

A stone mortar from Holbeach Road, Spalding (HOLS04)

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The almost-complete profile of a stone mortar was recovered from an excavation at Holbeach Road, Spalding, carried out by Pre-Construct Archaeology (Lincoln) Ltd. Assessment of the stone finds from the site suggested that the identity of the stone used to make the mortar required specialist study. Subsequently, a sample of the stone was removed and a thin section produced. The results of the analysis of this section are consistent with the stone being an Upper Jurassic limestone, probably from the Purbeck district of Dorset. Mortars were produced as a sideline to the quarrying of Purbeck limestone and Purbeck Marble and consequently probably have a similar period of currency, i.e. the 12th to 13th centuries.

Description

The thin section was produced at the Department of Earth Sciences, University of Manchester, by Steve Caldwell. It was stained using Dickson's method in order to distinguish ferroan from non-ferroan calcite and to distinguish both of these from dolomite (Dickson 1965). The section has been added to the AVAC reference collection under the code V2334.

In thin section, the rock is seen to be a fine sandy limestone containing angular fragments of bivalve shell, with a shell structure consisting of rods of calcite at right angles to the shell wall and with very little curvature, and moderate rounded fragments of gastropod shell, oolites, echinoid spines and bivalve shell, all of which are partially replaced with sparry non-ferroan calcite and surrounded by a coating of non-ferroan micrite. The groundmass consists of crypto-crystalline non-ferroan calcite and clay minerals, abundant angular fragments of quartz, c.0.1mm across and moderate quantities of ostracods and unidentified microfossils.

Discussion

The characteristics of this sample suggest a shallow marine or estuarine depositional environment and are consistent with the Lower and Upper Building Stones of the middle Purbeck strata which outcrop in the Purbeck peninsula in Dorset (Chatwin 1960, 37). Similar outcrops occur in smaller exposures in the southeast midlands and in the centre of the Weald but the scale of the medieval quarrying at Purbeck suggests that this is the source of the Spalding vessel.

It is not known whether these mortars were traded independently of the building stone or whether the presence of this vessel at Spalding indicates the use of Purbeck Marble or Purbeck Limestone in Spalding.

Bibliography

Chatwin, C P (1960) *The Hampshire Basin and Adjoining Areas*. British Regional Geology
London, HMSO.

Dickson, J. A. D. (1965) "A modified staining technique for carbonates in thin section."
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