

60526 – 8.4 grams
Impact Melt (KREEP)



Figure 1: The portrait of KREEP. Sample is 2 cm across. S72-46332

Introduction

60526 is a dense, aphanitic, coherent rock fragment (figure 1). It has a high rare-earth-element and major element content characteristic of KREEP (Meyer 1974). It was collected as a rake sample – see section on 60501.

Petrography

According to Warner et al. (1976), the thin section of 60526 has a poikilitic texture with a matrix of low-Ca pyroxene and ilmenite oikocrysts surrounding small chadocrysts of augite, olivine and plagioclase. Armalcolite is reported.

High Ni content of metallic iron grains and relatively high Ir and Au bulk content indicate that this is an impact melt rather than a primary KREEP basalt.

60626 differs from 62235 etc, in that it does not seem to have relict xenoliths of plagioclase or lithic fragments.

Chemistry

Warner et al. (1976) and McKinley et al. (1983) reported major element analysis. Korotev (1994) apparently analyzed 60526 and presented the data as “1M” (table).

Radiogenic age dating

None

Processing

There is only one thin section. A portion (,6) was made into a powder for fused bead analysis (unpublished).

Table 1. Chemical composition of 60526.

reference weight	Warner76	Korotev94	1M
SiO2 %	47.5	(a)	
TiO2	1.4	(a)	
Al2O3	17.4	(a)	
FeO	8.9	(a)	9.7 (b)
MnO	0.09	(a)	
MgO	13.5	(a)	
CaO	10.8	(a)	10.8 (b)
Na2O	0.71	(a)	0.62 (b)
K2O	0.45	(a)	
P2O5	0.44	(a)	
S %			
sum			

Sc ppm		14.6	(b)
V			
Cr	1163	(a)	1520 (b)
Co			63.9 (b)
Ni			1090 (b)
Cu			
Zn			
Ga			
Ge ppb			
As			
Se			
Rb		11.4	(b)
Sr		187	(b)
Y			
Zr		740	(b)
Nb			
Mo			
Ru			
Rh			
Pd ppb			
Ag ppb			
Cd ppb			
In ppb			
Sn ppb			
Sb ppb			
Te ppb			
Cs ppm		0.52	(b)
Ba		489	(b)
La		49.6	(b)
Ce		129	(b)
Pr			
Nd		78	(b)
Sm		22.5	(b)
Eu		1.97	(b)
Gd			
Tb		4.51	(b)
Dy			
Ho			
Er			
Tm			
Yb		15.4	(b)
Lu		2.07	(b)
Hf		17.3	(b)
Ta		1.93	(b)
W ppb			
Re ppb			
Os ppb			
Ir ppb		21	(b)
Pt ppb			
Au ppb		25	(b)
Th ppm		8.1	(b)
U ppm		2.13	(b)

technique (a) broad beam e prob, (b) some sort of average inc. 60526



Figure 2: Thin section photo of 60526 (from Warner et al. 1976). 2 mm across

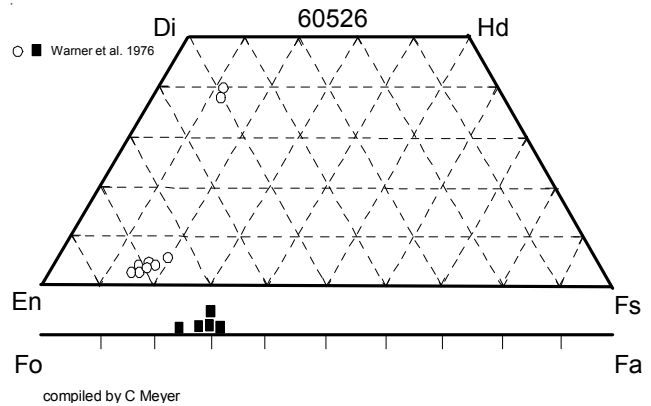


Figure 3: Composition of olivine and pyroxene in 60526 (Warner et al. 1976).



Figure 4: Processing photo of KREEP. Scale is metric with half mm ticks. S78-27394

References for 60526

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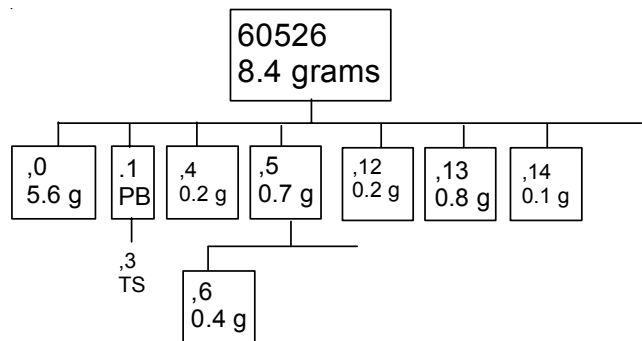
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