

Ancient Monuments Laboratory
Report 9/92

IDENTIFICATION OF A RED STONE SET
IN AN ANGLO-SAXON BUCKLE FROM
MARKET LAVINGTON, WILTSHIRE.
AML NO. 2245

Mrs M E Hutchinson

AML reports are interim reports which make available the results of specialist investigations in advance of full publication. They are not subject to external refereeing and their conclusions may sometimes have to be modified in the light of archaeological information that was not available at the time of the investigation. Readers are therefore asked to consult the author before citing the report in any publication and to consult the final excavation report when available.

Opinions expressed in AML reports are those of the author and are not necessarily those of the Historic Buildings and Monuments Commission for England.

Ancient Monuments Laboratory Report 9/92

IDENTIFICATION OF A RED STONE SET
IN AN ANGLO-SAXON BUCKLE FROM
MARKET LAVINGTON, WILTSHIRE.
AML NO. 2245

Mrs M E Hutchinson

Summary

Summary: a red stone in an Anglo-Saxon buckle was identified as an almandine garnet of unusual tint

Keywords: Anglo-saxon, gemstone, garnet, buckle.

Author's address :-

Mrs M E Hutchinson

Ancient Monuments Laboratory
English Heritage
23 Savile Row
London
W1X 2HE

© Historic Buildings and Monuments Commission for England

IDENTIFICATION OF A RED STONE SET IN AN ANGLO-SAXON BUCKLE
FROM MARKET LAVINGTON, WILTSHIRE. AML Site No. 2245

M E Hutchinson, FGA, DGA

Saxon Buckle, W381; IRON/Cu ALLOY OBJ; (1146); /171\

The buckle is incomplete and now consists of a curved plate of iron with a tinned copper plate riveted to it, and a substantial copper or copper alloy tongue. There seems to be the remains of more iron work on each side of the hinge of the tongue, under the tongue where it crosses the plate, and on the broken edge of the plate beside the tongue. In the angle between the tongue and the plate there is a tabular red stone approximately 3mm x 5mm square attached to the plate by corrosion products. The surface of the stone has been inadvertently frosted by airabrasion as the stone was completely buried in the corrosion products.

EXAMINATION

The corrosion under the stone was examined to see if a metal foil or reflector was present but nothing was found. Should the stone ever become detached from the plate, it would be worth while investigating to see if there is a metal foil still buried in the corrosion products.

Since the buckle is Anglo-saxon it was thought that the stone would probably be almandine garnet, and that is what it is, but proving it was uncommonly difficult. It was necessary to establish its identity unequivocally because in colour it looks very like a red spinel, the same stone as the so-called Black Prince's Ruby in the Imperial State Crown.

An attempt was made to analyse the stone by energy dispersive X-ray fluorescence spectroscopy (ED-XRF), but this was unsuccessful owing to the position of the stone in the angle between the plate and the tongue. This also precluded measurement of the refractive index or the specific gravity. The surface of the stone is so frosted that it was very difficult to see into the stone with a microscope and when a way of doing this was found, it transpired that the stone is absolutely clean: there are no inclusions of any kind. There was no fluorescence under either long or shortwave ultra-violet light. This left visible light spectroscopy as a possible method, and after much experimentation with the illumination a faint spectrum was seen, that of almandine garnet.

DESCRIPTION AND IDENTIFICATION

Colour: pure red
Cut: tabular
Size: c3 x 5mm
Inclusions: none
Identification: almandine garnet ($\text{Fe}_3\text{Al}_2(\text{SiO}_4)_3$)

I am indebted to Mr K Scarrat of the Gem Testing Laboratory of Great Britain for assistance in identifying this stone.