AML Report 3215
Copy at Lake

A large bead from Wilsford (Lake) Barrow, Wilts.

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The bead (A.M. No. 800264) is almost perfectly circular with a maximum diameter of 34 mm. The central perforation is 11 mm across and the bead is 12 mm deep. It consists of an inhomogeneous glass which varies in colour from red to dull maroon to black and has been made by winding softened glass round a cylindrical former.

The glass was analysed qualitatively by energy dispersive x-ray fluorescence and the following elements detected:- silicon, potassium, calcium, strontium (glass forming elements); manganese, iron, copper (glass colourants) and titanium, lead and possibly zinc (in much smaller quantities). Sodium, another glass forming element, was not sought analytically but was most probably also present.

The colours seen are due to the presence of copper, iron and/or manganese. Copper, in the reduced forms of cuprous oxide or metallic elemental copper, can produce opaque red colours in glass but these are normally seen in high lead glasses such as enamels where the presence of lead aids the colour production. The lead present in this object is not at a high enough level to be effective in this way. Iron can also produce a red colour in glass but this is normally duller than the copper reds and is more often purplish or maroon than a true red. Larger quantities of iron produce deeper colours that often appear black. Manganese is usually associated with pink or purple colours in glass but larger quantities, as with iron, produce deeper colours.

Both iron and manganese could be unintentional additions to the glass as they occur in fairly small but variable amounts in the raw materials of which glass is made. The copper must however be a deliberate addition. Although the copper may be the only deliberate addition to the glass it is not the only element affecting the colour of the object.