

DR2003023

**Appendix Table DR1. Magnetic data from Burlingame Canyon, Touchet, and Zillah.**

Couplet	Dec [°]	Inc [°]	k	$\nabla_{95}$ [°]	N	Couplet	Dec [°]	Inc [°]	k	$\nabla_{95}$ [°]	N
Touchet						Burlingame Canyon					
31	4.8	66.7	106.9	7.4	5	10	-17.4	49.7	27.8	12.	6
30	0.8	65.9	110.9	6.4	6	9	42.3	45.4	108.	8.9	4
29	-10.	69.3	73.0	7.9	6	8	21.5	45.5	62.0	9.8	5
28	33.	62.6	56.6	9.0	6	7	6.8	31.2	86.9	8.3	5
27	0.6	68.7	195.0	4.8	6	6	16.2	40.5	53.0	9.3	6
26	-7.2	61.3	96.9	6.8	6	5	20.9	47.3	102.	6.7	6
25	3.7	74.5	1105.	2.8	4	4	17.3	55.6	210.	5.3	5
24	-5.3	60.7	171.1	5.1	6	3	14.3	41.5	168.	5.2	6
23	-13.	56.1	148.1	7.6	4	2	10.4	42.1	59.1	10.	5
20	-0.9	53.3	387.9	3.4	6	1	19.9	46.8	136.	5.2	7
16	-8.7	54.6	128.2	5.9	6	0	20.4	51.6	201.	4.3	7
14	-8.8	53.3	146.3	5.6	6	-1	7.4	50.1	140.	5.7	6
11	-2.4	56.2	555.2	2.8	6	-2	9.4	53.6	146.	5.6	6
10	-17.	58.9	128.5	5.9	6	-3	-3.2	56.0	264.	4.7	5
9	20.	41.3	151.2	5.5	6	-4	-1.7	61.8	70.4	8.0	6
8	6.4	45.3	118.2	6.2	6	-5	-6.0	64.5	30.5	12.	6
7	7.0	48.4	108.5	6.5	6	-6	0.7	58.2	50.3	9.5	6
5	15.	51.3	122.4	6.1	6	-7	13.1	59.8	122.	6.1	6
4	8.0	44.1	301.1	3.9	6	-8	-12.6	58.0	240.	4.9	5
3	8.9	48.6	324.9	3.7	6	-9	1.5	53.4	218.	5.2	5
2	9.3	56.3	96.2	6.9	6	-10	16.7	52.8	161.	5.3	6
1	16.	55.5	420.9	3.3	6	-11	15.1	43.8	93.2	8.0	5
0	9.5	54.7	961.2	2.5	5	-12	17.8	48.3	75.6	7.8	6
0	3.6	56.4	698.9	2.5	6	-13	18.5	47.1	149.	4.5	8
-1	5.3	61.5	216.8	4.1	7	-14	18.4	47.7	59.5	7.9	7
-2	9.5	53.3	114.3	6.3	6	-15	12.7	59.9	107.	5.9	7
-3	-9.5	53.5	167.1	4.3	8	-16	10.2	54.6	144.	5.0	7
-5	-6.2	60.9	234.5	4.4	6	-17	10.3	44.7	63.9	7.0	8
-6	6.8	64.6	74.4	7.8	6	-18	15.9	56.0	107.	5.0	9
-7	-2.0	65.0	155.0	6.2	5	-19	7.5	56.9	67.1	6.3	9
-11	-1.6	65.6	102.5	5.1	9	-20	0.9	56.4	294.	5.4	4
-12	10.	55.8	119.1	4.4	1	-21	10.5	48.6	135.	5.2	7
-13	10.	52.4	27.6	6.9	1	-22	6.2	49.9	932.	2.5	5
Zillah											
1	15.	47.3	106.2	5.9	7						
0	15.	45.3	448.6	11.	2						
0	11.	48.1	42.4	10.	6						
-2	6.9	51.7	77.5	8.7	5						
-3	-3.5	64.5	48.0	9.8	6						
-5	-14.	69.5	104.2	6.6	6						
-7	-1.9	58.5	55.3	8.2	7						

-9	-7.5	54.8	120.9	5.5	7
-12	8.1	46.2	42.7	8.6	8
-13	-7.9	59.4	56.3	8.1	7
-14	0.7	51.8	312.1	3.1	8
16	2.1	52.3	109.7	6.4	6
-20	-5.8	43.4	165.5	7.2	4
-21	-5.0	54.7	110.0	5.8	7
-22	-4.7	53.4	136.6	3.4	1
-23	-11.	51.1	215.2	4.1	7

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**Appendix Table DR2. Glass compositions of tephtras.**

Oxide	Zillah upper tephra	Zillah lower tephra	Touchet	Burlingame upper tephra	Burlingame lower tephra	MSH So standard	MSH Sg standard	MSH Jy standard
SiO <sub>2</sub>	76.92(0.38)	76.78(0.28)	77.42(0.27)	77.19(0.53)	76.37(0.25)	77.08(0.28)	76.50(0.14)	77.46(0.55)
Al <sub>2</sub> O <sub>3</sub>	13.30(0.21)	13.82(0.09)	13.25(0.23)	13.33(0.29)	13.87(0.13)	13.39(0.18)	13.80(0.09)	13.03(0.32)
Fe <sub>2</sub> O <sub>3</sub>	1.24(0.05)	1.31(0.05)	1.25(0.05)	1.26(0.10)	1.33(0.09)	1.22(0.04)	1.29(0.03)	1.24(0.12)
TiO <sub>2</sub>	0.17(0.04)	0.17(0.02)	0.18(0.03)	0.18(0.02)	0.17(0.02)	0.17(0.02)	0.16(0.02)	0.16(0.02)
Na <sub>2</sub> O	4.12(0.22)	3.67(0.31)	3.76(0.10)	3.91(0.14)	3.96(0.17)	4.08(0.17)	4.11(0.12)	4.12(0.14)
K <sub>2</sub> O	2.31(0.07)	2.24(0.11)	2.31(0.10)	2.33(0.05)	2.29(0.13)	2.24(0.07)	2.14(0.04)	2.30(0.08)
MgO	0.29(0.05)	0.32(0.02)	0.28(0.02)	0.29(0.04)	0.33(0.04)	0.28(0.02)	0.32(0.02)	0.26(0.04)
CaO	1.52(0.06)	1.58(0.04)	1.42(0.09)	1.42(0.11)	1.60(0.06)	1.44(0.06)	1.59(0.02)	1.34(0.14)
Cl	0.10(0.03)	0.08(0.01)	0.10(0.02)	0.10(0.02)	0.09(0.01)	0.10(0.02)	0.09(0.01)	0.09(0.01)
Total <sup>1</sup>	100	100	100	100	100	100	100	100
Number of shards analyzed	20	22	22	18	23	22	20	22
Probable source <sup>2</sup>	MSH So	MSH Sg	MSH So	MSH So	MSH Sg			
Similarity coefficient <sup>3</sup>	0.98	0.98	0.98	0.98	0.98			

Note: standard deviations of the analyses given in parentheses.

<sup>1</sup>Analyses normalized to 100 weight percent.

<sup>2</sup>MSH = Mount St. Helens.

<sup>3</sup>Borchardt et al. (1972).