

Sample	DM-1.1				DM6				17702		20178
Lithology	Whiteschist				Whiteschist				Metagranite		Orthogneiss
Mineral	prp I	ell	ell	phl	prp II	phe I	phe II	phe III (r)	phl (r)	phe	bi
SiO <sub>2</sub>	44.24	39.9	30.31	45.9	43.75	53.36	53.58	53.82	40.05	49.51	37.41
TiO <sub>2</sub>	0.03	4.15	0.42	0.16	0.01	0.24	0.36	0.28	0.01	2.29	4.43
Al <sub>2</sub> O <sub>3</sub>	25.31	25.28	19.15	12.05	24.92	22.83	23.74	23.31	20.58	25.67	14.38
FeO <sup>t</sup>	0.89	0.18	0.14	0.20	4.77	0.24	0.28	0.27	1.36	3.14	21.45
MnO	< 0.01	< 0.01	< 0.01	< 0.01	0.06	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.09
MgO	28.87	22.61	27.8	27.87	26.32	6.23	5.88	6.13	23.32	3.11	7.84
CaO	0.24	0.01	0.06	0.06	0.27	< 0.01	0.01	< 0.01	0.02	0.02	0.01
Na <sub>2</sub> O	0.06	0.01	0.01	0.30	0.03	0.26	0.20	0.16	0.72	0.10	0.08
K <sub>2</sub> O		0.01	0.01	7.15		10.96	11.07	10.97	9.27	11.07	9.32
P <sub>2</sub> O <sub>5</sub>	0.12		12.6		0.06						
ZrO <sub>2</sub>	< 0.01	0.02	1.07		< 0.01						
Totals	99.74	92.67	91.57	93.7	100.18	94.13	95.1	94.94	95.35	94.91	95.79
H <sub>2</sub> O (SIMS)	6.46	8.76	4.49								
Total+H <sub>2</sub> O	99.13	100.33	98.19			3.87	3.91	3.76	4.10	3.78	
						98.00	98.97	98.69	99.45	98.68	
Si	2.99	7.95	6.08	6.6	3.00	7.15	7.10	7.13	5.54	6.71	6.03
Ti	< 0.01	0.62	0.06	0.02	< 0.01	0.02	0.04	0.03	< 0.01	0.23	0.54
Al	2.02	5.93	4.53	2.09	2.01	3.6	3.71	3.67	3.36	4.10	2.73
Fe <sup>2+</sup>	0.05	0.03	0.02	0.02	0.27	0.03	0.03	0.04	0.16	0.36	0.71
Mn	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01
Mg	2.91	6.71	8.32	5.98	2.69	1.24	1.16	1.21	4.81	0.63	1.88
Ca	0.02	< 0.01	0.01	0.02	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Na	0.01	< 0.01	< 0.01	0.08	< 0.01	0.07	0.05	0.08	0.19	0.03	0.01
K		< 0.01	< 0.01	1.14		1.87	1.87	1.76	1.64	1.91	1.91
P	0.01	0.08	2.14		< 0.01						
Zr	< 0.01	< 0.01	0.11		< 0.01						
Total	8.00	21.34	21.28	15.95	8.00	13.99	13.97	13.92	15.70	13.97	14.03
Oxygens	12	33	33	22	12	22	22	22	22	22	23
											22

**Online resource 1:** Representative electron probe analyses of minerals in whiteschists (in wt.% oxides). Mineral formulae calculated based on stoichiometry. See text for discussion of different phengite and pyrope generations denoted by roman numerals. (r) denotes retrograde minerals. SIMS analyses of H<sub>2</sub>O contents are also included where available. Mineral abbreviations after Whitney and Evans (2010)