

**15025**  
Regolith Breccia  
77.3 grams



Figure 1a: Photo of 15025. Sample is 4 cm across. S71-44871



Figure 1b: Photo of 15025. S71-43655

**Introduction**

15025 was included in the collection of the contingency sample for Apollo 15. It is a typical soil breccia.

**Petrography**

McKay et al. (1989) reported that the maturity index for 15025 was  $I_s/FeO = 30$ . It has clasts of mare basalt and KREEP basalt, as well as abundant glass.

See also soil sample 15020.

**Chemistry**

15025 has higher trace element content than Apollo 15 soils (figure 5). Best and Minkin (1972) studied the composition of glass in 15025.

**Mineralogical Mode for 15025**

	(McKay et al. 1989)	
	20-500 micron	500-1000 micron
Mare Basalt	2.8 %	0 %
KREEP basalt	5.1	67.7
Plutonic	0.6	0
Breccias	2.2	2.4
Olivine	1	0
Pyroxene	31.6	0
Plagioclase	13.6	0
Opakes	0.6	0
Glass	14.8	29.9
Agglutinates	11.7	0

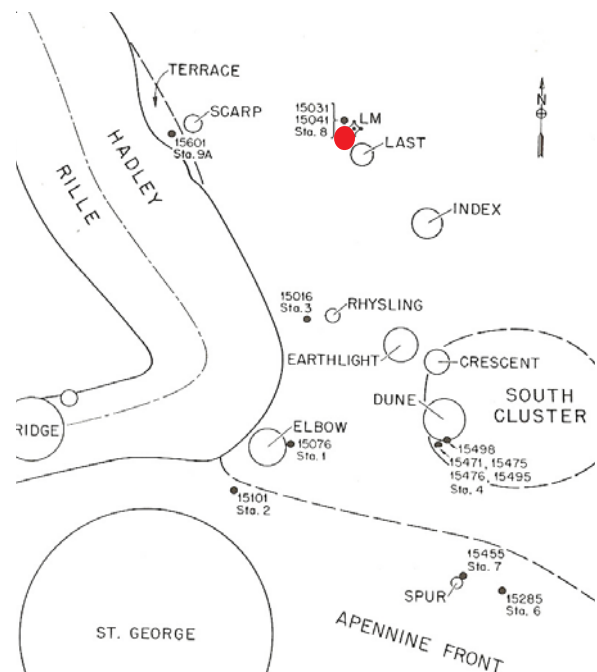


Figure 2: Map of Apollo 15 site with location of 15025.

**Other Studies**

Rare gas contents and isotopic ratios were reported in McKay et al. (1989).

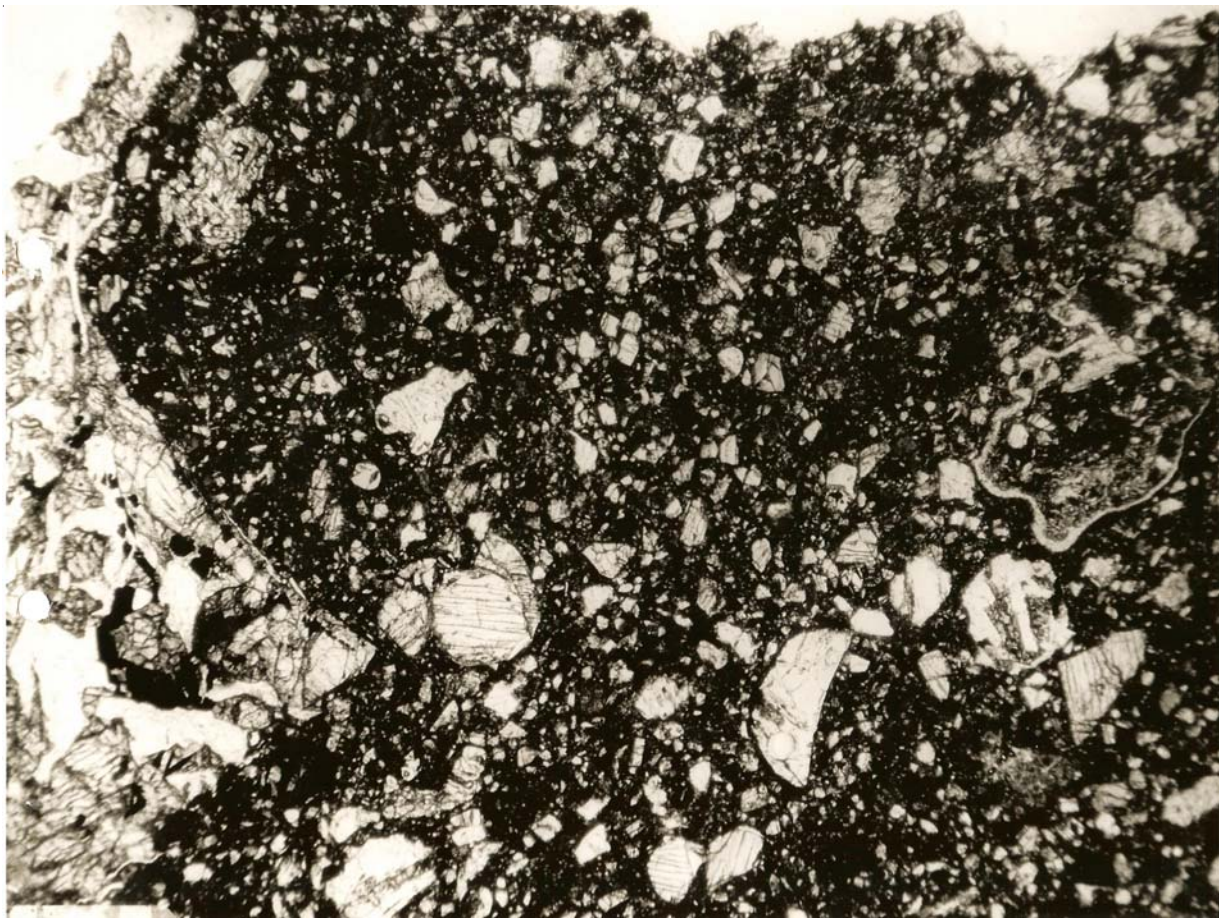


Figure 3: Photomicrograph of thin section of 15025. Scale unknown. S71-52222

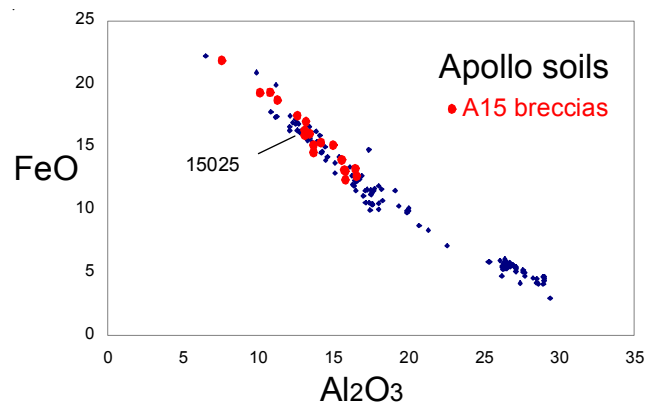
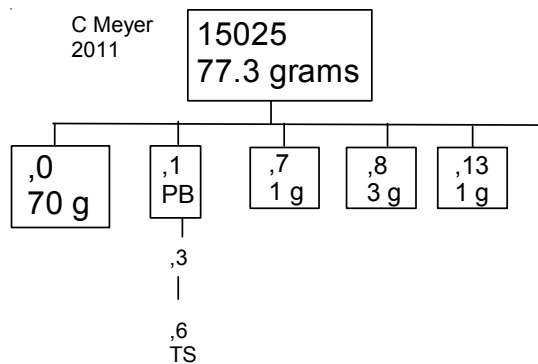


Figure 4: Composition of Apollo soils, Apollo 15 breccias and 15025.

### References for 15025

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**Table 1. Chemical composition of 15025.**

reference weight	McKay89	Wanke77	
SiO <sub>2</sub> %		48.15	(b)
TiO <sub>2</sub>	1.83	(a) 1.84	(b)
Al <sub>2</sub> O <sub>3</sub>	12.4	(a) 12.11	(b)
FeO	15.9	(a) 15.22	(b)
MnO	0.2	(a) 0.2	(b)
MgO	9.8	(a) 9.86	(b)
CaO	10.3	(a) 10.42	(b)
Na <sub>2</sub> O	0.5	(a) 0.5	(b)
K <sub>2</sub> O			
P <sub>2</sub> O <sub>5</sub>			
S %			
sum			
Sc ppm	31.2	(a) 31.6	(b)
V	110	(a) 108	(b)
Cr	2940	(a) 2950	(b)
Co	50.4	(a) 41.5	(b)
Ni	200	(a) 210	(b)
Cu		19.8	(b)
Zn		10	(b)
Ga		3.92	(b)
Ge ppb		360	(b)
As		39	(b)
Se		230	(b)
Rb		6.27	(b)
Sr	138	(a) 139	(b)
Y		115	(b)
Zr	460	(a) 472	(b)
Nb		35	(b)
Mo			
Ru			
Rh			
Pd ppb			
Ag ppb			
Cd ppb			
In ppb			
Sn ppb			
Sb ppb			
Te ppb			
Cs ppm	0.32	(a) 0.3	(b)
Ba	357	(a) 375	(b)
La	32.6	(a) 33.6	(b)
Ce	96	(a) 93.6	(b)
Pr		11.9	(b)
Nd	48	(a) 58	(b)
Sm	15.5	(a) 14.9	(b)
Eu	1.56	(a) 1.58	(b)
Gd		18.7	(b)
Tb	3.06	(a) 3.28	(b)
Dy		19.3	(b)
Ho		4.3	(b)
Er		12.4	(b)
Tm			
Yb	10.7	(a) 11.5	(b)
Lu	1.47	(a) 1.54	(b)
Hf	12.3	(a) 11.8	(b)
Ta	1.48	(a) 1.55	(b)
W ppb		680	(b)
Re ppb			
Os ppb			
Ir ppb	6.1	(a) 5	(b)
Pt ppb			
Au ppb	2.7	(a) 2.1	(b)
Th ppm	5.1	(a) 4.9	(b)
U ppm	1.41	(a) 1.43	(b)

technique: (a) INAA, 9b) various

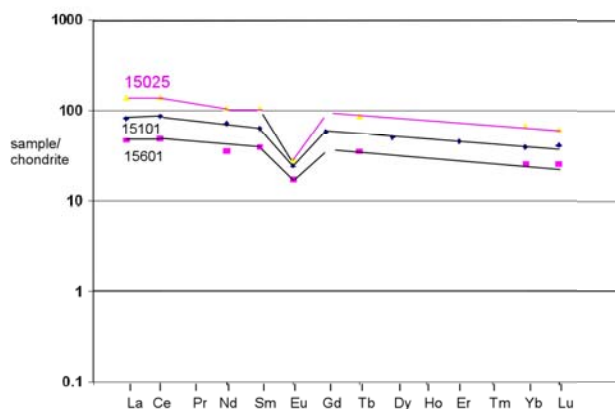


Figure 5: Normalized rare-earth-element diagram comparing 15025 with A15 soils.

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