

Table S1. XRF Uncertainty calculated using several reference materials.

Parameter	Ref. Mat.	Reference Value (%)	U (%)*U*	Relative Uncertainty	U Interval (%)*
SiO ₂	DC71306	0.62		5.90	
	NBS-1B	4.92		2.22	
	SO-3C	17.74		0.94	0.5–4.5 (U = 5.9)
	DC72301	34.34		2.62	4.5–98.0 (U = 2.6)
	GBW07104	60.62		1.13	
	BCS-314	96.20		0.68	
Al ₂ O ₃	DC72301	0.67		10.58	
	BCS-372	5.35		11.57	0.5–15 (U = 11.57)
	GBW07104	16.17		3.78	15–62 (U = 3.78)
	BCS-309	61.10		2.40	
FeO ^T	DC71036	0.20		8.72	
	BCS-309	1.51		9.55	0.20–5.0 (U = 9.55)
	DC 72301	6.90		2.92	5.0–25.00 (U = 2.92)
	GBW07105	13.40		1.60	
	DC71304	24.75		0.85	
CaO	DC71305	0.59		6.80	
	BCS-314	1.81		4.00	
	DC71304	9.86		5.87	0.60–10.0 (U = 6.80)
	DC71306	30.02		3.47	10.0–56.0 (U = 3.47)
	IPT-35	53.80		3.20	
	DC71305	0.30		8.37	
TiO ₂	BCS-309	1.92		5.20	0.30–3.0 (U = 8.37)
	DC71304	7.69		1.28	3.0–8.0 (U = 1.28)
	BCS-372	0.026		9.31	
MnO	GBW 07104	0.077		2.80	
	NIM-P	0.22		8.77	
	NIM-L	0.77		6.78	0.05–0.80 (U = 9.31)
	BCS-309	0.46		19.94	
K ₂ O	DC71305	5.43		2.70	0.40–2.0 (U = 19.94)
	NIM-S	15.50		1.79	2.0–15.5 (U = 2.77)
	NIM-S	0.46		7.96	
MgO	DC71304	5.25		2.63	
	DC71306	21.80		0.87	0.50–5.00 (U = 7.96)
	SO-3C	50.02		1.34	5.0–50.0 (U = 2.63)
	DC71305	0.045		10.95	
P ₂ O ₅	GBW07104	0.24		3.93	0.045–0.20 (U = 10.95)
	GBW07105	0.95		2.37	0.20–1.0 (U = 3.93)