

**75111**  
Soil  
384 grams

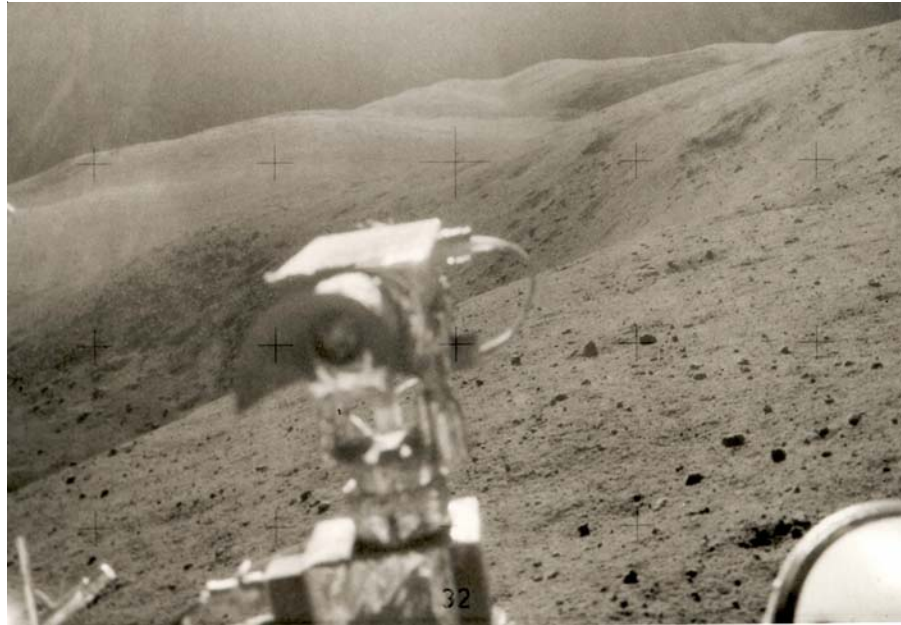


Figure 1: Picture of area where 75110 was collected. AS17-133-20281.

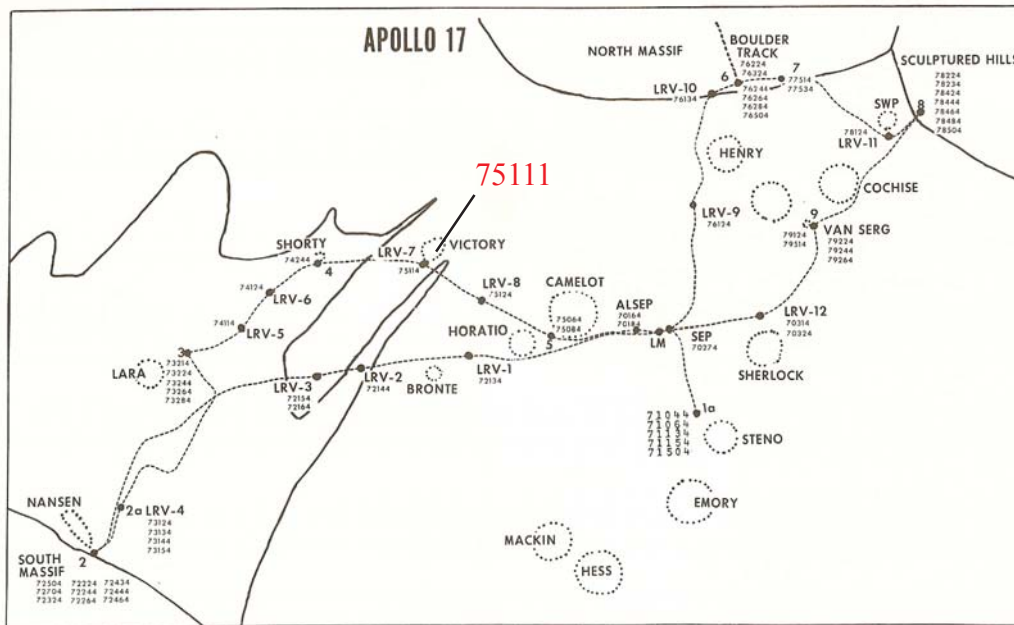


Figure 2: Location of soil sample 75110 at LRV-7 on Apollo 17 map (Meyer 1973). S73-24071

**Introduction**

75110 was collected at the rim of Victory Crater at a stop called LRV – 7. This is a typical mare soil with little admixed highland component.

**Petrography**

The maturity of 75111 is  $I_s/FeO = 54$  and the average grain size is 68 microns (Morris 1978, Graf 1993). The

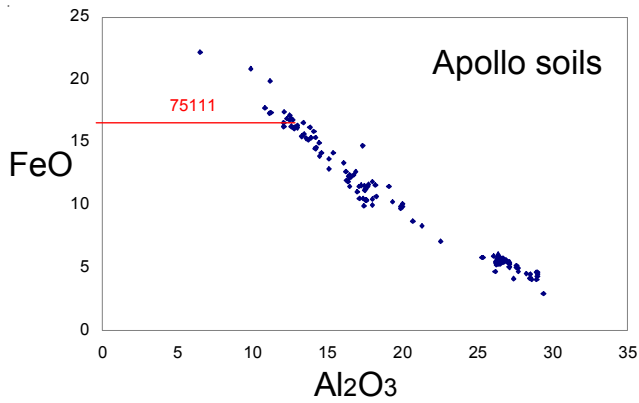


Figure 3: FeO content of 75111 compared with composition of other Apollo soil samples.

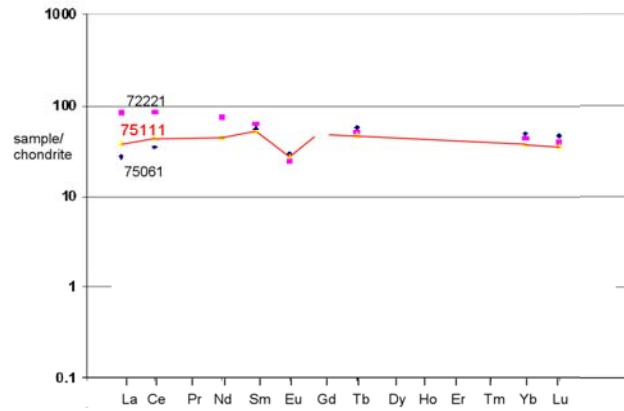


Figure 4: Normalized rare-earth-element diagram of 75111 compared with mare and highland soils.

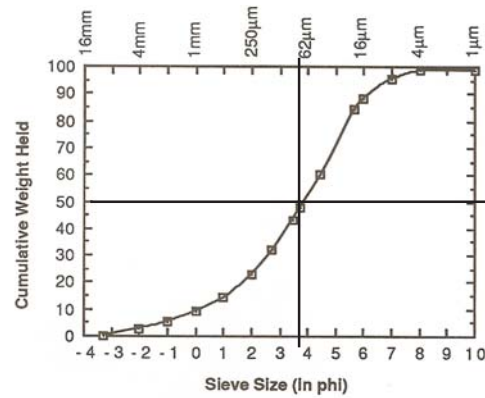
agglutinate content of the 90 – 150 micron fraction was high (52%).

No highland particles were found in the 4 – 10 mm coarse-fines from this soil (Meyer 1973).

**Chemistry**

Korotev and Kremser (1992) determined high FeO and Sc content (figure 3).

Gibson and Moore (1974) reported 1260 ppm sulfur and Gibson and Andrawes (1978) studied nitrogen release by crushing soil (117 ppm N), but somehow the carbon content was not determined.



average grain size = 68 mcirons

**Modal content of soil 75111 (90-150 micron).**

From Heiken and McKay 1974.

	75111
Agglutinates	52.2
Basalt	8.3
Breccia	7.9
Anorthosite	0.7
Norite	
Gabbro	
Plagioclase	2
Pyroxene	8.3
Olivine	
Ilmenite	0.7
Orange glass	5
Glass other	14.6

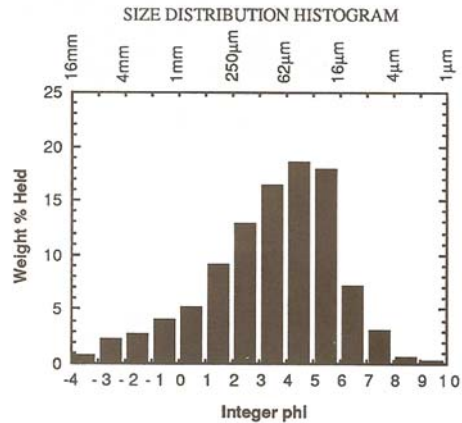
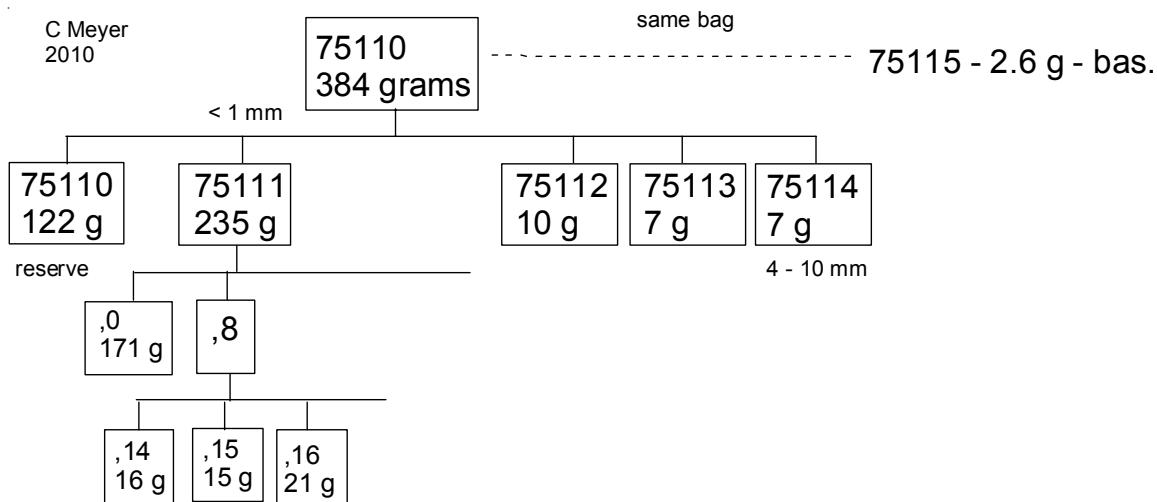


Figure 5: Grain size distribution for 75110 (Graf 1993, data by McKay).

**Table 1. Chemical composition of 75111**

<i>reference</i>	Korotev92	
<i>weight</i>		
SiO <sub>2</sub> %		
TiO <sub>2</sub>		
Al <sub>2</sub> O <sub>3</sub>		
FeO	16.2	(a)
MnO		
MgO		
CaO		
Na <sub>2</sub> O	0.42	(a)
K <sub>2</sub> O		
P <sub>2</sub> O <sub>5</sub>		
S %		
<i>sum</i>		
Sc ppm	49	(a)
V		
Cr	3060	(a)
Co	38	(a)
Ni	160	(a)
Cu		
Zn		
Ga		
Ge ppb		
As		
Se		
Rb		
Sr	200	(a)
Y		
Zr	220	(a)
Nb		
Mo		
Ru		
Rh		
Pd ppb		
Ag ppb		
Cd ppb		
In ppb		
Sn ppb		
Sb ppb		
Te ppb		
Cs ppm		
Ba	123	(a)
La	8.96	(a)
Ce	26.2	(a)
Pr		
Nd	20	(a)
Sm	7.56	(a)
Eu	1.56	(a)
Gd		
Tb	1.71	(a)
Dy		
Ho		
Er		
Tm		
Yb	5.98	(a)
Lu	0.86	(a)
Hf	6.17	(a)
Ta	1.01	(a)
W ppb		
Re ppb		
Os ppb		
Ir ppb	6	(a)
Pt ppb		
Au ppb	2.1	(a)
Th ppm	1.2	(a)
U ppm	0.29	(a)
<i>technique:</i>	(a) INAA	



### References for 75111

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