



Chelmsford Underwater
Archaeological Unit

The *Earl of Abergavenny* (1805), an outward bound English East Indiaman

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Historical background

The *Earl of Abergavenny*, which sank in Weymouth Bay in February 1805, was about to embark on its fifth voyage to the East. It was the second EIC ship of that name, the first having been sold to the Government in 1795 to become the 4th rate HMS *Abergavenny*.

The second *Earl of Abergavenny* was built 'on the bottom' of the original boat in 1796 at the Pitcher Yard, Northfleet, Kent. She belonged to the largest class of ships built specifically for the China trade. The following dimensions derive from India Office Library reference E/1/98, 128 & 129.

Tonnage	1182 Chartered 1400 Burthen
Length	176 ft. 11 in. (53.92 m)
Keel	143 ft. 11½ in. (43.88 m)
Breadth	43 ft. 8 in. (13.31 m)
Deck range	104 ft. 2 in. (31.75 m)
Height of wing transom	27 ft. (8.23 m)
Height of port cell	29 ft. 8 in. (9.04 m)
Thickness of bottom	5 ft. (1.27 m)
Thickness of whales	6 in. (152 mm)
Hold depth	17 ft. 6 in. (5.33 m)
Lower (orlop) deck height	6 ft. 7 in. (2.01 m)
Middle (main/gun) deck height	3 ft. 9½ in. (1.16 m)
Roundhouse height	6 ft. 6 in. (1.98 m)
Gunports, total 30, 15 on upper deck, 15 on gun deck: 1 ft. 8½ in. × 2 ft. 5 in. (0.52 × 0.74 m)	
Armament 30 guns: 18 lb caronades and 12 lb demi- culverings.	

The wreck is shown on Admiralty Chart 1704 published in 1845. An oil painting of the ship by Luny exists in India House.

Both ships were named after Henry Neville, the 2nd Earl of Abergavenny whose wife Mary Robinson was daughter of John Robinson, the

owner with the major share and also a second cousin to the poet, William Wordsworth. The Wordsworth family had a long association with the East India Company, and first the poet's uncle and subsequently his brother captained the ship. His brother's first two voyages as Captain were not a great success financially. However, he managed to secure one of the best voyages for the 1805 season, planning to trade with Bengal and then on to China. John wrote to his brother 'I shall make a good voyage of it, if not a very great one'. He and his family invested as much as £20 000 in private trade. The total cargo was worth an estimated £200 000. John also received payment from nine passengers and 26 EIC Cadets.

John left the Company docks in early November 1804 and was ordered to be in the Downs by December 21st. In the Downs the *Abergavenny* escaped serious damage and delay when another East Indiaman dragged her anchor and hit the bow. She was repaired at Portsmouth where the 109 EIC Troops and 45 Kings Troops probably boarded. The next rendezvous for the convoy was Portland Roads; it was here while awaiting the convoy that poor weather, a strong tide and poor navigation by a pilot put the ship on the Shambles Bank. She was stuck for 5 hours and when finally she was freed, the hull had been badly damaged. Water overwhelmed the pumps and John tried to beach the ship on Weymouth Sands. She sank 1.5 miles out in 18 m of water on an even keel with masts and shrouds sticking out of the water. Of the 402 on board, 261 perished including her captain.

The ensuing enquiry was a major news item and it was not long before the Company was

receiving a stream of offers to contract for the salvage of the ship and its cargo. John Braithwaite, who had successfully salvaged the East Indiaman *Hartwell* was offered 12.5% of all he recovered, and arrived in Weymouth Bay in his boat *Endeavour* in September 1805.

The *Endeavour's* log has survived giving details of an early salvage operation and what was recovered. On 30 May 1806 the entry states 'Exploded with a charge of triple proof powder, 75 lbs, the largest charge we ever used, that was to cut through the wale of the ship's side, 6 inches thick oak plank'.

On 19 June following several explosions during the previous weeks he records 'Hooked and hauled up a large piece of the side of ship, supposed 30 feet by 60 feet with beams and iron knees hanging to it, hauled *Endeavour* well away to SW and dropped it to be out of our way'. He finished the salvage in 1807 when 'the cargo got so thin, not worth bringing up'.

Whether there was any further activity is unclear. The Navy may have flattened the wreck due to its proximity to Portland Harbour. Local divers reported seeing the remains of frames and many copper fastenings in the late 1950s. However, most visible remains had disappeared by the 1960s; large amounts of explosive were again used to recover the copper fastenings. Whether anything of value was found during this period is not known. However, when it became a popular club dive during the 1960s, many interesting artefacts were recovered but not recorded.

The project

In 1979 the authors, Mr. P. Kingston and members of Chelmsford Sub Aqua Club set up an amateur project with the following objectives:

1. to determine what remained of the *Abergavenny's* structure;
2. to recover, record and conserve any artefacts found during excavation;
3. to write a report on the following aspects: the English East India Company; the Wordsworths; the wreck; the salvage operations of 1806–7; the present project and finds.
4. to ensure that all the artefacts recovered remain in one collection, to be given at some time to a national collection or a suitable charitable trust.

Pre-disturbance survey and excavation

After the boat sank it heeled over to port by about 10° when it settled on a hard chalk seabed beneath a silt overcarpet. The general topography of the seabed is flat, with an average depth of water of 18 m.

Explosives used for salvage from 1806 to the mid 1960s assisted by natural erosion have removed most of the structure leaving part of the ship's bottom 43 m long (virtually the entire length of the keel) by 8 m wide (approximately 7 m of the port side and 1 m of the starboard side) available for examination beneath up to 1 m of compacted silt. Remnants of the section towed to the south west by Braithwaite appear to survive in an area named the 'Boulder Site', identifiable by a scattering of iron knees and boulders.

Pre-disturbance radial surveys from fixed datums (a specially sunk aircraft engine and buckets of concrete) established the location of the keel. The keel is slightly curved (0.6 m in 43 m) and therefore a datum line was laid between the two ends from which measurements were taken by off-set and triangulation. A moveable 2 m square grid located from the datum line was used for detail. Vertical angles were established by arm protractor and spirit level. A 1 m grid system was superimposed on the site for detailing the structure and for the location of finds which were then recorded in both card index system and later on computer. Over the 10 year period of our excavation and survey, approximately 2500 man hours have been spent underwater generally at maximum tide runs to improve the limited visibility. A site plan has been drawn and the majority of the timbers surveyed (Fig. 1). Over 1000 artefacts have been recovered, recorded, conserved and will be the subject of further publications.

Investigation will continue for several more seasons until the complete wreck site has been recorded.

The structure—main features

The keel is 15 in (381 mm) wide and includes both vertical and horizontal scarf joints; the vertical scarf joint is secured with a 1¼ in. (32 mm) copper rivet. In parts there is a keelson with deadwood above and a 2 in. (50 mm) deep false keel below. Around midships limber boards (Fig. 2) run parallel to the keel measuring 6 in. (152 mm) and 12 in (304 mm) by 2½ in. (64 mm)

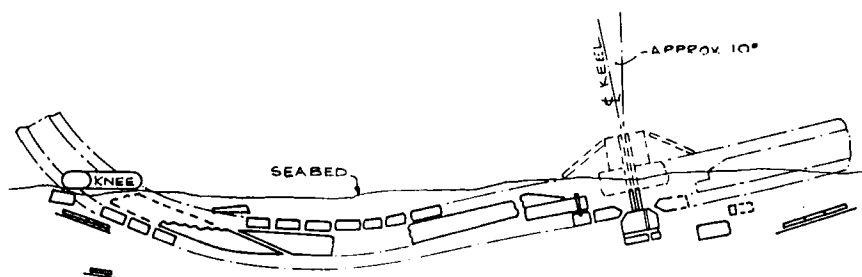


Figure 2. Section amidships looking north. The position of the limber boards on each side of the keelson is indicated (drawing: David J. Carter).

located in a rabbet in the keel. Frames are typically 13 in. (330 mm) wide $\times$ 10 in. (254 mm) deep. The width varies between 12 in. (305 mm) and 16 in. (406 mm) and they are set approximately 2 in. (50 mm) apart. Scarf joints between futtocks are fastened with treenails and occasional copper rivets.

Outer planking is 5 in. (127 mm) thick and is generally 9 in. (229 mm) wide although planks can vary between 8 in. (203 mm) and 12 in. (305 mm). The outer boarding is clad with a $\frac{7}{8}$ in. (22 mm) thick softwood on to which the copper outer sheathing and is fixed by $1\frac{1}{2}$ in. (39 mm) long $\frac{1}{4}$ in. (6 mm) square section wrought bronze nails with a pitch in both directions of $3\frac{1}{2}$ in. (80 mm) alternate lines being offset by half the pitch. The edges are overlapped on two sides by 1 in. (25 mm) and then nailed at $1\frac{3}{4}$ in. (44 mm) pitch. The thickness of the copper sheet is 0.6 mm thick (No. 9 or 10 Birmingham Metal Gauge). Some boards appear to have lead oxide on their outer face.

Principle members are held together with $1\frac{1}{4}$ in. (32 mm) diameter copper rivets and treenails. The copper keel pins are also $1\frac{1}{4}$ in. (32 mm) diameter and up to 48 in. (1.22 m) long and occur approximately every 0.76 m in pairs at every frame although at certain points (possibly where the masts were located) triple pins have been used. Planks are secured to the frames by 11 in. (279 mm) long $\frac{3}{4}$ in. (19 mm) diameter bronze spikes and treenails. Wadding has been

found between frames and planks. Several types of treenails have been recorded usually $1\frac{1}{2}$ in. (38 mm) diameter rounded or multifaceted, some with marks on the ends. Typically these would be one per board/frame interface. Where treenails occur in joints between boards, bronze spikes were used in adjacent boards. This might indicate that the holes were drilled blind from inside the boat if board centres could not be found. Inner boarding, probably decking or flooring, is 3 in. (76 mm) thick and between 7 in. (178 mm) and 12 in. (305 mm) wide, [generally 8 in. (203 mm)].

Its iron knees were reputed to be the cause of the vessel breaking up due to their not being of 'the best British iron' and cracking after the ship had grounded on the Shambles. Twenty-four, some of which were cargo, are scattered throughout the main site and the 'Boulder Site'. The knees vary in size from 2 ft. (0.61 m) by 2 ft. to 4 ft. (1.22 m) by 4 ft. with a cross section from 4 in. (102 mm) by 2 in. (51 mm) to 7 in. (178 mm) by 4 in. (102 mm). Knees recorded include 24 $\times$ 24 in., 36 $\times$ 36 in., 40 in. and 42 in., 48 $\times$ 35 in., 41 in. and 48 in. Other features of the boat located include a 0.84 m deep well on the port side towards the bow, a possible chain pump located adjacent to the keel and aft of midships (probably associated with the main mast), and ornate carvings still with red paint on them from the bow area and various pulleys and pieces of rope.