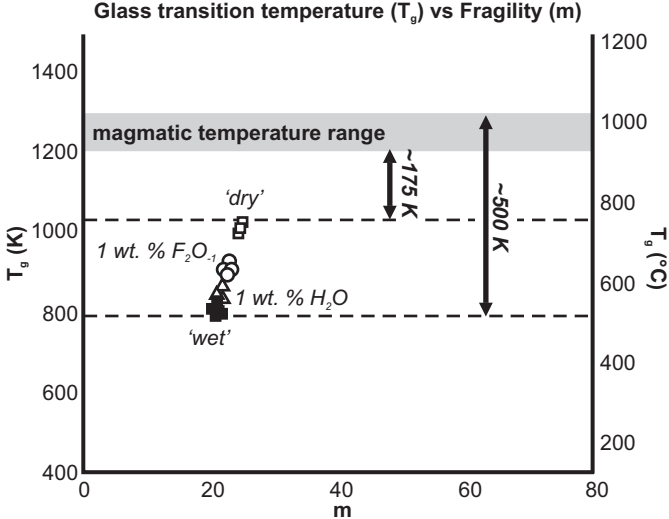
	Grey's Landing Member							
	basal fall deposit			*ignimbrite*				
			Zone A	Zone C		Zone D	Zone E	
sample #	GL-08-1	GA03-0038	GL-08-4	GA02/9/8/1	GA02/30/7/3	GL-08-2	GL-08-3	GL-08-5
SiO2 (wt. %)	72.11	74.72	70.24	72.40	73.30	70.82	72.21	68.18
TiO2	0.43	0.38	0.50	0.49	0.49	0.44	0.36	0.39
Al2O3	11.78	12.67	12.30	12.06	12.00	12.08	11.82	13.48
FeO	1.11		1.48			2.13	2.40	0.04
Fe2O3	1.91	2.94	1.80	3.65	3.65	0.71	1.11	3.44
MnO	0.05	0.05	0.06	0.06	0.07	0.07	0.05	0.05
MgO	0.28	0.61	0.37	0.23	0.21	0.39	0.20	0.91
CaO	0.95	1.12	1.34	1.23	1.20	1.53	0.96	1.32
Na2O	2.35	2.21	2.84	3.11	3.31	2.58	2.85	1.99
K2O	6.06	4.93	5.45	4.92	4.77	5.51	5.42	4.70
P2O5	0.06	0.07	0.09	0.06	0.08	0.23	0.05	0.06
LOI	2.76	3.80	2.71	2.39	0.88	2.85	2.71	5.36
Total	100.11	99.69	99.82	98.22	98.08	100.10	99.88	100.06
H2O-	0.56		0.33			0.08	0.11	0.50
H2O+	2.06		2.26			2.62	2.62	3.23
Ba (ppm)	1140	1211	1314	1169	1239	1380	1335	1104
Ce	136	157	125	163	163	151	156	153
Co		4		6	7			
Cr	53		40			45	43	31
Cs		1		4	6			
Cu	9	5	9	3	13	8	20	24
Ga		20		20	19			
La		80		82	85			
Mo		2		3	2			
Nb		54		53	53			
Nd		64		68	71			
Ni	8		8			9	9	12
Pb		25		25	27			
Rb		172		157	157			
Sc		3		5	5			
Sr		75		82	90			
Th		29		27	27			
U		7		6	6			
V	11	8	<d/l	5	8	<d/l	<d/l	15
Y		75		73	78			
Zn	31	63	46	72	69	44	38	52
Zr		607		650	638			
F	2440		2480			2400	2360	3290
Cl	210	290	<d/l	250	75	130	110	<d/l
XRF Lab	McGill	Leicester*	McGill	Leicester*	Leicester*	McGill	McGill	McGill
modal abundance %	0 - 20	0 - 20	15	5	5	1	0	0
phenocrysts	plag, pig, aug	plag, pig, aug	plag, pig, aug	plag, pig, aug	plag, pig, aug	plag, pig		
2-pyroxene T (°C)**			925 - 975			950 - 1025		

plag = plagioclase, pig = pigeonite, aug = augite

* Leicester XRF data previously published in Andrews et al. (2008).
** by methods of Lindsley (1983) and Andersen (1993); previously reported in Andrews et al. (2008).

Lindsley, D.H., 1983, Pyroxene thermometry: American Mineralogist, v. 68, p. 477-493.

Andersen, D.J., Lindsley, D.H., Davidson, P.M., 1993, QUILF: a Pascal program to assess equilibria among Fe-Mg-Mn-Ti oxides, pyroxenes, olivine, and quartz: American Mineralogist, v. 76, p. 427-444.



Appendix DR2: Glass transition temperature (T_g) estimated by the compositional model of Giordano et al. (2008) for the Grey's Landing ignimbrite (data in Appendix 1). Four different volatile (H_2O and F_2O_{-1}) contents are depicted: 'dry' (0 wt. %) - open squares; 1 wt. % H_20 and 0 wt. % F_2O_{-1} - triangles; 0 wt. % H_20 and 1 wt. % F_2O_{-1} - circles; 'wet' (1 wt. % of each) - filled squares. This range in volatile contents is consistent with the data presently available for this and similar Snake River-type ignimbrites.

The glass transition temperature for these compositions varies from ~800 to ~1000 K (~525 to ~725 °C) and is lowest when volatile content is highest. Given a calculated magmatic temperature of ~1200 - 1300 K (925 - 1025 °C) the maximum and minimum 'T_g windows' are ~175 K and ~500 K respectively.