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Ancient Monuments Laboratory
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CHEMICAL ANALYSIS OF FRAGMENTS FROM TWO EARLY SAXON GLASS VESSELS, FROM CARISBROOKE CASTLE, ISLE OF WIGHT

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Summary

Fragments from two early Anglo-Saxon cups were analysed and proved to be of the soda-lime-silica type. Their compositions are similar to those of other vessels from the fifth to the seventh centuries AD.

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Chemical analysis of fragments from two early Saxon glass vessels, from Carisbrooke Castle, Isle of Wight.

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Micro-analysis using the analytical attachment of the scanning electron microscope proved that both vessels were high soda glasses, with moderate amounts of lime, alumina and manganese present. Despite thick deposits on the surfaces, the interior of the fragments show good preservation, illustrating the fact that soda-lime-silica glasses are often relatively resistant to post-depositional attack. The high quality of these two examples is indicated by their transparency and lack of colouring. The manganese may have been deliberately added to the glass melt, to counteract the colouring effect of iron.

These results are closely comparable with material analysed from other early and middle Saxon sites (*eg* Sanderson *et al* 1984). Soda glasses were manufactured throughout the Roman world and continued in use until the late Saxon period when potash glasses became predominant (Harden 1972, 87).

Harden D B 1972, 'Ancient Glass, III: Post-Roman' reprinted from The Archaeological Journal, CXXVIII (1971)

Sanderson D C W, Hunter J R and Warren S E 1984, 'Energy dispersive X-ray analysis of 1st millenium AD glass from Britain' Journal of Archaeological Science 11, 1; 53-69

Table 1. Chemical composition of two glass vessels from Carisbrooke Castle.

AML no	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	S	Cl	CaO	K_2O	TiO_2	Cr_2O_3	MnO	Fe_2O_3	CuO	SnO_2	PbO	Sb *
812569	17.4	0.7	2.2	68.0	0	0.1	0.3	7.4	0.7	0.1	0	1.1	0.9	0	0	0	n.d
814246	19.9	0.6	1.9	68.5	0.2	0.2	0.4	8.0	0.6	0.1	0.1	1.6	0.9	0.2	0	0.2	n.d.

* This analytical technique is not very satisfactory for the detection of antimony, since the antimony peaks overlap with peaks from major elements in glass (calcium and potassium). Visual inspection of the spectra shows a near-symmetrical calcium peak. Since there is very little potassium in these glasses, we can assume that there is no detectable antimony present.