusion. Above 1100°C the age drops off to 3.57 b.y.

RARE GASES/EXPOSURE AGES: An ^{38}Ar exposure age of 8 m.y. is reported by Schaeffer and Schaeffer (1977).

PROCESSING AND SUBDIVISIONS: In 1973, three splits (,1 - ,3) were allocated for petrology, chemistry and geochronology. No further splits have been made.