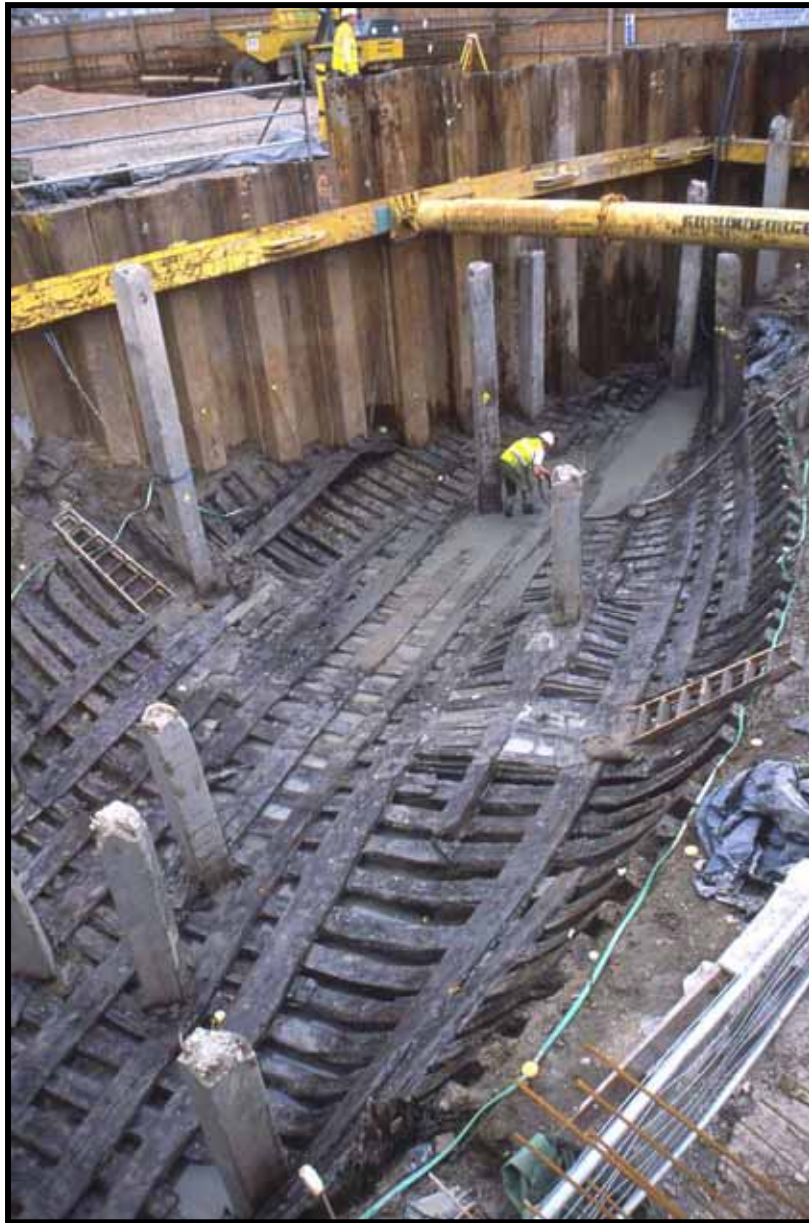


Newport Medieval Ship Project

Specialist Report:

CASKS V



CONTENTS

- 1 Introduction
- 2 Cask Component Catalogue Part V
- 3 Appendix: Cask Notes

The Newport Ship Project

Introduction

In 2002, during the construction of the Riverfront Theatre, on the banks of the River Usk in Newport, South Wales, an archaeological find of great significance was unearthed. In the summer of that year, while undertaking the excavations for the theatre's orchestra pit, the well-preserved remains of a 15th century clinker built merchant vessel were discovered.

The site, which was surrounded by a cofferdam, was being monitored by the Glamorgan Gwent Archaeological Trust at the time of discovery. The ship lay in what is locally known as a pill or small inlet, with its stern closest to the river and its bow facing into the inlet. The timbers were covered in thick alluvial mud, which created an ideal anaerobic environment for successful preservation. Seventeen strakes of planking remained on the port side and thirty-five on the starboard side of the ship. The vessel was approximately 30m in length.

A silver French coin was found purposely inserted into the keel of the vessel, dating the ship to after May 1447. Dendrochronological research has shown the hull planking to be from the Basque country and after 1449 in date.

After a much publicised 'Save Our Ship' campaign, it was decided that the ship would not be recorded and discarded but excavated with the aim to conserve. The riders, stringers, braces, mast step, frames and overlapping clinker planks and keel were dismantled one by one and lifted. Almost 2000 ship components as well as hundreds of artefacts were excavated.

This report examines and lists the cask components recovered during the Newport Medieval Ship excavation.



Context: F59 - F60 (171)

Component: Cant

Cask Type: Unknown

Species: Oak

Dimensions: 505mm long x 132mm wide x 25mm thick.

Description: Excellent condition. Chamfered along curved edge of inner surface. slightly chamfered on outer surface. Some scribed lines (possibly). Clear tool marks throughout. Iron staining on inner surface. Some black staining - possibly due to storage condition. No nails/ plugs. From large barrel. 65 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2203
Context: F59 - F60 (171)		Description: Excellent condition. Chamfered along curved edge of inner surface. slightly chamfered on outer surface. Some scribed lines (possibly). Clear tool marks throughout. Iron staining on inner surface. Some black staining - possibly due to storage condition. No nails/ plugs. From large barrel. 65 tree rings.
Component: Cant		
Cask Type: Unknown		
Species: Oak		
Dimensions: 505mm long x 132mm wide x 25mm thick.		



Context: Unknown

Component: Stave

Cask Type: Unknown

Species: Oak

Dimensions: 320mm long x 60mm wide x 20mm thick.

Description: Full length unknown, width unknown. Damaged along length and one end. Opposite end has a howel, a croze and a chamfered end. Croze is 5mm wide, Chamfer is 15mm wide. 25 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2238
Context: Unknown	Description: Full length unknown, width unknown. Damaged along length and one end. Opposite end has a howel, a croze and a chamfered end. Croze is 5mm wide, Chamfer is 15mm wide. 25 tree rings.	
Component: Stave		
Cask Type: Unknown		
Species: Oak		
Dimensions: 320mm long x 60mm wide x 20mm thick.		



Context: Unknown

Component: Possible head piece.

Cask Type: Unknown.

Species:

Dimensions: 265mm long x 110mm wide x 10mm thick.

Description: Chamfered at one end. Broken at opposite end. No makers marks, plugs or tool marks. No howel or croze. 80 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2245
Context: Unknown		Description: Chamfered at one end. Broken at opposite end. No makers marks, plugs or tool marks. No howel or croze. 80 tree rings.
Component: Possible head piece.		
Cask Type: Unknown.		
Species:		
Dimensions: 265mm long x 110mm wide x 10mm thick.		



Context: Unknown

Component: Stave

Cask Type: Unknown

Species: Oak

Dimensions: 143mm long x 110mm wide x 20mm thick.

Description: Interesting cut/hacked. Two holes above cut groove for head. Fragment features deep croze, approx one third across and two nail holes drilled slightly diagonally into wood. There is a steep chamfer on one edge, and stepped stop marks on the other edge. There are two, possibly three parallel lines inscribed. 23 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2251
Context: Unknown	Description: Interesting cut/hacked. Two holes above cut grove for head. Fragment features deep croze, approx one third across and two nail holes drilled slightly diagonally into wood. There is a steep chamfer on one edge, and stepped stop marks on the other edge. There are two, possibly three parallel lines inscribed. 23 tree rings.	
Component: Stave		
Cask Type: Unknown		
Species: Oak		
Dimensions: 143mm long x 110mm wide x 20mm thick.		



Context: Unknown

Component: Possible stave

Cask Type: unknown

Species:

Dimensions: 168mm long x 62mm wide x 18mm thick.

Description: Missing section down one edge. Creating a stepped edge. Function unknown. Both ends are chamfered. Two stop marks visible on one of the chamfered ends. Original full width unknown. No fastener or stave features (no croze). 10 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2258
Context: Unknown		Description: Missing section down one edge. Creating a stepped edge. Function unknown. Both ends are chamfered. Two stop marks visible on one of the chamfered ends. Original full width unknown. No fastener or stave features (no croze). 10 tree rings.
Component: Possible stave		
Cask Type: unknown		
Species:		
Dimensions: 168mm long x 62mm wide x 18mm thick.		



Context: Unknown

Component: Possible head piece.

Cask Type: unknown

Species:

Dimensions: 150mm long x 36mm wide x 25mm thick.

Description: Function unclear. Cant shaped, however no chamfer around curved edge. Iron staining in places. Tool marks visible on edges. 2 possible partial nail holes - 3mm wide. 4 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2366
Context: Unknown	Description: Function unclear. Cant shaped, however no chamfer around curved edge. Iron staining in places. Tool marks visible on edges. 2 possible partial nail holes - 3mm wide. 4 tree rings.	
Component: Possible head piece.		
Cask Type: unknown		
Species:		
Dimensions: 150mm long x 36mm wide x 25mm thick.		



Context: Unknown

Component: Possible stave

Cask Type: Unknown

Species:

Dimensions: 670mm long x 125mm wide (full width unknown) x 20mm thick.

Description: x-mark at narrow end. 7 wooden dowels, six of which have a diameter of 6mm. The largest is 13 mm diameter. One edge is severely damaged. Full width unknown. Both ends appear to have been chamfered. No chimes or howels present. 45 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2369
Context: Unknown		Description: x-mark at narrow end. 7 wooden dowels, six of which have a diameter of 6mm. The largest is 13 mm diameter. One edge is severely damaged. Full width unknown. Both ends appear to have been chamfered. No chimes or howels present. 45 tree rings.
Component: Possible stave		
Cask Type: Unknown		
Species:		
Dimensions: 670mm long x 125mm wide (full width unknown) x 20mm thick.		



Context: Unknown

Component: Stave

Cask Type: Open

Species: Oak

Dimensions: 640mm long x 80mm wide x 10mm thick.

Description: Chime, croze and howel at one end. Good condition, with split across chime and chamfer. Stave is tapered, measuring 90mm wide at one end and 65mm at the other. Two small holes measuring 4mm in diameter. There is a possible 'x' mark on the outer surface of the wider end, with a small notch on the inner surface of the narrow end. 36 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2372
Context: Unknown	Description: Chime, croze and howel at one end. Good condition, with split across chime and chamfer. Stave is tapered, measuring 90mm wide at one end and 65mm at the other. Two small holes measuring 4mm in diameter. There is a possible 'x' mark on the outer surface of the wider end, with a small notch on the inner surface of the narrow end. 36 tree rings.	
Component: Stave		
Cask Type: Open		
Species: Oak		
Dimensions: 640mm long x 80mm wide x 10mm thick.		



Context: 130, F6-8

Component: Possible stave

Cask Type: Unknown

Species:

Dimensions: 550mm long x 140mm wide tapering to 65mm x 20mm thick.

Description: No features usual to stave, possible head piece, however no chamfering. Three nail holes- 7mm x 7mm. Concretion around holes - iron nail. Head impression 20mm diameter. Some split damage exists. No visible tool marks or inscribed lines. 60 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2373
Context: 130, F6-8	Description: No features usual to stave, possible head piece, however no chamfering. Three nail holes- 7mm x 7mm. Concretion around holes - iron nail. Head impression 20mm diameter. Some split damage exists. No visible tool marks or inscribed lines. 60 tree rings.	
Component: Possible stave		
Cask Type: Unknown		
Species:		
Dimensions: 550mm long x 140mm wide tapering to 65mm x 20mm thick.		



1cm

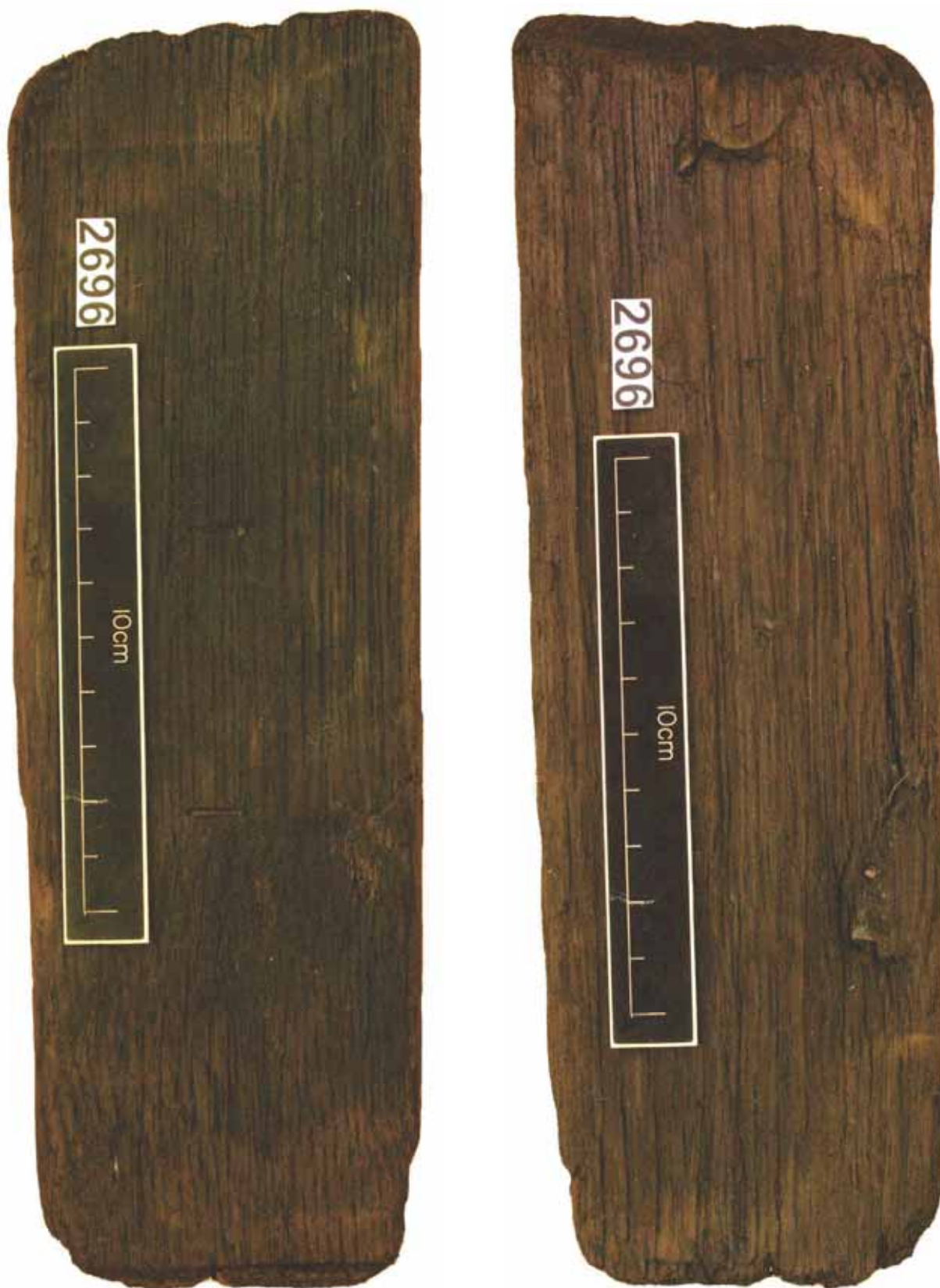


1cm

**Context:** F60 - F61**Component:** Stave**Cask Type:** Possibly open**Species:** Oak**Dimensions:** 70mm long x 45mm wide x 15mm thick.

Description: Croze is 4mm wide. Howel is visible. End is chamfered 15 mm wide. Was possibly chopped in antiquity. No fasteners or makers marks. 20 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2681
Context: F60 - F61		Description: Croze is 4mm wide. Howel is visible. End is chamfered 15 mm wide. Was possibly chopped in antiquity. No fasteners or makers marks. 20 tree rings.
Component: Stave		
Cask Type: Possibly open		
Species: Oak		
Dimensions: 70mm long x 45mm wide x 15mm thick.		



Context: Unknown

Component: Stave

Cask Type: Open

Species: Oak

Dimensions: 1460 . 235mm long x 76mm wide x 13mm thick.

Description: Small stave chime is broken at croze. Opposite end outer surface is chamfered. Howel is visible. Straight grained, no knots. No fasteners. One circular mark on outer surface, next to the chamfer. Stave tapers in width towards the croze. 30 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2696
Context: Unknown	Description: Small stave chime is broken at croze. Opposite end outer surface is chamfered. Howel is visible. Straight grained, no knots. No fasteners. One circular mark on outer surface, next to the chamfer. Stave tapers in width towards the croze. 30 tree rings.	
Component: Stave		
Cask Type: Open		
Species: Oak		
Dimensions: 1460 . 235mm long x 76mm wide x 13mm thick.		



Context: Unknown

Component: Stave

Cask Type: possibly open

Species:

Dimensions: 125mm long x 43mm wide x 21mm thick.

Description: 3mm wide croze. Howel present. Opposite end to croze is chamfered on inner and outer surface. The croze end, although slightly damaged, appears to be chamfered on the inner and outer surface also. Full width of this stave is unclear as it is damaged along its length on both edges. 15 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2802
Context: Unknown		Description: 3mm wide croze. Howel present. Opposite end to croze is chamfered on inner and outer surface. The croze end, although slightly damaged, appears to be chamfered on the inner and outer surface also. Full width of this stave is unclear as it is damaged along its length on both edges. 15 tree rings.
Component: Stave		
Cask Type: possibly open		
Species:		
Dimensions: 125mm long x 43mm wide x 21mm thick.		



Context: F7 - 8 (130)

Component: Stave

Cask Type: Possibly open

Species: Oak

Dimensions: 160mm long x 53mm wide x 19mm thick.

Description: . Croze is 4mm wide. Howel is present. Chime has been chopped and appears bevelled on both inner and outer surface. Opposite end to croze is chamfered on the inner surface only. 25 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2819
Context: F7 - 8 (130)	Description: . Croze is 4mm wide. Howel is present. Chime has been chopped and appears bevelled on both inner and outer surface. Opposite end to croze is chamfered on the inner surface only. 25 tree rings.	
Component: Stave		
Cask Type: Possibly open		
Species: Oak		
Dimensions: 160mm long x 53mm wide x 19mm thick.		



Context: Unknown

Component: Stave

Cask Type: Possibly open

Species: Oak

Dimensions: 465mm long x 95mm wide x 20mm thick.

Description: Good condition. Distinctive howel. 3mm wide croze. Chime is chamfered. Stave is quite thick. No merchant marks. Some split damage on outer surface. Two small pieces of stave (part of 2902) are packaged together. Has been cut for dendro. 55 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2902
Context: Unknown		Description: Good condition. Distinctive howel. 3mm wide croze. Chime is chamfered. Stave is quite thick. No merchant marks. Some split damage on outer surface. Two small pieces of stave (part of 2902) are packaged together. Has been cut for dendro. 55 tree rings.
Component: Stave		
Cask Type: Possibly open		
Species: Oak		
Dimensions: 465mm long x 95mm wide x 20mm thick.		



Context: Unknown

Component: Stave

Cask Type: Possible closed

Species: Oak

Dimensions: 660mm long x 105mm wide x 13mm thick.

Description: No chimes. Has been cut in two for dendro. Good condition. Tool marks visible. Possible howel at each end, however no croze or chime. Possible axe marks. Sapwood edge. Was cut for dendro. 60 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 2904
Context: Unknown	Description: No chimes. Has been cut in two for dendro. Good condition. Tool marks visible. Possible howel at each end, however no croze or chime. Possible axe marks. Sapwood edge. Was cut for dendro. 60 tree rings.	
Component: Stave		
Cask Type: Possible closed		
Species:		
Dimensions: 660mm long x 105mm wide x 13mm thick.		



Context: F33-34 (130), under keelson

Component: Stave

Cask Type: Possibly open

Species: Oak

Dimensions: 115mm long x 45mm wide x 20mm thick.

Description: Small barrel stave either from small vessel or chopped down to re-use. Croze is 3mm wide. Opposite end to croze is chamfered. Howel visible. Damaged along length (both sides). Croze end is damaged therefore it is unclear whether or not it was chamfered. 14 tree rings.

Newport Medieval Ship Cask Component Catalogue		Cowtag: 3014
Context: F33-34 (130), under keelson	Description: Small barrel stave either from small vessel or chopped down to re-use. Croze is 3mm wide. Opposite end to croze is chamfered. Howel visible. Damaged along length (both sides). Croze end is damaged therefore it is unclear whether or not it was chamfered. 14 tree rings.	
Component: Stave		
Cask Type: Possibly open		
Species: Oak		
Dimensions: 115mm long x 45mm wide x 20mm thick.		



Context: 153

Component: Stave

Cask Type: Possibly open

Species: oak

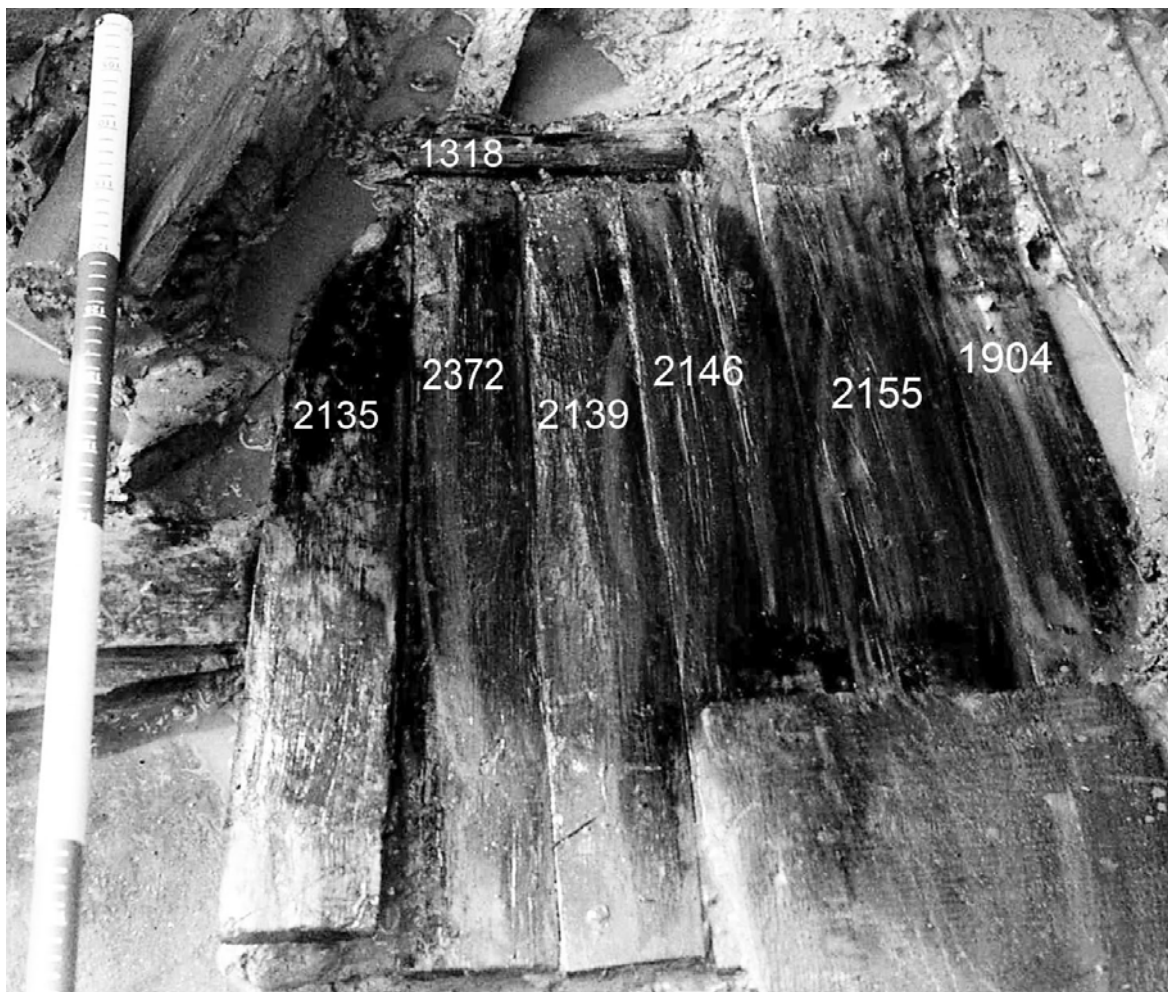
Dimensions: 112mm long x 42mm wide x 20mm thick.

Description: Small barrel stave. Wide croze - 7mm. Wide chamfer at croze end (28mm). Howel is visible. Opposite end to chamfer is cut at an angle. Some white residue on inner surface. Now in two pieces. 30 tree rings.

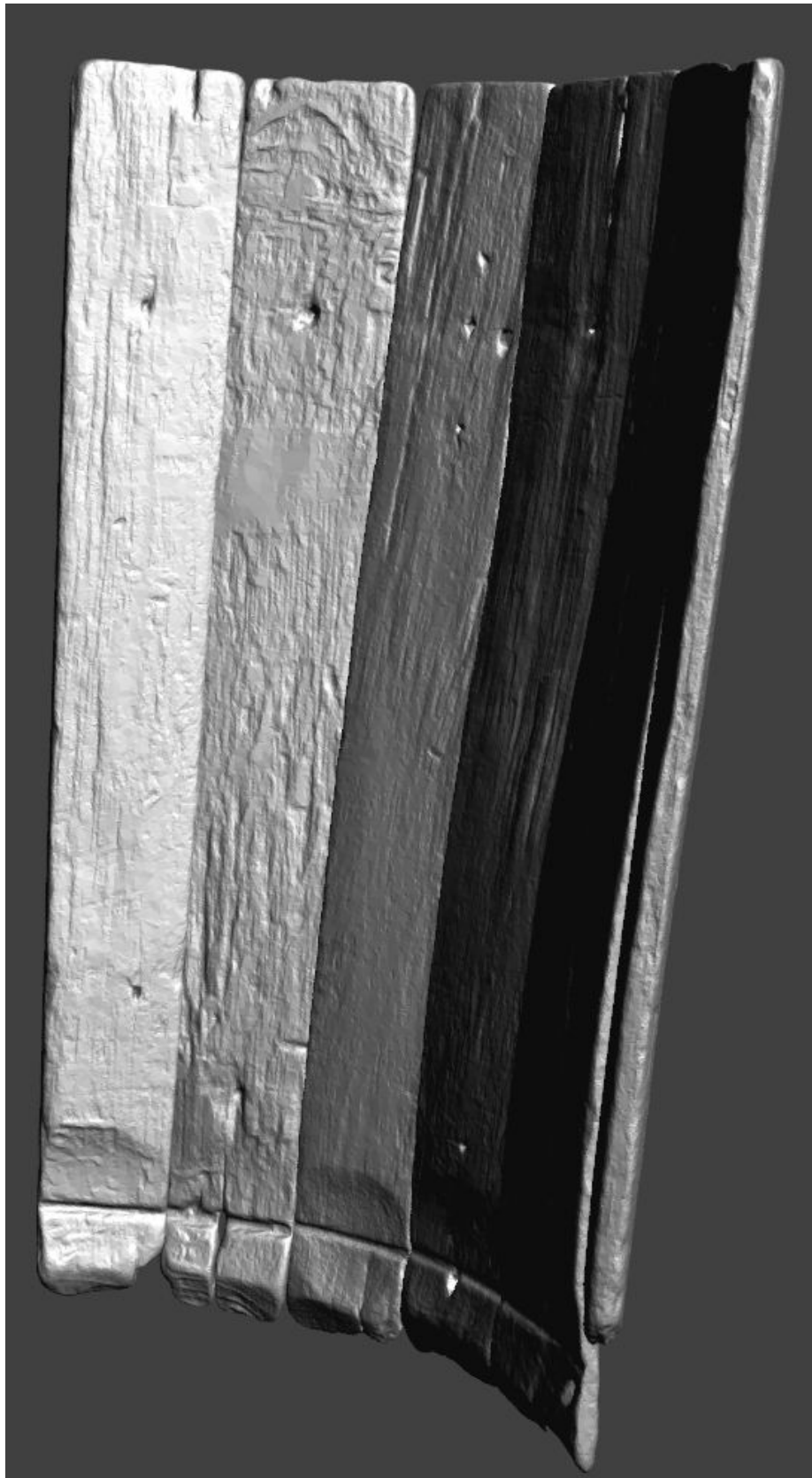
Cask Component Notes

The remains of stave built casks were found on the Newport Ship. These remains consisted of 87 components which can be broken into three categories- head pieces, staves and hoop fragments. 55 staves were found on board, 26 head pieces and 6 hoop fragments.

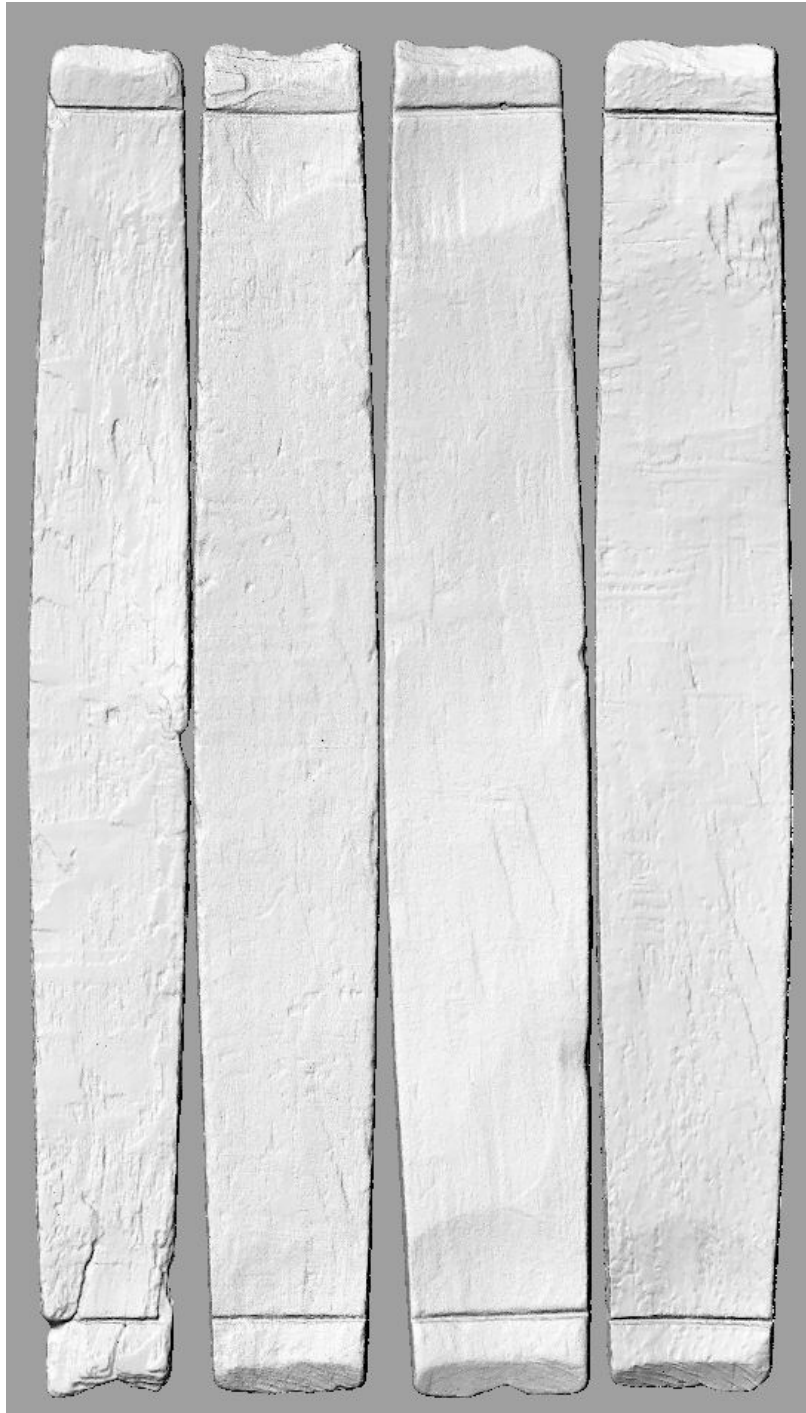
One group of six staves (context 151) were found together in situ and are undoubtedly from the same cask. No head pieces were associated with context 151. Staves numbered CT2139, CT2372, CT2135, CT1904, CT2155 and CT2146 and hoop fragment CT1318 are part of this group and are seen photographed together on site (below). This cask would have been open at one end and was 570mm from croze groove to top. An open cask like this may have been used on board the vessel to store dry goods or possibly was used as a bucket.



It was possible, after laser scanning each of context 151's staves individually, to digitally reconstruct the section of the barrel as was found in situ. Seen below is a screen capture of a 3d pdf of context 151.



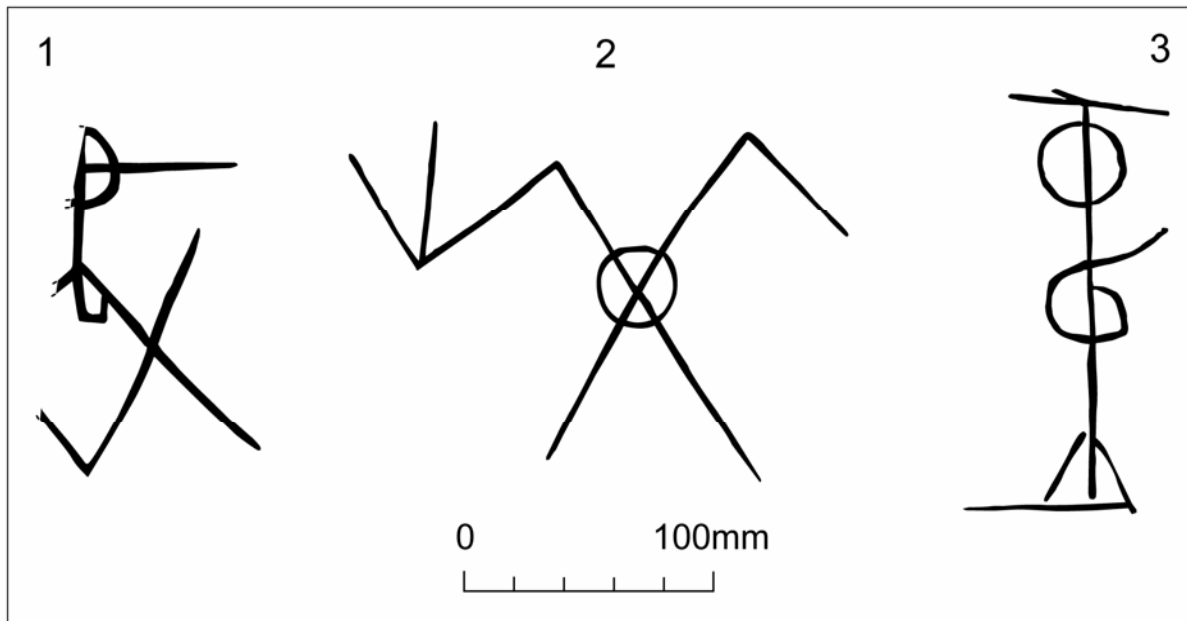
A second group of staves, CT2113, CT2143, CT2148 and 1951 are quite possibly associated with one another. Seen below are the staves side by side (not in their original order). The presence of a croze groove at either end, unlike context 151, indicates this cask was constructed to be sealed at both ends with a head.



Other than the two groups mentioned above, the staves do not appear to match in length. This indicates the staves may have been waste from disused casks of varying sizes.

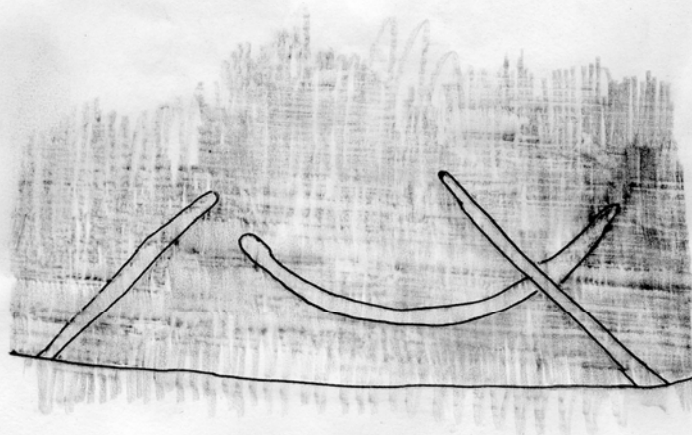
Merchant Marks found on Newport Ship Timbers

1. Cow 2369
2. Cow 1555 (Found on non-cask artefact (the 'door'))
3. Cow 2137 (Cask Head)



4. Cow 2136

TRACING OF MAKER'S MARKS ON INSIDE OF BARREL STAVE 21.
1:1



CASK NOTES from Meeting with Ken Kilby, 12 October 2011

Cow 1689: Deliberate Grooves – possibly fixing a mistake/making cask volume smaller

Cow 1949: Latch/Lid

Cow 2145: Probably part of a dry cask

Cow 2137: Wet cask

Cow 2251: Holes to put wood/rope through to stiffen/strengthen/reinforce cask. A hole put outside or above the croze was to reinforce the head.

Cow 2238 and 1839: same vessel?

Cow 1693: Odd stave, wider at one end, possibly broken off at croze.

Cow 1813: Numerous holes could have been caused by wood worm and then drilled out and plugged by carpenter/cooper.

Cow 1786: Bevelled on edge, probably to reduce the size of the cask. Head will sink further in, reducing the capacity.

Cow 1951, 2148, 2113, 2143 may be part of an 18 gallon cask

General Observations:

Crozes seem to be made with a one handed draw knife (jigger)

A chine generally indicates a wet cask

> wet cask | dry cask

Thin staved vessels generally hold dry goods

In water casks, holes were sometimes drilled to get above the sediment.

In London certain casks sizes were standardised (not sure when)

Memel Oak preferred for cask construction (from Russian port of Memel)

English oak tended to be knotty and short grained.

Probably hazel hoops, nailed on dry casks

Flags/River Rushes were placed between cants in heads....swelled immediately when wet

For Newport Ship, also need to look at possibility of local cooperage waste.

To Note

Staves

- CT1951, CT2113, CT2143 and CT2148 appear to match in size and may be part of the same barrel.
- CT2135, CT2139, CT2146, CT2155, CT2372 and CT1904 were found together in situ have been successfully digitally reconstructed. (Context 151) Photo of staves together in ground is available. Digital reconstruction has been created. Open at one end, 640mm in height.
- CT1426, CT2136 and CT2210 have maker's marks.

Heads

- 12 cants, 10 middle pieces.
- CT1400 & CT1440 appear to fit side by side.
- CT1846 & CT1949 may be from the same head.
- CT2157 & CT2203 may be from the same head.
- CT2137 has a maker's mark.