**ACCESSION NO:** 

**ARTEFACT:** Chocks – test pieces

for small wood

conservation

MATERIALS: Wood (Alder)

LAB NO:

**SMALL FIND NO:** 

**CONTEXT NO:** 

**EXCAVATOR:** 

**DATE FOUND:** 

**COW TAG:** 1907; 2635; 1911; 2683;

2725

**SHIP COORDINATES:** 

**ASSOCIATED FINDS:** 

**CURRENT LOCATION:** Shipping Container 2

### **DESCRIPTION**

5 poplar wood chocks all of roughly similar size, shape, weight and condition. Triangular wedge shape.

1907: non-oak chock, bow F4-6. 157mm long x 68mm wide. Triangular in plan. Longest edge is 157mm, shortest edge is 75mm, third edge is 114mm. Longest edge seems to have been split then area around knot was chopped. Both shorter edges were worked. One triangular surface has bark in situ and is mostly unworked except where branch was removed. Possible partial nail hole on shortest edge. Second surface was split.

2635: Chock: Associated with 2259, 2631, 2632, 2633, 2634, 2636, 2637, 2638, and 2639. 170mm long x 70mm wide x 56mm thick. Roughly triangular in plan. One large knot. Longest edge is 170mm; shortest edge is 80mm; third edge is 113mm. Split gap between two shorter edges is 30mm long. All three edges are worked. Bark still in situ along longest edge. Both triangular surfaces are split. One nail hole, 3mm x 3mm, driven from shortest edge through to longest edge. Concretion and staining (15mm diameter) on shortest edge may indicate location of nail head.

1911: non-oak chock F26-27. Ok condition. 165mm long x 65mm wide x 60mm thick. Triangular in plan. Longest edge is 165 mm; shortest edge is 80mm; third edge is 125mm. All three edges have been worked. One triangular surface is unworked with bark still in situ. Second surface is split. One nail hole, 3mm x 3mm, appears to have been driven from shortest edge toward and through longest edge. Original 1106

2683: Non oak chock. Iron fastener. 1 fastenet hole with Fe staining. F60 - F61 RCH 16/10/02 cont 171. Associated to 2205, 2681 and 2682. Do no record Wooden chock  $165 \text{mm} \times 60 \text{mm$ 

2725: Chock. Found with 2038, 2726, 2727 and 2728. 160mm long x 60mm wide x 56mm thick. Almost rectangular in plan (one corner is damaged). Triangular in profile. Rectangular in section. Large square nail hole, 8mm x 8mm perforates the piece. Circular head impression found on long downward side approx. 10 mm. in diameter. Lots of iron staining present.

## STORAGE REQUIREMENTS:

**ANALYSIS** 

X-ray:

Other: Photographed

**DATE BEGAN:** 31-08-2011

**DATE COMPLETE:** 22/05/12

**CONSERVATOR:** Marie Jordan

### MATERIALS AND METHOD OF MANUFACTURE

#### CONDITION

Waterlogged. Generally good condition, with only slight softening on surface. Several pieces still have bark attached. All pieces have some iron staining from no-longer-present nails.

Following treatment, the chocks are generally in good condition. Some cracking is visible, and a few areas are slightly spongy to the touch, but overall the objects are solid with a wood-like feel and weight. Some small bits have fallen off, but were easily re-adhered using Paraloid B-72, as detailed in Treatment section. The chocks are slightly spongy feeling, and the remainder of the chocks will be treated with a higher percentage of PEG 3350 in an attempt to bulk them out more.

### **TREATMENT**

Objects were weighed and wood ID'd using thin sections and microscopy. Objects were immersed in 5% w/v ethylenediaminetetraacetic acid (EDTA) in tap water until visible traces of iron corrosion were gone, approximately 1 week. Following removal from EDTA, the objects were rinsed by changing water baths regularly until no colour change was observed.

Following EDTA treatment, the objects were treated using a two-step PEG immersion process. They were first placed in a solution of 13% w/v PEG 400. Approximately 6 weeks later, a 10% w/v concentration of PEG 3350 was added, and the chocks were held in this solution for 2.5 months.

The chocks were placed in the small freeze-drier and placed under vacuum for between 1500 and 1920 hours. Upon being left out for several days, though, it was discovered that the chocks were still wet. They were placed in a freezer for several months, and then freeze-dried for an additional 108 – 153 hours.

Following drying, loose pieces were adhered using HMG Paraloid B-72 (approx. 70% w/v concentration). The chocks were then placed in storage.

## **PHOTOGRAPHY:**

#### **BIBLIOGRAPHY:**

ACCESSION NO: MSG N/A

**ARTEFACT:** Pump

MATERIALS: Wood, leather

LAB NO:

**SMALL FIND NO:** 

CONTEXT NO: 120?

**EXCAVATOR:** N/A

**DATE FOUND:** N/A

**COW TAG:** 1682

**SHIP COORDINATES:** 

**ASSOCIATED FINDS:** MSG 1287 (Leather

from inside pump) and MSG 1288 (Oyster shell from inside

pump) CT 3113-3117

**CURRENT LOCATION:** Box 138



## **DESCRIPTION**

Roughly circular elm wood pump with hollowed out centre. Measures approximately 880mm in length. One end has pile damage and the remaining wood fragments have been pushed into the pump cavity. The inside is filled with sediment and some leather and wood fragments are also visible sticking out of the undamaged end. Around what would have been the bottom (undamaged) end there is some concreted iron and staining where an iron band would have gone around the circumference of the pump.

### HANDLING INSTRUCTIONS:

## STORAGE REQUIREMENTS:

### **ANALYSIS**

**X-ray:** Pump was x-rayed to examine the contents of the

hollow centre in a non-destructive way, but this did not reveal much as leather and wood can have a similar density and so may not be able to differentiate easily.

Other: Other non-destructive analysis included photography

and CT scanning, which it was hoped would display greater detail than the x-ray. The computerised scan enabled us to digitally move through the centre of the pump to assess the structure and contents of the hollow

centre.

**DATE BEGAN:** 01.06.11

**DATE COMPLETE:** 

**CONSERVATOR:** Sophie Adamson/Morwenna Perrott/Marie

Jordan/Archaeology staff

#### MATERIALS AND METHOD OF MANUFACTURE

The pump was made from the trunk of an elm tree, which was hollowed out and smoothed so that few tool marks are evident. It is not known where the tree was felled or the date.

The wooden pump was a tubular component of a burr pump, which was an extremely simple type of pump and may have been used on other ships prior to its use on the Newport Ship.

The pump was attached to a pump foot which acted as the lower valve of the pump. The burr, or upper valve was inserted into the pump. The foot was also tubular with a valve claque on the top, whilst the upper valve was formed in the shape of a truncated cone, and had a long wooden pole and a leather cone attached to it. (Oertling 1996, 16-18)

### **CONDITION**

The pump has considerable pile damage at one end which has also shattered the surrounding wood. There is also other, possibly modern, damage sustained on the outside of the pump.

There are a few large cracks running along much of the length of the pump, which appear to detach a large section of the cylinder from the body of the pump. These cracks at their widest points measure 510x65mm, and 400x500mm. There is another, smaller crack which measures 200mm in length.

The pump has been slightly compressed by the weight of sediment during burial and the semi-detached fragment between the two large cracks has been shifted as a result. There is mineralised iron and subsequent staining near the base of the object, all the way round its circumference.

#### **TREATMENT**

Cleaning, 01.06.11: The pump had a lot of sediment and other detritus inside the hollow, so it was decided that one fragment of the outer shell, the partially detached segment between the two large cracks, was sufficiently separated that it could be

released causing minimal damage to the rest of the object. This segment was released successfully.

The bulk of the sediment was removed with spoons and the rest was carefully removed under a gentle water stream with some of the surface residue was cleaned off with paintbrushes.

An oyster shell was found in situ towards the base of the pump and this was packaged in a finds bag with water and stored in the fridge for further conservation. In addition some leather fragments were also removed as a block lift and placed in a Stewart box with water for later cleaning and conservation.

2013: Remains of clay were removed with running water, paintbrush, and dental tools. Objects were placed into a 1% solution of EDTA for approximately 2 weeks, then rinsed by changing baths of water several times. The pump elements were then placed into PEG on 19 February, 2012.

# PHOTOGRAPHY:



Before cleaning and conservation



**Removal of section** 



Cleaning out the inside of the pump



Leather in situ

## **BIBLIOGRAPHY:**

Oertling, T.J. (1996), Ships' Bilge Pumps, A History of their Development, 1500-1900, TAMU Press

ACCESSION NO:

ARTEFACT: Dead eye (?)

MATERIALS: Wood (oak)

LAB NO:

SMALL FIND NO:

CONTEXT NO: 433

EXCAVATOR:

DATE FOUND: 20/09/06

COW TAG: 1747

SHIP COORDINATES:

ASSOCIATED FINDS:

CURRENT LOCATION: Shipping Container 3



Dead eye. Found 20/09/06 in 433. Treenail holes? 1 complete holes and 1 partial hole/groove. (NN = Frame? Fragments with 2 treenail holes). Possible of dead eye or parrel rib. Five surfaces, one, possibly two, of which are original. Surfaces show signs of damage. Object is roughly prism- shaped, and measures  $210 \times 45 \times 38$  mm ( $1 \times b \times d$ ). Apart from mechanical damage, wood shows little sign of staining or other decay. Does not appear to be rigging. EM 28/02/2011.

HANDLING INSTRUCTIONS: Object should be handled while wearing gloves.

STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-

55%RH, 18-22C.

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN: 25/08/2011

DATE COMPLETE: 13/09/2012

CONSERVATOR: Marie Jordan



### **CONDITION**

Object has dried well and is in good shape; display is possible.

### TREATMENT

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 102 hours.

## PHOTOGRAPHY:

### Before:





# After:



Rigging

**ACCESSION NO:** 

ARTEFACT:

Wood (oak) MATERIALS: LAB NO: SMALL FIND NO: CONTEXT NO: EXCAVATOR: **IKH** DATE FOUND: 24/08/02 COW TAG: 1807 SHIP COORDINATES: F33 - F34 ASSOCIATED FINDS: CURRENT LOCATION: 127 **DESCRIPTION** 130". 2 round holes going all the way through. Nicknamed "binoculars". 1 rebate and 1 possible rebate. Function unclear. Thought to be rigging. 7 cm. thick to 5.5 cm. thick. 31 cm. along longest edge, 17 cm. along opposite edge. One end is 12.5 cm., the opposite is 13.5 cm. A triangular rebate on one surface, measuring 5 cm. x 8 cm. x 8 cm. and 2 cm. deep. Holes have diameter of 3 cm. (at longest edge) and widen to 3.5 cm. at shortest edge. One knot hole next to rebate. HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other: DATE BEGAN: 25/08/11 DATE COMPLETE: 20/9/12 CONSERVATOR: Marie Jordan

### **CONDITION**

Object is in good condition and could go on display.

### **TREATMENT**

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freezedrying began in September 2012. This piece dried in 222 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

### PHOTOGRAPHY:

## Before:







ACCESSION NO:

ARTEFACT: Sheave Frag MATERIALS: Wood LAB NO: SMALL FIND NO: CONTEXT NO: 120 EXCAVATOR: RIB DATE FOUND: 14/08/02 COW TAG: 1853 SHIP COORDINATES: ASSOCIATED FINDS: Shipping Container 3 CURRENT LOCATION: **DESCRIPTION** fragment of sheave. "'half pulley wheel. Half a disc sheave. Broken at shaft hole. Overall diameter 16.5 cm. shaft hole has a diameter of 3.6 cm. Wheel is 4 cm. thick with a groove for rope rebated into the wheel. Relatively good condition. Some damage around edge. No visible surface detail HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other: DATE BEGAN: 25/08/2011 DATE COMPLETE: 20/9/12 CONSERVATOR: Marie Jordan

### **CONDITION**

Object has dried well and is in good shape; display is possible.

### **TREATMENT**

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 222 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

## PHOTOGRAPHY:

Before:





# After:



ACCESSION NO:

ARTEFACT: Rigging

MATERIALS: Wood (oak)

LAB NO:

SMALL FIND NO:

**CONTEXT NO:** 

**EXCAVATOR:** 

DATE FOUND:

COW TAG: 1926

SHIP COORDINATES:

ASSOCIATED FINDS:

CURRENT LOCATION: Shipping Container 3



## **DESCRIPTION**

Part of rigging? ( NN = non oak wooden artefact) 42.5 cm. x 7.5 cm. at widest tapering to 1 cm. x 4 cm. thick. One hole present at widest end, 2.7 cm. in diameter. Large crack running the width of the piece 9.5 cm. from narrow end. Soft condition with no visible tool marks. Surface A is in poor condition and is missing a section i.e. damaged from 18 cm. from widest end to 28 cm. from widest end. Surface B is in better condition with some split damage? next to hole

HANDLING INSTRUCTIONS: Object should be handled while wearing gloves.

STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-

55%RH, 18-22C.

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN: 25/08/2011

DATE COMPLETE: 20/9/12

CONSERVATOR: Marie Jordan

### **CONDITION**

Object has dried well and is in good shape; display is possible.

### **TREATMENT**

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 102 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

Before:



After:



**ACCESSION NO:** 

ARTEFACT: Parrel MATERIALS: Wood (oak) LAB NO: SMALL FIND NO: **CONTEXT NO: EXCAVATOR:** ΙB 15/7/02 DATE FOUND: COW TAG: 2367 SHIP COORDINATES: ASSOCIATED FINDS: CURRENT LOCATION: Box 127 **DESCRIPTION** see sketch on timber sheet. Wooden parrel, 61 cm. x 7 cm. x 2.1 cm. Three holes - central hole is pentagonal. The other holes are slightly angular. They have an average diameter of 2.5 cm. Overall good condition. No visible tool marks or surface detail HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other: DATE BEGAN: 25/08/2011 DATE COMPLETE: 20/9/12 **CONSERVATOR:** Marie Jordan

### **CONDITION**

Object has dried well and is in good shape; display is possible.

### TREATMENT

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

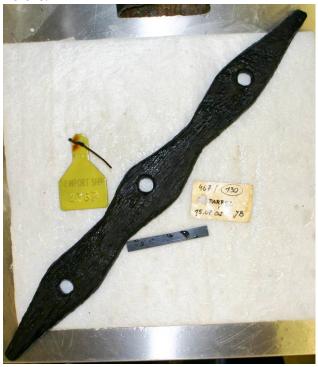
The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 150 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

## PHOTOGRAPHY:

Before:





ACCESSION NO:	MSG 879			
ARTEFACT:	Pump spear			
MATERIALS:	Wood, iron, leather			
LAB NO:				
SMALL FIND NO:	116			
CONTEXT NO:	130			
EXCAVATOR:	RJB			
DATE FOUND:	18/7/2002			
COW TAG:	3122			
SHIP COORDINATES:	L4.67			
ASSOCIATED FINDS:	COW 2370			
CURRENT LOCATION:	Fridge G			
HANDLING INSTRUCTION STORAGE REQUIREMEN				
ANALYSIS				
X-ray:				
Other:	CT scan			
DATE BEGAN:	20/09/2012			
DATE COMPLETE:				
CONSERVATOR:	ERVATOR: Marie Jordan			

## MATERIALS AND METHOD OF MANUFACTURE

## **CONDITION**

Before Conservation: Object must be handled carefully due to its complex (and delicate) nature, but individual components are in good condition, with little visible damage. Some leather elements are detached.

## **TREATMENT**

Object was given the following PEG treatment regime:

## PEG 400:

Current % v/v	Desired % v/v	Replace L
0.00	10.00	0.75

Plus 75 ml of Hostacor IT

29/08/2012

## PEG 3350:

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.39	0.38	0.04
5.00	10.00	0.41	0.40	0.04
10.00	15.00	0.43	0.42	0.04
15.00	20.00	0.46	0.44	0.05
20.00	25.00	0.49	0.47	0.05
25.00	30.00	0.52	0.51	0.05

A 1% concentration of Hostacor IT was also maintained at the same time.

Pump spear was kept at highest concentration for 1 month then freeze-dried.

**ACCESSION NO:** ARTEFACT: Fragment of parrel rib MATERIALS: wood LAB NO: SMALL FIND NO: CONTEXT NO: 130 **EXCAVATOR:** DATE FOUND: COW TAG: 3002 SHIP COORDINATES: F32, Stbd ASSOCIATED FINDS: CURRENT LOCATION: Shipping Container 3 **DESCRIPTION** wooden Artefact (1117), Fragment of Parrel rib, context 130, F32, Stbd. 135mm long x 65mm wide x 20mm thick. Partial hole (approx. diameter 35mm) runs through the centre. Clear stop marks (possibly axe) are visible on both sides as are tool striations. A circular impression surrounds the central hole HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other: 12/09/2011 DATE BEGAN:

20/9/12

Marie Jordan

DATE COMPLETE:

**CONSERVATOR:** 

### **CONDITION**

Object has dried well and is in good shape; display is possible.

### **TREATMENT**

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 102 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

## PHOTOGRAPHY:

Before:



After:



ACCESSION NO:

ARTEFACT: Disc Sheave

MATERIALS: Wood (ash)

LAB NO:

SMALL FIND NO: small find 134

CONTEXT NO: context 130

**EXCAVATOR:** 

DATE FOUND:

COW TAG: 3006

SHIP COORDINATES: F25

**ASSOCIATED FINDS:** 

CURRENT LOCATION: Shipping Container 3



## **DESCRIPTION**

Disc sheave. round wooden Object with hole (1197) Braces Stbd. Mast Step. Wooden disc sheave 14.3 cm. Centre hole has diamete of 3.8 cm. Concentric circles are visible on both surfaces. Possibly due to wear. Some black staining possibly due to storage conditions. Groove for running rope around edge, 2.7 cm. wide and approx. 6 mm. deep. Overall in good condition

HANDLING INSTRUCTIONS: Object should be handled while wearing gloves.

STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-

55%RH, 18-22C.

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN: 25/08/2011

DATE COMPLETE: 20/9/12

CONSERVATOR: Marie Jordan

### **CONDITION**

Object has dried well and is in good shape; display is possible.

### **TREATMENT**

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 102 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

# PHOTOGRAPHY:

Before:



# After:



ACCESSION NO:

ARTEFACT: Rigging element

MATERIALS: Wood

LAB NO:

SMALL FIND NO:

CONTEXT NO: context 130

EXCAVATOR: HPM

DATE FOUND: 04/08/2002

COW TAG: 3008

SHIP COORDINATES: F31, Stbd

ASSOCIATED FINDS:

CURRENT LOCATION: Shipping Container 3

#### **DESCRIPTION**

Wooden Artefact, Found on 04/08/2002 by HPM in context 130, F31, Stbd. Probable rigging element. Wood is quite soft. Two knots. May include sapwood. Despite soft conditiontool marks and striations have been perfectly preserved. Outer curved surface remains unworked in areas however bark is not in situ. Two rebates 30mm deep have been chopped into the piece- visible chop marks. Two dowel holes 13mm in diameter perferate the rebates. Two parallel edges have been worked to a flat surface. The rebated edge and its parallel edgehave outer curved surface remaining unworked. This piece may be a component of a larger object. It is, however, in itself complete with only minor damage.

HANDLING INSTRUCTIONS: Object should be handled while wearing gloves.

STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-

55%RH, 18-22C.

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN: 25/08/2011

DATE COMPLETE: 20/9/12

CONSERVATOR: Marie Jordan



#### **CONDITION**

Object has dried well and is in good shape; display is possible.

#### **TREATMENT**

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 246 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

## PHOTOGRAPHY:

Before:





## After:



**ACCESSION NO:** ARTEFACT: treenail MATERIALS: wood LAB NO: SMALL FIND NO: CONTEXT NO: 130 **EXCAVATOR:** DATE FOUND: COW TAG: 3009 SHIP COORDINATES: ASSOCIATED FINDS: 1120 CURRENT LOCATION: **DESCRIPTION** Treenail (1166), context 130 found under original number 1120, 103mm long x 30mm diameter. Wooden treenail. Dimple at each end suggests it awas turned on a lathe. Concentric circles are visible on both the head and the shaft. The head has a diameter of 32mm and a depth of 5mm. The end has a diameter of 30mm. It is slightly oval in section and in very good condition. It is possible this may have been a rigging pin HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** 

DATE BEGAN: 12/09/2011

DATE COMPLETE: 20/9/12

X-ray: Other:

CONSERVATOR: Marie Jordan

#### **CONDITION**

Object has dried well and is in good shape; display is possible.

#### **TREATMENT**

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The piece was treated in a two-step PEG process with a final concentration of 8% PEG 400 plus 24% PEG 3350. Treatment began on 14 February and the final top-up was 27 March. Freeze-drying began September 2012. This piece dried in 222 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

## PHOTOGRAPHY:

Before:



After:



ACCESSION NO: ARTEFACT: Parrel rib? MATERIALS: Wood (beech) LAB NO: SMALL FIND NO: CONTEXT NO: 130 **EXCAVATOR:** DATE FOUND: COW TAG: 3011 SHIP COORDINATES: Starboard side just aft of midship ASSOCIATED FINDS: CURRENT LOCATION: Shipping Container 3 DESCRIPTION Parrel Rib? (1093), 10.5 cm. long, 7.9 cm.broad, 1.8 cm. deep. Roughly semi circular in plan. Quite good condition. Hole in centre has a diameter of 2 cm. Edges of this piece (excluding around the hole) are chamfered. One point or corner of this piece has been broken off. Some possible wear is present running from the central hole out to the curved edge. HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. ANALYSIS X-ray: Other: DATE BEGAN: 25/08/2011 DATE COMPLETE: 20/9/12

Marie Jordan

CONSERVATOR:

#### MATERIALS AND METHOD OF MANUFACTURE

#### CONDITION

Object has dried well and is in good shape; display is possible.

#### TREATMENT

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 222 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

## PHOTOGRAPHY:

Before:



After: 10cm

ACCESSION NO: ARTEFACT: rigging Wood (oak) MATERIALS: LAB NO: SMALL FIND NO: CONTEXT NO: 130 **EXCAVATOR:** DATE FOUND: COW TAG: 3018 SHIP COORDINATES: ASSOCIATED FINDS: CURRENT LOCATION: Shipping Container 3 **DESCRIPTION** wooden Object (1219) possible rigging element. 223mm x 55mm x 40mm L x B x D. Two holes, roughly square, run through the piece, 15mm x 15mm and 40mm in length. A 25mm deep and 52mm long rebate is cut into its width. Clear tool marks throughout. Possible sapwood present. Both ends are roughly worked with several facets visible. HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other: DATE BEGAN: 25/08/2011 DATE COMPLETE: 20/09/12

Marie Jordan

CONSERVATOR:

#### MATERIALS AND METHOD OF MANUFACTURE

#### CONDITION

Object has dried well and is in good shape; display is possible.

#### TREATMENT

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 246 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

#### PHOTOGRAPHY:

Before:





ACCESSION NO:
ARTEFACT: Parrel truck
MATERIALS: Wood
LAB NO:
SMALL FIND NO:
CONTEXT NO: 130
EXCAVATOR:
DATE FOUND:
COW TAG: 3023

SHIP COORDINATES: ASSOCIATED FINDS:

CURRENT LOCATION: Shipping Container 3

F44

#### **DESCRIPTION**

Parrel Truck (1118), Parrel truck in two pieces, roughly circular in plan with hole in centre measuring 54 mm. diameter. Diameter of whole truck is 195 mm. overall dimensions are 115 mm  $\times$  105 mm. Object has been slightly distorted through compression. The largest piece of the two has some iron staining on the inside of the hole, but otherwise both pieces are in good condition

HANDLING INSTRUCTIONS: Object should be handled while wearing gloves.

STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-

55%RH, 18-22C.

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN: 25/08/2011

DATE COMPLETE: 20/09/12

CONSERVATOR: Marie Jordan

#### **CONDITION**

Object has dried well and is in good shape; display is possible.

#### **TREATMENT**

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 222 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

## PHOTOGRAPHY:





## After:



Bullseye?

ACCESSION NO:

ARTEFACT:

MATERIALS: Wood LAB NO: SMALL FIND NO: CONTEXT NO: 130 **EXCAVATOR:** DATE FOUND: COW TAG: 3024 SHIP COORDINATES: F40 Stbd ASSOCIATED FINDS: Shipping Container 3 CURRENT LOCATION: **DESCRIPTION** round wooden Object with hole CF405? Bullseye 7 cm. diameter and 2 cm. thick. Slightly crushed. Hole through centre is oval(due to crushing) approx. 4 cm. diameter. No visible tool marks. Two cracks at either side of internal hole. Damage around outer edge HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other: DATE BEGAN: 25/08/2011 20/09/12 DATE COMPLETE: CONSERVATOR: Marie Jordan

#### **CONDITION**

Object has dried well and is in good shape; display is possible. Object is slightly worse for wear after double treatment, and had to be adhered back together at one point, but is generally in good condition.

#### TREATMENT

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome.

Following test freeze-drying, the object was found to be in poor condition. Although surface colouration and general appearance was good, the material was very light and the wood had a spongy feel to it. The surface was slightly sticky. Initially the object was retained in this state to be used as a teaching aide, but as it is the only one of its kind, retreatment was undertaken.

The object was immersed in tap water and weighed every day. When weight gain had stopped, the object was returned to the bulk treatments for further rinsing and PEG treatment as follows:

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 78 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

#### PHOTOGRAPHY:

Before:



After first treatment:





After second treatment:



MSG NO: MSG 552

ARTEFACT: Wooden patten

MATERIALS: Wood (possibly ash),

iron, leather

LAB NO: 1155

SMALL FIND NO:

CONTEXT NO: u/s

EXCAVATOR: JKH

DATE FOUND: 16/07/2002

COW TAG: 3029

SHIP COORDINATES:

ASSOCIATED FINDS:

CURRENT LOCATION: Fridge G



#### **DESCRIPTION**

Wooden patten with metal soles and metal nails embedded. Some scraps of leather present.

HANDLING INSTRUCTIONS:

STORAGE REQUIREMENTS:

**ANALYSIS** 

X-ray: H202 H203 H208 H209

Other: photography

DATE BEGAN: 15/08/2011

DATE COMPLETE:

CONSERVATOR:

Marie Jordan

MATERIALS AND METHOD OF MANUFACTURE

Probably post-medieval

CONDITION

Object was initially coated in bright orange corrosion and/or mould. Concretions were

visible on the underside of the shoe, near the heel.

**TREATMENT** 

Surface soil was removed with dental pick, soft brush and toothbrush. Not all soil could

be removed, due to possibility of damage to underlying wood. Metal was tested with

magnet and found to be ferrous. Thin section samples taken for wood ID. Object was

placed in a bath of deionised water to extract any chlorides present.

The clog is currently (June 2013) undergoing PEG treatment to be followed by freeze-

drying.

PEG treatment will be as follows:

Regime A: 10% PEG 200 + 30% PEG 3350

PEG 400:

Current % v/v	Desired % v/v	Replace L
0.00	10.00	0.40

PEG 3350:

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	7.50	0.31	0.30	0.03
7.50	15.00	0.34	0.33	0.03
15.00	22.50	0.37	0.36	0.04
22.50	30.00	0.41	0.39	0.04

## PHOTOGRAPHY

## Before Conservation:



# During Conservation:



**ACCESSION NO:** ARTEFACT: Parrel truck MATERIALS: Wood LAB NO: SMALL FIND NO: **CONTEXT NO: EXCAVATOR:** DATE FOUND: COW TAG: 3030 SHIP COORDINATES: ASSOCIATED FINDS: Shipping Container 3 CURRENT LOCATION: **DESCRIPTION** round piece of wood with hole in the middle (1595) Parrel truck roughly circular in section with one flat surface. There is a hole going through the section measuring approx. 50 mm. in diameter. The overall diameter of the object is 113 mm., and the length is approx. 122 mm. Generally the object is in very good condition as the wood is still relatively hard. There is just a small amount of black staining and concreted material on the exterior HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. Store in box or otherwise protected from dust. 45-STORAGE REQUIREMENTS: 55%RH, 18-22C. ANALYSIS X-ray: Other: DATE BEGAN: 25/08/2011 20/09/12 DATE COMPLETE:

Marie Jordan

CONSERVATOR:

#### **CONDITION**

Object has dried well and is in good shape; display is possible.

#### **TREATMENT**

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 246 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

## PHOTOGRAPHY:



After:



**ACCESSION NO:** ARTEFACT: Bullseye? MATERIALS: Wood (elm) LAB NO: SMALL FIND NO: CONTEXT NO: 128 **EXCAVATOR:** DATE FOUND: COW TAG: 3031 SHIP COORDINATES: F3 ASSOCIATED FINDS: **CURRENT LOCATION: DESCRIPTION** 2 wooden Objects (1111 or 1112), Bullseye? Wooden object, roughly circular in section, with hole in middle. Overall diameter of the object is 103 mm. across and the hole in the centre measures approx. 38 mm. in diameter. The object was first recorded as a disc sheave. However as the edge of the object does't have a groove around it to feed the rope, it is possible that this may be a bull's eye or something similar. The wood is quite soft and the object has some iron staining on it. There is also some surface damage. The thickness of the object is roughly 33 mm. HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other: DATE BEGAN: 25/08/2011

20/09/12

Marie Jordan

DATE COMPLETE:

CONSERVATOR:

#### **CONDITION**

Object has dried well and is in good shape; display is possible.

#### **TREATMENT**

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The piece was treated in a two-step PEG process with a final concentration of 8% PEG 400 plus 24% PEG 3350. Treatment began on 14 February and the final top-up was 27 March. Freeze-drying began September 2012. This piece dried in 246 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

#### Before:



#### After:



**ACCESSION NO:** ARTEFACT: Deadeye? MATERIALS: Wood LAB NO: SMALL FIND NO: CONTEXT NO: 128 **EXCAVATOR:** LB DATE FOUND: COW TAG: 3036 SHIP COORDINATES: ASSOCIATED FINDS: **CURRENT LOCATION:** DESCRIPTION Wooden dead eye, roughly tear drop shaped, with one circular hole towards the top and a larger, slightly square cut hole in the centre of the section. Small hole measures approx.19mm diameter, and the larger hole measures approx. 43 mm. across. The overall length of the object is 235 mm, and the width at its widest point is 125 mm. The depth of the object is 69 mm. this is broken by a groove running around the profile of the object measuring approx. 27 mm. The groove shows some stop marks from tools, possibly from a chisel or similar tool. The wood is slightly soft and there is considerable iron staining. However in terms of preservation of form and detail, the object is in good condition. HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other: DATE BEGAN: 25/08/2011 DATE COMPLETE: 20/09/12 CONSERVATOR: Marie Jordan

#### **CONDITION**

Object has dried well and is in good shape; display is possible.

#### TREATMENT

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 246 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

#### PHOTOGRAPHY:

Before:





**ACCESSION NO:** ARTEFACT: Pulley Block MATERIALS: Wood (Ash) LAB NO: SMALL FIND NO: CONTEXT NO: 130 **EXCAVATOR:** DATE FOUND: COW TAG: 3049 SHIP COORDINATES: ASSOCIATED FINDS: **CURRENT LOCATION:** DESCRIPTION Pulley Block, context 130, See DWG40. 27cm. x 14cm.x 11 cm. (LxBxD). Wooden pulley in two parts. Appears to have been crushed slightly. Three concentric circles on base, uniformly spaced 4 mm. apart. Both top and bottom surfaces have grooves measuring 2.5 cm. to 3 cm. wide and run the length of the object. Sheave is no longer in situ - however shaft is in situ and one end of the shaft has visible tool facets. Quite good condition. Three cracks close to the base. Dimensions of the object are distorted due to compression of the object. Diameter of the shaft is 2.8 mm. Slight champher between concentric circles and wall of pulley. Two lines 4 mm apart run around the wall of the pulley HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other:

25/08/2011

Marie Jordan

20/09/12

DATE BEGAN:

DATE COMPLETE:

CONSERVATOR:

### MATERIALS AND METHOD OF MANUFACTURE

### **CONDITION**

Object has dried well and is in good shape; display is possible.

#### TREATMENT

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The piece was treated in a two-step PEG process with a final concentration of 8% PEG 400 plus 24% PEG 3350. Treatment began on 14 February and the final top-up was 27 March. Freeze-drying began September 2012. This piece dried in 246 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

### PHOTOGRAPHY:

Before: After:



MSG NO: MSG 549

ARTEFACT: rigging

MATERIALS: Wood, iron

LAB NO: 1174

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: JKH

DATE FOUND: 12/5/2002

COW TAG: 3051

SHIP COORDINATES:

ASSOCIATED FINDS:

CURRENT LOCATION:



### **DESCRIPTION**

Ash Pulley block. Sheave and most of both cheeks are intact. A cotterpin, holding the central pin through the sheave, is intact though covered in corrosion or concretion.

HANDLING INSTRUCTIONS: Handle carefully, using gloves. Transport only in

supported box.

STORAGE REQUIREMENTS: 45-55% RH, and check regularly for corrosion of

cotterpin. 18-33C.

**ANALYSIS** 

X-ray:

Other: Wood ID, chloride analysis to detect salts in treatment

solution.

DATE BEGAN: 7/8/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan

## CONDITION

Before Conservation: Surface is slightly soft to the touch, but wood is generally in good condition and object is solid and cohesive.

### TREATMENT

Object was placed in deionised water for one week. Upon changing the water, the treatment water was tested for the presence of chloride salts using silver nitrate, and none were noted. PEG treatment was then begun, using the following regime:

## PEG 400:

Current % v/v	Desired % v/v	Replace L
0.00	10.00	1.00

### PEG 3350:

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.52	0.50	0.05
5.00	10.00	0.55	0.53	0.05
10.00	15.00	0.58	0.56	0.06
15.00	20.00	0.61	0.59	0.06
20.00	25.00	0.65	0.63	0.07
25.00	30.00	0.70	0.67	0.07

A 1% concentration of Hostacor IT was also maintained.

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.

As of writing (June 2013), the object is still being freeze-dried.

### PHOTOGRAPHY:

### Before Conservation:



ACCESSION NO: ARTEFACT: Pulley Block MATERIALS: Wood (Ash) LAB NO: SMALL FIND NO: CONTEXT NO: 130 **EXCAVATOR:** DATE FOUND: COW TAG: 3052 SHIP COORDINATES: ASSOCIATED FINDS: **CURRENT LOCATION: DESCRIPTION** Ash Pulley Block 2/2, context 130, Pulley block 32.5cm. X 14.5 cm. x 11.5 cm. (L x B x D) Pulley block, rope still in situ through hole 4 cm. in diameter. Slight champher 2 cm. wide at top of pulley. Broken along its length but also across its width at the shaft hole. Shaft hole has diameter of approx. 4 cm. Shaft no longer in situ. Both top and bottom surfaces are champhered around the edges. The top surface, the smaller of the two (due to damage) is stained black. This staining may be due to storage conditions. The hole containing the rope is slightly oval HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other: DATE BEGAN: 25/08/2011 20/09/12 DATE COMPLETE:

Marie Jordan

CONSERVATOR:

#### MATERIALS AND METHOD OF MANUFACTURE

#### CONDITION

Object has dried well and is in good shape; display is possible.

#### TREATMENT

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 246 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

## PHOTOGRAPHY:

Before:







ACCESSION NO: ARTEFACT: Dead eye MATERIALS: wood LAB NO: SMALL FIND NO: CONTEXT NO: 130 **EXCAVATOR:** DATE FOUND: COW TAG: 3053 NORTH OF F44 SHIP COORDINATES: **ASSOCIATED FINDS: CURRENT LOCATION: DESCRIPTION** Dead Eye (5467), context 130, North of F44. Dead Eye 242mm. x 165mm x 75mm (L x B x D). Dead eye is roughly rectangular, but with two long curved edges. A groove runs around the sides of the wood apart from the top side. This groove measures approx. 38 mm. across. The dead eye has two holes going through it, the largest measures 77 mm. in diameter; HANDLING INSTRUCTIONS: Object should be handled while wearing gloves. STORAGE REQUIREMENTS: Store in box or otherwise protected from dust. 45-55%RH, 18-22C. **ANALYSIS** X-ray: Other: DATE BEGAN: 12/09/2011 DATE COMPLETE: 20/09/12

Marie Jordan

CONSERVATOR:

### MATERIALS AND METHOD OF MANUFACTURE

#### CONDITION

Object has dried well and is in good shape; display is possible.

#### TREATMENT

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 246 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.

## PHOTOGRAPHY:

Before:



After:



MSG NO: MSG 546

ARTEFACT: Pump Bottom from

the Stern of the Ship

MATERIALS: Wood and rope

LAB NO: N/A

SMALL FIND NO: N/A

CONTEXT NO: N/A

EXCAVATOR: N/A

DATE FOUND: N/A

COW TAG: 3055

SHIP COORDINATES: F58

ASSOCIATED FINDS: MSG 1263-9 (Basketry)

CURRENT LOCATION: Conservation



### **DESCRIPTION**

The collapsed remains of the pump bottom from the stern of the Ship. Materials: oak & basketry covered in clay. The object is contained within a large Stewart box without the lid; this is further contained within a large plastic storage box which is full to the top with water.

**ANALYSIS** 

X-ray:

Other: Photographed

DATE BEGAN: 18.11.08

DATE COMPLETE:

CONSERVATOR: Sophie Adamson? Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

The wooden pump base or foot was a component of a burr pump, which was an extremely simple type of pump and may have been used on other ships prior to its use on the Newport Ship.

The pump foot acted as the lower valve of the pump, and was attached to a tube, down which the burr, or upper valve was inserted. The foot was tubular with a valve claque on the top, whilst the upper valve was formed in the shape of a truncated cone, and had a long wooden pole and a leather cone attached to it. (Oertling 1996, 16-18)

#### **CONDITION**

On visual inspection there is a large amount of iron staining and the water is orange in colour. Database states "drying out, cracking", condition checked by Phil Parkes 01/05/07. Has this object been re-wet? The wood is extremely soft and broken into many fragments. Waterlogged, dirty and still in soil matrix, although not successfully blocked lifted.

#### **TREATMENT**

The object was cleaned and investigated in spits due to the large amounts of fragments. The water was carefully tipped out and soft brushes and metal spatulas were used to remove the clay, which was then sieved for small particles. Each spit was photographed or labelled on the diagram to aid any attempt at reconstruction.

- Spit 1: x2 wooden fragments. The surface of the wood is very soft and furry.
- Spit 2: x1 very iron stained fragment. Two pieces came loose with cleaning. Most of the iron corrosion product that has formed on the surface flaked off with a spatula.
- Spit 3: This was in four pieces. One fish scale was found and small basketry fragments.
- Spit 4: Wood and basketry small pieces.
- Spit 5: Wood frags. A small fragment broke off this see photo for orientation.
- Spit 6: Three fragments and basketry pieces.
- Spit 7: x2 wood fragments and basketry.
- Spit 8: Wood and basketry fragments. Small amount of leather fragments.
- Spit 9: Not found due to incorrect numbering.

Spit 10: Wood and basketry frags.

Spit 11: Mud rubble containing: a wood fragment and Fe concretion.

Spit 12: Wood, basketry, leather and metal fragments found.

Spit 13: 1 large fragment of wood and small wood and basketry frags.

Spit 14: Last piece is very fragile. Fish scales, wood frags, fragments of metal concretion and basketry materials found. There is a large ring of corrosion staining around the rim of the large wood piece (note this is in box 1 of the 2 stewart boxes).

### Marie Jordan:

Initially, put into a single bath of 1% EDTA in water (17/1/13) After all iron staining was no longer visible, pump was rinsed in several changes of tap water.

### PEG 400:

Current % v/v	Desired % v/v	Replace L
0.00	10.00	12.20

Done: 19/2/12

### PEG 3350:

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	6.00	7.59	7.32	0.76
6.00	12.00	8.09	7.81	0.81
12.00	18.00	8.66	8.36	0.87
18.00	24.00	9.33	9.00	0.93
24.00	30.00	10.10	9.74	1.01

Current	Desired	Remove L	Add kg	Add L	Date
0.00	6.00	7.59	7.32	0.76	13/3/13
6.00	12.00	8.09	7.81	0.81	16/4/13
12.00	18.00	8.66	8.36	0.87	7/5/13
18.00	24.00	9.33	9.00	0.93	
24.00	30.00	10.10	9.74	1.01	

Note: As of 14 June, 2013 conservation had not yet completed. A lengthy wait for PEG delivery meant that the process took much longer than initially planned. Once the PEG treatment is complete, the pump elements will be freeze-dried and placed into controlled storage.

## PHOTOGRAPHY:

As found



Sediment partially removed:



Inside of main component



Profile view of object





## BIBLIOGRAPHY:

Oertling, T. J. (1996), Ships Bilge Pumps: A history of their development 1500-1900, Texas A & M University Press

ACCESSION NO: Treenail? ARTEFACT: MATERIALS: wood LAB NO: SMALL FIND NO: CONTEXT NO: **EXCAVATOR:** DATE FOUND: COW TAG: 3073 SHIP COORDINATES: Cow 3031 ASSOCIATED FINDS: **CURRENT LOCATION: DESCRIPTION** 1 treenail? Associated with cow tag 3031...found bagged with disc/sheave. Treenail? removed and assigned new cow tag on 30 June 2010 TNJ. Maybe shaft of a block measures approx. 28mm. Diameter and 150 mm. in length. Object is alightly tapered and one end features a groove across the middle. There is some iron staining but generally in good condition HANDLING INSTRUCTIONS: STORAGE REQUIREMENTS: **ANALYSIS** X-ray: Other: DATE BEGAN: 12/09/2011 20/09/12 DATE COMPLETE: CONSERVATOR: Marie Jordan

#### CONDITION

Object has dried well and is in good shape; display is possible.

#### TREATMENT

Object was placed in a solution of 2% Triammonium citrate for a period of 7 weeks. The citrate solution was changed 4 times during that period. The object was then placed in tap water in order to rinse the citrate. Solution was changed every 1-2 weeks for several weeks until rinse solution was clear.

The initial PEG treatment consisted of a stepped solution of 27% PEG 400 and 7% PEG 3350. PEG treatment began 14 February and the final top-up was 27 March. Ian Panter pointed out that these volumes of PEG could result in a sticky surface and poor general outcome. The test freeze-drying of one item showed this to be the case, so all of the rigging was immersed in water to flush out excess PEG 400. This took place over four weeks, with the water changed weekly and PEG volumes in the water monitored with a Brix meter.

Retreatment began with a 5% solution of PEG 4000 and increased by 5% every two weeks until a 25% concentration was achieved. The rigging then sat for 4 weeks before freeze-drying began in September 2012. This piece dried in 246 hours.

PEG left on surface was cleaned off with warm water, and object was packaged before going into storage.







ACCESSION NO:	MSG 009	
ARTEFACT:	Bowl frags	
MATERIALS:	Wood	
LAB NO:		
SMALL FIND NO:	135	
CONTEXT NO:	130	
EXCAVATOR:	RCH	5cm
DATE FOUND:	2/8/2002	
COW TAG:	3084	
SHIP COORDINATES:	F7-10 Port.	
ASSOCIATED FINDS:		
CURRENT LOCATION:	Wash table	
DESCRIPTION		
7 fragments of a shallow b	owl.	
HANDLING INSTRUCTION	ONS:	
THUNDLING INSTRUCTION	OINO.	
STORAGE REQUIREMEN	JTS∙	
OTOMICE REQUIREMENTED	(10.	
ANALYSIS		
X-ray:		
Other:		

DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan

#### **CONDITION**

Fragments are incredibly delicate and somewhat spongy.

### **TREATMENT**

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.

As of writing (June 2013), the object is still being freeze-dried.

## PHOTOGRAPHY:

Before Conservation:



MSG NO:	MSG 1083
ARTEFACT:	Wooden Bead
MATERIALS:	Wood / Boxwood?
LAB NO:	
SMALL FIND NO:	
CONTEXT NO:	171
EXCAVATOR:	
DATE FOUND:	
COW TAG:	
SHIP COORDINATES:	F60-61
ASSOCIATED FINDS:	
CURRENT LOCATION:	In conservation
DESCRIPTION Fragments of a small wood	den bead
HANDLING INSTRUCTION	DNS:
STORAGE REQUIREMEN	TS:
ANALYSIS	
X-ray:	
Other:	
DATE BEGAN:	24/10/12
	==, ==, ==

CONSERVATOR: Marie Jordan

### **CONDITION**

Fragments are very small and fragile and cannot be directly handled.

### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.

As of writing (June 2013), the object is still being freeze-dried.

ACCESSION NO: MSG 007

ARTEFACT: Comb

MATERIALS: Boxwood?

LAB NO: 1219

SMALL FIND NO: 149

CONTEXT NO: 149

EXCAVATOR: HPM

DATE FOUND: 15/08/2002

COW TAG: 3086

SHIP COORDINATES: F45-46 Stbd.

ASSOCIATED FINDS: MSG: 1254; 1255; 1270;

1271

CURRENT LOCATION: Fridge B

## **DESCRIPTION**

Small wooden comb with two sets of teeth on each side, one large and one fine. Possibly a lice comb. From "Black silty deposit w. V. LG freq woodchips. Along starboard side between F30-F50".

HANDLING INSTRUCTIONS:

STORAGE REQUIREMENTS:

**ANALYSIS** 

X-ray: n/a

Other: n/a

DATE BEGAN: 09.01.11 / 24/10/12

DATE COMPLETE:

CONSERVATOR: Sophie Adamson / Marie Jordan

#### **CONDITION**

Wood in excellent condition and all the teeth intact, (although now clean, slightly softer on the surface and vulnerable to marking). The comb was heavily concreted with clay and debris that in some places is ingrained into the surface. The clay between the teeth is also full of different coloured animal hairs and a grey fluffy organic material (MSG 1254).

There is some Iron staining and fine concretion on the surface. Tiny dislodged stones between the teeth.

#### **TREATMENT**

Following discussion with Nigel Nayling and Jim Spriggs, it was decided that the clay from the teeth should be gently removed and kept in a sample of distilled water to sent to be an environmental archaeologist following funding, for identification of any preserved lice from the clay.

The artefact was examined under the microscope first for any signs of crustaceans.

Sediment from wide teeth

Gritty and with strings of algae between the teeth as thick as thread.

Concreted clay covers the middle part of the comb. A very fine needle and squirrel hair brush with long bristles were used to dislodge the clay and sediment from between both the wide and fine teeth of the comb.

Grey fluff and coarse reddy brown animal hair found in the corner of the fine teeth (MSG 1254).

The clay between the teeth is also full of different coloured animal hairs and a grey fluffy organic material (MSG 1254). And also possible leather fragments: MSG 1255.

MSG 1270 – possible head lice plus MSG 1271 – sediment from teeth of wood comb for analysis for possible lice.

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % v	v/v Desired	% w/v Remove	e L Add 3350 kg	g Add 400 L
-------------	-------------	--------------	-----------------	-------------

5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.

As of writing (June 2013), the object is still being freeze-dried.

# PHOTOGRAPHY: Before cleaning:



Following cleaning, still wet: 5cm

MSG 008

MSG NO:

ARTEFACT: Gaming Piece MATERIALS: Wood LAB NO: 1258 SMALL FIND NO: 169 CONTEXT NO: 130 5cm DV EXCAVATOR: 4/10/2002 DATE FOUND: 3087 COW TAG: SHIP COORDINATES: E13.21 N99.18 L4.54 ASSOCIATED FINDS: CURRENT LOCATION: In conservation **DESCRIPTION** Gaming piece HANDLING INSTRUCTIONS: STORAGE REQUIREMENTS: **ANALYSIS** X-ray: Other: DATE BEGAN: 24/10/12 DATE COMPLETE:

CONSERVATOR: Marie Jordan

### **CONDITION**

Object is in excellent condition, particularly considering how often it is handled. Surface detail is very clear, and object is hard to touch.

### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.

As of writing (June 2013), the object is still being freeze-dried.

## PHOTOGRAPHY:



ACCESSION NO: MSG 40

**ARTEFACT:** Bowl (1294)

MATERIALS: Wood

**LAB NO:** n/a

SMALL FIND NO: 141

CONTEXT NO: 149?

**EXCAVATOR:** RJB

**DATE FOUND:** 09/08/2002

**COW TAG:** 3088

**SHIP COORDINATES:** water by Stbd. F38-40

**ASSOCIATED FINDS:** MSG 1253

**CURRENT LOCATION:** Conservation



#### **DESCRIPTION**

A small wooden bowl with two loose fragments. See timber sheet for further info.

### HANDLING INSTRUCTIONS:

### STORAGE REQUIREMENTS:

**ANALYSIS** 

**X-ray:** n/a

Other: n/a

**DATE BEGAN:** 13.01.11/24/10/12

**DATE COMPLETE:** 

**CONSERVATOR:** Morwenna Perrot/Sophie Adamson / Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Wood species ID...See Timber Sheet for further info.

#### **CONDITION**

Received in a plastic finds bag still covered in a fine layer of clay and sediment. An earlier photograph of the bowl found on a display panel suggests that the bowl has already been cleaned, so it was thought that the clay had re-distributed itself onto the surface of the wood and into the central bowl while in wet storage.

The wood surface is very soft with some erosion/abrasion or decay of the softer elements of the wood structure visible on the surface. There are four large cracks around the edge of the bowl rim that extend into the centre. There are a number of areas of concretion, particularly towards the bottom of the bowl.

#### **TREATMENT**

13.01.11-Removed from packaging and photographed. The surface was considered robust enough to be cleaned gently using a squirrel hair brush and a fine stream of deionised water. The clay was removed from the centre of the bowl and sampled along with the remaining clay from the finds bag. Three fine white hairs were found in the centre of the bowl and sampled-MSG: 1253. During cleaning a makers mark was found on the underneath of the bottom of the bowl, (see photograph).

Passed to archaeology for drawing and laser scanning. Bob Trett informed of makers mark.

#### 24.10.12

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

The objects were then placed in the freeze-drier and dried under vacuum.

PHOTOGRAPHY:

Before cleaning









**BIBLIOGRAPHY:** 

ACCESSION NO: MSG 006

110010101110.	1,100 000	
ARTEFACT:	Plug	
MATERIALS:	Wood	on the second
LAB NO:		
SMALL FIND NO:		1cm
CONTEXT NO:	130	
EXCAVATOR:	DV	
DATE FOUND:	5/10/2002	
COW TAG:	3089	
SHIP COORDINATES:	F5-6	
ASSOCIATED FINDS:		
CURRENT LOCATION:	Wash table	
DESCRIPTION Small wooden plug or aw	1.	
HANDLING INSTRUCTI	ONS:	
STORAGE REQUIREMEN	NTS:	
ANALYSIS X-ray: Other:		
DATE BEGAN: DATE COMPLETE:	24/10/12	

CONSERVATOR: Marie Jordan

#### **CONDITION**

Object is in generally good condition, though surface is slightly soft.

#### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.



MSG NO: MSG 004

ARTEFACT: plug and mini chock

MATERIALS: Wood

LAB NO:

SMALL FIND NO:

CONTEXT NO: 130 EXCAVATOR: DV

DATE FOUND: 05/10/2002

COW TAG: 3090

SHIP COORDINATES: F7-8

ASSOCIATED FINDS:

CURRENT LOCATION: Wash table



Tiny chock-shaped object and plug.

DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan

CONDITION

Object is delicate due to size, but otherwise in good condition.



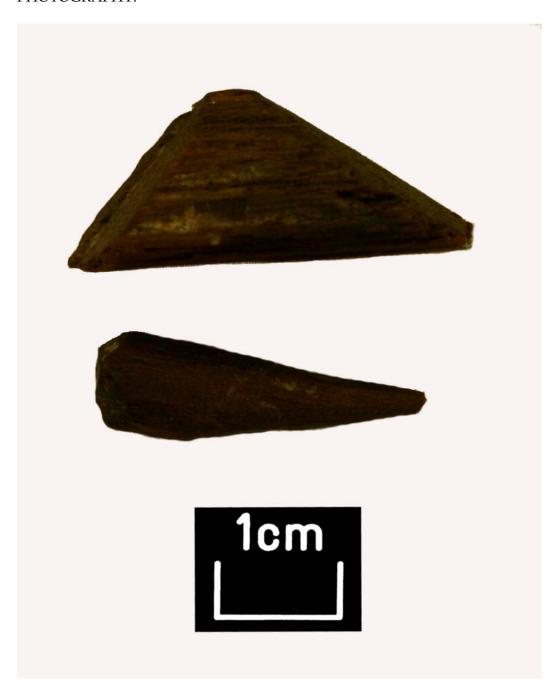
#### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.



MSG NO: MSG 005

ARTEFACT: Plug

MATERIALS: Wood

LAB NO:

SMALL FIND NO:

CONTEXT NO: 130/153

EXCAVATOR: DV

DATE FOUND: 10/10/2002

COW TAG: 3091

SHIP COORDINATES: F9-11

ASSOCIATED FINDS:

CURRENT LOCATION: Wash table

DESCRIPTION

Small, soft wooden cone.

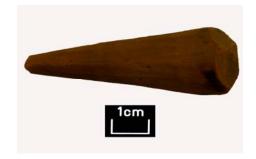
DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan

**CONDITION** 

Object is soft to the touch on the surface, but otherwise hardy and in good condition.



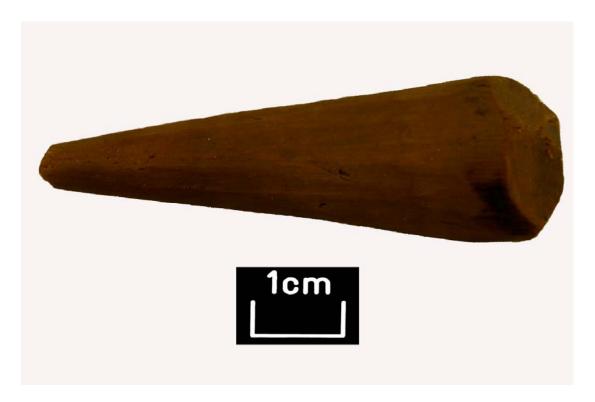
#### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.



MSG NO: MSG 003

ARTEFACT: treenail

MATERIALS: wood

LAB NO: 1232

SMALL FIND NO:

CONTEXT NO: 128

EXCAVATOR: BB, NN

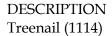
DATE FOUND: 26/07/2002

COW TAG: 3092

SHIP COORDINATES:

ASSOCIATED FINDS:

CURRENT LOCATION: In Conservation



DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan

#### CONDITION

Object is delicate due to structure, but generally hardy and in good condition.

#### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.



ACCESSION NO: MSG 002

ARTEFACT: Peg or Awl

MATERIALS: Wood

LAB NO:

SMALL FIND NO:

CONTEXT NO: 120 EXCAVATOR: MT

DATE FOUND: 04/10/2002

COW TAG: 3093

SHIP COORDINATES: F44-45 Port.

ASSOCIATED FINDS:

CURRENT LOCATION: Wash table

DESCRIPTION Peg or Awl.

DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan

#### CONDITION

Object is delicate due to structure, but generally hardy and in good condition.

#### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.



MSG NO: MSG 001

ARTEFACT: Wooden artefact

MATERIALS: Wood

LAB NO: 1254

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: JKH

DATE FOUND: 25/08/2002

COW TAG: 3094

SHIP COORDINATES: F25-26 Stbd.

ASSOCIATED FINDS:

CURRENT LOCATION: Wash table

DESCRIPTION

Wooden artefact with rebate.

DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan

CONDITION

Object is in good condition.



#### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.



MSG NO: MSG 017

ARTEFACT: Bung

MATERIALS: Wood

LAB NO: 1180

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: JKH

DATE FOUND: 22/7/02

COW TAG: 3095

SHIP COORDINATES:

ASSOCIATED FINDS:

CURRENT LOCATION: Wash table

DESCRIPTION 1Bung (1091)

DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan



#### **CONDITION**

Object is in good condition, with fine surface detail preserved.

#### **TREATMENT**

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.



MSG NO: MSG 018

ARTEFACT: Bung

MATERIALS: Wood

LAB NO: 1179

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: JKH

DATE FOUND: 22/7/02

COW TAG: 3096

SHIP COORDINATES:

ASSOCIATED FINDS:

CURRENT LOCATION: Wash table

DESCRIPTION 1Bung (1090)

DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan



#### **CONDITION**

Object is in good condition, hardy and can be easily handled.

#### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.



MSG NO: MSG 019

ARTEFACT: Bung

MATERIALS: Wood

LAB NO: 1178

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: JKH

DATE FOUND: 22/7/02

COW TAG: 3097

SHIP COORDINATES:

ASSOCIATED FINDS:

CURRENT LOCATION: Wash table

DESCRIPTION 1Bung (1089)

DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan



#### **CONDITION**

Object is in good condition.

#### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.



ACCESSION NO: MSG 011

ARTEFACT: Awl

MATERIALS: Wood

LAB NO:

SMALL FIND NO: 137

CONTEXT NO: 128

EXCAVATOR: RJB

DATE FOUND: 2/8/02

COW TAG: 3098

SHIP COORDINATES: F31 Stbd, near Mast

Step

ASSOCIATED FINDS:

CURRENT LOCATION: Wash table

DESCRIPTION 1 Awl (1201)

DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan



#### **CONDITION**

Object is in very good condition, with a smooth surface and is hardy. Pointed tip is delicate.

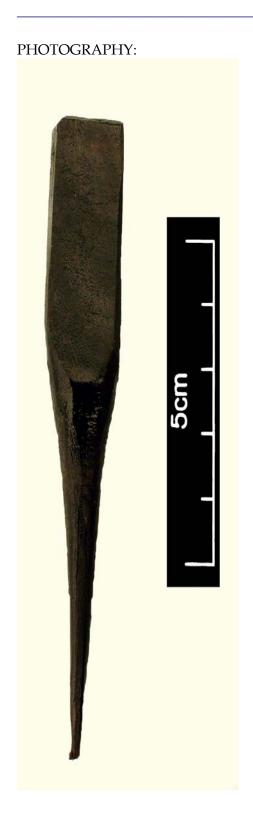
#### TREATMENT

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.



MSG NO: MSG 010

ARTEFACT: Comb

MATERIALS: Wood

LAB NO: 1257

SMALL FIND NO: 168

CONTEXT NO: 130

EXCAVATOR: HPM

DATE FOUND: 28/9/02

COW TAG: 3099

SHIP COORDINATES:

ASSOCIATED FINDS:

CURRENT LOCATION: Wash table

DESCRIPTION

Comb with one set of 'bristles'

DATE BEGAN: 24/10/12

DATE COMPLETE:

CONSERVATOR: Marie Jordan



### **CONDITION**

Two teeth have become detached, and surface is soft. Otherwise in good condition.

#### **TREATMENT**

Objects were placed in PEG treatment immediately, due to a lack of visible iron staining and to avoid damaging effects of the chelating agent. The PEG regime is shown below and resulted in a final concentration of 10% PEG 200 plus 30% PEG 3350.

Current % w/v	Desired % w/v	Remove L	Add 3350 kg	Add 400 L
0.00	5.00	0.21	0.20	0.02
5.00	10.00	0.22	0.21	0.02
10.00	15.00	0.23	0.22	0.02
15.00	20.00	0.25	0.24	0.02
20.00	25.00	0.26	0.25	0.03
25.00	30.00	0.28	0.27	0.03

(This is for objects in the box holding 4L, the numbers were adjusted appropriately for the second box, holding 6L.)

Following PEG treatment, the object was held in the 10%/30% solution for four weeks, then placed in the freeze-drier. It was frozen to -30C over 36 hours, following which the vacuum was turned on.

As of writing (June 2013), the object is still being freeze-dried.

### PHOTOGRAPHY:



MSG NO: MSG 37

ARTEFACT: Cork

MATERIALS: Wood

LAB NO:

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: DV

DATE FOUND: 30/09/2002

COW TAG: 3100

SHIP COORDINATES: F8-9

ASSOCIATED FINDS:

CURRENT LOCATION: SC2

DESCRIPTION

Small fragment of cork

DATE BEGAN: 20/5/13

DATE COMPLETE: 29/5/13

CONSERVATOR: Marie Jordan



### **CONDITION**

Object is in good condition and can be easily handled. Care should be taken, though, as it is somewhat friable.

### TREATMENT

Object was stored in tap water. It was frozen for 24 hours to -30C, then freeze-dried under vacuum. Following drying, it was wrapped in acid-free tissue and placed in controlled storage.

### PHOTOGRAPHY:



MSG NO: MSG 38

ARTEFACT: Cork

MATERIALS: Wood

LAB NO:

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: DV

DATE FOUND: 30/09/2002

COW TAG: 3100

SHIP COORDINATES: F7-8

ASSOCIATED FINDS:

CURRENT LOCATION: SC2

DESCRIPTION

Small fragment of cork

DATE BEGAN: 20/5/13

DATE COMPLETE: 29/5/13

CONSERVATOR: Marie Jordan



### **CONDITION**

Object is in good condition and can be easily handled. Care should be taken, though, as it is somewhat friable.

### TREATMENT

Object was stored in tap water. It was frozen for 24 hours to -30C, then freeze-dried under vacuum. Following drying, it was wrapped in acid-free tissue and placed in controlled storage.

### PHOTOGRAPHY:



MSG NO: MSG 39

ARTEFACT: Cork

MATERIALS: Wood

LAB NO:

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: DV

DATE FOUND: 30/09/2002

COW TAG: 3102

SHIP COORDINATES: F5-6

ASSOCIATED FINDS:

CURRENT LOCATION: SC2

DESCRIPTION

Small fragment of cork

DATE BEGAN: 20/5/13

DATE COMPLETE: 29/5/13

CONSERVATOR: Marie Jordan

### **CONDITION**

Object is in good condition and can be easily handled. Care should be taken, though, as it is somewhat friable.

### TREATMENT

Object was stored in tap water. It was frozen for 24 hours to -30C, then freeze-dried under vacuum. Following drying, it was wrapped in acid-free tissue and placed in controlled storage.

### PHOTOGRAPHY:

MSG NO: MSG 204 Wooden Knife Handle ARTEFACT: Wood, Iron MATERIALS: LAB NO: 1235 SMALL FIND NO: 162 CONTEXT NO: 152 EXCAVATOR: **RLL** DATE FOUND: 13/09/02 COW TAG: 3120 SHIP COORDINATES: E19.95 N100.95 ASSOCIATED FINDS: MSG 716 CURRENT LOCATION: Shipping container 2, Box 206 DESCRIPTION Knife handle, identified as wood, was previously thought to be bone. Handle with care, very fragile - wear vinyl/nitrile HANDLING INSTRUCTIONS: gloves STORAGE REQUIREMENTS: 50% RH; 18°C +/-8°C (MGC Guidelines 1992) ANALYSIS X-ray: Other: DATE BEGAN: DATE COMPLETE: 21/06/04

Phil Parkes (Cardiff University)

CONSERVATOR:

#### MATERIALS AND METHOD OF MANUFACTURE

(With reference to J Gardiner & M. J. Allen (Eds.) *Before the Mast*, Cowgill, J., de Neergaard, M. & Griffiths, N, Knives and Scabbards)

Whittle tang and scale tang knives were in use in the sixteenth century (could be extended to cover whole of late medieval period?); the Newport Ship knife appears to be an example of the latter. This was formed by the knife blade extending into a flat plate which is attached to two separated parts of the handle that are riveted to the plate. This type of knife became more widespread from the fourteenth century as knives became more specialised and the greater possibility for decoration was also presumably an attractive quality. As such, the scale tang knife began to be characterised as a 'table-knife', in contrast to earlier multi-purpose knives.

The scale tang knife required more component parts than a whittle tang knife; in contrast to the latter where a bulk order of handles would have been supplied from a specialist handle maker to the cutler making the blade and tang, in the case of the former, the handles had to be formed on the knife.

#### **CONDITION**

The knife was wet, dirty and corroded when received for conservation.

### TREATMENT

The knife was mechanically cleaned to remove overlying dirt and corrosion using soft brushes and a scalpel It appears that the handle is constructed from wood rather than bone.

The knife was immersed in a 20% solution of polyethylene glycol 400 for 4 weeks. Excess was removed and the object frozen before freeze drying to constant weight.

Once dry, corrosion was removed using an abrasive machine with aluminium oxide powder, after first protecting the soft handle. This revealed an uneven corrosion layer which was left as it was unclear whether a stable surface lay beneath it.

The object is stable, but fragile. The handle on one side warped during drying although no changes were noted in the other side.

# PHOTOGRAPHY:



### BIBLIOGRAPHY:

Cowgill, J, de Neergaard, M. & Griffiths, N. (1987), Knives and Scabbards: Medieval Finds from Excavations in London, HMSO

J. Gardiner & M. J. Allen (Eds.) 2005, Before the Mast: Life and Death Aboard the Mary Rose, The Mary Rose Trust Ltd

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MSG NO: MSG 041 ARTEFACT: Lump of resin MATERIALS: Beeswax LAB NO: 1249 5cm SMALL FIND NO: **CONTEXT NO:** 130 **MSG 041 EXCAVATOR:** RLL DATE FOUND: 09.09.02 COW TAG: SHIP COORDINATES: F6-9 ASSOCIATED FINDS: CURRENT LOCATION: Shipping Container 2 **DESCRIPTION** Small lump of beeswax, yellowed in colour, measuring approximately 26 x 15mm. It is hard to the touch, which may be due to the surface of the wax being concreted. From a deposit of stabilized alluvium in context 120 which contains most of the large structural timbers. HANDLING INSTRUCTIONS: Vinyl/nitrile or clean white cotton gloves. Care needed when handling to avoid physical damage. STORAGE REQUIREMENTS: **ANALYSIS** X-ray: FTIR confirmed material as beeswax Other: DATE BEGAN: 29/03/11

Sophie Adamson / Morwenna Perrott

DATE COMPLETE:

CONSERVATOR:

### MATERIALS AND METHOD OF MANUFACTURE

Beeswax is a natural resin which is derived from the wax-producing glands of honey bees, rather than honey itself. It is gathered by uncapping the honeycomb cells when harvesting honey, and collecting these wax caps.

In the medieval period it would have been used for a number of different purposes, however the presence of beeswax found in lumps at the excavation site suggests that it was for individual use and small tasks such as lubricating twine for sewing the ships sails for example. Britain would have imported a large proportion of its beeswax supply as it could not produce enough domestically to satisfy demand. It was also used to seal lids on containers, attach flights onto arrow shafts, waterproof wood to prevent biological decay, and was mixed into paint to create a particular finish.

#### **CONDITION**

Object is waterlogged but shows little sign of decay. The surface is very hard, with some small yellowing patches.

#### TREATMENT

Received in clay matrix, the beeswax lump was gently cleaned with a water stream and squirrel hair brush.

The beeswax was then air dried in a controlled environment.

# PHOTOGRAPHY: Before Drying



MSG NO: MSG 044

ARTEFACT:	Lump o	f Resin		
MATERIALS:	Beeswa	x		
LAB NO:				
SMALL FIND NO:				
CONTEXT NO:	130			
EXCAVATOR:	DV			
DATE FOUND:	04.10.02	!		
COW TAG:				
SHIP COORDINATES: F8-9 Stb		od		
ASSOCIATED FINDS:				
CURRENT LOCATION:	Shippin	g Container 2		
DESCRIPTION Wax?				
HANDLING INSTRUCTIONS:		Vinyl/nitrile or clean white cotton gloves.  Care needed when handling to avoid physical		
STORAGE REQUIREMENT	TS:	damage.		
ANALYSIS				
X-ray:				
Other:				
DATE BEGAN:	29.	03.11		
DATE COMPLETE:				

CONSERVATOR: Sophie Adamson / Morwenna Perrott

#### MATERIALS AND METHOD OF MANUFACTURE

Beeswax is a natural resin which is derived from the wax-producing glands of honey bees, rather than honey itself. It is gathered by uncapping the honeycomb cells when harvesting honey, and collecting these wax caps.

In the medieval period it would have been used for a number of different purposes, however the presence of beeswax found in lumps at the excavation site suggests that it was for individual use and small tasks such as lubricating twine for sewing the ships sails for example. Britain would have imported a large proportion of its beeswax supply as it could not produce enough domestically to satisfy demand. It was also used to seal lids on containers, attach flights onto arrow shafts, waterproof wood to prevent biological decay, and was mixed into paint to create a particular finish.

#### **TREATMENT**

Received in clay matrix, the beeswax lump was gently cleaned with a water stream and squirrel hair brush.

The beeswax was then air dried in a controlled environment.

MSG NO: MSG 045 MSG 045 ARTEFACT: Lump of Resin MATERIALS: Beeswax LAB NO: 1250 SMALL FIND NO: **CONTEXT NO:** 130 EXCAVATOR: RJB DATE FOUND: 24.08.02 COW TAG: SHIP COORDINATES: F28 Stbd ASSOCIATED FINDS: **CURRENT LOCATION:** Shipping Container 2 DESCRIPTION Small leaf-shaped lump of beeswax, creamy yellow in colour, measuring approximately 47 x 20mm. It is hard to the touch, which may be due to the surface of the wax being concreted. From a deposit of stabilized alluvium in context 120 which contains most of the large structural timbers. HANDLING INSTRUCTIONS: Vinyl/nitrile or clean white cotton gloves. Care needed when handling to avoid physical damage. STORAGE REQUIREMENTS: **ANALYSIS** X-ray: Other: FTIR confirmed material as beeswax 29.03.2011 DATE BEGAN:

DATE COMPLETE:

CONSERVATOR: Sophie Adamson / Morwenna Perrott

#### MATERIALS AND METHOD OF MANUFACTURE

Beeswax is a natural resin which is derived from the wax-producing glands of honey bees, rather than honey itself. It is gathered by uncapping the honeycomb cells when harvesting honey, and collecting these wax caps.

In the medieval period it would have been used for a number of different purposes, however the presence of beeswax found in lumps at the excavation site suggests that it was for individual use and small tasks such as lubricating twine for sewing the ships sails for example. Britain would have imported a large proportion of its beeswax supply as it could not produce enough domestically to satisfy demand. It was also used to seal lids on containers, attach flights onto arrow shafts, waterproof wood to prevent biological decay, and was mixed into paint to create a particular finish.

#### **CONDITION**

Object is waterlogged but shows little sign of decay. The surface is very hard, and is yellowed. There are some small patches of iron staining.

#### **TREATMENT**

Received in clay matrix, the beeswax lump was gently cleaned with a water stream and squirrel hair brush.

The beeswax was then air dried in a controlled environment with an ambient RH of...

## PHOTOGRAPHY:

Before drying:



MSG NO: MSG 047

ARTEFACT: Lump of Resin

MATERIALS: Beeswax

LAB NO:

SMALL FIND NO:

CONTEXT NO: 149

EXCAVATOR: HPM

DATE FOUND: 15.08.02

COW TAG:

SHIP COORDINATES: F48 Stbd

ASSOCIATED FINDS:

CURRENT LOCATION: Shipping Container 2

### DESCRIPTION

Small lump of beeswax, creamy yellow in colour, measuring approximately  $55 \times 34$ mm at its longest points. It is hard to the touch, which may be due to the surface of the wax being concreted.

From a black silty deposit with very large frequent woodchips along the starboard side between F30-F50.

HANDLING INSTRUCTIONS: Vinyl/nitrile or clean white cotton gloves.

Care needed when handling to avoid physical

MSG 047

damage.

STORAGE REQUIREMENTS:

**ANALYSIS** 

X-ray:

Other: FTIR confirmed material as beeswax

DATE BEGAN: 29.03.2011

DATE COMPLETE:

CONSERVATOR:

Sophie Adamson / Morwenna Perrott

#### MATERIALS AND METHOD OF MANUFACTURE

Beeswax is a natural resin which is derived from the wax-producing glands of honey bees, rather than honey itself. It is gathered by uncapping the honeycomb cells when harvesting honey, and collecting these wax caps.

In the medieval period it would have been used for a number of different purposes, however the presence of beeswax found in lumps at the excavation site suggests that it was for individual use and small tasks such as lubricating twine for sewing the ships sails for example. Britain would have imported a large proportion of its beeswax supply as it could not produce enough domestically to satisfy demand. It was also used to seal lids on containers, attach flights onto arrow shafts, waterproof wood to prevent biological decay, and was mixed into paint to create a particular finish.

#### **CONDITION**

Object is waterlogged but shows few signs of decay. The surface is very hard, with some small yellowing patches. There are also some dark spots on the surface, which may indicate fungal growth.

#### TREATMENT

Received in clay matrix, the beeswax lump was gently cleaned with a water stream and squirrel hair brush.

The beeswax was then air dried in a controlled environment with an ambient RH of...

# PHOTOGRAPHY: Before drying



MSG NO: MSG 048 ARTEFACT: Lump of Resin MATERIALS: Beeswax LAB NO: SMALL FIND NO: **CONTEXT NO:** 130 **EXCAVATOR:** DV **MSG 048** DATE FOUND: 05.10.02 COW TAG: SHIP COORDINATES: F7-8 ASSOCIATED FINDS: CURRENT LOCATION: Shipping Container 2 DESCRIPTION Small lump of beeswax, yellowed in colour, with darker patches of discolouration, measuring approximately 50 x 35mm. It is cracked all over and some patches of the surface are dissolving; it is unclear whether these patches are wax or overlying concretion. From a deposit of stabilized alluvium in context 120 which contains most of the large structural timbers. HANDLING INSTRUCTIONS: Vinyl/nitrile or clean white cotton gloves. Care needed when handling to avoid physical damage. STORAGE REQUIREMENTS: **ANALYSIS** X-ray:

FTIR confirmed material as beeswax

DATE BEGAN: 29.03.2011

Other:

DATE COMPLETE:

CONSERVATOR: Sophie Adamson / Morwenna Perrott

#### MATERIALS AND METHOD OF MANUFACTURE

Beeswax is a natural resin which is derived from the wax-producing glands of honey bees, rather than honey itself. It is gathered by uncapping the honeycomb cells when harvesting honey, and collecting these wax caps.

In the medieval period it would have been used for a number of different purposes, however the presence of beeswax found in lumps at the excavation site suggests that it was for individual use and small tasks such as lubricating twine for sewing the ships sails for example. Britain would have imported a large proportion of its beeswax supply as it could not produce enough domestically to satisfy demand. It was also used to seal lids on containers, attach flights onto arrow shafts, waterproof wood to prevent biological decay, and was mixed into paint to create a particular finish.

### **CONDITION**

Object is waterlogged and is in a more decayed state than the other examples of beeswax in the assemblage. Some patches of the surface are extremely friable. These areas are darker in colour and create a pock-marked appearance on the surface of the material. There are deep cracks set into the beeswax which make it increasingly fragile.

#### TREATMENT

Received in clay matrix, the beeswax lump was gently cleaned with a water stream and squirrel hair brush.

The beeswax was then air dried in a controlled environment.

#### PHOTOGRAPHY:



MSG NO: MSG 049

ARTEFACT: Lump of Resin

MATERIALS: Beeswax

LAB NO:

SMALL FIND NO: 1243

CONTEXT NO: u/s

EXCAVATOR: RJB

DATE FOUND: 28.08.02

COW TAG:

SHIP COORDINATES: N/A

ASSOCIATED FINDS:

CURRENT LOCATION: Shipping Container 2



### **DESCRIPTION**

Small lump of beeswax, yellowed in colour, measuring approximately 33 x 21mm. It is hard to the touch, which may be due to the surface of the wax being concreted.

HANDLING INSTRUCTIONS: Vinyl/nitrile or clean white cotton gloves.

Care needed when handling to avoid physical

5cm

MSG 049

damage.

STORAGE REQUIREMENTS:

**ANALYSIS** 

X-ray:

Other: FTIR confirmed material as beeswax

DATE BEGAN: 29.03.2011

DATE COMPLETE:

CONSERVATOR: Sophie Adamson / Morwenna Perrott

#### MATERIALS AND METHOD OF MANUFACTURE

Beeswax is a natural resin which is derived from the wax-producing glands of honey bees, rather than from honey itself. It is gathered by uncapping the honeycomb cells when harvesting honey, and collecting these wax caps.

In the medieval period it would have been used for a number of different purposes, however the presence of beeswax found in lumps at the excavation site suggests that it was for individual use and small tasks such as lubricating twine for sewing the ships sails for example. Britain would have imported a large proportion of its beeswax supply as it could not produce enough domestically to satisfy demand. It was also used to seal lids on containers, attach flights onto arrow shafts, waterproof wood to prevent biological decay, and was mixed into paint to create a particular finish.

### **CONDITION**

Object is waterlogged, and the surface is very hard; much of it is covered in a green/brown layer, possibly fungal growth. Patches without this layer show a yellowed surface similar to the other examples of beeswax in the assemblage.

### TREATMENT

Received in clay matrix, the beeswax lump was gently cleaned with a water stream and squirrel hair brush.

The beeswax lump was re-cleaned at a later date just before drying, but it is unclear from records whether the green slime developed in the interim between cleaning or was pre-existing. The green layer could not be removed and appears to have stained the hard surface of the beeswax.

The beeswax was then air dried in a controlled environment.

### PHOTOGRAPHY:



MSG 057 MSG NO: ARTEFACT: **Textile Fragment** MATERIALS: 1170 LAB NO: SMALL FIND NO: **CONTEXT NO:** EXCAVATOR: DATE FOUND: COW TAG: SHIP COORDINATES: CURRENT LOCATION: SC2 **DESCRIPTION** Relatively large fragment of brown woven textile. Small tufts of yarn were pulled through the weave at a few points. The yarns are single-ply, and woven in a 2/2 twill. HANDLING INSTRUCTIONS: STORAGE REQUIREMENTS: **ANALYSIS** Fiber ID X-ray: Other: DATE BEGAN:

? 2012

Marie Jordan

DATE COMPLETE:

CONSERVATOR:

### **CONDITION**

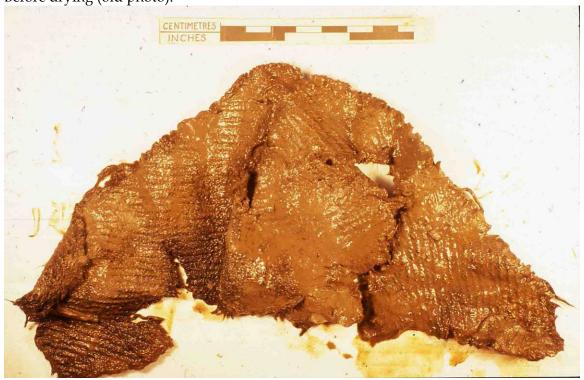
Object is in good condition, with only a very little surface soil left. Although the edges are fraying, with minimal handling they will remain stable.

### TREATMENT

Object was received having air-dried while still encased in mud. Several techniques were tested to see what removed the dried mud most thoroughly, without damaging the underlying textile. It was found that dampening the mud with water only drove it further into the fabric, but scraping the mud out of the weave using a scalpel gave excellent results. The textile was cleaned and slowly unfolded until it lay flat. Surface soil that could not be safely removed was left in situ, as the vast majority of the textile is now visible.

### PHOTOGRAPHY:

Before drying (old photo):



After cleaning:







Showing one of the 'tufts' of yarn pulled through the weave.

ACCESSION NO: MSG 059

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO:

SMALL FIND NO:

CONTEXT NO: 149

EXCAVATOR: RCH

DATE FOUND: 07/08/2002

COW TAG:

SHIP COORDINATES: F30-40, Stbd.

CURRENT LOCATION: Warehouse



### **DESCRIPTION**

Several rope fragments, 3-strand lay. One mass has very little definition, but the remaining fragments show clear strands and lay. Tar residue is easily visible on the large curved fragment (lower left-hand corner in the image above).

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

### MATERIALS AND METHOD OF MANUFACTURE

Zmulti S construction, Two sections of matted cordage, incorporating bundles of Z-spun yarn, c.2 mm diameter, loosely Stwisted together. Cordage is hemp. (from PWR report.)

### **CONDITION**

The fragments are generally in very good condition and are hardy.

### **TREATMENT**

Mud was cleaned off of the surface with water and soft brush. The fragments were then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The fragments were removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the fragments were consolidated with either 5% or 10% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Upon return, the objects were checked and placed into storage.

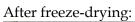
### PHOTOGRAPHY:

Before conservation:



After cleaning:









### After consolidation:





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Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

ACCESSION NO: MSG 061

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO:

SMALL FIND NO:

CONTEXT NO: 149

EXCAVATOR: HPM

DATE FOUND: 14/8/2002

COW TAG:

SHIP COORDINATES: F48, Stbd

CURRENT LOCATION: Warehouse

### **DESCRIPTION**

Two fragments of three-strand cordage pressed closely together. Strands are clearly visible.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

### MATERIALS AND METHOD OF MANUFACTURE

Hemp.

ZmultiS3Z (helix S50°-60°, final Z 40°). (from PWR recport)

#### **CONDITION**

The object is in good, if fragile, condition.

#### **TREATMENT**

Mud was cleaned off with water and soft brush. . The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The fragments were removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 10% Paraloid B-72 in acetone. The object was packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Upon return, the objects were checked and placed into storage.

### PHOTOGRAPHY:

Before cleaning:



After freeze-drying:



After consolidation:



### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

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Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

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MSG NO: MSG 063

ARTEFACT: Textile fragments

MATERIALS: Wool

LAB NO:

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: RJB

DATE FOUND: 31/07/2002

COW TAG:

SHIP COORDINATES: F20-26

CURRENT LOCATION:



Textile fragments are mixed colours – dark brown (probably staining?) and a light tan colour. Fragments are small and weave is easily visible. Fragments were easily flattened.

Two pieces of woven textile and several pieces of badly degraded textile fibres.

Fragments were found in a block with wood, cordage and other fibrous matter, possibly caulking.

HANDLING INSTRUCTIONS:

STORAGE REQUIREMENTS:

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN: 21/08/12

DATE COMPLETE: 29/08/12

CONSERVATOR: Robert McLeod

### CONDITION

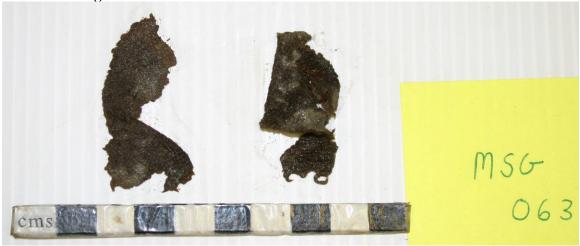
Textiles are in relatively good condition, though require treatment. Stability is good and little damage has been incurred. Mould growth on the fibres they're stored with.

### **TREATMENT**

Mud and other dirt removed with running water and a soft brush. Only two textile fragments discovered. These were cleaned as above and placed in 5% solution of PEG 400 for 18 hours to stabilise some fragments and act as a humectant. Air dried at 60% RH over 1 week inside a pierced Stewart Box.

### PHOTOGRAPHY:

Before cleaning:





After cleaning:



ACCESSION NO: MSG 065

ARTEFACT: Textile

MATERIALS:

LAB NO: 1160

SMALL FIND NO: 106

CONTEXT NO: 130

EXCAVATOR: RJB

DATE FOUND: 13.07.02

COW TAG: N/A

SHIP COORDINATES: Stern?

ASSOCIATED FINDS: N/A

CURRENT LOCATION: PWR



### **DESCRIPTION**

Textile fragments, found in a context featuring a deposit of stabilized alluvium and containing most of the large structural timbers. When wet, the largest piece of textile is about 6 cm x 5cm when folded and about 6cm x 15cm when fully unfolded. The fragments display a plain tabby weave which is commonly used for weaving flax fibres such as linen. It is possible that different coloured threads were used alternately to create a simple pattern. In another, much smaller fragment, a corner is finished with stitching in a contrasting colour.

HANDLING INSTRUCTIONS: Clean Nitrile or latex gloves

STORAGE REQUIREMENTS: RH 50-65% with fluctuations no greater than 5%; 50

lux max. with annual lux hours: 96,000

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN: 06.10.09

DATE COMPLETE: 15.01.10

CONSERVATOR: Sophie Adamson/ Morwenna Perrott/Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Under 200x magnification, from the lined surface of the fibres, it is apparent that the textile was made of a hemp or flax fibre of a range of colours, from dark brown to light beige. The threads were S-spun, possibly using a hand spindle or a hand-turned wheel. The threads would have been woven into a plain tabby weave cloth on a loom such as the then popular horizontal loom.

### **CONDITION**

The textile pieces were stored in a waterlogged clay matrix in a plastic finds bag. The textile fragments themselves were also waterlogged, and after subsequent inspection appeared to contain ingrained particles of clay and concretion. The textile is frayed and fragmented, and particularly when unfolded the material fibres are very fragile and therefore susceptible to breakage. There is faint iron staining on both sides.

#### **TREATMENT**

Received still in soil matrix. Fragment carefully removed from packaging The fragments were gently cleaned over a net using de-ionised water sprays of varying intensities, a toothpick and a soft, fine paintbrush, while observing under x10 magnification so as not to cause further fibrillation or crown damage. Some of the silt remains embedded in the weave structure as often the slightest agitation/brush dabbing caused small fibres from the textile to float away. Larger piece of clay or concretion were carefully removed with tweezers or toothpick.

A wet sample of the fibres was taken for fibre identification at a later date. Another sample was also taken to assess how the material responded to air-drying without a consolidant.

The largest piece of textile was in fact one piece of textile overlying another, folded piece of textile. The overlying textile was removed and cleaned, and the underlying piece of textile was gently unfolded whilst immersed in water to support the weight of the material, using a bone spatula and a metal spatula. The inside of the folded textile was cleaned using the same methods as above.

The smallest fragments were air dried successfully, following which a sample that had broken away from the largest piece of textile was left out to dry overnight to assess the material's response to air-drying.

### [MAJ section]

Several fragments were still wet, and these were slowly air-dried over the course of several house. They were sandwiched between layers of blue towelling, with two pieces of correx (one below and one above the towelling) acting as vapour barriers.

All fragments were repackaged on correx in a polythene bag, for transport to PWR for analysis.

# PHOTOGRAPHY:

Before conservation:







After conservation





# BIBLIOGRAPHY:

Catling, D. & Grayson, J (1982), <u>Identification of Vegetable Fibres</u>, Chapman & Hall Wild, J.P. (1988), <u>Textiles in Archaeology</u>, Shire Archaeology

ACCESSION NO: MSG 066

ARTEFACT: Woven Textile

MATERIALS: Wool

LAB NO: n/a

SMALL FIND NO: n/a

CONTEXT NO: 120

EXCAVATOR: JAS

DATE FOUND: 21.10.02

COW TAG: n/a

SHIP COORDINATES: F10.1 Port Garboard.

Strake/Keel

ASSOCIATED FINDS: n/a

CURRENT LOCATION: Shipping container 2,

Bay 4



Approx. 96mm x 45mm heavily concreted, folded textile fragment made from cream wool. From deposit 120, "Timber structure-boat".

From PWR: A twisted strip of wool textile woven in 2/2 twill, with smaller fragments the same:

wa $10-12/Z/0.9 \times 7-8/S/0.8-1.5$  per cm; slightly matted on one face, possibly from wear. A selvedge along one side of the main fragment has been worked on five pairs of Z-spun warp threads, followed by a single and then another pair (probably originally seven pairs); a second selvedge on one of the small fragments has a simple twill construction without any paired threads.

Microscopy of the fibres showed them to be encrusted with iron corrosion products, but such features as were visible indicated non-pigmented sheep's wool.

Mostly irregularly cut edges, except for selvedges.

190 x 25 mm, 50 x 15 mm, 70 x 15 mm and 30 x 15 mm

HANDLING INSTRUCTIONS: Clean Nitrile or latex gloves

STORAGE REQUIREMENTS: RH 50-65% with fluctuations no greater than 5%

50 lux max. with annual lux hours: 96,000

ANALYSIS Penelope Walton-Rogers

X-ray: n/a



Other: n/a

DATE BEGAN: 10.01.10/19.01.10. // 29/11/12

DATE COMPLETE: 4/12/12

CONSERVATOR: Sophie Adamson // Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

The yarn is made from an animal fibre with regular mosaic patterned scales, this is likely to be a type of sheep hair. The yarn is woven in a tabby weave. Selvedge edge visible.

From PWR: it's the same as MSG 067. MSG 066 was a twisted strip encrusted with iron corrosion, most probably used to plug a gap next to the garboard strake at F10.

wool, non-pigm 2/2 twill  $10-12/Z \times 7-8/S$ . Two selvedges on separate fragments, face (i) has 7 pairs Z-spun and (ii) has plain twill construction with no paired threads. Other edges irregularly cut.

#### CONDITION

The artefact is heavily concreted and solid to the touch. The surface of the object is covered in short mineralised fibres, under which some of the weave is discernable. Some of the fibres around the edges are less stained and are pale and soft.

#### **TREATMENT**

The fragment was immersed in a 5% solution of EDTA overnight (approx. 16 hours) to loosen some of the ingrained mineral deposits. This softened the concretions somewhat and enabled some mechanical cleaning. The unconcreted fibres are soft and white, like cotton wool. Some areas of the weave remain, but this is a very frayed piece. Colourless crystals were observed on the underside of the fragment – possibly from the EDTA? The artefact was turned over and unfolded slightly before being mechanically cleaned. It was then returned to the EDTA solution for another 17 hours to try to remove more of the mineral deposit and orange colour. Further mechanical cleaning removed some of the clay and the fabric was unfolded slightly and turned over again. The artefact was returned to the EDTA bath again from 29/03/11 – 11/04/11. The removed and rinsed for approx 24hours. The material is much less brittle but a fair amount of iron staining remains. The artefact was then placed in a 5% solution of DTPA, which was buffered to pH 6-7 using sodium bicarbonate.

15.06.11 - The piece was then air-dried in the warehouse in an ambient RH of about 60%.

It was left for three weeks to dry and acclimatise to the climate before being packaged in a temporary housing and placed in the shipping container.

4.12.12 When the textile was found it was still caked in dirt and was folded and twisted. Object was rewetted in water and cleaned under magnification with brush and bamboo stick. The scraps of textile were then unfolded and air-dried, before repackaging again and return to shipping container.

# PHOTOGRAPHY:

BEFORE CONSERVATION:



### AFTER 1ST BATH OF EDTA -VERSO:





Textile as found in 2012:



### BIBLIOGRAPHY:

Tímár-Balázsy, Á; Eastop, D 1998. Chemical Principles of Textile Conservation (2<sup>nd</sup> ed.). Oxford: Butterworth-Heinemann

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The Society for Historical Archaeology http://www.sha.org/research\_resources/conservation\_faqs/storage.htm

MSG NO: MSG 067

ARTEFACT: Textile Fragment

MATERIALS: Animal Fibre

LAB NO: 1166

SMALL FIND NO: 112

CONTEXT NO: 128

EXCAVATOR: JMB

DATE FOUND: 17.07.02

COW TAG: n/a

SHIP COORDINATES: n/a

ASSOCIATED FINDS: MSG 1285

CURRENT LOCATION: Conservation



#### **DESCRIPTION**

Folded fragment of textile with a ribbed weave, approx: 140mm x 160mm. From a "deposit containing woodworking waste. At the bow (F1-F10) it directly overlies ship timbers. Majority of the timbers appear to comprise split frags of hull planking and hacked pieces of framing. Wood assessed on site and mostly discarded".

HANDLING INSTRUCTIONS: Clean Nitrile or latex gloves

STORAGE REQUIREMENTS: RH 50-65% with fluctuations no greater than 5%

50 lux max. with annual lux hours: 96,000

**ANALYSIS** 

X-ray: n/a

Other: n/a

DATE BEGAN: 24.09.09

DATE COMPLETE:

CONSERVATOR: Sophie Adamson

#### MATERIALS AND METHOD OF MANUFACTURE

A woven fragment of brown animal fibre (x200) with a raised rib. Square in shape with one selvedge visible, (see photo). The fabric is woven in a twill weave and the yarn is constructed with an approx ply of 40 in a Z twist. Although not found between timbers, the size, folded nature and tar staining of this piece suggest it may be a form of caulking.

### **CONDITION**

Received in a vacuum packed finds back. Once this was removed it became evident that the fabric was waterlogged and large areas were covered with clay. Although they look sound, slow hydrolysis will have weakened the fibres. The textile is frayed and fragmented. Under x10 magnification, some fibres are quite smooth whilst others are more fibrillated, perhaps indicating wear. There are many areas of ingrained clay and concretions.

#### **TREATMENT**

24.09.09 - Fragment carefully removed from packaging and immersed in deionised water for a couple of days to loosen the clay. The material was washed over a net with a continuous stream of deionised water from a squeezy bottle in the direction of the weave. It was also dabbed with a squirrel hair brush whilst immersed in water, while observing under x10 magnification so as not to cause further fibrillation or crown damage. Cocktails sticks were used to dislodge any concretions or stones where possible. The fabric was gradually unfolded and photographs used to document this.

Once the fabric was unfolded a 63mm x 20mm hard piece of mixed organic materials was uncovered, similar to pieces found when excavating the leather. The lump is comprised of small wood and basketry fragments; clay, tar and has some areas of concretion. It is not known whether this is a natural sediment or man made, later discarded following discussion with Nigel Nayling. There is an area of tar staining on the verso.

The fabric was then turned over and the last corner unfolded, see photo. It was cleaned as before and the decision was made to use a chelating agent due to large areas of mineralised iron staining. This may effect any future tar analysis but not dye analysis. This was considered acceptable due to the large amount of tar and caulking samples already gathered from the site. Also, as this is rather a large fragment, it may have the potential for display.

01.10.09 - EDTA - 13.00-15:30 A wet untreated sample was kept for analysis, (MSG 1285)

Cleaned using deionised water stream and a squirrel haired brush. Returned to EDTA – 15:50 – 30.03.11 - 09:30. Cleaned again and then returned due to stubborn area of concretion – 13:30 – 17:00.

Cleaned again and rinsed for 48hours over the weekend.

Air dried in the warehouse over one week at an RH of approx: 70%.

# PHOTOGRAPHY:

WET, RECTO











### BIBLIOGRAPHY:

Tímár-Balázsy, Á; Eastop, D 1998. *Chemical Principles of Textile Conservation* (2<sup>nd</sup> ed.). Oxford: Butterworth-Heinemann

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Hardingham, M 1978. *The Illustrated Dictionary of Fabrics*. London: Cassell & Collier Macmillan Publishers Ltd.

The Society for Historical Archaeology <a href="http://www.sha.org/research\_resources/conservation\_faqs/storage.htm">http://www.sha.org/research\_resources/conservation\_faqs/storage.htm</a>

ACCESSION NO: MSG 069

**ARTEFACT:** Textile Fragment

**MATERIALS:** Dyed fibre-cellulosic?

**LAB NO:** 1165

**SMALL FIND NO:** n/a

CONTEXT NO: 128

**EXCAVATOR:** JKH

**DATE FOUND:** 27.07.02

COW TAG: n/a

**SHIP COORDINATES:** F1-F10

**ASSOCIATED FINDS:** MSG: 1284

**CURRENT LOCATION:** Shipping Container 2,

Bay 4

#### **DESCRIPTION**

The remains of a pink textile. Approx. 5 small bundles of fine, pink fibre amongst and lying on organic debris such as small wood fragments. The largest bundle is: 10mm x 10mm. Although some are just a bundle of fibres, at least one of these shows signs of a weave. Context 128, "From a deposit containing woodworking waste. At the bow (F1-F10) it directly overlies ship timbers. Majority of the timbers appear to comprise split frags of hull planking and hacked pieces of framing".

**HANDLING INSTRUCTIONS:** Clean Nitrile or latex gloves

**STORAGE REQUIREMENTS:** RH 50-65% with fluctuations no greater than 5%

50 lux max. with annual lux hours: 96,000

DATE BEGAN: 06.10.09

DATE COMPLETE: Jan'10

CONSERVATOR: Sophie Adamson

**ANALYSIS** 

X-ray: n/a

Other: Dve analysis requested

#### MATERIALS AND METHOD OF MANUFACTURE

The remains of a pink or red textile. Approx. 5 small bundles of fine, pink fibre amongst and lying on organic debris such as small wood fragments. The largest bundle is: 10mm x 10mm. Although some are just a bundle of fibres, at least one of these shows signs of a weave. The yarn of the textile remains is made from fine, pink cellulosic fibres.

#### **CONDITION**

Received in a vacuum packed finds bag. Once this was removed it became evident that the fabric was waterlogged and large areas were covered with clay. Although they look sound, slow hydrolysis will have weakened the fibres. The fibre is frayed and fragmented. Under x10 magnification, some fibres are quite smooth whilst others are more fibrillated. There are areas of ingrained clay and concretions, which the fibres are resting on or hold the bundles together.

#### **TREATMENT**

06.10.09 - Fragments carefully removed from packaging and washed over a net with a continuous fine stream of deionised water from a squeezy bottle. It was also dabbed with a squirrel hair brush whilst immersed in water, while observing under x10 magnification so as not to cause further fibrillation or crown damage. Cocktails sticks were used to dislodge any concretions or stones where possible.

A tiny clove or seed head was found and sampled (MSG 1284). Some wood chips and tiny fragment of shell were also found but later discarded, (pers.com. Nigel Nayling).

One bundle was air dried without further treatment so that it could be used for dye analysis and the others were consolidated slightly by pipetting on 40% PEG 400 in water and left to air dry in the warehouse.

## PHOTOGRAPHY:

# **BEFORE CONSERVATION 1**



# **DURING CLEANING**



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**AFTER CONSERVATION** 

#### **BIBLIOGRAPHY:**

Tímár-Balázsy, Á; Eastop, D 1998. *Chemical Principles of Textile Conservation* (2<sup>nd</sup> ed.). Oxford: Butterworth-Heinemann

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The Society for Historical Archaeology <a href="http://www.sha.org/research\_resources/conservation\_faqs/storage.htm">http://www.sha.org/research\_resources/conservation\_faqs/storage.htm</a>

MSG NO: MSG 073

ARTEFACT: Caulking Fragment

MATERIALS: Animal Fibre

LAB NO: n/a

SMALL FIND NO: n/a

CONTEXT NO: 130

EXCAVATOR: SPR

DATE FOUND: 07.08.02

COW TAG: n/a

SHIP COORDINATES: n/a

ASSOCIATED FINDS: n/a

CURRENT LOCATION: Shipping Container 2,

Bay 4



### **DESCRIPTION**

Lump of caulking, approx. 120mm x 80mm. From a deposit of stabilized alluvium in 120, (Timber structure-boat). Contains most of the large structural timbers.

HANDLING INSTRUCTIONS: Clean Nitrile or latex gloves

STORAGE REQUIREMENTS:

RH 50-65% with fluctuations no greater than 5% 50 lux max. with annual lux hours: 96,000

**ANALYSIS** 

X-ray: n/a
Other: n/a

DATE BEGAN: 22.09.09
DATE COMPLETE: 01.12.09

CONSERVATOR: Sophie Adamson

### MATERIALS AND METHOD OF MANUFACTURE

Animal fibre, tar and pitch.

See specialist report on caulking material from the Ship.

### CONDITION

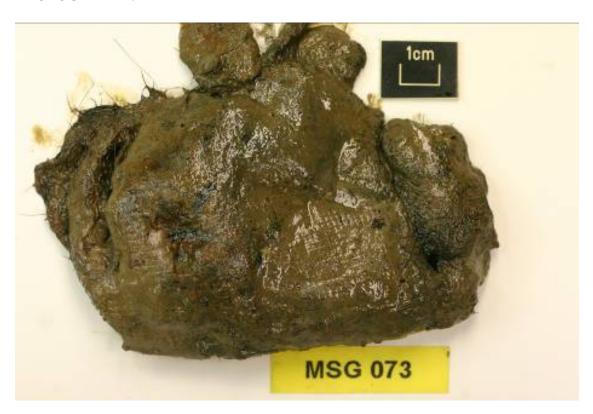
Waterlogged animal fibre covered in a thick sticky tar, with the characteristic smell of creosote. Covered in clay.

### TREATMENT

Soaked in deionised water and most of the clay removed. Sprayed gently to remove clay and debris. Air dried in warehouse – RH 65%.

Possible discard after consulting Nigel Nayling.

## PHOTOGRAPHY:



### BIBLIOGRAPHY:

Tímár-Balázsy, Á; Eastop, D 1998. Chemical Principles of Textile Conservation (2<sup>nd</sup> ed.). Oxford: Butterworth-Heinemann

Pearson, C 1987. Conservation of Marine Archaeological Objects. Butterworth & Co. Ltd.

Appleyard, H M 1978. Guide to the Identification of Animal Fibres. Leeds: Wira

Catling, D; Grayson, J 1982. Identification of Vegetable Fibres. London: Chapman and Hall Ltd

Wild, J P 1988. Textile in Archaeology. Princes Risborough: Shire Publications Ltd

Horie, C V 1987. Materials for Conservation. London: Butterworth & Co. Ltd.

Brooks, M; Lister, A; Eastop, D; Bennett, T 1996. Artifact or Information? Articulating the Conflicts in Conserving Archaeological Textiles; Archaeological Conservation and its Consequences. Copenhagen IIC

The Society for Historical Archaeology http://www.sha.org/research\_resources/conservation\_faqs/storage.htm

MSG NO: MSG 074

ARTEFACT: Textile Fragments

MATERIALS: Animal Fibre

LAB NO: 1164

SMALL FIND NO: n/a

CONTEXT NO: 128

EXCAVATOR: JKH

DATE FOUND: 27.07.02

COW TAG: n/a

SHIP COORDINATES: Bow, F1-F10

ASSOCIATED FINDS: n/a

CURRENT LOCATION: Shipping Container 2,

Bay 4



#### **DESCRIPTION**

Three small fragments of brown, finally woven textile and three small lumps of matted hair or animal fibre. The fragments are approx.  $60 \text{mm} \times 50 \text{mm}$ , 1.55 g;  $50 \text{mm} \times 40 \text{mm}$ , 1.13 g;  $40 \text{mm} \times 20 \text{mm}$ . The largest fibre bundle is  $45 \times 25 \times 15 \text{mm}$ . From a deposit containing woodworking waste. At the bow (F1-F10) it directly overlies ship timbers. Majority of the timbers appear to comprise split frags. of hull planking and hacked pieces of framing.

HANDLING INSTRUCTIONS: Clean Nitrile or latex gloves

STORAGE REQUIREMENTS: RH 50-65% with fluctuations no greater than 5%

50 lux max. with annual lux hours: 96,000

**ANALYSIS** 

X-ray: n/a

Other: n/a

DATE BEGAN: 24.09.09

DATE COMPLETE: 15.01.10

CONSERVATOR: Sophie Adamson

#### MATERIALS AND METHOD OF MANUFACTURE

The textile fragments are constructed of Z-twisted yarn made from animal fibre, most probably wool. The fibre is brown in colour. The fabric is finely woven in a twill/herringbone weave. This is created by weaving single wefts over and under several warps at a time in a regular sequence, creating repetitive patterns.

The bundles are made up of black and brown, long animal fibre and hair. The smaller pieces are loosely matted and the larger bundle is felted together and very dense. It is not known whether the fibre bundles are from washed up debris or a by product of the wool industry. It is possible they were used in the caulking of the ship.

### **CONDITION**

The fibre bundles and textile fragments are waterlogged and covered in alluvial clay. The textile weave and yarns have much ingrained clay and organic debris. One small wood fragment is attached to the smallest textile fragment by clay. Some areas are mineral encrusted. The fibre has lost some of its cuticle (x20) and the yarns are extremely fibrillated. One side of the textile appears more matted than the other, making it easier to see the weave on the less matted side. The edges of the fragments are frayed and weak.

The hair bundles are also imbedded with clay and some areas of concretion.

#### **TREATMENT**

Both the hair bundles and the textile fragments were placed on a fine mesh frame and cleaned using a gentle stream of deionised water. The fragments were immersed in a small pool of deionised water in a shallow tray. Areas of concretion or thick debris were gently daubed with a fine squirrel hair brush and where possible, this was lifted off with tweezers or a cocktail stick.

The felted hair bundles and a small fragment of the textile were air dried at 60% RH, temperature 7C for 48 hours. The results were satisfactory enough to air dry the rest at approx. 60% RH, temperature for a couple of days, (12/01/10, 16:30 - 15/01/10, 10:30). The pieces were photographed and packed in an archival box with unbuffered acid free tissue while we decide on a longer term presentation packaging for all the textiles.

# PHOTOGRAPHY:





# CLEANED, WET



CONSERVED, DRY



### BIBLIOGRAPHY:

Burt, B; 1977. Weaving, Museum of Mankind, Discovering other cultures. London: British Museum Publications Ltd.

Crowfoot, E; Pritchard, F; Staniland, K 1992. *Textiles and Clothing, Medieval finds from excavations in London*. London: HMSO

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The Society for Historical Archaeology <a href="http://www.sha.org/research\_resources/conservation\_faqs/storage.htm">http://www.sha.org/research\_resources/conservation\_faqs/storage.htm</a>

MSG NO: MSG 076

ARTEFACT: Textile Fragment

MATERIALS: Animal Fibre

LAB NO: 1168

SMALL FIND NO: n/a

CONTEXT NO: 128

EXCAVATOR: JB

DATE FOUND: 22.07.02

COW TAG: n/a

SHIP COORDINATES: F1-F10

ASSOCIATED FINDS: n/a

CURRENT LOCATION: Shipping Container 2,

Bay 4



### **DESCRIPTION**

Two small fragments of woven textile, the largest piece is: 33mm x 28mm, and their joint weight is: 1.87g. From a "deposit containing woodworking waste. At the bow (F1-F10) it directly overlies ship timbers. Majority of the timbers appear to comprise split frags of hull planking and hacked pieces of framing. Wood assessed on site and mostly discarded".

HANDLING INSTRUCTIONS: Clean Nitrile or latex gloves

STORAGE REQUIREMENTS: RH 50-65% with fluctuations no greater than 5%

50 lux max. with annual lux hours: 96,000

**ANALYSIS** 

X-ray: n/a
Other: n/a

DATE BEGAN: 06.10.09

DATE COMPLETE: 20.01.10

CONSERVATOR: Sophie Adamson

#### MATERIALS AND METHOD OF MANUFACTURE

The textile fragment is constructed of Z-twisted yarn made from both a pale beige and dark brown, animal fibre, most probably wool. Due to the matted nature of these fragments, it has not been possible to identify the weave.

#### **CONDITION**

The textile fragments are waterlogged and encrusted with dirt and mineral deposits, which obscure the weave. The fibres are matted and fibrillated and the yarns are frayed around the edges of the fragment. The fragment is embedded in a lump of organic debris, comprising clay, wood and grass fibre fragments.

### TREATMENT

15.01.10 - A fine stream of water was used to separate the textile from the debris. A wet sample of grass fibre was taken and the organic debris air dried. Both were later discarded following discussion with Nigel Nayling.

The textile was cleaned using a gentle stream of water, occasional fine brushes, tweezers and cocktail sticks. However, it was still not possible to determine the weave.

19.01.10, 14:00 - The two small fragments of textile were frozen to -20°C overnight.

20.01.10 - Their joint frozen weight is: 1.34g.

The vacuum pump was turned on at 10.30am and the weight was measured every 1-2 hours:

$$11.30 = 1.33g$$

$$12.30 = 0.70g$$

$$14.30 = 0.43g$$

$$15.30 = 0.39g$$

$$16.30 = 0.37g$$

$$17.30 = 0.37g$$

The textile was removed from the freeze drier and left on the drying shelf at an RH of 60% to acclimatise and then packed.

## PHOTOGRAPHY:

## BEFORE CONSERVATON



FRAGMENTS AFTER MECHANICAL CLEANING



AFTER CONSERVATON



### BIBLIOGRAPHY:

Tímár-Balázsy, Á; Eastop, D 1998. *Chemical Principles of Textile Conservation* (2<sup>nd</sup> ed.). Oxford: Butterworth-Heinemann

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MSG NO: MSG 079

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO:

SMALL FIND NO:

CONTEXT NO: 128 EXCAVATOR: RJB

DATE FOUND: 18/7/2002

COW TAG:

SHIP COORDINATES: NE Bow

CURRENT LOCATION: Warehouse

**DESCRIPTION** 

Several small fragments of 3-strand rope.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

MATERIALS AND METHOD OF MANUFACTURE Hemp. Z multiS3Z (helix S60°, final Z40°) (from PWR report)

## CONDITION

Intact strands are very hardy and in good condition.

### TREATMENT

Mud was cleaned off with water and soft brush.

### PHOTOGRAPHY:

Before cleaning:



After cleaning, before treatment and freeze-drying:





#### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août 1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des Bois Gorgés d'Eau: Grenoble. pp 299-312

Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

MSG NO: MSG 080

ARTEFACT: Fibres

MATERIALS: Grass fibres

LAB NO:

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: RJB/HPM

DATE FOUND: 01.08.02

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: SC2

DATE BEGAN: 24.09.09/22/08/12

DATE COMPLETE: 29/08/12

CONSERVATOR: Sophie/Morwenna/Robert McLeod

**ANALYSIS** 

X-ray:

Other:

#### DESCRIPTION

Small bundles of unknown grassy fibres, found in a context featuring a deposit of stabilized alluvium which contains most of the large structural timbers. Largest bundle of fibres measures approximately 1.5 cm in length. One small piece of possible 'sail fabric': badly degraded fibrous material held together by surrounding dirt.



#### **CONDITION**

The fibres were being stored in a plastic finds bag in a waterlogged clay matrix. The fibres themselves were also waterlogged, and being held together by the clay. The fibres are very fragile and susceptible to breaking.

#### TREATMENT

Received still in soil matrix. The fibre bundles were carefully removed from the packaging and photographed. The fibres were gently cleaned using de-ionised water sprays of varying intensities, and a soft, fine paintbrush. A wet sample of the fibres was taken for fibre identification at a later date. Another sample was also taken to assess how the material responded to air-drying without consolidant.

19.01.10 - Following this it was decided to test a small sample of the fibres, unconsolidated, in the vacuum freeze drier. The sample was weighed (weight was 0.28g before freezing), and frozen for approximately 20 hours at -20°C. Once it was completely frozen it weighed 0.25g and was subsequently dried in the freeze drier. The specimen was weighed every hour, as shown in the graph below, until the weight levelled out indicating that the rope piece was completely dry. Complete drying of the sample took about an hour. Following this the sample was left to acclimatise at 65% RH and 9°C.

It was later discovered that freeze drying without the use of a cryoprotectant was feasibly more damaging than air drying without due to the expansion of water on freezing. Therefore this could be the reason the fibres now appear so friable.

(Robert McLeod treatment start)

Cleaned supported on Netlong with running water, brush and scalpel. Found to contain no textiles (as labelled) and only some small fibres measuring 4mm or less.

# PHOTOGRAPHY:





ACCESSION NO: MSG 088

ARTEFACT: Cordage

MATERIALS:

LAB NO:

SMALL FIND NO:

CONTEXT NO:

EXCAVATOR: BJ

DATE FOUND: 27/09/2006

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse

**DESCRIPTION** 

Rope Fragment, found in bag with timbers, cow1561, in two boxes

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

5cm

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 5/10/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

### MATERIALS AND METHOD OF MANUFACTURE

Hemp, ?ZmultiS3Z (helix final Z 20°-30°

### **CONDITION**

Fragment is hardy and in good condition with details visible to the naked eye.

### TREATMENT

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The fragments were removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 10% Paraloid B-72 in acetone. The object was packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Upon return, the objects were checked and placed into storage.

### PHOTOGRAPHY:

Before cleaning:



After cleaning and drying:



### BIBLIOGRAPHY:

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996

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Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

ACCESSION NO: MSG 090

**ARTEFACT:** Organic Material

**MATERIALS:** Plant matter

**LAB NO:** n/a

**SMALL FIND NO:** n/a

CONTEXT NO: 130

**EXCAVATOR:** PWH

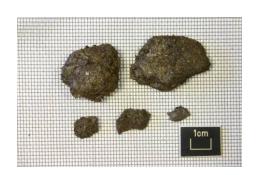
**DATE FOUND:** 19/09/02

COW TAG: n/a

**SHIP COORDINATES:** F9-10

**CURRENT LOCATION:** Maesglas Warehouse,

Fridge B



### **DESCRIPTION**

The object comprises five large conglomerations of vegetable fibres and fragments which are over 5mm2 in area and a quantity of loose and clumped fibres less than 5mm2 in area.

**HANDLING INSTRUCTIONS:** V.fragile – do not remove from housing.

**STORAGE REQUIREMENTS:** Keep wet in the Fridge

**ANALYSIS** 

**X-ray:** n/a

**Other:** ID by the archaeobotanist

**DATE BEGAN:** 29.07.10 **DATE COMPLETE:** 01.08.10

CONSERVATOR: Chrissie Harrington/Sophie Adamson

#### MATERIALS AND METHOD OF MANUFACTURE

Raw vegetable fibre conglomerates. Major fragments – measurements before treatment:

- 1. 3.9x2.7x0.9 cm 4.42g
- 2. 3.0x2.8x1.1 cm 3.70g
- 3. 1.8x1.0x0.3 cm 0.35g
- 4. 1.4x1.1x0.3 cm 0.14g
- 5. 1.0x0.7x0.2cm 0.11g

Possible dung, rope remains or floor covering – for fibre ID by archaeobotanist.

### **CONDITION**

The vegetable matter is compacted together with silt/clay, large particles of sand and black flecks of charcoal.

Before cleaning very little organisation of the fibres could be seen. There is no discernible arrangement or weave.

The pH was measured and found to be around 4.5-4.0. Very acidic.

### **TREATMENT**

Cleaned gently over a fine net using a fine stream of deionised water. No further treatment has been undertaken as this is likely to be discarded following fibre ID. Kept wet as specified by the archaeobotanist.

## PHOTOGRAPHY: BEFORE CONSERVATION:



# **DURING CLEANING 1**



# **DURING CLEANING 2**



**BIBLIOGRAPHY:** 

ACCESSION NO: MSG 096

ARTEFACT: Textile Fragment

MATERIALS: Animal Fibre

LAB NO: 1248

SMALL FIND NO: 189

CONTEXT NO: 120

EXCAVATOR: EIB

DATE FOUND: 25.08.02

COW TAG: n/a

SHIP COORDINATES: F42-43

ASSOCIATED FINDS: n/a

CURRENT LOCATION: Shipping Container 2,

Bay 4



### **DESCRIPTION**

A small fragment of brown woven textile approx. 70mm x 35mm (folded). From a context described as "Timber structure-boat".

HANDLING INSTRUCTIONS: Clean Nitrile or latex gloves

STORAGE REQUIREMENTS: RH 50-65% with fluctuations no greater than 5%

50 lux max. with annual lux hours: 96,000

ANALYSIS

X-ray: n/a

Other: n/a

DATE BEGAN: 22.09.09

DATE COMPLETE: 05.11.09

CONSERVATOR: Sophie Adamson

#### MATERIALS AND METHOD OF MANUFACTURE

This fibre has the scaley appearance of an animal fibre, possibly wool. The fabric is woven in a plain tabby weave.

Pulled or sheared. Long stabled wool regarded as superior.

#### CONDITION

Received in a small finds bag covered in clay. There are areas of ingrained clay and there is a tiny concretion attached to one edge, with areas of iron staining on both sides of the fragment, see photograph. The fibres are extremely fibrillated and the edges of the fragment are fraid, particularly, along the length, where there are loose treads. There is a small hole near one side of the fabric and a large tare on the other side. It is unclear which direction is the warp and which the weft.

There is evidence of bacterial and fungi damage to both types of fibre, under magnification. The thinner outer cuticle of the fibre is missing in areas and the central cortex visible.

#### **TREATMENT**

The fragment was removed from its packaging and immersed in a small amount of deionised water to loosen some of the sediment. It was placed on a fine net and cleaned under x10 magnification by flushing through with a gentle stream of deionised water. Heavier stains were daubed carefully with a squirrel haired brush whilst immersed in a small amount of deionised water. Care was taken not to cause further fibrillation or crown damage. Some of the silt remains embedded in the weave structure as often the slightest agitation/brush dabbing caused small fibres from the textile to float away.

The fabric was soaked in a 4% solution of EDTA for two hours and then rinsed in a v.gentle rinse bath for 48 hours. Quite large amounts of mineralised iron still remain in the fibres so the fabric was re-treated in the same solution for another 5.5hours until most of the stain was lifted. The fibres now appear quite felted and lighter in some areas so the decision was made to leave any further iron sediment and it was then rinsed in successive changes of water for a further 48 hours.

A small loose thread was air dried under melinex (not touching the surface) in the warehouse (RH approx.70%), with no consolidant or humectants added. This fragment appears a little brittle but otherwise stable, when viewed under x10. Slow controlled air drying was attempted for this fragment as the use of consolidants is discouraged by our textile specialist, as it can obscure detail and compromise analysis.

The fragment was placed between two sheets of melinex and care was taken not to crush the pile of the yarn. It was left for 24hours in a room with 77% ambient RH. The melinex was then suspended above the textile supported by foam blocks and left for a further 48hours at an RH of 67%.

This fragment dried less successfully than other animal fibre fragments. It was thought that the increased handling whilst wet contributed to the furry appearance i.e. rinsing after EDTA. The verso of the fragment has also been flattened during the drying phase, perhaps due to a weakening of the fibres during iron removal.

The textile was photographed and housed.

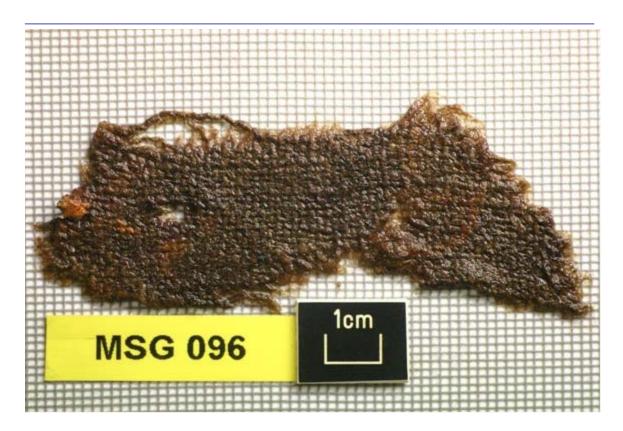
### PHOTOGRAPHY:

**BEFORE CONSERVATION** 





AFTER 1ST EDTA TREATMENT



DRY CONSERVED TEXTILE



BIBLIOGRAPHY:

Tímár-Balázsy, Á; Eastop, D 1998. *Chemical Principles of Textile Conservation* (2<sup>nd</sup> ed.). Oxford: Butterworth-Heinemann

Pearson, C 1987. Conservation of Marine Archaeological Objects. Butterworth & Co. Ltd.

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ACCESSION NO: MSG 100

ARTEFACT: Woven Cloth

MATERIALS: Animal Fibre

LAB NO: n/a

SMALL FIND NO: n/a

CONTEXT NO: 130

EXCAVATOR: JAS

COW TAG: n/a

SHIP COORDINATES: Ci F37 Starboard

ASSOCIATED FINDS: n/a

CURRENT LOCATION: Shipping Container 2,

Bay 4



Small fragment of brown woven textile, approx 100mm x 70mm, (wet).

From a deposit of stabilized alluvium in 120, (Timber structure-boat). Contains most of the large structural timbers.

HANDLING INSTRUCTIONS: Clean Nitrile or latex gloves

STORAGE REQUIREMENTS: RH 50-65% with fluctuations no greater than 5%

50 lux max. with annual lux hours: 96,000

**ANALYSIS** 

X-ray: n/a

Other: n/a

DATE BEGAN: 21.09.09

DATE COMPLETE: 05.10.09

CONSERVATOR: Sophie

#### MATERIALS AND METHOD OF MANUFACTURE

Under x10 magnification a small dry thread appears to be made up of yarn of a range of colours, from black or dark brown, (orange-brown under the microscope) to a pale beige colour. Under x20, it would appear that these are different types of fibre. Both fibres have the scaley outer appearance of a type of animal fibre, possibly wool, (x200).

The fabric is woven in a plain tabby weave and the yarn is constructed with approx. 20 ply, S-twist.

#### **CONDITION**

The fragment was covered in a thick layer of clay. Once this was removed it became evident that the fabric was waterlogged with areas of ingrained clay visible. The textile is frayed and fragmented with three small holes visible. There is evidence of bacterial and fungi damage to both types of fibre, under magnification. The thinner outer cuticle of the fibre is missing in areas and the central cortex visible, particularly with the paler fibre. Recto - there is a faint area of iron staining in the centre of the cloth and near the small holes (see diagram). Verso - There is heavier iron staining and imbedded clay to this side.

#### **TREATMENT**

Received still in soil matrix. Fragment carefully removed from packaging and immersed in deionised water for a couple of days to loosen the clay. The material was washed over a net with a continuous stream of deionised water. It was also dabbed with a squirrel hair brush whilst immersed in water, while observing under x10 magnification so as not to cause further fibrillation or crown damage. Much of the silt remains embedded in the weave structure as often the slightest agitation/brush dabbing caused small fibres from the textile to float away.

A small thread was air dried without a consolidant. This fragment appears a little brittle but otherwise stable, when viewed under x10. Slow controlled air drying was attempted for this fragment as the brief from our textile specialist was to avoid the use of consolidants where possible, as they can obscure detail and interfere with analysis at this stage of the Post Ex.design. The fragment was placed between two sheets of melinex and care was taken not to crush the pile of the yarn. It was left for 24hours in a room with 77% ambient RH. The melinex was then suspended above the textile supported by foam blocks (to prevent dust from settling on the surface but high enough to prevent a build of condensation) and left for a further 4 days at an RH of 78-66%. The fabric was removed to another area with an RH of 63% for 24 hours and then finally to the lab, with an RH of 56%, temperature difference of 3 degrees C.

The textile was photographed and housed.

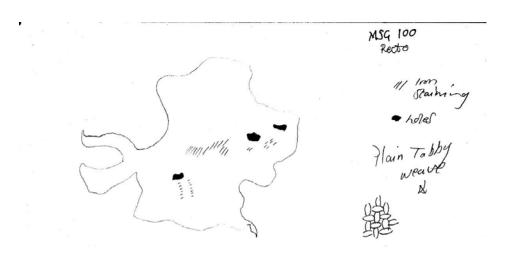
## PHOTOGRAPHY:



# CONSERVED, DRY

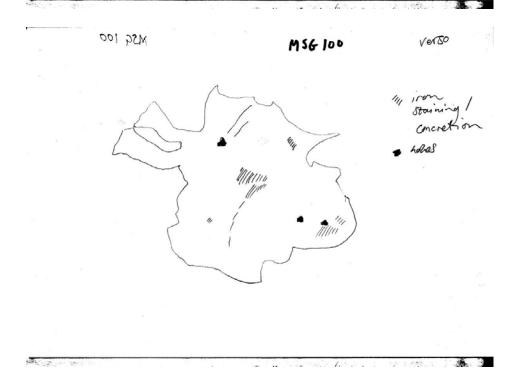


# Drawings



Verso

Recto



### BIBLIOGRAPHY:

Tímár-Balázsy, Á; Eastop, D 1998. *Chemical Principles of Textile Conservation* (2<sup>nd</sup> ed.). Oxford: Butterworth-Heinemann

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MSG NO: MSG 1220

ARTEFACT: Bolt head Iron (fe)

LAB NO: n/a

SMALL FIND NO: n/a

CONTEXT NO:

MATERIALS:

EXCAVATOR: TNJ

02/06/2008 DATE FOUND:

COW TAG: 1629

SHIP COORDINATES:

CURRENT LOCATION: Shipping Container 2

Box 205

DESCRIPTION

Metal bolt from Knee1629-Sample2885

HANDLING INSTRUCTIONS:

STORAGE REQUIREMENTS: Store in sealed container with silica gel to generate

low RH environment, ideally below 15% RH (taken

from MLA guidelines).

**ANALYSIS** 

X-ray: n/a

Other: n/a

DATE BEGAN:

DATE COMPLETE:

CONSERVATOR: Sophie Adamson

### MATERIALS AND METHOD OF MANUFACTURE

Iron (fe)

### CONDITION

07/09/2008: Some corrosion – fragmented.

01/10/2010: Oxyhydroxides now evident as orange corrosion product.

## TREATMENT

07/09/2008: Artefact rehoused in stewart box with silica gel and tissue support.

01/07/2009: Silica gel replaced.

30/12/2010: Artefact moved to Shipping container 2. Silica gel replaced.

# PHOTOGRAPHY:



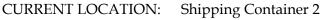
# 02/06/2008







MSG NO: MSG 1236 ARTEFACT: Metal Bolt MATERIALS: Iron LAB NO: N/A SMALL FIND NO: N/A CONTEXT NO: N/A EXCAVATOR: N/A DATE FOUND: N/A 003 COW TAG: N/A SHIP COORDINATES: N/A ASSOCIATED FINDS:



Bay 4

DESCRIPTION

Iron Bolt from cowtag 001.

HANDLING INSTRUCTIONS: Slightly friable surface, do not handle unnecessarily;

wear nitrile gloves.

STORAGE REQUIREMENTS: Store in sealed container with silica gel to generate

low RH environment, ideally below 15% RH (taken

from MLA guidelines).

ANALYSIS

X-ray:

Other:

DATE BEGAN: N/A

DATE COMPLETE: N/A

CONSERVATOR: N/A

### MATERIALS AND METHOD OF MANUFACTURE

The bolt is made of iron, which would have been forged by a blacksmith, prior to the advent of large scale production during the industrial revolution. It was found in a wooden knee which would have formed part of a crossbeam across the ship. Bolts such as this one would have attached the knee to other elements of the crossbeam, or the side of the ship itself.

### TREATMENT

No conservation records exist.

### PHOTOGRAPHY



MSG NO: MSG 1239 Metal Bolt ARTEFACT: MATERIALS: Iron LAB NO: N/A SMALL FIND NO: N/A CONTEXT NO: N/A EXCAVATOR: N/A N/A DATE FOUND: 003 COW TAG: N/A SHIP COORDINATES: N/A ASSOCIATED FINDS:

CURRENT LOCATION: Shipping Container 2
Bay 4

DESCRIPTION

Iron Bolt from cowtag 003.

HANDLING INSTRUCTIONS: Slightly friable surface, do not handle unnecessarily;

wear nitrile gloves.

STORAGE REQUIREMENTS: Store in sealed container with silica gel to generate

low RH environment, ideally below 15% RH (taken

from MLA guidelines).

ANALYSIS

X-ray:

Other:

DATE BEGAN: N/A

DATE COMPLETE: N/A

CONSERVATOR: N/A

### MATERIALS AND METHOD OF MANUFACTURE

The bolt is made of iron, which would have been forged by a blacksmith, prior to the advent of large scale production during the industrial revolution. It was found in a wooden knee which would have formed part of a crossbeam across the ship. Bolts such as this one would have attached the knee to other elements of the crossbeam, or the side of the ship itself.

#### CONDITION

Post conservation: The bolt had previously been poorly packed in polythene and corex, but had not been properly sealed. It was stored in relatively high humidity environment, despite which there is very little active corrosion. There are orange blooms on the surface of the bolt but these appear to be stable.

#### **TREATMENT**

No conservation records exist.

#### PHOTOGRAPHY:



ACCESSION NO: MSG 1287

ARTEFACT: Fragmentary burr

valve

MATERIALS: Leather

LAB NO:

SMALL FIND NO:

CONTEXT NO: 120

EXCAVATOR: NN

DATE FOUND: 1/6/2011

COW TAG:

SHIP COORDINATES: F58.0

CURRENT LOCATION:



#### DESCRIPTION

Leather assoc. with pump base cow 3114 found within pump 1628. May also contain some wood frags, parts of 3114.

(from Quita Mould report):

Component	Length	Width	Thickness	Stitching	Nailing
Panel frag	150+mm	115+mm	0.91mm	Torn vertical seam	yes
Panel frag	92+mm	70	1.90mm	Butted seam sl 4mm	yes
Panel frag	95+mm	40+mm	1.32mm	No	no
Panel frag	86+ mm	80+mm	1.52mm	Grain/flesh sl 7-8mm	no
U-shaped seam	12+mm	41+mm	1.75mm	Grain/flesh sl 5-6mm; butted edge/flesh sl 3mm	no
Flat bead	86+mm	8mm	1.78mm	Grain/flesh sl 8-9mm	no
Strap	242+mm	23mm	4.46mm	Grain/flesh 2 rows, cord impressions	yes
Strap	208 +mm	21mm	del.	Grain/flesh 2 rows 4 st,	yes

				cord impressions	
Strap frags	75+	23mm	1.84mm	Grain/flesh 2 rows	

Additional fragments treated by Rob McLeod: Brillte, baldy degraded waterlogged textile. One large piece with several shards of various thicknesses and sizes, none larger than 1 sq cm.

HANDLING INSTRUCTIONS: Handle carefully, trying to keep in box. Handle

only while wearing gloves.

STORAGE REQUIREMENTS: Stable RH 55% +\_5%. Stable temperature 18C-22C.

Avoid extreme fluctuations of RH and temperature

in a short space of time.

ANALYSIS Quita Mould

X-ray:

Other:

DATE BEGAN: 22/08/12

DATE COMPLETE: 29/08/12

CONSERVATOR: Marie Jordan/Robert McLeod

#### MATERIALS AND METHOD OF MANUFACTURE

From Quita Mould report:

The elm pump 1682 [associated with pump base 3114] located toward the stern at frame station 58 contained a fragmentary burr valve (upper valve) (2 MSG1287\*) and a leather hinge (flapper) from the lower valve (4 MSG1292\*). Two other pump components (1 MSG879\*, 5 MSG012\*) were found separately on the ship.

[...]

The remains of a second burr valve (2 MSG1287\*) were found within pump 1682 and associated with pump base 3114, located at frame station 58. The fragmentary burr valve comprised pieces of nailed panel that had been broken from the outer sleeve, pieces broken

from the outer or inner sleeve, along with a flat bead from within the seam and broken straps of characteristic type nailed at one end and stitched at the other. The straps had the

impression made by wound thick thread or cord at their nailed ends indicating that the nailing attaching them to the central wooden spear had been further strengthened by tightly wrapping cord around it; a feature noted on later examples (Oertling 1996:17 figure

3).

[...]

#### **CONDITION**

Objects are variable, with some crumbling remaining, but generally are hardy. Some iron staining, fraying of material. Some objects badly deteriorated.

#### TREATMENT

(MAI)

Leather was sewn into an envelope of netting and placed in a 5% w/v solution of EDTA (Ethylenediaminetetraacetic acid) from 30 November 2011 to 2 December 2011. It was then placed in tap water that was changed 1 -2x dailing until 6 December 2011, when it was placed in a solution of 5% v/v glycerol in tap water. Freeze-drying began on 13 December 2011, after the leather had been placed in the freezer overnight. Freeze-drying occurred in very low vacuum. (RM)

Cleaned supported by netlon with clean running water (slightly pressurised). Soft brush used to remove more ingrained dirt. Unfolded underwater for extra support. Following cleaning, leather was air-dried in 60% RH between two sheets of tissue, with a barrier of netlon.

#### PHOTOGRAPHY:

Before cleaning:









After cleaning:









## BIBLIOGRAPHY:

Peacock, Elizabeth E. 1983. "The conservation and restoration of some Anglo-Scandinavian leather shoes" in The conservator 7 pp 18-23

ACCESSION NO: MSG 1292

ARTEFACT: Pump component

MATERIALS: Leather

LAB NO:

SMALL FIND NO:

CONTEXT NO:

EXCAVATOR: NN

DATE FOUND:

COW TAG: 3114

SHIP COORDINATES:

CURRENT LOCATION: Shipping Container



### **DESCRIPTION**

Fragments of the base of pump CT1682, probably a leather flap on the base of a burrtype pump. 2 large semi-circular fragments were originally stacked, with several smaller scraps found and treated.

HANDLING INSTRUCTIONS: Handle carefully, trying to keep in box. Handle

only while wearing gloves.

STORAGE REQUIREMENTS: Stable RH 55% +\_ 5%. Stable temperature 18C-22C.

Avoid extreme fluctuations of RH and temperature

in a short space of time.

ANALYSIS Quita Mould

X-ray:

Other:

DATE BEGAN: 30/08/2011

DATE COMPLETE: 20/02/2012

CONSERVATOR: Marie Jordan

### MATERIALS AND METHOD OF MANUFACTURE

From Quita Mould report:

The elm pump 1682 [associated with pump base 3114] located toward the stern at frame station 58 contained a fragmentary burr valve (upper valve) (2 MSG1287\*) and a leather hinge (flapper) from the lower valve (4 MSG1292\*).

[...]

A flat, circular, leather claque (4 MSG1292\*) with a projecting, integral, strap hinge was found at the base of pump 1682 (context 120). Originally the claque (a hinged disc) had been nailed to a circular wooden valve weight like that of 5 MSG012\* (see below) with a series of large round-headed nails the impressions of which survive on the flesh side. The

strap hinge had been nailed with three parallel rows of smaller round-headed nails on the

opposite (grain) side. A piece torn from a burr valve strap was found directly associated with

it.

[...]

The recovery of these disc-like leather claques (4 MSG1292\* and 5 MSG012\*) allows other

potential examples to be recognised. It can be suggested that the large, nailed, leather disc

found in the thirteenth to fourteenth century re-cut of the outer ward ditch at Carlisle castle

(Mould 2009: 856 and figure 519 no 53) may have been cut from a claque from a lower valve of a burr pump; folded sheet fragments found in the same deposit possibly being from

the upper burr valve (ibid. 856-7 and figure 519 no 54). If so, the disc of cattle hide with a diameter of 214mm came from a pump of significantly larger size that the Newport ship examples.

#### **CONDITION**

The fragments were heavily stained with iron. Several fragments were cracked and delicate.

### TREATMENT

Surface-cleaned with soft brush and tap water, traced onto melinex. Placed in ethylenediaminetetraacetic acid (EDTA) 5% w/v for 2-4 hours (depending on volume of iron present). Rinsed in tap water that was changed several times over a 24-hour period, until no staining in water was visible. Placed in 25% glycerol in tap water solution for 1 week. Placed in freeze-dryer and dried at very low vacuum.

#### PHOTOGRAPHY:

Before cleaning:

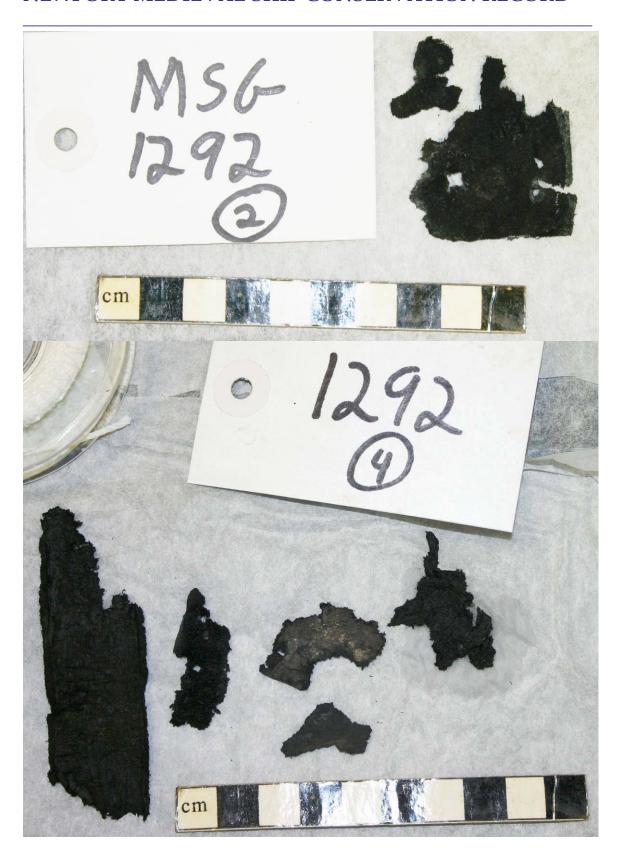






After cleaning:







### BIBLIOGRAPHY:

Peacock, Elizabeth E. 1983. "The conservation and restoration of some Anglo-Scandinavian leather shoes" in The conservator 7 pp 18-23

ACCESSION NO: MSG 1293

ARTEFACT: Cordage

MATERIALS: grass

LAB NO:

SMALL FIND NO:

**CONTEXT NO:** 

EXCAVATOR:

DATE FOUND:

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse



### **DESCRIPTION**

Rope A, 2.0 to bow (SF 180?). Cable construction, S-spun with a circumference of 113mm. Each of 4 hawsers is z-spun with a circumference of 53mm. Each of three strands (in each hawser) has a circumference of 24mm.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/12

CONSERVATOR: Marie Jordan

### MATERIALS AND METHOD OF MANUFACTURE

Grass hawser. S3Z3S (helix Z 50°, final S 30°) (from PWR report)

#### **CONDITION**

Cordage is in excellent visual condition, with only some surface flaking/friability. Any flexibility has been lost. The structure is easily visible. A clean, modern cut is visible, but the overall continuity of the strands is preserved.

#### **TREATMENT**

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 5% and 10% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, object was checked and returned to storage.

### PHOTOGRAPHY:

Before cleaning:



## After cleaning:



After freeze-drying:



#### After consolidation:



#### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août 1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des Bois Gorgés d'Eau: Grenoble. pp 299-312

Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

ACCESSION NO: MSG 1294

ARTEFACT: Cordage

MATERIALS: Grass

LAB NO:

SMALL FIND NO:

**CONTEXT NO:** 

EXCAVATOR:

DATE FOUND:

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse



#### **DESCRIPTION**

Rope A, 4.0 to bow, (with nail head?) (SF 180?)

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/12

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Grass-stem cordage. S3Z3S, as 1293(from PWR report)

#### **CONDITION**

Cordage is in excellent visual condition, with only some surface flaking/friability. Any flexibility has been lost. The structure is easily visible.

#### TREATMENT

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 10% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, object was checked and placed into storage.

#### PHOTOGRAPHY:

Before cleaning:



After cleaning:



After freeze-drying:



After consolidation:

#### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août 1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des Bois Gorgés d'Eau: Grenoble. pp 299-312

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Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the

treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

MSG NO: MSG 1295

ARTEFACT: Cordage

MATERIALS:

LAB NO:

SMALL FIND NO: 180

CONTEXT NO:

**EXCAVATOR:** 

DATE FOUND:

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: SC2

**DESCRIPTION** 

Rope A, 5.0 to bow (SF 180?)

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Grass stem cordage. S3Z3S, as 1293(from PWR report)

#### **CONDITION**

Cordage is in excellent visual condition, with only some surface flaking/friability. Any flexibility has been lost. The structure is easily visible. A clean, modern cut is visible, but the overall continuity of the strands is preserved.

#### TREATMENT

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 10% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, object was checked and placed into storage.

### PHOTOGRAPHY:

After cleaning:



After freeze-drying:



#### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic

archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

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Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

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ACCESSION NO: MSG 1297

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO:

SMALL FIND NO:

**CONTEXT NO:** 

**EXCAVATOR:** 

DATE FOUND:

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse

**DESCRIPTION** 

Rope from Wooden Pulley Block (MSG 548, Cow 3036)

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Hemp cordage from wooden pulley-block. Z15S3Z (helix final Z  $40^{\circ}$ - $50^{\circ}$ ) (from PWR report)

#### **CONDITION**

The strands are strong and have limited surface friability. Any flexibility has been lost, but the fragments are cohesive and the lay of the fibers is easily visible.

#### **TREATMENT**

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 10% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, object was examined and placed into storage.

### PHOTOGRAPHY:

Before cleaning:



After cleaning:



After freeze-drying and consolidation:



### BIBLIOGRAPHY:

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août

1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des Bois Gorgés d'Eau : Grenoble. pp 299-312

Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

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Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

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ACCESSION NO: MSG 1301

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO:

SMALL FIND NO:

**CONTEXT NO:** 

**EXCAVATOR:** 

DATE FOUND:

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse

**DESCRIPTION** 

Rope from ASH Pulley Block 2 of 2 (MSG 550, Cow 3052)

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Hemp cordage. Z?S?Z Elliptical pad,  $105 \times 35 \times 14 \text{ mm}$ , of compacted material , including matted cordage (from PWR report)

#### **CONDITION**

There is very little flaking/friable fibers on surface. Although most detail is obscured, the object is relatively hardy and is not prone to shedding.

#### **TREATMENT**

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 5% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, object was examined and placed into storage.

#### PHOTOGRAPHY:



After cleaning:





#### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août 1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des Bois Gorgés d'Eau: Grenoble. pp 299-312

Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

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ACCESSION NO: MSG 1302

ARTEFACT: Cordage

MATERIALS:

LAB NO:

SMALL FIND NO:

CONTEXT NO:

**EXCAVATOR:** 

DATE FOUND:

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse

**DESCRIPTION** 

Rope from ASH Pulley Block 2 of 2 (MSG 550, Cow 3052)

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

MSG 1302

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Hemp cordage. ZmultiS (helix S 40°). (From PWR report)

#### CONDITION

Fibers are densely packed and do not shed easily. Most detail is obscured, but the object is relatively sound.

#### **TREATMENT**

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 5% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, object was examined and placed into storage.

#### PHOTOGRAPHY:

Before cleaning:



After cleaning:





#### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août 1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des Bois Gorgés d'Eau: Grenoble. pp 299-312

Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

ACCESSION NO: MSG 1304

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO:

SMALL FIND NO:

CONTEXT NO: 130 EXCAVATOR: RJB

DATE FOUND: 31/07/2002

COW TAG:

SHIP COORDINATES: F20-26

CURRENT LOCATION: Warehouse



#### **DESCRIPTION**

Several flattened pieces of cordage, only a few cm long. Dark brown in colour.

Fragments were found in a block (MSG 063) with wood, cordage and other fibrous matter, possibly caulking.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Hemp cordage. ZmultiS3Z (helix S final Z 50°)(from PWR report)

#### CONDITION

The fibers are strongly attached and do not flake or fray off. The surface is not particularly friable or delicate, although any flexibility in the rope has been lost. Details are obscure, but the lay of the strands and some fibers are visible.

#### **TREATMENT**

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 5% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, object was examined and placed into storage.

#### PHOTOGRAPHY:

Before cleaning:



After cleaning:



After freeze-drying and consolidation:



#### BIBLIOGRAPHY:

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août 1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des

Bois Gorgés d'Eau : Grenoble. pp 299-312

Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

MSG NO: MSG 156 ARTEFACT: Leather shoe? Leather/hide MATERIALS: LAB NO: N/A SMALL FIND NO: 158 130 CONTEXT NO: EXCAVATOR: RJB DATE FOUND: 25.08.02 COW TAG: N/A SHIP COORDINATES: E20.15 N102.00 L4.38 ASSOCIATED FINDS: N/A **CURRENT LOCATION:** Off site w/ Mark Redknap at NMW Cardiff **DESCRIPTION** Currently unavailable HANDLING INSTRUCTIONS: Handle with care; wear vinyl/nitrile or cotton gloves STORAGE REQUIREMENTS: 40-50% RH; 18-22°C **ANALYSIS** X-ray: Other: DATE BEGAN:

21.06.04

Phil Parkes (Cardiff University)

DATE COMPLETE:

CONSERVATOR:

#### MATERIALS AND METHOD OF MANUFACTURE

The shoemaking process (after Grew and De Neergaard 2004, 44), began at the butchers; 'The tanner would buy hides from the butcher with hooves and horns still attached. The skins were then washed, trimmed, had the hair removed and, finally, were tanned. ...the tanned hides which had been purchased by the shoemaker would be laid flat and the shoes planned to ensure the maximum number with minimum wastage. ...Although present-day shoemakers now specialise in particular aspects of the craft, it was probable that the entire (shoemaking) process was carried out by a single craftsman.

#### **CONDITION**

This item was treated within a group of leather fragments and all were mostly still dirty when received.

#### **TREATMENT**

All leather was cleaned using soft brushes and frequent changes of water to remove as much dirt and mud as possible. In some cases, this was impeded by the fragile nature of the leather.

All leather was pre-treated by immersion in a 20% solution of glycerol in water for seven days. Excess glycerol was removed from the surface and the pieces packed into sympatex, then into a freezer. The objects were then all freeze dried to a constant weight.

#### PHOTOGRAPHY:







# BIBLIOGRAPHY: Grew, F. & De Neergaard, M. (2004) *Shoes and Pattens,* Museum of London

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MSG NO: MSG 172

ARTEFACT: Helmet Cheek guard

MATERIALS: Fe + CuA

LAB NO: 1214

SMALL FIND NO: 153

CONTEXT NO: 152

EXCAVATOR: N/A

DATE FOUND: 20/08/02

COW TAG: N/A

SHIP COORDINATES: F20-21

ASSOCIATED FINDS: MSG 175 (overlying

corrosion

CURRENT LOCATION: Ship centre illustrating

desk, staff room

DESCRIPTION

Fragment of helmet cheek guard

HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

ANALYSIS

X-ray: G190-6, 202 (plate numbers) – revealed evidence of

several rivets.

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes Cardiff University

#### **CONDITION**

The 'cheekguard' was covered in a layer of mud and corrosion when received.

#### TREATMENT

On examination there appeared to be the possibility of straw/textile padding on the surface.

The object was cleaned using an abrasive machine with aluminium oxide powder. The overlying hard corrosion crust was removed to reveal a black, powdery iron surface corrosion layer beneath it. This was cleaned to reveal a layer of iron oxide, in which several areas showed possible remains of preserved fibres. There is no definable layer which can be interpreted as 'original surface' and so the object was left with an uneven, corroded surface.

# PHOTOGRAPHY: After conservation



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MSG NO: MSG 183

ARTEFACT: Lead tingle

MATERIALS: Lead (plus fibres

adhered)

LAB NO: 1255

SMALL FIND NO: 161

CONTEXT NO: 152

EXCAVATOR: HPM

DATE FOUND: 05/09/02

COW TAG: N/A

SHIP COORDINATES: F25-26

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Shipping Container 2,

Box 205



#### **DESCRIPTION**

Lead Tingle 190mmx83mmx2.43mm. 406g Tingle with 25 visible nail holes of varying sizes. The largest nail hole is 5mm x 5mm, the smallest is 1.5mmx1.5mm. Nail head impressions remain. The inner surface has a thick layer of what looks like wool and horse hair. Nails were clearly hammered from the outside in toward the hair covered surface-(suggested by the head impressions on one surface and exit holes on the opposite surface)

HANDLING INSTRUCTIONS: Handle with vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5% 18-22°C

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes (Cardiff University)

#### MATERIALS AND METHOD OF MANUFACTURE

Caulking material was usually made from animal hair bound together with pitch

#### **CONDITION**

Condition report unavailable, however assumed corrosion products present before conservation.

#### **TREATMENT**

The object was washed in clean water then immersed in a 5% solution of EDTA for 2 hours. It was rinsed continuously for 48 hours and loose dirt and corrosion was removed using soft brushes.

The object was then placed in a 20% solution of glycerol in water for 3 days. Excess glycerol was removed before the object was frozen and freeze dried.



#### PHOTOGRAPHY:

After conservation, recto



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MSG NO: MSG 185

ARTEFACT: Metal binding

MATERIALS: Copper Alloy

LAB NO: 1137

SMALL FIND NO: N/A

CONTEXT NO: 128

EXCAVATOR: JB

DATE FOUND: 17/07/02

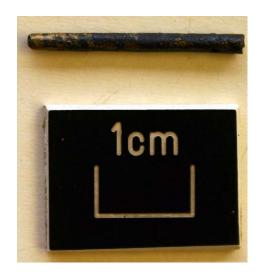
COW TAG: N/A

SHIP COORDINATES: Bow

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Shipping Container 2,

Box 205



#### DESCRIPTION

1 piece Cu Alloy Binding 22.1mm long x1.9mm in diameter. 0.24g. Gold colour in patches. Small hole, 0.5 in diameter, perforates the piece's diameter 2.4mm from the end. A join runs the length of the piece- presumably from construction. This piece is wider at the end with a hole in it and tapers toward the opposite end.

HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes Cardiff University

#### **CONDITION**

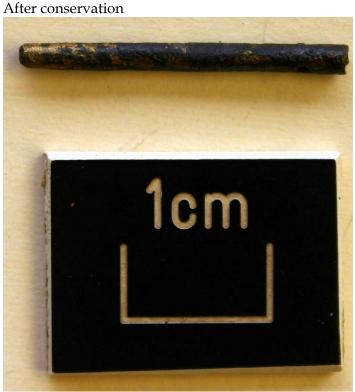
The copper alloy was covered with a layer of dirt and corrosion. Many of the objects included in this assemblage were fragile.

#### TREATMENT

The pieces were gently cleaned mechanically using scalpels and a soft glass bristle brush. Once clean, no further action was taken.

When the objects were returned to the ship centre they were packaged in a Stewart box with silica gel and stored in an appropriately conditioned storage container.

# PHOTOGRAPHY:



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Record of Examination and Treatment	SAE SAREN			
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University College Cardiff Dept. Archaeology Lab.No.	Collosions, Med			

MSG NO: MSG 186

ARTEFACT: Metal binding

MATERIALS: Copper Alloy

LAB NO: 1136

SMALL FIND NO: N/A

CONTEXT NO: 128

EXCAVATOR: JKH

DATE FOUND: 27/07/02

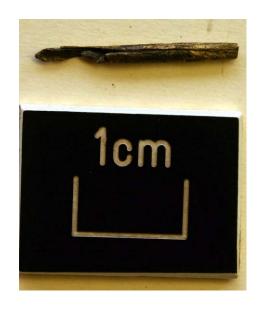
COW TAG: N/A

SHIP COORDINATES: Bow

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Shipping Container 2,

Box 205



#### **DESCRIPTION**

1 piece Cu Alloy Binding 18.4mm in length x 1.72 diameter. 0.11g Gold in colour. Join runs the length of the piece, presumably from construction. Metal strand runs through the centre of the wire. Damaged at one end.

HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes Cardiff University

#### **CONDITION**

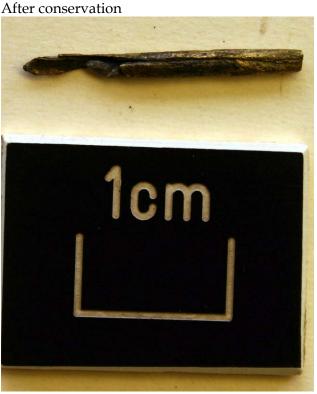
The copper alloy was covered with a layer of dirt and corrosion. Many of the objects included in this assemblage were fragile.

#### TREATMENT

The pieces were gently cleaned mechanically using scalpels and a soft glass bristle brush. Once clean, no further action was taken.

When the objects were returned to the ship centre they were packaged in a Stewart box with silica gel and stored in an appropriately conditioned storage container.

# PHOTOGRAPHY:



MSG NO: MSG 187 Metal binding ARTEFACT: Copper Alloy MATERIALS: LAB NO: 1135 1cm N/A SMALL FIND NO: **CONTEXT NO:** 130 **EXCAVATOR:** RJB DATE FOUND: 26/07/02 N/A COW TAG: SHIP COORDINATES: Amidships (back of F2?) ASSOCIATED FINDS: N/A Shipping Container 2, **CURRENT LOCATION:** Box 205 **DESCRIPTION** 1 piece Cu Alloy Binding. 33.4mm in length. 1.5mm in diameter. 0.13g. Gold in colour. Hollow with narrow gap or join running down the length of the piece-presumably from construction. Piece is slightly bent. HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C **ANALYSIS** X-ray:

DATE BEGAN:

Other:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes Cardiff University

#### **CONDITION**

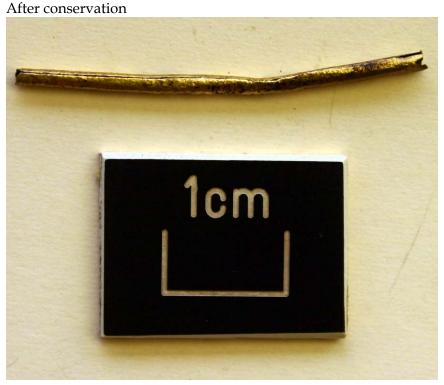
The copper alloy was covered with a layer of dirt and corrosion. Many of the objects included in this assemblage were fragile.

#### TREATMENT

The pieces were gently cleaned mechanically using scalpels and a soft glass bristle brush. Once clean, no further action was taken.

When the objects were returned to the ship centre they were packaged in a Stewart box with silica gel and stored in an appropriately conditioned storage container.

# PHOTOGRAPHY:



MSG NO: MSG 188

ARTEFACT: Metal binding

MATERIALS: Copper Alloy

LAB NO: 1134

SMALL FIND NO: N/A

CONTEXT NO: 128

EXCAVATOR: JKH

DATE FOUND: 25/07/02

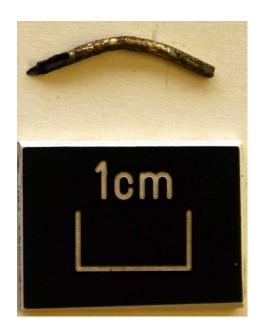
COW TAG: N/A

SHIP COORDINATES: Bow

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Shipping Container 2,

Box 205



#### DESCRIPTION

1 piece Cu Alloy Binding. 20mm in length x 1.2 mm in diameter. 0.7g. Gold in colour, slightly bent. Appears to be hollow with a metal strand running through the centre-damaged end exposes central strand. Narrow gap running the length of the wire-presumably from construction.

HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes Cardiff University

#### CONDITION

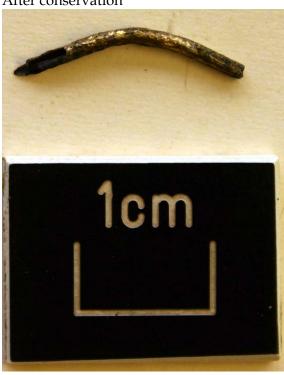
The copper alloy was covered with a layer of dirt and corrosion. Many of the objects included in this assemblage were fragile.

#### TREATMENT

The pieces were gently cleaned mechanically using scalpels and a soft glass bristle brush. Once clean, no further action was taken.

When the objects were returned to the ship centre they were packaged in a Stewart box with silica gel and stored in an appropriately conditioned storage container.

# PHOTOGRAPHY: After conservation



MSG NO: MSG 189 Metal binding ARTEFACT: Copper Alloy MATERIALS: LAB NO: 1133 SMALL FIND NO: N/A CONTEXT NO: 128 EXCAVATOR: ΙB DATE FOUND: 19/07/02 N/A COW TAG: SHIP COORDINATES: Bow N/A ASSOCIATED FINDS: CURRENT LOCATION: Shipping Container 2, Box 205 DESCRIPTION 3 Fragments of Cu Alloy binding. Largest measures 19.4mm in length x 1.3 in diameter. Outer shell is gold in colour. Central strand runs through the outer shell. HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C ANALYSIS X-ray: Other:

21/06/04

Phil Parkes Cardiff University

DATE BEGAN:

DATE COMPLETE:

CONSERVATOR:

#### **CONDITION**

The copper alloy was covered with a layer of dirt and corrosion. Many of the objects included in this assemblage were fragile.

#### TREATMENT

The pieces were gently cleaned mechanically using scalpels and a soft glass bristle brush. Once clean, no further action was taken.

When the objects were returned to the ship centre they were packaged in a Stewart box with silica gel and stored in an appropriately conditioned storage container.





MSG NO: MSG 191

ARTEFACT: Ball-shaped metal

object

MATERIALS: Fe

LAB NO: N/A

SMALL FIND NO: N/A

CONTEXT NO: u/s

EXCAVATOR: MT

DATE FOUND: 06/11/02

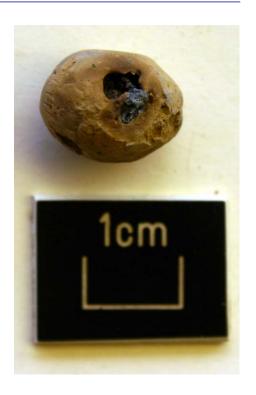
COW TAG: N/A

SHIP COORDINATES: Below S2

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Shipping Container 2

box 205



### **DESCRIPTION**

Fe object 14.2mm diameter. 2g. Encased in a sediment concretion. Roughly globular in shape. Cardiff Uni:5939-06

HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

ANALYSIS

X-ray: G190-6, 202 (plate numbers)

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes Cardiff University

#### **CONDITION**

The object appeared to be covered with a thick layer of dirt.

#### TREATMENT

Limited cleaning was carried out using a scalpel and an abrasive machine with aluminium oxide powder. This revealed no definite corrosion surface beneath the dirt, but rather a completely corroded void. No further cleaning was carried out.

# PHOTOGRAPHY: After conservation



Cardiff — HISAR		Pure Preses	euc)	Y/M/D		Completion Date Y / M / D	uwc 5939	
Material fc		Owner, Site	o)	Work approved	7	Comort from IIMO		
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		Owner			Dan	Date Y/M/D		
		Site Neufolt	Pullett		Date Y/M/D		Numbers	
		_	Museum	X-Ray		G-190/191/193/193	761	195/196/202
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				≶ ⊗ n	11			
				Colour	11	W365/0	1356L	
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108								
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Other								

iversity College Cardiff Dept. Archaeology	e Cardiff Record of Examination and Treatment Page No. $Z$	Lab. No. 5939	959
Lab.No.		Cons.	Date
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STS9 Oc The	BALL SUMPED CENTED TO BE COURTED THIS A THICK I AND		
OF DICT	LINITED CLEADING DAY CARLIED OUT USING A STARPL AND		
Alesasive	MACLINE WITH ALLMINION OXIDE BUDGE, THIS RENEARED IND		
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Confieren	THELY CONTRODES USIND. NO FRENCH CLEMMING US CARREST OUT		
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which	ETEN RS 'allenan sultace' And So The O		
186			

MSG NO: MSG 192

ARTEFACT: hook-shaped metal

object

MATERIALS: Fe

LAB NO: N/A

SMALL FIND NO: N/A

CONTEXT NO: 2027

EXCAVATOR: AY

DATE FOUND: 18/09/02

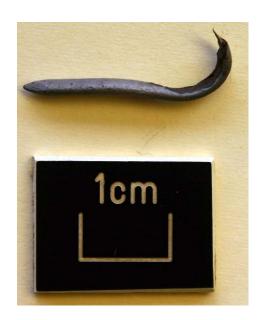
COW TAG: N/A

SHIP COORDINATES: T6

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Shipping Container 2

box 205



#### **DESCRIPTION**

Fe object, possibly a nail, hooked in shape. Grey in colour. 30mm in length; 1.52mm in diam; Weight 0.53g. The tip is faceted. Opposite end, i.e. the bent end is damaged. Possibly modern. Cardiff Uni No.:5939-05

HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

**ANALYSIS** 

X-ray: G190-6, 202 (plate numbers)

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes Cardiff University

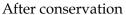
#### **CONDITION**

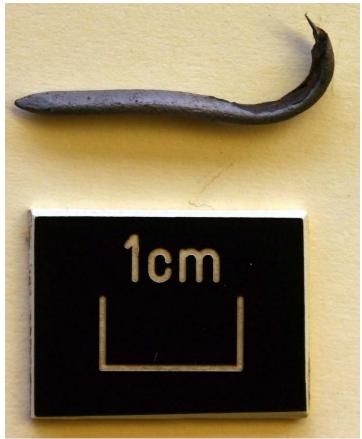
The object appeared to be covered with a thin layer of dirt and corrosion.

#### TREATMENT

The object was cleaned mechanically on an abrasive machine with aluminium oxide powder to reveal a shiny, solid metal core. Due to the lack of corrosion and its shape, it is suggested that the object is a modern nail.

### PHOTOGRAPHY:





Cardiff — HISAR		Pure Preses	euc)	Y/M/D		Completion Date Y / M / D	uwc 5939	
Material fc		Owner, Site	o)	Work approved	7	Comort from IIMO		
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		Owner			Dan	Date Y/M/D		
		Site Neufolt	Pullett		Date Y/M/D		Numbers	
		_	Museum	X-Ray		G-190/191/193/193	761	195/196/202
				Photos	1 1			
				≶ ⊗ n	11			
				Colour	11	W365/0	1356L	
Sub No. Layer	Small Find Number	Museum Accession No.	Primary Material	Secondary	Period	Dimensions	Des	Description
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103 / 128	10		٢				NAC + BR	1456 611
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106 / Bees S	25		ſ				BALL MS6	151 9
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Other								

iversity College Cardiff Dept. Archaeology	e Cardiff Record of Examination and Treatment Page No. $Z$	Lab. No. 5939	959
Lab.No.		Cons.	Date
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Apro	CLEANED MECHANICALLY USING AN		
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MENAL	BEE, DUE THE CACLE OF COLLECTION		
20000	MA THIS OSSIECT IS A MODERN SAIL.		
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OF DICT	LINITED CLEADING DAY CARLIED OUT USING A STARPL AND		
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DEFINITE	THE CORROSIUM SOFFICE BENDAM THE DRIT BUT PANCE of		
Confieren	THELY CONTRODES USIND. NO FRENCH CLEMMING US CARREST OUT		
5939 07 The	E CURBUCIARS OR COSTUD VIPT A LAYER OF MAD AND CORRESION		
CARO	anow leaves, The X-ear Posares EUIDENCE OF SOVER ROETS AND		
THERE	is me lossisicing of straw nexale Appaise or the more suches.	1	
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The	CRITER WAS CLEASING OF A APRICASING MACHINE WITH ALUMINION		
OXIDE	looped the communication coppessions their was common to		
Revent	A grace, Possiste les Sulmos caression angel bonemm, T. Tuis		
SACY	74		
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which	ETEN RS 'allenan sultace' And So The O		
186			

MSG NO: MSG 194 ARTEFACT: CuA (or Fe?) bar/wire MATERIALS: Metal LAB NO: N/A SMALL FIND NO: N/A 130 **CONTEXT NO:** EXCAVATOR: CAG DATE FOUND: 02/10/02 COW TAG: N/A SHIP COORDINATES: F54-55 ASSOCIATED FINDS: N/A Shipping Container 2, CURRENT LOCATION: Box 205 **DESCRIPTION** 1 Fe wire 15mm in length. Diameter of 1.6mm. 2.27g. Bent close to one end. Each end has been cut leaving two facets. (Looks modern) Handle with vinyl/nitrile gloves HANDLING INSTRUCTIONS: STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes (Cardiff University)

### CONDITION

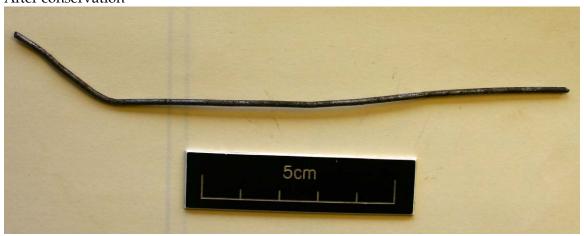
Condition report unavailable

# TREATMENT

The object was cleaned mechanically using a scalpel and a glass bristle brush.

On receipt of conserved object at ship centre it was packaged in a Stewart box with some silica gel.

# PHOTOGRAPHY: After conservation



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ACCESSION NO: MSG 196

**ARTEFACT:** Metal binding

MATERIALS: Copper Alloy

**LAB NO:** 1132

SMALL FIND NO: N/A

CONTEXT NO: 128

**EXCAVATOR:** JB

**DATE FOUND:** 22/07/02

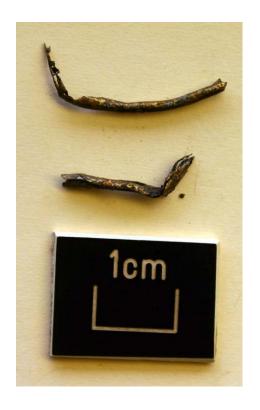
COW TAG: N/A

**SHIP COORDINATES:** Bow

ASSOCIATED FINDS: N/A

**CURRENT LOCATION:** Shipping Container 2,

Box 205



#### **DESCRIPTION**

2 Fragments of Cu Alloy binding. The longest is 30mm in length and 1.4mm in diameter. The two pieces combined weigh 11g. Both are gold in colour, hollow and bent. A join runs the length of the piece presumably from construction.

**HANDLING INSTRUCTIONS:** Wear vinyl/nitrile gloves

**STORAGE REQUIREMENTS:** 40% +/-5%; 18-22°C

**ANALYSIS** 

X-ray:

Other:

**DATE BEGAN:** 

**DATE COMPLETE:** 21/06/04

**CONSERVATOR:** Phil Parkes Cardiff University

#### MATERIALS AND METHOD OF MANUFACTURE

#### **CONDITION**

The copper alloy was covered with a layer of dirt and corrosion. Many of the objects included in this assemblage were fragile.

#### **TREATMENT**

The pieces were gently cleaned mechanically using scalpels and a soft glass bristle brush. Once clean, no further action was taken.

When the objects were returned to the ship centre they were packaged in a Stewart box with silica gel and stored in an appropriately conditioned storage container.





**BIBLIOGRAPHY:** 

ACCESSION NO: MSG 198

ARTEFACT: CuA blank

MATERIALS: Copper alloy

**LAB NO:** 1130

SMALL FIND NO: 128

CONTEXT NO: 128

**EXCAVATOR:** RCH

**DATE FOUND:** 30/07/02

COW TAG: N/A SHIP COORDINATES: F33-34

ASSOCIATED FINDS: N/A

**CURRENT LOCATION:** Cardiff University;

Jane Henderson

**DESCRIPTION Copper alloy coin** 

**HANDLING INSTRUCTIONS:** Wear vinyl/nitrile gloves

**STORAGE REQUIREMENTS:** 40% +/- 5%; 18-22°C

**ANALYSIS** 

**X-ray:** Didn't show up any significant information

Other:

**DATE BEGAN:** 

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes

#### MATERIALS AND METHOD OF MANUFACTURE

The coin is a copper alloy, although its composition is currently unknown. It is likely to have been hammer struck, although around the time of the Newport ship, machinestriking technology was in its infancy.

Blanks were made by hammering either a sheet or cast metal ingot out very flat, and then was either cut out with shears or removed using a circular stamp. Then they would have been treated with acid, to remove any ash or corrosion products adhered to the surface.

Following this the blanks would be weighed and adjusted to conform to prescripted weights; those that were too light would be sent back to be remelted; those that were too heavy were filed down. By this point the metal was probably quite hard so the blanks were probably reheated, then dropped in water and dried in sawdust before striking.

Dies used for hammered coinage in the middle ages were made of iron or steel. The upper die, which was the one that would have been struck, often wore out twice as quickly as the lower die, so they came in sets rather than pairs. A pair of dies could usually strike about 10,000 coins.

Blanks were usually struck cold, and the process was a simple case of striking the upper die in such a way that the force was equally spread across the surface. However slipping was common, as was the misalignment of dies, which resulted in coin faces which were off-centre.

#### **CONDITION**

The object was covered in a hard crust of dirt and corrosion

#### **TREATMENT**

The object was x-rayed and then cleaned with an abrasive machine with aluminium oxide powder and a scalpel; however this revealed no significant finds.

PHOTOGRAPHY:

# **BIBLIOGRAPHY:**

Grierson, P. (1975), Numismatics, Oxford University Press

MSG NO: MSG 523

ARTEFACT: Metal Bolt

MATERIALS: Iron

LAB NO: N/A

SMALL FIND NO:

CONTEXT NO: N/A

EXCAVATOR: N/A

DATE FOUND: N/A

COW TAG: 1638

SHIP COORDINATES: N/A

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Shipping Container 2

Bay 4



#### **DESCRIPTION**

Large Iron Bolt from Knee 1638. 700mm in length Shaft diameter nr. Head is 32.5mm, middle is 32.7mm, end is 30.6mm. Weighs 3320g Surface concretions, active surface corrosion. Light orange flaky corrosion product

HANDLING INSTRUCTIONS: Somewhat friable surface; do not handle

unnecessarily - wear nitrile gloves

STORAGE REQUIREMENTS: Store in sealed container with silica gel to generate

low RH environment, ideally below 15% RH (taken

from MLA guidelines).

DATE BEGAN: 22/5/12

DATE COMPLETE: 7/11/12

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

The bolt is made of iron, which would have been forged by a blacksmith, prior to the advent of large scale production during the industrial revolution. It was found in a wooden knee which would have formed part of a crossbeam across the ship. Bolts such as this one would have attached the knee to other elements of the crossbeam, or the side

of the ship itself.

#### **CONDITION**

Pre conservation: The bolt had previously been poorly packed in polythene and corex, but had not been properly sealed. It was stored in relatively high humidity environment, resulting in continuing active corrosion. This is a vibrant shade of orange, and is very dusty and crumbly. Considerable-sized flakes have also come away from the surface of the bolt.

Post conservation: Bolt has been repackaged in an environment that maintains <15% RH. Most of the corrosion has been removed, and the surface is brown to light orange, with some corrosion still visible. Bolt is heavy – implying a large amount of iron remaining – but must be supported carefully when moved. Surface is generally strong, although some flakes may still be separated.

#### **TREATMENT**

No conservation records exist.

08/11/11 – The bolt was packaged in a sealed polythene bag containing approximately 500g of conditioned silica gel, with a supportive corex and plastozote outer container. It is hoped this will slow down the rate of corrosion, after which point possible remedial measures will be investigated.

22/5/12 - Repackaged to limit air exchange, silica gel replaced. MAJ

7/11/12 – In a series of sessions, corrosion was removed from the surface using a scalpel, glass bristle brush, and both hard and soft brushes. The cleaned surface was swabbed with IMS. Rennaissance Wax was tested in a few areas and found that it improved the appearance noticeably, but was very labour-intensive. The treated areas will be checked over time, and the decision made whether to wax the entire object or not will be assessed another time.

#### PHOTOGRAPHY:



MSG NO: MSG 524

ARTEFACT: Metal Bolt

MATERIALS: Iron

LAB NO: N/A

SMALL FIND NO: N/A

CONTEXT NO: N/A

EXCAVATOR: N/A

DATE FOUND: N/A

COW TAG: 1638

SHIP COORDINATES: N/A

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Shipping Container 2

Bay 4



#### DESCRIPTION

Large Iron Bolt with from Knee 1629. 480mm x 30mm shaft diameter. Head =67mm diam x 25mm thick. It weighs 1880g. Interesting concretion- small blooms on eruptions along surface of bolt shaft. Some timber trapped in concretion around bolt head. Bolt damaged on shaft end (away from head) during removal. Interesting iron grain feature on head of bolt - possibly indicating that the bolt head was formed over a ring. MSG 1239 &524=same bolt. Has been laser scanned.

HANDLING INSTRUCTIONS: Slightly friable surface, do not handle unnecessarily;

wear nitrile gloves.

STORAGE REQUIREMENTS: Store in sealed container with silica gel to generate

low RH environment, ideally below 15% RH (taken

from MLA guidelines).

DATE BEGAN: N/A

DATE COMPLETE: 11/10/12

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

The bolt is made of iron, which would have been forged by a blacksmith, prior to the advent of large scale production during the industrial revolution. It was found in a wooden knee which would have formed part of a crossbeam across the ship. Bolts such

as this one would have attached the knee to other elements of the crossbeam, or the side of the ship itself.

#### **CONDITION**

07/09/2008: White corrosion product and some loss to end. (SA)

01/10/2010: Oxyhydroxides now evident as orange corrosion product. (SA)

Pre conservation: The bolt had previously been poorly packed with plastazote and polythene sheeting, but had not been properly sealed. It was stored in relatively high humidity environment, despite which there appears to be very little active corrosion. There are orange blooms on the surface of the bolt but these appear to be stable.

Post conservation: Bolt has been repackaged in an environment that maintains <15% RH. Most of the corrosion has been removed, and the surface is brown to light orange, with some corrosion still visible. Bolt is heavy – implying a large amount of iron remaining – but must be supported carefully when moved. Surface is generally strong, although some flakes may still be separated.

#### TREATMENT

No conservation records exist.

Post-conservation: 07/09/2008: Artefact rehoused with plastazote base support and a sealed finds bag inside a large plastic box. Silica gel replaced. (SA)

01/07/2009: Silica gel replaced. (SA)

30/12/2010: Artefact moved to Shipping container 2. Silica gel replaced. (SA)

24/11/11: Artefact rehoused in corex and plastazote support and unit is sealed inside polythene sheeting with fresh silica gel. (MP)

7/11/12: In a series of sessions, corrosion was removed from the surface using a scalpel, glass bristle brush, and both hard and soft brushes. The cleaned surface was swabbed with IMS. Object was repackaged to ensure an environment <15% RH, and placed in storage.

#### PHOTOGRAPHY:



ACCESSION NO: MSG 543

ARTEFACT:

MATERIALS: Leather

LAB NO:

SMALL FIND NO: 305

CONTEXT NO: 1002

EXCAVATOR: RLL

DATE FOUND: 23/10/2002

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Conservation Lab



#### **DESCRIPTION**

Leather

HANDLING INSTRUCTIONS: Wear gloves and handle fragile items carefully. Try

ot keep objects in packaging as much as possible.

STORAGE REQUIREMENTS: 45-55%RH 18-22C, avoiding major, quick

fluctuations.

ANALYSIS Quita Mould

X-ray:

Other:

DATE BEGAN: 13/09/2011

DATE COMPLETE: December 2011

CONSERVATOR: Marie Jordan

#### **CONDITION**

one larger and numerous small fragments, the larger with small area of grain/flesh lasting margin, stitch length 6mm. Surface much cracked and with much soil still adhering (from QM report)

#### **TREATMENT**

Leather was sewn into an envelope of netting and placed in a 5% w/v solution of EDTA (Ethylenediaminetetraacetic acid) from 30 November 2011 to 2 December 2011. It was then placed in tap water that was changed 1 -2x dailing until 6 December 2011, when it was placed in a solution of 5% v/v glycerol in tap water. Freeze-drying began on 13 December 2011, after the leather had been placed in the freezer overnight. The leather was split into 543 and 543B (see images). Both dried in 14 hours under very low vacuum.

#### PHOTOGRAPHY:

Before cleaning:



After cleaning:



#### **BIBLIOGRAPHY:**

Peacock, Elizabeth E. 1983. "The conservation and restoration of some Anglo-Scandinavian leather shoes" in The conservator 7 pp 18-23

MSG NO: MSG 547 ARTEFACT: Basketry MATERIALS: LAB NO: SMALL FIND NO: CONTEXT NO: KΗ EXCAVATOR: DATE FOUND: COW TAG: SHIP COORDINATES: CURRENT LOCATION: Conservation Lab DESCRIPTION Pump Basket from Maststep in two pieces HANDLING INSTRUCTIONS: STORAGE REQUIREMENTS: Keep packaged so as to remain damp ANALYSIS X-ray: Other: DATE BEGAN: 30/09/2011 DATE COMPLETE: CONSERVATOR: Marie Jordan

#### **CONDITION**

The elements themselves are in good condition and cleaning didn't cause any additional damage. However any structure of the object has been lost. Only the most basic evidence of the weave survives.

#### **TREATMENT**

Mud was cleaned off with water and soft brush.

Recommended discard, due to no information potential

# PHOTOGRAPHY: Packaging while wet:



Unwrapped and uncleaned:



During cleaning:





MSG NO: MSG 553

ARTEFACT: Burr valve?

MATERIALS: Leather

LAB NO:

SMALL FIND NO: 311

CONTEXT NO: 1001

EXCAVATOR: RD

DATE FOUND: 25/11/2002

COW TAG:

SHIP COORDINATES: E22.13 N104.62

CURRENT LOCATION: Conservation



DESCRIPTION

lump of Leather on soil

HANDLING INSTRUCTIONS: Wear gloves and handle fragile items carefully. Try

ot keep objects in packaging as much as possible.

STORAGE REQUIREMENTS: 45-55%RH 18-22C, avoiding major, quick

fluctuations.

ANALYSIS Quita Mould

X-ray:

Other:

DATE BEGAN: 29/8/2011

DATE COMPLETE: December 2011

CONSERVATOR: Marie Jordan

#### CONDITION

17 fragments with broken edges and few features surviving including 3 fragments with grain/flesh seam, stitch length 4mm; 2 fragments with a single grain/flesh stitch present. When originally seen in 2008 (supported by soil block as lifted) the object was entire, being a trapezoidal panel 270mm long, one end c. 185mm wide, the narrower end 90mm wide at that time no other features were observed. (from QM report)

#### **TREATMENT**

Leather was sewn into an envelope of netting and placed in a 5% w/v solution of EDTA (Ethylenediaminetetraacetic acid) from 30 November 2011 to 2 December 2011. It was then placed in tap water that was changed 1-2x dailing until 6 December 2011, when it was placed in a solution of 5% v/v glycerol in tap water. Freeze-drying began on 13 December 2011, after the leather had been placed in the freezer overnight. The leather dried in 18 hours at very low vacuum.

#### PHOTOGRAPHY:





After cleaning:

#### BIBLIOGRAPHY:

Peacock, Elizabeth E. 1983. "The conservation and restoration of some Anglo-Scandinavian leather shoes" in The conservator 7 pp 18-23

MSG NO: MSG 554

ARTEFACT: shoe

MATERIALS: Leather

LAB NO:

SMALL FIND NO:

CONTEXT NO: 128

EXCAVATOR:

DATE FOUND:

COW TAG:

SHIP COORDINATES:

**CURRENT LOCATION:** 



### **DESCRIPTION**

Leather, Shoe.

Turnshoe sole, forepart and seat clump repairs, 4 x rand, vamp, vamp throat extension that wraps around to form a one-piece quarters seamed at centre back, heel stiffener

HANDLING INSTRUCTIONS: Wear gloves and handle fragile items carefully. Try

ot keep objects in packaging as much as possible.

STORAGE REQUIREMENTS: 45-55%RH 18-22C, avoiding major, quick

fluctuations.

ANALYSIS Quita Mould

X-ray:

Other:

DATE BEGAN: 13/09/2011

DATE COMPLETE: December 2011

CONSERVATOR: Marie Jordan

#### CONDITION

complete sole for left foot with long pointed toe with c35mm extension curving outward and narrow waist 27mm wide. Vamp with high wide throat and very low side seams, joining to a 'wrap-around' instep piece that forms a one-piece quarters seamed at centre back

#### **TREATMENT**

Leather was sewn into an envelope of netting and placed in a 5% w/v solution of EDTA (Ethylenediaminetetraacetic acid) from 30 November 2011 to 2 December 2011. It was then placed in tap water that was changed 1-2x dailing until 6 December 2011, when it was placed in a solution of 5% v/v glycerol in tap water. Freeze-drying began on 13 December 2011, after the leather had been placed in the freezer overnight. The leather dried in 18 hours at very low vacuum.

# PHOTOGRAPHY:



After cleaning:

#### BIBLIOGRAPHY:

Peacock, Elizabeth E. 1983. "The conservation and restoration of some Anglo-Scandinavian leather shoes" in The conservator 7 pp 18-23

MSG NO: MSG 555

ARTEFACT: Boot?

MATERIALS: Leather

LAB NO:

SMALL FIND NO:

CONTEXT NO: 130 EXCAVATOR: AS

DATE FOUND: 17/08/2002

COW TAG:

SHIP COORDINATES: F49-50 Stbd.

CURRENT LOCATION: Conservation Table



**DESCRIPTION** 

Piece of Leather

heel stiffener, panel fragments

HANDLING INSTRUCTIONS: Wear gloves and handle fragile items carefully. Try

ot keep objects in packaging as much as possible.

STORAGE REQUIREMENTS: 45-55%RH 18-22C, avoiding major, quick

fluctuations.

ANALYSIS Quita Mould

X-ray:

Other:

DATE BEGAN: 13/09/2011

DATE COMPLETE: December 2011

CONSERVATOR: Sophie Adamson/Marie Jordan

#### **CONDITION**

Many parts of the object have extensive mould growth. Leather is damp and slightly sticky to the touch, and is very mushy as well.

#### (following conservation):

complete heel stiffener and panel fragments of fragile calfskin. 1 main piece and 8+ small fragments of fine, friable, folded calfskin including a fragment of lasting margin with butted edge/flesh seam at right angle to it. The main fragment is folded lengthwise and has a gently curved cut edge at one end but no other distinguishing features survive. Possibly the leg of a soft, wrinkled boot c. 270mm high when originally seen

#### **TREATMENT**

No record of previous treatment exists, but due to the presence of mould and a sticky-to-the-touch surface, the use of glycerol as a treatment is a likelihood.

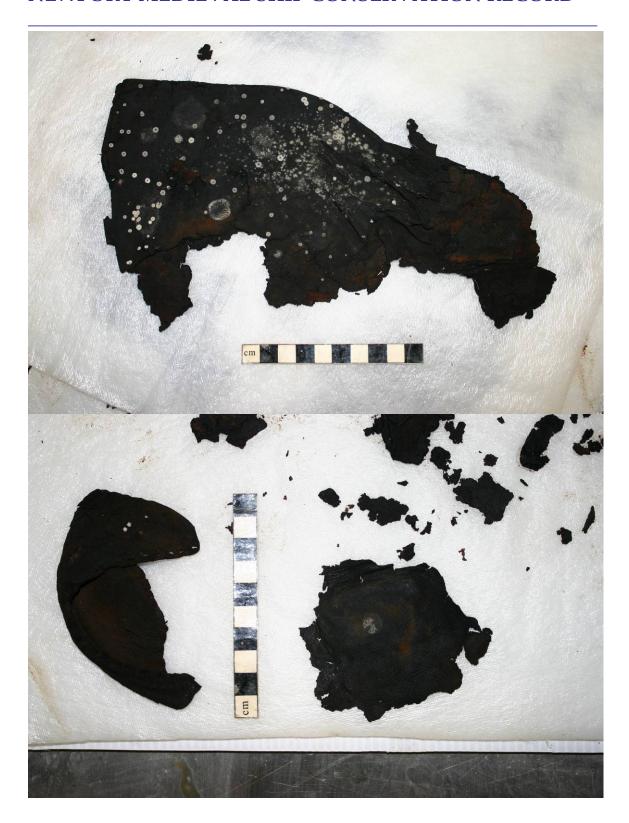
Mould was removed mechanically with a scalpel blade and object was freeze-dried and packaged for storage.

#### PHOTOGRAPHY:

Before cleaning:



Mould present:





# BIBLIOGRAPHY:

Peacock, Elizabeth E. 1983. "The conservation and restoration of some Anglo-Scandinavian leather shoes" in The conservator 7 pp 18-23

ACCESSION NO:

ARTEFACT: Basketry MATERIALS: LAB NO: 1159 SMALL FIND NO: MSG 564 CONTEXT NO: 130 EXCAVATOR: RMB DATE FOUND: 13/7/02 COW TAG: SHIP COORDINATES: CURRENT LOCATION: Warehouse, Allan Hall Table DESCRIPTION Basketry. HANDLING INSTRUCTIONS: STORAGE REQUIREMENTS: Keep packaged so as to remain damp **ANALYSIS** X-ray: Other: DATE BEGAN: 30/09/2011 DATE COMPLETE: 24/5/13 CONSERVATOR: Marie Jordan

### MATERIALS AND METHOD OF MANUFACTURE

### **CONDITION**

The elements themselves are in good condition and cleaning didn't cause any additional damage. However any structure of the object has been lost.

### TREATMENT

Mud was cleaned off with water and soft brush.

Several cohesive sections were treated by immersion in 20% PEG 200 for one month. Object was then freeze-dried.

### PHOTOGRAPHY:

Wet and uncleaned:





During cleaning:





ACCESSION NO:

ARTEFACT:	Basketry	565
MATERIALS:		2/2
LAB NO:		
SMALL FIND NO:	MSG 565	
CONTEXT NO:	120	
EXCAVATOR:		THE REAL PROPERTY.
DATE FOUND:		
COW TAG:		Posts and tell 2
SHIP COORDINATES:		
CURRENT LOCATION:	Warehouse	
DESCRIPTION Basket 2080, Box 212. 2 box	kes. Mould found in box	1 of 2.
HANDLING INSTRUCTION	ONS:	
STORAGE REQUIREMEN	TTS:	
ANALYSIS		
X-ray:		
Other:		
outer.		
DATE BEGAN:	30/09/2011	
DATE COMPLETE:		
CONSERVATOR:	Marie Jordan	

## **CONDITION**

The elements themselves are in good condition and cleaning didn't cause any additional damage. However any structure of the object has been lost.

## TREATMENT

Mud was cleaned off with water and soft brush.

### PHOTOGRAPHY:

Some surface cleaning:



## Wooden elements:



## Basketry elements:





Before cleaning:



MSG NO:	MSG 569
ARTEFACT:	Glass fragment
MATERIALS:	Glass
LAB NO:	1173
SMALL FIND NO:	N/A
CONTEXT NO:	128
EXCAVATOR:	N/A
DATE FOUND:	12/07/02
COW TAG:	N/A
SHIP COORDINATES:	N/A
ASSOCIATED FINDS:	N/A
CURRENT LOCATION:	Shipping container 2, box 200
DESCRIPTION One glass fragment, yellov	v in colour.
HANDLING INSTRUCTION	ONS: Handle with care; wear vinyl/nitrile gloves
STORAGE REQUIREMEN	NTS: 50% RH; 18°C +/-8°C
ANALYSIS	
X-ray:	
Other:	
DATE BEGAN:	
DATE COMPLETE:	21/06/04
CONSERVATOR:	Phil Parkes (Cardiff University)
CONCENTION	Thirdines (Carani Chivelony)

### MATERIALS AND METHOD OF MANUFACTURE

In the medieval period, Venice was the glass-making centre of the known western world. Earlier on in the medieval period a significant change in glass-making technology occurred with the gradual replacement of the soda with potash, from burnt trees.

#### **CONDITION**

The glass was wet and dirty when received.

#### TREATMENT

The object was treated as part of a group of glass fragments. They were cleaned with cotton wool swabs to remove dirt, and then placed in a 10% solution of Primal WS24 for 7 days, before being allowed to slowly air dry. One fragment clouded over during this drying and despite various attempts using solutions of Paraloid B72 in acetone brushed on to an acetone-flooded surface, remained cloudy.

Upon return to ship centre the glass was packaged appropriately and stored in an suitable environment.

#### **BIBLIOGRAPHY:**

http://en.wikipedia.org/wiki/History\_of\_glass#Medieval\_Europe

Cardiff — HISAR	Cardiff — HISAR		Puil Parties	M.O.	V/M/D	5	Completion Date Y / M / D	uwc 5937	
Material Drawing	Grass		Owner, Site	4		proved	Removed from UWCC	Treatment Start Date	Treatment Complete Date
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Univer Dept. Lab. No.	

MSG NO:	MSG 570
ARTEFACT:	Glass fragment
MATERIALS:	Glass
LAB NO:	1140
SMALL FIND NO:	N/A
CONTEXT NO:	128
EXCAVATOR:	JKH
DATE FOUND:	27/07/02
COW TAG:	N/A
SHIP COORDINATES:	Bow
ASSOCIATED FINDS:	N/A
CURRENT LOCATION:	Shipping container 2, box 200
DESCRIPTION One glass fragment, yellov	w in colour.
HANDLING INSTRUCTION	ONS: Handle with care; wear vinyl/nitrile gloves
STORAGE REQUIREMEN	TTS: 50% RH; 18°C +/-8°C
ANALYSIS X-ray: Other:	
DATE BEGAN:	
DATE COMPLETE:	21/06/04
CONSERVATOR:	Phil Parkes (Cardiff University)

#### MATERIALS AND METHOD OF MANUFACTURE

In the medieval period, Venice was the glass-making centre of the known western world. Earlier on in the medieval period a significant change in glass-making technology occurred with the gradual replacement of the soda with potash, from burnt trees.

#### CONDITION

The glass was wet and dirty when received.

#### **TREATMENT**

The object was treated as part of a group of glass fragments. They were cleaned with cotton wool swabs to remove dirt, and then placed in a 10% solution of Primal WS24 for 7 days, before being allowed to slowly air dry. One fragment clouded over during this drying and despite various attempts using solutions of Paraloid B72 in acetone brushed on to an acetone-flooded surface, remained cloudy.

Upon return to ship centre the glass was packaged appropriately and stored in an appropriate environment.

PHOTOGRAPHY:

## BIBLIOGRAPHY:

http://en.wikipedia.org/wiki/History\_of\_glass#Medieval\_Europe

Cardiff — HISAR	Cardiff — HISAR		Puil Parties	M.O.	V/M/D	5	Completion Date Y / M / D	uwc 5937	
Material Drawing	Grass		Owner, Site	4		proved	Removed from UWCC	Treatment Start Date	Treatment Complete Date
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Univer Dept. Lab. No.	

MSG NO:	MSG 571
ARTEFACT:	Glass fragment
MATERIALS:	Glass
LAB NO:	N/A
SMALL FIND NO:	N/A
CONTEXT NO:	120
EXCAVATOR:	RCC
DATE FOUND:	12/10/02
COW TAG:	N/A
SHIP COORDINATES:	F10.2
ASSOCIATED FINDS:	N/A
CURRENT LOCATION:	Shipping container 2, box 200
DESCRIPTION One clear glass fragment.	
HANDLING INSTRUCTION	ONS: Handle with care; wear vinyl/nitrile gloves
STORAGE REQUIREMEN	JTS: 50% RH; 18°C +/-8°C
ANALYSIS X-ray: Other:	
DATE BEGAN:	
DATE COMPLETE:	21/06/04
CONSERVATOR:	Phil Parkes (Cardiff University)

#### MATERIALS AND METHOD OF MANUFACTURE

In the medieval period, Venice was the glass-making centre of the known western world. Earlier on in the medieval period a significant change in glass-making technology occurred with the gradual replacement of the soda with potash, from burnt trees.

#### **CONDITION**

The glass was wet and dirty when received.

#### TREATMENT

The object was treated as part of a group of glass fragments. They were cleaned with cotton wool swabs to remove dirt, and then placed in a 10% solution of Primal WS24 for 7 days, before being allowed to slowly air dry. One fragment clouded over during this drying and despite various attempts using solutions of Paraloid B72 in acetone brushed on to an acetone-flooded surface, remained cloudy.

Upon return to ship centre the glass was packaged appropriately and stored in an appropriate environment.

#### BIBLIOGRAPHY:

http://en.wikipedia.org/wiki/History\_of\_glass#Medieval\_Europe

Cardiff — HISAR	Cardiff — HISAR		Puil Parties	MO.	V/M/D	5	Completion Date Y / M / D	uwc 5937	
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Multiple /01	128		UAB INDO	Carti	1			yeres Re	FRAG 1754 570
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University College Cardiff Dept. Archaeology ab.No.	The Charles
Univer Dept. Lab. No.	

ACCESSION NO: MSG 572

ACCESSION NO.	WISG 572
ARTEFACT:	Glass fragment
MATERIALS:	Glass
LAB NO:	N/A
SMALL FIND NO:	N/A
CONTEXT NO:	u/s
EXCAVATOR:	RJB
DATE FOUND:	30/07/02
COW TAG:	N/A
SHIP COORDINATES:	N/A
ASSOCIATED FINDS:	N/A
CURRENT LOCATION:	Shipping container 2, box 200
DESCRIPTION One green glass fragment,	possibly part of a bottle.
HANDLING INSTRUCTION	ONS: Handle with care; wear vinyl/nitrile gloves
STORAGE REQUIREMEN	TTS: 50% RH; 18°C +/-8°C
ANALYSIS X-ray: Other:	
DATE BEGAN:	
DATE COMPLETE:	21/06/04
CONSERVATOR:	Phil Parkes (Cardiff University)

### MATERIALS AND METHOD OF MANUFACTURE

In the medieval period, Venice was the glass-making centre of the known western world. Earlier on in the medieval period a significant change in glass-making technology occurred with the gradual replacement of the soda with potash, from burnt trees.

#### **CONDITION**

The glass was wet and dirty when received.

#### TREATMENT

The object was treated as part of a group of glass fragments. They were cleaned with cotton wool swabs to remove dirt, and then placed in a 10% solution of Primal WS24 for 7 days, before being allowed to slowly air dry. One fragment clouded over during this drying and despite various attempts using solutions of Paraloid B72 in acetone brushed on to an acetone-flooded surface, remained cloudy.

Upon return to ship centre the glass was packaged appropriately and stored in an suitable environment.

#### **BIBLIOGRAPHY:**

http://en.wikipedia.org/wiki/History\_of\_glass#Medieval\_Europe

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MSG NO: MSG 608

ARTEFACT: 4 Iron Fittings

MATERIALS: Fe

LAB NO: N/A

SMALL FIND NO: N/A

CONTEXT NO: 128

EXCAVATOR: RJB

DATE FOUND: 04/08/02

COW TAG: N/A

SHIP COORDINATES: N/A

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Maesglas Warehouse

box 128

DESCRIPTION 4 Iron fittings



HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

**ANALYSIS** 

X-ray: G190-6, 202 (plate numbers)

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes Cardiff University

### MATERIALS AND METHOD OF MANUFACTURE

Rove fittings would have been produced from a rectangular strip of iron which was heated and then cut, and a hole put through the centre to hold the nail. Each nail and rove fitting, it is estimated, may have taken up to 20 minutes to make.

**CONDITION** 

N/A

TREATMENT

N/A

### PHOTOGRAPHY:



Cardiff — HISAR		Pure Preses	euc)	Y/M/D		Completion Date Y / M / D	uwc 5939	
Material fc		Owner, Site	o)	Work approved	7	Comort from IIMO		
Drawing Scale		Contract	Des 172,0			DOMO IIIOII DAVOII	Ireatment Start Date	Treatment Complete Date
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		Excavator		Date	5 6	411111111111111111111111111111111111111		
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ACCESSION NO: MSG 609

ARTEFACT: Clenched nail attached

to wood

MATERIALS: Fe? And wood

LAB NO: N/A

SMALL FIND NO: N/A

CONTEXT NO: 128

EXCAVATOR: AS, RJB

DATE FOUND: 04/08/02

COW TAG: N/A

SHIP COORDINATES: Wood 1220

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Maesglas Warehouse

box 128

DESCRIPTION

1 clenched nail, Cardiff uni no: 5939/01

HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

ANALYSIS

X-ray: G190-6, 202 (plate numbers)

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes Cardiff University



### MATERIALS AND METHOD OF MANUFACTURE

Rove fittings would have been produced from a rectangular strip of iron which was heated and then cut, and a hole put through the centre to hold the nail. Each nail and rove fitting, it is estimated, may have taken up to 20 minutes to make.

CONDITION

N/A

TREATMENT

N/A

### PHOTOGRAPHY:



Cardiff — HISAR		Pure Preses	euc)	Y/M/D		Completion Date Y / M / D	uwc 5939	
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		Owner			Dan	Date Y/M/D		
		Site Neufolt	Pullett		Date Y/M/D		Numbers	
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iversity College Cardiff Dept. Archaeology	e Cardiff Record of Examination and Treatment Page No. $Z$	Lab. No. 5939	959
Lab.No.		Cons.	Date
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186			

5cm

MSG 611

ACCESSION NO: MSG 611

ARTEFACT: 2 Fe Concretions

MATERIALS: Fe

LAB NO: N/A

SMALL FIND NO: 110

CONTEXT NO: 128

EXCAVATOR: AS

DATE FOUND: 16/07/02

COW TAG: N/A

SHIP COORDINATES: SN

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Maesglas Warehouse

box 128

#### DESCRIPTION

Two iron concretions, possibly a blade and a nail

HANDLING INSTRUCTIONS: Wear vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

ANALYSIS

X-ray: G190-6, 202 (plate numbers)

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes Cardiff University

### MATERIALS AND METHOD OF MANUFACTURE

Rove fittings would have been produced from a rectangular strip of iron which was heated and then cut, and a hole put through the centre to hold the nail. Each nail and rove fitting, it is estimated, may have taken up to 20 minutes to make.

CONDITION

N/A

TREATMENT

N/A

### PHOTOGRAPHY:



Cardiff — HISAR		Pure Preses	euc)	Y/M/D		Completion Date Y / M / D	uwc 5939	
Material fc		Owner, Site	<b>o</b>	Work approved	7	Comort from IIMO		
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		Site Neufolt	Pullett		Date Y/M/D		Numbers	
		_	Museum	X-Ray		G-190/191/193/193	761	195/196/202
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iversity College Cardiff Dept. Archaeology	e Cardiff Record of Examination and Treatment Page No. $Z$	Lab. No. 5939	959
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The	CRITER WAS CLEASING OF A APRICASING MACHINE WITH ALUMINION		
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SACY	74		
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186			

MSG 637

MSG NO:

ARTEFACT:	Iron Object
MATERIALS:	Fe
LAB NO:	N/A
SMALL FIND NO:	N/A
CONTEXT NO:	130
EXCAVATOR:	DV
DATE FOUND:	05/10/02
COW TAG:	N/A
SHIP COORDINATES:	F5-6
ASSOCIATED FINDS:	N/A 5cm
CURRENT LOCATION:	Maesglas Warehouse, Box 128  MSG 637
DESCRIPTION Iron object, Cardiff Uni N	
HANDLING INSTRUCTI	ONS: Use vinyl/nitrile gloves
STORAGE REQUIREMEN	JTS: 40% +/-5%; 18-22°C
ANALYSIS	
X-ray:	
Other:	
DATE BEGAN:	
DATE COMPLETE:	21/06/04
CONSERVATOR:	Phil Parkes (Cardiff University)

# MATERIALS AND METHOD OF MANUFACTURE

N/A

# CONDITION

N/A

# TREATMENT

Not selected for treatment.

Packaged on return to Ship centre.

# PHOTOGRAPHY:



Treatment Complete Date Y/M/D	6	78/951/351/551			Description		MSC 637	U	ove? "	1456 689	454 631	MSG 628	CONSTRUMEDARE 1956 )	1756 665	MSG 626	COSPECTS ?		
UWC 5938 Treatment Start Date	Numbers	185/188/		2,00	9988		CANELT	Rave?	NAC + Pare	CENECT	OBJECT	Obsect	have as a	Ogrece	CBJECT	3 R con		
Completion Date Y / M / D Removed from UWCC by		G(90/191		1 2000	Dimensions													
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					Small Find		K. R. B.	Ct is so	CF 485	FY74 DO	-	Fe-9 Ru	frs-295	F3.2-38.2	CH40	JKN 13/1/02		
HISAR Fa					Layer		130	, 601	130	170	130	130	(20	110	130	(30		
Cardiff — HISAR Material Drawing Scale					Sub No.	Single /00	Multiple /01	/05 /	/60/	/04 /	/ 90/	/90/	/ 201	/ 80/	60/	/10 >	Other	

ACCESSION NO: MSG 648 Iron Bar ARTEFACT: Fe MATERIALS: LAB NO: N/A SMALL FIND NO: N/A CONTEXT NO: 130 **EXCAVATOR:** DATE FOUND: COW TAG: SHIP COORDINATES: ASSOCIATED FINDS: CURRENT LOCATION: Conservation Office **DESCRIPTION** Iron bar HANDLING INSTRUCTIONS: Use vinyl/nitrile gloves STORAGE REQUIREMENTS: **ANALYSIS** X-ray: Other: DATE BEGAN: 23/5/2012 DATE COMPLETE: CONSERVATOR: Marie Jordan MATERIALS AND METHOD OF MANUFACTURE

Fe

# CONDITION

Surface is covered in puffy orange corrosion and extensive dried, hardened mud.

# TREATMENT

Corrosion was removed through a combination of scalpel, hard paint brush, glass bristle brush and swabbing was IMS.

# PHOTOGRAPHY:

MSG NO: MSG 656

ARTEFACT: Rove?

MATERIALS: Fe

LAB NO: N/A

SMALL FIND NO: N/A

CONTEXT NO: 109

EXCAVATOR: JAS

DATE FOUND: 02/08/02

COW TAG: N/A

SHIP COORDINATES: F45-50 Std

ASSOCIATED FINDS: N/A

CURRENT LOCATION: Maesglas Warehouse,

Box 12



### **DESCRIPTION**

2 Concretions, Cardiff Uni No: 5938/02

HANDLING INSTRUCTIONS: Use vinyl/nitrile gloves

STORAGE REQUIREMENTS: 40% +/-5%; 18-22°C

ANALYSIS

X-ray:

Other:

DATE BEGAN:

DATE COMPLETE: 21/06/04

CONSERVATOR: Phil Parkes (Cardiff University)

# MATERIALS AND METHOD OF MANUFACTURE

N/A

# **CONDITION**

N/A

# TREATMENT

Not selected for treatment

Packaged upon return to Ship centre

# PHOTOGRAPHY:



Treatment Complete Date Y/M/D	6	78/951/351/551			Description		MSC 637	U	ove? "	1456 689	454 631	MSG 628	CONSTRUMEDARE 1956 )	1756 665	MSG 626	COSPECTS ?		
UWC 5938 Treatment Start Date	Numbers	185/188/		2,00	9988		CONECT	Rave?	NAC + Pare	CENECT	OBJECT	Obsect	have as a	Ogrece	CBJECT	3 R con		
Completion Date Y / M / D Removed from UWCC by		G(90/191		1 2000	Dimensions													
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V/M/D  C+   b   17  Work approved  by		X-Ray	Photos B & W	; ) (	Secondary Material											The state of the s		
0ev 130	Buller	Musson			Primary (		لق	5	5	٢	\$	5	5	5	5	5		
Owner, Site  Owner, Site  Markings  Contract  Excavator  Excavator  Owner	Site NELPORT				Museum Accession No.		5.10.02			10.01.51	70.01.60	20-60-60	THEN COS. 10:00		JUN 18-08.01	= -4		
					Small Find		K. R. B.	Ct is so	CF 485	FY74 DO	-	Fe-9 Ru	frs-295	F3.2-38.2	CH40	JKN 13/1/02		
HISAR Fa					Layer		130	, 601	130	170	130	130	(20	110	130	(30		
Cardiff — HISAR Material Drawing Scale					Sub No.	Single /00	Multiple /01	/05 /	/60/	/04 /	/ 90/	/90/	/ 201	/ 80/	60/	/10 >	Other	

MSG NO: MSG 807

ARTEFACT: Cordage

MATERIALS: Grass stem

LAB NO:

SMALL FIND NO: MSG 807

CONTEXT NO: 172

EXCAVATOR: HPM

DATE FOUND: 8/11/2002

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse

DESCRIPTION

Loose fragment of rope.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

MSG 807

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Twisted grass stems. S3Z (helix Z 40°) (from PWR report)

#### **CONDITION**

Fragment is exceptionally friable, with surface delaminating. The individual strands are very delicate and likely to snap with even light handling.

#### TREATMENT

Mud was cleaned off of the surface with water and soft brush. The fragments were then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The fragments were removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the fragments were consolidated with either 5% or 10% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Upon return, the objects were checked and placed into storage.

#### PHOTOGRAPHY:

After freeze-drying:





#### **BIBLIOGRAPHY**:

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août 1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des Bois Gorgés d'Eau: Grenoble. pp 299-312

Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

MSG NO: MSG 809

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO:

SMALL FIND NO:

CONTEXT NO:

**EXCAVATOR:** 

DATE FOUND:

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse

**DESCRIPTION** 

Rope assoc. with timber 1132. Small fragment of rope.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan



MATERIALS AND METHOD OF MANUFACTURE Hemp. Z30S (helix Z 30-40, S50)

#### **CONDITION**

Object is very fragile and crumbly.

#### TREATMENT

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 5% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Upon return, object was checked and placed into storage.

# PHOTOGRAPHY:





#### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août 1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des Bois Gorgés d'Eau: Grenoble. pp 299-312

Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial

Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

ACCESSION NO: MSG 810

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO:

SMALL FIND NO:

CONTEXT NO:

EXCAVATOR:

DATE FOUND: 30/10/2007

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse



### **DESCRIPTION**

Rope assoc. with timber 1132. Collection of fibers that appear to be braided, rather than twisted.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

MATERIALS AND METHOD OF MANUFACTURE Hemp. Z30S (helix Z 30-40, S50)

#### CONDITION

Fibers are very fragile and loosely held together.

#### **TREATMENT**

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 5% Paraloid B-72 in acetone. The object was packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, object was checked and put into storage.

# PHOTOGRAPHY:

Before treatment:



Following freeze-drying:



# After consolidation:



#### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août 1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des Bois Gorgés d'Eau: Grenoble. pp 299-312

Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

ACCESSION NO: MSG 811

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO:

SMALL FIND NO:

CONTEXT NO:

**EXCAVATOR:** 

DATE FOUND: 30/10/2007

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse



Two bundles of fibers, possibly cordage.



HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Hemp. Z only (helix 40°-50°) Fragment, 40 x 30 x 8 mm: a knot of Z-spun yarns.(from PWR report)

#### **CONDITION**

Fibers are only loosely held together, but are not particularly friable and are otherwise in good condition.

#### **TREATMENT**

Mud was cleaned off with water and soft brush. The fragments were then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The fragments were removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the fragments were consolidated with 10% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, objects were checked and placed in storage.

PHOTOGRAPHY:

Before drying:



After consolidation:



### BIBLIOGRAPHY:

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996

Schiffahrtsmuseum:Bremerhaven pp127-134

Nielsen, Hans-Otto. 1985. "The treatment of waterlogged wood from the excavation of the Haithabu ship" in Les Bois Gorgés d'Eau: Étude et conservation. Actes de la 2\* he\* s conférence du groupe de travail "Bois Gorgés d'Eau" de l'ICOM. Grenoble 28-31 août 1984 = Waterlogged Wood: Study and conservation. Proceedings of the 2nd ICOM Waterlogged Wood Working Group Conference. Centre d'Étude et de Traitement des Bois Gorgés d'Eau: Grenoble. pp 299-312

Hawley, Janet K. 1989. "The conservation of waterlogged rope from a sixteenth-century Basque whaling ship." in Conservation of wet wood and metal. Proceedings of the ICOM conservation working groups on Wet Organic Archaeological Materials and Metals. Fremantle 1987. Compiled and edited by J.D. MacLeod. Western Australian Museum: Perth pp 19-37

Reid, Nancy K. Mills; Macleod, Ian D.; Sander, Nick. 1984. "Conservation of waterlogged organic materials: comments on the analysis of polyethylene glycol and the treatment of leather and rope" in ICOM Committee for Conservation, 7th Triennial Meeting, Copenhagen, 10-14 September 1984: preprints. ICOM:Paris pp 84.7.16-84.7.20

Wevers, Anton J.M. 1990. "Treatment of waterlogged rope." In Proceedings of the 4th ICOM-Group on wet organic archaeological materials conference. Edited by Per Hoffmann. ICOM - Committee for conservation working group on wet organic archaeological materials:Bremerhaven. Pp 159-172

Peacock, Elizabeth E.; Schofield, Gillian. 1997. "A survey of conservation methods for Trondheim's water-degraded archaeological rope" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven. Pp 113-126

MSG NO: MSG 826 ARTEFACT: Cordage

MATERIALS:

LAB NO:

SMALL FIND NO: 301 CONTEXT NO: 1001

EXCAVATOR: MT

DATE FOUND: 19/11/2002

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse



### **DESCRIPTION**

Fragments of iron-stained rope. Mostly partial, although one section of 3-strand laid cordage survives.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

**ANALYSIS** 

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

#### **CONDITION**

Object is in generally good condition with little surface damage.

#### **TREATMENT**

Mud was cleaned off with water and soft brush. The fragments were then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The fragments were removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the fragments were consolidated with 10% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, objects were checked and placed in storage.

### PHOTOGRAPHY:

Before cleaning:



After cleaning:



#### BIBLIOGRAPHY:

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

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MSG NO: MSG 828

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO: 1185

SMALL FIND NO:

CONTEXT NO: 133

EXCAVATOR: JKH

DATE FOUND: 08/07/2002

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse

### **DESCRIPTION**

Fragments of rope. One is dried out, two are still wet, of which one has a fragment of three-lay rope remaining.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011 DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/2/2012

CONSERVATOR: Marie Jordan

#### MATERIALS AND METHOD OF MANUFACTURE

Hemp. ZmultiS3Z (helix S 60°, final Z 45°)(from PWR analysis)

#### **CONDITION**

The surviving rope is in generally good condition, and not visibly friable or delicate.

#### TREATMENT

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 5% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Upon return, object was checked and put into storage.

### PHOTOGRAPHY:

Before cleaning:



After cleaning:





# After drying:



#### BIBLIOGRAPHY:

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

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ACCESSION NO: MSG 833

ARTEFACT: Cordage

MATERIALS:

LAB NO:

SMALL FIND NO:

CONTEXT NO: 133

EXCAVATOR:

DATE FOUND:

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse

DESCRIPTION Fragments of rope.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan



MATERIALS AND METHOD OF MANUFACTURE Hemp. ZmultiS3Z (helix S45°, final Z 50°) (from PWR report)

#### **CONDITION**

Fragment is cohesive and generally in good condition.

#### TREATMENT

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 5% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Following return, object was checked and put into storage.

### PHOTOGRAPHY:

Before cleaning:



After cleaning:



## BIBLIOGRAPHY:

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic

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ACCESSION NO: MSG 834

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO:

SMALL FIND NO:

CONTEXT NO: 130

EXCAVATOR: NN, HPM

DATE FOUND:

COW TAG:

SHIP COORDINATES: F5-6 Post

CURRENT LOCATION: Warehouse



Several fragments of three-strand rope.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan



MATERIALS AND METHOD OF MANUFACTURE Hemp. ZmultiS3Z (helix S50°, Z35°) (from PWR report)

### CONDITION

Fibers are very delicate and have lost a great deal of strength. The part that still has visible strands and twist is much stronger/more defined.

#### TREATMENT

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 10% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

### PHOTOGRAPHY:

Before cleaning:



After cleaning:



### After freeze-drying:



#### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

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ACCESSION NO: MSG 835

ARTEFACT: Cordage

MATERIALS: Hemp

LAB NO: 1161

SMALL FIND NO:

CONTEXT NO: 133

EXCAVATOR: JKH

DATE FOUND: 7/7/02

COW TAG:

SHIP COORDINATES:

CURRENT LOCATION: Warehouse

**DESCRIPTION** 

Single fragment of three-strand rope.

HANDLING INSTRUCTIONS: Handle carefully and as rarely as possible. Wear

nitrile gloves.

STORAGE REQUIREMENTS: 45-55% RH, 18-22C with a little fluctuation as

possible. Store in protected box, as objects are

delicate.

ANALYSIS Penelope Walton-Rogers

X-ray:

Other:

DATE BEGAN: 30/09/2011

DATE COMPLETE: 13/02/2012

CONSERVATOR: Marie Jordan

MATERIALS AND METHOD OF MANUFACTURE Hemp. ZmultiS3Z (helix final Z 40°) (from PWR report)

### CONDITION

Object has lost most of its flexibility from drying, as expected. Surface is mostly not friable, and the lay of the strands is easily visible.

#### TREATMENT

Mud was cleaned off with water and soft brush. The object was then placed in a solution of 2% glycerol plus 5% PEG 200 in water on 15 Dec 2011. The object was removed from the treatment solution, which was giving off a foul smell, on 18 January 2012 and placed in the freeze-dryer. Following drying, the object was consolidated with 5% Paraloid B-72 in acetone. The fragments were packaged for shipping to Penelope Walton-Rogers following the curing of the consolidant.

Upon return, object was checked and placed into storage.

# PHOTOGRAPHY:

After freeze-drying:



After consolidation:



### **BIBLIOGRAPHY:**

Grant, Tara; Bilz, Malcolm; Cruz, Vera de la. 1997. "Conservation of waterlogged cedar basketry and cordage" in Proceedings of the 6th ICOM group on wet organic archaeological materials conference, York, 9-13 September 1996 Schiffahrtsmuseum:Bremerhaven pp127-134

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ACCESSION NO: ARTEFACT: Basketry Reed or grass? MATERIALS: LAB NO: SMALL FIND NO: MSG 857 CONTEXT NO: 146 AS/JMB EXCAVATOR: DATE FOUND: 3/8/02 COW TAG: SHIP COORDINATES: CURRENT LOCATION: Warehouse **DESCRIPTION** Reed Matting AS/JMB 3/8/02 HANDLING INSTRUCTIONS: STORAGE REQUIREMENTS: ANALYSIS X-ray: Other: 30/09/2011 DATE BEGAN: DATE COMPLETE: 24/5/13 Marie Jordan CONSERVATOR:



## MATERIALS AND METHOD OF MANUFACTURE

## **CONDITION**

The elements themselves are in good condition and cleaning didn't cause any additional damage. Some structural integrity remains – it is possible to see that all grasses/reeds were laid parallel to one another, and the thin, braided cord that divided the mass into bundles is easily located.

Insects were observed upon unwrapping, but were cleaned away and did not reappear.

### TREATMENT

Mud was cleaned off with water and soft brush. Object was immersed in 20% PEG 200 for one month, then freeze-dried.

## PHOTOGRAPHY:





Unwrapped and uncleaned:



Detail of white bug:



During cleaning:



# Details of braided cord:





Post-cleaning:



MSG NO: MSG 860

ARTEFACT: Iron fastener with

leather washers and

other parts

MATERIALS: Cattle/calf skin + iron

LAB NO: 1206

SMALL FIND NO: n/a

CONTEXT NO: 130

EXCAVATOR: JB

DATE FOUND: 19.07.02

COW TAG: n/a

SHIP COORDINATES: n/a

CURRENT LOCATION: Conservation Office



#### DESCRIPTION

From a deposit of stabilized alluvium in 120. Contains most of the large structural timbers. 4 parts of an Fe and leather composite object comprising: 1x "stud" (fe) with a fragment of leather attached; 1x round leather washer; 2x leather fragments

HANDLING INSTRUCTIONS: Poor and fragile condition: handle with care.

STORAGE REQUIREMENTS: Once dry: store in a clean, dry environment suitable

for organic materials. RH >45%, <65% is

recommended.

**ANALYSIS** 

X-ray: Yes
Other: n/a

DATE BEGAN: 12.07.2010

DATE COMPLETE: 30.07.2010

CONSERVATOR: Deborah Magnoler, Christine Harrison

## MATERIALS AND METHOD OF MANUFACTURE

Iron spike with associated leather washers and fragments. The object is fragmented; there are four large pieces:

- 1. Iron spike with attached leather washer diameter 2.4 2.6cm, height 1.8cm. Flat cross section with a central square spike 0.8x0.8cm which has broken off. Metallic dome shaped stud (2 cmx2 cm, wet) on the opposite side to the spike, with traces of the shaft still visible. The washer is positioned around the spike. Some of the leather that covered the stud still survives in fragments.
- 2. Circular leather washer with a hole in the middle diameter 3.0 3.3cm, hole diameter approx 0.9cm. Thickness approx 0.1 0.2cm. Split with a slight overlap.
- 3. Strip of leather with stitch holes max length 5.8cm, max width 2.0cm. Thickness approx 0.4-0.6cm. Oblong shape with a slight taper and curve. Short edges are not original, long edges are cut. There are stitch holes along the straighter, thicker edge and a hole in the middle of the wider end. (see outline)
- 4. Folded leather with stitch holes and a central, square-ish punched hole two pieces which orientate together. (Dimensions are maximums when orientated) Length 4.5cm, width 2.4cm, height 1.2cm. Punched hole diameter approx 0.8cm, thickness 0.3-0.6cm. The edges of the piece have stitch holes that pass through the edge of the leather. The stitched edges and the punched hole are cut edges but the other edges are torn.

Additionally there are four minor fragments:

- 1. Small fragment of iron roughly spherical, diameter 0.7cm
- 2. Fragment of leather 1.7x0.8cm
- 3. Fragment of leather 1.1x0.7cm

Sliver of wood (unclear how this is associated) 1.45x0.55cm

#### **CONDITION**

#### **IRON**

The surviving Fe elements are heavily corroded, but the original shape survives under the encrustation. The corrosion products are orange concretions which are hard and brittle. The weight of the object suggests there may be core metal remaining although this needs to be confirmed by x-radiography after the leather part has been treated, (x-ray may also help to reveal original form).

Some green coloured corrosion suggests the presence of a copper based component but it has so far not been possible to determine the extent of this.

#### LEATHER

All of the leather parts are stiff, brittle and heavily iron stained. Below the surface the

leather is black in colour.

- 1. Washer attached to iron spike more heavily mineralised than the other leather parts and is crumbling.
- 2. Washer grain surface is intact allowing species identification (preliminarily identified as cattle or calf skin). The flesh side is compact but crazed/cracked and crumbling. No lamination or fibre loss other than the crumbling.
- 3. Strip with stitch holes grain surface is abraded precluding species identification from the grain pattern, there is some cracking on this surface. The flesh side is compact. There is no lamination and only a small amount of fibre loss occurring.
- 4. Folded punched fragment part of this has broken off so there are actually two pieces which fit together. The inner flesh side is encrusted with silt and soil which is obscuring the surface. The grain side is abraded and crazed/cracked/crumbling like some of the other pieces.

The two minor fragments are in a similar condition to the heavily mineralised washer attached to the iron spike in that they are very brittle and crumbly. It is possible these pieced broke off the attached washer.

### TREATMENT

12-07-2010 - Superficial mechanical cleaning using a soft natural bristle brush (DM)

23-07-10 - Manual cleaning with soft bristled brushes and water jets, (CH).

23-07-10 – Removal of iron staining (from leather not attached to iron components) with 5% EDTA w/v in deionised water for 6 hours followed by rinsing for 3 days.

02-08-2010 - Glycerol treatment: Fe stud + leather: 25% glycerol in water v/v

Leather pieces: 30% glycerol in water v/v

One separate Fe fragment: drying in acetone for several hours

13-08-2010 - removed from glycerol bath and dabbed with a soft lint free cloth. Objects weighed and frozen. (SA)

16-08-2010 - Weighed (see chart) and freeze dried from 11am.

Object	Weight (g) on 13.08.10	16.08.10 11am	16.08.10 1pm	16.08.10 2pm	16.08.10 3pm	16.08.10 4pm	16.0 8.10 5p m
Strip frag. With stitch holes	2.95g	2.06	2.05	1.94	1.89	1.86	1.84
washer	1.5g	0.92	0.93	0.89	0.87 (removed)	-	-
Folded piece with hole	3.87g	2.76	2.72	2.50	2.35	2.29	2.26
Fragment separated from folded piece with hole	1.36g	0.85	0.86	0.82	0.80 (removed0	-	-
Fe stud	9.26g	8.60	8.56	8.42	8.35	8.31	8.28

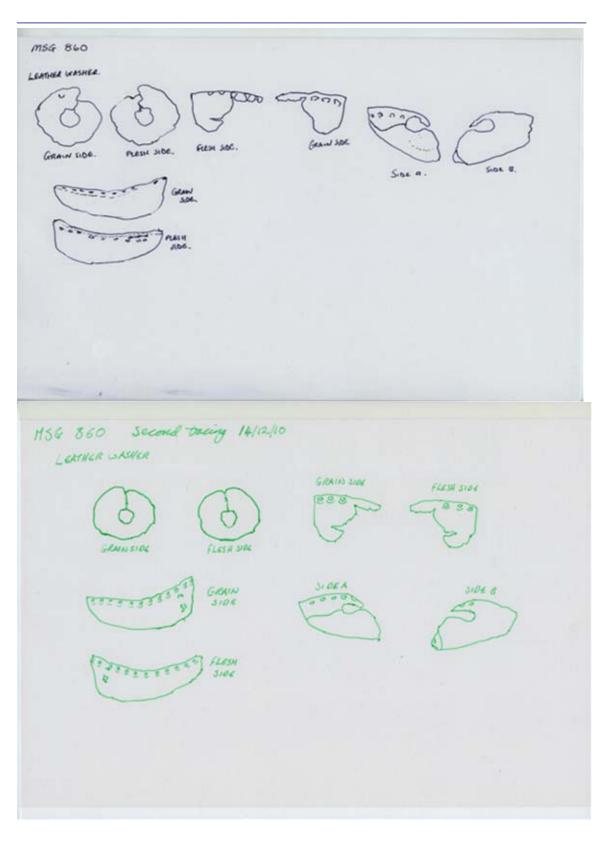
PHOTOGRAPHY
Before Conservation:



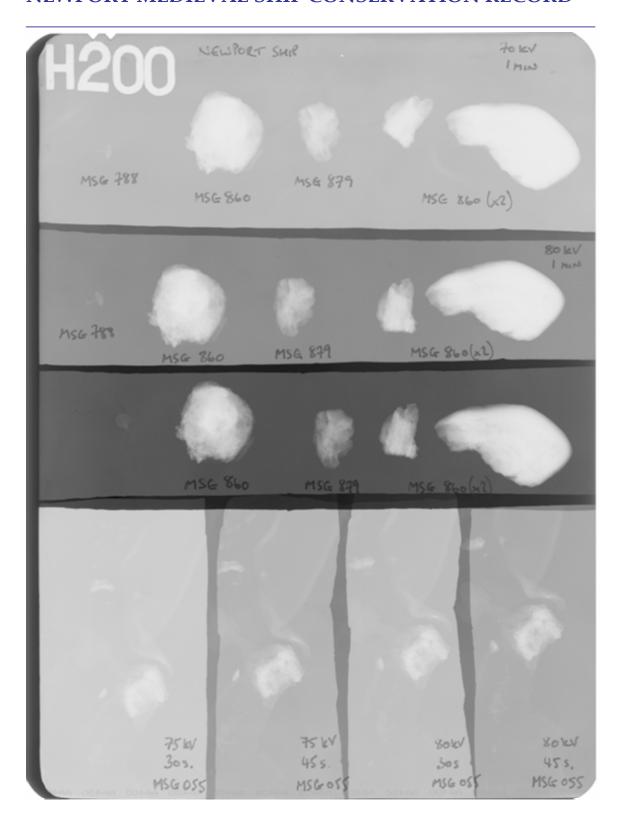
After Conservation:



Sketches:



X-Rays:



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