Trade and glass production in Early Medieval Italy, England, and Denmark (late 6th - 11th century AD): compositional and isotopic analysis.

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Data Appendixes

Converted from excel files

to follow PhD regulations

as directed by UoN Student services

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Appendix 1: Database

Sample	Date	Group	Macro-class (function)	Object	Colour	Notes
Ba01	9th - 10th century AD	1-2	Glass working	Millefiori rod	Dark blue/white (op.)	Context 1029/686
Ba02	9th - 10th century AD	1	Glass working	Reticella rod	copper blue , white (op.)	Context 1261/746
Ba03	9th - 10th century AD	2	Glass working	Reticella rod?	Light green	Context 995/662a
Ba04	9th - 10th century AD	3	Glass working	Rod	Amber	Context 995/662b
Ba05	9th - 10th century AD	3	Glass working	Rod	White (op.)	Context 1029/685a
Ba06	9th - 10th century AD	1	Glass working	Rod	Dark blue/black	Context 1029/685b
Ba07	9th - 10th century AD	1-2-3	Glass working	Millefiori rod	Amber/dark blue, white (op.), yellow (op.), copper blue (op.)	Context 909/575a
Ba08	9th - 10th century AD	1-3	Glass working	Millefiori rod	Yellow, white (op.), copper blue (op.)	Context 909/575b
Ba09	9th - 10th century AD	1-4	Glass working	Millefiori rod	Amber and copper blue (op.)	Context 909/577a
Ba10	9th - 10th century AD	1-2-3	Glass working	Millefiori rod	Amber/dark blue, white (op.), yellow (op.), copper blue (op.)	Context 909/577b
Ba11	9th - 10th century AD	3	Glass working	Waster (droplet)	Blue/green	Context 875/547
Ba12	9th - 10th century AD	2	Glass working	Rod	White (op.)	Context 909/588
Ba13	9th - 10th century AD	2	Glass working	Rod?	White (op.)	Context 909/600
Ba14	9th - 10th century AD	3	Glass working	Millefiori rod	Amber/dark blue, copper blue (op.)	Context 879/565
Ba15	9th - 10th century AD	1	Glass working	Rod	Blue/green (op.)	Context 909/572
Ba16	9th - 10th century AD	3	Glass working	Pontil mark/rod?	Light blue/green (stripes?)	Context 909/592
Ba17	9th - 10th century AD	2	Glass working	Rod	White (op.)	Context 909/584
Ba18	9th - 10th century AD	2	Glass working	Rod	White (op.)	Context 909/580
Ba19	9th - 10th century AD	1	Vessel	Vessel Fragment (wall?)	Light blue	Context 865/541
Ba20	9th - 10th century AD	1	Vessel	Vessel Fragment (wall?)	Light blue/green	Context 173/429
Ba21	9th - 10th century AD	1	Vessel	Vessel Fragment (wall?)	Olive green, yellow (op.)	Context 159/403
Ba22	9th - 10th century AD	1	Glass working	Waster (pontil mark?)	Copper blue (op.)	Context 909/585a
Ba23	9th - 10th century AD	3	Glass working	Waster (pontil mark?)	Amber	Context 909/585b
Ba24	9th - 10th century AD	2	Vessel	Vessel Fragment (wall)	Colourless	Context 12/9
Ba25	9th - 10th century AD	1	Vessel	Vessel Fragment (window?)	Light green	Context 179/426
Ba26	9th - 10th century AD	1	Vessel	Vessel Fragment (rim?)	Olive green	Context 244/439
Ba27	9th - 10th century AD	2	Vessel	Vessel Fragment	Light green	Context 140/436
Ba28	9th - 10th century AD	1	Vessel	Vessel Fragment	Copper blue	Context 140/438
Ba29	9th - 10th century AD	1	Vessel	Vessel Fragment (wall?)	Colourless	Context 909/582
Ba30	9th - 10th century AD	3	Vessel	Vessel Fragment (base?)	Light blue	Context 280/471
Ba31	9th - 10th century AD	3	Vessel	Vessel Fragment (wall?)	Copper blue	Context 1508/795
Ba32	9th - 10th century AD	1	Vessel	Vessel Fragment	Light blue	Context 1130/697
Ba33	9th - 10th century AD	3	Vessel	Vessel Fragment	Light blue	Context 1029/682
Ba34	9th - 10th century AD	1	Vessel	Vessel Fragment (base/rim?)	Light blue	Context 1007/672
Ba35	9th - 10th century AD	1	Vessel	Vessel Fragment (rim?)	Dark blue	Context 974/659
Ba36	9th - 10th century AD	1	Vessel	Vessel Fragment/window?	Copper blue	Context 249/628a
Ba37	9th - 10th century AD	1	Vessel	Vessel Fragment/window?	Light blue	Context 249/628b
Ba38	9th - 10th century AD	4	Glass working	Crucible (layer)	Light blue	Context 249/633
Ba39	9th - 10th century AD	5	Glass working	Crucible (layer)	Light blue	Context 1046/692
Ba40	9th - 10th century AD	4	Glass working	Mass?	Green-yellow	Context 907/620a
Ba41	9th - 10th century AD	4	Glass working	Mass?	Green	Context 907/620b
Ba42	9th - 10th century AD	3	Glass working	Waster	White (op.)	Context 974/657a
Ba43	9th - 10th century AD	1	Glass working	Waster	Copper blue	Context 974/657b
Ba44	9th - 10th century AD	1	Glass working	Waster	Light blue	Context 974/657c
Ba45	9th - 10th century AD	1	Glass working	Waster	Colourless (stripes)	Context 974/657d
Ba46	9th - 10th century AD	1	Glass working	Waster	White (op.)	Context 974/657e
Ba47	9th - 10th century AD	3	Fragment	Fragment	Colourless	Context 974/657f
Ba48	9th - 10th century AD	1	Fragment	Fragment	Copper blue	Context 907/622
Ba49	9th - 10th century AD	3	Fragment	Fragment	Amber	Context 879/556
Ba50	9th - 10th century AD	1	Bead	Bead	Copper blue	Context 879/559
Ba51	9th - 10th century AD	1	Vessel	Vessel Fragment (base)	Light blue	Context 964/636
Ba52	9th - 10th century AD	6	Vessel	Vessel Fragment	Olive green	Context 1226/772
Ba53	9th - 10th century AD	1	Vessel	Vessel Fragment (rim/base?)	Light blue	Context 1285/792
Ba54	9th - 10th century AD	1	Window	Window fragment	Light blue	Context 1167/764
Ba55	9th - 10th century AD	3	Glass working	Rod	White (op.)	Context 249/625
Ba56	9th - 10th century AD	3	Glass working	Millefiori rod	Light green	Context 249/630a
Ba57	9th - 10th century AD	1	Glass working	Millefiori rod	Light green	Context 249/630b
Ba58	9th - 10th century AD	1	Glass working	Millefiori rod	Dark blue/grey	Context 249/644
Ba59	9th - 10th century AD	2	Glass working	Millefiori rod	Copper blue (op.)	Context 974/656
Ba60	9th - 10th century AD	1	Fragment	Fragment	Olive green	Context 995/664a

Figure 1 – Barking Abbey glass samples dataset (Ba01 – Ba60).

Sample	Date	Group	Macro-class (function)	Object	Colour	Notes
Ba61	9th - 10th century AD	4	Fragment	Fragment	Copper blue	Context 995/664b
Ba63	9th - 10th century AD	1	Glass working	Millefiori rod	Light blue/grey	Context 995/664d
Ba64	9th - 10th century AD	2	Glass working	Rod	White (op.)	Context 1055/797
Ba65	9th - 10th century AD	1	Window	Window fragment	Cobalt blue	Context 1226/724
Ba66	9th - 10th century AD	3	Glass working	Reticella rod	Copper blue	Context 909/573
Ba67	9th - 10th century AD	4	Vessel	Vessel Fragment	Green	Context 995/663a
Ba68	9th - 10th century AD	4	Fragment	Fragment	Green	Context 995/663b
Ba69	9th - 10th century AD	4	Fragment	Fragment	Green	Context 995/663c
Ba71	9th - 10th century AD	1	Glass working	Rod	Dark blue	Context 909/583
Ba72	9th - 10th century AD	3	Glass working	Reticella rod	Yellow and white (op.)	Context 879/564
Ba73	9th - 10th century AD	1	Glass working	Reticella rod	copper blue, white (op.)	Context 940/608
Ba74	9th - 10th century AD	1	Vessel	Vessel Fragment (base)	Blue/green	Context 845/528
Ba75	9th - 10th century AD	1	Glass working	Reticella rod	Copper blue	Context 879/562
Ba77	9th - 10th century AD	3	Fragment	Fragment	Copper blue	Context 995/663d
Ba78	9th - 10th century AD	1	Vessel	Vessel Fragment	Copper blue	Context 249/626a
Ba79	9th - 10th century AD	4	Fragment	Fragment	Green	Context 249/626b
Ba80	9th - 10th century AD	4	Fragment	Fragment	Green	Context 249/626c
Ba81	9th - 10th century AD	2-3	Glass working	Waster (rod?)	Amber, white (op.), copper blue (op.)	Context 909/581

Figure 2 - Barking Abbey glass samples dataset (Ba61 – Ba81).

Sample	Date	Group	Macro-class (function)	Object	Colour	Notes
Com01	half 7th century AD	1C	Drinking vessel	Bottle (collar?)	Light green	Context 2043/1
Com02	half 7th century AD	2C	Glass working	Waster (cullet/droplet?)	Blue/Green	Context 2043/2
Com03	half 7th century AD	2C	Glass working	Waster (cullet/droplet?)	Blue/Green	Context 2043/3
Com04	half 7th century AD	2C	Glass working	Waster (fragment)	Blue/Green	Context 2043/4
Com06	10th - 11th century AD	2B	Tessera	Tessera	Colourless	Context 1788
Com08	end 8th century AD	1C	Lamp	Lamp (handle?)	Colourless	Context 1651
Com10	6th - 7th century AD	1C	Vessel	Vessel Fragment (wall?)	Light blue	Context 2092/2
Com11	6th - 7th century AD	1C	Vessel	Vessel Fragment (wall?)	Light blue	Context 2092/3
Com12	6th - 7th century AD	2C	Vessel	Vessel Fragment (wall?)	Light blue	Context 2092/4
Com13	6th - 7th century AD	2C	Vessel	Vessel Fragment (wall?)	Light blue	Context 2092/5
Com14	2nd half 7th century AD	2C	Drinking vessel	Goblet (base)	Green	Context 2170/1
Com15	2nd half 7th century AD	3	Drinking vessel	Cup (base)	Light blue	Context 2170/2
Com16	2nd half 7th century AD	1A	Drinking vessel	Goblet (base)	Light blue	Context 2170/3
Com18	late 6th -first half 7th century AD	2B	Vessel	Vessel Fragment (wall?)	Yellow (faint)	Context 2190/1
Com19	late 6th -first half 7th century AD	1A	Drinking/Lighting vessel	Goblet/Lamp (wall?)	Light blue	Context 2190/2
Com20	late 6th -first half 7th century AD	2A	Vessel	Vessel Fragment (wall?)	Light blue	Context 2190/3
Com21	10th - 11th century AD	4	Drinking vessel	Cup (rim?)	Colourless (yellow)	Context 1080/1
Com22	10th - 11th century AD	4	Vessel	Vessel Fragment (wall?)	Colourless	Context 1080/2
Com23	10th - 11th century AD	4	Vessel	Vessel Fragment (wall?)	Light blue	Context 1080/3
Com24	6th - 7th century AD	1B	Vessel	Vessel Fragment (wall?)	Light blue	Context 2127/1
Com25	6th - 7th century AD	3	Vessel	Vessel Fragment (wall?)	Light blue	Context 2127/2
Com26	6th - 7th century AD	1C	Glass working	Waster (mass/droplet?)	Blue/Green	Context 2127/3
Com27	6th - 7th century AD	1C	Glass working	Waster/Tessera	Light green	Context 2127/4
Com28	6th - 7th century AD	1B	Vessel	Vessel Fragment (wall?)	Light blue	Context 2127/5
Com29	6th - 7th century AD	2B	Vessel	Vessel Fragment (wall?)	Yellow (faint)	Context 2127/6
Com30	6th - 7th century AD	1C	Glass working	Crucible (layer)	Green	Context 2127/7a
Com31	6th - 7th century AD	2C	Glass working	Crucible (layer)	Red (op.)	Context 2127/7b
Com32	10th - 11th century AD	5	Glass working	Waster (mass)	Dark green	Context 1054=1059/1
Com33	10th - 11th century AD	6	Glass working	Waster (mass)	Green	Context 1054=1059/2
Com34	7th century AD	1A	Vessel	Vessel Fragment (wall?)	Olive green	Context 2155/1
Com35	7th century AD	2C	Vessel	Vessel Fragment (wall + rim)	Light green	Context 2155/2
Com36	7th century AD	1C	Glass working	Waster (mass)	Blue/Green	Context 2155/3
Com37	7th century AD	1C	Glass working	Waster (mass)	Green	Context 2155/4a
Com38	7th century AD	7	Glass working	Waster (mass)	Red (op.)	Context 2155/4b
Com39	Late 7th century AD	1B	Window	Window fragment	Light blue	Context 2151/3
Com40	Late 7th century AD	7	Glass working	Waster (mass)	Light blue	Context 2151/4

Figure 3 - Comacchio glass samples dataset (Com01 – Com40).

Sample	Date	Group	Macro-class (function)	Object	Colour	Notes
Com41	half 7th century AD	1B	Drinking vessel	Goblet (stem)	Green	Context 2106=2111/1
Com42	half 7th century AD	1B	Drinking vessel	Goblet (wall?)	Light blue	Context 2106=2111/2
Com44	6th - 7th century AD	3	Window	Window fragment	Light blue	Context 2177/1
Com45	6th - 7th century AD	1C	Glass working	Waster (droplet)	Green	Context 2177/2
Com46	6th - 7th century AD	1C	Vessel	Vessel Fragment (neck?)	Green	Context 2177/3
Com47	6th - 7th century AD	1C	Glass working	Crucible (layer, base)	Green	Context 2177/4b
Com48	11th century AD	2C	Vessel	Vessel Fragment (handle?)	Light blue	Context 2418/1a
Com50	half 7th century AD	1C	Drinking vessel	Goblet (base)	Blue/Green	Context 2025/7
Com51	half 7th century AD	1C	Drinking vessel	Goblet (base)	Blue/Green	Context 2025/8
Com52	half 7th century AD	2C	Lamp	Lamp (handle)	Blue/Green	Context 2025/9
Com53	half 7th century AD	3	Glass working	Waster (mass)	Blue/Green	Context 2025/1
Com54	half 7th century AD	1A	Tessera	Tessera	Blue/Green	Context 2025/2
Com55	half 7th century AD	7	Glass working	Waster (droplet)	Blue/Green	Context 2025/3
Com56	half 7th century AD	3	Vessel	Vessel Fragment (wall)	Light blue	Context 2025/4
Com57	half 7th century AD	3	Glass working	Waster (mass)	Blue/Green	Context 2025/5
Com58	half 7th century AD	1C	Glass working	Waster (mass)	Light green	Context 2025/6
Com59	first half 7th century AD	3	Vessel	Vessel Fragment (handle)	Grey	Context 2245/1
Com60	first half 7th century AD	3	Vessel	Vessel Fragment (handle)	Colourless/grey	Context 2245/2
Com61	11th century AD	1C	Drinking vessel	Goblet (base)	Light blue	Context 2412/1
Com62	end 7th - into 8th century AD	1B	Tessera	Tessera	Colourless	Context 2060=2122/1
Com63	end 7th - into 8th century AD	1B	Glass working	Waster (droplet)	Light blue	Context 2060=2122/2
Com64	end 7th - into 8th century AD	1C	Drinking vessel	Goblet (base)	Blue/Green	Context 2060=2122/3
Com65	end 7th - into 8th century AD	2C	Drinking vessel	Goblet (base)	Blue/Green	Context 2060=2122/4
Com66	end 7th - into 8th century AD	2C	Glass working	Waster (mass)	Blue/Green	Context 2060=2122/5
Com67	7th century AD	1A	Lamp	Lamp (wall)	Light blue	Context 2159/1
Com68	7th century AD	1A	Lamp	Lamp (collar)	Light blue	Context 2159/2
Com69	8th century AD	1C	Tessera	Tessera	Dark blue	Context 1842/1
Com70	8th century AD	7	Tessera	Tessera	Red (op.)	Context 1842/2
Com71	8th century AD	1C	Glass working	Waster (droplet)	Light dark blue	Context 1842/3
Com72	8th century AD	1C	Drinking vessel	Jug/Bottle (base)	Blue/Green	Context 1842/4
Com73	8th century AD	1C	Vessel	Vessel Fragment (collar)	Blue/Green	Context 1842/5
Com74	8th century AD	8	Glass working	Waster (mass?)	Olive green	Context 1842/6
Com75	8th century AD	8	Drinking vessel	Cup? (base)	Olive green	Context 1842/7
Com76	8th century AD	3	Drinking vessel	Goblet (base)	Light blue/colourless	Context 1842/8
Com77	8th century AD	1C	Drinking vessel	Goblet (base)	Light green	Context 1842/9
Com78	8th century AD	2C	Drinking vessel	Goblet? (wall + rim)	Light green	Context 1842/10
Com79	8th century AD	2C	Glass working	Crucible (layer, base)	Green	Context 1842/1a
Com80	8th century AD	7	Glass working	Crucible (spill)	Green	Context 1842/1c
Com81	8th century AD	1B	Glass working	Crucible (base)	Green	Context 1842/2a
Com82	8th century AD	1B	Glass working	Crucible (base)	Green	Context 1842/3a
Com85	end 7th - into 8th century AD	2B	Vessel	Vessel Fragment (wall)	Yellow (faint)	Context 2019/1
Com86	end 7th - into 8th century AD	1B	Tessera	Tessera	Colourless	Context 2019/2
Com87	end 7th - into 8th century AD	1B	Tessera	Tessera	Colourless	Context 2019/3
Com88	end 7th - into 8th century AD	2C	Tessera	Tessera	Dark blue	Context 2019/4
Com89	end 7th - into 8th century AD	2C	Tessera	Tessera	Blue/Green	Context 2019/5
Com90	end 7th - into 8th century AD	1B	Glass working	Waster (mass)	Dark blue	Context 2019/6
Com91	end 7th - into 8th century AD	2C	Tessera	Tessera	White (op.)	Context 2019/7
Com92	end 7th - into 8th century AD	7	Tessera	Tessera	Red (op.)	Context 2019/8
Com93	10th - 11th century AD	7	Glass working	Crucible (layer)	Olive green	Context 1750/1a
Com94	10th - 11th century AD	7	Glass working	Crucible (layer)	Olive green and Red	Context 1750/1b
Com95	Late 7th century AD	2C	Drinking vessel	Goblet (stem)	Green	Context 2151
Com96a	8th century AD	1B	Drinking vessel	Cup/Goblet (wall + rim)	Light blue	Context 1859
Com96b	8th century AD	4	Drinking vessel	Cup/Goblet (wall + rim)	White (op.)	Context 1859
Com97	9th century AD	1C	Glass working	Waster (pontil mark?)	Green	Context 1701
Com98	8th century AD	2C	Drinking vessel	Goblet (wall + rim?)	Green	Context 1842

Figure 4 - Comacchio glass samples dataset (Com41 – Com98).

Sample	Date	Group	Macro-class (function)	Object	Colour	Notes
Rib33b	Phase 2	2	Glass working	Tessera	Red (op.)	D12726/4M75 (Andersen and Sode 2010, 80)
Rib35	Phase 1a	3	Glass working	Tessera	Purple	D6976/6M73 area 5 (Andersen and Sode 2010, 64)
Rib37	Phase 2	1	Glass working	Tessera	Grey	D2898/6M73 area 1 (Andersen and Sode 2010, 70)
Rib61a	Phase 3	1	Glass working	Polychrome rod	Red	D13374/4M75 (Andersen and Sode 2010, 92)
Rib61b	Phase 3	1	Glass working	Polychrome rod	Yellow (op.)	D13374/4M75 (Andersen and Sode 2010, 92)
Rib63	LI/V/M	4	Glass working	Polychrome rod	Red (op.)	D9316/4M75 (Andersen and Sode 2010, 128)
Rib66w	Phase 3	5	Glass working	Polychrome rod	White (op.)	D10906a/4M75 (Andersen and Sode 2010, 100)
Rib67a	Phase 1a	5	Glass working	Polychrome rod	Blue (semi-op.)	D6966/6M73 area 5 (Andersen and Sode 2010, 64)
Rib67b	Phase 1a	1	Glass working	Polychrome rod	Red (op.)	D6967/6M73 area 5 (Andersen and Sode 2010, 64)
Rib74	Phase 3	5	Glass working	Lump (fragment)	Red/brown (op.?)	D8805/4M75 (Andersen and Sode 2010, 94)
Rib76	Phase 3	4	Glass working	Lump (fragment)	Green (op.)	D7805/1M75 (Andersen and Sode 2010, 84)
Rib77	n/a	4	Bead	Bead	Yellow (op.)	n/a
Rib78	n/a	6	Bead	Bead	Yellow (op.)	n/a
Rib80a	Phase 3	5	Bead	Bead	Blue/green (op.?)	D10997/4M75 Andersen and Sode 2010, 106)
Rib83b	Phase 3	5	Bead	Bead	Blue	D12083/4M75 (Andersen and Sode 2010, 96)
Rib83y	Phase 3	6	Bead	Bead	Yellow (op.)	D12083/4M75 (Andersen and Sode 2010, 96)
Rib86	Phase 3	2	Bead	Bead	Yellow (op.)	D11171/4M75 (Andersen and Sode 2010, 100)
Rib100	Phase 2	1	Bead	Bead	Blue/green	D2897/6M73 area 1 (Andersen and Sode 2010, 70)
Rib103	Phase 2	1	Bead	Bead	Blue/green	D5997/5M74 (Andersen and Sode 2010, 77)
Rib105	Phase 2	2	Bead	Bead	Red (op.)	D5997/5M74 (Andersen and Sode 2010, 77)

Figure 5 – Ribe glass samples dataset (Rib33b – Rib105).

Appendix 2: EMPA

Sample	Type	SO3	P2O5	V2O5	As2O5	Sb2O5	SiO2	TiO2	SnO2	Al2O3	Cr2O3	Fe2O3	MgO
Ba01a	1	0.11	0.09	bdl	0.08	0.10	68.96	0.11	0.05	3.00	bdl	0.72	0.82
Ba01b	2	0.18	0.21	0.02	0.02	nd	61.93	0.11	3.16	2.33	0.01	0.85	1.07
Ba02	1	0.16	0.13	bdl	0.03	0.04	67.82	0.09	0.37	2.79	0.01	0.78	0.73
Ba03	2	0.12	0.09	bdl	nd	0.04	61.58	0.07	0.07	2.64	bdl	1.27	0.64
Ba04	3	0.09	0.07	bdl	0.09	bdl	71.00	0.12	0.03	3.07	nd	0.58	0.71
Ba05	3	0.15	0.06	bdl	0.09	bdl	70.37	0.07	0.02	2.98	0.02	0.48	0.60
Ba06	1	0.13	0.06	0.03	0.31	0.05	70.19	0.08	0.07	2.96	0.02	0.70	0.80
Ba07a	3	0.08	0.03	bdl	0.11	bdl	71.68	0.07	0.05	3.34	0.01	0.65	0.66
Ba07c	1	0.18	0.10	nd	0.17	nd	69.60	0.09	0.19	2.79	0.02	0.54	0.75
Ba07e	1	0.16	0.05	0.03	0.17	bdl	68.24	0.07	0.33	2.80	bdl	0.59	0.70
Ba07f	2	0.08	0.04	0.02	0.21	bdl	61.00	0.09	1.06	2.67	0.01	0.48	0.56
Ba08b	1	0.15	0.10	bdl	0.10	bdl	69.26	0.10	0.18	2.83	bdl	0.65	0.66
Ba08y	3	0.10	0.09	0.02	0.30	nd	73.31	0.07	0.04	3.16	bdl	0.46	0.61
Ba09b	1	0.13	0.14	bdl	0.34	nd	66.22	0.09	2.17	2.73	0.01	0.66	0.66
Ba09br	3	0.06	0.04	bdl	0.20	bdl	72.67	0.07	bdl	3.20	0.01	0.44	0.62
Ba10a	1	0.10	0.14	bdl	0.05	0.04	69.86	0.07	0.03	2.98	0.01	0.74	0.78
Ba10b	3	0.06	0.06	bdl	0.02	bdl	73.04	0.09	0.02	3.27	0.02	0.51	0.62
Ba10c	1	0.16	0.13	bdl	0.15	bdl	68.23	0.10	0.24	2.87	0.02	0.63	0.69
Ba10d	2	0.13	0.10	bdl	0.10	nd	58.69	0.08	4.65	2.47	bdl	0.62	0.66
Ba10e	3	0.08	0.07	nd	0.17	nd	73.21	0.09	bdl	3.24	0.03	0.53	0.65
Ba11	3	0.15	0.08	0.03	0.07	bdl	71.49	0.12	0.13	3.06	0.01	0.79	0.68
Ba12	2	0.10	0.03	bdl	0.13	nd	62.63	0.04	5.63	2.46	0.01	1.58	0.61
Ba13	2	0.11	0.07	bdl	0.30	nd	63.37	0.05	4.49	2.49	0.04	0.81	0.61
Ba14a	3	0.09	0.05	bdl	0.21	nd	70.89	0.12	0.02	3.10	0.01	0.61	0.69
Ba14b	1	0.14	0.12	bdl	0.22	bdl	67.51	0.06	0.74	2.79	0.03	0.68	0.67
Ba15	1	0.13	0.08	0.02	0.49	nd	68.75	0.10	0.88	2.67	0.01	0.67	0.65
Ba16	3	0.09	0.03	bdl	bdl	nd	70.21	0.07	0.13	3.06	nd	0.79	0.66
Ba17	2	0.12	0.05	0.02	0.13	nd	61.96	0.10	5.32	2.51	nd	0.92	0.64
Ba18	2	0.11	0.06	0.03	nd	nd	61.53	0.07	6.55	2.46	bdl	0.81	0.65
Ba19	1	0.20	0.10	0.03	0.32	0.15	68.73	0.12	0.04	2.84	bdl	0.75	0.91
Ba20	1	0.15	0.17	0.03	0.15	0.17	65.72	0.11	0.25	2.81	bdl	1.06	0.74
Ba21	1	0.09	0.31	0.02	0.33	0.23	66.95	0.14	0.11	3.01	bdl	1.25	0.81
Ba22	1	0.15	0.10	0.02	0.21	bdl	68.79	0.07	0.24	2.95	nd	0.62	0.68
Ba23	3	0.09	0.11	bdl	0.04	bdl	70.93	0.07	0.05	2.95	0.04	0.59	0.73
Ba24	2	0.07	0.07	bdl	nd	bdl	57.24	0.03	0.07	0.34	0.01	0.13	0.01
Ba25	1	0.24	0.10	0.02	0.05	0.26	68.26	0.15	0.17	2.77	0.02	0.90	0.65
Ba26	1	0.10	0.12	bdl	0.64	0.05	68.01	0.13	0.32	3.00	0.01	0.84	0.67
Ba27	2	0.08	0.93	bdl	0.43	bdl	60.76	0.17	nd	3.56	0.01	1.23	4.63
Ba28	1	0.19	0.06	0.02	0.07	0.23	67.12	0.09	0.15	2.60	0.01	0.69	0.71
Ba29	1	0.16	0.12	bdl	nd	bdl	69.63	0.10	bdl	2.74	bdl	0.74	0.75
Ba30	3	0.12	0.16	bdl	0.14	nd	71.48	0.09	bdl	3.22	0.01	0.45	0.52
Ba31	3	0.06	0.07	bdl	0.02	nd	71.46	0.08	0.28	3.00	bdl	0.40	0.62
Ba32	1	0.24	0.08	bdl	nd	bdl	68.02	0.05	0.03	2.79	0.02	0.44	0.49
Ba33	3	0.10	0.03	bdl	0.07	bdl	71.74	0.08	0.03	2.88	bdl	0.41	0.55
Ba34	1	0.21	0.15	bdl	0.11	0.11	68.70	0.09	0.02	2.62	0.01	0.71	0.79
Ba35	1	0.06	0.07	0.03	0.07	bdl	66.08	0.11	0.15	2.75	0.02	0.72	0.59
Ba36	1	0.13	0.14	nd	0.15	0.07	67.97	0.10	0.32	2.72	0.01	0.78	0.64
Ba37	1	0.18	0.17	0.03	0.34	0.13	68.71	0.10	0.02	2.67	0.02	0.87	0.74
Ba38	4	bdl	0.28	0.02	0.25	bdl	70.34	0.43	0.01	5.79	0.02	3.18	0.71
Ba39	5	0.06	0.07	0.02	nd	0.05	66.84	0.39	0.03	12.23	0.01	0.63	0.36
Ba40	4	0.08	0.39	0.02	0.29	nd	65.45	0.36	0.09	4.73	0.02	3.43	1.02
Ba41	4	0.07	0.44	0.03	0.24	bdl	66.28	0.40	0.05	5.22	0.01	4.21	0.97
Ba42	3	0.10	0.05	bdl	0.32	nd	70.85	0.07	2.45	2.93	0.02	0.38	0.48
Ba43	1	0.11	0.15	bdl	0.16	0.05	68.04	0.07	0.21	2.76	0.02	0.56	0.62
Ba44	1	0.13	0.08	bdl	0.18	bdl	68.18	0.07	0.06	3.11	0.02	0.65	0.65
Ba45	1	0.13	0.08	bdl	0.10	bdl	67.96	0.08	0.11	2.88	0.02	0.53	0.67
Ba46	1	0.13	0.13	nd	0.15	nd	66.64	0.05	1.04	2.73	0.03	0.56	0.79
Ba47	3	0.19	0.08	0.02	0.03	bdl	74.72	0.09	0.05	3.04	0.02	0.42	0.53
Ba48	1	0.13	0.08	0.06	0.05	bdl	67.98	0.10	0.26	2.76	0.04	0.64	0.66
Ba49	3	0.07	0.08	nd	0.03	0.03	73.86	0.08	0.01	3.16	nd	0.50	0.60
Ba50	1	0.13	0.10	0.02	nd	bdl	68.73	0.09	0.16	2.83	0.01	0.67	0.66
Ba51	1	0.15	0.21	bdl	nd	0.06	68.29	0.11	0.05	3.11	bdl	0.83	0.84
Ba52	6	0.29	0.09	0.03	bdl	bdl	56.04	0.34	0.04	6.52	0.03	2.55	5.28
Ba53	1	0.21	0.19	bdl	0.17	0.20	69.19	0.08	bdl	2.86	nd	0.58	0.60
Ba54	1	0.26	0.17	0.02	bdl	0.34	66.87	0.12	0.05	2.54	0.02	0.83	0.73
Ba55	3	0.12	0.04	bdl	0.14	nd	70.42	0.09	1.23	2.86	0.02	0.55	0.51

Figure 6 –EMPA results for glass from Barking Abbey. Results are presented in weight percent/oxide element. Bdl: below detection limit; nd: not detected.

CaO	MnO	CoO	NiO	CuO	ZnO	BaO	PbO	Na2O	K2O	Ag2O	Cl	Total
7.90	0.25	bdl	0.01	0.16	bdl	bdl	0.09	15.99	0.92	nd	0.73	100.13
7.08	0.19	bdl	0.01	0.13	bdl	bdl	4.25	16.12	0.96	bdl	0.83	99.49
7.31	0.20	bdl	bdl	3.64	0.05	0.05	0.33	15.10	0.79	bdl	0.78	101.23
6.55	0.11	0.02	0.02	0.95	0.03	bdl	10.09	13.42	0.66	nd	0.70	99.12
7.26	0.16	bdl	nd	nd	bdl	bdl	bdl	15.04	0.60	bdl	0.80	99.73
7.09	0.13	nd	0.02	0.16	0.01	bdl	bdl	15.30	0.70	nd	0.90	99.22
7.88	0.25	0.01	bdl	0.16	0.02	bdl	bdl	15.75	0.98	0.01	0.76	101.28
7.51	0.07	nd	bdl	0.09	bdl	0.08	0.04	15.38	0.61	bdl	0.83	101.31
7.42	0.17	bdl	nd	2.19	0.15	0.10	0.23	15.36	0.73	bdl	0.87	101.66
7.27	0.16	bdl	bdl	2.09	0.15	bdl	1.03	14.99	0.81	bdl	0.80	100.48
6.40	0.09	0.01	0.02	0.08	bdl	0.06	11.39	12.99	0.54	0.02	0.73	98.54
7.23	0.15	bdl	bdl	2.09	0.13	bdl	0.40	15.08	0.76	bdl	0.84	100.78
7.16	bdl	nd	bdl	0.02	bdl	bdl	nd	14.99	0.59	bdl	0.88	101.87
6.99	0.14	bdl	0.01	1.91	0.13	bdl	2.19	14.98	0.72	bdl	0.82	101.08
7.27	0.02	bdl	0.01	0.03	0.02	bdl	bdl	15.51	0.58	0.02	0.84	101.69
7.77	0.22	bdl	0.01	0.08	0.02	0.05	0.07	15.99	0.91	bdl	0.76	100.70
7.40	0.05	bdl	bdl	0.11	bdl	0.08	bdl	15.29	0.63	bdl	0.83	102.17
7.21	0.15	nd	0.02	2.02	0.13	bdl	0.78	15.31	0.78	0.03	0.84	100.53
6.72	0.26	nd	0.01	0.15	0.03	0.06	6.88	14.53	0.63	bdl	0.82	97.62
7.33	0.05	bdl	bdl	0.05	bdl	bdl	bdl	15.34	0.64	nd	0.85	102.39
7.40	0.15	bdl	0.01	1.07	0.03	bdl	0.14	14.94	0.76	bdl	0.84	102.00
6.27	0.13	bdl	bdl	0.13	0.04	0.08	6.27	13.40	0.65	nd	0.77	100.96
6.37	0.16	0.01	bdl	0.14	nd	bdl	6.16	14.01	0.64	0.02	0.77	100.68
7.31	0.19	bdl	bdl	0.02	nd	0.07	0.06	15.02	0.62	bdl	0.81	99.92
7.14	0.18	bdl	nd	2.02	0.15	bdl	1.34	15.29	0.75	bdl	0.80	100.67
6.88	0.18	bdl	nd	1.90	0.10	0.09	1.48	15.08	0.75	nd	0.78	101.70
7.08	0.06	0.02	nd	0.19	bdl	0.07	0.06	14.70	0.78	nd	0.84	98.86
6.53	0.24	bdl	0.01	0.16	0.03	0.05	4.52	14.43	0.65	nd	0.76	99.15
6.16	0.15	nd	0.01	0.13	bdl	bdl	6.14	13.84	0.68	bdl	0.76	100.18
7.99	0.37	bdl	bdl	0.07	bdl	bdl	0.05	16.96	0.87	0.02	0.80	101.38
6.89	0.40	bdl	bdl	0.28	0.04	0.06	1.00	16.50	1.02	nd	0.68	98.24
7.56	0.38	bdl	bdl	0.14	0.03	bdl	0.50	15.30	1.59	bdl	0.65	99.42
7.32	0.15	0.01	bdl	1.99	0.15	bdl	0.28	15.47	0.75	bdl	0.84	100.84
7.33	0.17	0.02	bdl	0.11	bdl	bdl	0.04	15.35	0.84	nd	0.74	100.27
1.39	0.14	bdl	0.02	0.02	bdl	bdl	26.37	3.83	7.67	nd	0.15	97.62
6.24	0.35	bdl	0.01	0.71	0.02	bdl	0.64	16.77	0.87	nd	0.90	100.10
7.35	0.38	bdl	0.01	0.23	0.02	bdl	0.46	16.39	0.73	nd	0.85	100.36
8.31	0.10	bdl	bdl	0.02	bdl	bdl	3.50	8.56	5.74	bdl	0.61	98.73
7.06	0.34	0.01	0.02	1.80	0.06	bdl	0.15	16.38	0.78	bdl	0.85	99.40
7.84	0.22	nd	0.01	0.12	bdl	bdl	0.07	15.32	0.80	bdl	0.79	99.47
7.10	0.02	0.01	nd	0.02	0.02	0.08	bdl	15.22	0.64	bdl	0.89	100.24
7.35	0.01	bdl	0.01	2.54	0.03	0.06	bdl	13.00	0.47	bdl	0.84	100.34
8.21	0.23	0.01	bdl	bdl	bdl	bdl	bdl	17.52	0.66	bdl	1.18	100.03
7.17	0.01	bdl	bdl	bdl	bdl	bdl	nd	14.58	1.02	bdl	0.95	99.72
7.80	0.33	bdl	bdl	0.04	0.02	bdl	0.09	16.17	0.94	bdl	0.83	99.79
6.97	0.08	nd	bdl	0.39	bdl	0.06	5.51	14.06	0.76	nd	0.67	99.18
7.14	0.21	bdl	bdl	3.19	0.02	bdl	0.26	14.86	0.79	nd	0.73	100.26
7.59	0.48	bdl	bdl	0.05	0.01	bdl	0.06	16.30	1.02	bdl	0.74	100.28
1.79	0.12	0.01	0.01	0.02	0.07	0.07	0.04	2.11	14.43	0.02	0.01	99.74
2.76	0.03	0.01	nd	0.54	0.02	0.08	0.13	13.26	2.03	bdl	0.16	99.70
4.97	0.18	0.01	nd	0.96	0.15	0.11	0.35	9.81	7.16	nd	0.15	99.72
4.49	0.19	0.02	0.01	0.65	0.14	bdl	0.06	9.56	6.96	nd	0.06	100.12
6.22	0.02	nd	0.01	0.03	bdl	bdl	1.33	14.26	0.56	nd	0.86	100.96
6.89	0.13	0.01	nd	1.73	nd	bdl	0.20	13.94	2.34	nd	0.79	98.82
7.55	0.12	0.01	nd	0.33	bdl	0.05	0.42	15.62	0.65	nd	0.83	98.73
7.17	0.09	0.01	nd	0.47	nd	bdl	3.09	13.08	0.71	nd	0.78	98.03
7.29	0.12	nd	0.01	0.18	bdl	bdl	3.24	11.89	0.79	nd	0.80	96.62
7.51	0.02	nd	nd	nd	0.02	bdl	nd	10.43	0.50	0.02	0.94	98.68
6.97	0.18	nd	bdl	1.98	0.14	bdl	0.29	15.09	0.81	bdl	0.82	99.11
6.73	0.01	nd	0.01	bdl	nd	0.05	nd	14.78	0.54	nd	0.77	101.34
7.25	0.18	0.01	nd	2.06	0.14	bdl	0.28	15.41	0.73	bdl	0.79	100.29
8.00	0.23	bdl	bdl	0.08	0.02	0.06	0.07	15.32	1.18	nd	0.58	99.19
24.02	0.07	0.01	nd	0.02	bdl	bdl	bdl	1.02	1.18	bdl	0.38	98.01
7.08	0.40	bdl	bdl	0.07	nd	bdl	bdl	17.75	0.75	nd	1.01	101.21
6.98	0.73	bdl	bdl	0.12	0.03	bdl	0.34	17.55	0.71	bdl	0.98	99.45
6.63	0.02	bdl	0.02	0.12	bdl	0.05	1.92	14.37	0.69	bdl	0.75	100.57

Figure 7 – EMPA results for glass from Barking Abbey (cont.). Results are presented in weight percent/oxide element. Bdl: below detection limit; nd: not detected.

Sample	Type	SO3	P2O5	V2O5	As2O5	Sb2O5	SiO2	TiO2	SnO2	Al2O3	Cr2O3	Fe2O3	MgO
Ba56	3	0.21	0.09	0.02	0.12	0.09	71.81	0.10	0.06	2.71	0.01	0.61	0.64
Ba57	1	0.15	0.06	bdl	0.05	0.09	69.95	0.09	0.04	2.73	0.01	0.63	0.62
Ba58	1	0.07	0.10	nd	0.18	0.03	68.01	0.09	0.03	2.85	nd	0.54	0.60
Ba59	2	0.13	0.11	bdl	nd	nd	64.80	0.06	2.32	2.65	0.01	0.72	0.64
Ba60	1	0.10	0.11	0.02	0.29	bdl	67.42	0.11	0.20	2.81	bdl	0.60	0.67
Ba61	4	bdl	0.55	0.06	0.03	bdl	62.84	0.55	bdl	7.66	0.03	4.02	1.60
Ba63	1	0.15	0.11	bdl	nd	0.08	69.67	0.09	0.06	2.76	bdl	0.58	0.64
Ba64	2	0.12	0.04	0.03	nd	nd	60.36	0.11	6.91	2.47	0.03	0.64	0.56
Ba65	1	0.36	0.11	0.02	0.27	1.37	65.17	0.12	0.04	2.48	bdl	1.09	0.72
Ba66	3	0.13	0.05	bdl	0.06	nd	69.68	0.04	0.36	2.94	0.01	0.46	0.56
Ba67	4	bdl	0.25	bdl	0.22	bdl	62.86	0.49	nd	6.11	0.02	3.07	0.89
Ba68	4	bdl	0.30	0.05	nd	bdl	66.90	0.42	0.05	5.86	0.01	3.27	0.83
Ba69	4	0.02	0.33	bdl	0.18	bdl	66.36	0.46	nd	5.79	0.01	3.34	0.84
Ba71	1	0.11	0.11	0.02	nd	0.05	69.74	0.08	0.07	2.82	0.02	0.67	0.79
Ba72	3	0.08	0.05	0.02	nd	bdl	71.21	0.07	0.02	3.29	0.02	0.54	0.69
Ba73	1	0.14	0.19	0.04	0.03	0.06	66.52	0.11	0.32	2.84	nd	0.75	0.71
Ba74	1	0.18	0.16	0.03	0.19	0.12	66.71	0.10	0.01	3.00	0.01	0.60	0.90
Ba75	1	0.10	0.07	nd	0.25	nd	67.29	0.05	0.43	2.92	bdl	0.42	0.57
Ba77	3	0.18	0.02	bdl	0.29	nd	71.37	0.10	0.25	3.05	0.01	0.45	0.54
Ba78	1	0.14	0.09	0.02	nd	0.04	67.56	0.14	0.11	2.92	0.02	0.67	0.71
Ba79	4	0.04	0.27	nd	0.22	bdl	59.96	0.44	0.04	5.66	bdl	3.28	0.95
Ba80	4	bdl	0.23	0.02	0.28	bdl	66.37	0.44	nd	5.44	0.02	2.97	0.70
Ba81a	3	0.07	0.06	0.02	0.24	nd	69.66	0.06	0.04	3.10	0.02	0.48	0.63
Ba81b	2	bdl	0.02	bdl	0.03	nd	49.88	0.03	3.18	2.09	nd	1.03	0.41

Figure 8 – EMPA results for glass from Barking Abbey (cont.). Results are presented in weight percent/oxide element. Bdl: below detection limit; nd: not detected.

CaO	MnO	CoO	NiO	CuO	ZnO	BaO	PbO	Na2O	K2O	Ag2O	Cl	Total
7.06	0.23	bdl	0.01	0.31	bdl	bdl	0.22	15.99	0.70	nd	0.95	102.00
6.97	0.26	nd	nd	0.31	bdl	bdl	0.23	16.24	0.69	bdl	0.92	100.09
7.08	0.08	0.01	nd	0.49	0.03	bdl	4.49	14.07	0.78	nd	0.74	100.27
6.82	0.18	0.03	0.02	2.68	0.03	bdl	3.18	14.41	0.71	bdl	0.75	100.28
7.07	0.16	bdl	0.01	1.77	0.09	bdl	0.33	15.58	0.74	bdl	0.84	98.96
5.21	0.18	0.02	bdl	0.08	0.07	0.08	bdl	5.66	10.62	nd	bdl	99.32
7.02	0.24	0.01	bdl	0.34	0.02	0.06	0.16	16.36	0.75	nd	0.89	99.99
6.31	0.16	0.01	0.02	0.11	nd	0.07	6.90	13.55	0.62	bdl	0.75	99.76
6.76	0.51	0.07	0.01	0.21	0.04	bdl	0.30	18.26	0.56	0.01	1.02	99.55
7.01	bdl	bdl	bdl	3.64	0.01	bdl	0.04	15.20	0.58	0.02	0.99	101.82
2.85	0.10	0.01	nd	0.03	0.04	0.08	nd	3.39	17.69	bdl	0.01	98.14
2.78	0.11	0.01	0.02	0.09	0.07	0.06	0.05	3.55	13.90	0.01	0.01	98.38
2.99	0.11	0.01	bdl	0.09	0.05	0.07	bdl	3.90	14.19	nd	bdl	98.77
7.58	0.24	bdl	bdl	0.12	0.02	bdl	0.05	15.77	0.96	bdl	0.74	100.02
7.69	0.09	bdl	bdl	bdl	bdl	bdl	0.05	nd	14.75	0.62	bdl	0.85	100.07
7.35	0.20	nd	0.02	3.12	0.01	nd	0.20	15.23	0.78	bdl	0.75	99.38
8.48	0.22	bdl	0.01	0.09	bdl	bdl	0.08	16.88	0.76	bdl	0.87	99.44
6.67	0.03	nd	bdl	4.75	bdl	0.09	0.06	15.22	0.54	0.02	0.91	100.39
7.13	0.01	bdl	0.01	2.05	bdl	bdl	0.09	13.05	0.55	0.04	0.88	100.12
7.35	0.19	nd	nd	2.01	0.24	bdl	0.23	15.98	0.75	nd	0.82	100.01
3.25	0.14	0.01	nd	0.06	0.15	0.05	0.05	3.27	19.28	bdl	bdl	97.12
2.23	0.09	bdl	0.01	0.04	0.10	0.06	nd	2.69	16.90	bdl	bdl	98.65
7.32	0.01	bdl	nd	bdl	0.01	bdl	0.04	14.45	0.70	bdl	0.83	97.78
4.58	0.02	0.02	nd	0.21	bdl	bdl	25.35	10.25	0.44	nd	0.62	98.20

Figure 9 - EMPA results for glass from Barking Abbey (cont.). Results are presented in weight percent/oxide element. Bdl: below detection limit; nd: not detected.

Sample	Type	SO3	P2O5	V2O5	As2O5	Sb2O5	SiO2	TiO2	SnO2	Al2O3	Cr2O3	Fe2O3	MgO
Com01*	1C	0.22	0.14	0.04	nd	0.23	65.41	0.08	bdl	2.58	nd	0.97	0.94
Com02*	2C	0.26	0.20	nd	nd	0.04	63.26	0.08	0.23	2.70	nd	0.85	1.32
Com03	2C	0.35	0.16	0.02	nd	bdl	63.36	0.12	0.33	2.68	0.02	1.14	1.17
Com04*	2C	0.28	0.14	nd	nd	bdl	62.87	0.09	0.30	2.54	nd	0.80	1.06
Com06	2B	0.39	0.11	0.04	0.09	0.03	64.59	0.12	0.02	2.41	0.01	0.86	1.27
Com08	1C	0.30	0.16	0.03	0.12	0.35	65.83	0.14	0.14	2.71	0.01	1.15	1.01
Com10*	1C	0.25	0.14	0.04	nd	0.26	65.80	0.10	0.02	2.52	0.01	0.91	0.98
Com11*	1C	0.25	0.11	0.03	nd	0.23	65.20	0.12	nd	2.45	nd	0.80	0.91
Com12*	2C	0.27	0.13	0.03	nd	0.34	62.81	0.13	0.02	2.35	0.01	0.94	0.95
Com13*	2C	0.32	0.20	bdl	nd	0.10	61.04	0.13	0.30	2.28	nd	0.98	1.03
Com14*	2C	0.17	0.62	nd	nd	nd	62.80	0.12	nd	1.61	nd	0.75	2.45
Com15	3	0.30	0.07	0.02	0.05	nd	70.43	0.09	0.02	2.98	bdl	0.41	0.57
Com16	1A	0.19	0.03	bdl	bdl	bdl	68.53	0.07	bdl	3.18	bdl	0.43	0.86
Com18*	2B	0.32	0.14	0.02	nd	nd	58.52	0.12	nd	2.48	nd	1.23	1.38
Com19	3	0.29	0.13	nd	0.14	nd	66.56	0.09	0.01	3.37	bdl	0.46	0.82
Com20*	3	0.19	0.12	nd	nd	nd	61.31	0.04	nd	2.84	nd	0.42	0.80
Com21	4	0.12	0.38	bdl	0.06	nd	66.07	0.17	nd	2.37	bdl	0.69	2.58
Com22*	4	0.27	0.27	0.05	nd	nd	61.59	0.04	nd	1.33	nd	0.98	3.20
Com23*	4	0.12	0.38	nd	nd	nd	63.79	0.08	nd	1.78	0.01	0.51	2.81
Com24*	1B	0.19	0.24	0.02	nd	nd	65.41	0.08	nd	2.70	0.01	0.73	1.32
Com25*	1A	0.08	0.14	0.04	nd	nd	69.19	0.06	nd	3.08	nd	0.40	0.77
Com26*	1C	0.22	0.13	0.02	nd	0.26	64.26	0.11	nd	2.75	nd	0.94	0.91
Com27*	1C	0.29	0.14	0.06	nd	0.30	65.67	0.09	nd	2.77	0.01	1.00	1.20
Com28*	1B	0.25	0.26	0.04	nd	nd	65.05	0.10	nd	2.49	nd	0.72	1.56
Com29*	2B	0.30	0.14	0.05	nd	nd	64.37	0.13	nd	2.86	0.01	1.18	1.49
Com30	1C	0.34	0.13	bdl	0.06	0.48	65.97	0.13	0.09	2.55	0.02	0.85	1.06
Com31*	2C	0.28	0.14	bdl	nd	0.19	63.93	0.09	0.20	2.46	bdl	1.46	1.79
Com32*	5	0.02	0.05	0.02	nd	nd	62.98	0.42	nd	18.76	nd	2.14	0.24
Com33*	6	0.02	0.26	0.03	nd	nd	41.56	0.32	nd	11.95	bdl	1.64	0.72
Com34*	1A	0.12	0.16	nd	nd	nd	64.75	0.06	nd	3.51	0.02	0.55	0.97
Com35*	2C	0.35	0.17	0.03	nd	nd	64.63	0.12	nd	2.92	nd	1.40	1.23
Com36*	1C	0.28	0.17	nd	nd	0.04	64.95	0.09	nd	2.72	0.01	0.94	1.24
Com37*	1C	0.24	0.15	0.03	nd	0.29	65.30	0.11	0.11	2.55	0.01	1.13	1.13
Com38	7	0.22	0.17	0.03	0.27	0.30	61.84	0.16	0.32	2.68	0.02	3.77	2.45
Com39*	1B	0.19	0.24	nd	nd	nd	66.37	0.09	nd	2.45	nd	0.65	1.38
Com40*	7	0.33	0.32	0.05	nd	0.05	62.94	0.22	nd	3.86	0.01	1.30	1.49
Com41	1B	0.21	0.17	0.02	0.39	bdl	66.54	0.13	bdl	2.89	bdl	0.75	1.20
Com42*	1B	0.19	0.22	0.02	nd	nd	66.11	0.09	nd	2.64	bdl	0.72	1.29
Com44	1A	0.14	0.02	bdl	0.27	nd	69.80	0.09	0.02	3.50	0.01	0.45	0.54
Com45*	1C	0.29	0.16	0.02	nd	0.38	64.62	0.10	0.03	2.47	nd	0.99	1.12
Com46*	1C	0.26	0.16	bdl	nd	0.34	65.74	0.08	0.02	2.37	0.01	0.90	0.96
Com47*	1C	0.23	0.13	0.03	0.06	0.20	66.31	0.13	0.01	2.61	0.01	1.07	3.10
Com48	2C	0.21	0.16	0.02	0.12	nd	62.31	0.13	1.00	2.82	0.01	1.49	1.00
Com50*	1C	0.28	0.10	0.04	nd	0.29	65.59	0.10	0.08	2.39	nd	0.91	0.92
Com51*	1C	0.27	0.16	0.04	nd	0.29	65.62	0.12	0.02	2.66	0.01	0.96	1.16
Com52	2C	0.32	0.19	bdl	0.17	0.37	62.80	0.13	0.11	2.53	0.01	1.13	1.15
Com53	3	0.18	0.11	0.02	0.12	bdl	68.17	0.10	0.02	3.32	0.02	0.80	1.08
Com54*	3	0.21	0.11	0.02	nd	0.35	66.24	0.04	0.02	2.53	nd	0.50	0.62
Com55	7	0.22	0.43	0.04	0.06	0.17	58.27	0.26	0.06	7.28	bdl	4.84	2.39
Com56	3	0.21	0.05	nd	nd	bdl	72.30	0.07	nd	3.31	bdl	0.49	0.64
Com57	1A	0.12	0.11	0.02	0.04	bdl	74.00	0.09	bdl	3.16	0.03	0.38	0.61
Com58	1C	0.29	0.13	0.03	nd	0.08	65.51	0.23	0.05	2.92	0.02	1.40	1.08
Com59*	3	0.13	0.06	nd	nd	nd	70.93	0.07	nd	2.78	nd	0.37	0.56
Com60*	3	0.12	0.05	0.03	nd	nd	72.19	0.06	nd	2.74	bdl	0.32	0.51
Com61	1C	0.29	0.16	0.02	nd	0.27	67.38	0.15	0.03	2.74	0.01	1.02	1.13
Com62	1B	0.32	0.07	nd	0.07	0.11	66.21	0.10	0.02	2.43	nd	0.67	0.82
Com63	1B	0.16	0.03	bdl	nd	0.07	68.27	0.10	0.11	2.99	0.01	0.86	1.06
Com64	1C	0.34	0.15	nd	0.12	0.28	66.07	0.15	0.11	2.70	0.01	1.12	1.14
Com65	2C	0.29	0.16	0.04	0.02	0.12	63.59	0.16	0.49	2.61	0.02	1.07	1.04
Com66	2C	0.26	0.15	bdl	bdl	0.14	64.10	0.14	0.36	2.70	0.02	1.36	1.76
Com67	3	0.27	0.11	0.05	nd	bdl	67.00	0.13	bdl	3.34	nd	0.46	0.82
Com68	1A	0.25	0.15	bdl	0.22	bdl	66.24	0.09	0.02	3.32	bdl	0.46	0.83
Com69	1C	0.41	0.13	nd	nd	2.13	65.57	0.14	bdl	2.78	0.01	1.06	0.77
Com70	7	0.25	0.10	0.03	0.29	0.08	62.99	0.11	0.17	2.18	bdl	3.86	0.87

Figure 10 – EMPA results for glass from Comacchio. Results are presented in weight percent/oxide element. Bdl: below detection limit; nd: not detected; "": first EMPA session (University of Nottingham).*

CaO	MnO	CoO	NiO	CuO	ZnO	BaO	PbO	Na2O	K2O	Ag2O	Cl	Total
6.72	0.60	nd	0.01	0.20	0.02	nd	0.37	17.27	0.80	nd	0.88	97.49
7.45	0.82	nd	0.01	0.32	0.09	nd	1.91	16.98	0.84	nd	0.82	98.19
7.95	0.74	0.03	0.02	0.34	0.12	bdl	1.89	17.89	0.77	bdl	0.88	99.98
7.23	0.97	0.01	0.02	0.33	0.10	nd	2.40	17.00	0.70	nd	0.84	97.70
8.59	1.62	bdl	bdl	0.02	0.02	0.06	0.04	19.05	0.69	bdl	0.90	100.93
7.59	0.79	nd	bdl	0.37	0.03	bdl	0.62	18.16	0.77	bdl	1.00	101.32
6.67	0.79	nd	nd	0.26	0.03	nd	0.43	18.13	0.64	nd	0.95	98.91
6.77	0.97	0.02	nd	0.26	0.03	nd	0.40	18.05	0.61	nd	1.05	98.25
6.47	0.92	nd	nd	0.20	0.02	nd	0.27	18.07	0.63	nd	0.91	95.47
6.97	0.92	0.02	0.01	0.32	0.05	nd	2.23	17.77	0.56	nd	0.89	96.15
8.62	0.14	nd	0.01	0.04	0.02	nd	bdl	15.73	1.97	nd	0.79	95.82
10.39	0.02	bdl	bdl	bdl	bdl	0.05	bdl	13.69	0.30	bdl	0.72	100.12
8.12	bdl	0.01	bdl	nd	bdl	bdl	bdl	18.53	0.53	nd	1.09	101.66
7.83	1.75	nd	0.01	nd	0.02	nd	0.03	16.95	0.71	nd	0.76	bdl
10.97	0.02	bdl	0.02	bdl	bdl	bdl	bdl	16.83	0.81	bdl	0.72	101.30
10.06	0.02	nd	nd	0.02	0.02	nd	nd	16.47	0.77	0.02	0.64	bdl
11.01	1.33	nd	0.01	0.04	0.01	0.05	0.03	10.28	2.61	bdl	0.65	98.47
10.58	2.69	0.02	nd	0.02	0.02	nd	nd	11.01	2.35	nd	0.60	95.03
10.00	1.37	nd	0.01	nd	0.02	nd	nd	12.46	2.22	nd	0.78	96.34
8.84	0.42	nd	nd	0.06	0.02	nd	0.11	16.64	0.99	nd	0.74	98.53
8.33	0.02	nd	nd	0.04	0.01	nd	nd	15.46	0.55	nd	0.89	99.03
6.63	0.84	bdl	nd	0.06	0.03	nd	0.39	17.10	2.50	nd	0.91	98.06
7.01	0.69	0.02	nd	0.31	0.03	nd	0.47	17.27	0.79	nd	0.81	98.90
8.85	0.54	nd	nd	0.10	0.02	nd	0.08	17.25	1.03	nd	0.74	99.05
8.16	1.71	0.01	nd	0.04	0.03	nd	bdl	17.11	0.73	nd	0.75	99.07
7.17	0.73	0.01	bdl	0.32	bdl	bdl	0.50	18.94	0.62	bdl	1.04	101.04
6.11	0.77	bdl	0.01	0.84	0.15	nd	2.05	15.92	0.64	nd	0.87	97.94
0.81	0.07	nd	nd	bdl	0.02	nd	nd	4.90	8.59	nd	0.01	99.12
34.44	0.08	nd	nd	0.02	0.02	nd	nd	4.26	3.74	nd	0.01	99.12
10.67	0.03	nd	0.02	0.03	0.01	nd	nd	16.31	0.69	nd	0.91	98.82
7.20	1.27	nd	0.01	0.06	0.02	nd	0.04	18.82	0.77	nd	0.78	99.79
7.92	0.76	0.01	nd	0.10	0.02	nd	0.17	17.19	1.48	bdl	0.78	98.88
6.71	0.88	0.01	0.01	0.46	0.04	nd	0.99	18.33	0.66	nd	0.96	100.06
6.28	0.76	bdl	0.02	0.57	0.05	bdl	2.53	16.85	0.79	nd	0.90	101.00
8.27	0.32	nd	nd	0.07	0.02	nd	0.14	17.41	1.09	nd	0.79	99.51
7.69	0.22	bdl	0.01	0.18	0.03	nd	0.46	16.57	2.29	nd	0.74	98.76
9.10	0.25	0.02	0.03	0.04	0.02	bdl	0.06	17.31	1.02	nd	0.89	101.07
8.80	0.39	nd	nd	0.06	0.02	nd	0.14	17.02	0.97	nd	0.80	99.48
7.75	bdl	0.01	nd	bdl	bdl	bdl	bdl	15.27	0.44	0.02	0.88	99.29
6.82	0.90	0.01	nd	0.37	0.03	nd	0.45	18.15	0.71	nd	0.91	98.53
6.79	0.77	nd	0.02	0.36	0.02	nd	0.51	18.84	0.73	nd	0.91	99.78
5.84	0.69	nd	0.03	0.18	0.02	nd	0.32	17.57	0.67	0.67	0.71	100.00
7.98	0.60	0.02	bdl	1.00	0.31	0.06	2.75	15.66	0.84	nd	0.77	99.26
6.53	0.85	0.01	nd	0.31	0.02	nd	0.70	18.85	0.56	nd	0.98	99.50
7.00	0.72	0.01	nd	0.27	0.04	nd	0.46	17.78	0.77	nd	0.84	99.18
7.26	0.68	0.02	0.01	0.46	0.05	bdl	0.84	18.57	0.78	bdl	0.97	98.60
8.31	0.13	0.01	nd	bdl	0.01	0.06	bdl	15.01	2.02	bdl	0.84	100.37
6.41	0.63	nd	nd	0.87	0.02	nd	1.88	16.98	0.66	nd	1.05	99.12
6.01	0.51	0.02	0.01	0.05	0.03	0.04	0.19	17.74	0.68	bdl	0.62	99.92
7.71	0.01	bdl	bdl	nd	bdl	bdl	0.03	15.80	0.43	nd	0.65	101.74
6.62	0.02	bdl	0.02	bdl	0.02	bdl	bdl	15.11	0.51	nd	0.80	101.73
7.44	1.08	0.02	0.01	0.03	0.02	0.05	0.09	18.74	0.64	bdl	0.96	100.81
6.14	0.02	nd	0.01	0.05	0.01	nd	nd	14.90	0.54	nd	0.77	97.36
6.25	0.01	nd	0.01	0.04	0.02	nd	nd	14.75	0.48	nd	0.76	98.31
7.65	0.75	0.02	bdl	0.13	0.01	0.05	0.27	17.34	0.81	bdl	0.94	101.20
6.77	1.17	nd	bdl	bdl	bdl	0.09	0.57	19.40	0.46	bdl	1.28	100.59
7.50	0.36	bdl	0.01	0.14	bdl	0.05	0.26	16.81	0.77	bdl	0.94	100.52
7.39	0.83	0.01	nd	0.25	0.02	bdl	0.64	17.69	0.80	0.02	0.99	100.87
7.46	0.63	0.01	0.02	0.35	0.05	bdl	3.64	17.36	0.67	bdl	0.93	100.78
8.08	0.76	0.02	bdl	0.27	0.06	bdl	1.37	16.37	0.99	nd	0.72	99.69
10.80	0.02	bdl	0.01	bdl	bdl	bdl	bdl	17.17	0.79	bdl	0.70	101.76
10.81	0.02	bdl	0.01	0.03	bdl	bdl	0.06	17.00	0.75	bdl	0.72	101.04
5.74	0.40	0.11	bdl	0.28	bdl	bdl	0.19	18.61	0.61	bdl	1.24	100.22
6.62	0.86	bdl	bdl	0.96	bdl	0.07	0.22	19.71	0.48	0.02	1.25	101.15

Figure 11 - EMPA results for glass from Comacchio (cont.). Results are presented in weight percent/oxide element. Bdl: below detection limit; nd: not detected; "": first EMPA session (University of Nottingham).*

Sample	Type	SO3	P2O5	V2O5	As2O5	Sb2O5	SiO2	TiO2	SnO2	Al2O3	Cr2O3	Fe2O3	MgO
Com71*	1C	0.35	0.10	nd	nd	0.95	65.34	0.05	nd	2.15	nd	0.72	0.83
Com72	1C	0.27	0.14	0.03	0.12	0.37	66.02	0.15	0.11	2.68	0.02	1.28	1.12
Com73*	1C	0.26	0.14	0.02	nd	0.27	66.03	0.11	nd	2.52	0.01	0.94	1.05
Com74*	8	0.28	0.08	bdl	nd	nd	63.88	0.56	nd	3.51	0.01	2.40	1.45
Com75*	8	0.23	0.05	0.02	nd	nd	63.50	0.55	nd	3.53	bdl	2.11	1.63
Com76	2A	0.30	0.06	bdl	0.02	bdl	69.87	0.06	nd	2.86	nd	0.44	0.66
Com77*	1C	0.26	0.16	0.02	nd	0.23	65.75	0.14	nd	2.63	bdl	0.89	0.99
Com78*	2C	0.25	0.22	0.02	nd	0.33	64.81	0.12	nd	2.62	0.02	1.15	1.93
Com79*	2C	0.11	0.13	0.03	nd	nd	66.45	0.08	nd	3.01	0.03	1.86	3.06
Com80	7	0.12	0.10	bdl	0.15	0.12	65.84	0.25	0.04	7.61	0.02	2.08	2.03
Com81*	1B	0.31	0.11	0.04	nd	0.25	65.70	0.10	nd	2.46	0.01	0.61	2.02
Com82*	1B	0.31	0.13	nd	nd	0.83	66.86	0.07	nd	2.49	nd	0.68	1.19
Com85*	2B	0.27	0.11	nd	nd	nd	66.62	0.12	nd	2.65	nd	1.78	1.10
Com86	1B	0.29	0.04	0.03	0.05	0.13	66.52	0.10	0.02	2.23	0.02	0.51	0.79
Com87*	1B	0.22	0.04	0.03	nd	0.24	67.84	0.06	nd	2.21	0.01	0.49	0.83
Com88	2C	0.41	0.16	0.05	0.21	bdl	64.34	0.12	0.03	2.42	nd	1.22	1.18
Com89*	2C	0.35	0.36	nd	nd	nd	63.54	0.10	0.08	2.12	nd	0.92	1.28
Com90*	1B	0.21	0.18	0.04	nd	0.06	66.41	0.13	nd	2.41	nd	0.63	1.15
Com91	2C	0.37	0.02	0.02	0.31	5.01	62.19	0.06	bdl	1.87	0.01	0.52	3.83
Com92	7	0.22	0.20	0.03	0.02	0.19	61.21	0.11	0.03	2.75	0.06	2.86	6.00
Com93	7	0.19	0.14	bdl	bdl	0.24	60.47	0.19	0.10	4.43	0.02	2.00	4.62
Com94	7	0.16	0.21	0.04	0.03	0.11	57.50	0.15	0.75	2.58	0.01	7.19	2.53
Com95*	2C	0.28	0.30	bdl	nd	0.27	63.00	0.10	0.42	2.51	0.01	1.18	1.25
Com96a*	1B	0.19	0.18	0.03	nd	0.04	67.70	0.07	0.06	2.54	bdl	0.67	1.03
Com96b*	4	0.30	0.14	0.09	nd	1.73	63.85	0.06	3.61	2.17	nd	0.50	1.22
Com97*	1C	0.23	0.13	0.03	nd	0.27	66.70	0.09	0.01	2.49	nd	0.96	1.00
Com98*	2C	0.25	0.17	0.04	nd	0.18	65.16	0.11	0.30	2.74	0.02	1.21	1.69

Figure 12 – EMPA results for glass from Comacchio (cont.). Results are presented in weight percent/oxide element. Bdl: below detection limit; nd: not detected; "": first EMPA session (University of Nottingham).*

CaO	MnO	CoO	NiO	CuO	ZnO	BaO	PbO	Na2O	K2O	Ag2O	Cl	Total
6.14	0.49	0.03	nd	0.25	0.03	nd	0.19	18.37	0.89	nd	1.08	97.97
7.48	0.73	0.02	0.02	0.37	0.02	0.05	0.68	18.04	0.88	bdl	0.86	101.46
6.69	0.94	nd	0.01	0.30	0.03	nd	0.36	16.68	0.60	bdl	0.95	97.90
5.61	2.08	bdl	nd	0.05	0.03	0.05	nd	18.21	0.50	nd	0.80	99.53
4.78	2.44	nd	nd	0.05	0.02	nd	nd	19.46	0.39	nd	1.07	99.95
9.98	0.01	0.01	0.01	bdl	nd	bdl	bdl	13.37	0.97	bdl	0.41	99.12
6.81	0.97	nd	nd	0.28	0.03	nd	0.44	17.41	0.72	nd	0.94	98.70
7.32	0.84	0.01	0.01	0.33	0.03	nd	0.39	16.33	0.66	nd	0.83	98.22
6.92	0.18	nd	0.02	0.08	0.02	nd	0.05	14.72	1.33	1.33	0.91	98.52
6.00	0.17	0.02	0.01	0.07	0.03	bdl	0.16	13.94	1.74	0.02	0.56	101.11
6.36	0.65	nd	nd	0.23	0.02	nd	0.33	17.35	0.64	0.64	0.66	98.09
6.72	0.63	0.02	nd	0.31	0.03	nd	0.22	17.15	0.67	0.67	0.81	98.98
6.96	1.19	nd	0.01	0.06	0.02	nd	0.05	16.22	0.60	nd	0.81	98.57
7.09	0.46	0.01	bdl	0.04	0.02	bdl	nd	18.89	0.33	bdl	1.32	98.94
5.85	1.00	nd	nd	0.08	0.02	nd	nd	18.10	0.39	nd	1.17	98.57
9.18	1.31	0.04	0.01	0.14	bdl	bdl	0.37	18.09	0.71	0.01	0.75	100.82
7.12	0.78	0.01	nd	1.03	0.14	nd	0.25	18.37	0.67	nd	0.84	97.99
7.67	0.66	nd	0.01	0.10	0.02	nd	0.16	16.70	0.94	nd	0.81	98.31
6.76	0.03	bdl	0.01	bdl	0.02	bdl	0.10	18.13	0.38	bdl	0.84	100.55
5.46	0.46	0.01	0.02	0.24	0.03	nd	0.36	16.68	0.73	0.73	0.86	98.26
5.84	0.50	0.02	bdl	0.27	0.02	bdl	0.41	16.95	0.79	bdl	0.69	97.97
6.44	0.62	bdl	0.01	0.56	0.11	bdl	3.30	14.88	0.75	nd	0.93	98.89
7.66	0.59	0.02	0.02	1.34	0.09	nd	3.41	16.20	0.83	nd	0.86	100.30
7.57	0.31	bdl	0.01	0.18	0.04	nd	0.48	16.33	0.87	nd	0.82	99.08
6.27	0.20	nd	nd	0.18	0.04	nd	0.49	13.38	0.66	nd	0.76	95.58
6.72	0.82	nd	nd	0.23	0.02	nd	0.30	17.86	0.63	nd	1.03	99.50
7.25	0.60	0.01	0.01	0.33	0.06	nd	1.50	16.24	0.72	nd	0.79	99.35

Figure 13 – EMPA results for glass from Comacchio (cont.). Results are presented in weight percent/oxide element. Bdl: below detection limit; nd: not detected; "": first EMPA session (University of Nottingham).*

Sample	Types	SO3	P2O5	V2O5	As2O5	Sb2O5	SiO2	TiO2	SnO2	Al2O3	Cr2O3	Fe2O3	MgO
Rib100	1	0.39	0.12	n/a	0.02	2.01	68.36	0.07	0.01	2.33	nd	1.09	0.61
Rib103	1	0.48	0.07	n/a	0.08	3.98	71.01	0.06	0.03	2.41	0.03	0.59	0.63
Rib105	2	0.25	0.10	n/a	0.02	1.45	66.57	0.09	0.05	2.75	0.02	1.14	0.87
Rib33b	2	0.18	0.02	n/a	0.02	0.09	63.33	0.07	0.44	2.75	nd	2.71	0.80
Rib35	3	nd	0.02	n/a	0.39	bdl	38.36	0.03	0.01	23.43	0.06	22.77	7.89
Rib37	1	0.23	0.02	n/a	nd	0.51	67.35	0.07	bdl	2.22	nd	0.55	0.51
Rib61a	1	0.12	0.05	n/a	0.07	0.57	64.40	0.07	0.15	2.21	nd	2.82	0.76
Rib61b	1	0.12	0.02	n/a	nd	0.26	62.72	0.06	0.89	2.40	nd	0.82	0.56
Rib63	4	0.21	0.56	n/a	nd	0.13	57.47	0.13	0.47	2.15	nd	1.48	3.18
Rib66w	5	0.18	0.07	n/a	nd	nd	64.22	0.09	5.49	2.31	0.02	0.94	0.65
Rib67a	5	nd	0.07	n/a	0.02	1.46	68.63	0.09	0.04	2.31	0.02	1.02	0.70
Rib67b	1	0.21	0.05	n/a	0.03	2.61	69.26	0.07	0.01	4.23	0.02	0.69	0.72
Rib74	5	0.12	0.10	n/a	0.05	0.11	65.56	0.09	0.16	2.61	0.03	4.73	0.71
Rib76	4	0.18	0.10	n/a	nd	0.26	61.63	0.11	0.55	3.03	0.02	1.47	2.76
Rib77	4	0.15	0.16	n/a	nd	nd	59.82	0.11	0.44	1.95	nd	0.90	4.01
Rib78	6	0.13	0.12	n/a	0.49	0.24	47.21	0.05	4.81	2.21	nd	0.55	0.39
Rib80a	5	0.21	0.05	n/a	nd	1.76	66.71	0.09	0.17	2.26	nd	1.13	0.52
Rib83b	5	0.37	0.10	n/a	nd	1.71	73.65	0.09	0.01	2.59	0.02	1.17	0.78
Rib83y	6	0.25	0.13	n/a	nd	0.04	44.53	0.07	2.55	1.94	nd	0.58	0.49
Rib86	2	0.24	0.12	n/a	nd	0.35	67.75	0.07	0.10	2.69	0.02	0.96	0.81

Figure 14 - EMPA results for glass from Ribe. Results are presented in weight percent/oxide element. Bdl: below detection limit; nd: not detected; n/a: not applicable.

CaO	MnO	CoO	NiO	CuO	ZnO	BaO	PbO	Na2O	K2O	Ag2O	Cl	Total
6.21	0.55	0.08	0.03	0.16	nd	nd	0.31	14.97	0.57	n/a	0.83	98.33
6.85	0.40	nd	nd	0.04	0.06	n/a	0.66	12.68	0.61	n/a	0.74	100.93
7.74	0.82	0.05	0.01	0.61	0.02	n/a	0.62	14.06	0.65	n/a	0.97	98.61
7.11	1.16	nd	0.02	0.48	nd	nd	1.80	17.66	0.63	n/a	0.93	100.02
4.50	1.33	0.01	0.05	nd	nd	nd	nd	nd	nd	n/a	1.15	100.02
5.81	0.48	0.02	0.01	0.10	nd	nd	0.22	18.27	0.54	n/a	1.12	98.00
5.81	0.18	nd	nd	1.69	0.02	nd	6.25	13.78	0.91	n/a	0.79	100.53
5.91	0.54	0.02	0.01	0.05	0.02	nd	10.45	14.33	0.57	n/a	0.91	100.54
7.91	1.00	0.02	0.01	1.92	0.12	nd	6.38	13.58	1.70	n/a	0.78	98.99
6.52	1.24	0.02	0.02	0.05	nd	nd	0.37	17.12	0.57	n/a	0.88	100.58
6.48	0.78	0.05	nd	0.32	nd	nd	0.57	15.21	0.60	n/a	0.79	99.16
5.58	0.26	0.02	0.01	bdl	0.03	nd	0.11	15.41	0.60	n/a	0.65	100.37
6.55	0.77	0.02	0.01	1.34	nd	nd	0.35	15.98	0.68	n/a	0.75	100.60
7.06	0.85	0.02	nd	2.02	0.02	nd	3.53	15.00	1.10	n/a	0.63	100.16
7.64	1.29	0.02	nd	nd	nd	nd	7.24	13.35	2.42	n/a	0.70	100.05
2.77	0.24	0.03	0.03	0.05	0.07	nd	36.84	5.98	0.37	n/a	0.34	102.79
5.16	0.23	nd	nd	2.12	nd	nd	1.29	17.42	0.56	n/a	0.97	100.44
6.47	0.31	0.05	0.01	0.32	nd	nd	0.22	15.98	0.64	n/a	1.08	105.20
4.34	0.31	nd	0.03	0.02	nd	nd	32.00	11.92	0.43	n/a	0.84	100.22
7.24	0.56	nd	nd	0.22	nd	nd	0.80	16.00	1.08	n/a	0.99	99.76

Figure 15 - EMPA results for glass from Ribe (cont.). Results are presented in weight percent/oxide element. Bdl: below detection limit; nd: not detected; n/a: not applicable.

Appendix 3: LA-ICP-MS

Sample	Type	Li	B	Na	Mg	Al	P	K	Ca	Ti	V	Cr
Ba01a	1	11.74	93.00	111100.00	3781.33	14340.00	545.00	7837.67	51320.00	564.00	12.68	14.12
Ba01b	2	5.01	49.77	43000.00	2240.00	25200.00	4833.33	7040.00	34653.33	765.00	13.39	179.33
Ba03	2	14.93	65.27	92916.67	3085.00	13163.33	394.83	5965.00	43296.67	470.33	9.64	13.56
Ba04	3	23.50	60.33	105273.33	3571.00	15592.00	288.57	5297.00	50720.00	716.33	13.14	19.99
Ba06	1	13.48	98.70	111696.67	4017.67	14353.33	520.33	8789.33	52253.33	566.63	12.89	14.64
Ba07e	1	7.49	57.87	102206.67	3071.33	14857.67	346.00	5517.67	47050.00	490.43	9.31	15.89
Ba07f	2	3.82	89.77	117733.33	3894.67	16486.67	381.67	6756.33	72863.33	519.67	10.21	12.69
Ba11	3	22.86	76.67	109053.33	3429.67	15341.00	391.67	7552.00	50150.00	537.43	10.60	16.04
Ba12	2	8.19	72.23	100900.00	2918.00	13360.00	353.67	5763.33	43800.00	483.33	9.48	14.03
Ba14a	3	6.57	65.23	103490.00	3333.00	15243.33	271.13	5128.33	48440.00	621.57	11.39	18.01
Ba14b	1	7.55	80.17	105053.33	3371.67	13819.67	409.33	6481.67	46863.33	499.33	10.33	14.08
Ba15	1	7.93	81.30	109000.00	3308.33	15106.67	552.33	6596.67	49283.33	549.00	11.09	15.14
Ba17	2	8.54	75.67	99593.33	3214.00	12950.00	379.70	5998.33	44646.67	501.43	10.53	13.90
Ba18	2	7.91	75.20	98500.00	2974.33	13223.33	389.67	5517.33	44950.00	491.33	9.43	13.79
Ba19	1	13.28	111.17	117806.67	4251.00	14026.67	583.00	7564.67	53653.33	629.77	14.62	14.42
Ba20	1	18.85	121.80	111566.67	3841.33	14270.00	516.77	8648.00	44443.33	796.67	19.02	17.30
Ba21	1	17.67	135.30	107166.67	4200.00	15570.00	1082.67	13556.67	50966.67	900.67	18.96	16.70
Ba22	1	7.31	78.80	106696.67	3434.00	14096.67	405.67	6438.33	48760.00	507.43	10.28	14.42
Ba23	3	11.37	101.77	112813.33	3944.33	15393.33	591.67	7936.67	53846.67	618.33	13.62	15.25
Ba24	2	14.20	165.70	33090.00	174.10	2039.00	374.50	68540.00	10066.67	206.37	7.19	2.09
Ba25	1	15.25	118.17	123163.33	3420.67	14773.33	538.00	7041.33	43373.33	848.00	18.80	20.40
Ba26	1	9.26	123.60	121360.00	3703.67	15026.67	502.67	6309.67	50833.33	875.67	19.32	19.46
Ba27	2	20.35	428.13	59590.00	25100.00	18920.33	3213.67	49743.33	56786.67	1036.00	35.64	18.32
Ba29	1	11.37	88.80	110990.00	3730.33	14726.67	476.00	6898.67	54256.67	557.30	12.53	13.19
Ba30	3	5.51	43.33	111983.33	2609.33	16200.00	263.37	4949.67	48716.67	427.73	7.82	13.69
Ba31	3	5.13	37.07	92900.00	3211.33	16324.67	262.33	4128.00	52080.00	383.90	6.94	10.25
Ba32	1	3.97	183.77	127380.00	2622.67	14603.33	398.33	5594.33	56736.67	332.53	6.12	7.75
Ba33	3	5.45	50.97	105000.00	2918.33	15700.00	287.37	6843.33	49400.00	418.63	7.44	14.65
Ba34	1	14.55	115.93	118300.00	4054.00	13873.33	559.00	7770.67	53630.00	613.67	14.73	13.90
Ba35	1	5.94	61.97	97620.00	3161.33	14283.33	367.33	5916.33	47533.33	474.70	8.93	13.72
Ba36	1	10.94	88.83	107566.67	3590.67	14501.33	470.33	6861.33	49626.67	595.33	12.54	14.93
Ba37	1	18.37	125.07	121720.00	3944.33	13332.00	458.33	7063.33	52590.00	641.97	14.92	14.86
Ba42	3	3.58	51.83	99613.33	2314.00	15466.67	198.00	4906.67	41600.00	386.00	6.60	10.72
Ba43	1	6.87	70.97	101166.67	2993.00	14713.33	333.00	10736.67	46466.67	498.67	9.62	13.85
Ba44	1	6.79	66.60	104133.33	2903.67	15183.33	333.67	5396.67	47733.33	480.67	9.28	13.76
Ba47	3	3.79	59.20	106833.33	2456.67	15816.67	169.00	4351.00	49500.00	472.67	8.06	15.65
Ba48	1	7.54	76.47	103420.00	3251.33	14036.67	393.33	6361.67	48463.33	495.13	10.24	14.15
Ba49	3	13.28	111.17	117806.67	4251.00	14026.67	583.00	7564.67	53653.33	629.77	14.62	14.42
Ba51	1	20.76	89.40	104973.33	4757.33	17006.67	613.33	9864.00	52696.67	882.67	18.80	17.72
Ba52	6	31.21	37.83	6856.67	28916.67	33843.33	347.67	9884.67	162633.33	1795.00	44.56	41.09
Ba53	1	5.93	145.30	122153.33	2844.00	13511.00	608.33	6484.67	47423.33	505.87	13.09	14.33
Ba54	1	11.07	145.43	125033.33	3510.67	12602.67	466.67	6050.33	46650.00	724.00	18.31	15.78
Ba55	3	27.17	63.47	110066.67	2653.33	15376.67	267.67	7036.67	46966.67	461.67	7.78	18.15
Ba56	3	7.17	103.33	117500.00	3072.00	14916.67	390.00	6204.67	49913.33	541.67	11.62	14.58
Ba58	1	5.86	63.50	101020.00	3242.00	14586.00	362.00	6273.67	47666.67	482.80	9.07	14.02
Ba61	4	10.17	88.67	105333.33	3210.33	14920.00	454.67	6104.00	49136.67	534.27	9.93	14.21
Ba63	1	10.17	88.67	105333.33	3210.33	14920.00	454.67	6104.00	49136.67	534.27	9.93	14.21
Ba64	2	7.55	71.77	92756.67	2773.00	14160.00	1007.33	5417.33	45086.67	485.67	9.65	18.31
Ba65	1	12.28	155.83	128666.67	3638.33	12200.00	215.33	4600.00	45326.67	676.67	17.06	14.97
Ba66	3	4.35	49.57	106600.00	2747.67	14873.33	266.87	4882.67	46263.33	398.17	7.15	12.75
Ba67	4	297.70	4.97	23460.00	4930.67	31306.67	666.00	150626.67	20360.00	2812.67	53.92	6.63
Ba68	4	485.87	25.63	28283.33	4998.33	30623.33	998.67	125620.00	25846.67	2743.33	55.25	15.22
Ba69	4	473.97	27.03	27550.00	4600.00	30923.33	862.33	123713.33	19840.00	2740.33	54.96	20.05
Ba72	3	5.82	51.80	99500.00	3132.00	16150.00	292.33	5312.67	51300.00	465.00	8.30	15.50
Ba73	1	11.28	85.53	106430.00	3609.00	14052.00	468.67	6992.33	49330.00	562.00	12.38	14.61
Ba74	1	7.25	97.37	112900.00	4273.33	13770.00	393.33	6180.00	55933.33	578.00	11.87	14.86
Ba77	3	3.66	57.23	102693.33	2475.33	14823.33	237.17	4466.00	47916.67	449.57	8.07	16.49
Ba78	1	7.65	83.33	103300.00	2975.67	14300.00	372.33	5766.67	47766.67	517.33	10.36	14.14
Ba79	4	242.10	9.43	24350.00	5714.67	29440.00	996.00	174533.33	23583.33	2875.67	53.27	3.55
Ba80	4	157.10	18.07	18923.33	4124.67	30023.33	781.67	150566.67	16273.33	2625.67	46.47	17.40
Ba81b	2	5.90	53.33	76896.67	2488.00	10504.00	295.70	5152.67	35856.67	369.07	7.45	10.62

Figure 16 – LA-ICP-MS results for glass from Barking Abbey. Results are presented in ppm.

Mn	Fe	Co	Ni	Cu	Zn	As	Rb	Sr	Y	Zr	Nb
1884.00	4721.33	6.43	7.34	910.00	47.77	4.38	13.60	424.63	6.60	53.03	1.87
940.00	8183.33	7.59	29.73	325.33	65.10	16.49	10.53	345.37	7.00	77.63	1.90
965.33	7866.67	8.96	12.49	7340.00	203.80	11.00	10.75	351.47	5.79	44.89	1.60
1635.67	3993.67	2.15	4.92	73.43	16.47	1.13	9.31	392.73	7.03	67.00	2.03
1983.33	4778.33	6.71	7.93	862.33	53.73	4.25	15.16	435.60	6.93	54.92	1.86
624.33	4031.33	3.19	10.43	1128.70	35.57	4.30	10.33	369.17	6.33	47.99	1.65
143.43	3160.33	1.49	4.00	3.59	8.29	1.47	10.79	546.47	7.09	51.47	1.87
1007.00	5368.67	8.81	13.27	8428.00	222.87	10.46	11.67	406.63	6.66	51.26	1.77
1131.00	6581.33	5.05	9.86	988.67	43.80	8.14	10.85	359.00	6.10	47.60	1.69
1144.67	3760.00	1.86	4.27	114.00	19.97	1.13	9.38	366.87	6.71	58.64	1.85
1225.33	4470.00	5.46	25.58	15433.33	1021.93	32.29	11.08	378.77	6.10	47.26	1.67
1230.33	4623.67	5.56	24.94	16296.67	1171.33	34.40	11.56	403.73	6.68	54.03	1.92
1587.00	4079.33	5.86	12.49	1373.33	60.23	7.70	10.73	366.80	6.11	47.80	1.66
1209.33	4922.33	5.14	9.66	965.33	43.70	7.71	10.09	365.10	6.03	48.80	1.71
2485.67	5012.67	8.35	8.29	500.03	51.63	5.25	13.17	445.80	6.75	58.49	2.05
3530.00	7256.67	19.45	12.39	1889.00	85.40	10.08	16.94	397.47	7.05	68.63	2.40
3025.00	7970.00	14.24	11.44	1016.00	75.43	6.64	28.77	393.67	8.58	98.03	3.22
1111.33	4054.00	4.56	25.77	16133.33	1232.33	35.07	10.48	392.10	6.11	47.11	1.71
1955.67	5297.33	6.74	8.15	863.00	54.27	3.77	14.88	450.10	7.32	57.26	2.09
1170.33	746.33	1.64	3.68	30.13	23.42	1392.33	54.70	18.88	1.30	25.48	0.68
2749.67	6184.00	12.54	10.96	5385.00	101.87	12.59	11.90	358.10	6.69	66.72	2.31
3769.67	6400.00	8.42	9.48	1708.33	52.80	5.95	10.67	404.67	7.18	76.93	2.54
799.80	8196.67	8.60	23.69	30.59	102.50	32.62	28.86	2378.33	8.30	86.93	3.29
1755.67	4546.67	5.99	7.42	1024.53	37.88	4.24	12.96	424.77	6.76	53.35	1.86
147.73	2696.00	1.26	3.32	93.59	8.20	1.36	8.27	370.23	6.23	41.27	1.47
122.81	2866.33	1.83	10.96	19240.00	162.77	15.70	7.85	377.90	6.24	37.08	1.40
1991.67	2979.67	1.26	3.00	3.89	7.96	1.14	9.36	440.13	6.64	35.61	1.29
118.07	2665.00	1.14	3.15	23.43	5.62	1.01	8.84	356.27	6.07	39.57	1.45
2623.33	4869.00	9.29	8.10	492.63	45.07	5.74	12.40	439.77	6.78	56.41	2.01
667.50	3807.67	2.46	5.75	3189.33	68.37	5.03	10.13	367.23	6.08	44.57	1.63
1630.33	5306.33	8.68	19.03	25866.67	176.10	22.84	13.28	413.33	6.82	55.47	2.06
3097.33	4422.00	7.14	7.44	268.97	42.17	6.38	12.09	441.10	6.58	59.05	1.92
110.47	2408.00	1.29	4.18	281.63	8.24	1.54	9.15	337.47	5.93	37.20	1.43
887.67	3656.33	4.32	25.43	13610.00	94.27	11.15	10.44	381.67	6.25	46.37	1.65
818.33	4403.33	3.44	5.96	2228.00	38.53	4.20	9.61	387.33	6.42	46.50	1.75
120.10	2711.00	1.25	2.95	2.20	4.60	1.26	8.56	386.00	7.03	47.23	1.64
1146.67	5701.33	4.85	22.45	15526.67	1022.00	31.30	10.85	389.50	6.19	47.43	1.68
2485.67	5012.67	8.35	8.29	500.03	51.63	5.25	13.17	445.80	6.75	58.49	2.05
1853.33	6742.67	7.99	10.19	617.30	64.03	5.04	20.85	440.40	11.44	59.65	2.78
404.17	17300.00	6.98	19.89	11.34	71.67	8.11	38.86	173.93	11.78	172.07	5.74
3239.00	3920.67	28.20	8.43	451.27	22.80	5.05	12.63	384.47	6.42	52.86	1.78
4906.00	5503.33	17.16	9.85	785.00	52.97	9.92	10.61	428.93	6.54	68.10	2.12
153.60	3883.33	1.81	6.65	1091.00	103.13	5.09	11.27	362.67	6.20	42.20	1.58
1822.33	4720.00	4.66	7.97	2444.00	61.40	6.65	11.67	421.73	7.06	53.70	1.96
639.80	3897.67	2.48	6.08	3284.33	64.73	9.09	10.30	370.57	6.21	44.90	1.64
1097.33	4180.00	4.67	23.37	15333.33	897.33	27.47	10.72	397.33	6.85	52.13	1.80
1097.33	4180.00	4.67	23.37	15333.33	897.33	27.47	10.72	397.33	6.85	52.13	1.80
1005.67	5085.67	4.83	11.48	931.67	41.17	6.98	10.17	361.43	6.53	50.70	1.57
4042.33	7203.33	421.10	39.40	1592.33	57.93	34.80	8.44	416.00	6.24	60.97	2.01
132.20	3121.33	1.92	12.45	33000.00	60.70	11.98	9.25	355.90	6.00	39.19	1.37
874.83	20383.33	9.81	21.85	328.73	259.00	0.11	171.40	146.57	17.40	273.87	9.31
967.20	22423.33	10.57	28.38	715.30	756.67	0.80	191.50	220.13	17.08	267.57	9.05
848.00	22430.00	9.50	24.79	654.77	467.67	0.87	194.30	164.07	16.77	274.13	9.12
196.57	3477.00	1.50	4.17	132.03	10.36	1.16	11.01	381.10	6.56	44.50	1.68
1786.00	5157.67	7.79	19.03	20026.67	141.73	25.81	12.81	406.80	6.54	52.97	1.88
1414.00	4120.00	5.59	5.90	307.33	32.37	3.84	9.68	461.00	6.48	54.73	1.86
124.83	3339.00	1.73	28.39	18663.33	56.30	9.90	8.41	375.50	6.48	43.92	1.50
1212.00	4328.67	4.85	20.93	14480.00	912.33	28.07	10.09	384.33	6.34	49.70	1.75
1090.33	23996.67	10.81	27.63	399.03	1145.67	0.16	163.00	191.23	16.95	214.97	9.36
844.00	20683.33	8.46	23.29	167.07	712.33	0.24	152.87	111.10	15.85	355.10	8.38
780.57	3226.00	3.56	16.59	7962.33	660.07	20.74	8.44	285.87	4.68	35.00	1.25

Figure 17 - LA-ICP-MS results for glass from Barking Abbey (cont.). Results are presented in ppm.

Mo	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu
0.80	464.80	642.03	0.31	245.57	6.49	11.90	1.46	6.29	1.23	0.34
0.33	220333.33	398.00	0.43	406.33	6.77	9.70	1.64	6.90	1.47	0.40
0.61	739.00	552.93	0.19	217.47	5.48	10.21	1.26	5.23	1.08	0.31
0.60	14.94	7.02	0.10	281.13	6.38	12.15	1.47	6.44	1.27	0.39
0.74	234.80	597.07	0.30	259.20	6.62	12.14	1.45	6.12	1.22	0.37
0.47	43700.00	201.70	0.22	236.57	5.97	11.19	1.36	5.82	1.25	0.38
0.51	3.75	0.17	0.09	238.37	6.51	12.46	1.55	6.48	1.35	0.40
0.62	829.17	273.53	0.16	244.07	6.27	11.68	1.47	6.26	1.25	0.40
0.59	64633.33	379.77	0.25	214.63	5.67	10.47	1.38	5.64	1.13	0.32
0.62	22.56	14.27	0.11	252.87	6.05	11.32	1.38	5.87	1.17	0.32
0.68	33533.33	392.03	0.21	226.33	5.77	10.92	1.32	5.69	1.06	0.32
0.76	28200.00	419.00	0.21	240.73	6.37	11.65	1.50	6.21	1.29	0.38
0.76	54833.33	399.83	0.21	232.60	5.64	10.56	1.33	5.51	1.08	0.32
0.59	58266.67	416.23	0.24	211.07	5.56	10.33	1.30	5.45	1.11	0.32
1.11	176.03	809.30	0.33	244.67	6.48	12.29	1.56	6.38	1.39	0.36
1.29	1627.00	1604.33	0.43	282.30	7.40	13.66	1.70	6.91	1.42	0.38
1.00	724.67	1392.33	0.65	301.00	8.88	16.51	2.08	7.92	1.63	0.41
0.68	1310.67	325.17	0.17	229.03	5.79	10.81	1.38	5.72	1.19	0.36
0.84	235.67	564.97	0.35	263.13	7.09	12.91	1.65	6.75	1.36	0.38
3.57	14.54	61.21	0.25	370.23	1.18	2.39	0.26	0.99	0.22	0.06
1.02	856.47	1544.67	0.25	250.07	6.43	12.40	1.62	6.19	1.25	0.36
1.44	893.00	676.00	0.23	351.63	6.70	12.85	1.65	6.72	1.32	0.38
1.54	9.40	20.85	0.41	248.63	9.47	18.24	2.18	8.71	1.78	0.42
0.89	147.63	540.60	0.34	247.33	6.26	11.96	1.52	6.16	1.25	0.36
0.24	18.00	4.53	0.10	234.13	5.76	10.93	1.40	5.79	1.14	0.35
0.22	2003.67	21.54	0.09	237.90	5.54	10.95	1.36	5.85	1.12	0.35
0.12	8.57	3.48	0.25	350.47	5.73	10.96	1.41	5.58	1.17	0.35
0.27	7.53	0.28	0.09	221.73	5.51	10.82	1.35	5.55	1.17	0.32
1.06	147.97	957.67	0.32	241.83	6.46	12.10	1.59	6.13	1.34	0.32
0.50	903.70	103.50	0.16	218.73	5.76	10.60	1.33	5.56	1.11	0.34
0.83	2373.33	559.00	0.37	246.20	6.60	12.32	1.51	6.44	1.23	0.36
1.07	47.96	913.67	0.24	276.67	6.11	11.69	1.46	6.25	1.25	0.35
0.36	12566.67	2.78	0.09	214.93	5.38	10.28	1.28	5.38	1.08	0.33
0.62	1656.00	319.67	0.17	219.10	5.86	10.94	1.38	5.70	1.16	0.35
0.58	358.33	241.80	0.16	221.77	5.94	11.17	1.38	5.61	1.12	0.34
0.28	4.41	0.23	0.09	218.23	6.13	11.54	1.46	6.07	1.18	0.36
0.69	1482.67	362.93	0.18	232.50	5.87	10.93	1.39	5.69	1.16	0.34
1.11	176.03	809.30	0.33	244.67	6.48	12.29	1.56	6.38	1.39	0.36
0.85	495.07	336.13	1.92	270.50	14.22	27.84	3.41	13.75	2.84	0.75
1.28	4.21	1.37	2.05	255.20	16.93	33.86	3.87	15.14	2.93	0.62
1.39	66.58	1064.47	0.22	232.10	6.30	11.52	1.47	5.93	1.22	0.35
1.73	322.27	1688.33	0.19	330.03	6.79	12.03	1.54	6.22	1.29	0.33
0.36	12083.33	9.67	0.13	228.70	5.78	11.21	1.34	5.74	1.15	0.34
0.88	380.80	809.33	0.15	241.60	6.23	11.67	1.48	6.09	1.26	0.39
0.51	1386.40	116.10	0.12	222.27	5.65	10.94	1.34	5.74	1.22	0.32
0.63	1597.67	325.43	0.17	227.63	6.19	11.16	1.44	6.22	1.15	0.36
0.63	1597.67	325.43	0.17	227.63	6.19	11.16	1.44	6.22	1.15	0.36
0.56	94666.67	308.13	0.26	207.30	5.67	10.10	1.35	5.52	1.16	0.34
3.15	164.77	8086.67	0.17	234.57	6.18	11.26	1.45	5.89	1.20	0.31
0.33	3087.67	19.96	0.13	220.13	5.70	10.43	1.29	5.40	1.15	0.34
0.14	34.67	0.11	0.83	378.57	21.07	44.67	4.87	18.74	3.90	0.81
0.25	93.27	4.63	1.95	620.50	20.76	42.82	4.77	18.60	3.57	0.76
0.18	96.70	2.47	1.66	452.87	20.32	41.98	4.70	18.34	3.42	0.74
0.34	21.87	20.89	0.23	233.27	6.03	11.53	1.44	5.97	1.28	0.36
0.78	1628.67	539.37	0.32	239.80	6.25	11.62	1.48	5.89	1.21	0.33
0.69	51.23	607.67	0.18	216.57	5.86	10.96	1.42	5.90	1.22	0.32
0.35	1966.67	13.69	0.10	218.27	5.90	11.10	1.41	5.89	1.17	0.36
0.70	1615.33	399.13	0.15	225.60	6.09	10.91	1.44	5.85	1.17	0.34
0.20	110.17	0.46	0.41	472.00	23.07	47.37	5.30	20.51	3.86	0.89
0.13	59.67	0.26	0.40	265.33	18.65	39.33	4.36	16.48	3.18	0.67
0.43	19400.00	257.10	0.16	174.20	4.42	8.24	1.03	4.35	0.85	0.25

Figure 18 – LA-ICP-MS results for glass from Barking Abbey (cont.). Results are presented in ppm.

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Pb	Th	U
1.13	0.16	1.12	0.22	0.68	0.08	0.58	0.08	1.38	844.40	1.04	0.84
1.41	0.19	1.36	0.26	0.79	0.10	0.59	0.08	2.21	58066.67	1.63	0.52
0.99	0.15	0.96	0.18	0.52	0.06	0.47	0.07	1.16	84966.67	0.85	0.68
1.22	0.18	1.11	0.22	0.68	0.09	0.59	0.08	1.71	95.50	1.00	0.83
1.23	0.15	1.11	0.21	0.66	0.08	0.57	0.09	1.35	445.30	1.06	0.87
1.20	0.16	1.11	0.21	0.62	0.08	0.58	0.08	1.23	218666.67	0.89	0.70
1.33	0.18	1.22	0.24	0.68	0.09	0.57	0.09	1.29	5.06	0.91	1.19
1.29	0.17	1.09	0.22	0.66	0.09	0.59	0.08	1.27	897.43	0.92	0.83
1.20	0.15	1.03	0.19	0.54	0.07	0.52	0.07	1.23	62466.67	0.87	0.73
1.12	0.16	1.08	0.20	0.62	0.09	0.52	0.09	1.42	145.47	0.92	0.72
1.20	0.15	1.03	0.21	0.61	0.08	0.51	0.07	1.21	21050.00	0.89	0.71
1.21	0.17	1.13	0.23	0.67	0.09	0.58	0.09	1.34	23003.33	0.98	0.77
1.08	0.14	1.01	0.20	0.60	0.08	0.51	0.07	1.28	45280.00	0.87	0.69
1.14	0.15	1.02	0.21	0.55	0.08	0.53	0.07	1.22	63300.00	0.87	0.71
1.24	0.18	1.16	0.23	0.68	0.09	0.56	0.08	1.51	560.30	1.10	0.97
1.29	0.18	1.18	0.22	0.69	0.09	0.59	0.09	1.65	6750.00	1.31	0.95
1.65	0.22	1.39	0.28	0.78	0.11	0.80	0.11	2.50	5270.00	1.92	1.08
1.10	0.16	1.02	0.21	0.62	0.07	0.48	0.09	1.23	2615.00	0.91	0.71
1.32	0.18	1.14	0.24	0.71	0.09	0.66	0.10	1.45	401.40	1.17	0.89
0.21	0.03	0.24	0.04	0.15	0.02	0.14	0.02	0.72	258666.67	0.38	0.84
1.31	0.18	1.14	0.23	0.68	0.10	0.62	0.10	1.75	5064.67	1.25	0.94
1.29	0.18	1.26	0.25	0.73	0.10	0.66	0.10	1.97	4046.67	1.22	1.06
1.63	0.24	1.54	0.28	0.85	0.12	0.83	0.12	2.21	29943.33	2.58	2.35
1.15	0.17	1.08	0.21	0.69	0.09	0.63	0.09	1.34	414.87	1.03	0.84
1.13	0.16	1.03	0.22	0.59	0.08	0.48	0.08	1.04	22.60	0.79	0.68
1.10	0.16	1.05	0.20	0.61	0.08	0.52	0.07	1.00	226.17	0.75	0.50
1.14	0.18	1.24	0.22	0.63	0.08	0.57	0.07	0.94	7.41	0.78	0.74
1.10	0.16	1.03	0.22	0.57	0.08	0.52	0.08	1.01	6.18	0.76	0.54
1.16	0.18	1.12	0.21	0.64	0.09	0.53	0.09	1.48	527.93	1.08	0.98
1.13	0.16	1.02	0.18	0.59	0.08	0.51	0.07	1.19	25826.67	0.88	0.64
1.28	0.18	1.16	0.22	0.67	0.09	0.61	0.08	1.42	2245.33	1.00	0.77
1.18	0.17	1.15	0.22	0.68	0.09	0.57	0.08	1.50	384.70	1.01	0.92
1.02	0.16	0.99	0.19	0.50	0.07	0.43	0.07	0.91	10890.00	0.70	0.55
1.22	0.17	1.03	0.23	0.57	0.08	0.50	0.08	1.19	1445.67	0.84	0.69
1.23	0.16	1.10	0.21	0.57	0.08	0.56	0.07	1.15	4060.00	0.85	0.73
1.21	0.18	1.09	0.22	0.62	0.06	0.59	0.08	1.13	4.26	0.81	0.64
1.13	0.16	0.99	0.19	0.61	0.08	0.56	0.06	1.17	2341.67	0.89	0.74
1.24	0.18	1.16	0.23	0.68	0.09	0.56	0.08	1.51	560.30	1.10	0.97
2.18	0.30	1.97	0.34	1.04	0.14	0.87	0.14	1.41	769.17	1.46	1.11
2.48	0.33	2.18	0.42	1.21	0.17	1.20	0.17	4.14	228.60	4.46	2.08
1.08	0.16	1.03	0.20	0.64	0.09	0.55	0.09	1.32	275.37	1.24	0.97
1.23	0.16	1.16	0.21	0.67	0.08	0.61	0.08	1.70	2402.67	1.06	0.90
1.19	0.16	1.04	0.21	0.58	0.09	0.52	0.07	1.14	18220.00	0.78	0.95
1.24	0.17	1.17	0.22	0.63	0.08	0.54	0.10	1.31	1824.33	0.99	0.78
1.15	0.16	1.04	0.20	0.62	0.07	0.52	0.08	1.17	38076.67	0.89	0.64
1.27	0.17	1.17	0.24	0.68	0.08	0.52	0.09	1.34	2982.00	1.01	0.75
1.27	0.17	1.17	0.24	0.68	0.08	0.52	0.09	1.34	2982.00	1.01	0.75
1.14	0.18	1.06	0.24	0.64	0.07	0.53	0.07	1.21	60566.67	0.90	0.64
1.16	0.16	1.09	0.22	0.61	0.08	0.56	0.07	1.55	2471.67	1.13	0.96
1.03	0.16	0.97	0.20	0.58	0.07	0.53	0.08	1.00	399.47	0.78	0.50
3.32	0.46	3.10	0.59	1.77	0.25	1.74	0.25	7.20	11.48	5.75	1.44
3.14	0.45	3.04	0.59	1.78	0.25	1.69	0.26	6.73	39.31	5.64	1.33
3.21	0.44	2.96	0.58	1.73	0.25	1.67	0.25	6.92	42.00	5.57	1.37
1.24	0.16	1.06	0.20	0.62	0.08	0.56	0.08	1.15	33.70	0.84	0.63
1.22	0.15	1.07	0.21	0.61	0.08	0.54	0.07	1.33	2819.00	1.01	0.82
1.14	0.16	1.02	0.21	0.62	0.08	0.56	0.08	1.34	357.67	0.95	0.84
1.09	0.16	1.11	0.21	0.59	0.08	0.57	0.08	1.10	409.47	0.81	0.61
1.17	0.16	1.04	0.21	0.61	0.08	0.51	0.08	1.15	2551.33	0.93	0.76
3.34	0.48	3.10	0.58	1.81	0.25	1.74	0.25	5.43	41.17	5.54	1.28
2.71	0.42	2.64	0.55	1.62	0.23	1.80	0.26	9.33	25.20	5.42	1.38
0.85	0.12	0.78	0.15	0.45	0.06	0.41	0.06	0.90	44556.67	0.67	0.53

Figure 19 – LA-ICP-MS results for glass from Barking Abbey (cont.). Results are presented in ppm.

Sample	Type	Li	B	Na	Mg	Al	P	K	Ca	Ti	V	Cr
Com01	1C	5.08	106.63	117486.67	3982.00	13180.00	382.00	6596.67	45003.33	618.00	16.60	17.68
Com02	2C	9.59	130.63	116623.33	6906.00	13983.33	848.33	7914.00	60573.33	777.67	21.89	23.14
Com06	2B	6.34	192.00	134600.00	5985.67	11716.67	324.40	5788.33	55550.00	794.67	25.53	14.20
Com11	1C	4.82	150.77	126480.00	4477.67	12716.00	358.67	5287.00	46020.00	1136.67	29.58	26.60
Com14	2C	3.96	159.73	110400.00	11726.67	7536.67	1799.67	16263.33	57330.00	770.67	13.45	14.68
Com15	3	3.41	60.70	97366.67	2812.00	14790.00	165.67	2458.67	70880.00	436.67	8.71	11.26
Com16	1A	3.68	75.07	124400.00	3667.33	14900.00	178.00	4489.00	52953.33	461.50	8.54	20.27
Com18	2B	6.52	147.57	110576.67	6492.00	12934.67	458.00	5608.33	52896.67	823.67	39.78	15.56
Com19	3	3.82	89.77	117733.33	3894.67	16486.67	381.67	6756.33	72863.33	519.67	10.21	12.69
Com20	3	3.37	76.83	108233.33	3550.00	14963.33	349.43	6269.67	67783.33	471.67	9.44	11.71
Com21	4	7.15	75.00	72766.67	14893.33	12580.00	1324.00	22546.67	75066.67	850.33	20.58	16.65
Com22	4	9.26	70.37	72443.33	16386.67	7148.67	834.00	19380.00	71436.67	396.33	10.06	13.74
Com23	4	4.40	66.90	83740.00	14486.67	9408.67	1150.00	18343.33	67700.00	582.10	13.58	10.22
Com24	1B	6.59	125.13	116400.00	6200.67	12949.00	762.00	8370.67	62880.00	697.33	18.39	16.70
Com25	1A	5.93	145.70	129166.67	5327.67	13786.67	590.00	7258.33	51546.67	892.67	24.69	27.32
Com26	1C	6.03	148.83	124713.33	4479.67	13330.33	472.33	21786.67	48123.33	861.03	23.01	18.61
Com29	2B	7.45	167.47	121353.33	7128.33	14243.33	504.67	6114.67	58380.00	903.70	43.89	17.20
Com32	5	5.14	4.24	33400.00	1597.27	96210.00	677.67	71816.67	6983.33	2722.67	16.25	0.58
Com33	6	21.49	12.13	29043.33	4032.00	60306.67	882.00	32696.67	243600.00	2033.00	17.20	5.29
Com34	1A	4.08	85.50	114163.33	4700.00	17196.67	485.00	5796.00	75446.67	594.17	11.52	13.22
Com36	1C	8.76	128.73	119466.67	6075.33	13403.33	574.67	16996.67	56423.33	785.67	24.10	21.65
Com39	1B	5.41	136.07	127166.67	5173.00	13643.33	691.00	6292.67	50576.67	1018.00	23.64	25.71
Com40	7	29.98	91.40	114200.00	5677.00	17993.33	719.33	20723.33	46993.33	1324.00	26.00	36.96
Com42	1B	3.90	89.17	116200.00	3861.00	16026.67	368.00	6577.67	71433.33	509.67	10.20	12.71
Com44	1A	4.22	43.43	103066.67	2526.67	16773.33	205.53	3821.67	51383.33	429.00	8.30	9.50
Com45	1C	5.69	158.07	138100.00	5362.33	13210.00	524.33	6514.67	51066.67	896.33	26.71	23.14
Com46	1C	5.69	158.07	138100.00	5362.33	13210.00	524.33	6514.67	51066.67	896.33	26.71	23.14
Com48	2C	5.76	100.70	107676.67	4852.67	14201.00	682.00	7099.33	53816.67	697.67	20.77	16.29
Com50	1C	4.73	157.47	141643.33	4213.33	12140.00	354.00	5093.00	48880.00	712.67	22.04	16.01
Com51	1C	5.95	144.13	131433.33	5123.33	13593.33	516.33	6783.33	51600.00	763.67	23.57	21.58
Com53	3	14.92	66.03	100666.67	4047.67	15833.33	354.67	14936.67	54636.67	538.00	11.17	18.47
Com55	7	3.81	128.90	108433.33	9106.67	18406.67	455.77	4973.00	47590.00	1452.00	45.67	42.67
Com56	3	4.06	45.37	105363.33	2843.33	16756.67	210.00	3929.67	51703.33	491.00	8.53	16.25
Com59	3	6.57	40.07	100500.00	2224.33	13196.67	196.67	4486.67	42866.67	403.67	6.63	22.61
Com60	3	4.23	40.97	99466.67	2160.00	13126.67	204.73	4132.33	42210.00	391.77	6.24	21.89
Com61	1C	6.57	143.97	127466.67	5834.00	13653.33	591.67	7130.00	50130.00	1025.67	26.38	28.38
Com64	1C	4.82	122.87	121500.00	6646.00	11776.67	942.00	9670.00	56496.67	702.33	14.31	15.17
Com65	2C	5.15	126.47	116226.67	5902.33	13140.00	753.00	7938.00	59530.00	681.67	16.40	15.47
Com68	1A	3.45	80.53	103533.33	3391.67	15250.00	462.33	4350.33	55906.67	428.63	8.86	13.92
Com69	1C	4.69	159.40	132413.33	3633.67	12969.67	11.08	5234.33	38446.67	764.67	15.27	13.37
Com70	7	5.00	155.03	137000.00	4002.00	10306.67	339.10	4248.00	44470.00	595.03	20.45	13.15
Com71	1C	7.43	153.27	132833.33	3481.00	10783.33	359.67	7887.33	45963.33	508.33	14.45	10.36
Com73	1C	5.05	144.60	132143.33	4869.00	12298.00	496.67	5827.00	47796.67	842.33	23.32	21.12
Com74	8	4.96	169.73	130236.67	6811.00	17250.00	357.30	4272.33	40540.00	3412.33	66.46	74.29
Com75	8	4.76	219.97	143733.33	7408.67	17133.33	265.60	3209.67	34140.00	3238.33	58.43	70.07
Com76	2A	3.72	54.67	91960.00	3200.33	14426.67	18.00	8441.00	66630.00	397.47	7.07	12.90
Com77	1C	5.16	144.30	127966.67	4685.33	12650.00	480.00	6320.67	48796.67	903.33	24.48	21.00
Com78	2C	5.42	143.13	123830.00	6591.33	12364.67	625.33	6242.00	50946.67	794.67	24.17	45.80
Com80	7	16.99	108.93	92903.33	13188.67	14935.00	432.63	12426.00	54086.67	689.90	20.33	158.70
Com82	1B	8.89	115.53	119110.00	5481.67	11915.67	619.33	8136.00	57510.00	883.67	18.35	23.68
Com85	2B	6.32	164.53	116976.67	5204.00	12867.33	407.90	5165.00	48650.00	863.67	30.80	15.68
Com86	1B	3.51	125.80	133916.67	3510.33	10122.33	10.44	2985.33	45160.00	467.53	12.35	9.44
Com87	1B	3.59	130.07	133456.67	3807.33	10474.00	212.30	3231.00	41480.00	530.23	15.76	8.83
Com89	2C	5.35	180.80	128966.67	5555.00	10134.33	878.33	5819.67	48890.00	721.87	19.50	11.79
Com90	1B	5.58	146.47	125716.67	5621.67	11976.67	438.67	5794.33	48820.00	603.50	18.18	24.45
Com91	2C	6.36	133.60	124523.33	17363.33	8794.33	16.18	3432.00	43850.00	382.47	7.18	7.60
Com92	7	5.03	164.40	134413.33	4310.67	10871.33	361.40	6119.67	43973.33	674.67	18.51	13.58
Com93	7	5.29	180.83	144866.67	4671.33	11727.00	389.73	6871.33	47236.67	722.67	20.13	14.59
Com95	2C	5.64	157.43	121600.00	6109.33	12646.67	987.00	7406.67	52103.33	734.00	19.57	18.23
Com96a	1B	5.13	105.50	118533.33	4840.67	12586.67	601.67	7346.67	51496.67	566.00	13.03	15.09
Com97	1C	4.70	143.27	132333.33	4470.00	12360.00	413.33	5326.33	46553.33	691.00	20.47	17.75
Com98	2C	4.90	124.40	117433.33	8480.00	13333.33	620.00	6123.33	47200.00	812.00	22.61	69.53

Figure 20 – LA-ICP-MS results for glass from Comacchio. Results are presented in ppm.

Mn	Fe	Co	Ni	Cu	Zn	As	Rb	Sr	Y	Zr	Nb
3493.33	6402.00	13.02	11.28	1443.00	51.30	16.38	9.94	408.90	6.15	54.00	1.89
5258.33	7421.33	81.00	40.60	2148.00	527.00	20.47	14.23	565.20	7.03	59.97	2.39
11636.67	5512.33	5.07	11.08	107.07	19.57	4.62	6.42	713.97	7.30	76.93	2.70
8650.00	7576.67	123.67	18.07	1829.67	56.13	15.37	8.12	461.43	7.40	103.70	2.78
934.33	5000.33	2.53	4.78	11.93	11.64	1.04	5.03	597.70	4.23	63.80	2.09
118.67	2760.33	1.19	3.43	2.44	6.49	1.29	4.86	406.20	6.20	40.60	1.53
121.00	2785.00	1.23	3.52	2.07	6.52	1.11	8.29	401.43	6.23	44.00	1.61
11843.33	8653.33	12.20	21.75	57.63	26.30	5.56	8.16	687.67	8.64	74.03	2.72
143.43	3160.33	1.49	4.00	3.59	8.29	1.47	10.79	546.47	7.09	51.47	1.87
132.97	2939.00	1.37	3.25	3.33	7.20	1.49	9.78	496.67	6.60	46.90	1.68
10170.00	4656.67	11.38	11.55	124.60	71.47	2.72	16.82	600.30	6.64	144.77	2.66
19350.00	7067.67	10.82	16.11	64.14	130.53	11.91	16.85	639.20	3.80	18.55	1.44
10132.33	3829.67	5.51	8.74	10.62	24.32	2.58	9.89	443.00	5.74	35.19	1.77
3244.33	5576.67	15.28	10.40	153.30	28.50	4.03	8.17	578.33	6.75	60.47	2.12
6004.00	6787.67	30.19	22.15	1160.67	101.77	14.88	11.11	485.50	7.38	76.13	2.51
5978.67	6963.67	43.03	14.84	246.00	79.53	23.02	14.27	470.67	7.30	73.82	2.49
13001.67	9485.00	13.52	24.12	63.24	28.90	6.14	8.79	754.87	9.48	81.65	3.02
639.33	20090.00	1.48	1.30	6.42	90.10	0.98	218.67	273.27	29.08	438.67	153.20
619.27	13563.33	1.92	4.82	22.19	22.65	0.61	93.53	467.17	23.84	412.17	89.33
206.60	4164.33	2.76	5.22	6.87	8.51	1.08	7.78	550.00	7.94	46.10	2.08
5771.33	7303.33	21.77	18.80	475.40	54.43	9.15	12.84	558.00	7.43	69.57	2.39
4769.67	7553.33	42.03	24.79	2778.67	390.33	30.25	9.55	501.40	7.46	78.80	2.75
1563.00	8633.33	16.64	18.83	900.33	99.33	9.22	30.72	376.83	7.61	83.30	3.22
144.40	3118.00	1.46	4.16	3.71	8.57	1.47	10.63	540.00	7.16	50.23	1.82
131.57	2919.33	1.29	3.44	2.41	5.07	1.09	7.59	423.33	6.79	40.13	1.55
6940.33	7866.67	39.68	17.95	2930.00	150.30	26.40	9.76	519.17	7.78	79.90	2.58
6940.33	7866.67	39.68	17.95	2930.00	150.30	26.40	9.76	519.17	7.78	79.90	2.58
4559.67	9750.00	69.20	156.97	7813.33	2352.33	110.73	8.88	531.33	7.17	57.17	2.25
6487.33	7474.67	66.69	13.27	2175.00	59.83	23.31	7.98	486.57	7.42	61.42	2.23
5356.67	7110.00	45.33	18.94	2159.67	71.43	19.67	10.41	478.00	8.00	66.23	2.34
588.50	4299.67	3.39	9.10	39.94	14.54	1.58	14.34	438.47	6.74	45.97	1.84
5361.33	13273.33	24.29	36.08	216.03	60.00	12.22	10.46	375.33	10.18	92.30	4.04
127.20	3017.00	1.38	3.69	3.35	6.21	1.15	7.62	372.93	6.46	46.67	1.70
102.60	2220.00	1.05	2.94	3.52	4.69	0.75	7.03	327.33	5.93	45.00	1.42
101.57	2183.67	1.00	2.79	6.40	4.46	0.78	7.04	318.40	5.85	45.47	1.29
6293.33	8356.67	36.17	25.18	2002.67	120.47	21.76	11.66	479.63	7.50	83.53	2.77
1649.67	4768.33	8.62	7.15	202.83	33.13	2.05	7.32	549.40	6.09	64.23	2.07
2725.33	5048.33	10.57	9.10	189.10	25.73	2.72	7.62	549.80	7.05	63.23	2.15
120.90	2809.00	1.44	4.60	4.67	7.83	1.01	6.93	422.97	7.13	40.66	1.48
2979.67	7185.33	695.00	27.86	1936.67	42.71	12.42	8.38	334.47	6.23	73.13	2.47
6414.00	26796.67	27.94	16.59	8176.67	103.30	21.59	7.21	434.93	6.10	51.59	1.86
3716.67	5680.00	228.77	14.39	1877.00	68.03	32.85	17.75	445.13	5.84	47.57	1.72
6925.67	7241.67	25.51	14.22	2134.33	77.47	19.09	8.31	480.97	6.92	74.49	2.34
15616.67	18513.33	15.79	22.53	93.92	34.97	11.10	6.23	465.77	12.70	274.27	6.56
18383.33	16283.33	15.84	17.63	84.47	30.13	10.37	5.29	397.20	11.17	255.80	6.29
119.07	2710.67	1.30	3.58	12.04	6.60	1.80	7.31	383.03	6.20	38.54	1.39
6766.00	6548.00	25.83	13.93	1677.00	71.57	17.53	8.68	476.43	7.07	79.33	2.43
6145.33	7540.00	34.18	29.45	2259.00	68.03	23.17	8.51	491.37	6.69	69.80	2.31
2036.67	10360.00	19.42	95.33	565.10	75.00	8.55	52.33	412.63	6.76	50.70	1.94
5182.67	5555.67	17.88	16.43	730.37	74.23	6.55	9.09	398.03	6.64	90.80	2.44
9328.33	13034.00	7.76	16.68	47.20	22.75	14.84	7.29	628.37	9.74	82.33	2.75
3575.00	3407.67	4.38	5.26	16.33	11.32	19.64	5.10	446.00	6.10	44.01	1.60
7184.67	3677.00	3.11	4.58	171.00	20.13	36.36	5.43	410.50	5.96	49.03	1.81
4626.67	6025.33	52.00	21.60	1679.00	139.00	8.11	6.28	539.00	6.54	53.93	2.30
4660.00	6747.00	268.83	33.83	2561.67	75.10	27.65	10.34	460.60	6.62	54.94	1.88
117.57	3262.00	1.46	4.00	35.16	140.97	731.93	4.09	444.03	4.55	41.42	1.36
8516.67	35733.33	8.27	15.17	10666.67	1698.67	12.26	6.46	439.30	6.28	61.13	2.01
9316.67	38100.00	8.86	16.58	11660.00	1876.67	13.02	7.18	470.17	6.91	65.99	2.26
4598.67	8706.67	96.40	50.67	11823.33	803.67	52.13	8.31	536.00	6.74	65.53	2.37
2295.00	4446.67	10.78	14.52	1278.33	212.60	11.73	8.57	458.50	5.95	51.63	1.88
5840.00	6790.00	23.43	14.36	1877.00	58.33	18.02	8.60	456.47	6.71	64.23	2.09
4036.67	8566.67	36.76	55.00	2574.33	336.33	19.63	8.89	444.67	6.59	67.00	2.33

Figure 21 - LA-ICP-MS results for glass from Comacchio (cont.). Results are presented in ppm.

Mo	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu
1.21	333.10	1311.33	0.17	259.80	6.08	10.91	1.41	5.84	1.18	0.33
2.07	1700.00	236.57	0.24	273.27	6.94	12.70	1.63	6.54	1.33	0.34
3.13	9.10	168.77	0.08	388.63	7.16	12.68	1.67	6.74	1.33	0.36
3.14	314.67	1580.00	0.12	328.90	7.07	12.60	1.58	6.86	1.40	0.37
0.62	5.76	53.72	0.07	178.90	4.24	8.06	1.00	3.98	0.86	0.20
0.17	3.69	0.03	0.06	209.17	5.82	11.45	1.44	5.57	1.09	0.38
0.20	3.90	0.11	0.09	214.90	5.71	11.09	1.40	5.76	1.27	0.35
3.40	19.62	143.10	0.18	426.33	8.55	13.74	1.96	8.16	1.61	0.46
0.51	3.75	0.17	0.09	238.37	6.51	12.46	1.55	6.48	1.35	0.40
0.58	6.49	-0.02	0.07	221.57	5.90	11.60	1.40	5.99	1.22	0.37
2.42	5.16	1.06	0.24	404.27	6.50	13.17	1.54	5.86	1.21	0.34
1.23	47.77	16.39	0.38	383.23	3.30	6.14	0.71	2.87	0.58	0.15
2.16	6.14	0.61	0.08	473.00	5.53	10.19	1.26	5.42	1.07	0.31
1.25	193.60	204.93	0.13	249.60	6.21	11.52	1.43	6.15	1.22	0.34
2.15	424.00	1650.00	0.18	316.33	7.23	12.91	1.71	6.98	1.31	0.39
2.03	449.23	2558.67	0.16	279.83	6.94	12.69	1.64	6.42	1.36	0.37
3.78	15.72	153.30	0.19	472.13	9.51	14.84	2.06	8.98	1.88	0.47
1.03	9.36	0.22	1.65	614.40	116.77	198.40	19.01	65.70	9.86	1.96
0.60	10.35	0.08	0.94	546.80	65.23	108.27	10.87	38.53	5.97	1.57
0.30	8.05	1.73	0.09	241.40	6.89	13.46	1.70	7.00	1.39	0.41
2.12	218.80	468.53	0.19	266.97	7.20	12.53	1.70	6.79	1.38	0.36
1.71	3249.67	1429.33	0.16	262.60	7.22	12.85	1.71	7.12	1.44	0.40
1.33	655.67	573.67	0.35	225.23	7.79	14.94	1.86	7.57	1.54	0.41
0.49	3.09	0.65	0.09	242.13	6.54	12.81	1.54	6.50	1.35	0.39
0.44	8.61	0.11	0.07	239.20	6.10	11.87	1.39	6.14	1.19	0.36
2.33	595.67	3113.00	0.15	310.80	7.83	13.29	1.78	7.18	1.41	0.41
2.33	595.67	3113.00	0.15	310.80	7.83	13.29	1.78	7.18	1.41	0.41
1.74	6506.67	247.90	0.14	257.43	6.87	12.26	1.51	6.48	1.43	0.37
2.38	690.67	2346.00	0.18	298.03	7.19	12.53	1.71	6.87	1.43	0.34
1.89	445.67	2506.00	0.15	291.00	7.22	12.78	1.73	6.89	1.42	0.38
0.33	47.73	8.52	0.23	229.60	6.49	12.15	1.53	6.27	1.29	0.37
2.27	106.17	787.67	0.47	280.50	12.99	23.23	3.03	11.95	2.43	0.59
0.23	2.13	0.19	0.08	216.00	6.19	11.20	1.43	6.17	1.11	0.35
0.21	6.61	-0.58	0.06	196.80	5.57	10.27	1.29	5.12	1.11	0.32
0.17	6.44	0.31	0.04	198.17	5.53	10.03	1.33	5.36	1.08	0.31
2.24	630.33	2126.00	0.23	324.70	7.29	13.26	1.71	6.97	1.47	0.39
0.78	152.43	106.43	0.12	195.87	5.65	10.43	1.34	5.64	1.12	0.30
1.15	192.97	86.33	0.10	241.50	6.28	11.15	1.48	6.23	1.26	0.35
0.34	3.43	0.62	0.06	225.03	6.00	10.84	1.43	5.82	1.18	0.35
1.73	56.05	12740.00	0.15	202.43	6.58	11.67	1.45	5.68	1.21	0.32
1.84	924.30	871.37	0.13	261.93	5.92	10.46	1.39	5.76	1.22	0.35
1.81	111.77	6926.67	0.21	220.73	5.73	10.24	1.31	5.44	1.09	0.30
2.24	348.47	2083.00	0.14	342.10	6.67	12.00	1.63	6.29	1.27	0.37
3.13	10.53	2.78	0.15	659.97	11.56	19.54	2.85	11.19	2.25	0.64
4.09	7.13	1.09	0.13	839.33	10.22	18.73	2.47	10.03	2.18	0.58
0.18	5.85	7.05	0.04	199.50	5.56	10.54	1.28	5.46	1.12	0.34
2.42	358.53	1895.67	0.18	310.33	6.66	12.05	1.61	6.51	1.36	0.36
2.30	395.87	2666.00	0.20	300.30	6.62	12.07	1.58	6.31	1.29	0.34
0.88	278.03	711.00	1.58	281.07	6.45	12.31	1.54	6.35	1.31	0.37
1.24	183.17	609.27	0.13	250.73	6.53	12.28	1.50	6.22	1.16	0.33
1.73	10.63	121.47	0.15	368.07	10.43	13.48	2.38	9.62	2.03	0.50
1.37	5.84	1014.33	0.04	273.13	5.72	9.98	1.30	5.88	1.16	0.33
1.46	20.04	2296.33	0.08	184.67	5.81	10.59	1.35	5.55	1.03	0.30
1.54	741.33	36.30	0.09	209.37	6.35	11.24	1.52	5.99	1.32	0.36
2.51	208.10	6563.33	0.21	233.10	6.61	11.29	1.41	5.86	1.28	0.34
0.42	17.57	26243.33	0.08	133.33	5.23	7.93	1.07	4.35	0.89	0.26
3.39	181.90	61.67	0.09	317.70	6.28	11.13	1.37	5.81	1.28	0.32
3.71	193.83	66.96	0.11	339.33	6.61	12.14	1.55	6.26	1.26	0.37
1.67	4051.67	2448.33	0.13	247.27	6.67	11.92	1.55	6.38	1.27	0.33
0.92	842.00	518.67	0.14	224.83	5.60	10.77	1.37	5.58	1.16	0.30
1.90	244.20	1848.67	0.15	275.90	6.55	11.33	1.46	6.22	1.26	0.36
1.42	2598.67	1467.67	0.15	235.27	6.43	11.85	1.50	6.13	1.25	0.34

Figure 22 – LA-ICP-MS results for glass from Comacchio (cont.). Results are presented in ppm.

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Pb	Th	U
1.14	0.16	1.05	0.20	0.64	0.09	0.52	0.07	1.31	3060.67	0.93	0.83
1.32	0.19	1.25	0.23	0.72	0.10	0.61	0.09	1.51	13266.67	1.19	0.97
1.34	0.20	1.22	0.24	0.70	0.10	0.67	0.09	1.95	56.42	1.20	1.11
1.35	0.19	1.25	0.24	0.74	0.10	0.75	0.10	2.41	5716.67	1.15	1.03
0.80	0.11	0.72	0.15	0.46	0.06	0.44	0.07	1.58	12.17	0.88	1.19
1.15	0.17	1.04	0.20	0.60	0.08	0.52	0.07	1.03	6.66	0.74	2.54
1.12	0.17	1.00	0.21	0.57	0.08	0.51	0.08	1.11	5.33	0.78	0.75
1.62	0.22	1.44	0.30	0.87	0.11	0.75	0.12	1.87	83.07	1.20	0.91
1.33	0.18	1.22	0.24	0.68	0.09	0.57	0.09	1.29	5.06	0.91	1.19
1.16	0.16	1.06	0.20	0.62	0.08	0.53	0.08	1.17	4.77	0.83	1.07
1.17	0.15	1.09	0.21	0.66	0.09	0.63	0.09	3.59	24.21	1.35	1.05
0.61	0.10	0.56	0.11	0.34	0.04	0.30	0.04	0.50	188.57	0.77	0.43
1.05	0.14	0.96	0.19	0.55	0.07	0.48	0.06	0.93	5.87	0.78	0.40
1.19	0.17	1.10	0.20	0.63	0.08	0.61	0.08	1.51	1607.67	0.96	0.89
1.44	0.19	1.29	0.25	0.74	0.10	0.69	0.09	1.83	2807.00	1.22	1.03
1.23	0.18	1.24	0.24	0.68	0.10	0.65	0.10	1.76	3963.33	1.31	0.96
1.85	0.24	1.57	0.29	0.94	0.13	0.88	0.12	2.05	90.77	1.32	0.99
7.56	0.96	5.79	0.98	2.91	0.37	2.46	0.32	10.80	7.27	36.54	5.10
5.05	0.66	3.94	0.70	2.07	0.27	1.94	0.27	8.79	1.82	17.99	3.19
1.47	0.19	1.28	0.24	0.68	0.10	0.65	0.10	1.14	28.24	0.97	0.75
1.37	0.19	1.25	0.24	0.73	0.08	0.67	0.10	1.72	1739.33	1.17	1.02
1.45	0.20	1.28	0.25	0.76	0.10	0.64	0.10	1.99	32276.67	1.26	1.04
1.46	0.20	1.29	0.25	0.73	0.10	0.72	0.12	2.12	4983.33	1.73	0.99
1.29	0.19	1.18	0.23	0.67	0.08	0.59	0.08	1.31	5.32	0.87	1.19
1.14	0.16	1.11	0.22	0.64	0.08	0.55	0.08	1.01	4.16	0.79	1.67
1.47	0.22	1.25	0.26	0.77	0.10	0.67	0.11	1.87	4863.33	1.24	1.00
1.47	0.22	1.25	0.26	0.77	0.10	0.67	0.11	1.87	4863.33	1.24	1.00
1.41	0.17	1.25	0.23	0.71	0.08	0.58	0.08	1.40	23646.67	0.92	0.83
1.23	0.20	1.21	0.27	0.69	0.09	0.66	0.09	1.55	4972.00	1.10	0.96
1.35	0.20	1.23	0.25	0.70	0.09	0.57	0.09	1.59	4786.67	1.12	0.99
1.26	0.17	1.08	0.23	0.63	0.09	0.56	0.07	1.12	104.03	0.97	0.75
2.18	0.33	1.87	0.37	1.10	0.13	0.87	0.14	2.17	979.00	1.99	1.07
1.14	0.17	1.07	0.23	0.63	0.08	0.53	0.08	1.17	4.59	0.91	1.65
1.00	0.17	0.99	0.20	0.52	0.07	0.45	0.07	1.07	4.02	0.71	0.64
1.10	0.15	0.92	0.20	0.56	0.07	0.47	0.07	1.15	3.93	0.69	0.62
1.44	0.19	1.28	0.26	0.80	0.11	0.70	0.11	2.17	5508.00	1.26	1.04
1.12	0.16	1.05	0.21	0.60	0.09	0.54	0.09	1.60	833.80	1.00	1.37
1.27	0.19	1.16	0.25	0.68	0.09	0.65	0.09	1.64	1283.33	1.01	0.94
1.22	0.18	1.12	0.22	0.67	0.09	0.60	0.09	1.12	5.74	0.81	0.71
1.08	0.15	0.97	0.20	0.63	0.09	0.61	0.09	1.80	1969.67	1.24	1.30
1.12	0.14	1.01	0.20	0.62	0.08	0.53	0.08	1.33	1585.33	0.92	0.79
1.10	0.16	0.92	0.17	0.55	0.07	0.49	0.08	1.21	1745.33	0.95	0.87
1.21	0.18	1.13	0.23	0.70	0.10	0.62	0.09	1.75	3773.67	1.14	0.97
2.37	0.33	2.16	0.45	1.34	0.18	1.32	0.20	6.29	95.16	2.30	1.52
2.14	0.32	2.01	0.39	1.22	0.17	1.18	0.19	5.95	7.55	2.15	1.24
1.09	0.15	1.07	0.20	0.61	0.07	0.54	0.07	1.00	12.27	0.73	0.55
1.28	0.17	1.12	0.21	0.70	0.09	0.58	0.09	1.89	4902.00	1.14	0.96
1.24	0.18	1.16	0.23	0.65	0.10	0.58	0.09	1.68	4425.67	1.19	0.93
1.20	0.17	1.10	0.22	0.68	0.09	0.57	0.09	1.33	1245.00	0.93	0.73
1.24	0.17	1.05	0.21	0.63	0.08	0.59	0.09	2.21	2081.33	1.16	0.89
1.91	0.28	1.78	0.36	1.01	0.12	0.91	0.13	2.01	82.43	1.29	1.32
1.15	0.17	1.02	0.19	0.60	0.08	0.50	0.08	1.12	12.17	0.79	0.68
1.05	0.16	0.94	0.19	0.58	0.07	0.55	0.07	1.26	154.87	0.92	0.79
1.18	0.17	1.09	0.22	0.63	0.08	0.57	0.09	1.32	1646.00	1.02	1.13
1.22	0.16	1.06	0.20	0.63	0.08	0.54	0.08	1.32	2480.00	0.95	0.89
0.89	0.12	0.76	0.15	0.47	0.06	0.42	0.05	1.09	1101.67	0.77	1.21
1.16	0.16	1.12	0.20	0.64	0.08	0.60	0.08	1.50	881.67	0.92	0.87
1.25	0.18	1.15	0.22	0.69	0.09	0.62	0.09	1.61	927.47	1.01	0.96
1.28	0.17	1.09	0.22	0.65	0.09	0.59	0.09	1.62	42290.00	1.14	1.03
1.11	0.16	1.02	0.19	0.59	0.07	0.53	0.08	1.30	4883.33	0.89	0.88
1.23	0.18	1.13	0.23	0.65	0.09	0.56	0.09	1.58	3491.67	1.08	0.90
1.22	0.18	1.13	0.22	0.64	0.09	0.57	0.08	1.58	14780.00	1.04	0.96

Figure 23 – LA-ICP-MS results for glass from Comacchio (cont.). Results are presented in ppm.

Sample	Type	Li	B	Na	Mg	Al	P	K	Ca	Ti	V	Cr
Rib33b	2	4.44	238.80	121123.33	13197.67	11697.67	2919.00	21233.33	68403.33	824.67	18.88	13.73
Rib35	3	1.27	0.10	12.83	37523.33	111383.33	201.67	-20.53	28860.00	255.70	83.80	360.80
Rib37	1	3.60	197.53	136850.00	3109.00	10990.00	383.00	4687.00	41053.33	457.33	32.50	9.72
Rib61a	1	6.78	184.97	136726.67	3848.67	12586.33	431.00	5760.00	49293.33	756.67	19.67	17.24
Rib61b	1	4.71	167.37	124970.00	2822.00	10830.67	378.67	5623.00	35840.00	613.60	16.80	12.29
Rib63	4	4.99	151.33	82233.33	12698.33	14833.33	2915.67	18306.67	62970.00	1297.67	28.00	22.72
Rib66w	5	5.26	151.07	122000.00	3714.00	12010.00	398.23	5032.67	45810.00	815.00	27.18	18.08
Rib67b	1	4.89	147.30	118506.67	6490.67	29223.33	1181.67	11665.33	46620.00	899.33	23.75	17.57
Rib74	5	8.84	143.73	119683.33	3503.67	13064.67	602.33	6774.00	47996.67	658.00	23.94	15.99
Rib76	4	10.99	137.40	109856.67	4792.00	14046.67	796.00	10211.00	49333.33	888.33	22.71	17.38
Rib77	4	11.22	104.77	99660.00	20270.00	9944.33	1152.67	23395.00	54570.00	739.33	17.64	39.84
Rib78	6	20.83	89.67	77070.00	2673.67	15433.33	472.67	6802.33	33800.00	794.93	17.38	14.92
Rib80a	5	4.53	196.07	126770.00	3164.33	11926.00	400.30	5306.00	36010.00	627.00	13.91	11.09
Rib83b	5	7.28	159.17	126010.00	3408.67	12466.00	487.33	5322.67	50440.00	475.23	17.88	11.64
Rib83y	6	5.51	108.70	86366.67	2068.00	9433.33	554.67	3737.00	29993.33	523.67	13.42	10.94
Rib100	1	6.86	162.27	127450.00	3305.00	12180.33	521.00	5192.00	46903.33	521.43	15.09	11.97
Rib103	1	5.88	171.90	128293.33	3778.33	13286.67	503.63	5944.67	50800.00	667.17	19.95	15.78
Rib105	2	4.97	186.70	118233.33	16526.67	18060.00	4171.33	20696.67	64356.67	1721.00	38.06	25.75

Figure 24 - LA-ICP-MS results for glass from Ribe. Results are presented in ppm.

Mn	Fe	Co	Ni	Cu	Zn	As	Rb	Sr	Y	Zr	Nb
1719.67	9995.00	10.83	21.92	22423.33	282.73	31.10	8.26	736.03	5.70	55.08	2.73
7692.00	209566.67	53.55	3.06	0.16	76.63	0.14	0.10	0.03	95.47	17.48	-0.01
6920.00	3598.33	11.97	7.38	1702.33	37.10	22.01	10.12	426.90	5.56	46.46	1.59
3682.00	7932.00	386.43	35.18	1793.00	61.23	79.50	9.91	458.33	6.71	72.74	2.30
3211.67	6696.67	43.63	13.24	271.13	50.83	57.87	11.06	372.67	5.75	60.10	2.13
2281.00	12386.67	8.78	19.75	10206.67	290.83	24.66	8.77	708.60	6.94	70.83	3.64
7621.00	5594.33	11.86	12.31	536.03	45.97	12.94	8.47	447.97	6.79	74.70	2.16
4831.00	20300.00	33.96	36.21	25956.67	702.03	76.53	22.19	475.30	5.94	61.63	2.59
5028.00	32480.00	17.84	19.00	11296.00	191.10	22.74	11.84	431.27	9.98	64.12	2.11
5336.67	9836.67	50.99	42.70	18663.33	508.07	73.90	17.58	445.07	7.46	77.99	2.76
8366.67	5848.67	7.45	30.79	111.20	54.53	31.10	9.83	454.60	4.61	69.33	2.32
2400.00	5563.33	9.84	26.66	789.87	74.77	9438.33	19.39	304.90	6.24	49.67	2.87
1445.90	5979.67	10.94	12.12	18263.33	229.17	54.47	12.49	331.80	5.76	51.00	2.12
4181.00	6672.00	403.33	23.28	1968.33	55.43	46.37	8.59	439.73	6.52	48.36	1.62
2430.00	3660.00	5.24	14.93	275.03	29.07	370.70	7.47	277.90	4.66	46.00	1.75
3948.67	6706.67	554.30	46.90	1349.33	54.63	35.60	9.54	420.27	6.29	51.28	1.76
4788.33	7131.00	351.83	30.51	4380.33	81.67	43.66	10.05	464.87	7.03	63.40	2.06
3406.33	23900.00	176.53	179.43	20400.00	4238.33	621.67	10.50	755.90	8.29	87.97	4.77

Figure 25 – LA-ICP-MS results for glass from Ribe (cont.). Results are presented in ppm.

Mo	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu
2.39	1470.67	1808.00	0.10	260.87	6.07	11.72	1.43	5.60	1.17	0.29
0.06	2.63	-1.54	0.00	0.00	0.00	0.09	0.06	0.90	1.30	0.65
1.90	136.67	3788.67	0.21	271.17	5.69	10.33	1.33	5.28	1.15	0.29
3.19	194.77	8838.33	0.22	265.27	6.95	12.60	1.55	6.41	1.30	0.35
1.53	1036.67	9183.33	0.38	198.03	6.54	11.98	1.43	5.85	1.23	0.31
2.88	1593.67	1713.33	0.13	223.53	7.11	14.02	1.69	6.95	1.40	0.38
2.27	7116.67	1955.33	0.15	389.07	6.45	11.48	1.52	6.29	1.32	0.35
2.33	2945.67	3233.33	0.52	310.77	6.86	12.56	1.57	6.23	1.20	0.36
1.92	1202.33	1363.67	0.24	297.23	7.67	14.60	1.89	7.58	1.66	0.43
1.94	4470.00	2738.00	0.50	373.23	7.66	14.11	1.76	7.22	1.45	0.38
3.98	15666.67	10.70	0.22	115.57	7.22	13.99	1.61	6.05	1.27	0.26
1.10	71820.00	12036.67	2.67	208.10	7.84	14.28	1.75	6.89	1.38	0.31
0.49	984.67	9790.00	0.29	181.37	6.50	11.70	1.47	6.01	1.18	0.30
2.74	112.23	13526.67	0.17	239.90	6.49	11.20	1.42	5.83	1.20	0.30
1.15	46400.00	2484.33	0.32	172.87	5.11	9.30	1.16	4.78	0.93	0.24
3.82	92.80	12923.33	0.20	226.50	6.49	11.41	1.46	5.80	1.18	0.32
2.89	410.57	10736.67	0.25	318.00	7.00	12.39	1.58	6.42	1.44	0.36
3.17	9550.00	3071.67	0.18	284.87	8.87	17.43	2.11	8.50	1.72	0.47

Figure 26 - LA-ICP-MS results for glass from Ribe (cont.). Results are presented in ppm.

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Pb	Th	U
1.02	0.16	0.96	0.19	0.54	0.07	0.53	0.08	1.34	3781.00	1.15	0.76
5.25	1.25	12.96	3.39	12.14	1.83	14.06	2.29	0.21	-2.48	0.00	0.00
0.96	0.15	0.89	0.18	0.53	0.07	0.49	0.07	1.14	2200.00	1.01	0.96
1.23	0.18	1.16	0.23	0.68	0.09	0.60	0.09	1.79	2605.33	1.27	1.11
1.08	0.15	0.92	0.18	0.57	0.08	0.52	0.07	1.48	84433.33	1.40	1.08
1.33	0.19	1.23	0.23	0.73	0.09	0.60	0.11	1.77	126966.67	1.44	0.86
1.26	0.17	1.11	0.22	0.66	0.09	0.62	0.09	1.88	4396.00	1.08	0.93
1.12	0.17	1.03	0.19	0.58	0.08	0.57	0.08	1.58	79300.00	1.42	0.86
1.73	0.25	1.69	0.31	0.94	0.12	0.80	0.13	1.57	4530.33	1.48	1.04
1.40	0.19	1.27	0.25	0.74	0.10	0.69	0.10	1.88	35743.33	1.48	1.04
0.96	0.13	0.83	0.16	0.48	0.06	0.45	0.08	1.81	112400.00	1.41	0.72
1.18	0.16	1.06	0.21	0.65	0.09	0.60	0.09	1.41	778166.67	1.86	0.97
1.19	0.16	0.99	0.19	0.58	0.08	0.50	0.07	1.25	12820.00	1.44	0.99
1.26	0.17	1.07	0.20	0.60	0.09	0.52	0.09	1.24	2329.67	0.98	1.00
0.84	0.13	0.82	0.16	0.49	0.07	0.40	0.06	1.12	369666.67	0.93	0.73
1.16	0.16	0.96	0.20	0.60	0.08	0.51	0.09	1.28	3846.67	1.02	0.97
1.25	0.18	1.19	0.22	0.68	0.09	0.62	0.09	1.56	5109.33	1.23	0.97
1.75	0.24	1.47	0.29	0.83	0.11	0.79	0.12	2.11	181000.00	1.79	1.00

Figure 27 - LA-ICP-MS results for glass from Ribe (cont.). Results are presented in ppm.

Appendix 4: Isotopes

Sample	Group	Sr ppm	87Sr/86Sr	Nd ppm	143Nd/144Nd	εNd
Com 11	**1c**	461.43	0.708842	6.86	0.51313	9.66
Com 15	**3a**	406.20	0.709013	5.57	0.51237	-5.31
Com 16	**1a**	401.43	0.708991	5.76	0.51237	-5.19
Com 21	**4b**	600.30	0.708644	5.86	0.51236	-5.48
Com 22	**4a**	639.20	0.70827	2.87	0.51234	-5.89
Com 23	**4a**	443.00	0.708598	5.42	0.51234	-5.91
Com 25	**3b**	485.50	0.708921	6.98	0.51237	-5.19
Com 34	**1a**	550.00	0.708999	n.a.	n.a.	n.a.
Com 39	**1B**	501.40	0.70887	7.12	0.51232	-6.20
Com 40	**7**	376.83	0.708847	7.57	n.a.	n.a.
Com 42	**1b**	540.00	0.710782	6.50	0.51234	-5.89
Com 44	**3a**	423.33	0.709103	6.14	n.a.	n.a.
Com 45	**1C**	519.17	0.708835	7.18	0.51209	-10.79
Com 53	**3a**	438.47	0.709045	6.27	n.a.	n.a.
Com 59	**3a**	327.33	0.709038	5.12	0.51241	-4.43
Com 60	**3a**	318.40	0.709175	5.36	0.51245	-3.67
Com 61	**1c**	n.a.	n.a.	6.97	0.51231	-6.38
Com 64	**1c**	549.40	0.708853	n.a.	n.a.	n.a.
Com 65	**2c**	549.80	0.708844	n.a.	n.a.	n.a.
Com 69	**1c**	334.47	0.708919	5.68	0.51237	-5.25
Com 73	**1c**	480.97	0.708872	6.29	0.51237	-5.17
Com 74	**8**	465.77	0.708408	11.19	0.51245	-3.67
Com 75	**8**	397.20	0.708127	10.03	0.51243	-3.98
Com 77	**1c**	476.43	0.708826	6.51	0.51239	-4.82
Com 78	**2c**	491.37	0.708915	6.31	0.51237	-5.33
Com 80	**7**	412.63	0.709042	n.a.	n.a.	n.a.
Com 82	**1b**	398.03	0.708739	n.a.	n.a.	n.a.
Com 85	**2b**	628.37	0.708509	9.62	0.51231	-6.40
Com 86	**1b**	446.00	0.708843	5.88	0.51235	-5.56
Com 89	**2c**	539.00	0.708842	5.99	0.51240	-4.70
Com 90	**1b**	460.60	0.70892	n.a.	n.a.	n.a.
Com 91	**2c**	444.03	0.708935	n.a.	n.a.	n.a.
Com 92	**7**	439.30	0.708825	n.a.	n.a.	n.a.
Com 97	**1c**	456.47	0.708877	n.a.	n.a.	n.a.
Com 98	**2c**	444.67	0.708848	n.a.	n.a.	n.a.

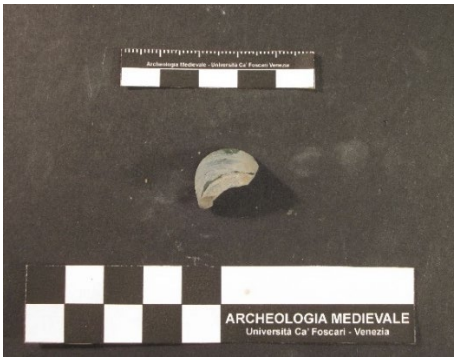
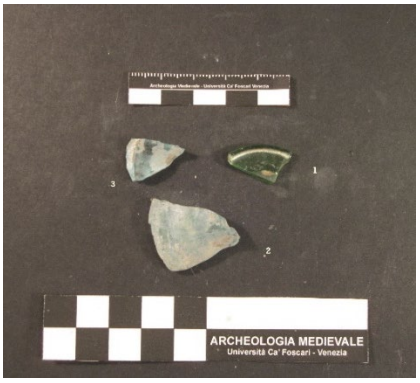
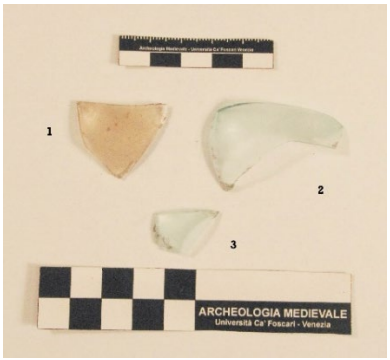
Figure 28 – Mass spectrometry results for all Comacchio glass samples analysed for Sr and Nd isotopes. N.a.: not analysed.

Sample	Group	Sr ppm	87Sr/86Sr	Nd ppm	143Nd/144Nd	εNd
Ba06	**1**	435.60		6.12	0.51234	-5.81
Ba12	**2**	359.00	0.709023	5.64	0.51235	-5.54
Ba17	**2**	366.80	0.709129	n.a.	n.a.	n.a.
Ba18	**2**	365.10	0.709033	5.45	0.51234	-5.74
Ba19	**1**	445.80	0.70902	6.38	0.51233	-6.11
Ba21	**1**	393.67	0.709862	7.92	n.a.	n.a.
Ba23	**3**	450.10	0.709191	6.75	0.51234	-5.81
Ba24	**2**	18.88	0.709313	n.a.	n.a.	n.a.
Ba27	**2**	2378.33	0.709407	n.a.	n.a.	n.a.
Ba30	**3**	370.23	0.709038	5.79	0.51237	-5.19
Ba31	**3**	377.90	0.709002	5.85	0.51238	-5.13
Ba33	**3**	356.27	0.708982	5.55	0.51233	-5.93
Ba35A	**1**	367.23	0.709096	5.56	0.51245	-3.67
Ba44	**1**	387.33	0.709035	5.61	0.51235	-5.72
Ba48	**1**	389.50	0.709049	5.69	0.51226	-7.37
Ba52	**6**	173.93	0.712832	15.14	0.51192	-14.04
Ba53	**1**	384.47	0.709104	5.93	0.51235	-5.54
Ba54	**1**	428.93	0.708982	n.a.	n.a.	n.a.
Ba55	**3**	362.67	0.709061	5.74	0.51236	-5.44
Ba68	**4**	220.13	0.714408	18.60	0.51213	-9.91
Ba74	**1**	461.00	0.709015	5.90	0.51235	-5.70
Ba78	**1**	384.33	0.70913	n.a.	n.a.	n.a.
Ba79	**4**	191.23	0.71489	20.51	0.51202	-12.04

Figure 29 - Mass spectrometry results for all Barking Abbey glass samples analysed for Sr and Nd isotopes. N.a.: not analysed.

Appendix 5: Photos

Comacchio

Com 01 - 02 - 03 - 04	**Com 06**
	
Com 08	**Com 09 - 10 - 11 - 12 - 13**
	
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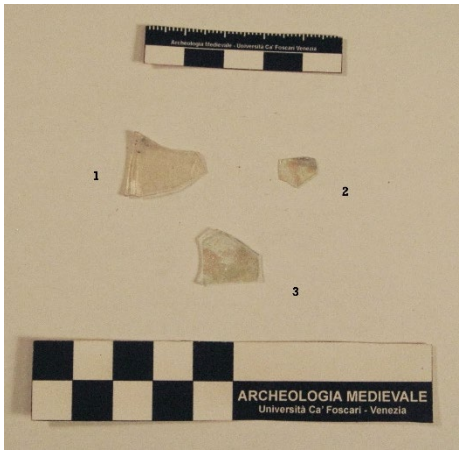
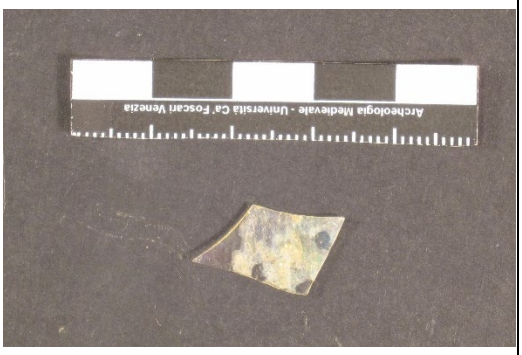


Com 21 - 22 - 23

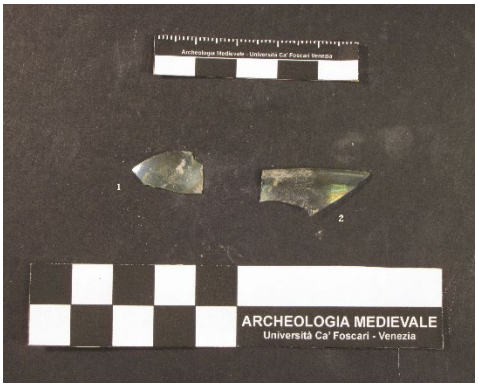
Com 24 - 25 - 26 - 27



Com 29

Com 30 - 31

Com 32 - 33



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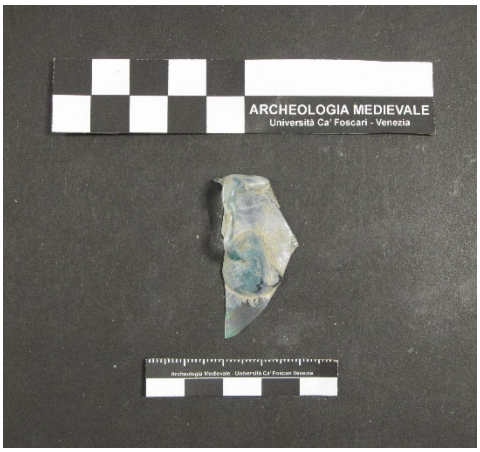
Com 53 - 54 - 55

Com 56 - 57 - 58

Com 59 - 60

Com 62 - 63 - 64

Com 65 - 66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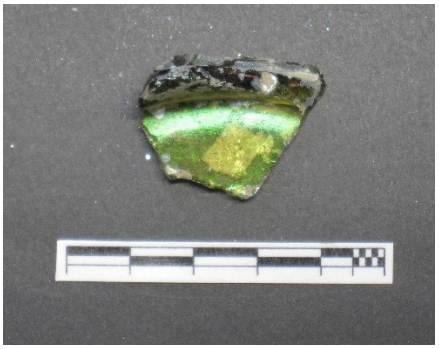	
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Com 82	**Com 85**

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	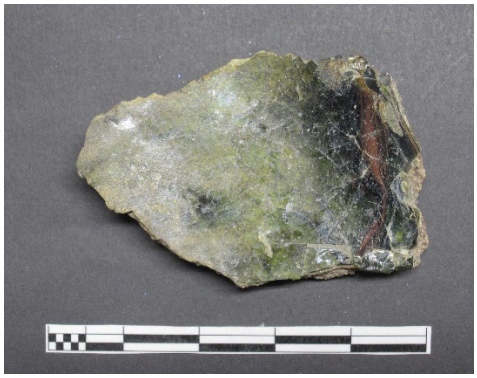
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	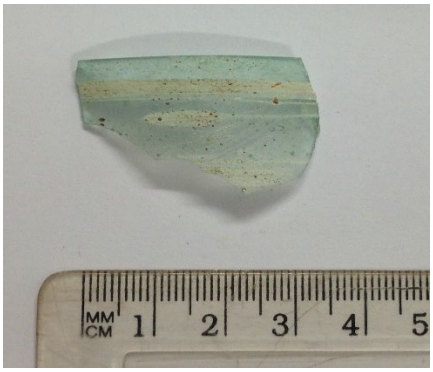
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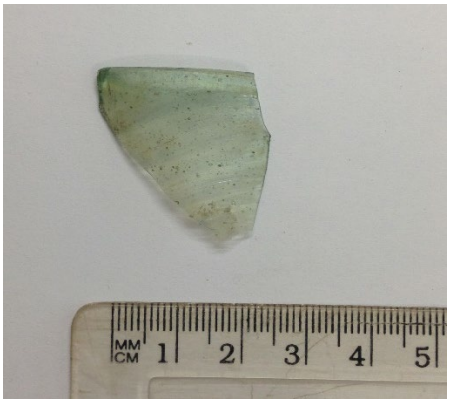
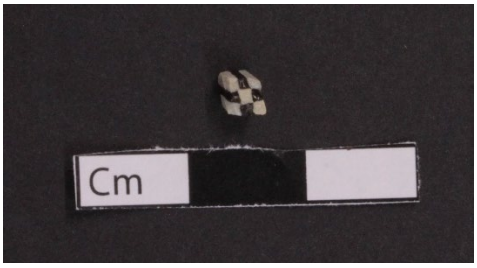
	
Com 97	**Com 98**

Barking Abbey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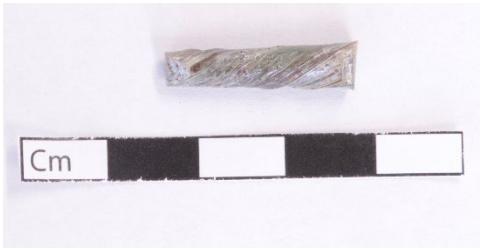	
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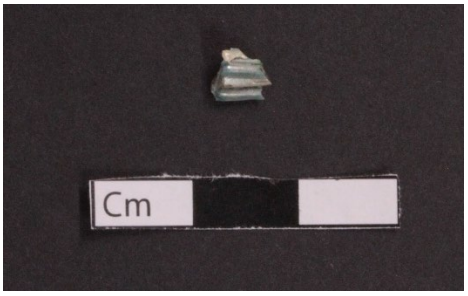
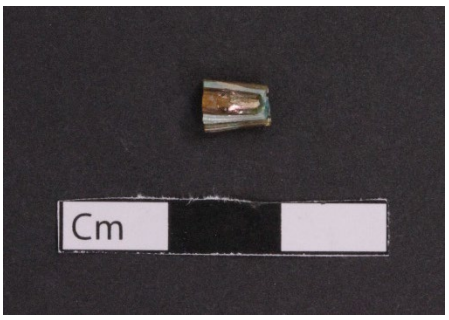
Ba 05	**Ba 06**
	
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	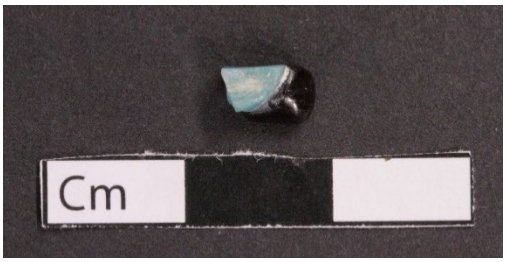
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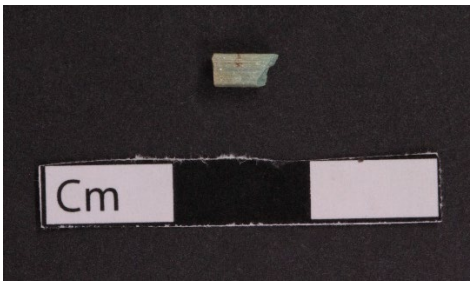	
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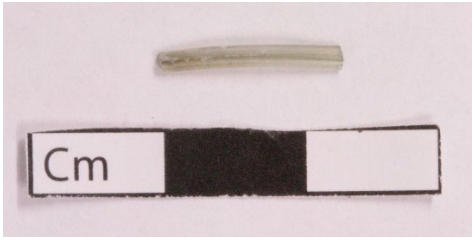	
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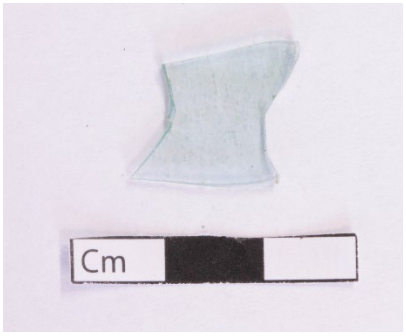	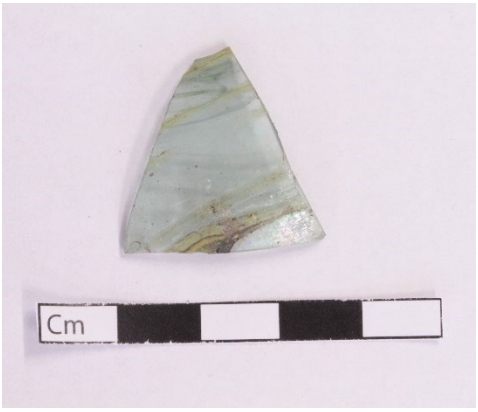
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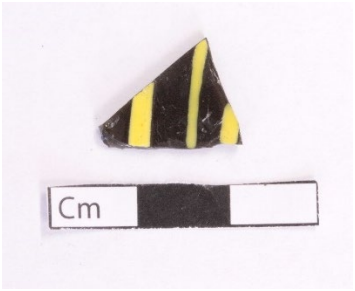	
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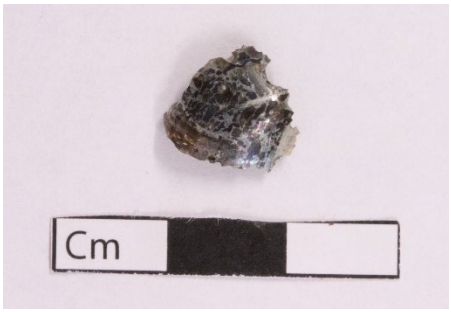	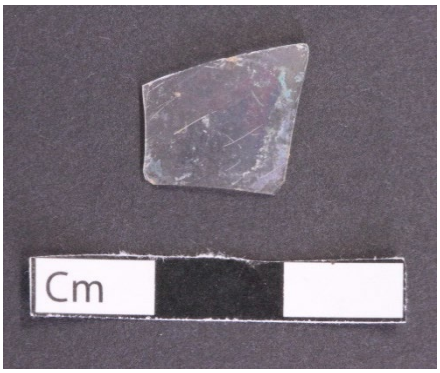
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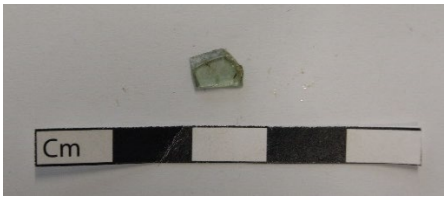	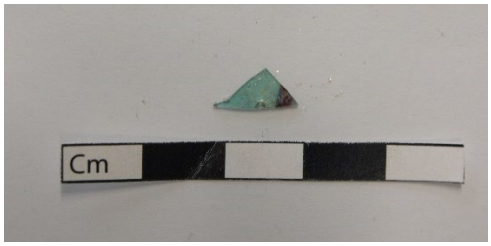
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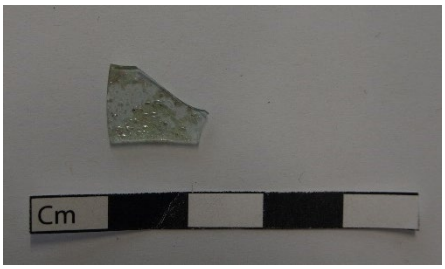	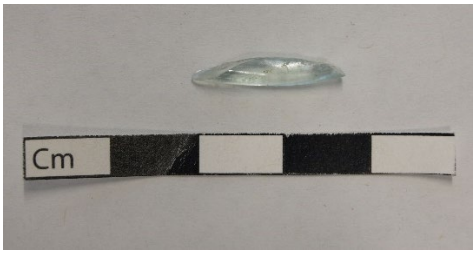
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	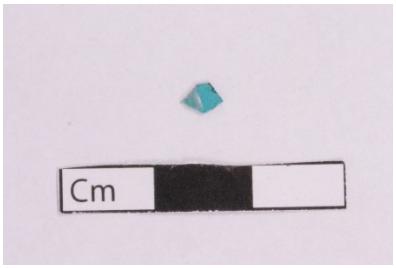
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	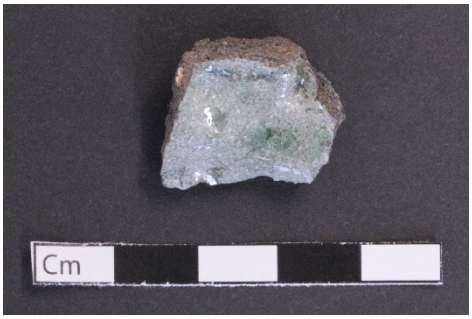
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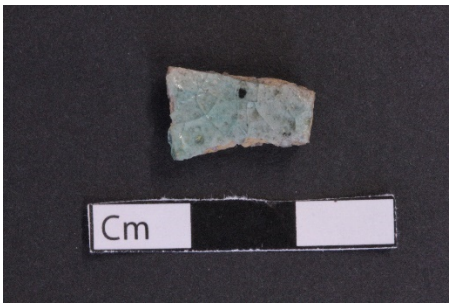	
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	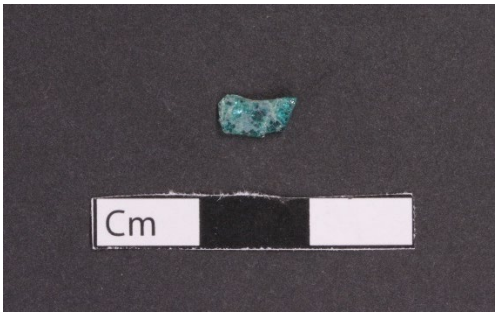
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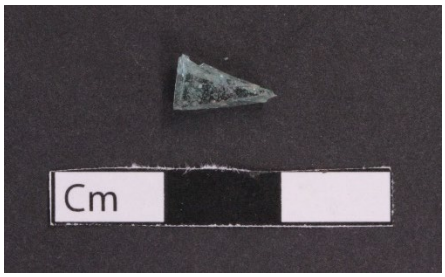	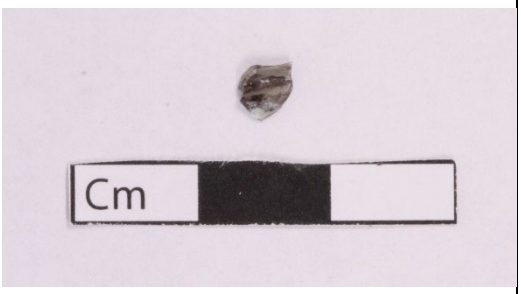
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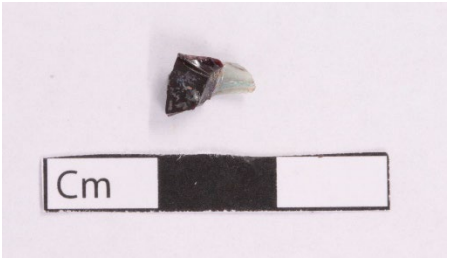	
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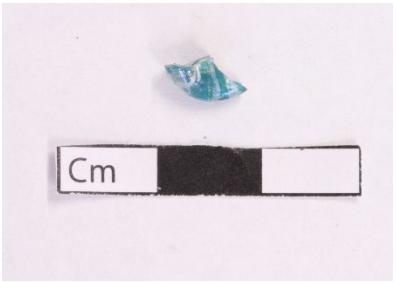	
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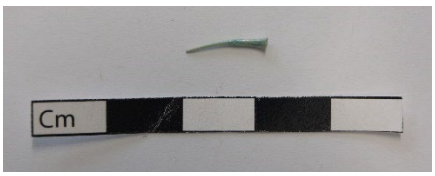
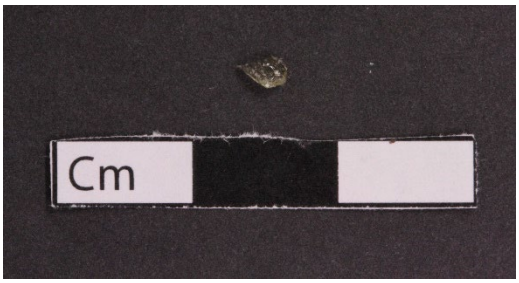
Ba 52	**Ba 53**
Ba 54	**Ba 55**
Ba 56 - 57	**Ba 58**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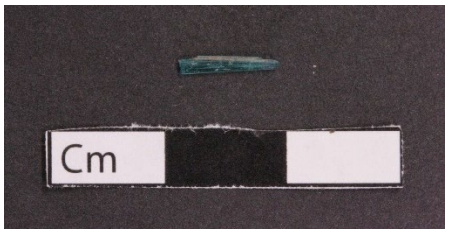	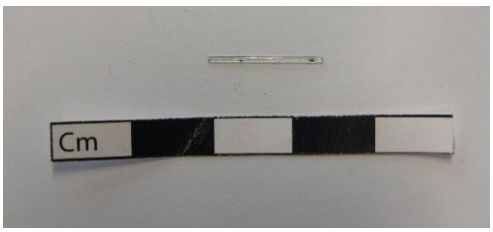
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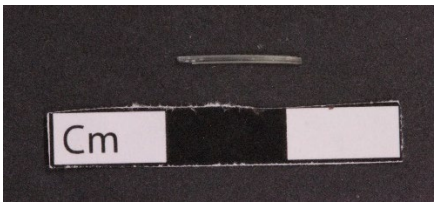	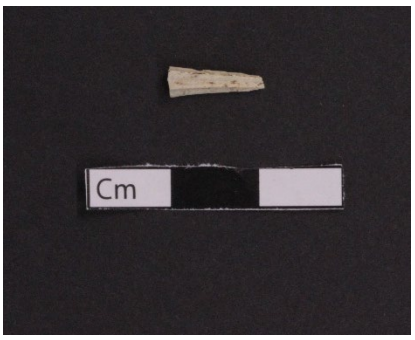
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	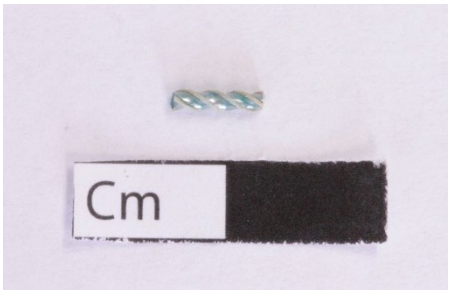
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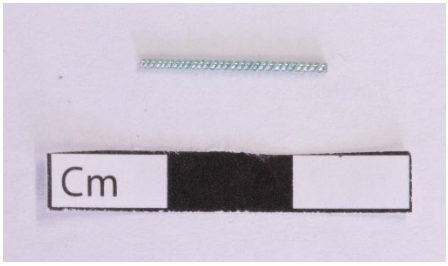
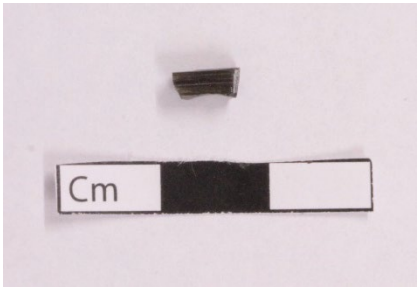
Ba 67	**Ba 68 - 69**
	
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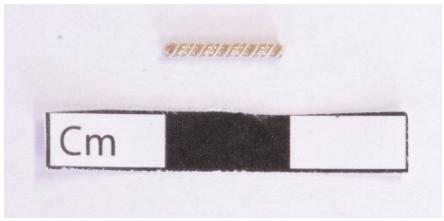	
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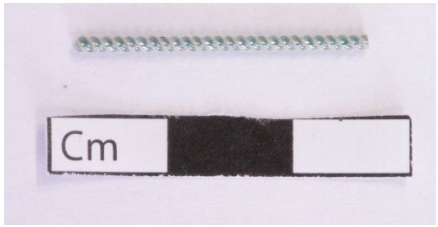	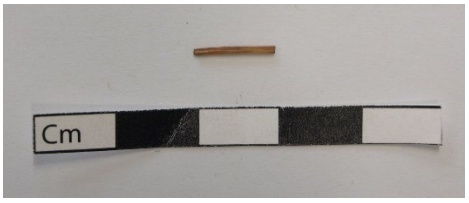
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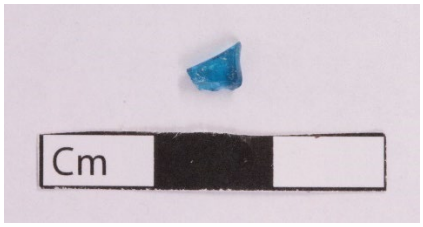	
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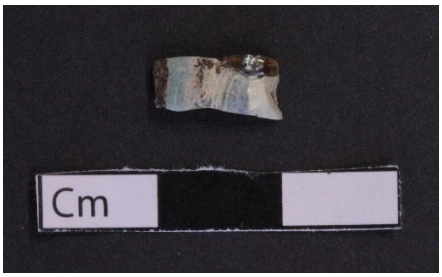	
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