

Ancient Monuments Laboratory
Report 92/88

SHALE OBJECTS FROM BREAN DOWN,
SOMERSET.

Michael Heyworth

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Summary

A number of Late Bronze Age armlet fragments were analysed to attempt to confirm their identification as shale, rather than jet. Qualitative X-ray fluorescence analysis showed that they had a much higher iron content than a comparative fragment of jet and they could therefore be confirmed as shale.

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Six fragments of stone were submitted for analysis in an attempt to confirm their identification as shale, rather than jet. The fragments mostly came from pieces of Late Bronze Age armlets.

It has been shown that jet and shale can be distinguished by elemental analysis using qualitative X-ray fluorescence (Pollard et al 1981). The main discriminating element is iron which was found to be at much lower levels in jet than in non-jet material such as shale. A number of other elements were also suggested as discriminators between the two.

The fragments from Brean Down were analysed using qualitative XRF. For comparison a fragment of jet was also analysed. The fragments from Brean Down had consistently higher iron levels than the jet fragment and they can therefore be confirmed as shale. However there were some interesting variations in the composition of the Brean Down fragments which relate to the context of the finds.

Four of the fragments (4794, 3926, 4054, 4163) came from the same context (16). These fragments all had low levels of zinc and strontium. Another armlet fragment (6531) came from a different context (212) and had no traces of zinc or strontium. A further fragment which was described as a pebble and dated to c.900 BC contained no zinc but did contain lead which distinguished it from all the armlet fragments.

These variations in composition may relate to different sources of shale, though they may also be due to differences in burial conditions between the contexts.

Reference

Pollard, A.M., Bussell, G.D. & Baird, D.C., 1981 "The analytical investigation of Early Bronze Age jet and jet-like material from the Devizes Museum", Archaeometry Vol.23(2), 139-167.