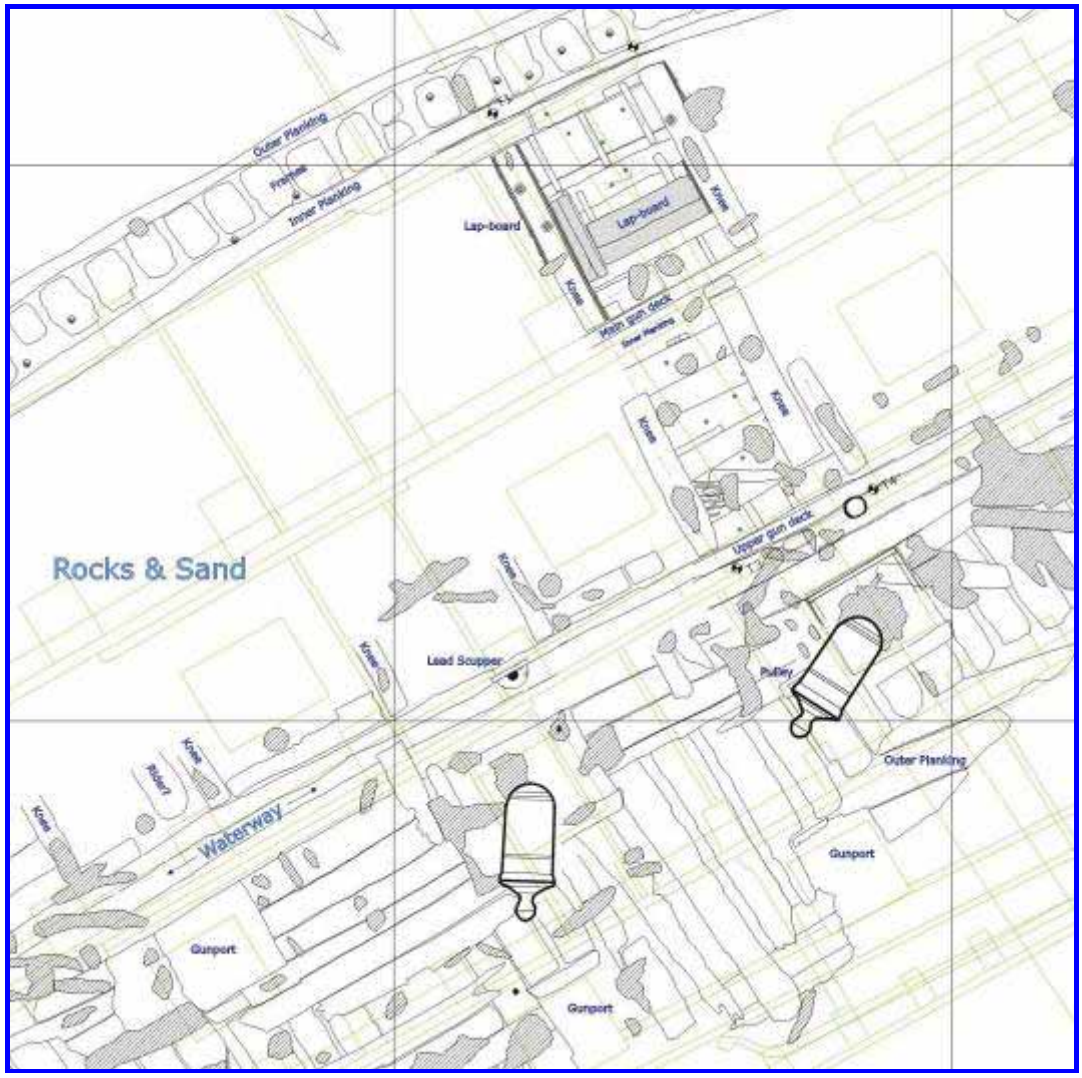
HMS Colossus



Survey Report 2002

Contents

Forward (Mac Mace)

We may never know just how much of the aft section of the Colossus survived the original breaking up, to be swept by swell and tide to the location I discovered in June 2001. After two seasons of intensive survey we certainly know what remains today. For Scilly it is a remarkable site, so many of the hundreds of ships lost amongst the reefs and ledges of these offshore islands are now little more than names on charts, with occasional artefacts and fittings concreted in cracks and crevices around their location.

The small forest of copper fastenings that were once embedded within the great timbers of this ship of Nelson's navy, today stand as monuments to the appetite of our resident ship worm, the 'Gribble'. I feel very privileged to be witness to a site I know will probably not survive for too much longer.

The recovery this season is of a small part of the stern decoration which we hope will be allowed to remain in Scilly. The existing remarkable collection of ship carvings exhibited by the National Maritime Museum at Valhalla, will I am convinced, be very much enhanced by any additional carvings from the Colossus, especially as a carved stern board from her, and recovered contemporary to her loss is already in the collection.

The continuing work of my team, under the direction of Kevin Camidge, is I believe worthy of some recognition. I record here my own appreciation of their efforts and loyalty to the project. We all hope that the recent administrative changes will bring a new way forward, not only for the Colossus but for the work that many other protected site licensees put in.

Mac Mace

Acknowledgements

So many people have helped with this project it is difficult to know where to start in acknowledging their generous support. The Scilly dive team have worked hard and cheerfully and have made the project a pleasure to be a part of. The Scilly divers were Jo & Tim Allsop, Anna Cawthray, Terry Davis, Terry Hiron, Colin Lanigan, Emily Priestly and Andy Williams. Richard Jenkins has performed sterling service as boatman and diver support throughout the project. The dive team for the exploratory excavation was very ably augmented by the LOMAG group in September of this year and I must thank Janet & Robin Witheridge and Hanna Steyne for their assistance. Peter Holt gave up a week of his holiday to help with the survey this year and also supplied a copy of *Site Surveyor*, his excellent survey computer program. Ted Langdon fabricated the recovery equipment for the stern carving to Mac Mace's design.

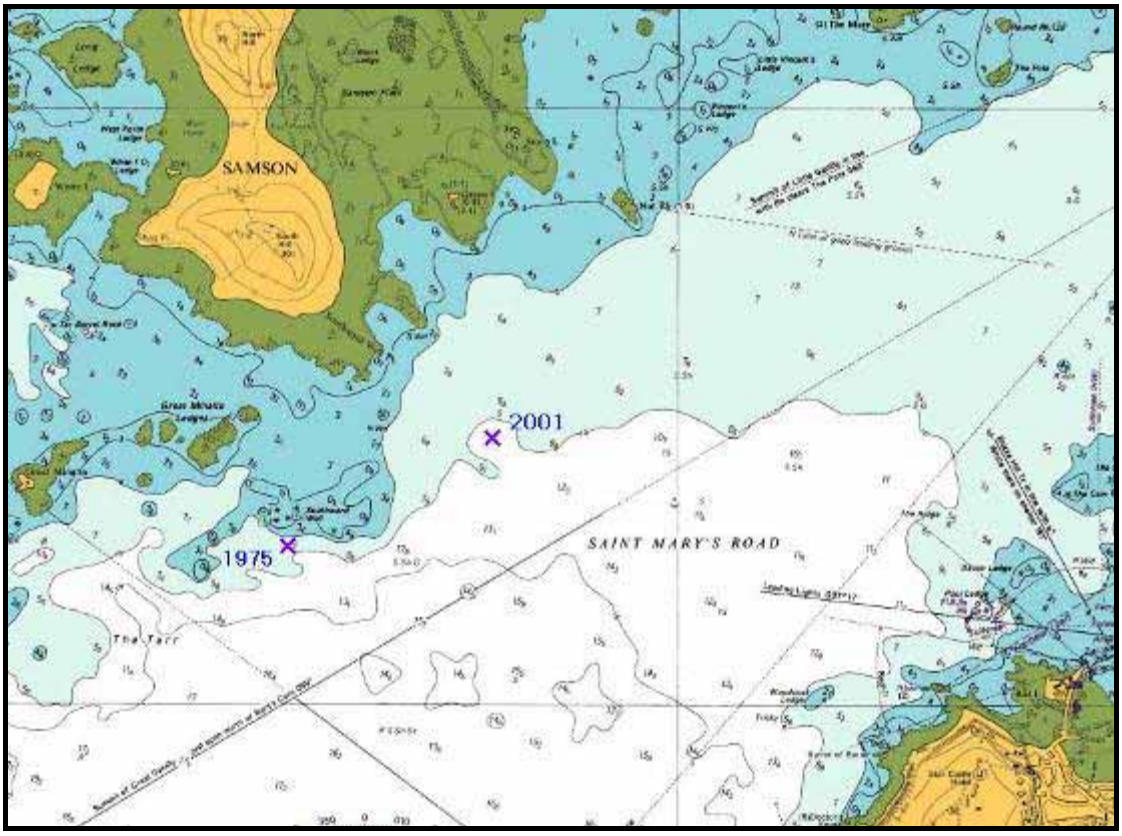
Alex Hildred, Charlie Barker, Martin Reid and Phil Rees all visited the site, gave invaluable suggestions and most importantly asked awkward questions. The Archaeological Diving Unit (ADU) monitored the recovery of the carving this year – and helped out when we needed help most. I would also like to acknowledge their contribution to the site survey – the ironwork to the south of gun 1.

Last but not least I would like to thank Mac and Tracy Mace who made the whole project possible – they have funded everything which has happened to date and none of this would have been possible without them.

I would like to acknowledge the suggestions and ideas supplied by all of the above mentioned but must point out that all errors are entirely my own.

Kevin Camidge

Site location plan



The positions of the 1975 & 2001 designations

Introduction

Peter Miller's Story

Peter Miller of Bryher relates a story passed down to him from his great grandfather Ernest Horatio Jenkins. Ernest was the head boatman for Tresco (estate?) and was born around 1850. While returning from an angling trip he reported "As we came past Southward Well we saw the men standing up in the scaffs[1]". Some have thought this story may have related to statues in William Hamilton's collection but when the stern carving was found the story was remembered. However the stern carving, being from the port side, probably never stood in any position of prominence. It is possible that what was seen was the line of upstanding guns on the south side of the wreck.

Exposure of the wreck

What makes this site so different from the many others in Scilly is the extent and remarkable preservation of the timber. When it is first uncovered the timber looks perfect with fine surface detail visible. This was particularly apparent on the stern carving where much intricate detail was preserved intact[2]. It was clear from the start that this timber had not been exposed on the seabed for the last 200 years. Indeed by May 2002 it was apparent that timber which appeared perfect when first seen in 2001 was now decayed and gribbled. Furthermore it was also clear that more of the wreck was emerging from the sand as time went on.

The inevitable conclusion was that the wreck had been preserved because it was buried in the sand. Natural forces unknown are now causing the sand to disappear from over the wreck. It is not clear why this is occurring nor whether it is a cyclic phenomenon or a more long-term trend. Observation of the site since June 2001 has shown a steady diminution of the sand levels over the wreck. Phil Rees, a local marine geologist has an interesting theory as to why this may be taking place now – see appendix III.

Obviously it is important to attempt an understanding of this process if a proper response to the ongoing threat is to be made. However if current trends continue it is certain that we will lose significant parts of this remarkable wreck each year – and that in five years' time very little of what we now see on the seabed will remain. Moreover each year more of the wreck is exposed – the optimum time to make a proper record is while the timber is in prime condition, not when it is decayed and gribbled.

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1 Scaffs – kelp

2 Including paint and traces of gilding

Tasks undertaken this year

The work undertaken this year falls into three main categories: recovery of the stern carving, completion of the survey and the exploratory excavation. The first two tasks were undertaken in May and June while the exploratory excavation was undertaken in September. A total of 292 diver hours were spent underwater on site this year[3]. This breaks down into 73 hours for survey, 107 for the carving excavation and recovery and 94 hours for the exploratory excavation. For a more detailed analysis of the time spent on site see appendix I – Dive log sheet.

Project History

HMS Colossus, a 74-gun 3rd rate ship-of-the-line, was built in 1787 and wrecked off Samson only eleven years later on 10th December 1798[4]. Part of the Colossus lying 750m from the current discovery was the subject of a previous designation order in 1975 (position 49 55.250'N 006 21.033' W), but this designation was subsequently revoked in 1984. The cargo included Etruscan pottery, part of Sir William Hamilton's second collection, some of which was salvaged by Roland Morris for the British Museum. Since then Mac Mace and Terry Hiron have recovered further potsherds which have been donated to the British Museum.

Mr Mac Mace discovered the stern section of the wreck (the subject of the current designation – position 49 55'.471N 006 20'.505W) on 5th June 2001. On 6th June he informed the receiver of wreck and Martin Dean, director of the ADU. Martin Dean dived on the site in the company of Mr Mace on 15th June 2001. A licence to survey the site was issued to Mr Mace on 3rd August 2001.

Due to the very limited time (less than four weeks) available to carry out a pre-disturbance survey prior to the ADU excavation of the statue it was decided to record this part of the wreck by a photomosaic survey. This was commissioned by Mr Mace and undertaken by commercial underwater photographers[5].

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3 This does not include time spent underwater by the ADU

4 See Captain Murray's account of the loss – Appendix VII.

5 Primary Productions Limited. For details of the photomosaic survey see the 2001 Survey Report.

The ADU obtained a licence to excavate in order to recover the stern carving and undertook this work during the first two weeks of September 2001. They worked in conjunction with Mr Mace and used his equipment[6] to effect the excavation. However the carving proved more extensive than anticipated and recovery was not possible that year. The carving was reburied[7] by Mr Mace in late September 2001.

The pre-disturbance survey proper was undertaken[8] at the same time as the ADU excavation to recover the stern carving. First the primary control points were established then the main exposed elements of the wreck were drawn at a scale of 1:50. Some of the exposed timber was drawn in outline only due to the amount of time available and the fact that most of the available manpower was concentrated on the excavation of the stern carving. Two people produced this plan (excluding the area of the photomosaic) in a little over two weeks.

For a complete account of the work undertaken in 2001 see *HMS Colossus Survey Report 2001*[9].

6 Mainly a reaction dredge and pump operated from Mr Mace's boat.

7 The statue was covered with a thin layer of clean sand which consisted of a tonne of washed, fine builder's sand. This was overlaid with two layers of Terram, weighted down at the edges with sandbags. All this was then surrounded with a 0.75m diameter tube filled with sand (sand-sock), specially manufactured for this purpose. The shallow cofferdam thus formed around the carving was then filled with sand to a depth of 0.50m.

8 By Colin Lanigan and myself.

9 This report is included on the enclosed CD – see appendix IX

Survey

Introduction

This year further work was undertaken on the site survey originally started in September 2001. This work commenced on 12th June 2002 and continued for eight working days using a team of four divers. The survey this year concentrated on the area of timber around the cannons which had been drawn in outline only in 2001. Last year's survey was made at a scale of 1:50 but it was decided to work at 1:20 this year – this seems to be the minimum scale which enables details of construction such as treenails to be recorded properly.

Control points

The 24 primary control points were all placed and surveyed last year. Fixing of these points was made much easier by using the *Site Surveyor* computer program from 3H Consulting Ltd[10]. Three of the primary control points were geo-referenced by the ADU in 2001 to an accuracy of a few metres using an ORE LXT acoustic positioning system coupled to a differential GPS receiver[11]. Wherever possible, robust features of the wreck itself were used as control points – for example the cannon cascabels and the larger of the upstanding copper alloy fixing pins. Where no suitable points existed 6mm steel reinforcing rods 0.30 – 0.40m in length were driven into the sand. Occasionally 0.15m galvanised nails were fixed into substantial timbers. All control points are labelled with white UPVC tags. All positions and grid references are in UTM zone 30 based on the WGS84 datum[12].

All measurements were taken using builder's fibreglass reinforced tapes. The points all have their depth recorded (using dive computer digital depth gauges) relative to the site datum, Gun 1 cascabel. Measurements between control points were always made directly between points – never horizontally. The depths and distance measurements were put into the Site Surveyor program, this computed the most likely positions of the control points. Of the 146 measurements made only 5 were rejected and the remainder fitted together to within 24mm.

Secondary control points were added to facilitate drawing where required – but these were always fixed relative to the primary control points to avoid accumulating errors.

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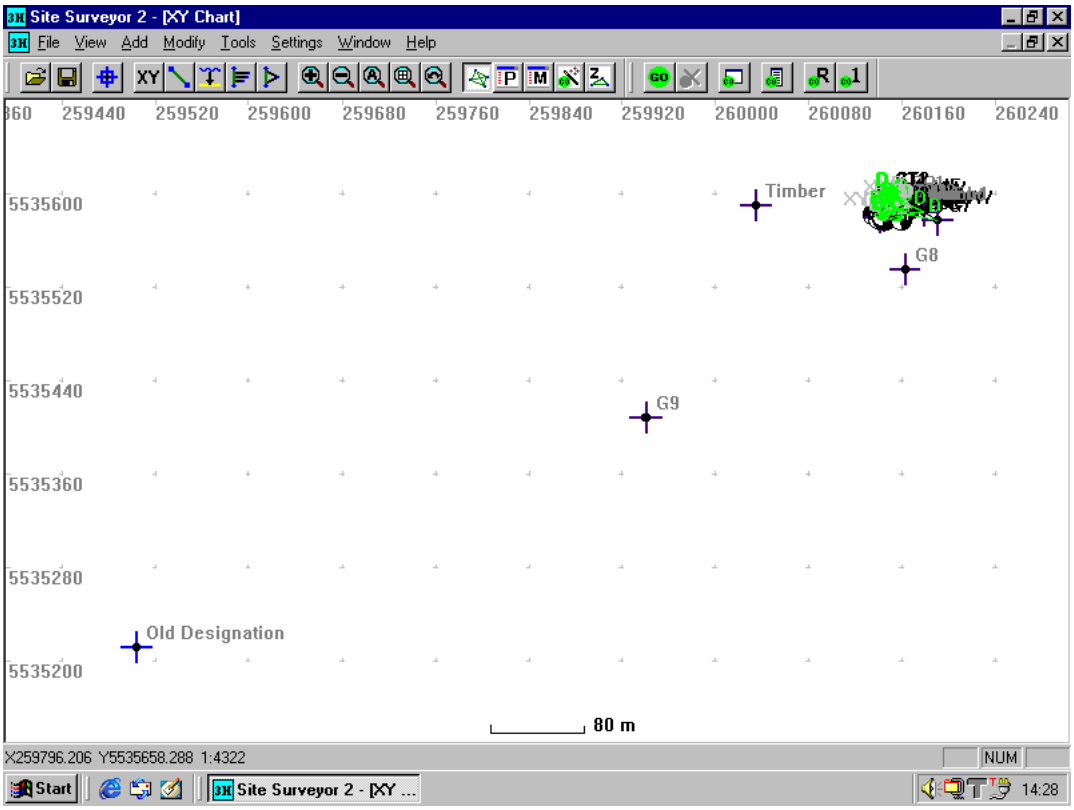
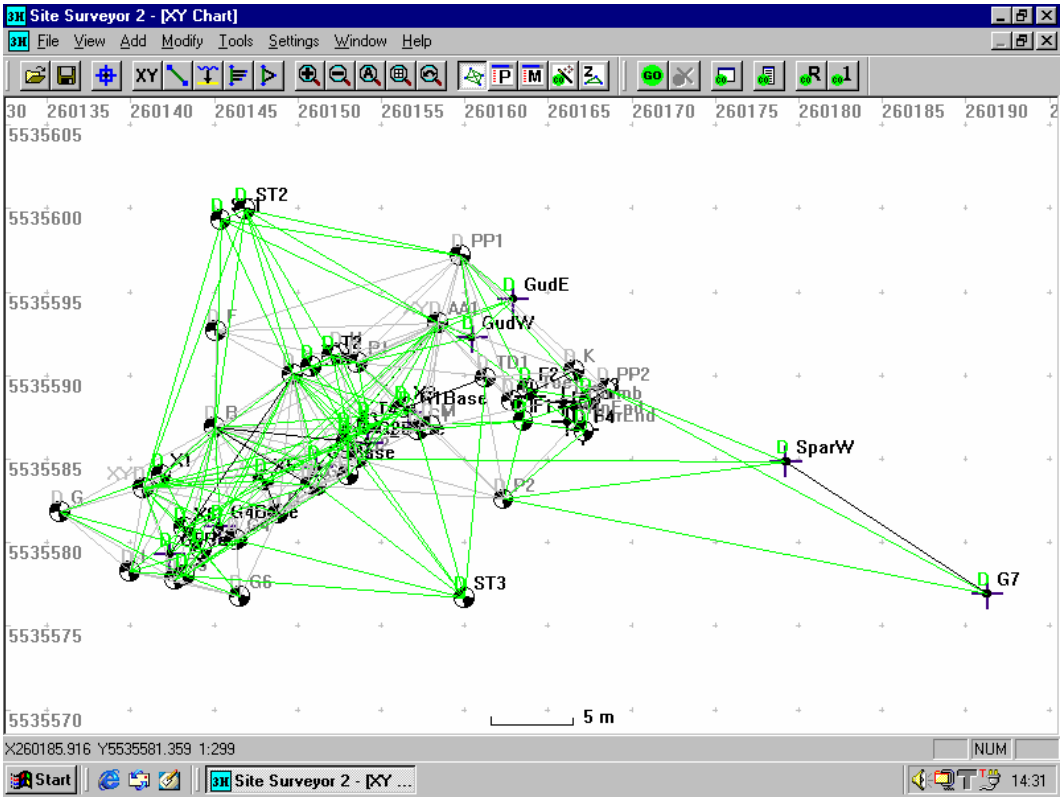
10 see www.threeh.demon.co.uk

11 Acoustic beacons were placed on primary control points G1, A1 and AA1.

12 Scilly is actually just in zone 29 (12°W to 6°W) but the original geo referencing gave the positions in zone 30 – after taking advice on this matter it was decided to leave the references in zone 30.



A screenshot taken from Site Surveyor showing the location of the outlying guns (G8 and G9) and the 1975 designation. The mass of points shown top right is the current site



A screenshot taken from Site Surveyor showing the positions of the control points and the measurements taken between them.

Site plan

All site plans this season were made using planning frames at a scale of 1:20. A4 perspex drawing boards were used covered with waterproof graph paper with a layer of plastic drafting film taped over this. The planning frames were 1 x 1m and 1 x 2m sections of steel reinforcing mesh consisting of a 0.20m grid. This mesh is readily and cheaply obtainable from builders' merchants and is robust enough to withstand rough handling on the seabed. To ease the positioning of the planning frames secondary control points were added and tied in to the primary control points. Tapes were then stretched between these points – usually 3-4m in length. One edge of the planning frame was then positioned along the tape – and the drawing made. It was found that four to six square metres could be drawn during a one hour dive. The 'site sheets'[13] – the actual drafting film used underwater - were then used to draw up the finished plan utilising the control point positions and tape baselines to position each square on the drawing.

The main difficulty encountered was caused by the large quantities of iron work standing over the timber of the wreck – this often stands up from the seabed by more than 0.50m and makes positioning the planning frame problematic.

One consequence of changing to a scale of 1:20 was that the overall site plan became unmanageably large. Partly for this reason the site plan was digitised using the CorelDraw drawing program. This also allows various elements of the survey to be stored on separate layers which can be switched on and off. A particularly striking use of this feature has been the viewing of the builders plan[14] overlaid on the site survey. There is a remarkable degree of correlation between the two. Gun ports and decks exhibit a high degree of coincidence on the builders plan and site survey, strongly suggesting that our understanding of the disposition and extent of the wreckage are correct. The stern carving and rudder gudgeon while obviously detached can be seen to be very close to their original positions on the vessel. The digitised site plan is included on the CD attached to this report.

Discussion

Guns & gun ports

While the survey was underway in June of this year a number of those who dived the site expressed differing views on exactly which parts of the wreck we were looking at. In particular the identification of the upstanding guns as the 18lb guns of the upper gun deck was called into question – some still favoured the 32lb guns of the main gun deck. In order to resolve this matter I had a very close look

13 Suitably labelled with the author, date and the control points used.

14 After digitising, scaling and rotating to the correct orientation.

at the area just to the north of the gap between guns 4 and 5. The surviving timber here was mostly on the surface of the sea bed and a lower gun deck port should have been visible if our hypothesis was correct. After removal of weed it became clear that there was indeed a gun port in this location. Interestingly, a small fragment of wood lying within this gun port was observed to be carved with the initials 'PB' – this is still in situ. Although only parts of the opening were visible[15] it was possible to measure the width of this gun port. It was found to be 1.01m, which is almost exactly the width shown on the sheer plan, (within the limits of scaling) and far too wide for an upper gun deck port. Two detached iron ring bolts were also observed either side of the gun port opening. When we returned to the site in September to undertake the exploratory excavation one side of the next main gun deck port to the west had been exposed by the falling sand levels.

There are seven upper gun deck ports visible, five of them with their guns still standing upright, muzzles down through the ports. Most of the guns exhibit ironwork and the remains of timber adhering to them – probably the remains of the gun carriages. A trunnion is visible on Gun 4; none of the other upstanding guns (G1-G5) have any visible trunnions. Detailed recording of these guns has yet to be done[16].

While the timber around the guns was being recorded it became clear that parts of three quarterdeck gun ports were also in evidence (see site plan). These largely survive as outer hull planking only. The frames and inner planking are now missing – probably having rotted away. To date no gun port lids have been identified on the site.

Timber survival

The survival of the timbers of the wreck is remarkable. It is clear from the survey that some parts of the wreck have fared better than others. On the south side of the wreck (south of the line of guns) mostly only the outer planking of the hull survives, probably because this is one of the highest points of the wreck so the timbers have been exposed for longer. Similarly, around the guns themselves the inner planking is mostly missing, the frames being mostly what is visible. Just to the north of this, where the wreckage is slightly lower, all the timber of the hull is intact – hence the inner planking is what is visible. A line of hanging knees are visible to the north of the upper gun deck planking. Near the stern the hull only survives up to the level of the upper gun deck. All the timber which is currently exposed will disappear in the next few years unless there is an increase in the sand levels and they are reburied.

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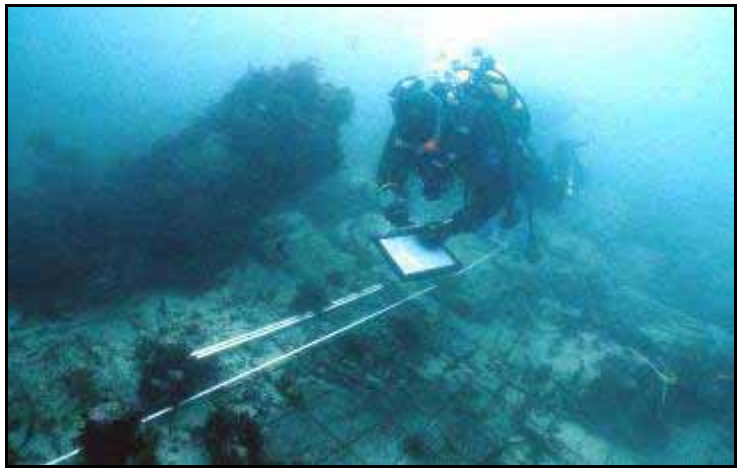
15 We had no licence or permission to excavate in this region so more could not be exposed

16 Guns 2 & 4 have had profiles drawn.

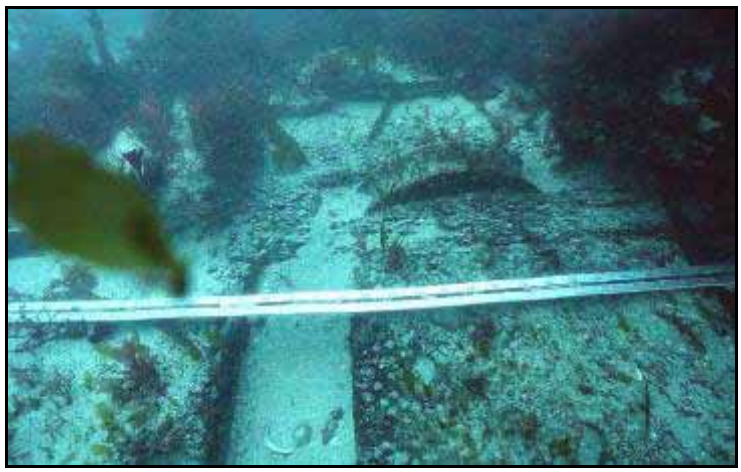
S1 Gun 4 and gun 5 – looking west.

S2 Copper alloy fastenings and timber on the north side of the wreck. The hull outer planking is on the left and the frames are in the centre of the picture.



S4 Survey in progress – note the planning frame in the foreground and gun 2 in the background.

S3 Inner planking and frames – gun 5 in the background – looking west.



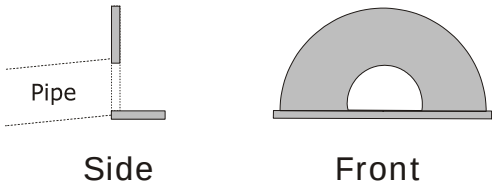
S5 Sheave (pulley wheel) incorporated into the hull to the west of gun 2.

Hull sheave

A pulley wheel or sheave was noticed adjacent to the gun port of gun 2 on the upper gun deck. This is incorporated into the thickness of the hull and is 0.08m wide, with an apparent diameter of at least 0.25m. This was probably for a sheet to pass through the hull – possibly the main sheet[17]?

Scuppers

Three lead scupper pipes were observed, all situated just above the deck surface on the upper gun deck (see plan for locations). Two of these are partially eroded, but the centre pipe clearly shows the arrangement of the flange on the inner end of the pipe – see sketch opposite. These flanges must have been fitted to the waterway – a timber placed between the upper surface of the deck and the inner hull planking. The possible waterway is visible for a considerable length just above the upper gun deck planking. It is, however, now badly eroded where it exists.



Sketch of the lead scupper pipe flange found on the upper gun deck.

Ironwork

As can be seen from the plan there are considerable quantities of iron visible over the surviving timber – often to a height of over 0.50m above the seabed. The majority of it is very difficult to identify as it is very heavily concreted. The ironwork would probably repay a more careful study to attempt to identify its function.

Chains

One area of ironwork whose function has been identified is that to the south of gun 1. This was tentatively identified as the remains of the chain plates by Steve Liscoe of the ADU. The chains are a series of iron links which fasten the shrouds outside the ship's hull. The ADU kindly contributed to the survey this year by drawing this ironwork – it is shown coloured yellow on the site plan. The position of this ironwork would make these the chains for the port-side mizzen shrouds[18].

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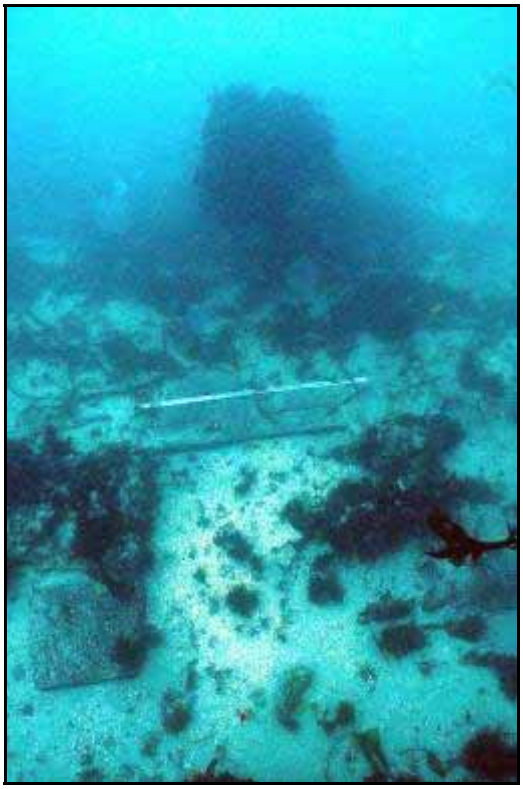
17 A similar sheave incorporated into the hull was pointed out to me by Peter Goodwin on a recent visit to HMS Victory – this was also located to the side of a gun port.

18 On the Draught of Colossus (NMM 652) there are seven mizzen chains shown. The chain plates are fastened between the gun ports of the quarter and upper gun decks on this plan.

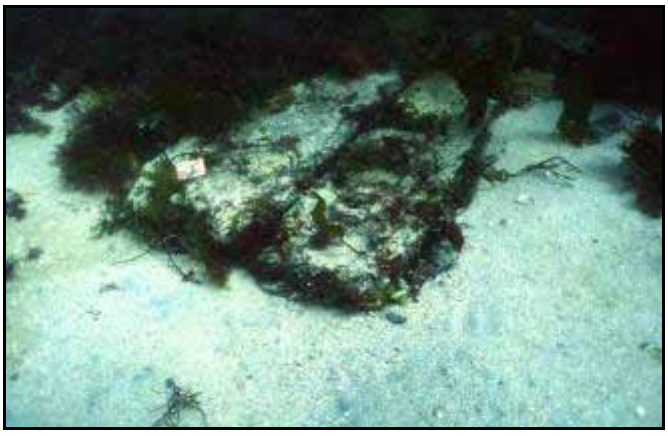
S6 (above) Lower deck gun port showing a fragment of wood inscribed 'PB' (arrowed)

S7 (left) Main gun deck port. Note moulding to the edge of the port. Upper gun deck cannon 5 in the background.



S8 (left) Quarter deck gun port – gun 3 in the background – looking north.

S9 (below) Scouring around the timbers of the wreck – by control point I (centre left), looking north-east.



Gun 6

This gun is laying flat on the seabed, just to the south of the line of upstanding upper gun deck cannon. It is almost opposite an empty upper gun deck port – prompting speculation that this was the missing gun. But as the muzzle of this gun was buried in the sand it was not possible to take any diagnostic measurements in 2001. Accordingly we were given permission in the survey licence this year to remove the small amount of sand from over the muzzle of this gun to enable measurements to be taken. When this was done the length of gun 6 was found to be 2.76m[19] – consistent with an Armstrong pattern 18lb gun. It would seem possible, therefore, that this is the gun from the nearby empty gun port.

Detached timber to the east

During the exploratory excavation in September 2002 two small areas of timber about 5m to the east of the stern were noticed. These seemed to consist of single pieces of timber with some copper alloy fastening bolts attached. Unfortunately there was not time to survey these this season.

Stern survey

The remains of the stern of the vessel were mainly recorded by photomosaic in July 2001[20]. Since then, considerably more of the stern timbers have been exposed. Exactly which part of the stern structure survives on the seabed is not clear – it may be predominantly the port side stern gallery. This is the principal area of wreckage which requires further work to understand it properly. There is also the possibility that further carved material exists in this area. If the sand levels continue to fall it may be worth considering limited excavation at the stern so that it can be properly understood and any further carved wood rescued.

Copper sheathing

Navy ships of this period were clad with copper sheathing below the waterline; there is at least one documentary source which specifically mentions the copper sheathing on Colossus[21]. Although several pieces of sheet copper have been found on the site (see finds list) only in one place has copper sheathing been found still attached to the hull. This is located on the north side of the wreck close to the stern – see site plan.

Gudgeon

A large iron rudder gudgeon lies on the seabed at the stern of the wreck. From the shape of this gudgeon it was clearly the uppermost of those originally

19 Measured from the base-ring to the muzzle – the customary length measurement for smooth-bore cannon. For a detailed record of the measurements taken see appendix IV Identification of the guns.

20 For details of this see the 2001 survey report.

21 ADM1/2136 The Defects of His Majesty's Ship Colossus Geo Murray Esq. Commander.

attached to the hull. One interesting feature of this item is that it does not seem to have corroded in the same way as the other ironwork on the site – perhaps betokening some difference in materials or manufacture. It may be worth taking a small sample of the metal of the gudgeon and having it analysed[22].

Outlying guns

Three outlying guns have been located, all some distance from the main area of wreckage. Gun 7 (possibly a 9lb gun) was surveyed in 2001 and appears on the site plan. Two further guns were located by the ADU in June this year. Gun 8 lies 52m south[23] of the site. Gun 9 is 280m roughly WSW of the site and from the measurements taken by the ADU is a 32lb gun (from the main gun deck). Precise locations and measurements (where known) are recorded in appendix IV – Identification of the guns.

Soundings

A number of soundings through the sand were made around the periphery of the wreck in September 2001 – these are shown on the 2001 survey plan. They demonstrate a considerable depth of sand around the wreck. These soundings were effected by using a 3m length of 22mm plastic waste pipe, trickle fed with water from the water supply for the reaction dredge[24]. It was found that using this method the sand could be easily probed with minimal disturbance to the underlying stratigraphy.

This year in order to establish whether any further elements of the wreck lay buried within the sand a series of soundings were taken to the north and south of the wreck, between control points T1–ST1 and T3–ST3 – in essence a continuation of the exploratory trench north and south of the wreck. The soundings were taken at regular intervals along a tape stretched between the control points. At no point was anything located within the 3m length of the probe used. This would seem to rule out any further substantial buried elements of wreckage in the areas tested.

Sand level monitoring

The seabed in the vicinity of the exposed wreckage currently consists of coarse sand with finely broken shell (L1). In places this is overlaid with medium sized (0.15-0.20m) rocks with kelp attached. These have been observed moving onto and off the site in the tide. Although it is readily apparent to those of us who have dived the wreck that the sand levels have been consistently falling since its

22 Dr Brian Gilmour an archaeological metallurgist has agreed to analyse such a sample should one be taken.

23 All measurements are from Gun 1 – the site benchmark.

24 Sometimes called jet probing.

discovery in June 2001 it was felt that some objective measure of the phenomenon was required. The original 'sand marker' I recorded was the upstanding lead pipe TD1 – unfortunately this is now exposed to such an extent that it has had to be surrounded with sandbags to prevent it falling over.

Accordingly we measured the upstanding part of a number of the control points fixed in the sand. Although the individual measurements are unlikely to give a proper picture it is hoped that by adding the lengths together a general impression of the sand levels may be gained. We have also recorded the height above sand of the timber of the wreck at key points. Hopefully this will provide at least some objective measure of the sand levels on the site.

Heights of pin tops above the sand

Control Point	***Type***	***Height Above Sand (m)***
P1	*Steel pin*	*0.175*
PP1	*Steel pin*	*0.10*
ST3	*Stainless steel pin*	*0.04*
P2	*Steel pin*	
PP2	*Steel pin*	
Total		*0.315m*

Heights of timber above the sand

Adjacent Control Point	***Timber Height Above Sand (m)***	***Where Measured***
AA1	*0.04*	*North side of AA1*
B	*0.09*	*North side of B*
C	*0.10*	*North side of C*
D	*0.04*	*South side of D*
E	*0.09*	*Gunport by D*
G	*0.02*	*South side of G*
I	*0.07*	*West side of I*
J	*0.02*	*West side of J*
S	*0.02*	*South side*
Total	*0.49*	

Acoustic positioning trial

While the survey was in progress Peter Holt conducted a trial of Joel Medard's PLSM Aqua-Metre D100 acoustic positioning system on the site. The later stages of the trial involved comparison of the acoustic positioning system with our trilaterated primary control points. The system was relatively easy to use and we await with interest the published account[25] of these trials.

The debris trail

The previously designated site (1975 – 1984) worked by Roland Morris lies some 750 metres to the WSW of the current site. Between the two sites a number of items have been observed (cannon and some timber), mainly by the ADU. In September 2001 the ADU conducted a magnetometer and a sidescan sonar survey of the area between the two sites. This year they conducted another sidescan sonar survey sponsored by the television company Time Team. It would be inappropriate for me to report on others' work here, but I consider it a fairly high priority to investigate and survey any targets located by this work. It seems clear from what I have been told that there are a number of items relating to the wreck in the area between the two sites. The key to understanding how the two parts of the wreck came to be so far apart may well lie in the debris field and as much of this is not covered by the designation it should perhaps be surveyed sooner rather than later.

25 Peter Holt & Joel Medard - forthcoming.

The Stern Carving (Oscar)[26]

Description

The stern carving or quarter piece was one of the first things to be discovered on the site and was found lying in the sand just beyond the stern of the wreck. Originally only part of the face and the sporran or shield on the thigh were visible above the sand – both these areas exhibit signs of gribble and wear so were probably exposed for some time prior to its discovery. It consists of a carved wooded statue depicting a male figure in neo-classical dress holding aloft in his left hand what appears to be a laurel wreath? A flag or pennant is carved just to the side of this and directly above a semi-circular window head. Part of this highly decorated window head is still attached to the carving. The figure would originally have been on the upper port side of the stern immediately to the port side of a round-headed window opening[27]. The carving is 3.30m long overall, 1.60m wide and 0.82m deep. Just above the window arch a large iron concretion, 1.05m in length is probably the remains of a stern lantern bracket [252]. There were possible traces of paint still detectable in the crevices of the carving when it was first exposed. A small piece of timber from the carving was tentatively identified as elm by Mary Rose Archaeological Services (MRAS). The top surface of the window arch is cased in lead sheeting – presumably for weather protection. This lead sheeting is still in place.

Part of the carving is missing, consisting of the right hand side of the face and the right arm. These were obviously originally a separate piece of wood – the smooth face of the original joint is clearly visible. The window arch is composed of at least four separate pieces of timber. The sporran/shield and part of the upper calf were a separate piece and were found to be detached prior to the recovery operation. Hopefully once the carving is conserved a more detailed study of its construction will be possible.

A licence was issued by DCMS in December 2001 to Mr Mace to excavate and recover the stern carving. There were a number of conditions attached to this licence including that the ADU were present during the 'lift' and that a conservator was on site. Over the winter the necessary equipment was manufactured to affect the recovery. The total cost of this equipment was over £7500[28].

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26 Find number [285] – see finds list

27 These are often referred to as quarter pieces – example drawing D1 in Brian Lavery *The 74-gun ship Bellona*.

28 This would have been less on the mainland as all materials have to be shipped to Scilly making everything more expensive.

Work started on site on the 7th May 2002. The protection placed over the carving in September 2001 was removed; this took a team of four divers three days. Inspection of the carving revealed that little, if any damage had occurred to the carving over the winter – there was, however, some slight possible deterioration to the face and feet due to decay.

Equipment & methods

To raise the carving a lightweight frame of marine grade aluminium[29] was constructed. This sat over the carving on two custom-made, adjustable steel supports[30]. Nylon strops were then passed under the carving and secured to the frame. At all stages of excavation the carving was supported by replacing the sand on which it sat with the nylon strapping which was tensioned with bolted aluminium blocks attached to the lifting frame.

The frame and carving were then placed into a specially-made steel reinforced fibreglass tank[31] on the seabed. This tank, complete with frame and carving, was then be raised to the underside of the recovery vessel and locked into place on the underside of the vessel's moon-pool. The vessel then conveyed the tank (still in water) to the quay at Tresco where, at low water, it was lifted by crane onto the waiting trailer. The tank and carving were taken to a small industrial unit for safe storage.

There was a slight variation to the original plan, made after suggestions from Mary Rose Archaeological Services (MRAS). Originally it was intended to lower the tank containing the carving onto the trailer in the water at high tide. This would then be retrieved at low water and conveyed, still full of water, to the storage building. It was felt that this was unnecessarily complicated – hence the retrieval was made by crane – which necessitated the draining of most of the water from the tank for the short period of the crane lift. This alteration to the plan was agreed with Martin Dean of the ADU and a representative of MRAS was present throughout the lift.

All stages of the lift were practised beforehand, first on land and then in the water (without the carving of course). The tank and frame were transported to site attached to the underside of the support vessel and did not affect the handling of the boat unduly. Placing the support frame into the tank was practised several times using two different lifting systems. No significant problems were encountered during these trials.

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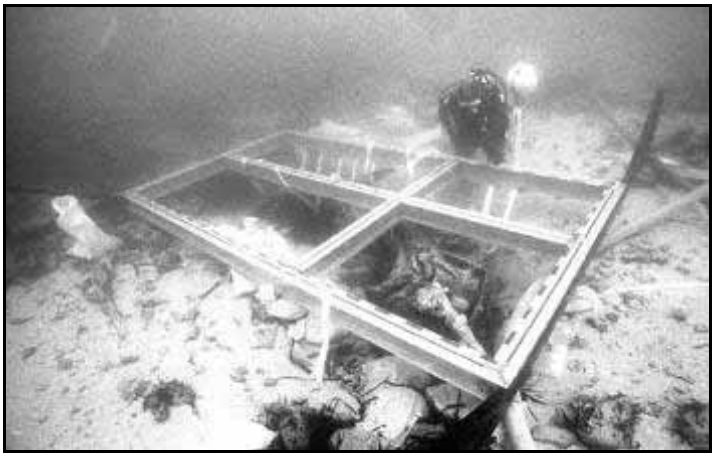
29 This was 4 x 2m and 0.20m deep.

30 These supports were 4m long – so extended the point of support (the feet) some 1m beyond the sides of the aluminium lifting frame. This enabled the 'feet' to be placed beyond the excavation.

31 4 x 2.2 x 1.2m internal dimensions.

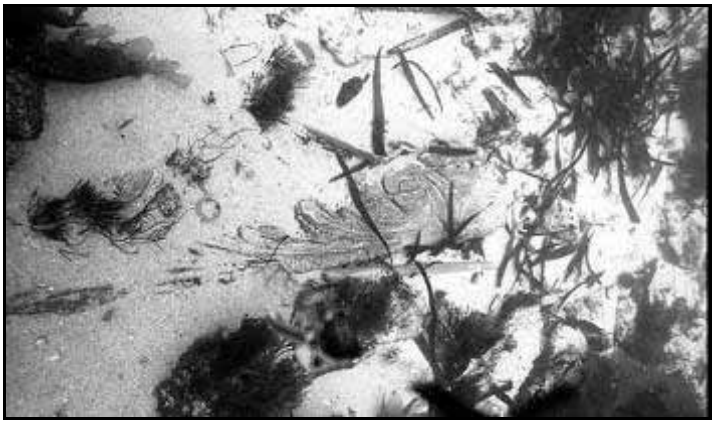
C1 The lifting frame in position over the carving – the diver is excavating above the window arch.



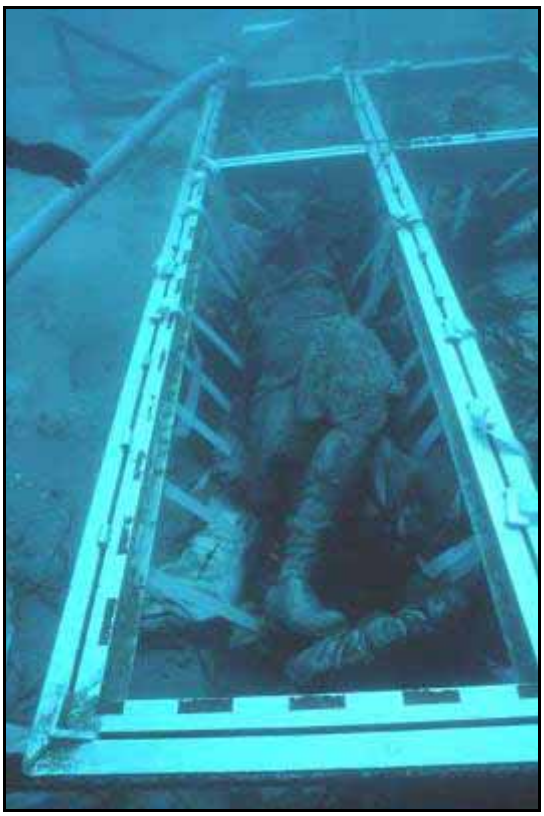
C2 The lifting frame in position over the carving – the diver is fitting support straps to the carving.

C3 Iron bracket above the window arch on the carving – possible stern lantern bracket.

C4 An ADU diver during their observation of the lifting operation.



C5 Carved board [find 276] found near the rearmost upper gun deck port.



C6 The carving [285] on the seabed suspended from the support frame by nylon straps.

C7 The carving [285] sat inside the recovery tank on Tresco

C8 Detail of the carving [285] – the face - taken on Tresco after recovery.

C9 Detail of the carving [285] – the flag above the window arch

C10 The carving [285] – detail showing the window arch, left arm and flag. The iron concretion shown top right is the possible stern lantern bracket.

C11 The carving [285] – detail showing the underside of the window arch. Note the traces of dark paint and the remains of gilding to the relief scrollwork.

Excavation & recording

Once the aluminium lifting frame was in position on its supports over the carving it was adjusted until level – using an ordinary builders' level – and its height recorded relative to the site datum (gun 1 cascabel). The four corners of the frame (F1 – F4) were then measured-in relative to the primary control points and thus became temporary secondary control points. The sides of the frame were marked every 0.10m along all four sides. This allowed the frame to be used for taking accurate position and depth measurements throughout the excavation of the carving.

Excavation was performed by 'hand-fanning', the spoil being removed by reaction dredge and deposited on a clear area of seabed to the east of the wreck. The edges of the excavation were reveted using sand bags to prevent the ingress of unexcavated sand and to keep the size of the excavation to a minimum. Once the excavation had reached the bottom of the carving it was clear that it was not attached to any other timber – it was simply sitting face up on the sand. Starting at the feet end (the lightest part) a small section was excavated beneath the carving and the first nylon strops installed and tensioned. Fortunately the underside of the carving was largely flat, plain timber. Where the strops passed close to carved timber, padding was placed between the timber and the strops. We continued this process until we had reached the top of the carving and it was supported entirely from the lifting frame by the nylon strops.

The upper levels of the stratigraphy around the carving consisted mainly of a light-coloured coarse sand with broken shell [L1]. There were also traces of dark grey fine sand often contaminated with decayed weed and other organic material - but this may have been introduced by the 2001 excavation [L1A]. Under this was a mostly continuous layer of very compacted, fine, almost white sand [L2]. When first seen underwater it was thought that this layer contained clay – but subsequent sampling and examination on the surface showed it to consist of what appears to be very fine, well-sorted sand. The lowest level encountered consisted of a darker, (light grey) sand, medium to fine well-sorted grain size [L3].

When this season's work began it was still unclear whether the carving was attached to any of the fabric of the ship – only the top of the carving had been exposed in the 2001 excavation. Stern carvings were thought to have been secured to the ship by means of large iron dowels. A major worry was that the carving was still attached to significant timbers. As it turned out the carving was resting only on sand. There were, however, a number of iron dowels still fixed to the carving (at least four were observed). Only the fastening on the underside of the carving had to be removed to facilitate lifting – this was cut level with the surface of the wood. It was not at all difficult to sever and it consisted almost entirely of iron corrosion products.

The drawing of the carving shown on the main site plan was made from photographs. Key points on the carving were surveyed relative to the frame control points (F1 – F4) – The toe, eye, thumb, window end and lantern bracket end. The overhead photographs of the carving taken on land were digitised and overlaid on the site plan which has all the control points plotted in. The photograph was then adjusted until the key points matched. The drawing was then traced off the adjusted photograph. It is to be hoped that a better drawing will be made of the carving at some stage in the conservation process when access to the carving is possible.

Photography during the excavation of the carving was made possible by the generous loan of a Nikonos V camera and 15mm[32] lens by the ADU. All stages of the excavation were recorded in black & white and colour[33]. The whole operation was also filmed on digital video by Bill Bowen of Penzance – several hours of video were recorded. This has been edited to a short VHS film of about 15 minutes' duration showing mainly the recovery of the stern carving.

Recovery

The recovery began as soon as the ADU arrived in Scilly on the 5th June to observe the operation. The steel supports to the lifting frame were raised using a large jack which elevated the suspended carving above the seabed. The following day the lift into the tank was initiated. There was some debate on the day of the lift as to whether the sea conditions were suitable. The carving was now in a fairly vulnerable state, and the weather had not been good in the preceding weeks. Also the practice runs on the lift had been successfully performed in similar (or slightly worse) conditions. Mr Mace expressed the opinion that the conditions were suitable. It was therefore decided to proceed with the lift despite the conditions. As it turned out this was a mistake; the rise and fall of the lifting frame/carving (suspended from the support vessel) was too great to allow the frame to be placed into the tank and subjected the carving to undesirable jolting. The whole situation was exacerbated by the failure of our through-water communications system part way through the operation. After several unsuccessful attempts to place the frame into the tank it was decided to place the frame/carving on the seabed. Our diving team was now out of air – while we went for more the ADU agreed to assist by replacing the support legs onto the lifting frame. When we returned to site we were able to complete this operation and secure the carving for the night.

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32 A combination costing in excess of £3000 and well beyond the means of ordinary mortals.

33 It was found that black and white negatives seemed to show more detail in underwater photographs than colour slides (I do however have to admit to a lifelong dedication to black and white photography). Underwater flash was found to produce inferior images – hence all photographs were made without flash.

The following day (7th June) we effected the transfer of the carving into the tank using a modified lifting system. Instead of lifting the frame on the boat's winch we attached several large buffs to a chain hoist. This gave sufficient buoyancy to the frame/carving combination that our divers along with two divers from the ADU (a total of seven divers) were able to lift the frame and carving into the tank. A wooden lid was then bolted onto the open top of the tank to afford some protection to the carving. The tank containing the carving was left on the seabed until 11th June when the tides were favourable to get alongside the quay on Tresco. This operation went without a hitch and Oscar (the name given to the carved figure by the diving team) saw the light of day again for the first time in over 200 years.

On close examination it was clear that Oscar had come through his ordeal relatively unscathed – a testimony to the efficacy of the lifting system employed. There was some minor damage to the underside of the window arch. The damage consisted of the partial displacement of a largely undecorated board on the underside of the arch and some slight flexing of the arch itself – see photograph. In my opinion the damage could well have occurred even if the lift had gone as planned. I have since had an opportunity to study the carving in detail on land (while making record photographs with Charlie Barker of Mary Rose Archaeological Services) and I feel confident that the damage is minor and easily repairable. This was a difficult and complex lifting operation, undertaken entirely at Mr Mace's expense.

Finds

Finds recovered from the excavation of the stern carving are recorded in the finds list numbered 200 – 285[34]. All finds were recorded with position (gradations on the side of the frame) and depth (relative to the levelled frame). These positions were then converted to local grid co-ordinates using a hand-held programmable calculator. Finds were stored in perforated re-sealable polythene bags marked with the site code and finds number. A quantity of the sediment found with the object was also placed in the bag. These were then stored temporarily in a plastic crate on the seabed adjacent to the excavation. At the end of the excavation some finds were recovered to the surface while the majority were reburied in a plastic crate[35], packed in sand – at position AB[36] (see plan). A layer of sand bags was placed over the backfill to minimise erosion. When choosing which objects to recover we tried to include at least one example of each type of artefact encountered. We also recovered objects where little or minimal conservation would be required. One find of each type of material encountered (glass, wood, lead and copper alloy) was briefly recovered to the support vessel, recorded,

34 This includes objects recovered from the surface during the completion of the survey.

35 This crate was 1.10m x 0.60m x 0.60m deep. The top of the crate is approximately 0.25m below the current seabed level.

36 Located at 260164.43 / 5535596.32

photographed and returned into the top of the reburial container (AB)[37]. It is hoped that these objects can be monitored for deterioration at some future date to check on the efficacy of the finds reburial on this site.

Conservation & curation

The carving is currently stored immersed in running water within the fibreglass recovery tank, in a building on Tresco. The tank has been fitted with a ball valve to automatically control the water level, and the flow rate is controlled by adjusting the outlet tap on the tank. There is a wooden lid over the tank to ensure that the carving is in darkness. The ongoing conservation of Oscar is being undertaken by Mary Rose Archaeological Services. Mr Barker of MRAS has stated that the conservation of the carving is likely to cost in the region of £30,000.

At the time of writing the receiver of wreck had announced no decision regarding the disposal of the carving. Most of those who have been involved in this project to date have expressed the wish that Oscar will stay in the Scillies. Mr Mace, the current licensee, has stated his preference that the carving will become a part of the ships' figurehead collection on Tresco. A charitable trust – The Isles of Scilly Maritime Heritage Trust – has been set up to raise the necessary funding for the conservation and subsequent display on Tresco of the carving.

Other decoration

One obvious concern arising from the recovery of the stern carving is the existence of further ship's decoration on the site. One such piece has already been found. This consisted of a length of flat board with stylised foliage decoration 1.13m long x 0.21m wide[38]. This was found adjacent to the rearmost (empty) gun port of the upper gun deck. There is probably more carved material buried in the sand especially at the stern of the wreck.

Conclusion

As is often the case with archaeological sites much of the attention has centred on a single object – in this case the stern carving. The future of the stern carving seems fairly secure; it will I believe be conserved and eventually go on display to the public. The future for the rest of the Colossus site is far less certain. At least half of the wreck site is not designated; the part which is can clearly be seen to be eroding at a substantial rate. Parts of the timber which were perfect when first seen in September 2001 are now obviously gribbled and breaking up. Furthermore, if this process continues parts of the wreck which are currently buried (and therefore not surveyed) will continue to uncover and rapidly disappear.

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37 These objects are marked S*** in the storage field of the finds record.

38 Find number [276] – see finds list

Exploratory excavation

Description

The exploratory excavation consisted of a small trench approximately 1m wide between the already excavated 'lap-board compartment'[39] on the orlop deck and gun 2. The main aim of this excavation was to confirm exactly how much of the hull survived and to test our hypothesis concerning the disposition of the surviving hull timbers. The position of this trench was chosen as the northern section had been excavated prior to designation – hence putting the trench here resulted in the minimum possible disturbance to the site.

The excavation began on 2nd September and ended on 13th September. It was completed in a total of ten working days of diving with a team of six divers for the first week and five for the second.

Methods

Four new secondary control points (T1 – T4) were placed at the intended corners of the trench and surveyed-in relative to the existing primary control points. The 'lap-board compartment' on the orlop deck (excavated and backfilled in 2001) was re-excavated first. This compartment was separated from the rest of the trench by the upstanding deck planking of the main gun deck, which survived almost to the existing sea bed. The deck planking was overlaid by a great deal of iron concretion [see exploratory trench plan] consisting of a number of separate pieces of iron which have the appearance of having fallen from above and concreted together. The iron concretion was left in place. This ironwork could only have come to rest in this position after the 0.85m of sand which covers this part of the wreck had accumulated. Presumably it came from wreckage which stood at a higher level but which now has disappeared.

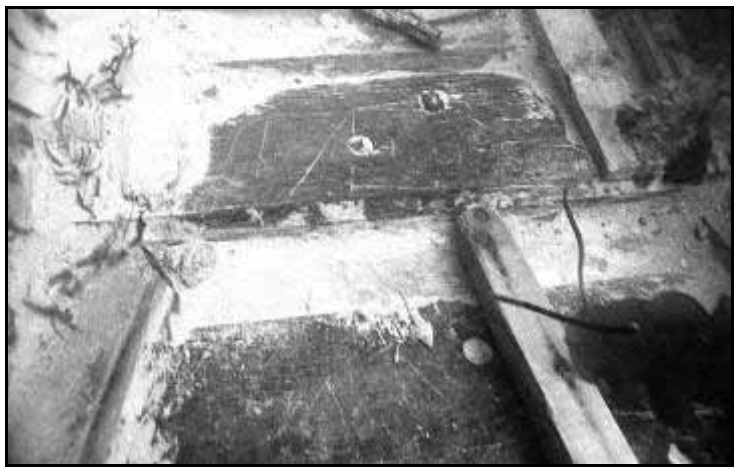
The excavation was effected by hand-fanning of the sand, which was then carried away by reaction dredge. The dredge used had a 100mm flexible hose at the input end to facilitate ease of use. The delivery end of the dredge was placed inside a length of sand sock (a fabric tube c.0.75m in diameter and several meters long – not unlike a large vacuum cleaner bag) to contain the spoil. This made the subsequent backfilling much quicker.

Stratigraphy

Excavation of the southern half of the trench proceeded by removing the upper layer which consisted of coarse sand and broken shell, to a depth of about 0.25m [L1]. This revealed a number of iron concretions, some of which were probably cannon balls, and a few fragments of un-attached timber. These

39 This was excavated prior to designation. It is described in the 2001 report and below under 'orlop deck'.

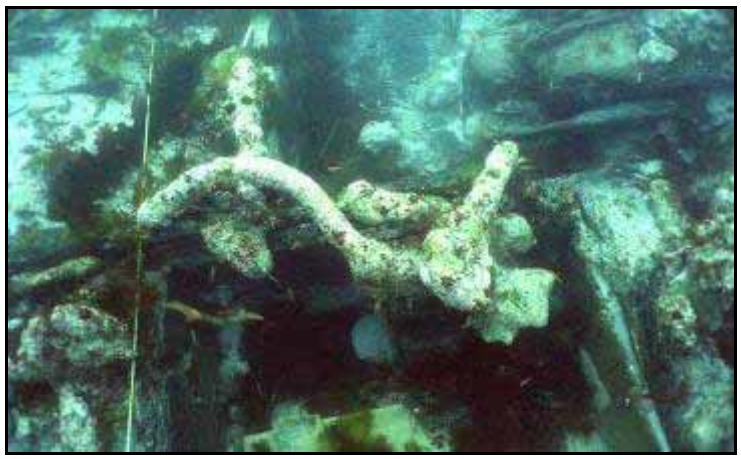
E1 Exploratory trench during one of the occasional 'weed blizzards'.



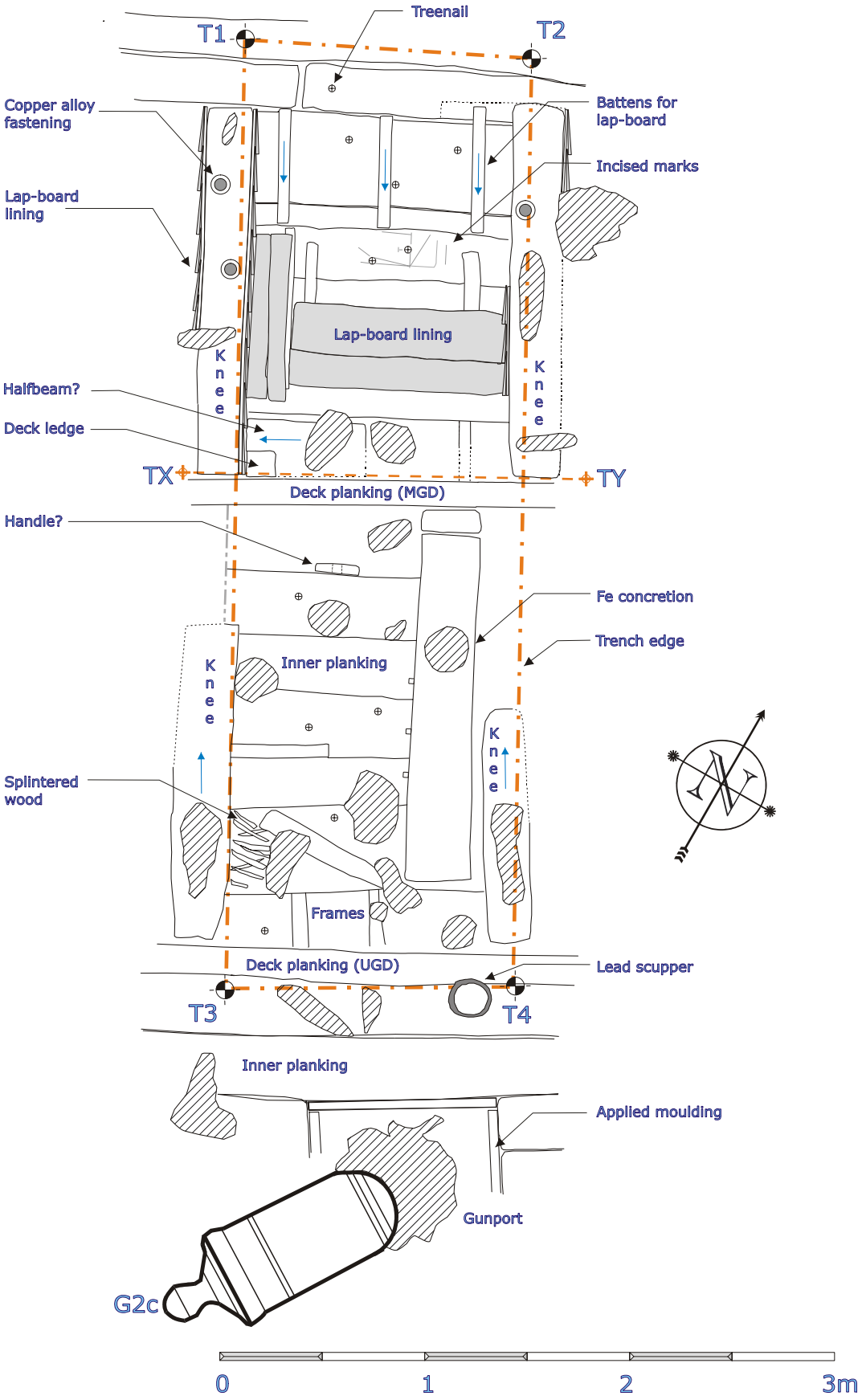
E2 Orlop deck, treenails and a crude incised sketch on the inner planking of the hull – originally hidden behind the lap-board lining.

E4 Exploratory trench – main gun deck planking (left) and knee (background). Note the moulding on the corner of the knee.

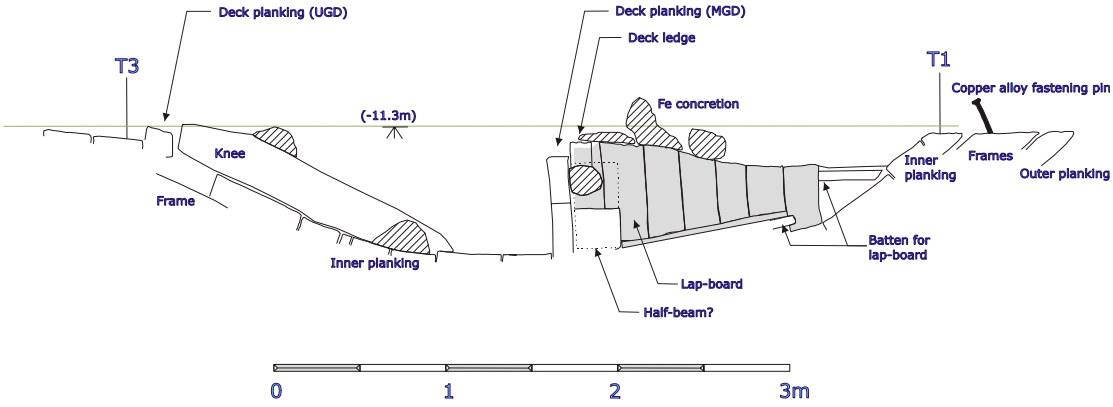
E3 Exploratory trench – orlop in the background, main gun deck foreground. Note the ironwork over the upstanding deck planks.



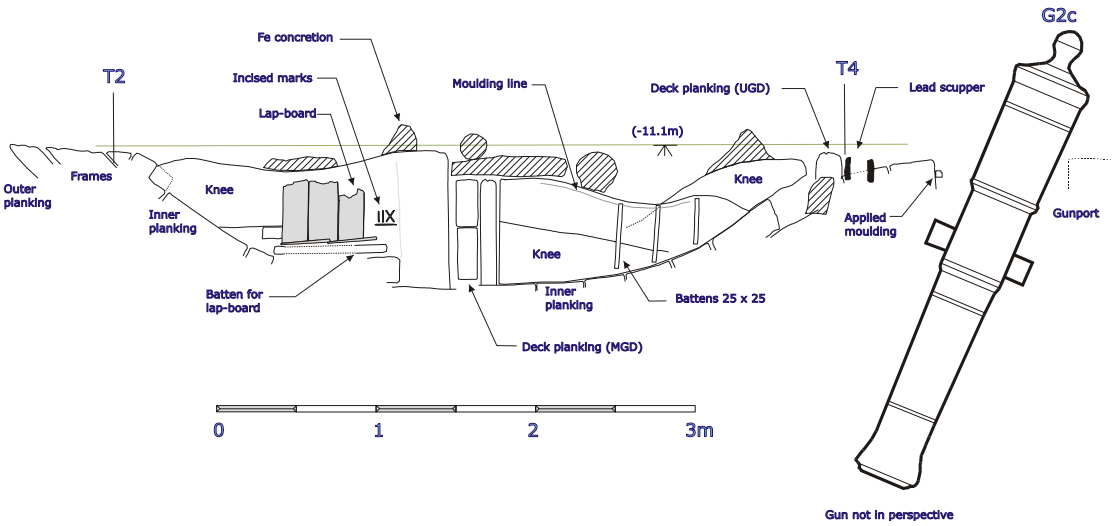
E5 Detail of the ironwork over the main gun deck planking.


Treenail
T1
T2
Copper alloy fastening
Battens for lap-board
Incised marks
Lap-board lining
Lap-board lining
Knee
Knee
Halfbeam?
Deck ledge
TX
TY
Deck planking (MGD)
Handle?
Fe concretion
Trench edge
Inner planking
Knee
Knee
Splintered wood
Frames
Deck planking (UGD)
Lead scupper
T3
T4
Inner planking
Applied moulding
Gunport
G2c
0
1
2
3m

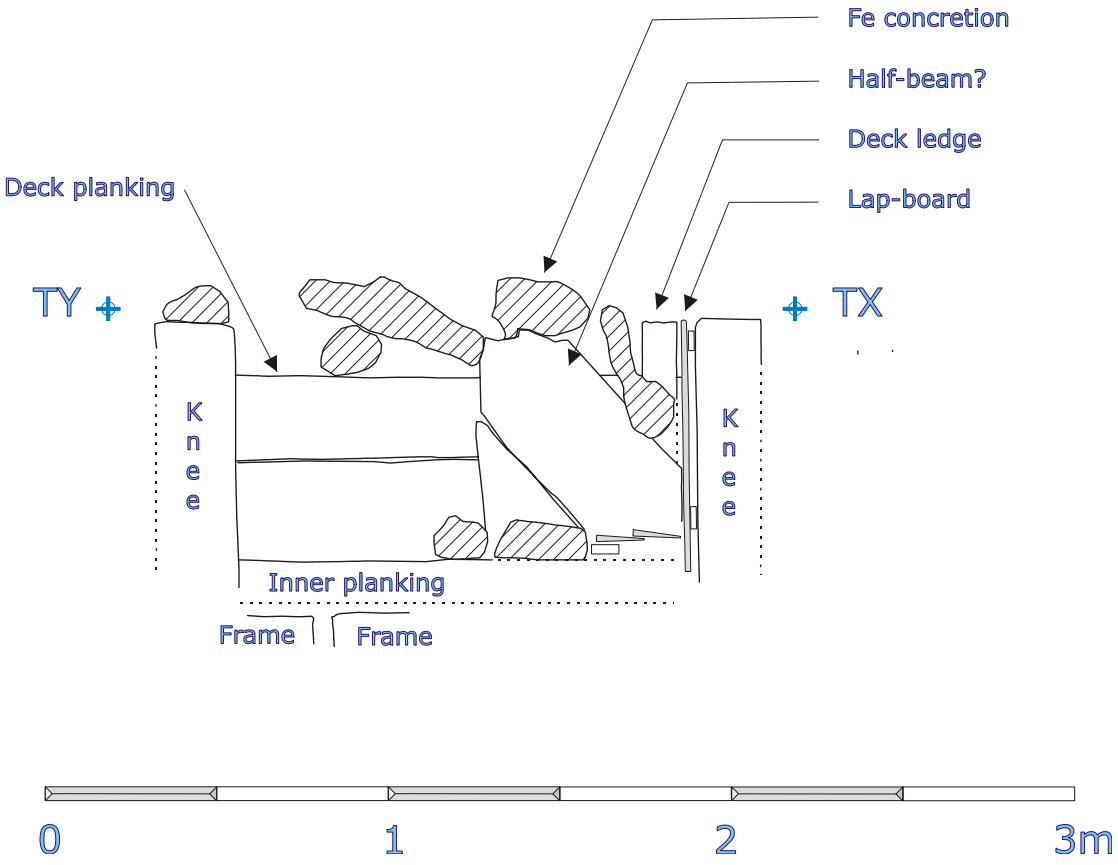
Colossus 2002 - Profile T1 - T3



Colossus 2002 - Profile T2 - T4



Colossus 2002 - Profile TX - TY



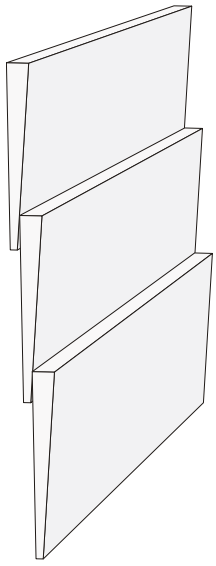
were planned and then removed. The next layer consisted of very fine, hard, compacted sand – almost white in appearance. This varied between 0.15 – 0.35m in depth [L2]. Once disturbed, this deposit tended to form a suspension in the water. The final deposit was a darker, looser, fine-grained sand – light grey in colour [L3] and similar in appearance and texture to ordinary beach sand – varying in depth between 0.07 and 0.25m. This sequence of deposits was very similar to those encountered during the excavation of the stern carving undertaken earlier in the year (see above). Each of these layers was sampled when encountered during the excavation of the finds reburial hole AB (see carving recovery section). It is hoped that these samples can be examined by a geologist or soil scientist. The maximum depth of sand excavated in the trench was 0.85m below the existing seabed.

Structure

Once the sand had been removed the inside of the ship's hull was exposed. The trench included sections of the orlop deck and the main gun deck. Parts of the deck planking for both these decks survived in position. The actual width of the trench was defined by the spacing of the knees – these formed the sides of the trench and prevented the ingress of sand to the excavation. Only on the west side of the main gun deck was it necessary to resort to sand bags to revet the excavation. There were a number of concretions adhering to the timber, which were left in place.

Orlop deck

As already mentioned, this part of the trench had been excavated prior to the designation. The side of the ship and the two knees exposed were lined with lap-board planking. The planking was fastened with iron nails to battens which were also attached to the ship's sides with iron nails. The lap-board and the battens are of a light-coloured soft wood (pine?) – in contrast to the dark (oak?) of the ship's structure. A sample of the lap-board planking has been taken and identification of the wood species should be possible. The two knees within the trench were covered on both sides with 'lap-board' planking – this was probably partitioning to form a small compartment or cabin[40]. When first found it was noticed that the direction of overlap of the lap-board lining would be upside down when the ship was upright. This resulted in speculation that the northern expanse of exposed timber was not



Schematic sketch of the lap-board. Viewed from inside the orlop with the ship in the upright position.

40 Peter Goodwin, curator of HMS Victory, was of the opinion that this may have been the steward's cabin.

contiguous with the timber exposed around the cannons – which was clearly part of the port side of the ship. This was one of the problems which the exploratory excavation was designed to solve. Now that we have shown that the remains are all part of a single piece of ship's structure it is clear that the lap-board was laid 'upside down' – so that any water running down the face of the lining would be channelled to the inside of the partition. But if we consider things from the other side of the lining – that is from the side of the ship – then any water running down the inside face of the ship would be prevented from entering the lined compartment and channelled to the bilges. This appears to be an eminently sensible arrangement which would help to keep the lined space dry. Despite this no one I have spoken to is aware of any concordances for this arrangement[41]. It is clear that this lap-board is an original feature of the ship as against the eastern knee it is sandwiched between the knee and a deck ledge.

There are two instances of possible carpenter's marks within this compartment. The first is located on the inner planking of the hull – originally hidden behind the lap-board lining. This takes the form of a number of incised lines – perhaps a crude sketch. On the eastern face of the western knee there are incised marks probably Roman numerals 'IIX' – perhaps a labelling of pre-fabricated parts?

A deck beam was located at the southern end of the compartment. This beam was curved and is probably a half-beam. These were used to carry the deck support around hatchways and masts. There was also a deck ledge evident – a smaller deck beam located between the main deck beams. The frames of the hull were visible directly under the main gun deck planks – probably because the inner hull planking was not fitted between the deck beams[42].

Main gun deck

The trench was located between two hanging knees, with a standing knee just inside the eastern hanging knee. The standing knee exhibited a simple moulding line planed into its forward face. It also had three short, square battens nailed onto this face – these were c.0.60m long and 0.025m square in section. The function of these battens was not clear.

The inner planking of the hull was exposed between the deck planking of the main and upper gun decks, which were about 2.2m apart[43]. The last inner plank

41 Lap-board lining is shown on the Phillips painting in the NMM (BHC0872 Thomas Phillips c1690, *Section through a first-rate*) and is laid conventionally (right way up). There is also lap-board lining on HMS Victory, forward on the orlop but again this is right way up.

42 The cross section B19 in Brian Lavery *The 74-gun ship Bellona* shows the inner planking not fitted under the decks. For ventilation?

43 Note this is the distance between the decks, not the headroom. The thickness of the deck beams would have reduced the headroom considerably.

under the upper gun deck was not present (this is the space between the deck beams) – a similar situation to that encountered on the orlop deck. The trench was located in the space between the main gun deck ports – hence no main deck gun port was found in the trench.

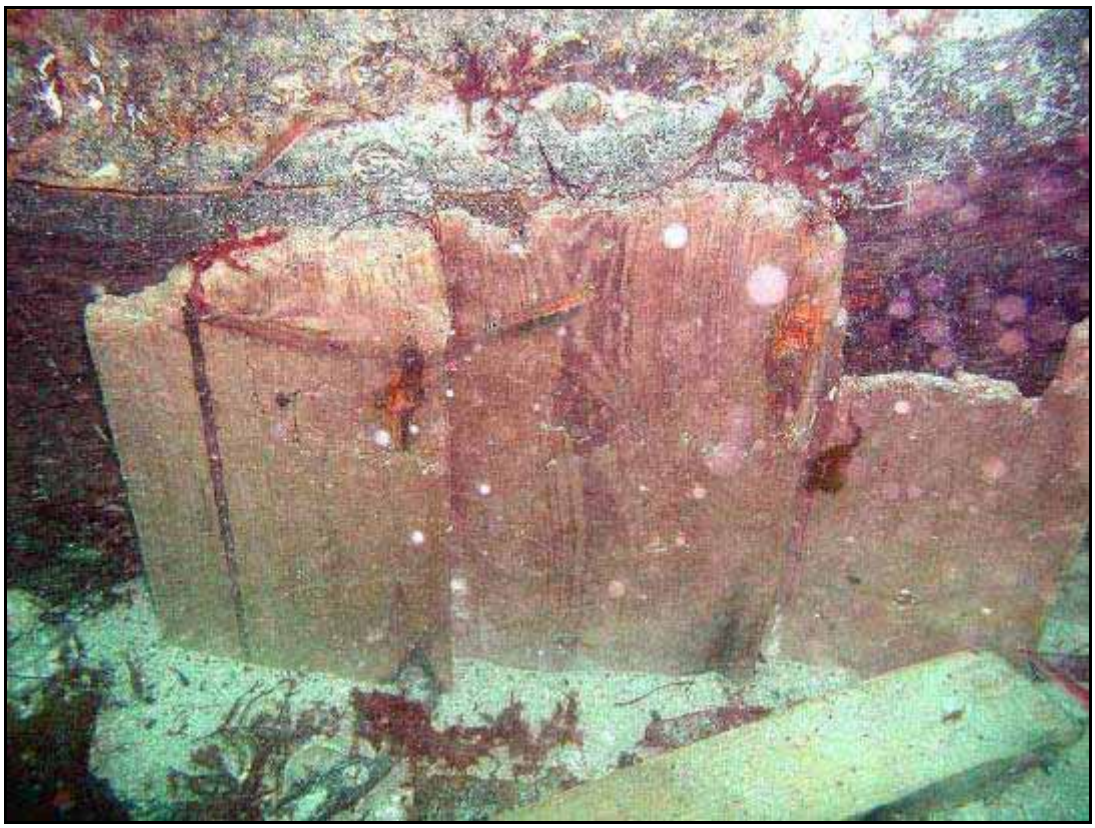
A number of treenails, used to fasten the inner planking to the frames were visible (see plan). All the knees recorded within the exploratory excavation had iron concretions adhering to their upper (inner when the ship was upright) surface – whether this is fortuitous or an indication of iron reinforcement/fastenings is not certain. This obviously requires further investigation but we were keen during this excavation not to disturb the fabric of the hull.

The wreckage seems to exhibit a degree of distortion in the region of control point T4 – the southern end of the knee and inner planking appear to be bent upwards (see profile T1-T3 and compare with profile T2-T4). This is probably due to the muzzle of gun 2, which is lying beneath the hull at this point – so the timber has 'settled' either side of the gun.

Upper gun deck

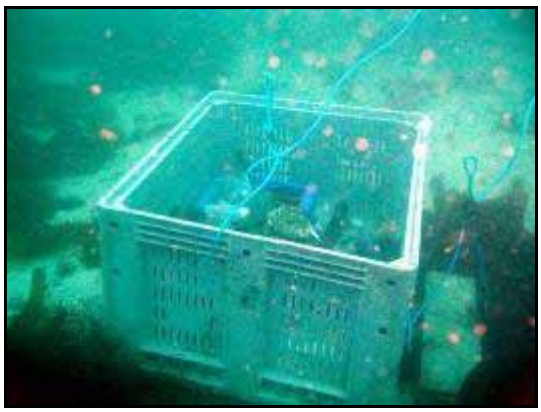
The hull timbers to the south of the upper gun decking were already exposed on the seabed – no excavation was required in order to record these timbers. Only about 0.15m of the last deck plank against the side of the hull survived more or less on the sea bed (see section T1-T3). To the south of this a lead scupper pipe was evident – this would have been just above deck level on the upper gun deck. There were only two inner hull planks between the deck and the lower sill of the gun port on the upper gun deck. Inside the upper gun deck port (Gun 2) an applied moulding was visible – this appeared to be nailed to the inside of the gun port opening[44].

44 For the gun port lid to close against?

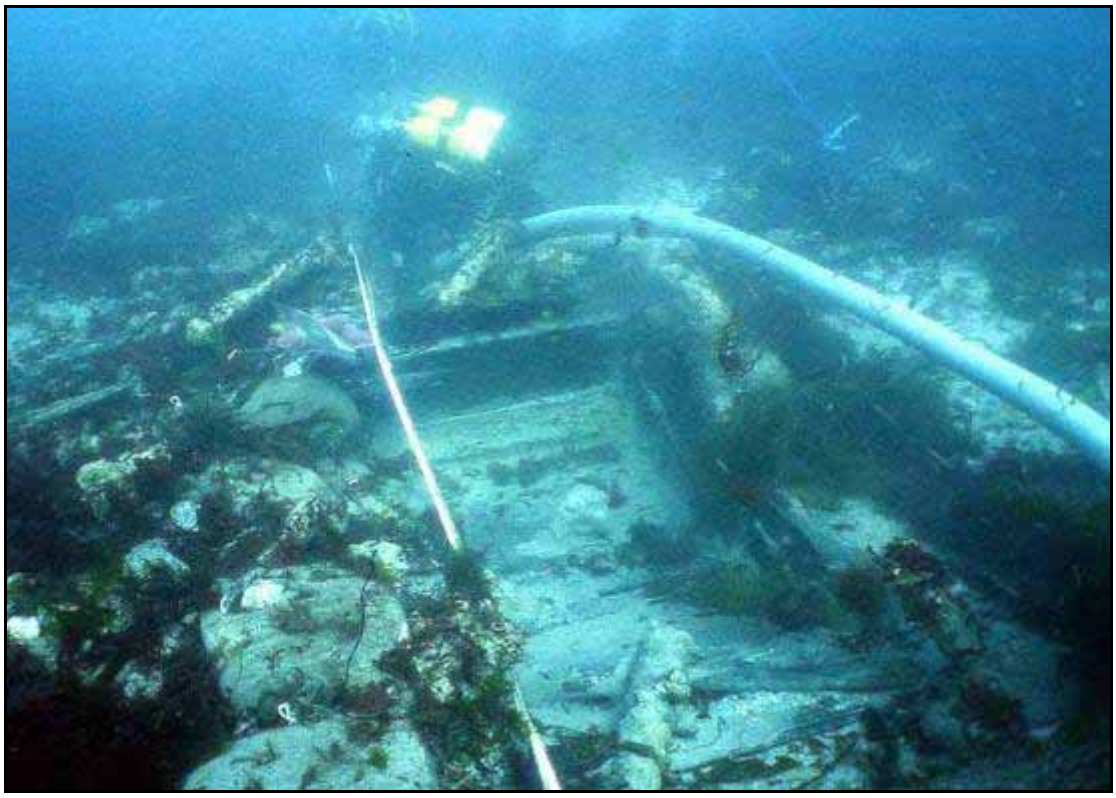


E6 Lapboard lining on the orlop deck – looking east. Photograph by Robin Witheridge

E7 Crate used for temporary storage of finds during the exploratory excavation. Photograph by Robin Witheridge



E8 Detail of the eastern knee on the orlop deck, showing possible builders' mark 'IIX'. Photograph by Robin Witheridge.



E9 Exploratory trench – looking north from the main gun deck towards the orlop deck, where the diver is working.

E10 Gun port 2. Note the moulding applied to the inside of the port. Scale 0.30m

Recording

The trench was drawn in plan at a scale of 1:20. This was accomplished using a planning frame consisting of a 2 x 1m section of 0.20m grid steel reinforcing mesh. The sections of the trench were also drawn at 1:20 by measuring offsets down from a levelled datum strung between the corner grid pins (T1-T3 and T2–T4). These were then digitised by scanning and then tracing the actual site sheets.

Photographs were made using a Nikonos V with a Sea & Sea wide-angle adapter and an Olympus digital camera[45] in an underwater housing. The photographs from these cameras were not as good as those produced using the borrowed ADU camera earlier in the year. One annoying but interesting phenomena experienced was the onset of what can only be described as a weed blizzard whenever photography was undertaken. We soon learned however that this was a phenomena associated with the spring flood tides.

Finds

All finds located within the exploratory trench were three-dimensionally located. This was achieved by taking an offset from a tape stretched between the corner pins T1-T3. This offset was never greater than 1m, and was usually considerably less – this was judged to be accurate enough for finds location and considerably quicker than using trilateration. The depth was recorded using the digital depth meter on the diver's dive computer (these have a discrimination of 0.10m). All heights were referenced to the site datum (Gun 1 cascabel).

Finds were placed within numbered, perforated self-sealing bags and stored inside a large plastic shipping crate on the seabed during the excavation. At the end of the excavation it was decided which objects were to be raised to the surface – the rest of the finds were reburied within the excavation. First a 0.10m layer of sand was placed in the trench, then a layer of Terram was placed over this. The finds were then arranged in the trench bottom, packed in sand and then covered with Terram. The trench was backfilled over this and sand bags placed on the surface to help prevent any erosion of the backfill.

45 Olympus camera courtesy of Robin and Janet Witheridge

Conclusions

Completion of the exploratory excavation has enabled us to prove that the areas of timber visible on the north and south sides of the site are a continuous part of the fabric of the ship. It is now beyond question that the line of guns visible on the south side of the site are those of the upper gun deck – and are 18lb guns[46], probably of the Armstrong pattern. Taken in conjunction with the information recorded in the survey earlier this year it is possible to state that the surviving fragment of wreck is the port side of the ship, from the stern to just ahead of the main mast – this is just under 27m in length. Parts of the hull survive almost to the gunwhale of the quarterdeck and down as far as deck level on the orlop. The distance from the orlop deck to the keel (at the point of the exploratory trench) would have been just over 5m; hence there is a substantial section of the bottom of the ship missing.

The surviving timber encountered in the exploratory excavation was more complete and in a better state of preservation than the timber currently exposed on the seabed. The exposed timber on the seabed has deteriorated since the site was first surveyed in September 2001.

46 The measured circumference of the base-rings of the guns is too small for the published dimensions of 32lb guns. Also the measured width of the gun ports accords with those shown on the upper gun deck ports on the builder's plan – and is too small for the main gun deck ports – See appendix IV.

Appendices

I Dive log sheet

H.M.S.COLOSSUS																									
DIVING RECORDS 2002 - Times in minutes																									
	No OF DIVES	*TOTAL TIME*	*SURVEY*	*CARVING RECOVERY*	*EXP TRENCH*	*OTHER*	*FILMING*		*MM*	*AW*	*KC*	*AC*	*JA*	*TA*	*TD*	*AH*	*MP*	*WB*	*EP*	*NB*	*PH*	*JM*	*JW*	*RW*	*HS*
7th May	3	125				125			31	62			32												
8thMay	4	165				165			43	43	36		43												
9th May	3	109				109				44	21		44												
10th May	8	365		365					83	94	97	54		41											
12th May	6	308		308					113	97	98														
15th May	8	442	112	330					116	109	109			108											
16th May	8	396	100	296					93	106	106	91													
17th May	11	397		397					135	92	97				76										
23rd May	2	42				42			20	22															
29th May	8	418		418					103	107	107	101													
30th May	12	653	57	370		59	167		92	114	98		123			59	110	57							
31st May	8	458	112	346					120	112	104	122													
2nd June	9	469		423		46			102	106	102			113					46						
3 rd June	9	468		431			37		98	113	100		120				37								
4 th June	8	434		434					109	104	104								117						
5 th June	10	528		427			101		108	102	102	115						101							
6 th June	16	784		734			50		221	114	206	113			80			50							
7 th June	22	788		663		77	48		161	139	136	98				37		48	99	35	35				
8 th June	3	174	174							57	56	61													
9 th June	9	473	296	177					64	97	104	103									44	61			
11th June	5	174		119			55		28	32	32	27						55							
12th June	10	505	427	78					78	102	122	99									104				
13th June	10	572	477	95					94	118	121	118									121				
14th June	10	546	546						101	93	127	99									126				
16th June	8	458	458						112	109	118	119													
17th June	8	457	457						113	108	119	117													
18th June	8	462	462						123	99	118	122													
19th June	8	440	440						100	109	117	114													
20th June	6	290	290						88	98	104														
2 nd Sept	11	513			513				116	113	112	58											57		57
3 rd Sept	12	754			754				138	120	122												121	122	131
4 th Sept	12	751			751				140	126	126												130	112	117
5 th Sept	12	762			762				138	130	127												129	130	108
6 th Sept	8	406			406				69	82	52												47	84	72
9 th Sept	10	574			574				132	116	119												115	92	
10th Sept	10	658			658				139	109	143												127	140	
11th Sept	8	425			425				140	9	133												143		
12th Sept	9	461			461				120	67	104												110	60	
13th Sept	7	335			335				52	89	103												91		
TOTALS		17539	4408	6411	5639	623	458		3833	3663	3902	1731	362	262	156	96	147	311	262	35	430	61	1070	740	485
HOURS		292	73	107	94	10	8																		

MM	Mac Mace
AW	Andy Williams
KC	Kevin Camidge
AC	Anna Cathray
JA	Jo Allsop
TA	Tim Allsop
TD	Terry Davies
AH	Alex Hildred
MP	Martin Parker
WB	Bill Bowen
EP	Emily Priestly
NB	Nigel Boston
PH	Peter Holt
JM	Joel Medard
JW	Janet Witheridge
RW	Robin Witheridge
HS	Hannah Steyn

II Documentary (Janet Witheridge)

Report on Background Research.

We were asked to research information relating to the condition of the ship prior to her being wrecked in Scilly and the reasons why she was demoted into a stores ship following the battle of Cape St Vincent. The accounts of St Vincent accord very limited damage to Colossus - confirmed by the very low 'butcher's bill' for Colossus during the battle. Up to this point Colossus is referred to as 'one of the fastest vessels in the fleet'.

We started by looking into the salvage of Colossus by the gun-brig Fearless (Lieutenant Pardoe). She was sent from Plymouth on 26th December 1798 to salvage Colossus. In the **Ships Log Fearless**[47]. (see Annex 1)[48] there was only brief reference to the work carried out on the Colossus and no details of the condition of the ship. There is no evidence that work continued for very long (as is indicated by Roland Morris in "*HMS Colossus").* Entries from the log are as follows:-

"Sunday 6th Jan	*Arrived St Marys went on shore to see after the stores of the His Majesty's late ship Colossus.*
Monday 7th Jan	*People employed getting the Colossus stores on board the transports.*
Tuesday 8th Jan	*As above…..*
Monday 14th Jan	*People employed breaking up the wreck".*

NB I have not traced a log for Fearless prior to 26th December. She may also have been involved in taking off crew – this is still to be explored.

This was followed up by looking at the ships present at the time of the sinking. HMS Hecate arrived in time to witness the wrecking and helped rescue the crew. In **Captain's log Hecate**[49] (see annex 1) the only reference to the state of the ship was as follows;-

> *"Wednesday 12th December – am Heavy gales squally. The Colossus fell on her beam ends at 8 the gale still increasing…."*

47 ADM 51/4015 - Ships Log Fearless.

48 Included on the CD – see appendix IX for an index

49 ADM 51/4456 Captain's log Hecate

The speedy break up of the wreck was confirmed by a letter from Colossus in St Mary's 16th December 1798 from Murray to Evan Nepean[50] (see annex 1).

> *"I much fear few stores will be saved from The Colossus except her anchors and cables and, in calm weather, perhaps her guns as the gale continued so long that she's gone to pieces "*

We also trawled the Progress Books at National Maritime Museum but obtained no additional information[51] (see annex 2).

We noted the numerous mentions of the poor state of repair of the Colossus in letters and reports by Captain Murray preceding the disaster which seemed to corroborate the heavy damage theory. For example it was referred to in the documents accompanying the report of the Courts Martial of Captain Murray[52] (See annex 1).

1. Extract of a letter from Captain G Murray of His Majesty's ship Colossus to Earl St Vincent from the Tagus 22 Nov 17.

   "as the state of the Colossus is such as to require her getting to England if possible before the Easterly winds set in in the Channel every days delay may be of consequence"

2. A narrative relating to the particulars of the loss of HMS Colossus.

   "I believe I need not call to the recollection of the Court the anxiety and mortification which every commander conducting convoys has experienced and how sensibly he must feel his situation when ***he knows the insufficiency of his ship to encounter with any extraordinary difficulties****.*
   For the information of the Court a statement of the defects of the Colossus as transmitted by me to the Lords of The Admiralty on my arrival at Scilly may be necessary and as it will appear that on 6th Dec the event had taken place of a strong Easterly wind being set in and ***duly weighed the condition of the ship as being unequal to strong gales*** *the situation of the convoy and a port within my reach I thought it advisable to conduct such of the ships as had not separated into St Mary's sound in the Islands of Scilly where I anchored the Colossus on 7th December with the best bower anchor (to which a cable perfectly new had been fitted) in 11 fathom water and yeared to a whole cable."*

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50 ADM 1/2136/capM 385 - letter from Colossus in St Mary's 16th December 1798 from Murray to Evan Nepean

51 Progress Books Vol 51 – 161

52 ADM 1/5348 - report of the Courts Martial of Captain Murray

The poor state of repair of the vessel is detailed in J Looney's (the carpenter) report appended to a letter sent to the Admiralty when the Colossus first arrived in Scilly "*The defects of HMS Colossus*" [53] (see annex 1).

The next line of enquiry was the Battle of Cape St Vincent.

In Barry Aldridge – "My dear Murray"[54] there is reference to a Letter from Lady Hamilton to Murray inviting him to a party on 29 09 98 when Colossus was in Naples which states

> *"Ships were needed to reinforce Malta blockade. Murray offered services but ship was barely fit".*

Referring to the Battle of Cape St Vincent this source goes on to say:-

> *"Came under heavy fire in the early part of the battle", "masts and rigging were shot away and she drifted helplessly".*

It also quotes the Naval Chronicle (original\ source still to be explored).

> *" It was but upon one tack that the Colossus could carry any sail at all".*
> *"When Murray arrived he was sent East in charge of store ships to join Nelson's squadron".*
> *"Too late to take part in the battle of the Nile."*
> *"never really recovered from the Battle of St Vincent".*

In "A Narrative of the Battle of St Vincent"[55] by Col Drinkwater Bethune there is reference to a collision which may have damaged Colossus:-

> *"There was a collision between Colossus and Culloden "running aboard each other". Culloden was badly damaged. Colossus lost her fore-yard and her fore-topsail yard in the battle. 5 were wounded in the battle – seamen, soldiers and marines".*

In another book on the battle **"The Battle of Cape St Vincent" [56]** by John Nelson (see annex 3) there is no mention of Culloden but instead the Irresistible is said to have had a close encounter with Colossus.

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53 ADM 1/2136/capM 383 - The defects of HMS Colossus, Commander George Murray accompanying this letter.

54 Barry Aldridge (2001) "My dear Murray", (National Maritime Museum reference - PFB 1800 Murray George, 140 pill Limited Edition)

55 Col Drinkwater Bethune. (1797) A Narrative of the Battle of St Vincent" NMM 355.49 (469.6), Conway Maritime Press books.

56 John Nelson . "The Battle of Cape St Vincent" .

"All the British ships succeeded in tacking through the gap, except for the Colossus (74) which due to a chance shot from Moreno's ship, missed stays and swerved heavily across the Irresistible (74) astern of her. The Colossus ended up falling out of the line, and took no further part in the battle."

The logs of the Irresistible and the Colossus for the day of the battle confirm that no collision actually took place[57],[58],[59],[60] (See annex 1).

Further research in this area will be carried out.

Conclusions

The research which has been done to date adds little to what was already known about the condition of the Colossus at the time of the wreck. Additional avenues of research have been identified and these will be examined in the near future.

Janet Witheridge

57 ADM 51/1192- Captain's log of Colossus during the battle of Cape St Vincent.

58 ADM 52/2808 - Masters log of Colossus during the battle of Cape St Vincent.

59, ADM 51/1212 - Captain's log of the Irresistible during the battle of Cape St Vincent.

60 ADM 52/3128 - Master's log of the Irresistible during the battle of Cape St Vincent.

III Sand erosion (Phil Rees)

The purpose of this report is to provide an insight into the events that may have caused the recently discovered stern section of the Colossus to have become exposed after almost two hundred years. The conclusions shown are based on an assessment of the limited available information of the site conditions and therefore should be regarded as indicative rather than definitive in nature.

The stern section of the wreck is located in approximately 11 metres of water at LAT (lowest astronomical tide). From information provided by the resident marine archaeologist appointed to supervise the site, the seabed comprises a surface layer of coarse shelly sand 10-20 cm thick. This surficial sediment overlies a more competent layer of very fine sand which varies in thickness from 5-30 cm, with an underlying sequence of well sorted fine to medium sand of undefined depth. Jet probing trials using a water powered lance indicate that the thickness of unconsolidated sediment overlying bedrock could extend to more than 3 metres.

It is noted by the divers working on site that the area is subject to a near continuous movement of suspended seaweed moving in the water column as part of a mobile bedload with a maximum tidal flow in a southwest/northeast direction.

The mean spring tidal range for the Isles of Scilly is 5.0 metres, but the height of sea level can be increased by up to one metre due to effects of storm surges etc. Such events can have a significant effect on the still water depth at the site and corresponding impact on the maximum height of the waves that can impinge on the site during storm conditions. Whereas the wreck site might appear to be in a relatively sheltered location, the site is nevertheless exposed to storms from the prevailing south westerly direction.

On the basis that the wreck was not discovered by local divers until 1998, and given the surprising level of conservation of the wooden artifacts, particularly with regard to the carving recovered from the stern section in 2002, it is apparent that the sections of the wreck lying above the seabed level have not been exposed for any significant period of time. It is therefore reasonable to assume that the stern section of the wreck must have remained buried for almost all of the intervening period subsequent to it breaking free from the bow section, presumably shortly after the wreck finally foundered off the Southward Well Reef in 1798.

The most likely scenario is that after the vessel was driven onto the Southward Well Reef it subsequently settled into deeper water where severe storm conditions from the south west caused her to break into two with the stern section being driven further north east, leaving the bow section in situ. During this storm, which occurred around the turn of the 19th century, the stern section

would have most likely been “bounced” along the seabed in boiling seas leaving a debris trail on the seabed until it reached its present position which lies within an embayment of slightly deeper water.

Within a relatively short period of time the wreck would have settled into the seabed due to the scouring effects generated by the strong tidal flows, particularly over the spring tidal periods. Any remaining deck structures would have soon collapsed leaving an open basket framework into which “kelp bombs” would become trapped. These kelp bombs represent a local phenomenon with the long “frons” of thick kelp with their rootlets adhering to cobbles and small boulders which are carried in the strong tidal flows around and through the channels between the islands. It is surmised that once the kelp bombs became entrapped within the ribs of the wreck, free ions generated by the corrosion nature of the sea water acting on the various metal parts on the wreck would have created concretions around the individual kelp bombs to form a calcareous conglomerate. The presence of the kelp held fast in the wreck would have caused siltation and within a relatively short time resulted in the formation of a reef mound covering the wreck. It is considered that, naturally formed, this reef mound was responsible for protecting the remains of the wreck for nearly two hundred years until the morning of 25th of January 1990.

At first light on this morning the wind was blowing strongly from the south west. By nine o’clock the wind had increased to severe gale and then storm conditions, eventually reaching a 127 mph by mid morning. The effect on the island was devastating, removing trees that had been growing for 160 years within a matter of hours. This was a 100 year storm event! If conditions onshore were devastating, the effects in the shallow waters around the island would have been even more significant. As an indication, the surveys conducted by English Nature in the years before and after this event showed significant changes in the seabed biotopes, particularly the extent and distribution of faunal beds such as zostera . (Reference: page 39 Report on the Lundy and Isles of Scilly marine monitoring programmes. Report No.10). This report identifies an area off Sampson where severe storms had caused considerable changes to the Zostera beds, with large areas uprooted.

The forces generated on the seabed by a 100 year storm wave from the south west would, even allowing for shoaling and refracting effects across the reefs protecting St. Mary’s Sound, have produced significant wave heights of up to 5-6 metres with broken waves at the wreck location producing bottom orbital velocities capable not only of breaking up the long standing reef mound but also of displacing the mantle of concretionary boulders protecting the wreck area. Thereafter, it would simply be a matter of time before the overlying blanket of sand was removed to expose the wreck.

In its present condition the wreck is subject to risk from each passing storm and it is almost inevitable that its rate of deterioration will increase unless it is protected in some way from the ravages of seabed scouring action. It is therefore proposed that studies are initiated to survey the immediate area of the survey using best available technology in order to evaluate the risks to the wreck and to identify the most effective way to protect the remains of the wreck from further damage. This should include a site specific evaluation of the likely height and duration of extreme waves likely to occur at the wreck site with, if possible the benefit of acoustic doppler current meter data. This would provide the metocean design parameters which would, in conjunction with knowledge of the ground conditions provide a better understanding of the methods available to protect the wreck from further damage.

Metocean Design Parameters

Metocean Design Parameters define the characteristics to identify the forces acting on a structure on or below the seabed. The most significant of these apart from seismic sea waves, are wind generated waves. In the instance of an exposed structure such as the wreck of the Colossus lying on the seabed, the forces will depend on the frequency of occurrence of extreme events relating to the height and duration of extreme waves.

In order to determine the wave forces acting on a structure it is necessary to obtain the following information:-

Design water levels
Determination of wave conditions
Selection of design wave
Effect of breaking waves

In this instance, because of the high tidal streams the most effective way to define these parameters is to deploy an acoustic Doppler current meter at the wreck site to obtain observations over at least one tidal cycle, preferably over a spring tidal period. The data from this survey would then be used in a wavegen programme using existing wave data from available sources such as the Sevenstones and the area of the Bishop Rock in a wavegen programme to determine the significant wave height for range of tidal depths at the wreck site. It would then be possible to determine not only the extent of the wave break zone but also the bottom orbital velocities and hence seabed scouring effects for different wave climate regimes by direction.

Phil Rees – Hydrosearch Associates Ltd.

IV Identification of the guns

Colossus was a 74-gun ship of the Courageux class. She was one of four[61] ships in this class copied from the captured French ship Courageux. The armament of Colossus would have consisted of 28 32lb guns on the main gun deck, 28 18lb guns on the upper gun deck, 14 9lb guns on the quarter deck and 4 9lb guns on the forecastle[62].

A total of nine guns have been observed on and around the site. The five upstanding guns (G1-G5) which form such a prominent feature of the site are still located within their gun ports, muzzles buried in the sand. The other four guns are situated at varying distances from the main area of wreckage.

The five upstanding guns (G1-G5)

From first discovery these guns have been the subject of erroneous identification. They were thought to be 32lb guns, mainly I suspect because of their impressive size. This would have made them the guns of the main gun deck. Because the muzzles of these guns are buried in the sand very few diagnostic measurements are possible. In consequence the base ring circumference was measured and from this the base ring diameter was derived.

The Colossus guns are all similar in appearance and appear to be of the Armstrong pattern – a type common until around 1786 when the Blomefield pattern gun started to replace it[63].

Colossus gun	Measured circumference (m)	Derived diameter (m)	True diameter assuming 2cm of concretion	True diameter assuming 5cm of concretion
1	1.65	0.525	0.49	0.43
2	1.66	0.528	0.49	0.43
3	1.62	0.515	0.48	0.42
4	1.62	0.515	0.48	0.42
5	1.68	0.534	0.49	0.43

From the published dimensions for Armstrong pattern guns (see below) it is clear that the base ring diameter is too small for a 32lb gun. It does however accord quite well with the dimensions for a 18lb gun – allowing for the concretion around the guns. This identification was confirmed by measuring the widths of the gun ports associated with these guns. These were 0.90m wide and 0.82m high; reference to the dimensions of the gun ports scaled from the builder's plan confirms that these ports are those of the upper gun deck.

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61 The class members were Carnatic, Colossus, Leviathon & Minotaur – Brian Lavery *The Ship of the Line*.

62 Brian Lavery *The Ship of the Line.*

63 Brian Lavery, *Nelson's Navy*. Note also that the Anson which sank in 1807 was still equipped with Armstrong pattern guns.

Gun port dimensions (scaled from the builder's plan)

	Width	**Height**
Quarter deck	0.82m	0.77m
Upper gun deck	0.89m	0.82m
Lower gun deck	1.03m	0.84m

Gun 6

This gun is situated some 3m to the south of the empty gun port in the row of upstanding guns G1-G5 (see site plan). It lies flat on the sand with the muzzle buried just below the seabed. In June of this year the muzzle was uncovered to enable the gun to be measured.

Gun 6 dimensions

Measurement	***Value***
Cascabel end to base ring	*0.30m*
Cascabel end to vent astragal	*0.63m*
Cascabel end to first reinforce ring	*1.08m*
Cascabel end to centre of trunnion	*1.48m*
Length – base ring to muzzle face	*2.76m*
Length overall	*3.06m*

From these dimensions it is clear that this is another 18lb gun, and is therefore probably the gun originally associated with the nearby empty gun port.

The outlying guns

Gun 7 was surveyed in 2001 and appears on the site plan – it lies some 35m ESE of Gun 1[64]. The gun measures 2.60m from the base ring to the muzzle face and has a base ring diameter of 0.48m. The length and base ring diameter of this gun are consistent with either a 9lb or 12lb gun of 8' 6" length (allowing for the thickness of concretion).

Gun 8 was discovered by the ADU in June 2002 and the dimensions below were taken by them. It lies 53m to the south of Gun 1. These dimensions are consistent with a 32lb gun of the Armstrong pattern. If this gun is from Colossus then it would originally have been on the lower gun deck.

64 The Cascabel of Gun 1 is the site benchmark.

Gun 8 dimensions – position 260163/5535535

Measurement	***Value***
Trunnion diameter	*0.18m*
Bore	*0.15m*
Muzzle face diameter	*0.43m*
Muzzle to trunnion	*1.65m*
Trunnion to base ring	*1.28m*
Button to base ring	*0.35m*
Cascabel diameter	*0.69m*
Length (base ring to muzzle)	*2.93m*
Total length (button to muzzle)	*3.28m*

Gun 9 was also located by the ADU in June 2002. It lies 280m to the WSW of Gun 1. The recorded dimensions would seem to indicate that this is also a 32lb gun.

Gun 9 dimensions – position 259941/5535408

Measurement	***Value***
Base ring circumference	*1.90m*
Bore	*0.14m*
Muzzle face diameter	*0.48m*
Total length (muzzle to button)	*3.40m*

Dimensions for Armstrong pattern guns[65]

DECIMAL FEET / INCHES (METRES)										
Gun size (lb)	32	24		18	12			9		
Length feet (metres) Base ring to muzzle face	9.5 (2.89)	9.5 (2.89)	9 (2.74)	9 (2.74)	9 (2.74)	8.5 (2.59)	7.5 (2.29)	8.5 (2.59)	7.5 (2.29)	7 (2.13)
Base ring diameter (Inches)	21.8 (0.554)	21 (0.553)	21.75 (0.552)	19.4 (0.493)	18.03 (0.458)	18 (0.457)	17.18 (0.436)	17 (0.432)	17 (0.432)	17 (0.432)
Base ring circumference (Metres)	1.739	1.676	1.736	1.549	1.439	1.436	1.371	1.357	1.357	1.357
Calibre	6.42 (0.163)	5.83 (0.148)	5.83 (0.148)	5.29 (0.134)	4.63 (0.118)	4.63 (0.118)	4.63 (0.118)	4.21 (0.107)	4.21 (0.107)	4.21 (0.107)
Base ring to trunnion	45.65 (1.160)	45.95 (1.167)	43.37 (1.102)	43.64 (1.108)	43.97 (1.117)	41.4 (1.051)	36.3 (0.922)	41.63 (1.057)	36.51 (0.927)	33.9 (0.861)

65 Based on tables in David McConnell *British smooth-bore artillery: A technical study* - Canada 1988

V The finds

ADU finds list (2001)

COLOSSUS - ADU Finds 2001			
No	**Description**	**Nos**	**Position**
1	GLASS	2	260163.3 / 5535592.36
2	IRON CONC	4	260164.87 / 5535592.43
	other end		260164.22 / 5535591.95
3	WOOD FRAGMENT		
4	WOOD FRAGMENT		
5	WOOD FRAGMENT		
7	SOOTY GLASS FRAGMENTS	2	260164.6 / 5535590.82
8	LEAD STRIP		260165.04 / 5535590.7
9	GLASS FRAGMENT		260162.97 / 5535590.09
10	BRASS BUTT PLATE		260161.5 / 5535591.6
11	LEAD SHEET TRIANGULAR		260163.99 / 5535589.55
12	IRON CONC AND WOOD		
13	GRIBBLED TIMBER		260164.04 / 5535589.34
14	BRONZE PIN		260160.94 / 5535592.91
15	MOULDED TIMBER		260163.3 / 5535592.36
16	GLASS	2	260162.7 / 5535591.51
17	IRON CONC	3	260163.25 / 5535590.11
18	IRON CONC		260163.29 / 5535590.15
19	LEAD SHEET RECTANGULAR		
26	ROPE		260162.47 / 5535592.2
	other end		260161.89 / 5535592.75
27	LEAD PIPE PbB		260163.42 / 5535588.33
	LEAD PIPE PbA		260164.56 / 5535588.42
28	TIMBER		260164.55 / 5535589.53
	other end		260163.68 / 5535590.05
29	SASH WEIGHTS	3	260163.08 / 5535590.14
30	LEAD SHEET		260163.55 / 5535590.35
31	IRON CONC		260164.15 / 5535590.19
	other end		260164.02 / 5535590.19
32	LEAD FOLDED SHEET WITH LETTERS "TW"		260163.18 / 5535589.77
33	LEAD TUBE		260162.5 / 5535589.45
34	CARVED PIECE OF TIMBER- 30CM LONG		260170.63 / 5535585.24
	other end		260170.88 / 5535585.36
36	DOUGHNUT SHAPED ROPE EYE		260164.46 / 5535590.08
37	IRON CONC		260171.27 / 5535584.72
38	BLOCK		260171.22 / 5535585
39	BLOCK		260170.87 / 5535585.03
40	GLASS FRAGMENT		
43	PART OF BROKEN TAPE HANDLE		260168.72 / 5535589.11
44	BRASS FRAGMENT		260167.16 / 5535589.83
45	IRON CONC		260168.4 / 5535590.23
46	COPPER ALLOY PISTOL BUTT PLATE		260165.69 / 5535590.08

47	IRON CONC		260165.4 / 5535590.07
48	IRON CONC		260164.86 / 5535589.77
49	CONC		260165.67 / 5535588.96
50	CARVING		260164.99 / 5535589.36
51	CARVING		260167.74 / 5535589.09
52	Iron knee point 1		260166.22 / 5535588.16
	iron knee point 2		260165.64 / 5535587.75
	iron knee point 3		260165.32 / 5535588.3
53	IRON CONC		260165.35 / 5535588.84
54	IRON CONC		260165.35 / 5535588.84
55	IRON CONC		260165.23 / 5535590.11
56	BLOCK		
61	BUTT PLATE		260168.53 / 5535586.77
	Transom Beam		260162.65 / 5535591.66
	Transom Beam		260162.87 / 5535591.9

Main finds list (2001-2002)

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
100	17/09/2001	260142 / 5535578	-11	5	Wood	Hatch frame?	5 pieces of wood, mortised & tenoned - detached but fit together. Found on the surface and reburied in Orlop, raised IX-02	2:520 x 110 x50 2:660 x 110 x50 1:760 x 110 x50	Reburied (2001) FWHT 3 (IX-02)	D	Sketch	MM
102	01/07/2001	260139.86 / 5535588.53	-11	1	Wood/Cu alloy	Pulley wheel	Wood wheel with 4-lobed cu-alloy insert. Broad arrows to wood and cu-alloy	143 Ø x 21	FWHT 2		Sketch	MM
104	12/09/2001	260153.25 / 5535586.24	-11.28	4	Wood	Pulley block	Four pulley blocks found on surface - reburied		On Site			R - ADU
105	12/09/2001	260157 / 5535593		1	Wood	Pulley wheel	Single pulley wheel		On Site			R - ADU
106	01/07/2001	260152 / 5535589		1	Wood	Pulley wheel	Plain wooden pulley wheel, some gribble	160 Ø x 27	FWHT 2		Sketch	MM
107	04/09/2001	260144.94 / 5535584.84	-11	1	Glass	Bottle	Wine bottle - neck detached		FWHT 1	D		MM
108	05/09/2001	260152 / 5535590		1	Wood	Tag	Sail tag? Traces of marking L14? and 3?	215 x 43 x 9	FWHT 1	D	Sketch	MM
109	01/07/2001	260152 / 5535590		1	Wood	Pulley wheel	Plain wooden pulley wheel	110 Ø x 19	FWHT 2		Sketch	MM
110	17/09/2001	260152 / 5535594		1	Cu	Sheathing?	Fragment of well worn copper sheet - no nail holes	60 x 80 x c0.25	FWHT 1		Sketch	MM
111	17/09/2001	260155 / 5535586		1	Cu alloy/Fe	Dividers	Cu alloy dividers with Fe hinge and (missing) points	75 x 12 x 6	Cu 1	D	Sketch	MM
112	10/09/2001	260157 / 5535585		2	Wood	Blocks	On surface - reburied 52/90		On Site			R - ADU
113	16/09/2001	260157 / 5535585		1	Ceramic	Plate	Rim shard from plate (willow type pattern)	50 x 50 x 5	FWHT 1			MM
114	17/09/2001	260152 / 5535594		1	Ceramic	Pottery	Fragment stoneware pot, one face glazed	38 x 36 x 11	FWHT 1			MM
115	17/09/2001	260152 / 5535594		3	Glass	Window	3 Frags window glass - all triangular	80-120 x 4	FWHT			KC
116	17/09/2001	260152 / 5535594		1	Cu alloy	Object	Cylindrical obj. small hole for attachment at one end.	87 x 8 Ø	Cu 1	D	Sketch	MM
150	01/07/2001	260163 / 5535592		1	Wood	Panel	Part of a carved panel with raised radiating lines - possible sun burst motif.	1500 x 100 x 40	FWHT 3	BW	Sketch	MM

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
151	01/07/2001	260152 / 5535590		1	Wood	Deadeye	Partly eroded 3-hole deadeye	260 x 270 x 70	FWHT 2	BW	Sketch	MM
152	01/07/2001	+		1	Wood/Cu alloy	Pulley wheel	3-lobed cu-alloy insert. Inscribed with broad arrow , 'MY96' and 'WT'	120 Ø x 19	FWHT 2	BW	Sketch	MM
153	01/07/2001	260152 / 5535590		1	Wood/Fe	Pulley block	Part of single-wheel block. Pulley wheel intact. Fe concretion at spindle and one face.	410 x 310 x 250	FWHT 2	BW	Sketch	MM
154	01/07/2001	260152.5 / 5535590.5		1	Glass	Bottle	Base of wine? bottle. Dark green.	100 x 110 Ø	FWHT 1		Sketch	MM
155	01/07/2001	260152.25 / 5535590.25		1	Wood	Pulley block	Fragment of pulley block with intact wheel and wood spindle	230 x 115 x 100	FWHT 2		Sketch	MM
156	01/07/2001	260152.1 / 5535590.1		1	Wood/Fe	Pulley block	Heavily concreted pulley block with traces of rope	140 x 170 x 150	FWHT 2		Sketch	MM
157	01/07/2001	260152.22 / 5535590.22		1	Wood	Lapboard plank	Planed one face with bevel to broad edge	930 x 150 x 7-15	FWHT 3	BW	Sketch	MM
158	01/07/2001	260152 / 5535590		1	Wood	Lapboard plank	Planed one face, 3-nail holes traces of Fe nails. From inside face of hull	930 x 220 x 5-16	FWHT 3		Sketch	MM
200	V-02	260152 / 5535589.9	-11.3	1	Glass	Bottle	Complete bottle. Found on the sand next to bottles 154 and xx	210 x 70 Ø	FWHT 1	D	Sketch	MM
201	V-02	+		1	Leather	Shoe	Sole of a leather shoe. Pointed at the toe with stitch holes around the edges.	250 x 80 x 5	FWHT 1	D	Sketch	MM
202	V-02	260164.08 / 5535586.72	-11.3	1	Fe	Object	Heavily concreted iron bar. Found on the surface near the carving (thigh area). Labelled, sketched and moved.	1850 x 13 x 5	On Site		Sketch & Plan	AB
203	V-02	260163.58 / 5535588.67	-11.53	1	Glass	Window	Small triangular frag of flat glass - found while removing backfill around the statue. Light green colour	43 x 35 x 3	FWHT 1		Sketch	MM

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
210	V/02	260163.77 / 5535589.0	-11.55	1	Pb	Sheet	Lead sheet with nail holes around the edges. Reburial monitor object	200 x 100	On Site	D	Sketch	S***
211	V/02	260164.02 / 5535588.28	-11.6	1	Wood	Decoration	Small piece of carved wood	200 x 50	On Site		Sketch	AB
212	V/02	260164.04 / 5535588.19	-11.64	1	Glass	Window	Fragment of window glass. Reburial monitor object		On Site	D		S***
213	V/02	260165.34 / 5535588.99	-11.8	1	Cu Alloy	Trigger Guard	?Pistol trigger guard	140 x 15	Cu 1	D		MM
214	V/02	260163.89 / 5535588.90	-11.8	1	Fe	Concretion	Roughly circular	350	On Site		Sketch	AB
215	V/02	260165.05 / 5535589.08	-11.72	1	Cu Alloy	Disc	Thin circular plate with square hole in centre. Reburial monitor object	100 x c. 02	On Site	D	Sketch	S***
216	V/02	260165.52 / 5535588.86	-11.8	2	Wood	Fragments	Badly eroded frags of thin planking	300 x 5	On Site			AB
217	V/02	260165.14 / 5535588.11	-11.64	1	Glass	Fragment	Small frag of window glass		On Site			AB
218	V/02	260165.53 / 5535588.04	-11.63	1	Wood	Fragment	Small frag of eroded thin planking		On Site			AB
219	V/02	260164.75 / 5535588.17	-11.52	1	Fe	Concretion			On Site			AB
220	V/02	260163.73 / 5535588	-11.65	1	Pb	Sheet	Small piece of lead sheet		On Site			AB
221	V/02	260164.15 / 5535588.23	-11.7	1	Wood	Frag	Dowel with small hole. Raised, photographed and reburied. Reburial monitor object.		On Site	D		S***
222	V/02	260166.06 / 5535588.76	-11.75	1	Pb	Sheet	Lead sheet with nail holes around the edges	500 x 150 x 04	On Site			AB
223	VI/02	260166.06 / 5535588.76	-11.7	1	Wood	Frag	Eroded and gribbled wood with two small circular holes	100	On Site		Sketch	AB
224	VI/02	260166.52 / 5535587.26	-11.65	1	Wood	Frag			On Site			AB
225	VI/02	260164.40 / 5535589.10	-11.88	1	Wood	Frag	Eroded and gribbled wood	200	On Site			AB
226	VI/02	260166.51 / 5535587.22	-11.65	1	Cu Alloy & Wood	Frag			On Site			AB

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
227	VI/02	260166.90 / 5535587.14	-11.72	1	Pb & Cu Alloy	Sheet	Lead sheet with copper nail		On Site			AB
228	VI/02	260166.60 / 5535587.15	-11.87	1	Wood	Frag			On Site			AB
229	VI/02	260164.14 / 5535588.18	-11.91	1	Glass	Window			On Site			AB
230	VI/02	260165.55 / 5535587.53	-11.4	1	Wood & Fe	Concretion	Wood with Fe concretion	100 x 120	On Site			AB
231	VI/02	260165.62 / 5535587.92	-11.91	1	Ceramic	Pottery			On Site			AB
232	VI/02	260166.93 / 5535587.90	-11.74	1	Fe	Concretion		200 x 50	On Site			AB
233	VI/02	260165.53 / 5535588.04	-11.9	1	Wood	Frag			On Site			AB
234	VI/02	260163.78 / 5535588.44	-11.58	1	Cu Alloy	Hook		80 x 17 x 5	FWHT 1			MM
235	VI/02	260165.78 / 5535587.69	-11.88	4	Wood	Frags	Thin planks, broken	400 x 50	On Site			AB
236	VI/02	260166.57 / 5535586.95	-11.95	1	Wood	Frag	Plank	400 x 50	On Site			AB
237	VI/02	260166.68 / 5535587.03	-11.98	1	Pb	Sheet	Holes around the edges	290 x 150	On Site			AB
238	VI/02	260164.68 / 5535587.17	-11.8	1	Wood & Fe	Concretion		200 x 200	On Site			AB
239	VI/02	260163.69 / 5535587.34	-11.9	1	Fe	Concretion		400 x 300	On Site			AB
240	VI/02	260165.71 / 5535587.30	-11.3	1	Fe	Concretion		300 x 200	On Site			AB
241	VI/02	260167.41 / 5535587.72	-11.56	1	Cu Alloy	Rope Thimble	Looks suitable for 3/4" rope	50	On Site		Sketch	AB
242	VI/02	260166.69 / 5535588.25	-11.4	1	Fe	Concretion		30 x 300	On Site			AB
243	VI/02	260165.00 / 5535587.32	-11.4	1	Wood	Frag		100 x 50	On Site			AB
245	VI/02	260164.28 / 5535587.85	-11.7	2	Glass	Window	Two small shards of window glass	80 x 70	FWHT 1			MM

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
250	VI/02	260155 / 5535590	-11	1	Pb	Sounding lead	Square section, no tallow recess. Square hole (for line?)	390 x 30 x 30	PB1		Sketch	MM
251	VI/02	260164.80 / 5535587.91	-11.95	1	Wood	Plank		1000 x 120 x 50	On Site			AB
252	VI/02	260167.12 / 5535586.75	-11.2	1	Fe & Wood	Lantern bracket	End of lantern bracket from the carving - broke off		FWHT 2	D		MM
253	VI/02	260166.52 / 5535587.26	-11.8	2	Wood	Plank		1000 x 150	On Site			AB
254	VI/02	260164.16 / 5535588.02	-11.9	1	Fe	Bar		400 x 100	On Site			AB
255	VI/02	260164.16 / 5535588.02	-11.5	1	Fe	Concretion		360 x 220	On Site			AB
256	VI/02	260159.87 / 5535585.04	-10.8	1	Fe / Wood / Cu alloy	Musket	Musket stock and barrel partly buried.	1420 long	On Site		Sketch	R - MGD
257	VI/02	260159.63 / 5535587.27	c -11.1	1	Cu alloy	Trigger Guard	Musket trigger guard	140 x 50 x 10	FWHT 1		Sketch	MM
258	VI/02	260168 / 5535587		1	Cu alloy	Pistol butt plate	Found in spoil of carving excavation	60 x 50	FWHT 1		Sketch	MM
259	VI/02	260141 / 5535585		1	Cu alloy	Sheathing	With nail holes. Found mobile on the sea bed - position approx 2.10 north of control point A1	310 x 370	Cu 2		Sketch	MM
260	VI/02	260144.82 / 5535585.02	-11.1	1	Glass	Bottle	Small wine bottle, complete		FWHT 1	D		MM
261	VI/02	260164.82 / 5535585.46	-11.2	1	Pb	Sounding lead	Sounding lead, square section, rectangular tallow hole	320 x 40 x 30	Pb 1		Sketch	MM
262	VI/02	260160.34 / 5535584.34	-11	1	Fe / Wood / Cu alloy	Musket	Musket partly buried, stock in good condition, Fe corroded	700 x 120	In Situe		Sketch	IS
263	VI/02	260158.76 / 5535590.22	-11.1	1	Cu alloy	Musket plate	Musket plate - two circular holes	120 x30	FWHT 1	D	Sketch	MM
264	VI/02	260151.09 / 5535572.83	-10.9	1	Fe	Scissors	Heavily concreted, unmistakable scissor shape	140 x100	FWHT 2		Sketch	MM
265							Number not used					

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
266	VI/02	260148.09 / 5535583.97	-11.1	1	Glass	Bottle	Glass bottle neck and remains of the cork	100 x 60	FWHT 1	D	Sketch	MM
267	VI/02	260155.92 / 5535588.43	-11.2	1	Wood / Cu alloy	Pulley wheel	Pulley wheel (part) with 4-lobed cu-alloy centre on one side - other side has recess for missing cu-alloy centre	140 x 115 x 22	FWHT 2	D	Sketch	MM
268	VI/02	Measurement error	-11	1	Wood	Pulley wheel	Plain wood pulley wheel	150 x 25 Centre hole 30	FWHT 2	D	Sketch	MM
269	VI/02	260150.31 / 5535585.36	-11	1	Glass	Bottle	Fragment of bottle glass	140 x 100	FWHT 1		Sketch	MM
270	VI/02	260161 / 5535592	-11	1	Wood	Pulley wheel	Plain wood pulley wheel - position approx.	120 x 22 Centre hole 26	FWHT 2	D	Sketch	MM
271	VI/02	? 260140.74 / 5535587.44	-10.9	1	Cu alloy	Washer	Cu alloy washer - from fastening bolt	60 x 5 Centre hole 50	FWHT 2		Sketch	MM
272	VI/02	260158 / 5535580	-11.1	1	Glass	Bottle	Modern crown-top beer bottle - position approximate		FWHT 1	D	Sketch	MM
273	VI/02	? 260156.37 / 5535588	-10.9	1	Glass	Window	Fragment of flat window glass	160 x 200 x 4	FWHT 1		Sketch	MM
274							Number not used					
275	VI/02	? 260147.90 / 5535579.46	-10.9	1	Ceramic	Pottery	Handle and small frag. Of pot - possibly a po	90 x 70	FWHT 1	D	Sketch	MM
276	VI/02	260160 / 5535590.3		1	Wood	Decoration	Flat board with stylised foliage decoration - found just below 'gun port zero' on the upper gun deck.	1130 x 210 x 100	FWHT - Tresco	UW	Sketch	TT
277	VI/02	260140.74 / 5535587.44	-10.9	1	Cu alloy	Sheave bearing	Three lobed sheave bearing. Abraded	50 x 19	FWHT 1		Sketch	MM
278	VI/02	260175 / 5535585	-11	1	Cu alloy	Musket butt plate	Abraded - this was found mobile on the seabed by TH - position approx.	120 x 42 x 70	Cu 1		Sketch	MM
279	VI/02	260166 / 5535588	-11.5	1	Wood	Sheave spindle	Ridged dowel - probably a sheave spindle. Found mobile near the carving (285)	25 x 140	FWHT 1		Sketch	MM

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
285	VI/01	Eye 260165.95 / 5535588.42	-11.49	1	Wood	Decoration	Stern carving - human figure holding aloft a laurel wreath. Includes a curved window head.		FWHT - Tresco	UW	Sketch	TT
300	IX/02	260155 / 5535587	-11.2	1	Wood	Barrel hoop?	Curved wood		On Site			R - MGD
301	IX/02	260155 / 5535587	-11.2	1	Organic	Fibres	Possibly remains of fabric		On Site			R - MGD
302	IX/02	260153.22 / 5535588.25	-11.6	1	Fe	Concretion		150 x 150	On Site			R - MGD
303	IX/02	260153.29 / 5535587.72	-11.1	1	Fe	Concretion		50 x 20	On Site			R - MGD
304	IX/02	260153.62 / 5535588.36	-11	1	Glass	Window	Fragment of clear window glass	70 x 80 x 4	FWHT 1	D	Sketch	MM
305	IX/02	260152.59 / 5535589.39	-11.8	1	Cu alloy	Washer		70 Ø, 30 hole	On Site			R - MGD
306	IX/02	260153.09 / 5535588.07	-11.7	1	Cu alloy	Musket part	Probably a musket ramrod tube	40 x 16 x 11	FWHT 1	D	Sketch	MM
307	IX/02	260152.96 / 5535588.45	-12	1	Wood	Treenail		140 x 25	On Site			R - MGD
308	IX/02	260152.95 / 5535588.58	-12.1	1	Wood & Fe	Handle?	Wooden handle or fairlead with fe fastenings	170 x 30 x 3	FWHT 2	D	Sketch	MM
309	IX/02	260152.96 / 5535587.99	-11.8	1	Organic	Fibres	Possibly remains of fabric	40 x 30	On Site			R - MGD
310	IX/02	260152.89 / 5535588.64	-12	1	Fe	Concretion			On Site			R - MGD
311	IX/02	260152.89 / 5535588.64	-12	1	Ceramic	Pottery		30 x 20	On Site			R - MGD
312	IX/02	260152.81 / 5535588.37	-12.2	1	Ceramic	Brick?	Red earthenware	100 x 60 x 50	FWHT 2	D	Sketch	MM
313	IX/02	260153.70 / 5535588.12	-11.2	1	Wood	Pulley wheel		130 Ø	On Site			R - MGD
314	IX/02	260152.53 / 5535587.54	-11.1	1	Fe	Concretion		70 x 70	On Site			R - MGD
315	IX/02	260153.09 / 5535588.07	-11.2	1	Fe	Concretion		120 x 70	On Site			R - MGD
316	IX/02	260152.82 / 5535588.28	-11.9	1	Glass	Fragment		120 x 90	On Site			R - MGD

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
317	IX/02	260152.98 / 5535587.66	-11.8	1	Organic	Rope		300 x 20	On site			R - MGD
318	IX/02	260152.98 / 5535588.00	-11.7	1	Organic	Fibres	Possibly remains of fabric	150 x 30	On Site			R - MGD
319	IX/02	260153.16 / 5535587.69	-11.7	1	Ceramic	Pottery		40 x 20	On Site			R - MGD
320	IX/02	260152.73 / 5535588.72	-11.5	1	Fe	Concretion		150 Ø	On Site			R - MGD
321	IX/02	260152.99 / 5535588.46	-11.8	1	Cu alloy	Button	Plain copper disk with ring for attachment	14 Ø x 9	FWHT 1	D	Sketch	MM
322	IX/02	260153.34 / 5535587.63	-11.7	1	Fe	Concretion		150 x 120	On Site			R - MGD
323	IX/02	260153.22 / 5535587.96	-11.7	1	Cu alloy	Button	Plain copper disk with ring for attachment	15 Ø x 8	FWHT 1	D	Sketch	MM
324	IX/02	260153.18 / 5535587.65	-11.7	1	Cu alloy	Button	Plain copper disk with ring for attachment	13 Ø X 7	FWHT 1	D	Sketch	MM
325	IX/02	260152.82 / 5535588.49	-11.7	1	Fe	Concretion		200 x 100	On Site			R - MGD
326	IX/02	260153.01 / 5535588.25	-11.6	1	Ceramic	Pottery	Rim fragment of pot - off white glaze inside and out.	65 x 72 x 4	FWHT 1	D	Sketch	MM
327	IX/02	260152.79 / 5535588.24	-11.7	1	Cu alloy	Nail		30	On Site			R - MGD
328	IX/02	260153.62 / 5535586.93	-11.4	1	Organic	Rope	Fragment		FWHT 2A			MM
329	IX/02	260153.44 / 5535588.26	-11.5	1	Cu alloy	Gun part?		160 x 20	On Site			R - MGD
330	IX/02	260152.5 / 5535587.70	-11.5	3	Fe	Cannon balls	Group of three cannon balls concreted together on a fragment of wood	160, 190 & 210	On Site			R - MGD
331	IX/02	260152.89 / 5535588.24 and 260152.65 / 5535588.96	-11.9	1	Fe & Wood	Object	Wood with Fe concretion		On Site			R - MGD
332	IX/02	260154.17 / 5535587.18	-11.9	1	Fe	Concretion		50 x 50	On Site			R - MGD

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
333	IX/02	260151 / 5535590	-11.6	1	Wood	Brush	Small brush - bristles mostly missing. Initials TC or TG on the back.	120 x 50 x 10	FWHT 1	D	Sketch	MM
334	IX/02	260152.07 / 5535589.93	-11.6	3	Glass	Vessel	Frags of wine glass? Very thin slightly curved glass	50 x 40 x 1.5	FWHT 1	D	Sketch	MM
335	IX/02	260152.77 / 5535589.26	-11.5	1	Fe	Concretion		250 x 50 x 50	On Site			R - MGD
336	IX/02	260151.95 / 5535589.6	-11.8	1	Wood	Lapboard plank	From the floor (side) of the orlop (exp trench). Originally lining against the inner planking of the hull.	920 x 230 x 20	On Site			R - MGD
337	IX/02	260152.36 / 5535588.56	-12	4	Wood & Fabric	Furniture parts?	Four eroded pieces of possibly carved wood - with some fabric attached - possibly parts of a chair	90 x 20 x 20 150 x 30 x 30 180 x 30 x 30 280 x 30 x 30	FWHT 3	D	Sketch	MM
338	IX/02	260153.72 / 5535587.02	-11.4	1	Leather	Shoe sole (part)	Front part of sole - originally recorded underwater as 359	120 x 90 x 3	FWHT 1	D	Sketch	MM
339	IX/02	260153.98 / 5535587.21	-11.4	1	Wood & Fe	Brush	Small brush with shoe-horn handle. Bristles missing. Carved with initials GP (or possibly CP)	170 x 30 x 3	FWHT 1	D	Drawn 1:1	MM
342	IX/02	260151.9 / 5535588.98	-11.8	3	Wood	Lapboard plank	Three pieces of lapboard from the orlop compartment (exp trench)	900 x 200 x 20	On Site			R - MGD
343	IX/02	260154.03 / 5535587.21	-11.6	1	Ceramic	Pottery	Rim fragment of pot - off white glaze inside and out.	50 x 50 x 4	FWHT 1	D	Sketch	MM
344	IX/02	260153.30 / 5535586.67 and 260153.40 / 5535586.84	-11.3	1	Leather	Shoe sole	Sole and heel of a shoe - some fragments of the upper survive	270 x 86 x 20	FWHT 1	D	Sketch	MM
347	IX/02	260152.90 / 5535587.21 and 260153.00 / 5535587.33	-11.5	1	Wood				On Site			R - MGD

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
348	IX/02	260153.31 / 5535587.01 and 260153.86 / 5535586.86	-11.3	1	Wood	Object			On Site			R - MGD
351	IX/02	260152.76 / 5535587.51	-11.7	1	Organic	Fabric			FWHT 2A			MM
352	IX/02	260152.71 / 5535587.60	-11.6	1	Cu alloy	Button	Plain copper disk with ring for attachment	14 x 8	FWHT 1	D	Sketch	MM
354	IX/02	260153.37 / 5535586.96	-11.3	1	Fe	Concretion		220 x 70	On Site			R - MGD
356	IX/02	260152.52 / 5535587.97	-12.3	1	Organic	Rope		100 x 10	On Site			R - MGD
357	IX/02	260152.51 / 5535588.20	-12.3	1	?	Object	On inspection this proved to be a worm cast - discarded.	50 Ø	On Site			R - MGD
358	IX/02	+	-11.4	1	Organic	Rope	Fragment of rope		FWHT 2A			MM
359	IX/02	260153.8 / 5535587.01	-11.4	1	Leather	Shoe sole	Sole of a leather shoe		On Site			R - MGD
360	IX/02	260152.42 / 5535588.55	-11.2	1	Fe	Concretion		70 x 50	On Site			R - MGD
361	IX/02	260152.53 / 5535588.04	-11.4	1	Cu alloy	Button		12 Ø x 8	FWHT 1	D	Sketch	MM
362	IX/02	260152.43 / 5535588.27	-11.9	1	Fibre	Rope	Fragment of rope		FWHT 2A			MM
364	IX/02	260153.15 / 5535586.95	-12	1	Ceramic	Pottery	Rim shard, glazed inside and out - off white glaze	50 Ø	FWHT 1	D	Sketch	MM
365	IX/02	260152.15 / 5535588.11	-11.9	1	Fe & Wood				On Site			R - MGD
366	IX/02	260152.86 / 5535588.44	-11.7	1	Wood				On Site			R - MGD
380	IX/02	260152.20 / 5535588.14	-11.6	1	Ceramic	Pottery			On Site			R - MGD
381	IX/02	260152.39 / 5535587.68	-11.9	1	Ceramic	Pottery	Body shard - glazed off-white inside and out	30 x 30 x 4	FWHT 1	D	Sketch	MM
382	IX/02	260152.70 / 5535588.71	-11.4	1	Wood & Fabric	Furniture?	Fabric attached to wood	200 x 100 x 150	On Site			R - MGD

No	Fdate	Grid ref	Depth	Nos	Material	Object Type	Description	Dimensions	Location	Photo	Drawn	Storage
383	IX/02	260152.24 / 5535588.12	-11.5	1	Cu alloy	Object	Part of a finely wrought cu alloy object	28 x 26 x 3	FWHT 1	D	Sketch	MM
384	IX/02	260152.25 / 5535588.28	-11.4	1	Organic	Fabric	Possibly felt	200 x 150	On Site			R - MGD
385	IX/02	260152.84 / 5535588.38	-11.8	1	Organic	Fabric			On Site			R - MGD
387	IX/02	260152.10 / 5535588.20	-11.7	1	Glass	Window	Clear fragment of window glass - cracked	128 x 42 x 4	FWHT 1	D	Sketch	MM
388	IX/02	260152.39 / 5535588.47	-11.6	1	Fe	Concretion			On Site			R - MGD
390	IX/02	260154.05 / 5535587.17	-11.6	1	Ceramic	Pottery	Body shard - unglazed - earthenware	25 x 40	FWHT 1	D	Sketch	MM
391	IX/02	260151.9 / 5535588.98	-11.5	1	Bone	Scapula	Pig??	250 x 70	FWHT 2	D	Sketch	MM
392	IX/02	260152.55 / 5535588.33	-11.6	1	Cu alloy	Pin	Round headed pin	30	FWHT 1	D	Sketch	MM

Notes on abbreviations used in the finds list

Grid Ref

All grid references are in UTM zone 30 (WGS84)

Storage

MM	Held by Mac Mace, Bryher
AB	Reburied on site at 260164.3 / 5535596.4
R – ADU	Finds recovered by ADU – reburied at 260190 / 553552
S***	Reburial monitor object – reburied at AB
R – MGD	Exploratory excavation finds reburied at 260152.8 / 5535587.7
TT	Storage tank on Tresco

Location

On Site	Reburied – for exact disposition see storage
FWHT 1-3	Fresh water holding tank (Bryher)
FWHT 2A	Tank within FWHT 2
Cu 1-2	Dry storage
Pb 1	Dry storage

Dimensions

All dimensions are in mm
Ø = diameter

Height

All heights are referenced to the site TBM (Gun 1 cascabel) which is set to a nominal -10m. An object which is 1.5m below site TBM will be recorded -11.5m.

FDate

Date of finding, month in Roman numerals, last two digits of year in Arabic numerals. Thus June 2002 is recorded as VI-02.

Photo

D	Digital photo
BW	Monochrome negative
UW	Underwater photograph
T	Colour transparency

VI Carving Conservation (Charlie Barker)

The present situation: The statue is safe and sound, on land in a secure location. The majority [90%] of the wood [elm?] appears to be sound and free from surface contamination.

It appears to have been buried until recently in a thick, black, oily, anaerobic silt which remains in various carved crevices and folds. There are at least five areas contaminated by iron fixings or attachments. The most important is a large iron lantern bracket [252] over the window. This bracket is heavily concreted and does not appear to have much of the original iron remaining. There is another area of concretion behind the head from which a splinter of what looks like pine is protruding. In several places particularly in the leaf scrollwork over the window - frame can be seen traces of paint or perhaps gilt decoration. There are small areas of worm damage on the left boot and the nose and face.

The statue is now in a holding tank in a fresh water wash. It could remain like this for at least six months. The water supply comes from four boreholes and is stored in a 136,000 litre closed reservoir. The water passes through a UV and particle filter and is pH neutral: no chlorine is added. The tank, which has a wooden cover, is in a secure shed on the island of Tresco. The tank is standing on a concrete base, now that the tank is in place doors will be fixed to the front of the building. The tank and shed are away from areas normally accessible to the public. The estate manager has been briefed on how to care for the statue but his job entails little more than maintaining the water supply.

The tank internal dimensions are 4 m X 1.2 m deep and 2.2 m wide, which is equivalent to 10,000 litres capacity. The statue is 3.3 m high X 1.6 m wide at the top including the top of the window and without the lamp bracket about 0.7 m deep. It appears to be substantially carved from one single section of wood. Photographs are available.

A relevant wood sample is being examined at the Mary Rose Trust laboratories in Portsmouth. Mary Rose Archaeological Services [MRAS] are contracted to Mac Mace for the initial conservation phase and were present for the lift and transfer to land. If Mac Mace and the new Trust in Tresco are given responsibility for conservation and display, MRAS will be retained to complete the conservation.

Charlie Barker MRAS June 10-11-12 - 2002 - Isles of Scilly

VII Captain Murray's account
ADM 1/5348

A narrative of the particulars, relating to the Loss of His Majesty's Ship Colossus

Previous to a relation of the Circumstances which brought on the loss of His Majesty's Ship under my Command, I beg leave to submit to the Court the Orders Received from Lord St Vincent to take the Colossus to England: And to prove that from the first moment after I received his Lordships orders I had the object constantly in View, of arriving in the Channel before the Easterly Winds set in. I must refer myself to a letter written by me to his Lordship, on the 22nd of November last, from Lisbon acquainting him with my reasons for not deferring my departure from thence, in conformity with the solicitations of the (?)actory; which I hoped would meet with His Lordships approbation; particularly so, as the state of the Colossus is such, as to require her getting to England, if possible before the Easterly Winds set in, in the Channel, and every day might be of consequence.

I believe, I need not call to the Recollection of the Court, the anxiety and mortification which every Commander, conducting Convoys; has experienced and how sensibly he must feel his situation, when he knows the Insufficiency of his Ship to encounter with any extraordinary difficulties.

For the Information of the Court a Statement of the defects of the Colossus as transmitted by me to the Lords of the Admiralty, on my arrival at Scilly may be necessary; And as it will appear; that on the 6th of December, the Event had taken place of a strong Easterly Wind being set in, and having daily weighed the Condition of the Ship, as being unequal to the Strong Gales, The Situation of the Convoy, and a Port within my Reach, I thought it advisable to conduct such of the Ships as had not departed from me, into St Marys Sound, in the Islands of Scilly, where I anchored, the Colossus on the 7th of December, with the Best Bower Anchor (to which a Cable perfectly new had been bent) in Eleven fathom Water, and Veer'd to a whole Cable.

On the 8th & 9th the Wind continued from the SE to ESE to blow strong, but being off shore the water was smooth.

On the 10th the Gale increasing very considerable, I sent the Master to sound for some distance round the Ship, and particularly to examine,

whether the Ground was foul or not; And had the pleasure to learn from his reports that it was perfectly clear, and very gradually Shoaled towards each Shore, consequently that the Colossus was very properly anchored The other two anchors were ready for letting go (the Spare Anchor having been supplied to the Vanguard at Naples) and I ordered the Top Gallant Masts to be struck-

About four in the afternoon the Cable parting; the small Bower Anchor was instantly let go, and after veering to a whole Cable, The Ship brought up. Having then, only the Sheet Anchor left, and every appearance of it's blowing hard, I determined to put to Sea; but the Pilot, whom I had kept constantly on board, judging it impossible to clear the Rocks, before it would be too dark to justify the Attempt, it became necessary to prepare the Ship for riding out the Gale: The Sheet Anchor was accordingly let go; And having Struck the yards & Topmasts, I flattered myself the Cables and Anchors would then, hold: but about half past five, we had the mortification to find the Small Bower come home & I was obliged to Veer and let her ride between both. About 6 o'Clock the Ship Struck the Ground, but not so hard as to appear to me of much consequence, and which the throwing the Guns overboard and cutting the Mast away might, in some degree have relieved: but as these were objects of considerable moment, I thought it provident to hold a Consultation with captains Peyton and Draper (of his Majesty's Navy, then onboard) the first Lieutenant and Master of the Colossus, who, with me were, unanimously, of Opinion, that as there was not room to clear of them, the throwing of the Guns overboard might be attended with very serious consequences; And as there were, still hopes of getting to Sea at Daylight, with the Flood Tide, it was thought most advisable not to cut away the Masts; also , as another reason for postponing the measures, it was considered that in case the Ship should Strike so hard as to Bulge, the Tide would flow over her, and by keeping the Masts standing, it might be the means of saving the lives of the People. Every thing else to lighten the Ship was done. About 8 o'Clock the Wind unfortunately veering round to the Southward, the Ship sailed more in Shore; but notwithstanding this circumstance, and its blowing tremendously hard, we were able to keep her free; And having tried with the Boat, and found that there was more water ahead of the Ship, I had hopes, by heaving on the Cable & bowsing in the slack of the other, I should be able to keep her afloat – accordingly we hove in to half a Cable on each Anchor; But as the Tide ebb'd, the Ship, again, struck with great Violence, and shortly after, the water having gained on our Chain Pumps, We man'd them all, and baled with half Tubs and Buckets. About Midnight the Rudder was beaten off: and the Wind continuing to blow very hard, and the Night extremely dark , The Signals of Distress,

which we had made from the first of the Ships driving, were constantly repeated, tho' situated as we were, there was but little hope of Relief until day light. During this time, not withstanding the great Exertions of the Crew, and the Activity of every Officer in the Ship, The Water gained upon us fast; and having more Reason to apprehend that the next flood would be over the Ship it was a matter of the greatest Satisfaction to think, that I had forborne to cut away the Masts: as before day light, I was obliged to Order the People on the Quarter Deck & Poop, the Water being up to the Cills of the Upper Deck, and as the Ship rolled, struck with so much violence against the Quarter Deck, as to break several of the Beams & gave me reason to apprehend every moment, that it would blow up – About 8 o'Clock in the Morning, I had the pleasure to see several Boats coming to our assistance; and on their arrival, I directed the Sick & Invalids to go in the first Boat, and the People by Divisions, into the others, as they came to us. Thus by the Exertions of the People of the Islands in bringing, and the great activity of Major Bowen, the Commanding Officer of the Fort, in dispatching these Boats from the Shore, I am happy to say, that before three o'Clock in the afternoon, with the exception of one, who had fallen overboard in the Night – I had the pleasure to see the last man go safely out of the Ship, and, then, quitted her myself.

In contemplating this misfortune it is my greatest consolation, to think, that the most favourable Moment which presented itself on this occasion was embraced, for had the leaving of the Ship been delayed but one hour, it is but too certain, that a great part of the people must have been lost, and even in the present Case, many of the Boats were forced to bear away for the Island of Bryer, not being able to pull to Windward. In the night and on the following day no Boat could possibly go off to the Ship and on the succeeding night the ship fell over & was on her Beam Ends.

Before I conclude this narrative of the loss of His Majesty's Ship, I must beg leave to express the obligations I have to Captains Peyton and Draper for the assistance I received from them; And to say no Exertions could surpass those of my Officers from first to last, nor can the Orderly diligence and Obedient conduct of the Ships Company be too much commended by me.

With respect to myself I most readily submit my Conduct to the Court, and trust that it will be found, that no Efforts of which I was capable, nor any Means in my power have been wanting, to save His Majesty's Ship, or to preserve the lives of the people entrusted to my Care.
Geo Murray.

VIII The site plan

The site plan can be loaded using the CorelDraw program, if you do not have CorelDraw an image of the plan is also included as a Jpeg file which can be viewed using most photo viewing software.

IX Notes on using the CD

The CD ROM contains the whole of this report as well as much additional material for which there was no room in the printed report. Past reports and project designs for the site are also included.

What is on the CD

- Finds list
  - ADU 2001 Finds 1-61
  - Main list Finds 100-392
- Finds drawings
- Finds photos
- History & background
- Plans & sections
- Project design 2001
- Project design 2002
- Survey report 2001
- Survey report 2002

File Formats

The photographs are all in Jpeg format. [.JPG]
The reports and project designs are in Adobe Format [.PDF] [66]
The drawings were produced using CorelDraw (9). [.CDR]
Jpeg versions of the drawings are included for those without CorelDraw.

Kevin Camidge 31.X.2002

66 The PDF files can be viewed using the Adobe Acrobat viewer – if you do not have this it is available free at www.adobe.com