Summary Report on the Excavation of the Bow section of the Newport Ship

Mary Rose Archaeological Services Ltd

Oxford Archaeology

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Newport Theatre and Arts Centre

Summary Report on the excavation of the bow section of the Newport Ship

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SUMMARY

Oxford Archaeology carried out a field excavation at the site of the Newport Theatre and Arts Centre for Mary Rose Archaeological Services acting on behalf of Newport City Council. The excavation comprised the recording and lifting of the bow elements of the Newport Medieval Ship and recording of the surrounding deposits.

1 INTRODUCTION

1.1 Location and scope of work

1.1.1 During the period of the 3rd-13th of April 2003, Oxford Archaeology (OA) carried out a programme of excavation at the site of Newport Theatre and Arts Centre for Mary Rose Archaeological Services (MRAS) on behalf of Newport City Council. The work was carried out to the specifications of a brief issued by Ron Inglis, Museums and Heritage Officer for Newport City Council.

1.1.2 The site is located at NGR ST 31286 88169 (centred), it is bound by the River Usk to the east and the Kingsway dual carriageway to the west (See Fig.1 and 2). At the time of excavation construction for the Newport Theatre and Arts Centre was underway.

1.2 Purpose of the summary report

1.2.1 This document is intended as an introduction to, and quantification of the primary records generated by the MRAS/OA excavation. As such it should facilitate the use of the primary record and its integration with the archive of the main hull excavation carried out by the Glamorgan Gwent Archaeological Trust (GGAT).

1.2.2 This document is not intended to serve as a definitive report or MAP II post-excavation assessment. No specialist post-excavation work has been carried out on finds, the timbers or environmental samples. No interpretations or recommendations for further work are included here. These would be best considered for the Ship as a whole.

1.3 Geology and topography

1.3.1 Modern ground surface at the site lies at c 8.6 m above OD. The site is situated on a solid geology of Keuper Marl overlain by alluvial drift deposits associated with the River Usk prior to formalisation of the river frontage.

1.4 Archaeological and project background

1.4.1 A brief background was presented in a desktop assessment (MRAS 2003) carried out by MRAS in consultation with Nigel Nayling the marine/boat specialist sub-contractor to GGAT for the main hull excavation.

1.4.2 The 1886 edition OS map shows the northern part of the site as the location of 'Town Pill' a recognised post-medieval quayside corresponding to the northern limit of the development area.

1.4.3 The southern part of the site enclosed Moderator Wharf. Moderator Wharf is mentioned by name in the nineteenth century and may be recognised on a town map of 1762 as a possible slip.

1.4.4 The site was formerly occupied by the Moderator Warehouse.

1.4.5 No previous archaeological investigations have taken place on the site prior to those related to the construction of the Newport Theatre and Arts Centre.

1.4.6 A watching brief was carried out by GGAT during the construction works.

1.4.7 During the watching brief the exposure of medieval timber-lined drains and other features indicative of waterfront activity in the post-medieval period led to a programme of targeted excavation to record the features exposed.

1.4.8 During this programme of works a group of timbers, exposed by machine during the excavation of foundation trenches, were identified as the articulated elements of a boat/ship.

1.4.9 The ship occupied a substantial portion of the northern half a cofferdam, which was installed for the construction of an orchestra pit within the development. Dendro-chronological dating and the exposed character of the vessel indicated that the Ship was of 15th century date and constituted a find of national, if not international maritime importance.

1.4.10 A major programme of excavation, recording and lifting of the Ship's hull timbers was carried out by GGAT between June and November 2002. During this period GGAT also carried out an evaluation (GGAT 2002) to the north of the main hull excavation area in order to investigate the potential for significant archaeological deposits in an area of the site proposed for the construction of a basemented display gallery for the Ship. Displaced worked timbers and dumps of slag and bone were recorded.

1.4.11 It was clear from the main hull excavation that elements of the bow and stern probably survived outside the cofferdam, which delimited the main excavation. Newport City Council commissioned an engineering report on the feasibility of excavating these elements (Clarke Bond 2003) as well as an archaeological feasibility study (MRAS 2003).

1.4.12 MRAS were appointed as archaeological contractor to excavate the bow. MRAS sub-contracted the programme of work to an independent marine/ship archaeologist and OA.

2 EXCAVATION AIMS

2.1.1 The aim of the excavation was to record and recover any surviving elements of the bow section of the Newport Ship that lay outside the cofferdam delimiting the main hull excavation.

3 EXCAVATION METHODOLOGY

3.1 Machine excavation

3.1.1 The excavation consisted of a single trench measuring 5.8 m x 4 m and *c* 4.2 m deep located over the area where the bow was predicted to survive. This machine excavated trench was reduced in size (5 m x 3 m) after excavation by the installation of a shoring box and the infilling of the gap between the shoring box and excavated edges.

3.1.2 All machine excavation was carried out under close archaeological supervision by a 360° mechanical excavator fitted with a toothed bucket for the upper modern overburden and a toothless /ditching bucket for all underlying deposits.

3.1.3 Because no machine excavation could carried out after the installation of shoring, overburden, alluvial deposits and natural geology were reduced by machine excavation in horizontal spits until boat timbers were revealed in the base of the trench.

3.1.4 Hand excavation was thereafter limited to a depth that would not undermine the shoring.

3.2 Fieldwork methods and recording

Archaeological deposits

3.2.1 The trench was cleaned by hand and the revealed features were sampled to determine their extent and nature, and to retrieve finds and environmental samples. All archaeological features were planned and where excavated their sections drawn at scales of 1:20. All features were photographed using colour slide, black and white print film and digital formats. Recording followed procedures laid down in the *OAU Fieldwork Manual* (ed D Wilkinson, 1992).

Timbers

3.2.2 All timbers were assigned a unique context/timber number and recorded in-situ and after excavation on dedicated pro-forma timber recording sheets.

3.2.3 All timbers were photographed in black and white, colour slide and digital formats, in-situ and after removal.

3.2.4 Three survey points (stainless steel screws and washers) were attached to each timber along with tyvek and dymo label water resistent labels giving site code, survey point

and timber number identifiers. The labels were enclosed in heat sealed polythene bags and attached to the survey points.

3.2.5 Hand drawn records of the structure were made in plan and section. These were scanned on-site and reproduced as Illustrator© graphics.

3.2.6 A searchable key-worded Excel© data sheet was compiled on site in order to facilitate grouping of the timbers in storage.

3.3 Finds

3.3.1 Finds, comprising slag and small amounts of pottery and bone were recovered by hand during the course of the excavation and bagged by context.

3.4 Palaeo-environmental evidence

3.4.1 A collection strategy of 1 kg samples from below each frame (for cargo residues) was continued from the GGAT excavation on the advice of Kate Hunter - Conservator for Newport City Museum.

3.4.2 A monolith/column sample was collected from the alluvial fill of the inlet. This will be suitable for micromorphology analysis as well as sub-sampling for forams, ostracods, diatoms, pollen etc.

3.4.3 No further work has presently been carried out on the environmental samples.

4 RESULTS: DESCRIPTIONS

4.1 Description of deposits

(See Fig.5)

4.1.1 The top of 'natural' deposit 112 (Keuper Marl clay) was revealed at c 6.3m OD within the trench (c 2.3 m below modern ground level). A distinct east-west orientated boundary between context 112 and a deposit characteristic of alluvial deposition (104) was visible in the trench at this level. This indicated the historic division between dry land and channel/inlet fills.

4.1.2 Deposits 112 and 104 were reduced in plan by machine excavation to a level of 5.2 m OD.

4.1.3 Natural 112 (its surface probably representing the historic bank) sloped down toward the north of the trench. At the northern limit of the trench at the base of the slope was a blue grey alluvial clay-silt (113). This was the deposit in which the boat timbers were situated.

4.1.4 Further up the slope of 112 was cut 109. It was unclear whether this was indeed a purposeful cut for the dumping of deposit 108 (a grey silt containing 70% metal working residue - slag, tap slag, charcoal, burnt clay, elements of furnace base

charcoal etc) or the erroded edge of the original bank. 'Cut' 109 was c5 m long (visible extent within the trench) and was excavated to a depth of 0.75 m. Deposit 108 filled 109 but had also been dumped up against the boat timbers (stem post 131 and all portside outer planking.)

4.1.5 Axe chips and timber fragments (context 107) localised on the upper surface of deposit 108 and adjacent to the port side outer planking suggest that this may be an horizon at which timber salvaging was carried out.

4.1.6 Deposit 108, the boat timbers and deposit 113 were overlain by alluvial clay silts 105 and 104.

4.1.7 A timber lined and capped drain (103) was cut into the upper surface of layer at 6.16m aOD. The structure was orientated approximately northeast - southwest. Given the 'rescue' nature of the excavation, the limits of possible hand excavation within the trench and the fact that the drain had been recorded in the previous excavation, the structure was seen as low priority for detailed recording and was removed during machine excavation.

4.1.8 Structure 103 was overlain by alluvial clay-silt 102. The upper surface of this deposit had been levelled and given the nature of the overlying deposit (context 101 a 0.10m thick, diesel soaked cinder and ash layer) probably represents the land surface associated with post-medieval industrial use of the site.

4.1.9 Deposit 101 was overlain by up to 2m of modern levelling and dumping material (context 100).

4.2 Description of timbers

(See Figs. 4,6,7 and 8)

Preservation

4.2.1 The timbers were well preserved but badly disturbed by trench sheets and driven concrete pile PC118/1. The treenails were also in good condition but the iron nails used to fasten the clinker outer hull planking together were badly corroded. Most of the iron nail-heads were missing. However, the impressions made by these on the outer face of the planking were clearly visible. The absence of any other tool marks around the nail-head impressions suggests that these nail heads were not salvaged in antiquity.

Stem Post

4.2.2 The end of the stem post had been cut off – probably at the same time as the rest of the vessel was cut down. Markings on the cut face suggest that it was cut through with an axe. The stem post itself was impacted by driven concrete pile PC118/1, pushing the stem downwards and rotating it through about 80°. The stem post was scarf jointed approximately 0.85m to the east (astern) of the cut face. The section of stem (T131) between the cut face and the scarf was recovered. The stem (T145)

between the scarf and the trench sheets at the east edge of the excavation was only partly revealed seen in plan and section. This section of stem post was surveyed and recorded then left in situ as it was below the maximum permitted depth of excavation; it was badly shattered and broken by the concrete pile which impacted the stem just astern of the scarf. After the excavation was completed timber 145 was lifted by the construction site staff and is in fact two timbers.

4.2.3 The forward section of stem post (T131) had rabbets cut into the starboard and port faces for the attachment of the plank ends. The rabbets were 0.13m wide and 0.02m deep. The rabbet on the starboard side showed evidence of repair; it had been enlarged and an additional piece of timber inserted. This was probably to enable the re-attachment of the plank ends after the nails had come loose, possibly due to decay in the stem. The port side rabbet surface was coated with a fibrous material, probably the remains of luting used to waterproof the joint between the plank ends and the stem post.

Outer Hull Planking

4.2.4 The main section of surviving hull planking was from the port side of the vessel. This consisted of a short length of clinker construction planking. Much of this planking was displaced by the concrete pile (PC118/1) and driven steel trench sheets. Despite this, several planks were still partially attached to frames with treenails. There were nine strakes surviving above the stem post at the point of highest survival, which was in the region of frame (T129). A small, displaced section of planking (T133), (T134) & (T135) from the starboard side of the bow was found just north of the cut-end of the stem post. There was evidence of luting between the overlaps of the outer hull planking. This consisted of a fibrous material, possibly coated with bitumen, extending over most of the width of the planking overlap and thus probably inserted prior to the fastening of the planks.

Frames

4.2.5 Three frames were located within the area excavated. Two, east of pile PC118/1, consisted of the port side frames only (T129) & (T130). Both of these frames exhibit notching on their outboard faces to accommodate the overlaps of the outer hull planking. The majority of the port side planking excavated was originally attached to these frames. There were two stringers (T146) & (T162) on the inboard face of these frames and a rider (T147) in the region of frame (T129). Frame (T129), the two stringers and the rider were recovered as a unit – still fastened together – and careful study of these may show details of construction.

4.2.6 The base of both these frames, where they joined the stem post, showed evidence of decay in antiquity. The ends exhibited ragged breaks which were impregnated with the same deposits as those which sealed the upper surface of the stem post (T145) – suggesting that the break had occurred before the infilling of the hull.

4.2.7 The remaining frame (T165) was found to the north of pile PC118/1 and was a floor frame with elements of both port and starboard frame surviving. The outboard faces of this frame were smooth without any trace of planking notches. No planking was found associated with this latter frame.

Disposition

4.2.8 The vessel appears to have been lying with a list to starboard. The port side planking and frames were vertical. However, even this close to the bow some run-out could be expected. The stem post was too badly displaced by the concrete pile to be of any use in determining the original disposition of the vessel.

Construction

4.2.9 The clinker planking of the hull was fastened together by clench nails in the conventional manner. The nails were much corroded and nearly all the nail heads were missing (exceptions were planks 136 and 138). Some traces were seen on the in-board faces of the planks of the bent over ends of the clench nails but no roves were evident. Although the nail heads were missing the impressions these had made on the outer surface of the planks were visible. These showed that the majority of the nail heads were round, and on average 35mm in diameter. However some rectangular nail-head impressions were also present, particularly on the lowest two port side planks. The planks were secured to the frames with treenails of c. 30 mm diameter – one treenail per frame. The frames were reinforced with stringers within the vessel. The hull was further strengthened by riders. Rider (T147) was notched and fastened over the top of stringers (T146) & (T162) and attached to frame (T129).

5 DISCUSSION AND INTERPRETATION

5.1 Potential for reconstruction of the bow timbers

(See Fig.8)

5.1.1 Most of the timbers of the bow have been badly displaced by the steel trench sheets and concrete piles, which makes the task of reconstructing the bow more difficult. There are, however, a number of timbers, which are indicative of the original form of the bow. The principle question must be the original angle of the stem post before it was displaced by pile PC118/1.

5.1.2 Three of the port side planks exhibit angled plank ends where they would originally have been fastened to the stem post. These are (T132), (T139) and (T149). It seems likely that these angled plank ends fitted flush into the rabbet on the port side of the stem (T131). As both the plank ends and the stem rabbet have clearly visible nail holes, it should be possible to establish the original plank end locations on the stem by matching these up. This should give an indication of the angle of the stem at this point.

5.1.3 The most forward floor frame (T165) has a flat cut foot where it would have rested on the stem. This is cut at an angle of approximately 35° from the horizontal. The original position of this frame on the stem can probably be established by markings on the stem and by matching up the fastenings on planks (T132), (T139) and (T149). Once again, the angle of the stem post at this point could then be established.

5.1.4 The two port side frames (T129) and (T130) looked to have been the least disturbed of the timbers found and were still sitting on the stem post (T145). Frame (T129) was lifted complete with its associated stringers (T146) & (T162) and rider (T147) – study of this unit may help to establish the original form of the bow.

6 QUANTIFICATION OF THE ARCHIVE

ITEM	**NUMBER OF ITEMS OR BOXES OR OTHER**	**Location**	**CONDITION:** W = washed; UW= unwashed; M = marked; P = processed; UP = unprocessed; D = digitised; I = indexed
Context records	173	OA	
Plans	5	OA	D
Sections	5	OA	D
Films (monochrome)	2	OA	
Films (Colour)	2	OA	
Soil Samples (No.)	2 x 1kg bags	Corus Steelworks	UP
Monoliths	1	Corus Steelworks	UP
Pottery	1	Corus Steelworks	UP
Animal bone	1	Corus Steelworks	UP
Timbers (or group of fragments)	61	Corus Steelworks	I
Slag	24 bags	Corus Steelworks	UP
Digital Data	CAD work, digital photos, plan and section scans, Illustrator figs, 3d modelling	OA main server OA CD Rom	

APPENDIX 1 ARCHAEOLOGICAL CONTEXT INVENTORY (TIMBERS EXCLUDED)

Context No	*Type*	*Comment*
100	Layer	Modern made ground/ overburden
101	Layer	Cinders/coal
102	Layer	Alluvial clay-silt
103	Structure	Medieval wood lined drain
104	Layer	Alluvial clay-silt
105	Layer	Alluvial clay-silt
106	Finds Ref	Slag from adjacent to stem post
107	Finds Ref	Spread of timber fragments (axe chips)
108	Fill	Dump of metal working residue
109	Cut	Cut for 108 or natural eroded edge of 112
112	Layer	Natural clay bank
113	Layer	Alluvial clay-silt
170	Deposit	Clay-silt

APPENDIX 2 BIBLIOGRAPHY AND REFERENCES

McElvogue, D.M (MRAS) 2003 Newport Ship bow, stern and starboard side recovery desk-based assessment and feasibility study (unpublished)

Clarke Bond 2003 Report No: 15588.41/R1 Newport Theatre and Arts Centre Proposed Archaeological Excavations for the Bow and Stern of the Ship (unpublished)

GGAT 2002 Newport Theatre Ship Display, Archaeological Field Evaluation, Stages 1 and 2: Final Report (unpublished)

APPENDIX 3 SUMMARY OF SITE DETAILS

Site name: Newport Theatre and Arts Centre, Newport Ship Bow Section Excavation
Site code: NESHIP03
Grid reference: NGR ST 31286 88169
Type of work: Excavation
Date and duration of project: 11 days, 3rd-13th of April 2003
Area of site: 15m²
Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with Newport City Museums Service in due course, under the following accession number: NESHIP03

APPENDIX 4 INDEX OF TIMBERS

Newport Theatre and Arts Centre	NESHIP03	Oxford Archaeology				Dims in mm		
timber context number	**co-ords A**	**co-ords B**	**co-ords C**	**type of timber**	**comments**	L	W	D
114	Located In Wire Frame CAD survey			Portside outer planking	Displaced not attached to other timbers. Probably was above 115	365	90	21
115	331274.528,188158.631,5.423	331274.695,188158.712,5.306	331274.695,188158.712,5.306	Portside outer planking	Displaced not attached to other timbers. Possibly part of 116	519	55	19
116	331274.369,188158.599,5.511	331274.275,188158.539,5.474	331274.523,188158.642,5.311	Portside outer planking	Displaced. Found below 115 above 117	680	135	24
117	331274.365,188158.598,5.36	331274.555,188158.666,5.201	331274.454,188158.606,5.189	Portside outer planking	Displaced found below 116 above 118	890	170	31
118	331274.205,188158.553,5.335	331274.392,188158.587,5.071	331274.58,188158.661,4.976	Portside outer planking	Displaced found below 117 above 119	805	230	21
119	331274.21,188158.546,5.301	331274.323,188158.594,5.255	331274.386,188158.606,5.138	Portside outer planking	Displaced found below 118 above 120	580	250	95
120	331274.436,188158.621,4.852	331274.427,188158.58,4.807	331274.568,188158.658,4.749	Portside outer planking	Displaced found below 119 above 121	520	100	28
121	331274.58,188158.606,4.626	331274.353,188158.49,4.677	331274.319,188158.549,4.808	Portside outer planking	Displaced found below 120 above 122	905	217	26
122	331274.396,188158.555,4.67	331274.534,188158.572,4.545	331274.213,188158.412,4.584	Portside outer planking	Displaced found below 120 above 122	850	230	30
123	331274.243,188158.391,4.884	331274.054,188158.33,4.709	331274.081,188158.316,4.626	Portside outer planking	Displaced found below 124 probably originally fastened over 121 (same as 120?)	870	160	24
124	331274.174,188158.357,5.02	331273.979,188158.303,4.761	331274.003,188158.289,4.678	Portside outer planking	Probably same as 120, above 123, below118	880	99	29
125	331273.978,188158.417,4.999	331274.041,188158.377,4.987	331273.894,188158.35,4.975	Portside outer planking	Probably same as 117. Found below 127 and above 128	160	68	28
126	Located In Wire Frame			Portside outer planking	Displaced probably same as 118	277	110	20
127	331273.564,188158.036,4.575	331273.591,188158.065,4.52	331273.624,188158.043,4.489	Portside outer planking	Displaced. Found above 125	510	35	37
128	Located In Wire Frame			Portside outer planking	Displaced. Found above 124, below 125	560	100	35
129	331274.561,188158.678,5.451	331274.561,188158.678,5.451	331274.509,188158.677,4.761	Portside Frame	Next frame stern ward from 130	1290	220	180
130	331274.373,188158.621,5.35	331274.22,188158.559,4.948	331274.35,188158.587,4.775	Portside Frame	Next frame forward from 129	990	255	90
131	331273.106,188157.933,5.117	331273.301,188157.92,4.797	331273.401,188158.099,4.713	Stem post	Upper part cut in antiquity. Lower part scarf jointed to stem post section 145	1310	370	190
132	331273.212,188158.135,5.236	331273.228,188158.135,5.109	331273.328,188158.164,5.054	Portside outer planking	Displaced but within rebate of stem post 131	665	140	30
133	331272.887,188158.18,5.266	331273.045,188158.337,5.261	331273.12,188158.362,5.229	Starboard outer planking	Very displaced Highest surviving starboard plank. Above plank 134	556	120	25
134	331273.07,188158.285,5.226	331272.993,188158.205,5.191	331272.993,188158.205,5.191	Starboard outer planking	Attached to planks 133 and 135.Above 135, below133. Possibly same as 135 or 137	382	55	17

Newport Theatre and Arts Centre	NESHIP03	Oxford Archaeology				Dims in mm		
timber context number	**co-ords A**	**co-ords B**	**co-ords C**	**type of timber**	**comments**	L	W	D
135	331273.179,188158.31,5.17	331273.021,188158.236,5.153	331273.269,188158.321,5.134	Starboard outer planking	Displaced possibly same as 138 and 134. Attached to plank 134	410	120	20
136	Located In Wire Frame			Starboard outer planking	Possibly same as 133	560	160	21
137	Located In Wire Frame			Starboard outer planking	Possibly same as 134	430		20
138	Located In Wire Frame			Starboard outer planking	Possibly same as 135	450	100	25
139	331273.623,188158.044,4.488	331273.561,188158.032,4.573	331273.59,188158.062,4.52	Portside outer planking	Has end of plank which would have been rebated into stem post			
140	331274.594,188158.678,5.515	331274.689,188158.709,5.421	331274.745,188158.717,5.26	Portside outer planking	Displaced. Found below 114, above 115	443	95	22
141	331274.38,188158.621,5.091	331274.576,188158.719,5.065	331274.5,188158.661,5.014	Portside outer planking	Displaced found over and attached to 142,under 119	640	120	22
142	331274.341,188158.591,4.952	331274.548,188158.695,4.926	331274.488,188158.652,4.887	Portside outer planking	Displaced found below 141,above 120	530	105	25
143	331274.028,188158.415,4.969	331273.881,188158.375,4.909	331274.056,188158.385,4.779	Portside outer planking	Displaced, found under 125,over 128	600	80	20
144	Located In Wire Frame			Portside outer planking	Fragments			
145	331274.521,188158.686,4.552	331274.505,188158.573,4.544	331273.498,188157.966,4.487	Stem post	Scarf jointed to stem post 131 lower part of post.	1618	265	
146	Recovered With 129			Stringer	attached to the inside of frames 129 and 130	480	130	28?/50
147	Recovered With 129			Portside rider	notched around stringers opposite to frame 129	890	160	90
148	331273.21,188158.236,4.78	331273.245,188158.223,4.635	331273.328,188158.216,4.527	Post	possibly repair to starboard rebate of stem post 131	940	100	80
149	331273.427,188158.42,4.981	331273.462,188158.403,4.835	331273.437,188158.408,4.669	Portside outer planking	Has possible angle for attachment to stem post	590	110	20
150	Located To Context			Treenail	Ex-situ within context 105			
151	Located To Context			Treenail	Ex-situ within context 105			
152	Located To Context			Treenail	Ex-situ within context 105			
153	Located To Context			Treenail	Ex-situ within context 108			
154	Located To Context			Treenail	Ex-situ within context 106			
155	Located To Context			Treenail	Ex-situ within context 106			
156	Located To Context			Treenail	Ex-situ within context 108			
157	Located To Context			Treenail	Ex-situ within context 108			
158	Located To Context			Treenail	Ex-situ within context 108			
160	331273.503,188158.521,5.127	331273.479,188158.55,5.036	331273.464,188158.536,4.912	Starboard (?)outer planking	Displaced fragment possibly part of 161	490	70	18

Newport Theatre and Arts Centre	NESHIP03	Oxford Archaeology				Dims in mm		
timber context number	**co-ords A**	**co-ords B**	**co-ords C**	**type of timber**	**comments**	L	W	D
161	331273.479,188158.446,5.069	331273.489,188158.474,4.982	331273.48,188158.507,4.879	Starboard (?)outer planking	Displaced fragment possibly part of 160	390	38	18
162	Recovered With 129			Stringer	attached to frame 129 and under rider 147	350	220	70
163	Located In Wire Frame			Treenails and fragments	Very displaced timbers under frames 129 and 130			
164	Located In Wire Frame			Starboard (?)outer planking	Very displaced adjacent to stem post 131	450	60	18
171	Located To Context			Treenail	Ex-situ within context 113			
172	Located To Context			Treenail	Ex-situ within context 113			
173	Located To Context			Treenail	Ex-situ within context 113			
174	Located To Context			Treenail	Ex-situ within context 113			
175	Located On Plan 004			Treenail	on stem post 145			

Figure 1: Site location

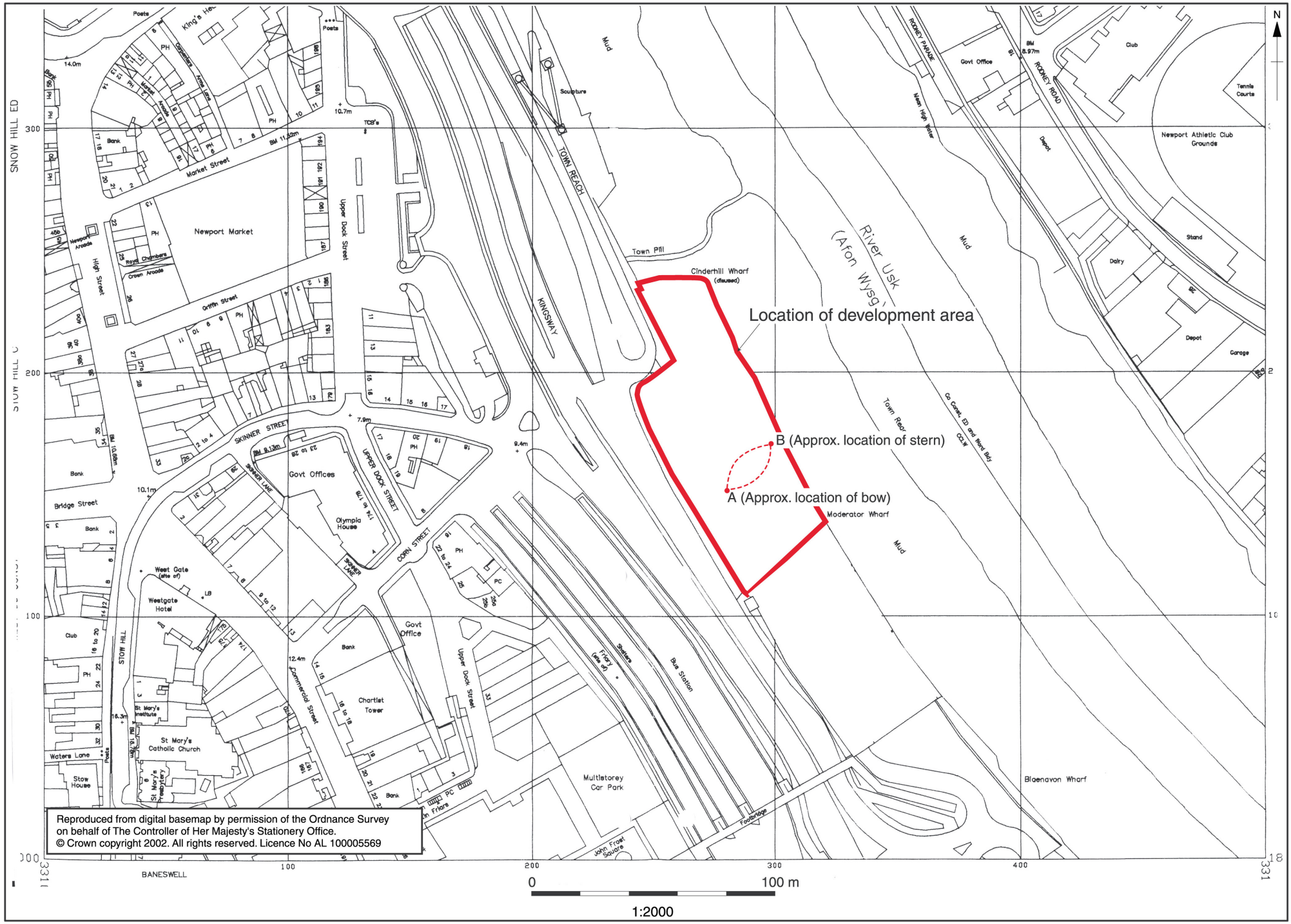


Figure 2: Location of development area

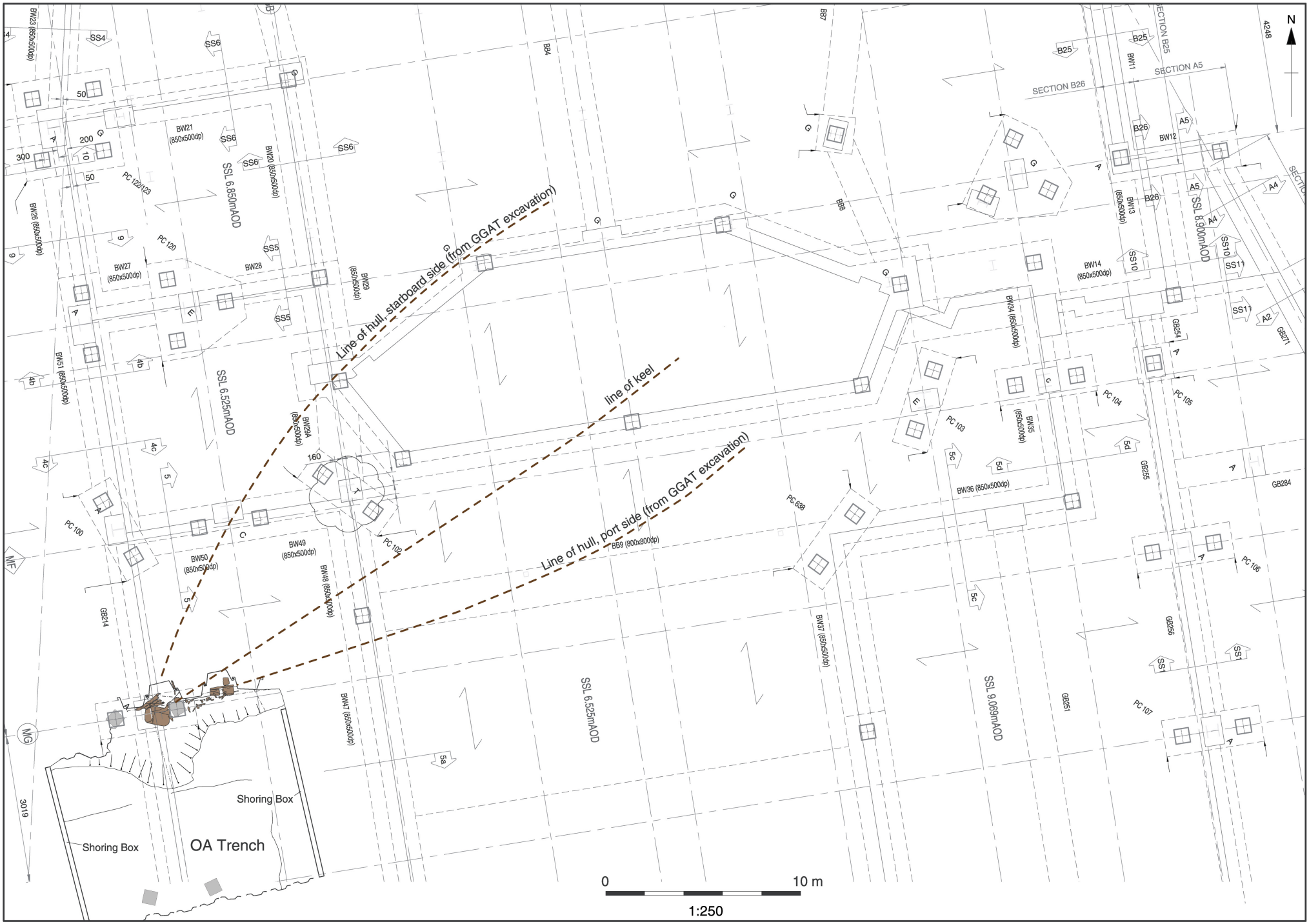


Figure based on drawing from Clark Bond 2003

Figure 3: Trench location in relation to ship hull

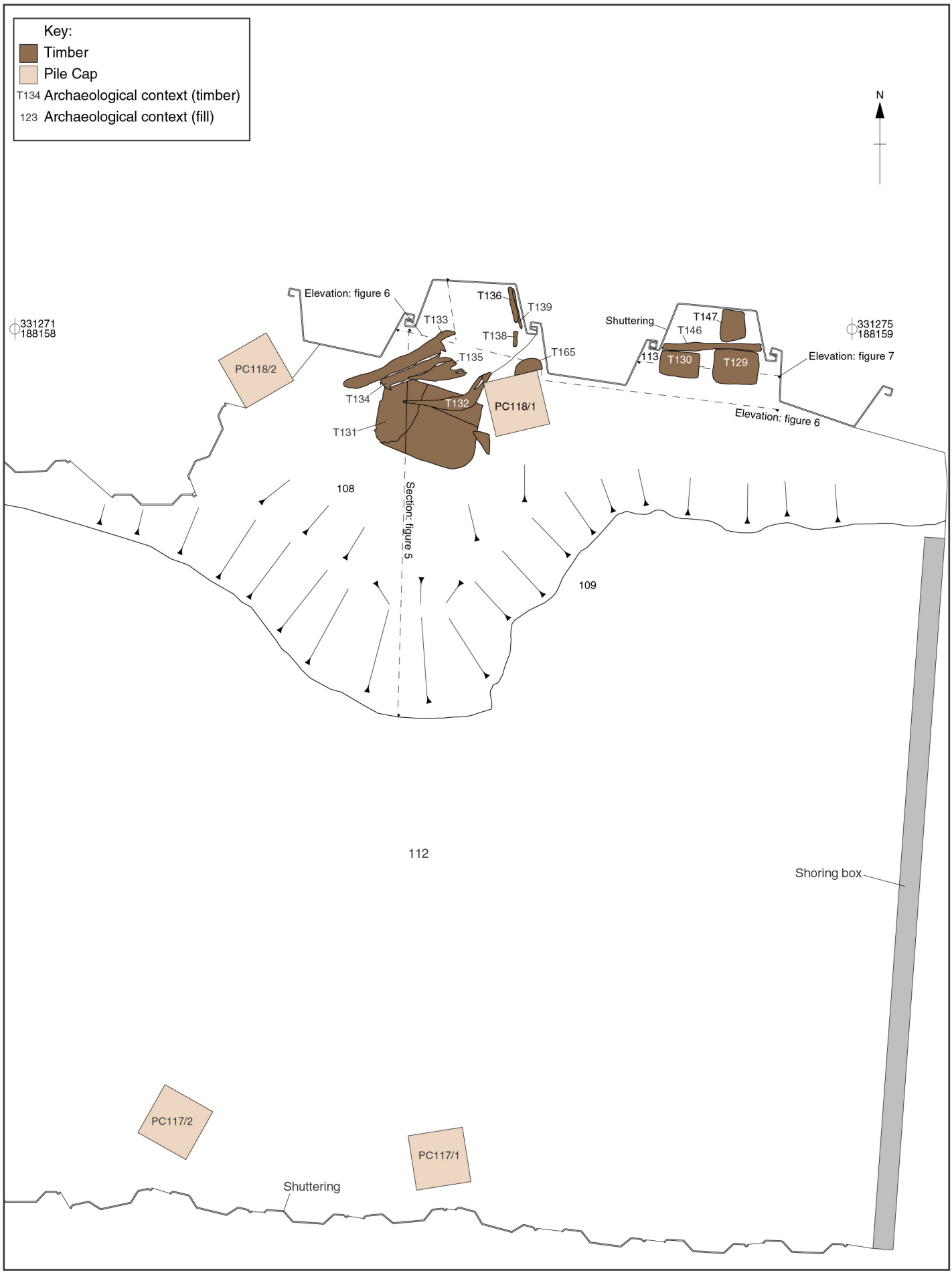


Figure 4: Trench Plan showing principal bow timbers

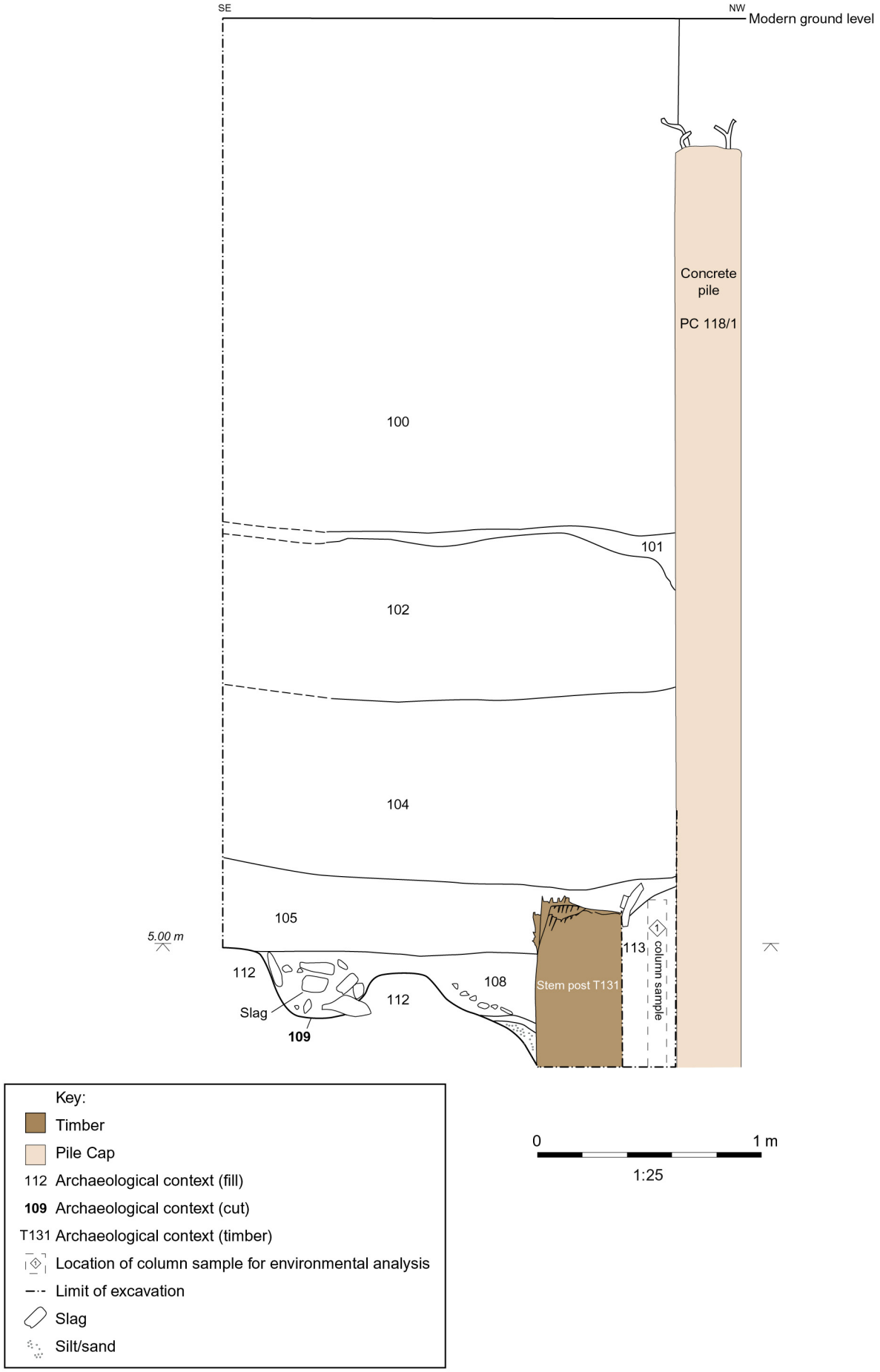


Figure 5: Section through upper deposits in Trench

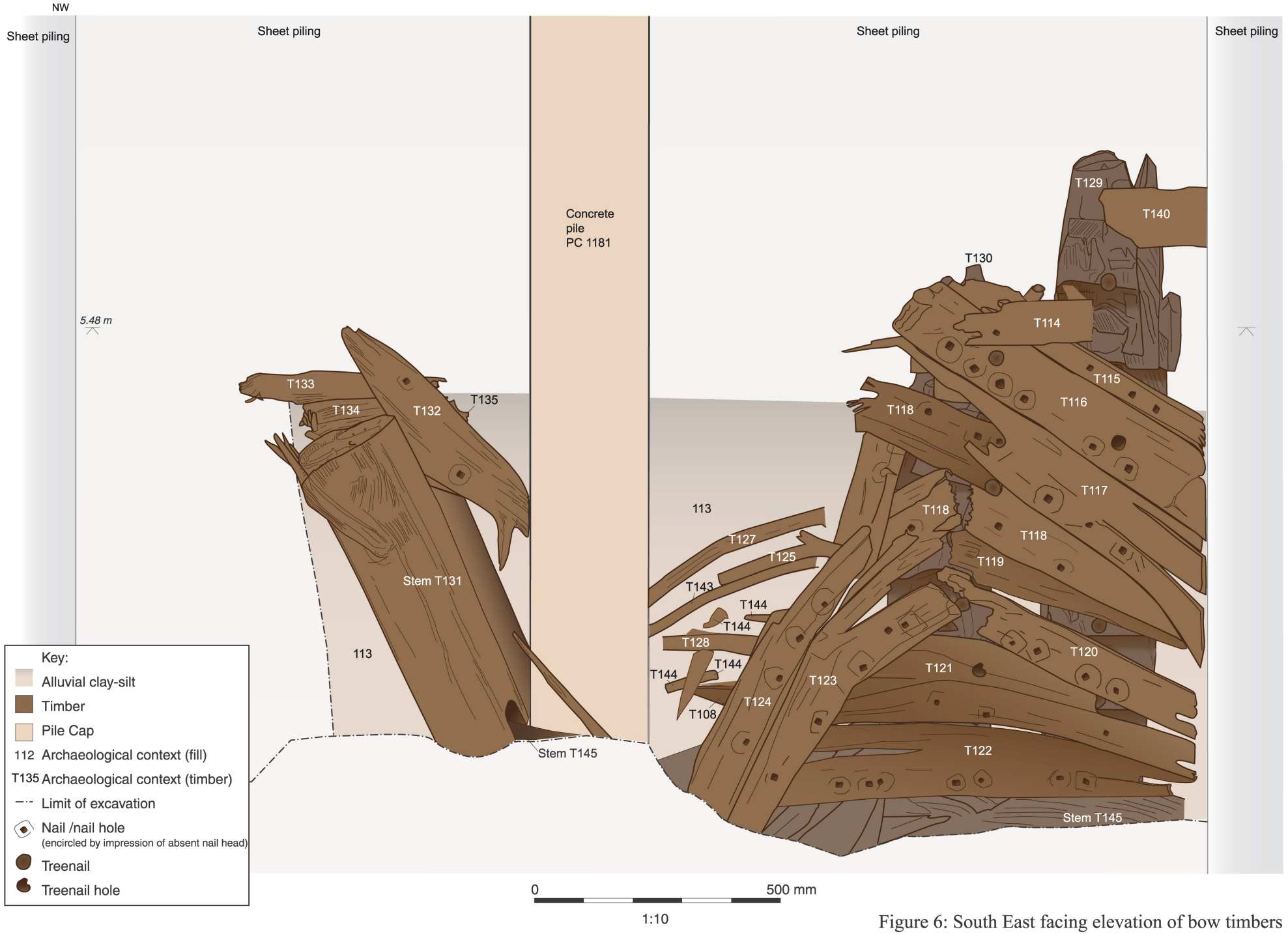


Figure 6: South East facing elevation of bow timbers

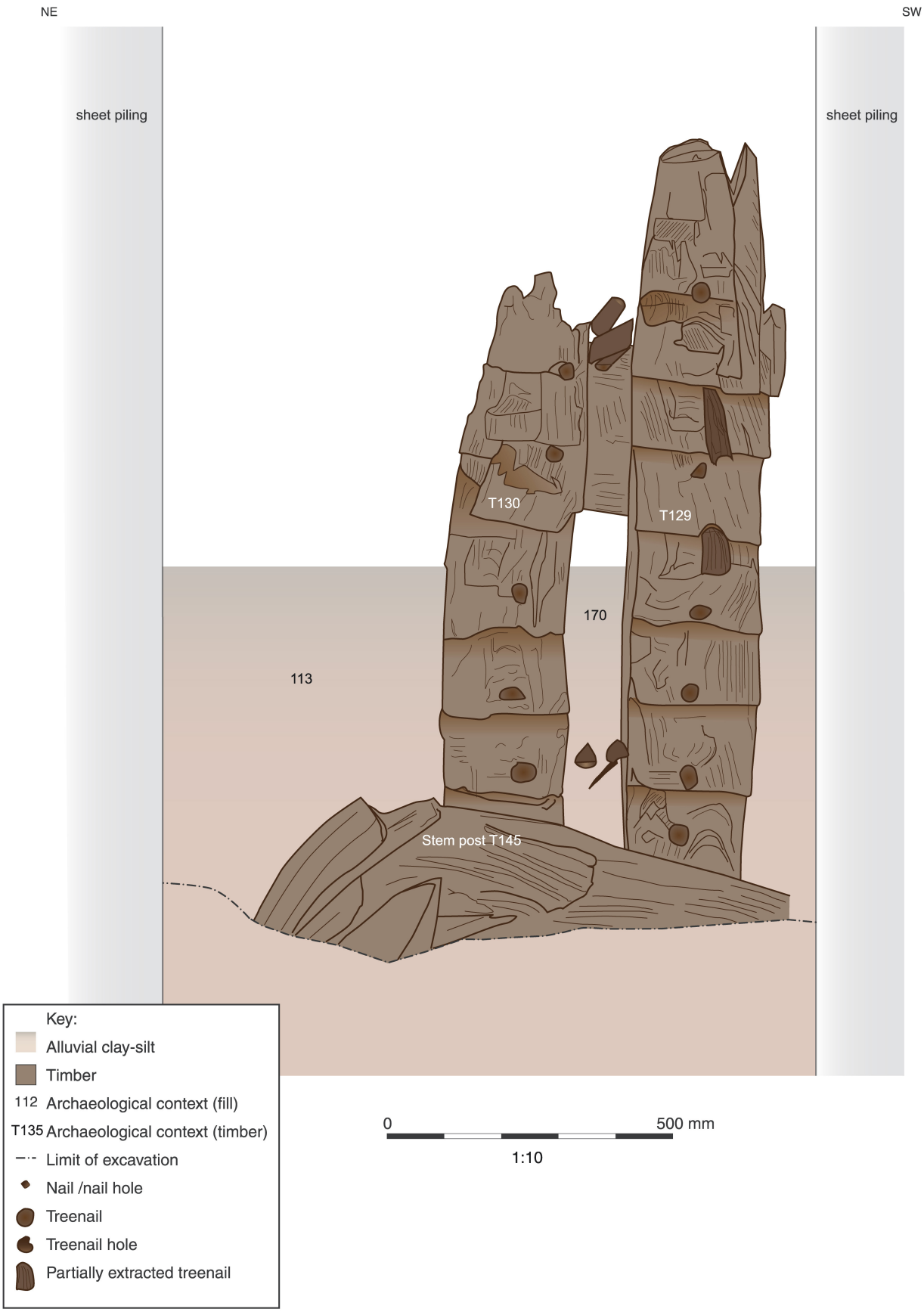
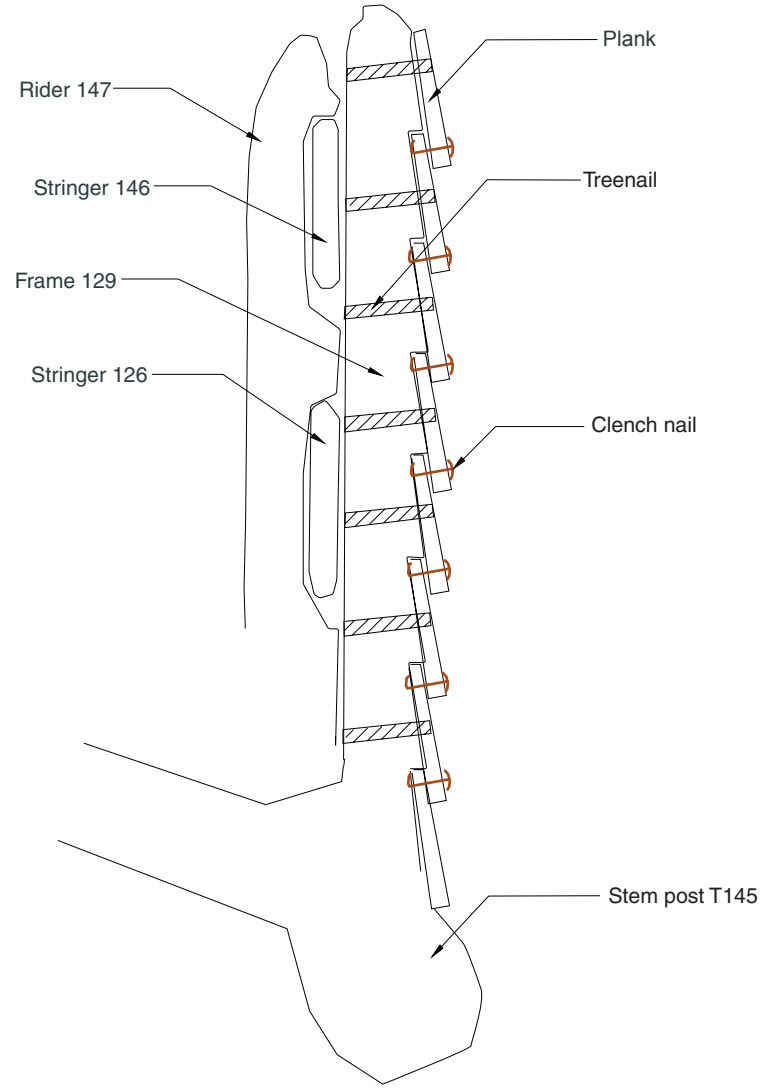


Figure 7: South East facing elevation showing frames and stem post after removal of portside planking



Reconstructed section through port-side

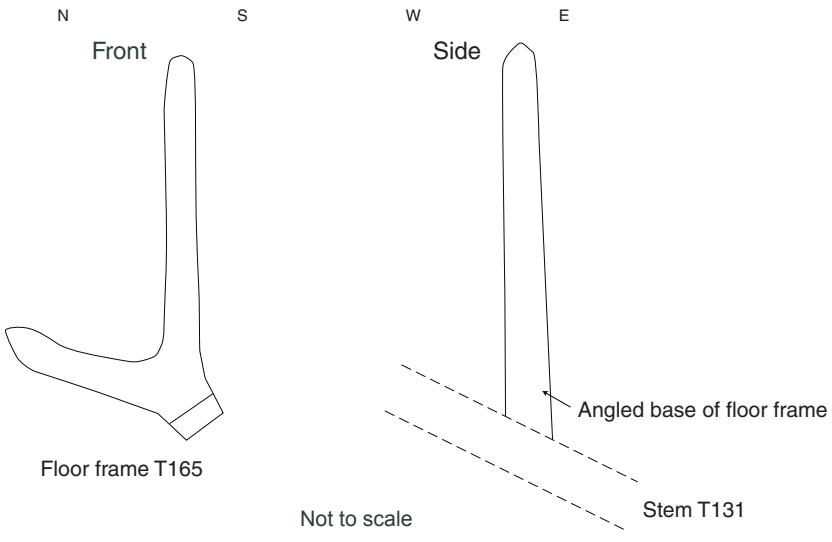


Figure 8: Schematic representation of Hull construction