Table 3. The measured and calculated grain-size distributions for the Laacher See eruption and those previously reported by Horwell (2007), Horwell and Baxter (2006) and their mean value, arranged by distance from vent. VEI from Newhall and Self (1982) and www.volcano.si.edu, and from Textor et al. (2003) for the LSE. Values in italics are calculated following Horwell (2007) and have the following upper/lower error fits: Marburg (Layer Ib): 19.7/10.0; Marburg (Layer IIb): 20.1/10.3; Bettenroder Berg I: 19.8/10.1; Luttersee-a: 40.8/20.8; Luttersee-c: 42.0/21.4; Frankleben-a: 44.3/22.6; Frankleben-b: 45.4/23.2.

LST sample locales	**Eruption style**	**VEI**	**Distance from vent (km)**	**Grain-size distribution (µm), cumulative volume %**						**Deposit thickness (cm)**
				< 1	**< 2.5**	**< 4**	**< 10**	**< 15**	**< 63**	
NE fan										
Herbstlabyrinth-Adventhöhle	Phonolitic, plinian	4-5	75	NB. 1-5mm lapili (but they may be sorted) - under main fall-out axis; no material under 1000µm						n/a
Giessen (Klein-Linden)	As above	4-5	100	NB. 15% of sample under 150µm, but not further quantified; maximum PS 8mm						25
Marburg/Lahn (Layer Ia)[a]	As above	4-5	120	-	-	-	-	-	6	5-6
Marburg/Lahn (Layer Ib)[a]	As above	4-5	120	-	-	-	*14.1*	-	50	5-6
Marburg/Lahn (Layer IIa)[a]	As above	4-5	120	-	-	-	-	-	3.2	8-10
Marburg/Lahn (Layer IIb)[a]	As above	4-5	120	-	-	-	*14.4*	-	51	8-10
Marburg/Lahn (Upper layer)[b]	As above	4-5	120	-	-	-	-	-	26	40-60
Bettenroder Berg I	As above	4-5	225	-	-	-	*14.1*	-	50.3	30
Bettenroder Berg IX	As above	4-5	225	2.0	5.2	7.8	13.6	25.7	63.9	40
Luttersee a	As above	4-5	250	-	-	-	*29.1*	-	91.5	6.5[†]
Luttersee c	As above	4-5	250	-	-	-	*30.0*	-	93.7	6.5[†]
Frankleben a	As above	4-5	370	-	-	-	*31.6*	-	97.7	4.2[†]
Frankleben b	As above	4-5	370	-	-	-	*32.5*	-	99.7	4.2[†]
SW fan										
Booser Weiher	As above	4-5	22	-	12.3	16.0	20.3 [*8.6*]	23.7	32.6	20
Moosbrucher Weiher	As above	4-5	29	-	9.5	11.0	13.0 [*4.8*]	15.8	19.0	20

Schalckenmehrener Maar	As above	4-5	40	-	17.5	17.0	17.8 [*7.0*]	19.8	27.0	20
Mürmes	As above	4-5	40	-	15.0	16.0	21.5 [*7.6*]	22.9	29.0	20
Strohner Maarchen[b]	As above	4-5	40	-	47.5	48.0	61.3 [*28.8*]	67.4	90.8	20
Hitsche	As above	4-5	42	-	4.5	6.0	9.0 [*3.6*]	11.8	14.3	20
Hinkelsmaar	As above	4-5	50	-	8.5	10.0	14.0 [*7.8*]	19.5	29.6	20
Vance	As above	4-5	150	-	22.3	29.0	42.5 [*20.2*]	49.4	68	3
Data from Horwell (2007) and Horwell & Baxter (2006)										
Merapi, Indonesia	Basaltic-andesitic, dome collapse	2	0.2	2.0	8.0	12.7	27.2	38.1	83.1	n/a
Pacaya, Guatemala (1994)	Basaltic, strombolian-vulcanian	1	1	0.0	0.0	0.0	0.4	0.7	2.2	n/a
Pacaya, Guatemala (1992)	Basaltic, strombolian-vulcanian	1	1	0.0	0.3	0.8	2.4	3.8	16.6	n/a
Sakurajima, Japan	Andesitic, vulcanian	3	2.7	0.0	0.5	0.9	2.0	2.9	14.7	n/a
Soufrière Hills, Montserrat (2003)	Andesitic, dome collapse	3	4	2.7	7.9	11.5	22.5	30.8	74.6	n/a
Soufrière Hills, Montserrat (1999)	Andesitic, dome collapse	3	4	1.9	6.7	10.7	23.1	31.9	76.9	n/a
Vesuvius, Italy (AD79–472)	Tephritic-phonolitic, strombolian-vulcanian	2-3	4	0.7	2.1	3.2	7.1	10.1	34.0	n/a
Soufrière Hills, Montserrat (1997)	Andesitic, vulcanian explosion	3	4-5	1.0	3.6	5.9	13.4	18.5	44.1	n/a
Vesuvius, Italy (AD79)	Tephritic-phonolitic, plinian	5	6.3	4.8	11.6	16.9	32.8	43.4	83.7	n/a
Langila, Papua New Guinea	Basaltic-andestic, vulcanian	2	9.5	0.9	3.3	5.6	14.0	19.8	52.7	n/a
Tungurahua, Ecuador	Andesitic, strombolian-vulcanian	2	10	0.7	2.5	4.1	10.5	15.5	41.8	n/a
Ulawun, Papua New Guinea	Basaltic, strombolian	2	10.2	0.0	0.0	0.3	0.9	1.6	4.1	n/a

Etna, Italy	Basaltic, strombolian	3	11-12	0.3	1.1	1.8	4.6	6.8	22.2	n/a
Cerro Negro, Nicaragua	Basaltic, strombolian-vulcanian	2	20	0.0	0.2	0.6	2.6	4.2	14.6	n/a
Pinatubo, Philippines (04/07/1991)	Dacitic, sub-plinian	6	20	1.3	6.2	9.8	18.9	24.3	60.7	n/a
Fuego, Guatemala (1999)	Basaltic, vulcanian	2	28	0.0	0.0	0.0	0.0	0.0	1.6	n/a
Pinatubo, Philippines (03/06/1991)	Dacitic, plinian	6	31.5	1.1	5.5	9.0	17.9	23.1	54.1	n/a
Fuego, Guatemala (1974)	Basaltic, sub-plinian	4	78	0.9	2.4	3.7	8.0	12.0	46.6	n/a
El Reventador, Ecuador	Andesitic, vulcanian	4	90	0.9	3.2	4.9	10.2	15.1	72.9	n/a
Ruapehu, New Zealand	Andesitic, sub-plinian	3	140	0.5	2.4	4.1	9.4	13.4	32.2	n/a
Mount St. Helens, USA	Dacitic, plinian	5	378	1.7	7.4	11.7	24.5	33.2	78.8	n/a
$MEAN_{recent}$	-	3.1	40.7	1.0	3.6	5.6	12.0	16.6	43.4	n/a
MAX_{recent}	-	6	378	4.8	11.6	16.9	32.8	43.4	83.7	n/a

a) Samples Ia and IIa are taken from the bottom, samples Ib and IIb from the top of two overlying series of tephra falls.

b) Considered disturbed.

†) Total deposit thickness