

TABLE DR1. RESULTS OF PSEUDOTACHYLYTE ANALYSES

Sample	Optical character	XRD – SEM		SEM matrix %	ICP-MS K <sub>2</sub> O wt%	Argon gas analyses			
		Matrix minerals	Clast minerals			Total gas age (Ma)	Spectra	Mean Ca/K	Mean Cl/K
pst2–1	central melt layer vein	Qtz, Pl, Bt, Mag, Ch, Opq	Qtz, Pl, Opq	88	3.18	1.08 ± 0.01	pseudo plateau	0.40	0.004
pst2–2	marginal melt layer	Qtz, Pl, Bt, Magt, Ch, Opq	Qtz, Pl, Opq	78	2.55	1.73 ± 0.02	saddle	0.40	0.005
pst2–3	marginal melt layer	Qtz, Pl, Bt, Mag, Opq	Qtz, Pl, Opq	78	2.55	2.23 ± 0.05	saddle	1.00	0.005
pst3–1	central melt layer	Qtz, Pl, Bt, Mag, Ch, Opq	Qtz, Pl, Opq	74	1.34	4.71 ± 0.05	pseudo plateau	2.04	0.007
pst3–2	marginal melt layer	Qtz, Pl, Bt, Mag, Ch., Opq	Qtz, Pl, Opq	48	0.82	12.61 ± 0.14	saddle	3.30	0.008
pst3–3	marginal melt layer	Qtz, Pl, Bt., Mag, Ch,	Qtz, Pl, Opq	58	0.83	8.73 ± 0.15	saddle	2.88	0.009
pst3–6	adjacent vein	Qtz, Pl, Bt, Mag	Qtz, Pl, Opq	Nd	1.21	3.55 ± 0.08	saddle	1.65	0.007
pst4–1	homogenous vein	Qtz, Pl; Mag, Ch, Bt	Qtz, Pl, Opq, Bt, Ch	47	0.32	18.63 ± 0.23	saddle	7.28	0.025
pst6–2	homogenous vein	Qtz, Pl, Mag, Bt, Hbl, Ch	Nd	Nd	1.68	6.36 ± 0.05	stepped	2.07	0.007
pst7–2	layered vein	Qtz, Pl, Mag, Bt, Ch	Nd	Nd	1.73	4.72 ± 0.012	saddle	1.03	0.005
pst9–1	homogenous vein	Qtz, Pl, Bt, Mag,	Qtz, Pl, Opq	89	4.37	1.12 ± 0.01	stepped	0.16	0.004
pst10–2	homogenous vein	Qtz, Pl, Bt, Mag, Ch	Qtz, Pl, Opq	80	2.21	2.36 ± 0.03	stepped	0.84	0.004
pst10–3	homogenous vein	Qtz, Pl, Bt, Mag, Ch	Qtz, Pl, Opq	80	2.29	2.95 ± 0.04	stepped	0.82	0.005
pst10–4	homogenous vein	Qtz, Pl, Bt, Mag, Ch	Qtz, Pl, Opq	Nd	2.32	2.29 ± 0.03	pseudo plateau	0.97	0.004
pst13–1	layered vein	n.d	Qtz, Pl, Opq.	69	1.82	4.25 ± 0.05	stepped	1.85	0.006
pst13–2	layered vein	Qtz, Pl, Bt, Mag, Ch	Qtz, Pl, Opq.	Nd	1.35	5.59 ± 0.05	saddle	2.22	0.006
pst13–3	layered vein	Qtz, Pl, Bt, Mag, Ch	Qtz, Pl, Opq.	Nd	2.24	5.29 ± 0.06	saddle	1.62	0.006
pst13–4	layered vein	Qtz, Pl, Bt, Mag, Ch	Qtz, Pl, Opq.	Nd	1.84	7.90 ± 0.13	saddle	2.63	0.012
pst14–1	homogenous vein	Qtz, Pl, Bt, Ch	Qtz, Opq	88	3.40	0.95 ± 0.02	pseudo plateau	0.37	0.004
pst24–1	homogenous vein	Nd	Nd	Nd	0.34	10.53 ± 0.32	saddle	5.14	0.004

Summary of results for the 20 pseudotachylyte veins studied in detail. The character of the veins was determined by hand specimen examination and optical microscopy. The mineral assemblage was determined by combined XRD and SEM study. The % of matrix was measured by image analysis of SEM backscattered images. The weight % (wt%) of K<sub>2</sub>O was determined by ICP-OES. The total gas ages, the shape of the degassing <sup>39</sup>Ar spectra, and the mean Ca/K and Cl/K ratios, were calculated from the concentrations of <sup>40</sup>Ar, <sup>39</sup>Ar, <sup>38</sup>Ar and <sup>37</sup>Ar isotopes.