12030

Soil

75 grams

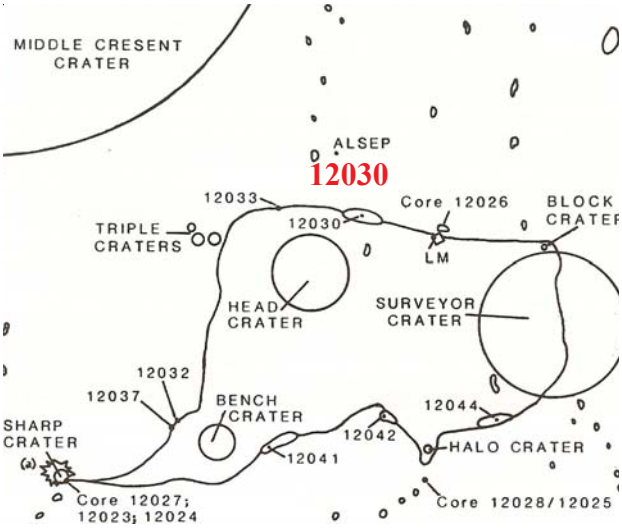


Figure 1: Location of 12030 from near ALSEP site.

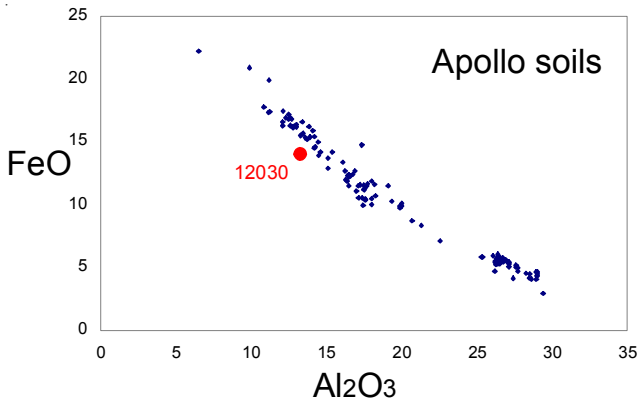


Figure 2: Composition of 12030 compared with other Apollo soil samples.

Introduction

12030 are fines collected in documented bag #1. It was collected near Head Crater and ALSEP site (exact location not documented) and included "two large agglutinate fragments", returned in the same bag.

Petrography

The maturity index for 12030 is I_s/FeO = 14 (very immature) and McKay et al. (1971) found very few "glazed aggregates".

Frondel et al. (1971) determined the mineral mode, but did not specify agglutinates.

The large agglutinates have not been studied.

Chemistry

The only chemical analysis of 12030 is the partial analysis by Frondel et al. (1971) of the fine fraction.

Kerridge et al. (1978) found 160 ppm C and 24 ppm N in 12030.

Mineralogical Mode

McKay et al. (1971)

Glazed Aggregates	0.5 %
Single Xtl	4
Glasses	13
Rocks	5
Breccias	75
Spherules	1

Mineralogical Mode

Frondel et al. 1971

Olivine + Pyroxene	64.6 %
Plagioclase	19.8
Opaques	6.8
Glass, angular	8.4
Glass, rounded	0.4
Silica	0

Other Studies

Heymann et al. (1972) reported rare gas content and isotopic rations for 12030.

Arrhenius et al. (1971) studied the frequency of grains with high fossil nuclear tracks in 12030 (and all other Apollo 12 soil and core samples).

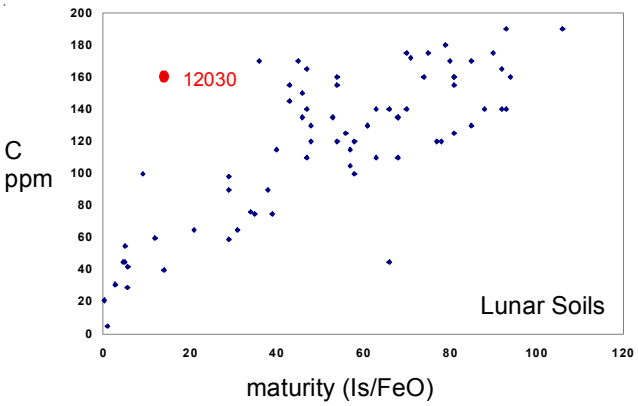


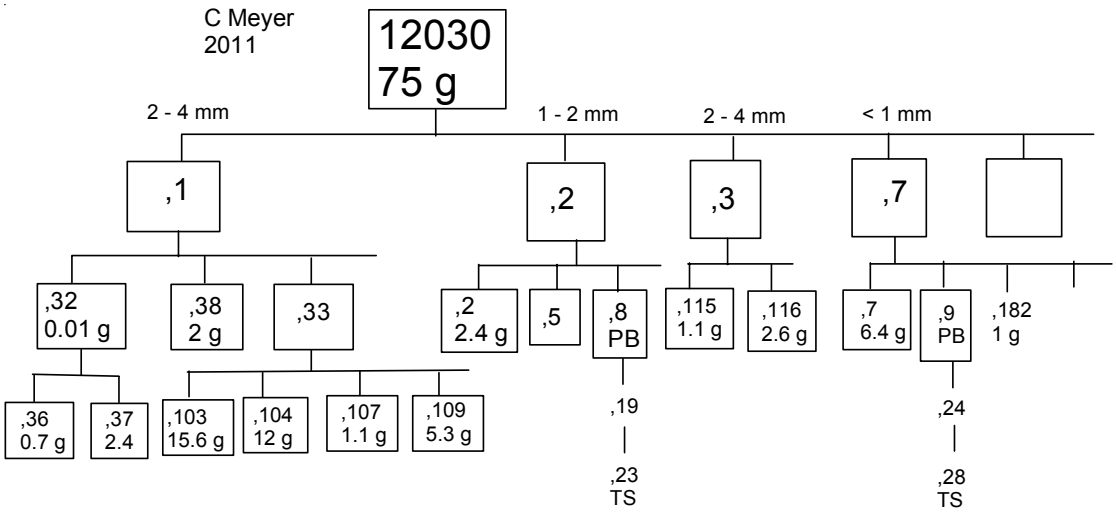
Figure 3: Carbon content and maturity index for 12030.

Table 1. Chemical composition of 12030.

reference	Frondel71	
weight	< 0.037 mm	
SiO2 %	46.6	(a)
TiO2	3.5	(a)
Al2O3	14.7	(a)
FeO	14.3	(a)
MnO	0.21	(a)
MgO	9	(a)
CaO	10.7	(a)
Na2O	0.49	(a)
K2O	0.31	(a)
P2O5		
S %		
sum		
Sc ppm		
V		
Cr	2053	(a)
Co		
Ni		
Cu		

Processing

There are a number of nice thins sections of the coarse particles – see flow diagram.



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