

INTRODUCTION: 60055 is a homogeneous, friable, cataclastic anorthosite which is chemically pristine. Original surface features have been obscured due to its friable, dusty nature (Fig. 1). This rock was collected about 170 m south-southwest of the Lunar Module. The sample was disturbed prior to photographing, hence burial and orientation data were lost.



FIGURE 1. S-72-41416.

PETROLOGY: Warren and Wasson (1978) provide petrographic information. They describe a granular, unannealed anorthosite with 98% plagioclase (An_{95-96}) and 2% high-Ca pyroxene ($Wo_{42-44}En_{42}$). A single grain of exsolved low-Ca pyroxene (Wo_2En_{61}) is also mentioned. Original grain size was >2 mm.

Our own thin section observations confirm that the rock is a porous, cataclastic anorthosite (Fig. 2) with traces of a silica mineral, rare grains of ilmenite with exsolved rutile lamellae, and at least one other, more-poorly-reflecting opaque phase. Rare relict grain boundaries between mafics and plagioclase are present.

CHEMISTRY: Warren and Wasson (1978) report major and trace element data. Their analysis confirms the highly anorthosite nature of the rock and demonstrates that the rock is free of meteoritic siderophiles and low in incompatible elements (Table 1).

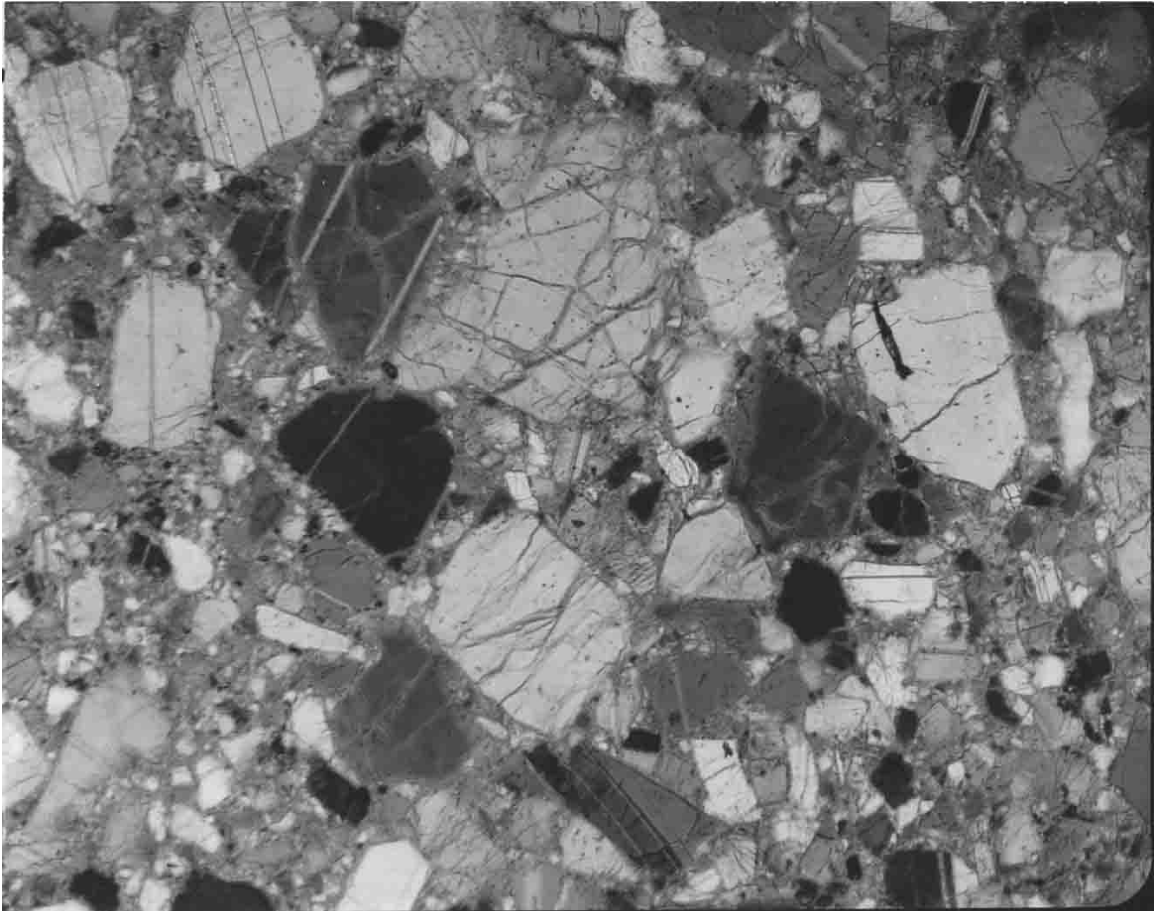


FIGURE 2. 60055,4. General view, partly xpl. Width 2.3 mm.

TABLE 1. Summary chemistry of anorthosite 60055.

SiO ₂	44.3
TiO ₂	
Al ₂ O ₃	34.0
Cr ₂ O ₃	0.005
FeO	0.34
MnO	0.096
MgO	0.33
CaO	19.04
Na ₂ O	0.335
K ₂ O	0.010
P ₂ O ₅	
Sr	
La	0.13
Lu	0.0038
Rb	
Sc	0.55
Ni	1.9
Co	0.84
Ir ppb	0.013
Au ppb	0.014
C	
N	
S	
Zn	0.60
Cu	

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