

Table 2S. The primary EPMA data of the silver alloy and slag (wt-%)

Series 1 - Metal phase:

Aver ±StDev	MV12e	MV12e(16 h)	MV13e	MV13e(16h)	MV14	MV17	MV17e	MV18	MV18e	MV19
O	1.16 ±0.21	1.16 ±0.27	1.29 ±0.21	1.39 ±0.18	0.93 ±0.21	0.88 ±0.14	1.06 ±0.27	1.02 ±0.28	1.26 ±0.32	1.09 ±0.21
Cu	0.02 ±0.01	0.02 ±0.01	0.06 ±0.01	0.01 ±0.004	0.04 ±0.02	0.69 ±0.13	0.29 ±0.07	0.11 ±0.03	0.05 ±0.01	0.08 ±0.04
Rh	0.08 ±0.02	0.09 ±0.02	0.09 ±0.02	0.07 ±0.01	0.13 ±0.09	0.12 ±0.01	0.07 ±0.02	0.10 ±0.02	0.07 ±0.01	0.08 ±0.02
Pd	0.58 ±0.07	0.56 ±0.04	0.61 ±0.05	0.66 ±0.06	0.66 ±0.21	1.36 ±0.50	0.53 ±0.04	1.06 ±0.18	0.57 ±0.04	1.16 ±0.53
Ag	95.79 ±0.48	95.72 ±0.27	95.48 ±0.38	97.11 ±0.36	96.45 ±0.63	94.66 ±0.72	95.04 ±1.28	96.04 ±0.55	97.46 ±0.30	96.28 ±0.75
Au	0.60 ±0.04	0.57 ±0.04	0.52 ±0.06	0.72 ±0.04	0.74 ±0.10	0.82 ±0.18	0.54 ±0.07	0.78 ±0.11	0.62 ±0.04	0.67 ±0.16
Te	0.11 ±0.01	0.11 ±0.01	0.11 ±0.01	0.11 ±0.01	0.01 ±0.01	0.89 ±0.33	0.39 ±0.08	0.17 ±0.15	0.23 ±0.02	0.03 ±0.03

MV20	MV22	MV23	MV23e	MV24	MV25	MV26	MV27
1.06 ±0.16	1.16 ±0.15	1.33 ±0.25	1.59 ±0.58	1.38 ±0.19	0.53 ±0.29	2.00 ±0.32	1.61 ±0.25
0.08 ±0.03	0.03 ±0.02	0.09 ±0.03	0.03 ±0.01	0.21 ±0.11	0.34 ±0.12	0.11 ±0.05	0.10 ±0.02
0.12 ±0.03	0.04 ±0.02	0.03 ±0.01	0.03 ±0.01	0.19 ±0.03	0.40 ±0.49	0.65 ±0.14	0.19 ±0.02
1.00 ±0.27	1.19 ±0.31	0.97 ±0.26	0.52 ±0.02	1.18 ±0.20	2.04 ±0.25	2.54 ±0.21	1.42 ±0.05
96.36 ±0.49	96.30 ±0.34	96.40 ±0.18	96.23 ±0.46	95.55 ±0.36	95.00 ±0.56	93.15 ±0.21	95.29 ±0.45
0.55 ±0.12	0.66 ±0.18	0.47 ±0.10	0.56 ±0.03	0.66 ±0.13	0.88 ±0.13	0.87 ±0.10	0.63 ±0.20
0.02 ±0.03	0.008 ±0.01	0.09 ±0.09	0.17 ±0.02	0.42 ±0.49	0.06 ±0.06	0.01 ±0.02	0.19 ±0.03

MV28	MV29	MV30	MV31	MV32	MV34	MV34e	MV35
1.75 ±0.16	1.66 ±0.15	1.53 ±0.35	0.89 ±0.19	1.69 ±0.22	1.20 ±0.24	0.92 ±0.15	1.53 ±0.26
0.06 ±0.02	1.56 ±0.33	0.03 ±0.01	0.02 ±0.02	0.54 ±0.15	0.06 ±0.02	0.02 ±0.01	0.04 ±0.02
0.17 ±0.03	0.10 ±0.01	0.15 ±0.03	0.10 ±0.01	0.07 ±0.02	0.05 ±0.01	0.05 ±0.01	0.03 ±0.01
1.28 ±0.06	1.38 ±0.05	1.64 ±0.12	1.41 ±0.08	0.88 ±0.04	1.04 ±0.06	0.72 ±0.05	1.05 ±0.07
95.31 ±0.15	93.1 ±0.47	95.33 ±0.27	96.15 ±0.38	95.27 ±0.44	96.46 ±0.22	96.77 ±0.49	96.15 ±0.25
0.56 ±0.14	0.65 ±0.17	0.77 ±0.22	0.74 ±0.13	0.39 ±0.18	0.42 ±0.15	0.75 ±0.05	0.38 ±0.23
0.01 ±0.02	0.83 ±0.09	0.02 ±0.02	0.02 ±0.01	0.65 ±0.08	0.01 ±0.02	0.12 ±0.01	0.01 ±0.01

Series 1 - Slag phase:

Average

±StDev	MV12e	MV12e(16 h)	MV13e	MV13e(16 h)	MV14	MV17	MV17e	MV18	MV18e	MV19
O	41.54 ±0.51	40.82 ±0.58	42.44 ±0.67	40.02 ±0.50	42.81 ±0.67	47.19 ±0.43	42.28 ±0.35	46.03 ±0.86	43.41 ±0.55	42.17 ±0.49
Na	9.59 ±0.19	9.97 ±0.38	10.13 ±0.20	10.22 ±0.33	16.46 ±0.91	11.69 ±0.47	10.88 ±0.15	7.65 ±1.89	10.71 ±0.21	16.36 ±1.28
Mg	0.00	0.00	0.00	0.00	10.27 ±0.23	0.01 ±0.01	0.00	0.00 ±0.01	0.00	10.40 ±0.29
Si	31.62 ±0.19	32.16 ±0.51	32.30 ±0.22	32.15 ±0.17	18.67 ±0.31	29.39 ±0.22	33.62 ±0.21	32.30 ±1.04	33.31 ±0.17	20.21 ±1.09
Cu	0.37 ±0.02	0.16 ±0.01	0.87 ±0.05	0.14 ±0.01	0.37 ±0.01	0.48 ±0.03	0.15 ±0.02	0.82 ±0.04	0.25 ±0.02	0.25 ±0.02
Ag	5.87 ±0.07	6.59 ±0.65	4.75 ±0.10	5.62 ±0.17	1.85 ±0.03	0.72 ±0.02	1.11 ±0.03	3.25 ±0.10	2.00 ±0.05	0.90 ±0.03
Te	0.02 ±0.02	0.00 ±0.00	0.03 ±0.03	0.00 ±0.00	0.51 ±0.02	0.02 ±0.02	0.01 ±0.01	0.09 ±0.02	0.01 ±0.01	0.44 ±0.02
Ba	8.10 ±0.09	7.47 ±0.20	7.93 ±0.10	8.5 ±0.24	8.46 ±0.11	8.95 ±0.21	8.75 ±0.21	9.81 ±0.34	8.85 ±0.08	8.53 ±0.18

MV20	MV22	MV23	MV23e	MV24	MV25	MV26	MV27
45.48 ±0.52	41.31 ±0.47	43.26 ±0.55	42.22 ±0.65	47.40 ±0.36	41.69 ±0.43	40.86 ±0.33	46.43 ±0.44
19.29 ±0.51	18.42 ±0.81	10.09 ±1.52	12.01 ±0.22	9.00 ±1.57	16.00 ±0.53	15.50 ±0.38	9.36 ±0.87
10.27 ±0.22	6.95 ±0.37	0.00 ±0.01	0.00	0.00 ±0.01	13.20 ±0.22	12.90 ±0.11	0.01 ±0.01
22.82 ±0.29	22.40 ±0.27	30.05 ±0.41	31.40 ±0.16	32.90 ±0.68	19.13 ±0.13	19.40 ±0.17	32.61 ±0.51
0.26 ±0.02	0.22 ±0.02	1.37 ±0.15	0.39 ±0.04	0.16 ±0.02	0.29 ±0.01	0.30 ±0.01	0.32 ±0.02
1.09 ±0.03	1.03 ±0.04	3.10 ±0.11	2.04 ±0.06	0.99 ±0.03	0.71 ±0.31	1.78 ±0.22	1.98 ±0.04
0.27 ±0.03	0.52 ±0.02	0.74 ±0.10	0.07 ±0.04	0.01 ±0.01	0.01 ±0.01	0.02 ±0.02	0.04 ±0.02
0.00 ±0.00	8.23 ±0.20	9.98 ±0.19	9.42 ±0.18	9.01 ±0.25	8.06 ±0.12	7.84 ±0.08	7.79 ±0.14

MV28	MV29	MV30	MV31	MV32	MV34	MV34e	MV35
40.96 ±0.45	42.38 ±0.42	44.58 ±0.67	45.30 ±0.46	44.77 ±0.64	43.70 ±0.90	39.52 ±0.95	41.05 0.30
16.28 ±0.70	17.70 ±0.45	19.69 ±0.46	18.10 ±0.93	18.72 ±1.34	11.84 ±0.46	10.83 ±0.32	17.51 0.38
9.96 ±0.20	10.27 ±0.22	10.32 ±0.21	10.57 ±0.27	11.22 ±0.26	0.00 ±0.01	0.00	7.29 0.34
20.32 ±0.26	19.44 ±0.60	20.32 ±0.56	22.63 ±0.54	23.91 ±0.41	25.76 ±1.20	30.04 ±0.31	20.32 0.11
0.28 ±0.01	0.16 ±0.01	0.31 ±0.01	0.06 ±0.01	0.20 ±0.01	1.36 ±0.86	0.74 ±0.13	0.49 0.01
2.50 ±0.05	0.24 ±0.01	3.05 ±0.07	2.47 ±0.06	0.36 ±0.02	6.32 ±0.96	7.78 ±0.33	2.72 0.05
0.39 ±0.03	0.02 ±0.02	0.39 ±0.04	0.19 ±0.02	0.03 ±0.01	0.50 ±0.24	0.07 ±0.05	0.95 0.06
8.39 ±0.08	8.60 ±0.14	0.00 ±0.00	0.00 ±0.00	0.01 ±0.02	9.01 ±0.65	8.25 ±0.27	8.97 0.19

Series 2 - Metal phase:

Average

±StDev

	MV37	MV38	MV40	MV41	MV42	MV43	MV45	MV46	MV47
O	0.95 ±0.15	1.13 ±0.17	1.35 ±0.21	1.35 ±0.26	1.47 ±0.30	1.16 ±0.25	1.07 ±0.16	1.05 ±0.21	1.26 ±0.20
Cu	0.02 ±0.02	0.03 ±0.01	0.05 ±0.03	0.05±0.04	0.02 ±0.02	0.03 ±0.02	0.03 ±0.02	0.10 ±0.03	0.06 ±0.06
Rh	0.10 ±0.02	0.10 ±0.03	0.12 ±0.06	0.16 ±0.09	0.15 ±0.03	0.12 ±0.03	0.05 ±0.05	0.16 ±0.03	0.12 ±0.13
Pd	0.66 ±0.19	0.71 ±0.04	0.59 ±0.11	0.63 ±0.11	0.58 ±0.13	0.61 ±0.06	0.40±0.16	0.64 ±0.08	0.88 ±0.28
Ag	97.48 ±0.33	97.38 ±0.49	96.48 ±0.75	96.39 ±0.75	96.37 ±0.85	97.24 ±0.25	97.55 ±0.66	96.62 ±0.44	96.57 ±0.33
Au	0.57 ±0.17	0.68 ±0.11	0.47 ±0.14	0.52 ±0.11	0.63 ±0.20	0.46 ±0.12	0.40 ±0.14	0.48 ±0.21	0.64 ±0.17
Te	0.01 ±0.01	0.02 ±0.02	0.01 ±0.01	0.01 ±0.01	0.01 ±0.01	0.01 ±0.01	0.01 ±0.01	0.14 ±0.18	0.02 ±0.02

MV48	MV49	MV50	MV51	MV52	MV53	MV54	MV55	MV56	MV57	MV58
1.52 ±0.26	1.42 ±0.43	1.24 ±0.18	1.04 ±0.25	1.93 ±0.26	1.15 ±0.30	1.29 ±0.09	1.56 ±0.27	1.09 ±0.25	1.27 ±0.29	2.05 ±1.0
1.76 ±0.26	0.76 ±0.58	1.71 ±0.40	0.14 ±0.06	0.13 ±0.02	0.08 ±0.04	0.07 ±0.05	0.05 ±0.04	0.38 ±0.15	0.21 ±0.07	0.03 ±0.02
0.12 ±0.04	0.10 ±0.07	0.17 ±0.16	0.12 ±0.05	0.25 ±0.48	0.08 ±0.02	0.06 ±0.01	0.06 ±0.03	0.21 ±0.16	0.18 ±0.23	0.02 ±0.01
.60 ±0.11	0.48 ±0.10	0.51 ±0.09	0.60 ±0.13	0.51 ±0.09	0.56 ±0.11	0.38 ±0.18	0.57 ±0.10	0.62 ±0.09	0.73 ±0.17	0.47 ±0.06
94.59 ±0.62	95.47 ±0.99	94.23 ±1.10	96.40 ±0.54	95.39 ±0.84	96.33 ±0.40	96.54 ±0.57	96.58 ±0.36	96.29 ±0.42	95.83 ±0.84	95.65 ±0.95
0.60 ±0.12	0.39 ±0.16	0.38 ±0.15	0.55 ±0.13	0.46 ±0.14	0.62 ±0.27	0.21 ±0.13	0.45 ±0.21	0.62 ±0.15	0.59± 0.16	0.38 ±0.22
0.44 ±0.22	0.61 ±0.38	1.10 ±0.77	0.33 ±0.31	0.04 ±0.03	0.04 ±0.07	0.03 ±0.03	0.03 ±0.02	0.37 ±0.39	0.02 ±0.02	0.02 ±0.02

Series 2 - Slag phase:

Average

±StDev

	MV37	MV38	MV40	MV41	MV42	MV43	MV45	MV46	MV47
O	43.43 ±0.56	42.81 ±0.50	40.75 ±0.51	39.91 ±0.65	41.87 ±0.52	43.65 ±0.51	41.35 ±0.55	45.21 ±0.82	40.24 ±0.56
Na	11.07 0.37±	11.51 ±0.21	16.97 ±0.19	17.27 ±0.26	19.52 ±0.23	18.81 ±0.84	11.05 ±0.20	10.04 ±0.35	16.18 ±0.21
Mg	0.01 ±0.01	0.01 ±0.02	9.60 ±0.15	9.97 ±0.17	10.48 ±0.17	10.49 ±0.22	0.00 ±0.00	0.01 ±0.01	12.68 ±0.13
Si	29.81 ±0.22	30.36 ±0.23	19.67 ±0.17	20.24 ±0.16	23.11 ±0.15	23.30 ±0.30	27.33 ±0.28	32.61 ±0.66	19.1 ±0.25
Cu	0.57 ±0.02	0.42 ±0.02	0.35 ±0.01	0.31 ±0.01	0.09 ±0.01	0.44 ±0.01	1.74 ±0.12	0.39 ±0.04	0.31 ±0.01
Ag	6.82 ±0.18	4.49 ±0.07	2.40 ±0.07	1.96 ±0.05	3.09 ±0.06	2.53 ±0.05	8.37 ±0.54	2.38 ±0.34	2.01 ±0.14
Te	0.14 ±0.02	0.06 ±0.04	0.45 ±0.02	0.35 ±0.01	0.23 ±0.01	0.31 ±0.02	0.74 ±0.14	0.07 ±0.05	0.04 ±0.02
Ba	7.06 ±0.36	8.84± 0.18	8.31 ±0.12	8.86 ±0.08	0.00 ±0.00	0.00 ±0.00	8.96 ±0.50	7.87 ±0.57	8.29 ±0.12

MV48	MV49	MV50	MV51	MV52	MV53	MV54	MV55	MV56	MV57	MV58
44.61 ±0.36	40.17 ±0.40	43.51 ±0.41	43.29 ±0.71	38.95 ±0.48	43.66 ±0.55	41.29 ±0.79	39.43 ±0.78	44.16 ±0.50	40.60± 0.87	37.46 ±0.59
11.91 ±0.29	17.90 ±0.19	20.19 ±0.26	11.41 ±0.39	18.04 ±0.13	19.91 ±0.40	12.13 ±0.19	18.35 ±0.27	10.91 ±0.20	16.95 ±0.25	17.00 ±0.29
0.02 ±0.05	10.27 ±0.16	10.73 ±0.17	0.00 ±0.00	10.42 ±0.10	10.33 ±0.25	0.03 ±0.07	7.19 ±0.23	0.01 ±0.01	13.41 ±0.12	7.13 ±0.36
31.08 ±0.34	21.07 ±0.11	23.27 ±0.19	31.52 ±0.76	21.43 ±0.24	23.76 ±0.13	31.42 ±1.14	22.14 ±0.28	33.08 ±0.48	19.50 ±0.13	22.09 ±0.46
0.37 ±0.11	0.20 ±0.02	0.46 ±0.01	0.76 ±0.20	0.30 ±0.01	0.24 ±0.01	0.57 ±0.64	0.43 ±0.02	0.32 ±0.02	0.23 ±0.01	0.58 ±0.03
0.95 ±0.11	0.25 ±0.01	0.31 ±0.01	2.85 ±0.28	0.87 ±0.07	1.16 ±0.05	2.18 ±0.36	1.18 ±0.03	1.31 ±0.11	0.54 ±0.07	2.88 ±0.04
0.07 ±0.03	0.03 ±0.01	0.03 ±0.02	0.11 ±0.06	0.40 ±0.06	0.23 ±0.02	0.49 ±0.36	0.86 ±0.03	0.02 ±0.01	0.00 ±0.00	0.82 ±0.03
9.5 ±0.37	8.81 ±0.07	0.00 ±0.01	9.07 ±0.45	8.05 ±0.11	0.00 ±0.00	10.42 ±0.14	9.10 ±0.19	8.73 ±0.42	6.63 ±0.06	9.47 ±0.18