

APPENDIX 5

Chemical EMP and calculated phase composition of ilmenite in host rock and clasts in the Pułtusk breccia

[wt. %]	H4/H5 host rock				Clasts H5				Clasts H6		rutile	rutile
Al ₂ O ₃	b.d.	0.02	0.02	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.
MgO	5.04	4.16	4.06	4.41	3.71	4.07	4.79	3.83	4.79	4.68	b.d.	0.05
SiO ₂	0.05	b.d.	0.11	0.05	0.04	b.d.	0.06	0.05	0.06	0.06	0.07	0.04
TiO ₂	55.77	53.81	54.05	54.85	54.81	54.48	54.06	53.86	55.19	55.74	98.92	96.59
CaO	b.d.	b.d.	b.d.	0.04	b.d.	0.11	b.d.	b.d.	b.d.	b.d.	b.d.	0.01
FeO *	36.85	39.76	37.83	37.57	38.17	37.11	37.23	38.82	28.38	27.67	0.76	1.86
MnO	2.62	2.31	3.40	2.53	2.77	3.48	3.30	2.68	12.12	12.99	0.28	b.d.
Cr ₂ O ₃	0.07	b.d.	b.d.	0.15	0.07	0.20	0.08	b.d.	0.42	0.26	0.19	0.04
ZnO	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.
NiO	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	0.08
V ₂ O ₃	0.13	0.10	0.19	0.18	0.12	0.15	0.12	0.24	0.18	0.19	0.28	0.47
Total	100.53	100.15	99.67	99.78	99.68	99.59	99.65	99.48	101.13	101.59	100.50	99.14
Ilm [mol%]	76.02	80.30	77.99	78.29	80.22	77.50	75.81	80.28	57.69	56.27		
Geik [mol%]	10.86	8.53	8.73	9.46	13.90	15.15	17.37	14.11	17.35	16.98		
Piroph [mol%]	5.47	4.72	7.09	5.34	5.89	7.36	6.81	5.61	24.96	26.75		

Composition of rutile associated with ilmenite in H6 type clasts; b.d. – below detection limit