61569 POIKILITIC IMPACT MELT 12.02 g

INTRODUCTION: 61569 is a medium gray, coherent, poikilitic impact melt (Fig. 1). It is angular with ~5% vesicles, and was collected ~45 m northeast of Plum Crater. Zap pits are absent.

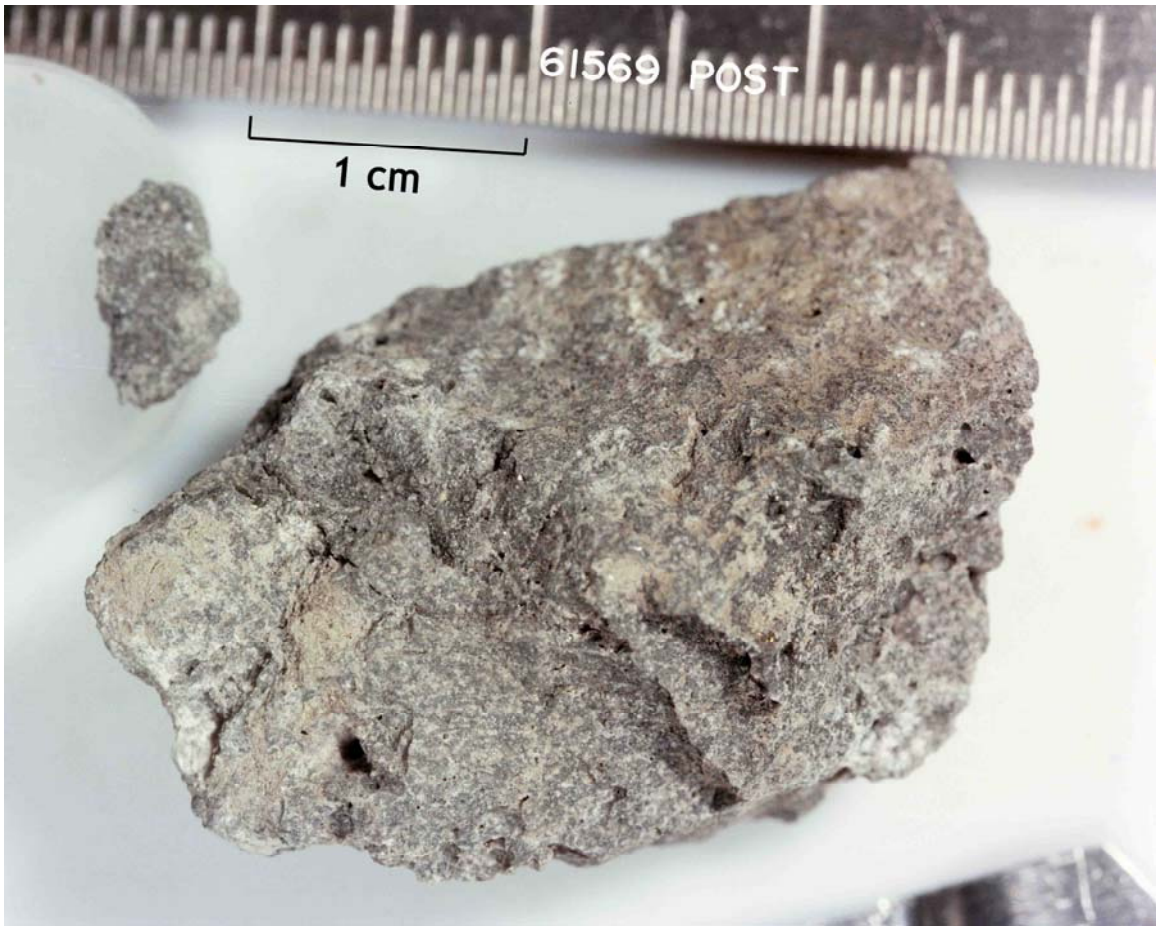

FIGURE 1. S-72-55317.

PETROLOGY: A petrographic description is given by Simonds et al. (1973). 61569 differs from most other Apollo 16 poikilitic rocks in that olivine is the major oikocryst phase. Rounded olivine oikocrysts (up to 1.5 mm across) enclose equant to tabular plagioclase chadacrysts and rare augite chadacrysts (Fig. 2). Plagioclase clasts are concentrated between the olivines and are surrounded by oikocrysts of pigeonite. Simonds et al. (1973) give a mode of 68% plagioclase + mesostasis, 22% olivine, 6% pigeonite, 2% augite and 2% opaques. Mineral compositions are shown in Figure 3.

CHEMISTRY: Major and trace element data are given by Wasson et al. (1977) and summarized here as Table 1.

PROCESSING AND SUBDIVISIONS: In 1972 a small chip (,1) was removed and allocated to Phinney for thin sectioning and petrography. In 1977 another small piece (,5) was allocated to Wasson for chemistry.

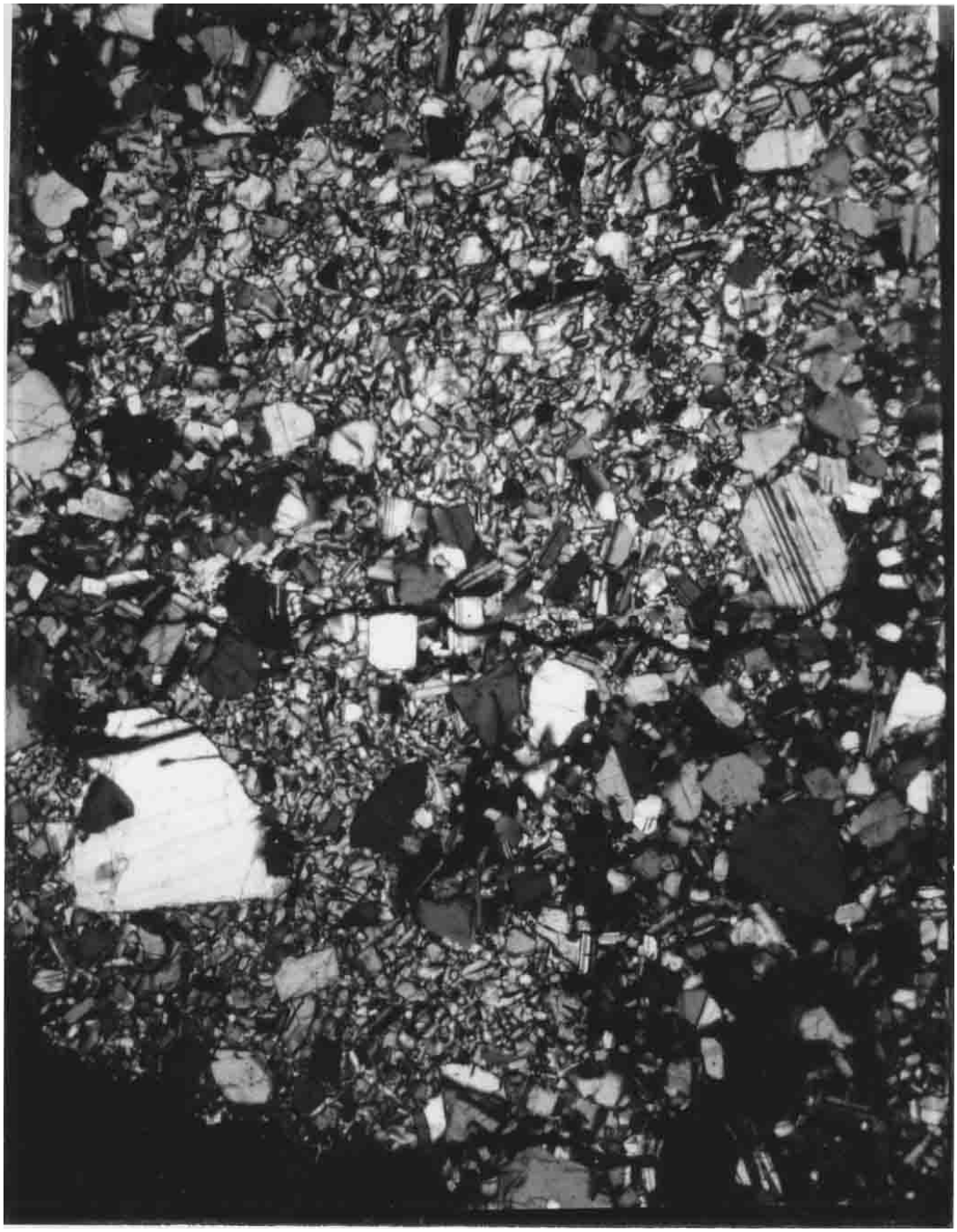

FIGURE 2. 61569,4, general view, xpl. Width 2 mm.

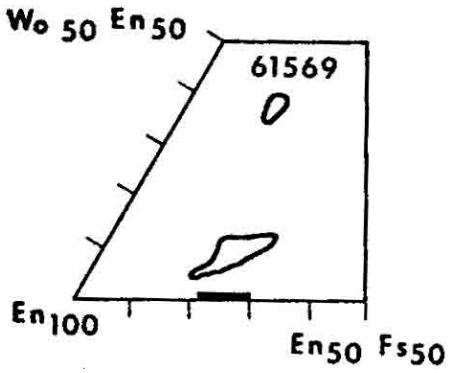

FIGURE 3. Mafic mineral compositions, olivine plotted along base, from Simonds et al. (1973).

TABLE 1. Summary chemistry of 61569.

SiO_2		
TiO_2		1.00
Al_2O_3		21.9
Cr_2O_3		0.16
FeO		7.4
MnO		0.09
MgO		10.0
CaO		12.9
Na_2O		0.467
K_2O		0.186
P_2O_5		
Sr		
La		18.1
Lu		0.82
Rb		
Sc		12.4
Ni		1000
Co		54
Ir	ppb	20
Au	ppb	18
C		
N		
S		
Zn		
Cu		

Oxides in wt%; others in ppm except as noted.