

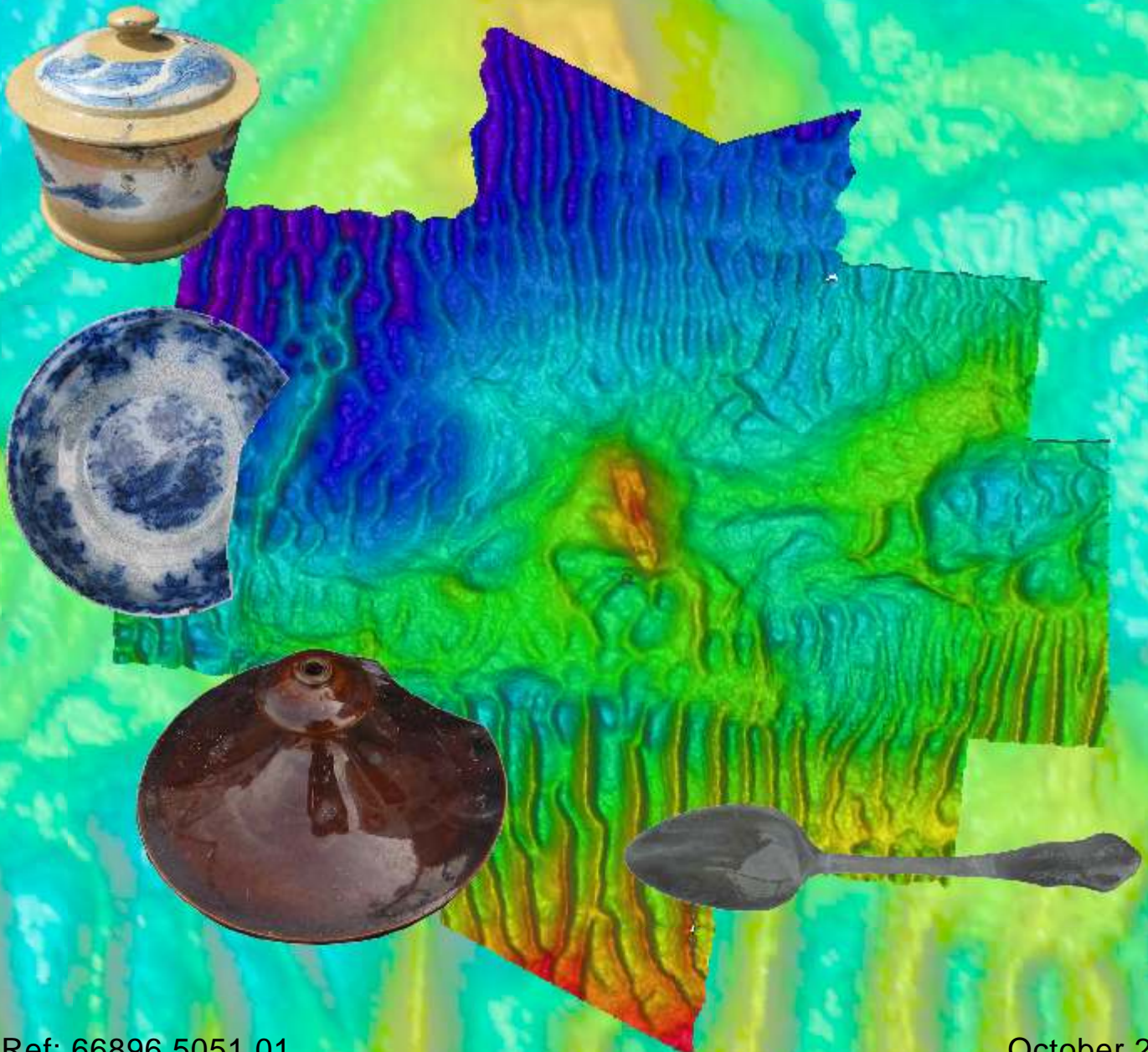


London Gateway Port: Channel Clearance and Dredging

In-water Archaeological Observation and Recording

Final Report

Wreck 5051 (Unknown)



**LONDON GATEWAY PORT:
CHANNEL CLEARANCE AND DREDGING**

IN-WATER ARCHAEOLOGICAL OBSERVATION AND RECORDING

FINAL REPORT

WRECK 5051 (UNKNOWN)

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Report ref. 66896.5051.01

October 2008

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Report ref: 66896.5051.01

Title:	London Gateway Port: Channel Clearance and Dredging: In-Water Archaeological Observation and Recording Final Report
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Origination date:	August 2008
Date of last revision:	October 6 2008
Version:	66896.5204.01
Status:	1 st Draft
WA QA:	Steve Webster
Summary of changes:	N/A
Associated reports:	N/A
Client Approval:	

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Summary

Wessex Archaeology was commissioned by the Port of London Authority to conduct in-water archaeological observation and recording for Wreck 5051 (Unknown). This work was undertaken as part of the archaeological mitigation strategy for the DP World London Gateway container terminal development. The wreck is located 1.2 kilometres south-west of Canvey Island, and north of Blyth Sands. It lies 100 metres inside the dredged channel.

This report provides a brief overview of previous fieldwork and details the methodology employed in carrying out in-water observation and recording. Recent fieldwork for this project is summarised, and the evidence from the wreck structure and artefacts is discussed.

The exposed site is approximately 18 metres long by 4.5 metres wide, and the remains indicate a wooden hulled vessel. Over 180 artefacts were raised from two locations on the wreck. From the southern section, a large volume of flint was recovered, as well as the contents of a locker or chest. The vast majority of finds were located in the north section of the wreck and included wooden tools, a shoe upper and pieces of a boot. From the artefacts recovered, it is thought that the vessel dates to the late 19th century, and could have been a local vessel that traded along the coast.

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Acknowledgements

This report was commissioned by the Port of London Authority. Wessex Archaeology would like to acknowledge Nicola Clay and Alex Mortley for their support and guidance throughout all aspects of the London Gateway Scheme. The support guidance and encouragement of Gill Andrews the DP World archaeological liaison officer was gratefully received. The project would not have been possible without the logistical support from the Port of London Marine Services department provided by the head of marine services Captain Peter Steen and his personnel.

Wessex Archaeology would like to thank the Port of London dive team for their support and professionalism, particularly Mr Kevin Leadbetter the dive supervisor. The *Hookness* and her crew provided logistical support. We would like to acknowledge their professionalism, skill and enthusiasm for the project particularly the Captain and Mate.

The fieldwork was undertaken for Wessex Archaeology by Graham Scott, Niall Callan and Simon Adey-Davies. The report was compiled by Andrea Hamel, and the illustrations were prepared by Kitty Brandon. The project was managed for Wessex Archaeology by Stuart Leather, and quality assurance was provided by Steve Webster.

Data for this project was provided by the United Kingdom Hydrographic Office.

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1. INTRODUCTION

1.1. BACKGROUND

- 1.1.1. Wessex Archaeology (WA) was commissioned by the Port of London Authority (PLA) to undertake in-water archaeological observation and recording of Wreck 5051 as part of the archaeological mitigation strategy for the DP World London Gateway container terminal development.
- 1.1.2. In-water archaeological observation and recording was identified as suitable mitigation for the removal of Wreck 5051 based on the Phase I diving investigation undertaken in November 2007 and April 2008.
- 1.1.3. Wreck 5051 is located 1.2 kilometres south-west of Canvey Island, and north of Blyth Sands (**Figure 1**). It lies 100 metres inside the dredged channel.
- 1.1.4. This report provides details of the in-water archaeological observation and recording that was undertaken in June 2008, including an overview of previous Wessex Archaeology investigations, a brief methodology, a review of fieldwork undertaken for this project and a detailed list of finds. It forms the Stage I, Mitigation IE as defined in the Clearance Mitigation Statement (CMS) for Wreck 5051 (WA 2006).

1.2. PREVIOUS INVESTIGATIONS

- 1.2.1. The CMS (WA 2006) details the investigation history and sets out the various mitigation stages that this site has been subject to. This section is based on that information, and will review recent work.
- 1.2.2. Wreck 5051 was discovered in 1996 when a fishing vessel fouled its trawl. That same year, the Port of London Authority dived the site and recorded old timber, reinforced concrete and other debris.
- 1.2.3. Geophysical surveys, including side scan sonar and multibeam, were conducted from 2001 to 2006 and the data has been archaeologically assessed by Wessex Archaeology. The side scan data from 2001 and 2002 indicated that the site was 10 metres long and approximately 15 to 20 metres wide, while the multibeam data from 2006 indicated a site 22 metres long 16 metres wide with a maximum height of 1.2 metres (Wessex Archaeology 2006).
- 1.2.4. In November 2007, Wreck 5051 was assessed by Wessex Archaeology as part of the Phase I Diving Investigation (Wessex Archaeology 2007) (**Figure 2a**). Two dives were carried out on the site with a dive time totalling 49 minutes. The site was

covered by loose sand and some gravel, and the divers identified timber structure protruding from the riverbed that matched the features observed on the multibeam bathymetry data. The structure comprised frames and inner and outer planking. A small number of finds, including animal bone and slag, were recovered from the site. A Level 1b record was achieved for the site, establishing presence, position and type, however, more diving work was required to achieve a Level 2 record, identifying the extent, character, date and importance of the wreck.

- 1.2.5. In April 2008, further diving work was carried out at Wreck 5051 to establish the character, nature and date of the vessel in order to inform mitigation decisions (Wessex Archaeology 2008a) (**Figure 2b**). One dive was completed, with a total bottom time of 100 minutes. In zero visibility, inspection of the located features was by touch only. The wooden structure was located and examined. Three finds were recovered including a pottery flagon, a plate and a brick.

1.3. AIMS AND OBJECTIVES

- 1.3.1. The aim of this project was to carry out in-water archaeological observation and recording, in order to achieve a record that informs knowledge of the character, date and extent of the site.

- 1.3.2. The archaeological objectives for this project were:

- To establish the overall components, layout (form/distribution) and sequences of the two sections of wreck that were investigated;
- To recover and retain diagnostic structural elements, large finds and/or a representative assemblage of small finds from the site, in order to determine the date and characteristics of the wreck;
- To record, describe and photograph diagnostic large finds and small finds.

2. METHODOLOGY

2.1. INTRODUCTION

- 2.1.1. The methodology for this project was defined in the Wessex Archaeology, London Gateway Port: Channel Clearance and Dredging In-Water Archaeological Observation and Recording: Method Statement (2008b). A brief summary of the methodology follows.

2.2. DIVING TEAM AND RESPONSIBILITIES

- 2.2.1. In-water archaeological observation and recording was achieved by embedding diving archaeologists equipped with acoustic positioning within the Port of London Authority (PLA) dive team.

- 2.2.2. The Port of London Authority was the diving contractor, and as the Wessex Archaeology diving archaeologists were part of the PLA team, they worked to the PLA Diving Project Plan (DPP) and Risk Assessment (RA) which was informed by a separate DPP and RA supplied by Wessex Archaeology. An additional archaeologist was on board the vessel to record artefacts recovered from the site, however they did not form part of the PLA diving team.

- 2.2.3. The WA team structure comprised:

Team Member	Role / Responsibility
Diving archaeologist on the riverbed	Undertaking underwater work
Archaeological recorder	Responsible for the archaeological direction of the diving operation
Finds processor	Processing of finds recovered from the airlift and by the diver

2.2.4. The PLA provided the airlift and diving support, and Wessex Archaeology provided the underwater positioning system.

2.3. POSITIONING

2.3.1. Underwater positioning was achieved using the Sonardyne SCOUT Ultra Short Baseline (USBL) acoustic navigation system, referenced to UTM zone 31 (WGS84) real world coordinate system and interfaced to the Wessex Archaeology recording system, DIVA.

2.3.2. The Sonardyne SCOUT USBL system calculates position by measuring range and bearing from the vessel-mounted transceiver to the submerged transponder that is attached to the diver. The vessel-mounted transceiver interrogates the submerged transponder, and the submerged transponder replies to the interrogation signal. The range is calculated from the time it takes the interrogation procedure to be completed. The transceiver comprises an array of transducers, and the bearing is calculated from the pattern (signal phase) of return energy that is received by this array. The term 'ultra short baseline' refers to the length of the transducer array within the receiver unit. The position is then relayed to Wessex Archaeology's digital recording system, DIVA.

2.3.3. The waterproof and portable surface command module running the SCOUT USBL software was installed in the wheelhouse. The SCOUT USBL Transceiver was mounted on a pole over the side of the boat.

2.3.4. Ancillary equipment is integrated with the Scout USBL system. All instruments were connected to the SCOUT surface command module. A position check was carried out to test the integrity of the system prior to the commencement of fieldwork. Bearing was measured using a Meridian Surveyor gyro compass. Heave, pitch and roll were measured using a TSS Full Attitude Unit.

2.4. ARCHAEOLOGICAL RECORDING

2.4.1. All archaeological finds and deposits were recorded using a pro-forma recording system, based on a running matrix of assigned contexts for the site. Numbers were allocated in blocks that are unique to the site, and a number log was maintained.

2.4.2. All archaeological recording was undertaken using Wessex Archaeology's digital recording system DIVA. DIVA is a real time recording system working with three-dimensional position information. It comprises a Microsoft Access database working in conjunction with ESRI ArcGIS 9.0. The database is used to store information and the GIS is used to provide a graphic display and to georeference information.

2.4.3. The position of the tracked diver was output from the Sonardyne SCOUT USBL surface command module in real world co-ordinates into the DIVA system and displayed in real time with geophysical data stored in ArcGIS 9.0. The diver's

movements were overlaid onto the multibeam data for the site in order to reference the more prominent topographical features.

- 2.4.4. Observations made by the diver were entered into the database by the archaeological recorder on board the vessel. These observations, stored in the DIVA database, include the three-dimensional position, comments typed in by the recorder and mapping labels for display in the GIS system. Diver observations were used to correlate separate records for contexts, finds, samples and photographs.

2.5. FINDS RECOVERY AND RECORDING

- 2.5.1. Finds were managed in accordance with the methodology outlined in Wessex Archaeology 2008: London Gateway Port: Channel Clearance and Dredging In-Water Archaeological Observation and Recording Method Statement.
- 2.5.2. 'Wreck', includes all forms of material lost or deposited from a vessel, including hull, propulsion, fittings, cargo, and personal possessions. Wreck of archaeological interest was subject to the procedures relating to wreck in the Merchant Shipping Act 1995. All finds that have been recovered as part of the London Gateway project will be reported to the Receiver of Wreck at the completion of the pre-clearance phase of the project.
- 2.5.3. Where practicable, the position of the archaeological material on the riverbed was recorded prior to recovery. Identified finds were placed in a basket or suitable container by the diver for recovery to the surface.
- 2.5.4. An airlift was employed to clear the sediment overburden and recover artefacts not identified on the riverbed by the diver.
- 2.5.5. In order to maximise artefact retrieval, the airlifted material was sorted on the deck through a system of cages. The finds were positioned based on the position of the diver during the dive. Finds were then labelled and put into an appropriate container. Suitable facilities for the storage of finds were provided onboard the diving support vessel.
- 2.5.6. The finds were initially assessed by WA's on board staff. The finds were logged in DIVA, and photographs of each find were taken. Finds considered to require further analysis were transported to WA's Salisbury base, where specialist staff assessed the assemblage as a whole and proposed an analysis programme to be agreed with the PLA.
- 2.5.7. All retained finds were processed in accordance with the Institute of Field Archaeologists' *Standard and guidance for the collection, documentation, conservation and research of archaeological material* (2005). All finds were recorded and labelled appropriately.
- 2.5.8. The finds were subject to passive holding at the point of recovery from the seabed, and on arrival at WA's Salisbury base, they underwent a conservation assessment.
- 2.5.9. All finds of archaeological interest form the material archive of this project. Decisions regarding recording, handling, treatment, and disposal were informed by archaeological and archival standards. Records and photographs of finds of archaeological interest are incorporated within the project archive.

3. FIELDWORK

3.1. INVESTIGATION DETAILS

- 3.1.1. In June 2008, a diving operation was undertaken to carry out in-water archaeological observation and recording prior to the wreck being cleared to allow for the navigation channel to be deepened (Wessex Archaeology 2008c).
- 3.1.2. Diving operations began on 25 June 2008 and ended 27 July 2008. One dive per day was planned for the Low Water slack tide period, and three dives were conducted, with a total dive time of 204 minutes (**Figure 2c**).
- 3.1.3. The first dive took place on 25 June 2008. The objectives of this dive were to ascertain whether the site conditions had changed since the April investigation and to begin clearing the wreck for recording. The dive took place on the southwest section of the wreck, and wooden structure was identified that corresponded with the raised relief from the multibeam image in the diver tracking system. The diver excavated the wreck with an airlift and a large volume of flint was recovered. The dive lasted for 64 minutes, and is represented by the black dots in **Figure 2c**.
- 3.1.4. The second dive took place on 26 June 2008. The objective of this dive was to continue excavating the south-western section of the wreck. Excavation continued alongside the structural remains, and a wooden chest or locker was discovered. The box was not stable enough to be lifted, because although the sides appeared well-preserved, they were no longer held together. Within the area there were small fragments of wood in soft loose silt, and amongst this, a number of pots, lids, a bottle and a spoon were found and recovered to the surface. The dive lasted for 74 minutes, and is represented by the blue dots in **Figure 2c**.
- 3.1.5. The objective for the third dive was to leave the concentration of artefacts in the southern section of the wreck and to investigate the northern part of the wreck. The third dive took place on 27 June 2008 and lasted for 80 minutes. An extensive complicated structure was identified and was excavated. A range of finds were identified and recovered by the diver, and additional finds were discovered in the airlift spoil. The vast majority of finds recovered from the wreck were discovered in this northern section of the wreck. A sample of context 1000 (sand and flint) was recovered to analyse whether it is natural material or part of the vessel's cargo or ballast. The pink dots on **Figure 2c** illustrate the diver observation points.
- 3.1.6. A total of 150 finds were recovered. A full list of finds from November 2007 to June 2008 can be found in **Appendix I**.
- 3.1.7. The finds were transported to Wessex Archaeology's Salisbury base for further analysis.

4. EVIDENCE

4.1. WRECK STRUCTURE / HULL REMAINS

- 4.1.1. The analysis of geophysical evidence and the results of the tracked diver searches in November 2007 and April 2008 suggested that the surviving wreck structure indicated a wooden hulled vessel, and that the exposed site was approximately 18 metres long by 4.5 metres wide. If this was taken to be representative of the size of the vessel, then it is likely to have been a small vessel of less than 100 gross tons. However, although the southern limit of the upstanding remains appears to have

been located, work in June 2008 indicated that considerable remains continue in the unexcavated areas. Additionally, no bow or stern structure has been identified. Therefore, there is considerable uncertainty as to the original length, breadth and tonnage of the vessel.

- 4.1.2. At the far north end of the wreck site, the timber structure consists of a complicated arrangement of planking and framing, suggestive of part of the hull side and internal divisions. Along the side of the wreck, the arrangement of attached planks and frames suggests ceiling planks, frames and outer planking. The planking on the outer edge is notably thicker than on the inside, and is approximately 0.04 – 0.05 metres thick. The frames are small, no more than 0.1 metres square, spaced at 0.5 metre intervals, and rising nearly vertically from the seabed. The wreck structure continues north into the unexcavated area.
- 4.1.3. Slightly to the south, and on the west side of the site, work in November 2007 identified upstanding coherent wooden structure, consisting of frames with square sections of approximately 0.2 metres by 0.2 metres and regularly spaced approximately every 0.4 metres. One of the timbers that was recovered had a treenail hole.
- 4.1.4. At the southern end of the exposed section of wreck, work in April 2008 noted that the frames were approximately 0.5 metres apart, and the exposed timber appeared highly eroded. A section of linear wooden structure over four metres long was located, consisting of partially buried near-vertical frames with ceiling and hull planking. Numerous other small timber and concreted metal features were felt within the hull, although it was not established whether these were part of a coherent structure or more scattered wreckage.
- 4.1.5. As overburden and artefacts still obscure the extent of the wreck, an outline of the exposed hull structure was not produced. No structural elements were raised during the course of this study and therefore above-water recording did not take place.

4.2. FINDS

Introduction

- 4.2.1. Approximately 180 artefacts were recovered from wreck 5051 between November 2007 and June 2008. A detailed record of the finds can be found in **Appendix I**.
- 4.2.2. Artefacts were recovered from two main areas of the exposed section of the wreck. In the south section of the wreck, a large volume of flint was recovered and a concentration of pottery and other small finds were identified, including the contents of a locker or chest. However, the vast majority of the recovered finds were discovered in the north section of the wreck, including the wooden tools, fragments of a clay pipe stem, a shoe upper and pieces of a boot.
- 4.2.3. Although this wreck was referred to in the records as 'Unknown (Old timbers and concrete?)' the Wessex Archaeology fieldwork encountered no trace of concrete. Recovered finds include flint, glass, ceramics, metal, wood and animal bone, and the datable objects suggest that the wreck dates to the mid- to late 19th century.

Stone

- 4.2.4. The large volume of flint that was recovered by airlift is thought to be ballast / cargo (**Plate 1**). The flint nodules are all of similar size and as the surrounding seabed is

comprised of sandy silt on clay; it is unlikely that the flint is naturally occurring. A sample was recovered for further analysis.

- 4.2.5. A small quantity of coal has also been recovered from the wreck.

Ceramics

- 4.2.6. A number of pieces of pottery were recovered from the wreck (**Plates 2a-d, 3a-i**), and will be discussed in more detail here. The plates are in order by artefact number.
- 4.2.7. A pottery flagon (5051-0012) was discovered during the April 2008 dives (**Plate 2a**); it was found partially buried within the site close to the wooden structure. There are three stamps on the neck of the flagon (**Plate 2b**). The first stamp indicates that the manufacturer was Doulton and Watts Lambeth Pottery. A similar bottle is shown in the Doulton & Watt's price list of 1873 (DD/655/21, Hammersmith and Fulham Archives), and this particular stamp was used from the 1820's until 1854 when 'Doulton Lambeth' became the standard impressed mark (www.thepotteries.org/mark/d/doulton.html). The second stamp identified the owner as F. White of the Crown & Anchor Hotel, Woolwich. The owner's stamp can be dated, and the 1855 Essex, Herts, Kent and Sussex Publican Directory lists F. White as the publican of the Crown & Anchor Hotel. The Post Office Directory lists Matilda Hanneford-Pigots as the publican in 1834, and in 1874, L & J Carter are listed as the publicans. From the names of the publicans, the flagon cannot date before 1835, and as this particular manufacturer's stamp was only used until 1854, the flagon must date between 1835 and 1854. In addition, the flagon suggests a local connection for the vessel, as research undertaken by Touch Productions Ltd. has indicated that the Crown & Anchor Hotel was located on a dockside that was only used by Thames barges. The third stamp provides a volume for the vessel: one gallon. The vessel appears to be a gin jar.
- 4.2.8. Also from the April 2008 dives, a plate (5051-0013) was discovered buried within the site adjacent to the wooden structure. The plate has been identified as a refined whiteware ironstone Montilla plate manufactured in Davenport (**Plate 2c & d**). The plate is transfer printed in blue and white with the Montilla pattern. Ironstone was a high fired white pottery characterised by heavy weight for size and dense fabric; it was popular for every day use due to its robust nature. It is stamped with a typical incised Davenport mark, an anchor with the word 'Davenport' above and two numerals, indicating the date of manufacture, on either side of the anchor. Although the numerals are not quite clear, it is probable that the plate was manufactured in 1862, although it could be as late as 1882.
- 4.2.9. A brown glazed stoneware jar with an intact cork is similar to a 'porter bottle' from the 1873 Doulton catalogue (5051-0025) (**Plate 3a**). A complete stoneware jar (5051-0036) is similar to a 'bung jar' from the same catalogue (**Plate 3g**). The shoulder of the 'porter bottle' is stamped 'R&I White Sittingbourne', and could suggest a connection with Kent.
- 4.2.10. Other ceramics (**Plate 3**) also indicate a 19th century date, such as the possible cup handle base of bone china (5051-0019), and various yellow ware straight sided squat jars and lids (5051-0026, 5051-0027, 5051-0028). A number of pieces of refined whiteware were on board (5051-0029), including what appears to be sherds from a treacle glazed teapot (5051-0033; 5051-0049).
- 4.2.11. Fragments from a post-medieval pipe stem were also recovered (5051-0065).

- 4.2.12. Although it is not known how the ceramics came to be on board, whether they were part of the cargo, the ship's equipment or the possessions crew members, the pottery flagon from Woolwich suggests a local connection for the wreck, and the stoneware jar stamped 'Sittingbourne' could indicate a connection with Kent, possibly hinting at travel or trade along the coast.

Glass

- 4.2.13. Several fragments of 19th century glass were recovered from the wreck, including sherds of a dark green cylindrical wine bottle (5051-0023), and sherds of clear glass bottles or jars (5051-2024, 5051-0061).

Bricks

- 4.2.14. A number of yellow bricks were recovered from the wreck. Some of the bricks show evidence of frogging, indicating that the bricks post-date 1800. Fragments of water worn red brick were also recovered, as well as a small orange brick fragment.

Metal

- 4.2.15. Metal finds include a brass fitting thought to be a latch (5051-0032) (**Plate 4a**) and a number of concretions (**Plate 4b**). A few small pieces of slag were also recovered (**Plate 4c**). A small a small teaspoon or dessert spoon is stamped 'John Yates Crown Metal' (5051-0031) (**Plate 4d**). The spoon is non-ferrous, and possibly made of pewter or precious metal.
- 4.2.16. Evidence for ship's fittings includes two small cuprous rings that could be from a sheave or deadeye (5051-5043, 5051-0044) (**Plate 4e**).

Wood

- 4.2.17. Images of the organic finds can be found on **Plates 5a-I** and **Plates 6a-c**. They are in order by artefact number.
- 4.2.18. A number of small fragments of water worn wood were recovered (**Plate 5a, 5d, 5e, 5f**), and a recovered piece of timber from the ship's hull shows evidence for possible treenail holes (5051-0004) (**Plate 5b**).
- 4.2.19. Other wooden finds may provide evidence of the ship's fittings, such as the complete single sheave block (5051-0030) (**Plate 5g**).
- 4.2.20. Several barrel stave and lid fragments were also discovered (5051-0051). Barrels could have been used for storing cargo or rations on board (**Plate 5i**).
- 4.2.21. A number of what appear to be handles for the crew's tools have also been recovered (5051-0045, 5051-0046, 5051-0047, 5051-0048). Two shovel or shield shaped handles were recovered and one shovel or spade T-bar shaped handle (**Plate 6**). One of the shovel or shield shaped handles is roughly inscribed with the letters 'W' and 'D', while the T-bar handle has five notches at the top of the shaft. Five additional wood fragments are thought to be from the tool handles.

Bone

- 4.2.22. A number of animal bones were recovered from the wreck, including bones from cattle and a sheep/goat (**Plate 5c**). A possible cattle shoulder exhibits clear cut marks (5051-0002), and a couple of cattle vertebra also appear to have been sawn or chopped (5051-0018, 5051-0035). It is possible that these bones represent the crew's rations.

Other Organics

- 4.2.23. Several pieces of a leather boot were recovered, and the upper has evidence for lace holes (5051-0067). These pieces are thought to date from the 19th century. A leather shoe upper was also discovered (5051-0066). Un-datable organic finds include three small fragments of rope (5051-0042) (**Plate 5h**) and a small compressed lump of coarse weave fabric (5051-0058).

Possible Intrusive Material

- 4.2.24. A small square of amber coloured plastic tile with chambered edges is thought to be intrusive, and dates from the 20th century. Also thought to be intrusive were two pieces of synthetic fabric and a fragment of felt. Shards of a bright green glass drink bottle have been dated to the 20th century.

Finds Conservation

- 4.2.25. None of these finds warrants further treatment in terms of conservation or analysis. Sufficient work has been undertaken by Wessex Archaeology finds specialists in order to characterise and date them. The recommendation is that they should be discarded.

5. CONCLUSIONS

- 5.1. This project attained many of the archaeological aims and objectives as laid out above:
- It established some of the wreck components in the exposed part of the site; and it provided evidence of the contexts;
 - Diagnostic small finds were recovered from the site;
 - Small finds were described and photographed.
- 5.2. The investigations have demonstrated the presence of extensive structural remains which are cohesive, complex and well preserved. However, it is not possible at this time to draw more than speculative conclusions on the type of vessel or the method of construction, as the structural remains have not been recovered or recorded *in situ*. In addition, a significant part of the vessel is thought to remain buried on the seabed. The assumption at this time is that Wreck 5051 is a wooden hulled barge like sailing vessel.
- 5.3. The assemblage of artefacts was recovered from two locations within the hull structure – at the north and south ends of the known site area. These artefacts are closely associated and only a small amount of intrusive material was discovered. Apart from the large volume of flint thought to have been a cargo-ballast, the artefacts indicate life aboard the vessel at the time of sinking. Artefacts from the south section of the wreck include the large volume of flint and the contents of a

locker or chest consisting of a metal spoon, a treacle glazed refined whiteware tea/coffee pot lid, and brass fittings. The vast majority of the finds were recovered from the north section of the wreck, including the wooden tools, fragments of pipe stem, the shoe upper and the pieces of boot. Across the wreck, artefacts such as sherds of glass bottles and pottery, bricks, slag, animal bones and ship's fittings were recovered.

- 5.4. The datable artefacts, for example the glass and pottery, suggest that the vessel probably wrecked in the third quarter of the 19th century, with 1862/1882 being the earliest possible loss date based on the white ironstone Montilla plate (5051-0013). The finds also indicate that the vessel had a local connection, and possibly traded further along the coast. The artefactual assemblage also indicates that there could be significant archaeological remains still buried beneath the riverbed.
- 5.5. The wreck has the potential to provide a rare archaeological record of, and insight into, 19th century maritime life on the Thames.
- 5.6. The archaeological aims and objectives were attained through this project. However, as a considerable amount of sediment overburden remains on the wreck, the hull remains were not surveyed and there is still potential for additional artefacts to be discovered.
- 5.7. The hull will be lifted by mechanical means, and an archaeologist will be present during the recovery operations. The hull structure will then be recorded at the PLA passive holding facility at Denton Wharf before discard.

6. REFERENCES

Institute of Field Archaeologists (IFA), 2005, *Standard and guidance for the collection, documentation, conservation and research of archaeological material*.

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APPENDIX I: FINDS RECOVERED FROM WRECK 5051

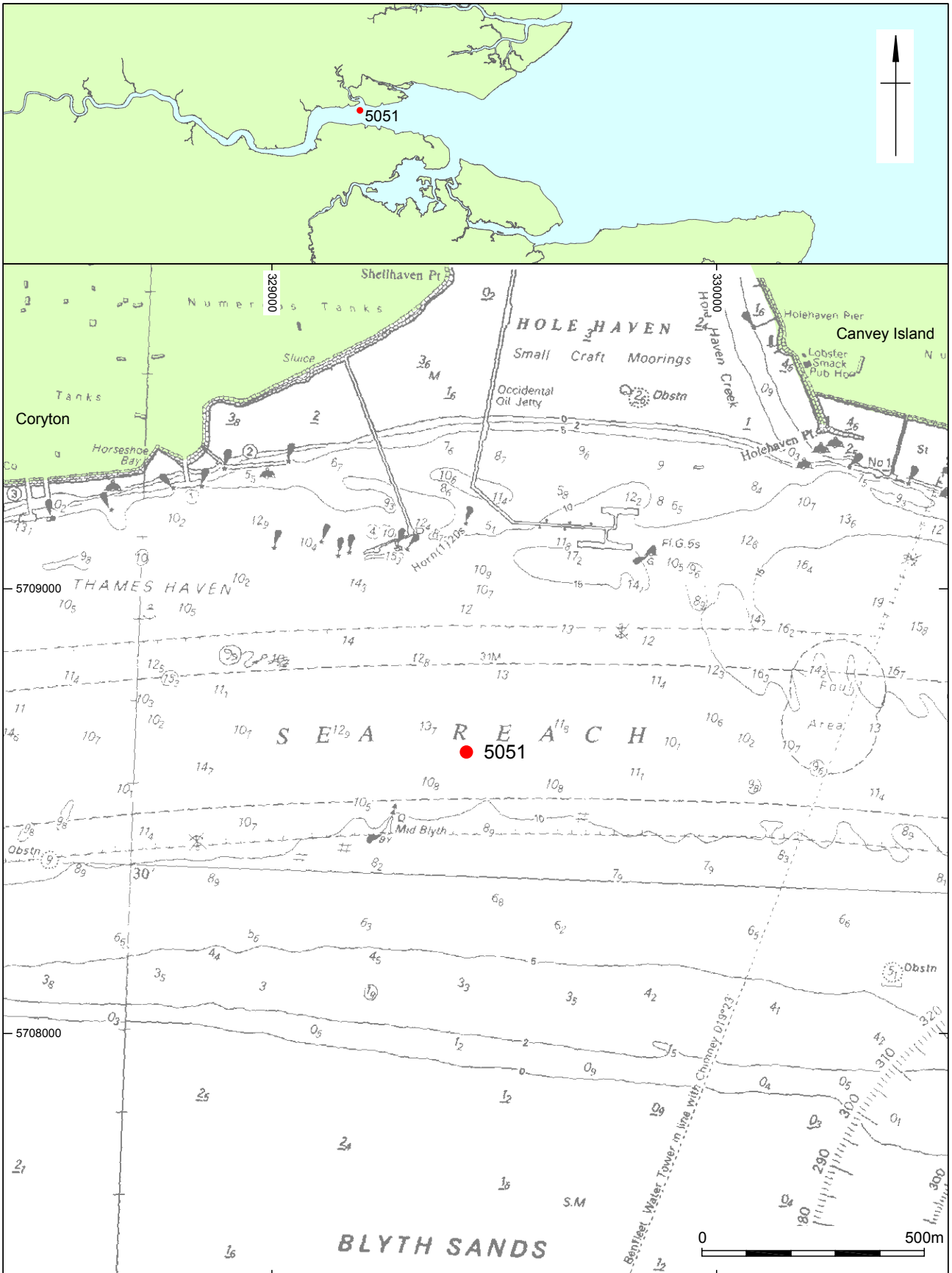
Object No	Material Type	Object Type	No.	Length (mm)	Width / Diameter (mm)	Thick (mm)	Description	Location on wreck	Date	Recovered
5051-0001	Wood		1				Piece of timber, 47x25x9cm, basic shape is rectangular but it is considerably eroded. Timber on the outside is either considerably degraded or has some peat-like material is attached to it.	North-east side of wreck		Nov 2007
5051-0002	Animal bone		1	25	15	5	Probable cattle shoulder, 25x15x5cm. Clear cut marks.	North-east side of wreck		Nov 2007
5051-0003	Animal bone		0				Repeat of 5051-0002 (Ignore).			Nov 2007
5051-0004	Wood		1	47	10	4	Timber, shaped, broken at one end, eroded at the other end. Possible treenail hole.	Centre-east side of wreck		Nov 2007
5051-0005	Wood		1	29	10	4	Broken, indistinguishable timber fragment	Centre-east side of wreck		Nov 2007
5051-0006	Iron		1	27	29	6	Ferrous concreted plate, curved. (thickness ranges 1.5 - 6 cm)	Centre-east side of wreck		Nov 2007
5051-0007	Flint		13	7	5	2	13 pieces of flint, sub-angular and sub-rounded. Measurements indicate average size	Centre-east side of wreck		Nov 2007
5051-0008	Wood		2				2 very degraded pieces of wood. Average size 7 x 5.5 x 3.5cm	Centre-east side of wreck		Nov 2007
5051-0009	Wood		2				2 pieces of roundwood, semi-circular in section. 6.5 x 2 x 0.5cm	Centre-east side of wreck		Nov 2007
5051-0010	Wood		4				4 small fragments of roundwood, eroded. Average size 2.5 x 2 x 0.5cm	Centre-east side of wreck		Nov 2007
5051-0011	Slag		1				Small piece of slag, irregular shape. 3 x 1.5 x 1.2cm	Centre-east side of wreck		Nov 2007
5051-0012	Ceramic	Bottle	1	320	170		Ceramic upright bottle. Diameter: 170mm, height to shoulder: 225mm, overall height: 320mm. Three sets of markings: 1) 'Doulton & Watts London, Lambeth Pottery' (stamped in oval); 2) 'F. White Crown & Anchor Hotel High Street Woolwich' (stamped); 3) '1'	South end of wreck	C 19+	April 2008
5051-0013	Ceramic	Plate	1			215	Ceramic glazed plate Diameter: 215mm. Ironstone Montilla Davenport manufacture. Blue and white transfer print pattern	South end of wreck	C 19+	April 2008

Object No	Material Type	Object Type	No.	Length (mm)	Width / Diameter (mm)	Thick (mm)	Description	Location on wreck	Date	Recovered
5051-0014	Brick	Brick	1	100	170	60	Fragment of yellow brick. Frogged, though eroded	South end of wreck	Post-1800	April 2008
5051-0015	Wood		8				8 small fragments; water worn	South end of wreck	Unknown	June 2008
5051-0016	Brick		2		110	60	2 small yellow brick fragments; water worn; no trace of frogging visible; coarse and ?highly fired	South end of wreck	Post-medieval	June 2008
5051-0017	Brick		3				3 very small red brick fragments; water worn	South end of wreck	Post-medieval	June 2008
5051-0018	Animal bone		1				Cattle vertebra; sawn/chopped	South end of wreck	Unknown	June 2008
5051-0019	Pottery	Possible cup	2				2 small white glazed sherds; possible cup handle base; bone china	South end of wreck	C 19+	June 2008
5051-0020	Plastic	Mosaic tessera	1	20	20		Small square amber coloured plastic 'tile' with chamfered edges (20mm x 20mm)	South end of wreck	C 20+	June 2008
5051-0021	Coal		5				5 small pieces of coal	South end of wreck	Unknown	June 2008
5051-0022	Concretion		13				13 small unidentified fragments / slag?	South end of wreck	Unknown	June 2008
5051-0023	Glass	Bottle	7		85		7 shards of dark green cylindrical wine bottle	South end of wreck	C 19+	June 2008
5051-0024	Glass		3				3 fragments of clear glass ; bottle/jar	South end of wreck	C 19+	June 2008
5051-0025	Pottery	Bottle	1	245	90		Complete stoneware brown glazed jar;cork intact; 'porter bottle' in Doulton 1873 catalogue; stamped 'R&I White Sittingbourne' on the shoulder;	South end of wreck – in wooden box	Late C 19	June 2008
5051-0026	Pottery	Jar	1	80	125		Complete yellow ware Mocha straight-sided squat jar and conical lid; tan and white glaze; blue leaf-like pattern	South end of wreck – in wooden box	C 19+	June 2008
5051-0027	Pottery	Jar	1	58	100		Complete yellow ware straight-sided squat jar and domed lid; banded decoration; tan glaze; black and white horizontal striped decoration	South end of wreck – in wooden box	C 19+	June 2008
5051-0028	Pottery	Lid	1		135		Complete yellow ware Mocha conical lid, as 5051-0026 but slightly smaller	South end of wreck – in wooden box	C 19+	June 2008
5051-0029	Pottery	Bowl	1		165		Refined whiteware (could be pearlware); small dish; transfer printed; blue transfer print of pseudo-Oriental landscape	South end of wreck – in wooden box	C 19+	June 2008

Object No	Material Type	Object Type	No.	Length (mm)	Width / Diameter (mm)	Thick (mm)	Description	Location on wreck	Date	Recovered
5051-0030	Wood	Block	1				Complete - small single sheave block	South end of wreck	Unknown	June 2008
5051-0031	Other metal	Spoon	1				Non-ferrous/pewter/precious metal teaspoon or small dessert spoon; dognose handle, stamped 'John Yates Crown Metal'	South end of wreck – in wooden box	C 19+	June 2008
5051-0032	Copper alloy		2				Brass fittings; latch?	South end of wreck – in wooden box	C 19+	June 2008
5051-0033	Pottery		6				6 sherds of refined whiteware, treacle glaze; teapot (body, rim, handle), sprigged decoration; probably same vessel as No 5051-0049.	South end of wreck	C 19+	June 2008
5051-0034	Pottery	Lid	1				Refined whiteware, treacle glaze; tea/coffee-pot lid	South end of wreck – in wooden box	C 19+	June 2008
5051-0035	Animal bone		1				Cattle vertebra; sawn/chopped	South end of wreck	Unknown	June 2008
5051-0036	Pottery	Jar	1	180	135		Complete stoneware jar; 'bung jar' in Doulton 1873 catalogue	South end of wreck	Late C 19	June 2008
5051-0037	Fibre		3				2 fragments of synthetic; 1 fragment felted with possible nail hole	South end of wreck	C 20+	June 2008
5051-0038	Brick		1				Small orange brick fragment / concrete	South end of wreck	Unknown	June 2008
5051-0039	Coal		4				Coal	South end of wreck	Unknown	June 2008
5051-0040	Concretion		9				9 small unidentified fragments	South end of wreck	Unknown	June 2008
5051-0041	Wood		several				Several worked wood fragments; water worn and eroded; some laths etc	South end of wreck	Unknown	June 2008
5051-0042	Fibre	Rope	2				2 small fragments; one has stopper knot	South end of wreck	Unknown	June 2008
5051-0043	Copper alloy	Rigging fitting?	1		37	22	Small cuprous ring; possibly from a sheave or deadeye; 52/37mm external/internal diameter	North end of wreck	Unknown	June 2008
5051-0044	Copper alloy	Rigging fitting?	1		41	23	Small cuprous ring; possibly from a sheave or deadeye; 63/41mm external/internal diameter	North end of wreck		June 2008
5051-0045	Wood	Shovel or spade handle	1	160	120	30	Shovel or spade shield-shaped handle; roughly inscribed with 'W' followed by a probable 'D' or possibly a 'G'.	North end of wreck	Post-medieval	June 2008

Object No	Material Type	Object Type	No.	Length (mm)	Width / Diameter (mm)	Thick (mm)	Description	Location on wreck	Date	Recovered
5051-0046	Wood	Shovel or spade handle and shaft	1	430	120	43	Shovel or spade T-bar handle and shaft; thickness is diameter of shaft at lower end; 5 notches at top of shaft	North end of wreck	Post-medieval	June 2008
5051-0047	Wood	Shovel or spade handle and part shaft	1	340	220	40	Part shovel or spade shield-shaped handle and part shaft; broken across handle; thickness is diameter of shaft at lower end	North end of wreck	Post-medieval	June 2008
5051-0048	Wood		5				Possible tool handle fragments; 30-45mm diameter; 3 very worn; 2 could be from handle(s) as 5051-0045, 5051-0046 etc	North end of wreck	Unknown	June 2008
5051-0049	Pottery	Tea Pot	1				Numerous fragments of refined whiteware, treacle glaze; teapot (body rim, handle, spout), sprigged decoration (moulded leaf/flower decoration); probably same vessel as 5051-0033	North end of wreck	Late C 19	June 2008
5051-0050	Pottery	Flagon	1	330	180		Glazed upright bottle; cork in situ; handle attached to shoulder and base of neck missing	North end of wreck		June 2008
5051-0051	Wood	Barrel Stave	Several				Several barrel stave and lid fragments; barrel diameter at top 315mm; half-round dowels/pegs	North end of wreck	Unknown	June 2008
5051-0052	Wood		Several				Several fragments of worked wood including fragment of 20mm thick plank; one piece burnt; 2 very worn	North end of wreck	Unknown	June 2008
5051-0053	Brick		6			65	5 yellow and 1 red brick fragments; one piece is 65mm thick, unfroged, coarse and ?highly fired.	North end of wreck	Post-medieval	June 2008
5051-0054	Concretion		3				3 small concretions; possible metal fastenings	North end of wreck	Unknown	June 2008
5051-0055	Wood		1	250			Unidentified water worn object; very worn, rounded, 'point' at one end	North end of wreck	Unknown	June 2008
5051-0056	Animal bone		4				2 cattle; 1 sheep/goat	North end of wreck	Unknown	June 2008
5051-0057	Fibre	Rope	1				Small fragment of natural fibre rope	North end of wreck	Unknown	June 2008
5051-0058	Fibre		1				Small compressed lump of fabric, coarse weave	North end of wreck	Unknown	June 2008
5051-0059	Iron	Iron or steel plate	1			11	Drainpipe: small fragment; very limited concretion	North end of wreck	Post-medieval	June 2008
5051-0060	Concretion		1				Concretion – could be nail	North end of wreck	Unknown	June 2008

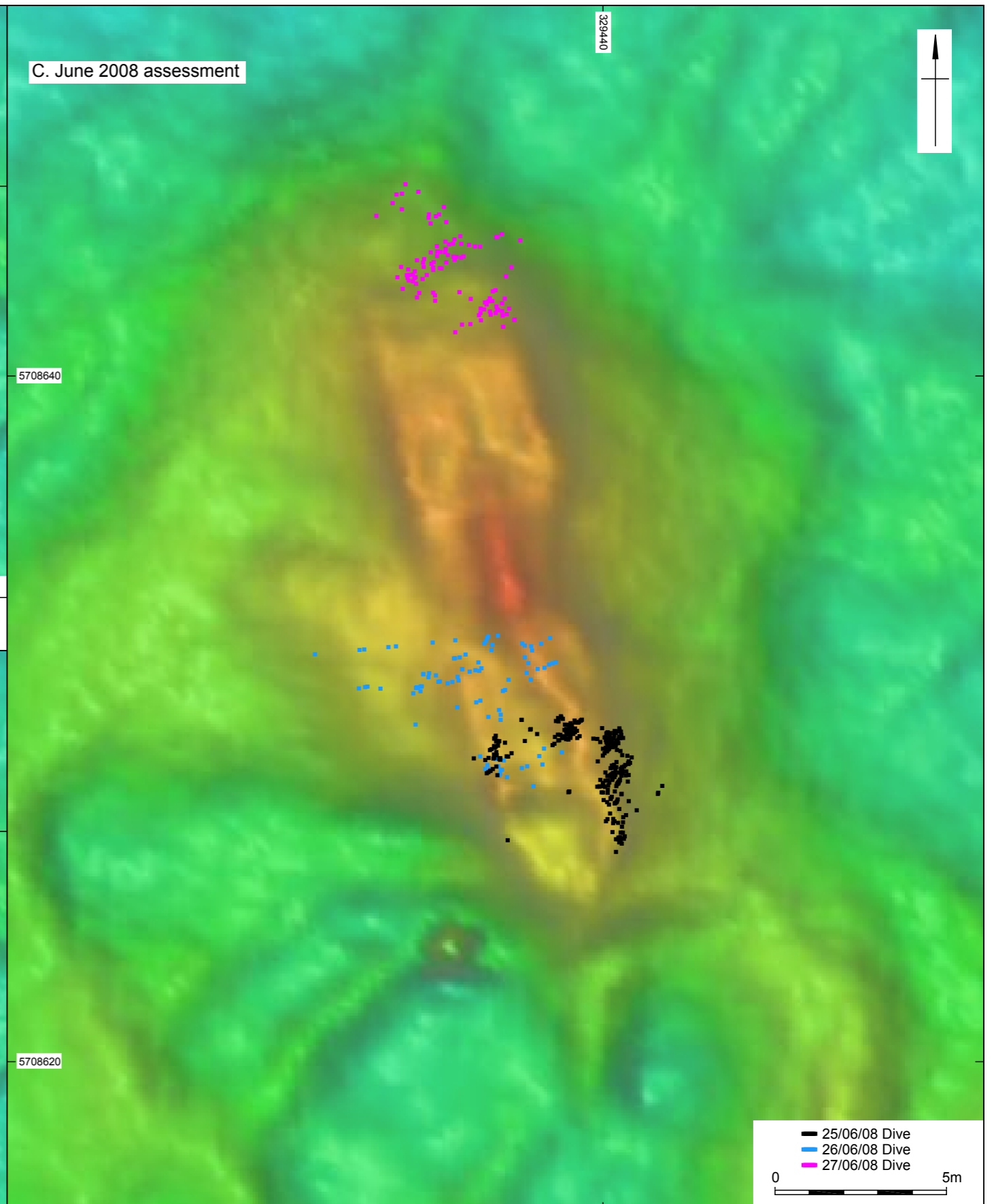
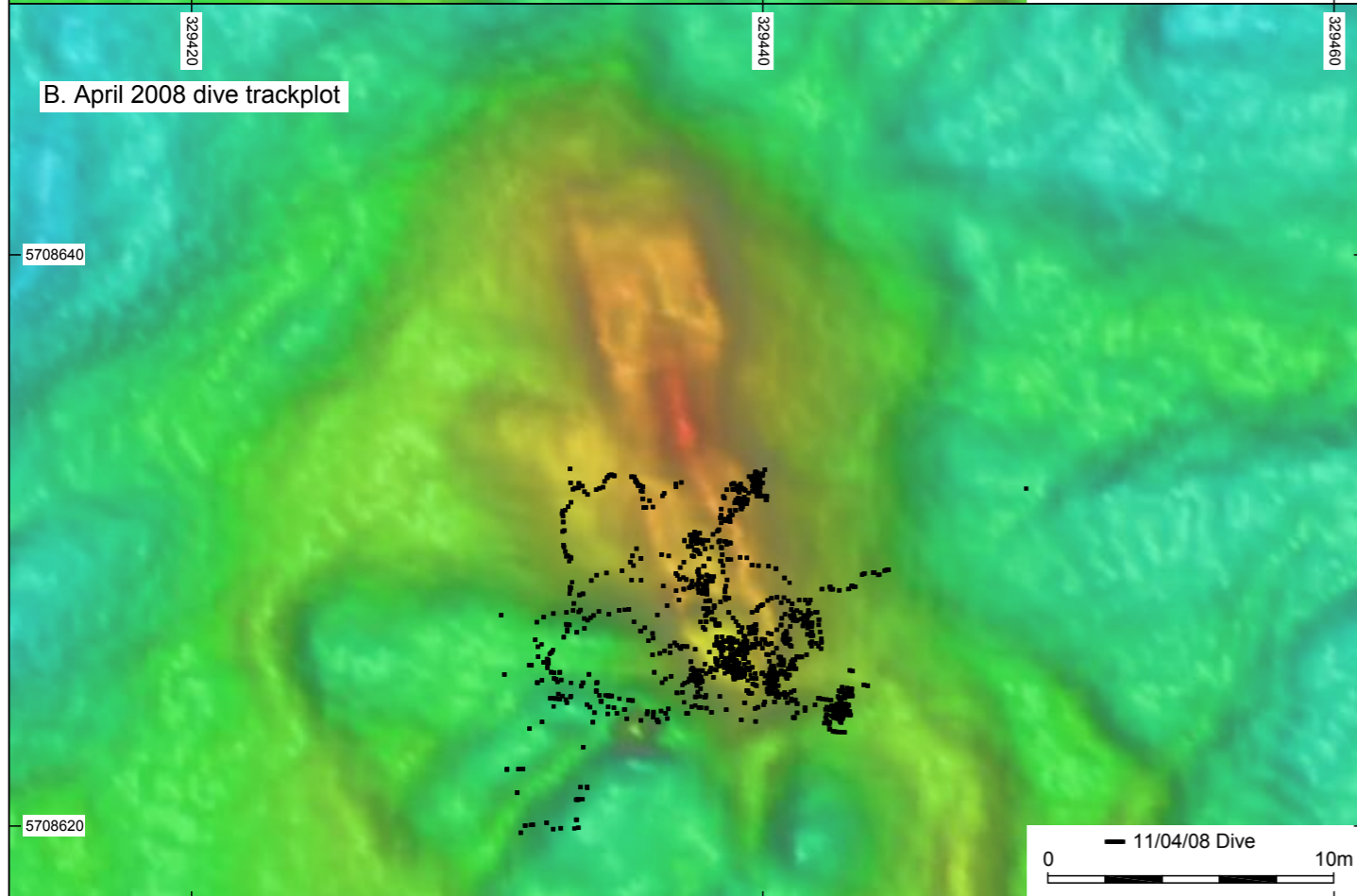
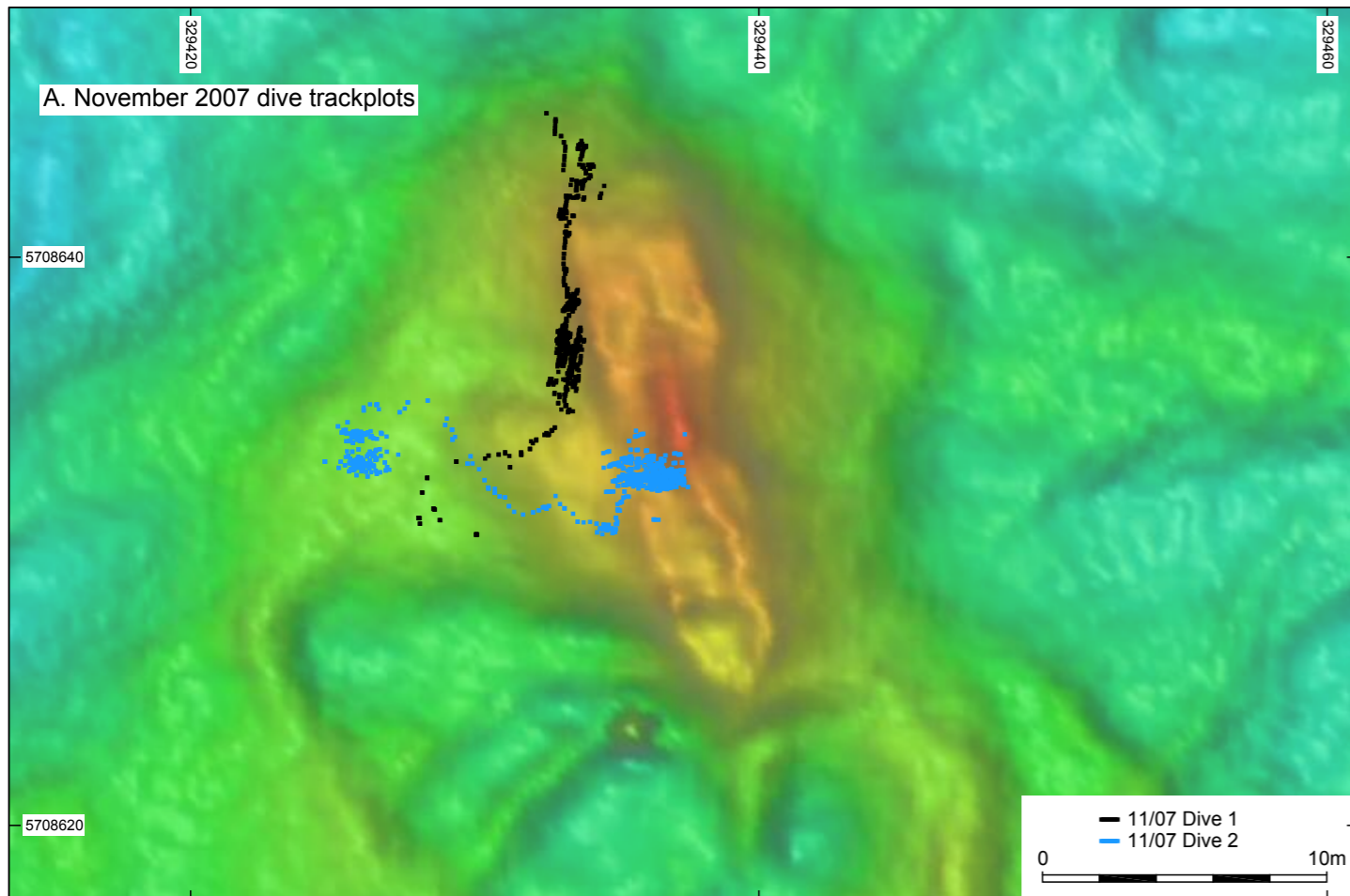
Object No	Material Type	Object Type	No.	Length (mm)	Width / Diameter (mm)	Thick (mm)	Description	Location on wreck	Date	Recovered
5051-0061	Glass	Bottle	2		35		2 shards of clear jar, rim & body	North end of wreck	C 19+	June 2008
5051-0062	Glass	Bottle	6				6 shards of bright green glass drink bottle	North end of wreck	C 20+	June 2008
5051-0063	Pottery	Jar	1				1 sherd white glazed straight sided vessel with vertical ribbed decoration; possible jar	North end of wreck	C 19+	June 2008
5051-0064	Pottery		2				2 small sherds of refined whiteware, blue transfer pattern	North end of wreck	C 19+	June 2008
5051-0065	Pottery	Clay pipe	2				2 fragments of clay pipe stem	North end of wreck	Post-medieval	June 2008
5051-0066	Leather	Shoe	1				Shoe – upper (quarters) with lace holes	North end of wreck	C 19+	June 2008
5051-0067	Leather	Boot	Several				Pieces of boot (probably single item, same as 66); upper (vamp); 9 pieces of sole	North end of wreck	C 19+	June 2008
5051-0068	Wood		Several				Several water worn worked wood fragments	North end of wreck		June 2008



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Location of Wreck 5051

Figure 1

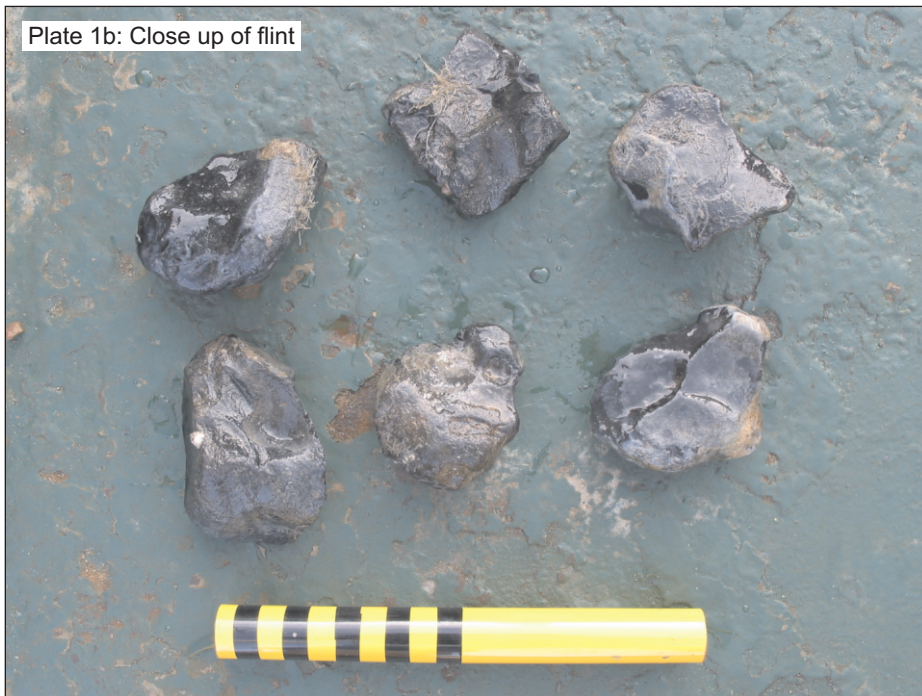


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Plate 1a: Pile of flint



Plate 1b: Close up of flint



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Plate 2a: Pottery Flagon (5051-0012)



Plate 2b: Pottery Flagon (5051-0012), view of all three stamps



Plate 2c: Plate (5051-0013) - front of plate

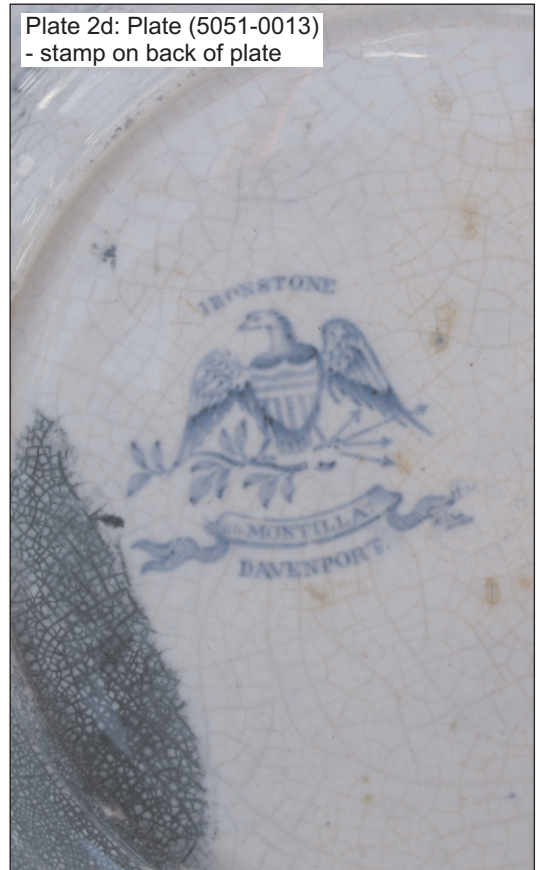

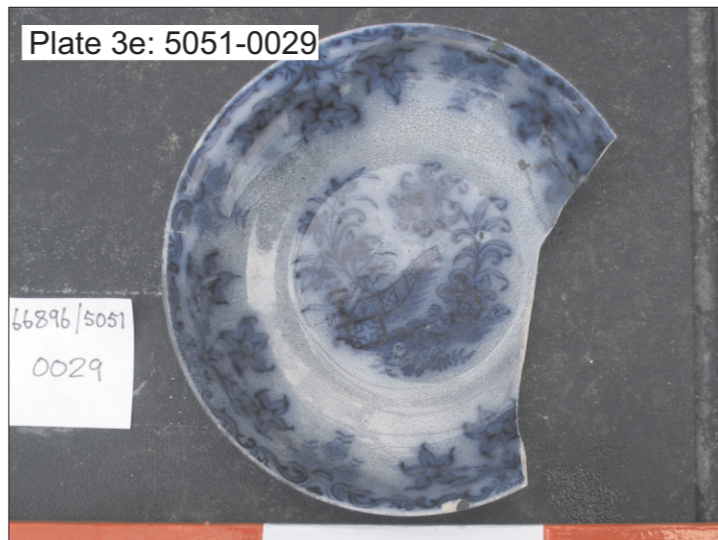
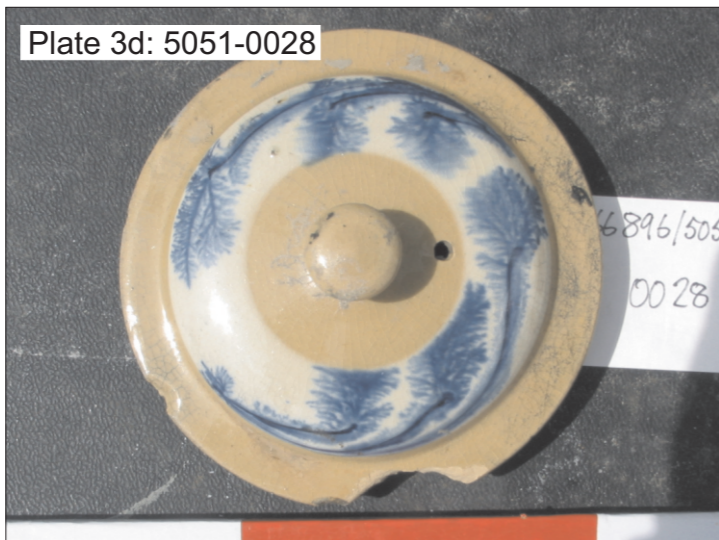


Plate 2d: Plate (5051-0013) - stamp on back of plate

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