

**Electronic appendix 2:** Comparison of H<sub>2</sub>O data between the transmission and reflectance FTIR.

**Data from Rotorua and Ohakuri Volcanic Centres, TVZ**

Sample	H2O (wt%) transmission FTIR (n=64)	H2O (wt%) reflectance FTIR (n=76)	Sample	Type
Oh48-FTIR1-MI1-a	4.21	4.28	FB11-Oh49	Oh Airfall
Oh48-FTIR1-MI1-b	4.01	4.23	FB11-Oh49	Oh Airfall
Oh48-FTIR1-MI1-IRc	3.89	4.64	FB11-Oh50	Oh Airfall
Oh48-FTIR1-MI2-a	3.58	4.40	FB11-Oh50	Oh Airfall
Oh48-FTIR1-MI2-b	3.35	3.26	FB11-Oh50	Oh Airfall
Oh48-FTIR1-MI2-IRc	3.64	3.34	FB11-Oh50	Oh Airfall
Oh49-FTIR1-MI1-a	5.91	4.17	FB11-Oh51	Oh Airfall
Oh49-FTIR1-MI1-b	6.35	4.45	FB11-Oh51	Oh Airfall
Oh49-FTIR1-MI1-IRc	6.15	4.40	FB11-Oh52	Oh Airfall
Oh49-FTIR1-MI1-a	4.97	4.23	FB11-Oh52	Oh Airfall
Oh49-FTIR1-MI1-b	5.97	4.23	FB11-Oh52	Oh Airfall
Oh49-FTIR1-MI1-IRc	5.92	4.29	FB11-Oh52	Oh Airfall
Oh49-FTIR2-MI1-a	4.25	4.11	FB11-Oh2	Type 2
Oh49-FTIR2-MI1-b	4.07	3.99	FB11-Oh2	Type 2
Oh49-FTIR2-MI1-c	4.33	4.21	FB11-Oh2	Type 2
Oh49-FTIR3-MI1-a	5.20	3.99	FB11-Oh2	Type 2
Oh49-FTIR3-MI1-b	4.95	3.99	FB11-Oh2	Type 2
Oh49-FTIR3-MI1-c	4.89	4.07	FB11-Oh2	Type 2
Oh49-FTIR3-MI1-IRd	4.78	4.19	D152b	Type 1
Oh49-FTIR3-MI2-a	4.44	3.99	D152b	Type 1
Oh49-FTIR3-MI2-b	5.35	4.06	D152b	Type 1
Oh49-FTIR3-MI2-IRc	4.55	4.23	D152b	Type 1
Oh2-FTIR11-MI1-a	3.45	4.23	D152b	Type 1
Oh2-FTIR11-MI1-b	3.50	3.88	D152b	Type 1
Oh2-FTIR11-MI1-IRc	3.44	4.05	D152b	Type 1
Oh2-FTIR12-MI1-a	5.11	3.61	D152b	Type 1
Oh2-FTIR12-MI1-b	4.61	4.24	D152b	Type 1
Oh2-FTIR12-MI1-IRc	4.42	4.10	D152b	Type 1
Oh2-FTIR12-MI2-a	4.57	4.03	D152b	Type 1
Oh2-FTIR12-MI2-b	4.60	4.28	D152b	Type 1
Oh2-FTIR12-MI2-IRc	4.41	4.36	D152b	Type 1
D152b-FTIR11-MI1-b	3.98	4.27	D152b	Type 1
D152b-FTIR11-MI1-c	3.66	4.31	D152b	Type 1
Oh4-FTIR11-MI1-b	4.02	4.45	FB11-Oh1	Type 1
Oh4-FTIR11-MI1-IRc	3.99	4.24	FB11-Oh1	Type 1
Oh5-FTIR11-MI1-a	4.00	4.38	FB11-Oh1	Type 1
Oh5-FTIR11-MI1-b	4.01	4.50	FB11-Oh1	Type 1
Oh5-FTIR11-MI1-IRc	4.20	4.32	FB11-Oh1	Type 1

## Data from Rotorua and Ohakuri Volcanic Centres, TVZ (cont.)

Sample	H2O (wt%) transmission FTIR (n=64)	H2O (wt%) reflectance FTIR (n=76)	Sample	Type
Ma21-FTIR1-MI1-a	4.36	4.38	FB11-Oh1	Type 1
Ma21-FTIR1-MI1-b	4.29	3.61	FB11-Oh1	Type 1
Ma21-FTIR1-MI1-IRc	4.23	4.08	FB11-Oh4	Type 1
Ma21-FTIR1-MI2-a	3.66	4.48	FB11-Oh4	Type 1
Ma21-FTIR1-MI2-b	3.72	3.97	FB11-Oh3	Type 2
Ma21-FTIR1-MI2-IRc	3.86	4.06	FB11-Oh3	Type 2
Ma55-FTIR2-MI1-a	4.21	3.69	FB11-Oh3	Type 2
Ma55-FTIR2-MI1-b	4.16	3.44	FB11-Oh3	Type 2
Ma55-FTIR2-MI1-IRc	4.45	4.00	D3	Type 3
Ma55-FTIR2-MI2-a	3.96	4.15	D3	Type 3
Ma55-FTIR2-MI2-b	4.03	3.95	D3	Type 3
Ma55-FTIR2-MI2-c	3.11	3.97	D3	Type 3
Ma55-FTIR2-MI2-IRd	3.60	3.91	Ma21	Type 1
Ma57-FTIR1-MI1-a	4.06	4.46	Ma21	Type 1
Ma57-FTIR1-MI1-IRc	4.27	3.72	Ma21	Type 1
Ma22-FTIR1-MI1-a	3.24	3.83	Ma21	Type 1
Ma22-FTIR1-MI1-b	3.18	3.68	Ma21	Type 1
Ma22-FTIR1-MI1-c	3.41	4.46	Ma55	Type 1
Ma23-FTIR1-MI1-a	3.87	4.07	Ma55	Type 1
Ma23-FTIR1-MI1-b	3.90	3.61	Ma55	Type 1
Ma23-FTIR1-MI1-c	3.86	4.17	Ma55	Type 1
Ma23-FTIR1-MI2-a	3.98	4.31	Ma57	Type 1
Ma23-FTIR1-MI2-b	3.37	4.32	Ma57	Type 1
Ma23-FTIR1-MI2-IRc	3.59	4.02	Ma57	Type 1
Ma23-FTIR1-MI3-a	3.38	3.71	Ma57	Type 1
Ma23-FTIR1-MI3-b	3.34	4.44	Ma57	Type 1
		4.28	Ma57	Type 1
		4.42	Ma56	Type 1
		4.45	Ma56	Type 1
		4.77	Ma26	Type 1
		4.47	Ma26	Type 1
		3.73	Ma55	Type 1
		4.06	Ma56	Type 1
		4.04	Ma56	Type 1
		4.38	Ma22	Type 2
		4.34	Ma22	Type 2
		3.96	Ma25	Type 2
		3.80	Ma25	Type 2

	Summary range	
	H2O (wt%) transmission FTIR (n=64)	H2O (wt%) reflectance FTIR (n=76)
Min	3.11	3.26
25th percentile	3.660528716	3.98278815
Median	4.05	4.17
75th percentile	4.475794389	4.327045854
Max	6.35	4.77

## Rotorua-Ohakuri Volcanic Centres, TVZ

