

INTRODUCTION: 61568 is a coherent, medium gray, crystalline impact melt with few vesicles (Fig. 1). It is a rake sample collected ~45 m northeast of Plum Crater. Zap pits are abundant.



FIGURE 1. Sample is approximately 3.1 cm across. S-72-55324.

PETROLOGY: The only thin section of this rock is dilithologic, showing a fine-grained basaltic impact melt in sharp contact with a poikilitic lithology (Fig. 2). Warner et al. (1973) include 61568 in a general petrographic discussion of Apollo 16 rake samples and provide mineral compositions for the basaltic lithology. Simonds et al. (1973) give a brief petrographic description and mineral compositions of the poikilitic material. Clast/matrix relations cannot be determined from this thin section.

The basaltic lithology is fine-grained with grains of olivine and pyroxene filling interstices between plagioclase laths. Relatively large and angular clasts of plagioclase are abundant (Fig. 2). Mineral compositions are shown in Figure 3.

The poikilitic lithology is composed of pigeonite oikocrysts surrounding chadacrysts and clasts of plagioclase, olivine and opaques. Mineral compositions are shown in Figure 3. Coexisting Fe-metal and schreibersite compositions are given by Gooley et al. (1973) and are reproduced here as Table 1.

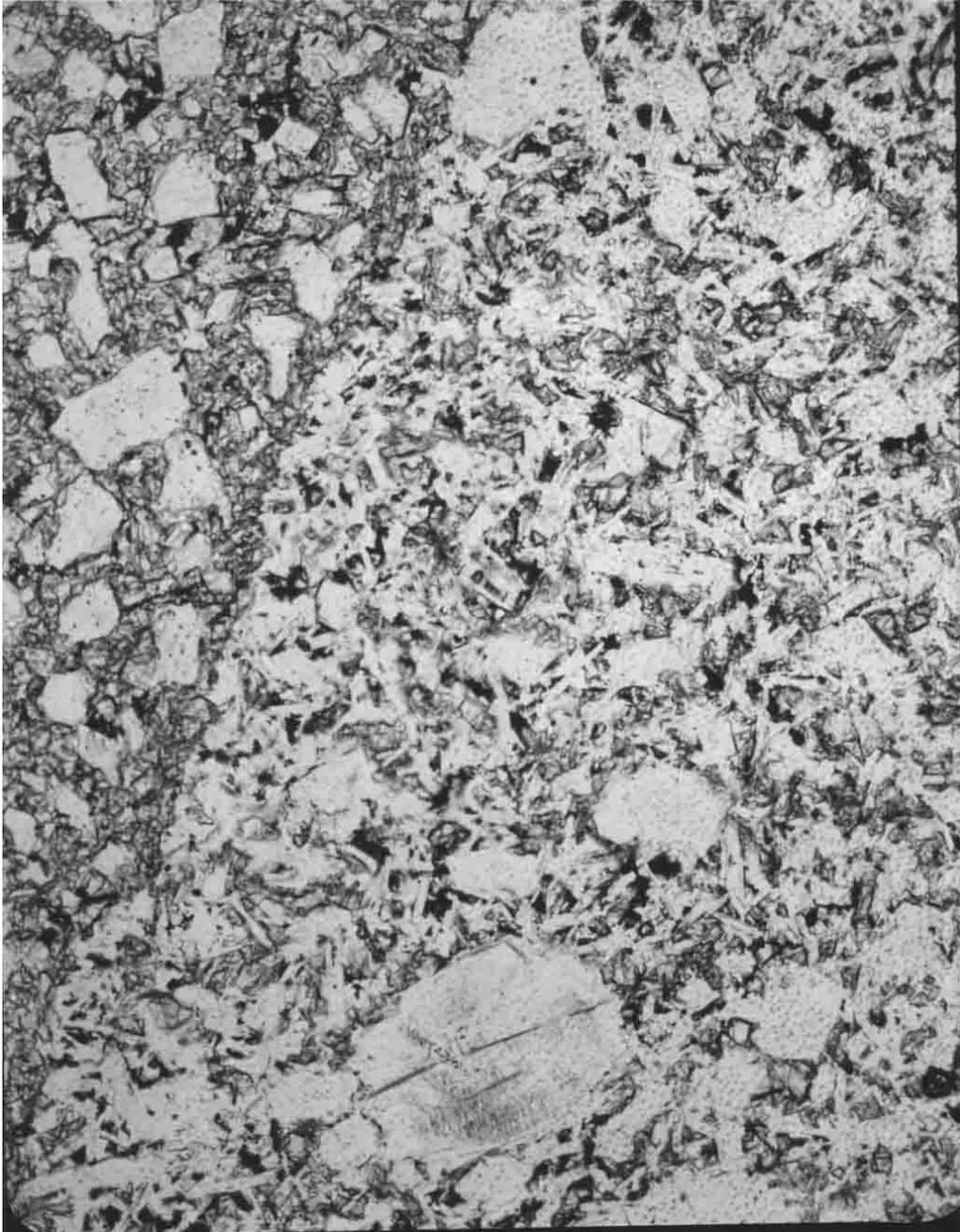


FIGURE 2. 61568,4, general view, ppl. Width 2 mm.

TABLE 1. Coexisting metal and schreibersite compositions (wt%).

	Ni	Co	Fe	P	S
a) Metal	6.9	0.4	92.4	0.01	0.02
Schreibersite	47.3	0.05	38.1	15.2	0.07
b) Metal	4.1	0.5	95.8	0.04	0.02
Schreibersite	32.7	0.1	50.9	15.4	0.06

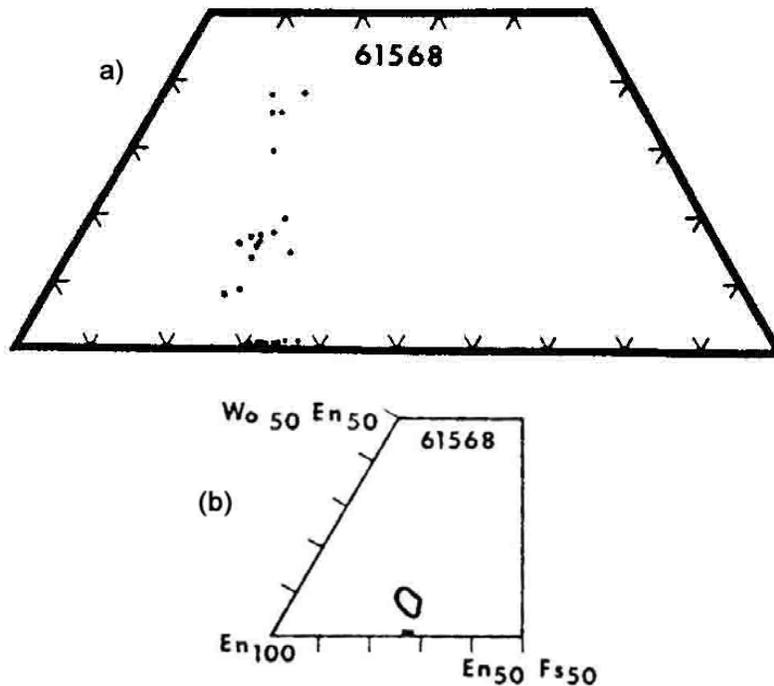


FIGURE 3. Mafic mineral compositions, olivine plotted along base;
 a) basaltic melt, from Warner et al. (1973);
 b) poikilitic melt, from Simonds et al. (1973).

PHYSICAL PROPERTIES: Pearce and Simonds (1974) report the results of a room temperature hysteresis curve determination on 61568. The very low saturation remanence to saturation magnetization ratio ($J_{RS}/J_S = 0.0021$) indicates that most of the ferromagnetic phases in 61568 occur as $>300 \text{ \AA}$ multidomain particles. The total Fe^0 is 0.26 wt% and $\text{Fe}^0/\text{Fe}^{2+}$ is 0.0921 (Pearce and Simonds, 1974).

PROCESSING AND SUBDIVISIONS: In 1972 a small chip (,1) was allocated to Phinney for thin sectioning and petrography. The magnetic studies were done on the potted butt made from ,1.