

**INTRODUCTION:** 61525 is a moderately friable, medium gray, polymict breccia with considerable glass in the matrix (Fig. 1). It is a rake sample collected ~45 m northeast of Plum Crater. Zap pits are abundant on one surface, absent on others.



FIGURE 1. Smallest scale division in mm. S-72-55332.

**PETROLOGY:** Warner et al. (1973) include 61525 in a general petrographic discussion of Apollo 16 rake samples and classify it as a “glassy breccia.” Phinney et al. (1976) studied the matrix characteristics using SEM techniques.

61525 consists of shocked mineral and lithic clasts, and occasional beads and fragments of clear glass, in a chaotic, glassy matrix (Fig. 2). Phinney et al. (1976) report that the matrix contains ~25% glass and variable (1-10%) porosity. Fe-metal compositions are provided by Gooley et al. (1973) and reproduced here as Table 1.

CHEMISTRY: Floran et al. (1976) report major element data obtained by electron microprobe analysis of natural rock powder fused to a glass (except FeO and Na<sub>2</sub>O, by instrumental neutron activation). Blanchard (unpublished data) provides a trace element analysis and the FeO and Na<sub>2</sub>O data quoted by Floran et al. (1976).

These data show that 61525 is similar to the local mature soils in major element composition, but is somewhat enriched in rare earth elements compared to the soils (Table 2, Fig. 3).

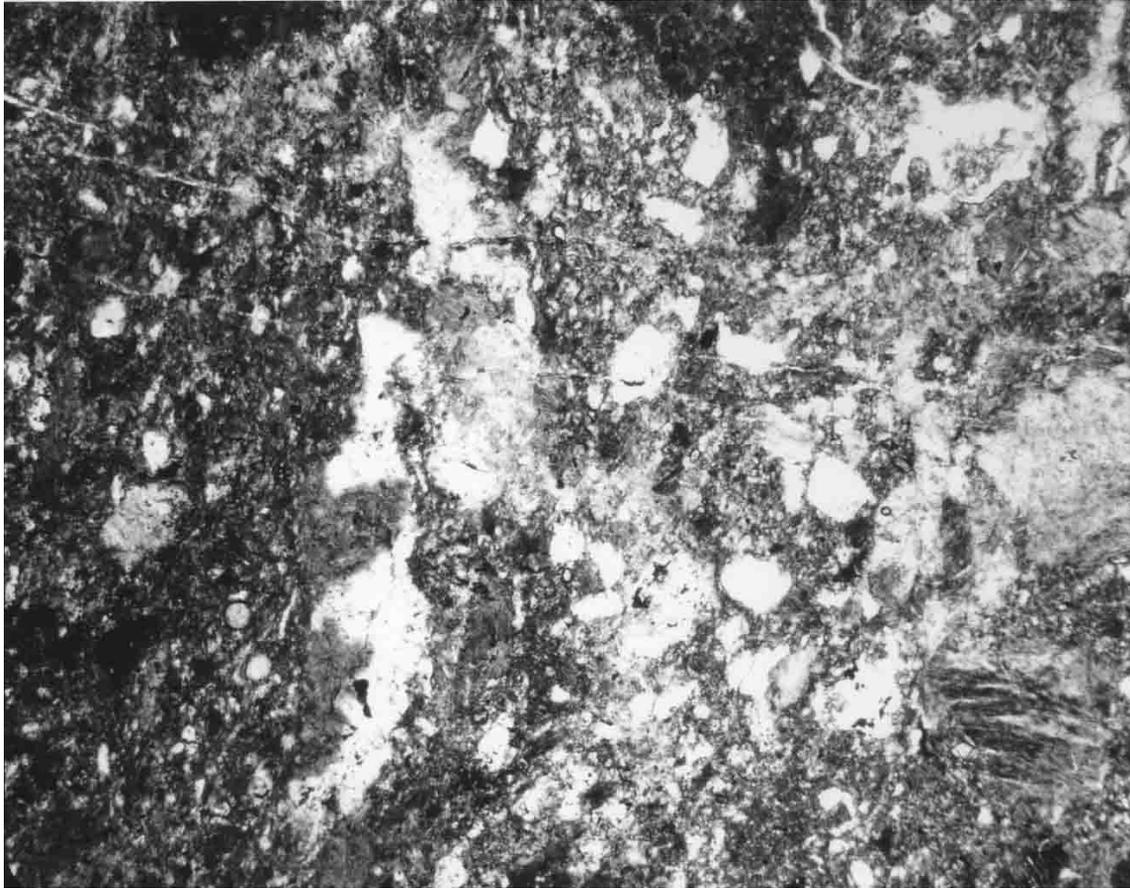


FIGURE 2. 61525,4, general view, ppl. Width 2 mm.

**PHYSICAL PROPERTIES:** Pearce and Simonds (1974) report the results of a room temperature hysteresis curve determination on 61525. The saturation remanence to saturation magnetization ratio ( $J_{RS}/J_S = 0.014$ ) indicates that 3-6% of the ferromagnetic phases in this sample are single domain particles and the rest are multidomain.  $FeO/Fe^{2+}$  is 0.0654 and total FeO is 0.25 wt%.

**PROCESSING AND SUBDIVISIONS:** In 1972 a single chip (,1) was removed and allocated to Phinney for thin sectioning and petrography. In 1975 a set of three small chips (,3) were allocated for chemistry; the analyses of Floran et al.(1976) and Blanchard (unpublished) are both portions of this split. The magnetic studies were done on the potted butt of ,1.

TABLE 1. Metal Compositions of 61525 (wt %).

	<u>Ni</u>	<u>Co</u>	<u>P</u>	<u>S</u>
Metal	5.6-6.6	0.5	0.0-0.2	0.02

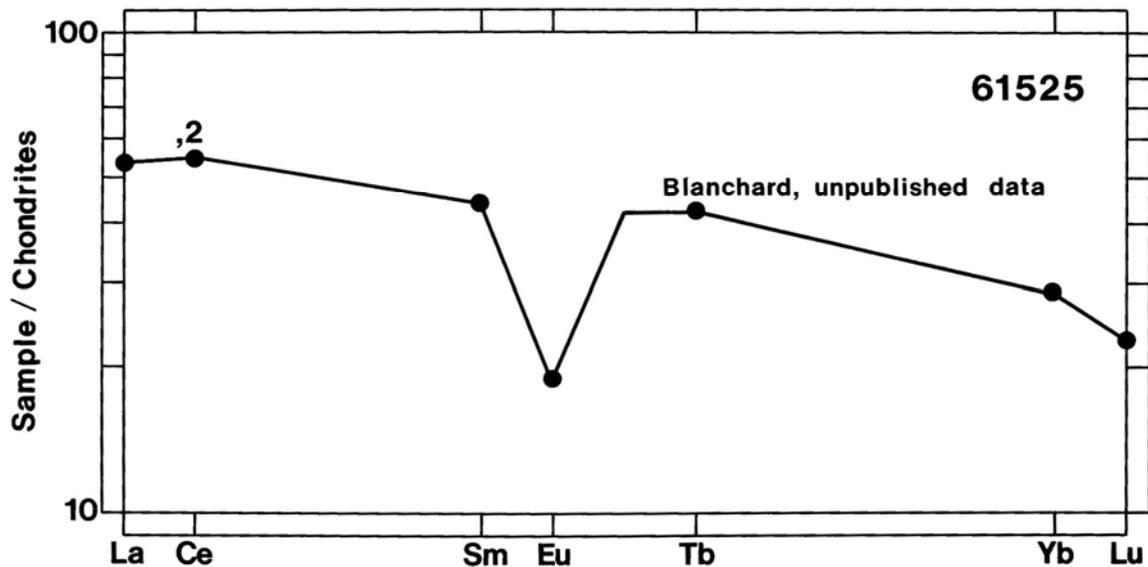


FIGURE 3. Rare earths.

TABLE 2. Summary Chemistry of 61525.

SiO <sub>2</sub>	45.85
TiO <sub>2</sub>	0.55
Al <sub>2</sub> O <sub>3</sub>	26.19
Cr <sub>2</sub> O <sub>3</sub>	0.120
FeO	5.27
MnO	
MgO	5.57
CaO	15.12
Na <sub>2</sub> O	0.591
K <sub>2</sub> O	0.23
P <sub>2</sub> O <sub>5</sub>	
Sr	
La	17.6
Lu	0.776
Rb	
Sc	9.24
Ni	190
Co	17.8
Ir ppb	
Au ppb	
C	
N	
S	
Zn	50
Cu	

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