

# Tin Ingots from Bigbury Bay, South Devon

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## Abstract

The Bigbury Bay tin ingots, a selection of which were displayed at the conference, are described briefly. The possibility of dating the ingots is discussed, together with their South-West context and the possibilities of trading links with the Mediterranean.

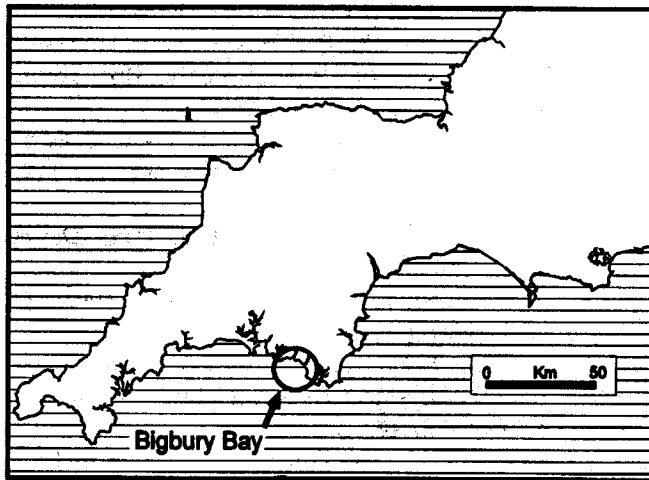


Fig. 1. Bigbury Bay. Location.

## INTRODUCTION

The remarkable find of some 40 tin ingots was made in May, 1991 and 1992 by the South-West Archaeological group of divers working under the direction of Mr Nevil Oldham at the mouth of the River Erme in Bigbury Bay. My interest was first aroused when some were exhibited at Tiverton the following year because I had previously recognised and published in 1955 sherds of imported post-Roman amphorae from the shores of the Bay at Bantham and Mothecombe. I am most grateful to Mr Oldham and the diving team for permission to exhibit some of the ingots to the conference. A full report will appear in the *Devon Archaeological Society Proceedings* for 1995, superseding the *Interim Report* of 1992.

## THE SITE AND THE FIND

Bigbury Bay is on the south Devon coast, east of Plymouth and extends from the Erme to Bolt Tail. Inland, there is the undulating landscape of the South Hams leading up to the Dartmoor granite escarpment, 200m high behind Ivybridge and only 8 - 10 miles distant from the coast. Dartmoor is the most obvious and nearest source of stream tin which was available in early times.

The ingots were found at the mouth of the Erme, on the shoreward side of the west Mary's Rocks, a reef that may partly protrude at low tide, and that limits the entry to the river from the west. They were lying on the sea bed in clusters amid rocks, stones and kelp, following the base of the reef south-east for 24m in water 8 - 10m deep. They were carefully recorded by the divers who laid a grid and made a plan, by using hand-held metal detectors in the generally poor visibility under water.

Some pieces of wood were also recovered. From the number of ingots, their concentration and situation it was obvious there had been a shipwreck. It has now been

designated as such by the Receiver of Wrecks and is thus protected.

## THE INGOTS

Forty-two ingots were recovered, all heavily corroded by salt water, some broken by tidal movement. The metal was identified by Dr Chris Salter at the Oxford University Archaeological Research Laboratory as 98 - 99% tin, corroded to Sn Oxychloride.

There was no uniformity in shape, size or weight: the largest weighed nearly 13kg, some 4-6kg, but many only 1kg or less. The shapes were mostly plain-convex, oval or rounded, one is flat and rectangular, 200cm by 151cm and 22cm thick. There are two small 'H' shaped, measuring 8cm by 4.5cm which are unique. It is possible they are miniatures of the great 75kg ingot from St Mawes Harbour (Beagrie 1983, 107) and 'shaped like an *astragalus*' as described rather ambiguously by Diodorus Siculus, the Greek historian writing in the 1st Century BC. They might have had a practical use to tie to a line for a ship's sounding, or to tie together in bundles like the other small examples in the collection. They could provide a small amount of tin required by fine metal-workers in bronze.

The group as a whole provides some information about the local early tin industry. The variety suggests that the ingots were produced by a number of individuals, independent smelters, with an easy variable method of casting. This could be a shallow hole in the granitic Dartmoor sand with its sides well consolidated, or clay-lines, and perhaps with a stone lid to smooth the ingot's base. It is quite clear that there was no fixed weight or shape required by their purchasers. Though awkward to handle, all are of a weight easy to transport.

## THE DATE

There is no direct evidence as yet from the wreck. A radio-carbon date from one of the pieces of wood from the reef was 6400 BP, well before the age of metals in southern England. It is presumable came from the 'submerged forest', the ancient land surface known to exist around this coast and on both sides of the Bristol Channel. More analyses of the finds are needed.

Meanwhile the date remains wide open, from the 5th or 4th century BC onwards during the British Iron Age through the Roman period and into the post-Roman epoch (the Dark Ages) to circa 600 AD. There have been no finds of prehistoric or early historic working of stream tin on Dartmoor; it is likely that the medieval and later industry in the river valleys has destroyed them. The only furnaces are those excavated in a hut at Kestor (Fox 1954, 39) which proved to be for iron smelting. However, in Cornwall there are tin ingots from three recent excavations that are of late Roman or post-Roman date and, as Neil Beagrie (1985) has pointed out, that should

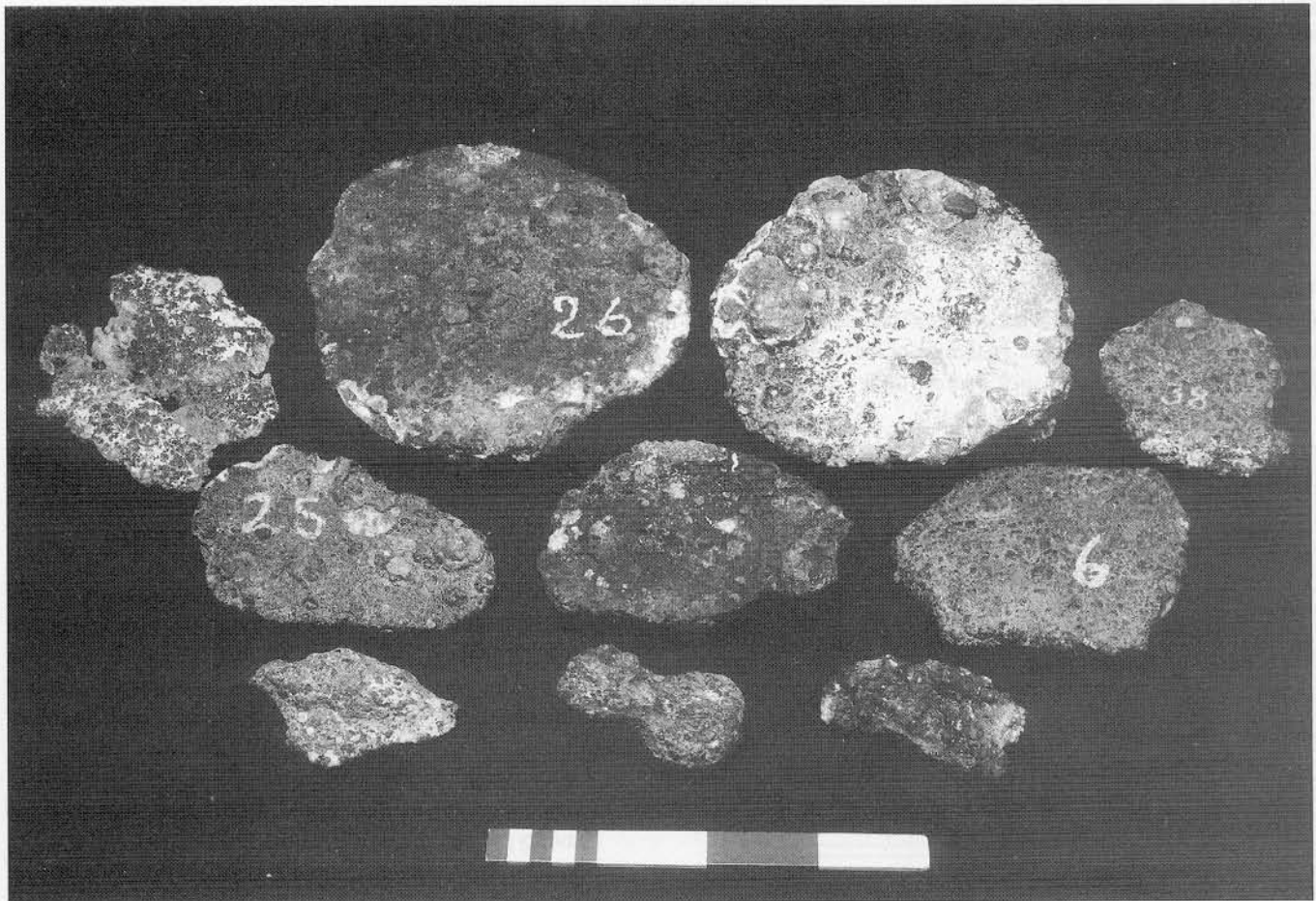


Plate 1. A selection of tin ingots from the Bigbury Bay wreck (photo J. Splatt).

be taken into account. One from Par Beach on St Martins in the Scillies, from a hut dated by the excavator, Bryan O'Neil, to the 3rd or 4th century AD; another from a Trethurgy, a 'Round' near St Austell, excavated by Mrs Quinnell (Miles) in 1973, (Miles 1973) which was occupied from 3rd to 4th century AD. The ingot was found in one of the later structures, perhaps a store-house. Four others came from Prae Sands, Germoe, after a storm in 1974 had uncovered a layer of dark soil under the dunes together with timbers with a Radio-carbon date of AD 666  $\pm$  70 (Penhallurick 1986, 234). The ingots are plano-convex, the largest 3.8kg has an 'X' in relief on its rounded base. It is evident that a late date for the Bigbury group is a distinct possibility. Can they be related therefore to the post-Roman tin trade?

It is now well known that there were imports of pottery from the Mediterranean in the 5th and 6th century AD, mainly *amphorae* containers of wine or oil and found at several places in western Britain, including Cornwall and Devon (Thomas 1959; 1988). In Bigbury Bay amphora sherds were found in 1960 in a layer of dark soil on the little sandy beach at Mothecombe (Fox 1961, 79) close to the wreck and the ingot find, and many more over the years at Bantham on the dunes at the mouth of the Avon nearby (Fox 1955, 55-67; Silvester 1981, 89-118). It now seems possible that these are places where jars of imported wine were exchanged for ingots of tin, brought down to the coast by river and ridgeway from Dartmoor.

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