

# Dredged Up

Issue 21  
Autumn 2017

Archaeology Finds Reporting Service Newsletter



Welcome to issue 21 of **Dredged Up**, the newsletter of the Marine Aggregate Industry Protocol for the Reporting of Finds of Archaeological Interest. Since the last newsletter in May 2017, **30 finds** have been reported and six wharves visited.



Water pump  
(see page 2)

THE ONGOING SUCCESS of the Protocol is made possible through the enthusiasm and dedication of wharf and vessel staff, so everyone from the **Implementation Team** would like to thank every one of you. In this issue, we particularly welcome a new **Site Champion** at CEMEX Leamouth Wharf (**page 7**).

**Pages 2 and 3** display a selection of the finds that have been reported since the last issue, including one of the best examples of a mammoth tooth the Protocol has ever received.

On **page 4**, we highlight the three main ways in which archaeological material may end up on the seabed and therefore in the cargo of the dredgers.

We have been sharing our flint finds via social media's 'Flint Fridays', so we have brought together some of these wonderful finds that have been reported through the Protocol since 2005 on **page 5**.

**Page 6** allows you to meet our in-house specialists at Wessex Archaeology's Salisbury Office that deal with some of the unusual finds reported through the Protocol. We also proudly announce the new Protocol Facebook page.

Finally, the **back page** demonstrates how the Marine Aggregate Industry Archaeological Protocol is interacting with individual wharves.



#### Team News

Since the last issue of **Dredged Up**, Peta Knott has sadly left the team. Peta worked tirelessly on the Protocol since 2013 and will be missed. Lowri Roberts (above) has since joined the team and has been busy with wharf visits over the summer. The Protocol will continue to be implemented by Lowri Roberts and Alistair Byford-Bates under the guidance of long-time team member Vicki Lambert. The project is managed by Andrea Hamel on behalf of Wessex Archaeology.

Book your Protocol Awareness Visit today  
email us at [protocol@wessexarch.co.uk](mailto:protocol@wessexarch.co.uk) or call us on **01722 326867**

# Round up of finds since the Spring Issue

An excellent example of a **mammoth tooth** (Britannia\_0791) was reported through the Protocol in June this year by Cliffe Wharf in Kent and most probably comes from the South Coast dredging region. The tooth measures 160 mm by 140 mm. Images of the find were sent to experts at the Natural History Museum who concluded that this example is a complete left lower first molar of an adolescent woolly mammoth, *Mammuthus primigenius*. Woolly mammoth were in existence in Europe during the late Middle and Late Pleistocene, dating from 350,000 to 10,000 thousand years ago. European mammoths have conventionally been divided into three species: *Mammuthus meridionalis*, *Mammuthus trogontherii*, and the woolly mammoth, *Mammuthus primigenius*. Important changes can be seen in the teeth of the mammoths as each species evolved; there is an increase in the number of enamel bands (plates) in the molars, and thinning of the enamel. The dental changes resulted in increased resistance to abrasion, which is believed to indicate a shift from woodland browsing to grazing in open grassy habitats of the Pleistocene.



Britannia\_0791

0 50 mm

Tarmac\_0780 is a brass and copper **pipe coupler** that was discovered on the vessel *City of Chichester* and most probably comes from the South Coast dredging region. Brass and copper do not spark therefore the coupler could be related to fuel pipes, providing protection against fires and explosions aboard vessels. The wider end with the large thread (male end) has a series of holes around it to accommodate a spanner or key to tighten the thread into a possible pump housing or fuel tank. The other end has a female housing with large brass nut. This end possibly connected to a flexible hose or pipe.



Tarmac\_0780

0 100 mm

CEMEX\_0788



Ryszard Bartosiak discovered this **water pump** (CEMEX\_0788) on board the vessel *Sand Heron* in Licence Area 340, approximately 10 km south-east of the Isle of Wight.

The pump is made from brass, measures 200 mm by 150 mm and the word 'PATENT' is inscribed on the right-hand side of the object. It has been established that CEMEX\_0788 is a centrifugal water pump used as part of the engine cooling system found on maritime vessels. The 'top' of the object would be connected to the engine via two larger machine fit holes. There is a pulley wheel in the central area that is turned by a belt. The two pipes at the 'base' of the pump are inlet and outlet pipes. Sea water would be pumped through the inlet pipe and circulated around the engine as a means of cooling the components before being expelled through the outlet pipe. Curved vane centrifugal pumps were introduced by British inventor John Appold in 1851 and were adapted for use on steamships from this date onwards.



CEMEX\_0770

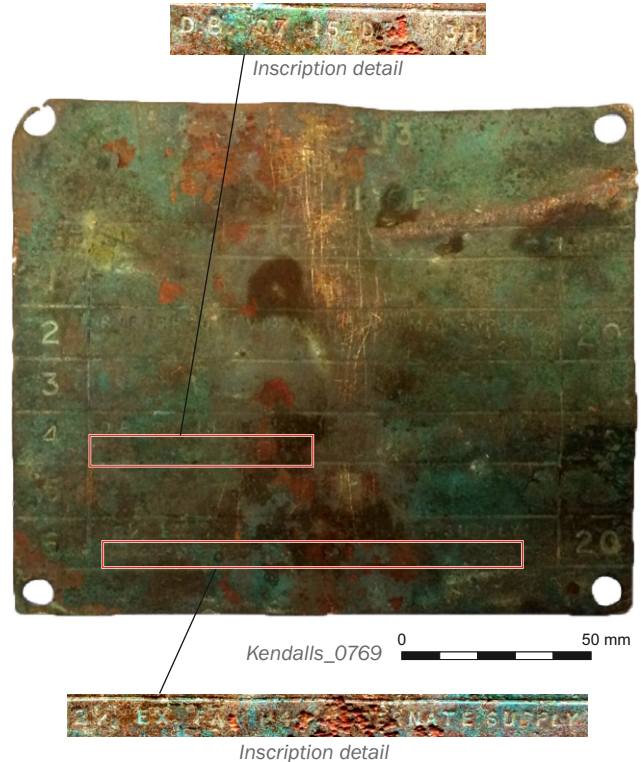
This **webbing net** was discovered by Bob Hebblethwaite on board *Sand Fulmar* in Licence Area 512 in the South Coast dredging region, approximately 18 km south-east of Great Yarmouth. CEMEX\_0770 is a webbing net with associated aluminium fittings and research suggests that based on its size, it is the drogue parachute from an air dropped torpedo or sonobouy. The Royal Navy's Merlin Mk2 helicopters deploy the training version of the Sting Ray torpedo, and it is possible that the parachute, once separated from the torpedo would travel some distance, if not recovered at the time of deployment with the practice torpedo. Another possibility based on the unusual aluminium frame is that it is part of an experimental air-to-air refuelling drogue, that has been lost. More recent designs have metal braces for all the petals of the drogue, but early experimental versions were made in a range of designs.





Tarmac\_0779

The remains of a brass **porthole ring** (Tarmac\_0779) were discovered by L. Weedon at Shoreham Wharf, East Sussex. The find was dredged from Licence Area 395/1 in the South Coast dredging region, approximately 12 km south-west of Selsey Bill. The remains do not include the second frame that would have been hinged to the remaining frame and would have contained the glass or the deadlight (a metal plate that was both a curtain and a reinforcement against heavy seas). This porthole ring has an internal diameter of 260 mm. Modern types such as Tarmac\_0779, appeared in 1863, where a hinged frame containing the glass would be attached along with the deadlight.



Kendalls\_0769

A **fuse box plate for a Bofors gun** (Kendalls\_0769) was discovered by Fraser MacGregor at Shoreham Wharf, West Sussex in April and was recovered from the South Coast dredging region. The cover is made of copper or brass, measures 160 mm by 135 mm with mounting holes in the four corners and features embossed letters and numbers. The first figure indicates the circuit number, and the last one is the fuse rating. The text in the centre column is what is on the different circuits. Circuit two appears to refer to 'BOFORS G1 VIA A[C] O S NORMAL SUPPLY O2 DK'. Circuit four has 'D.B G7 - 15 - D[?] 3 H 2' visible and circuit six appears to be the '2[?] EX [?] [ALTER]NATE SUPPLY'. This suggests that it is from a Bofors gun mount. The Bofors gun was a Swedish anti-aircraft gun developed in the 1930s and widely adopted, being used by both the Allied and Axis powers during the Second World War, and was still in use until the 1980s by the Royal Navy. Electricity powered the fire control system in combination with an electromechanical analog computer to calculate firing solutions such as where to aim the gun based on the target aircraft's speed and direction.



CEMEX\_0795

This large **fossilized animal bone** (CEMEX\_0795) measuring 240 mm by 120 mm was discovered at Northfleet Wharf in Kent and probably comes from the South Coast dredging region. Images of the find were sent to experts at the Natural History Museum for further identification and examined by our inhouse specialist, Lorrain Highbee. It was concluded that this example is probably a fragment of a limb bone shaft of a large mammal, possibly a tibia belonging to a woolly mammoth, *Mammuthus primigenius* or woolly rhinoceros, *Coelodonta antiquitatis*. A 3D model has been created of it and is available for you to view at <http://tinyurl.com/y9st9k3d>.

A cast iron **cannonball** (Tarmac\_0784) was discovered at Southampton Burnley Wharf by Jon Jerromes. The cannonball was dredged in Licence Area 127 in the South Coast dredging region, approximately 13 km south-south-east of Hengistbury Head. The find is probably post-medieval in date and is heavily corroded due to the marine environment. Based on the material and the diameter of 140 mm or 5.5 inches, it is believed that this cannonball may have been fired from a Culverin; a smooth-bored brass gun with a long barrel used to bombard targets from a distance. Culverin was a class that included a range of different guns, however, the Culverin gun itself is the largest of this class with a 5.5 inch bore. The Culverin gun weighed around 4500 pounds and the shots fired from it would typically be between 17.5 and 18 pounds. These guns were used by the French in the 15th century, and later adapted for naval use by the English in Henry VIII's Royal Navy in 1546.



Tarmac\_0784

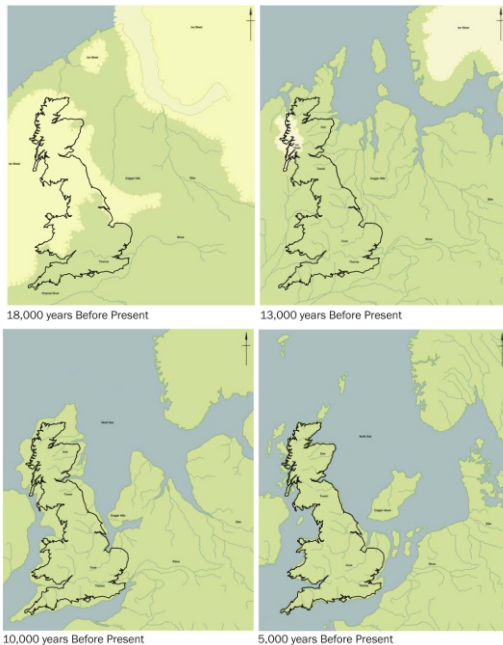
**We would like to thank everyone involved in the Protocol for their efforts, and we are looking forward to the ongoing reporting of finds.**

# How do finds get to the seabed?

Archaeological material may end up in marine environments via three main routes: Submerged Prehistoric Landscapes; Boats and Ships; and Aircraft.

## Submerged Prehistoric Landscapes

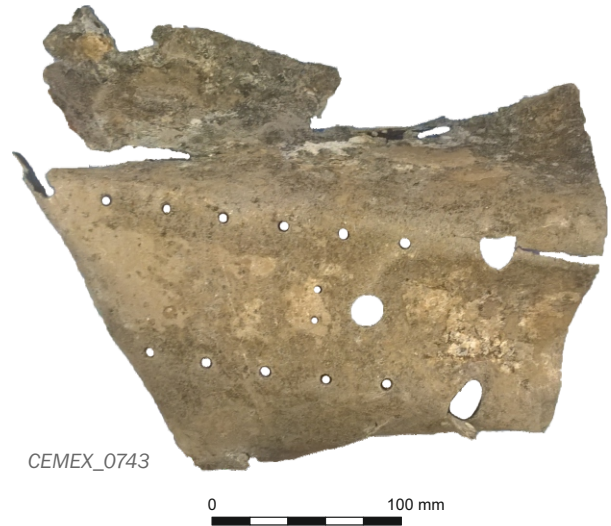
During the last 2.5 million years, known as the Pleistocene on the geological timescale, there have been numerous cold periods, called 'glacials', separated by warmer periods called 'interglacials'. During the colder periods, large ice sheets covered much of Britain and most of the north-west European Peninsula. At these times, sea levels were low and large expanses of land were being utilised by humans and animals. Those land masses now form the seabed of the North Sea and the English Channel, therefore any prehistoric finds reported through the Protocol may date to a time when the seabed was dry land.



Submerged landscapes and changing sea levels

## Boats and Ships

Archaeological material from boats and ships can vary from ships' timbers to **fixtures and fittings** (such as Tarmac\_0782) to cargo. Humans have been successfully crossing bodies of water for many thousands of years and the evidence of that activity can remain preserved and undisturbed on the seabed. Finds from every period of shipping history can be found on the seabed which can aid our understanding of how the sea was being used at different points in history. Possible **cannonballs** from Henry VIII's fleet, such as Tarmac\_0790 reported through the Protocol, give insight to where the Navy were practising during this time. Alternatively, finds reported through the Protocol are often thought to have been lost overboard during every day shipping operations or discarded at sea perhaps because they were broken.

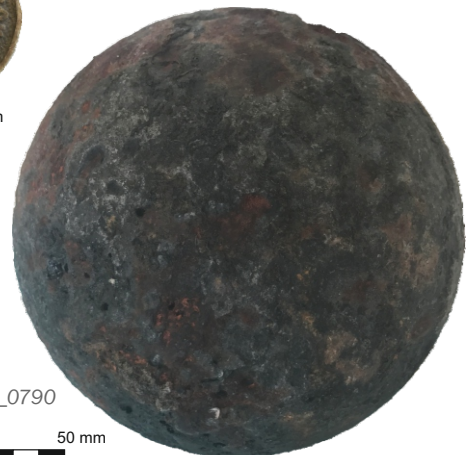


## Aircraft

Aviation has added another dimension to the archaeology of the seabed in the last 100 years, and more especially in relation to remains dating from the Second World War. Aircraft crash sites may often be missed on geophysical surveys due to the lightweight materials used in their construction and the degree of disintegration that can occur, due to the damage that downed them and their impact with the surface of the sea and then the seabed. The locations of aircraft crash sites were often estimated or are vague, and many records were destroyed after the war. Some aircraft sites may be sensitive as they may be the final resting place of crew members and so their discovery is extremely important. **Fragments of aircraft** such as CEMEX\_0743 are reported through the Protocol every year.



Tarmac\_0782



Tarmac\_0790



## Focus on Flints

WE'VE BEEN SHARING our **flint finds** through social media's 'Flint Fridays' using the hashtag **#flintfriday**. Examples of flint discoveries from terrestrial and marine contexts are highlighted on Wessex Archaeology's website and are promoted through the Protocol Facebook page, and the Wessex Archaeology Facebook, Twitter and Instagram feeds. It has been a great opportunity to showcase some of the beautiful flint artefacts that have been reported through the Protocol over the years.

Arguably the most important collection of flint finds reported through the Protocol was recorded on 13 February 2008 as Hanson\_0133. The finds were reported by Hanson Aggregates Marine Ltd (the licensee) and described as '28 x **hand axes**, mammoth molars, tusk fragments and antlers'. They were recovered from Area 240, a dredging area situated approximately 11 km east off the Norfolk coast. On further analysis, it was established that 88 flint artefacts were present in the assemblage, classified as 33 hand axes, eight cores, and 47 complete and fragmentary flakes. In 2014, this important discovery was published in the *Journal of Quaternary Science* and in 2015 *Seabed Prehistory Investigating the Palaeogeography and Early Middle Palaeolithic Archaeology in the Southern North Sea*, which discusses the finds in detail, was published.

UMA\_0182 is a **struck flint flake** discovered by Derek Orvington, UMA's Technical Manager, during a visit to Greenwich Wharf on 3 June 2008. The flint was found within a small stockpile of reject material next to the main stockpiles. Because of this, the dredging region is unknown. Greenwich Wharf handles aggregate dredged from licence areas from the east coast which has helped us to understand where this flake may have come from. The flint was sent to Wessex Archaeology in Salisbury for examination by Matt Leivers, a flint specialist, who confirmed that the flint was indeed struck by human action. This type of flint is known as a waste flake. To make an effective cutting edge the knapper would remove the cortex, or outer coating of the flint, creating a sharp edge. This would have been done by striking flakes, such as UMA\_0182, from the nodule using a hammerstone or a piece of antler.

Hanson\_0180 consisted of two mammoth teeth and two **flint finds**. These finds were discovered by Captain A. Mills at Hanson's SBV Flushing Wharf found in material dredged on 22 June 2008 from Area 240, approximately 13 km east of Great Yarmouth. These finds were discovered on the reject pile at Hanson's SBV Flushing Wharf while the cargo of aggregate was being discharged from the *Arco Arun*. Having examined the photographs, Matt Leivers thought that the flint finds were natural and thermally-fractured. However, following an examination of the pieces, he concluded that one of the artefacts showed possible signs of



striking. This flint may have been the waste product during the knapping of a flint tool such as a handaxe, rather than representing a tool itself. These finds may date to a time when the seabed was exposed as dry land during an Ice Age, when the capturing of water within ice sheets resulted in a reduction in sea levels. The discovery position of these finds is situated to the north-west of an identified concentration of worked flint and mammal remains.

In May 2006, a collection of artefacts was reported from the Steenkorrel Wharf in Amsterdam (CEMEX\_0039). The material came from a load dredged by the CEMEX vessel *Sand Falcon* from Licence Area 360 off Great Yarmouth. The collection was found to contain wood, peat, mineralised bone, antler and a single piece of **struck flint**. The struck flint was identified as man made by Matt Leivers. The nature of the recovery of the remains means that it is not possible to guarantee that all the items are contemporary. However, the presence of reworked fragments of peat is certainly suggestive that the material has eroded out of a peat layer. If we assume that the material is broadly contemporary then a submerged terrestrial land surface, probably of Early Mesolithic date (c. 8500 BC), is the most likely origin of the material.



# Meet the Specialists

## Lorrain Higbee

Lorrain Higbee is a Zooarchaeologist at Wessex Archaeology. She helps to identify any animal bones and teeth reported through the Protocol. Lorrain has worked in the commercial archaeological sector for over 20 years, both as a field archaeologist and as a specialist. She analyses animal bones recovered from sites of all periods. She also maintains Wessex Archaeology's modern reference collection of mammal, bird and fish bones, which she uses to help identify the more unusual animal bones that come her way.



## Matt Lievers

Matt Lievers joined Wessex Archaeology in 2004 as a Senior Specialist and is always happy to help with the Protocol by identifying any worked flint reported through the Protocol. He has broad expertise in the British Neolithic and Bronze Age; his core specialisms are in Neolithic and Bronze Age pottery and post-glacial worked flint of all periods. His research and publications include analysis of assemblages from throughout the UK, as well as Ireland and the Netherlands.

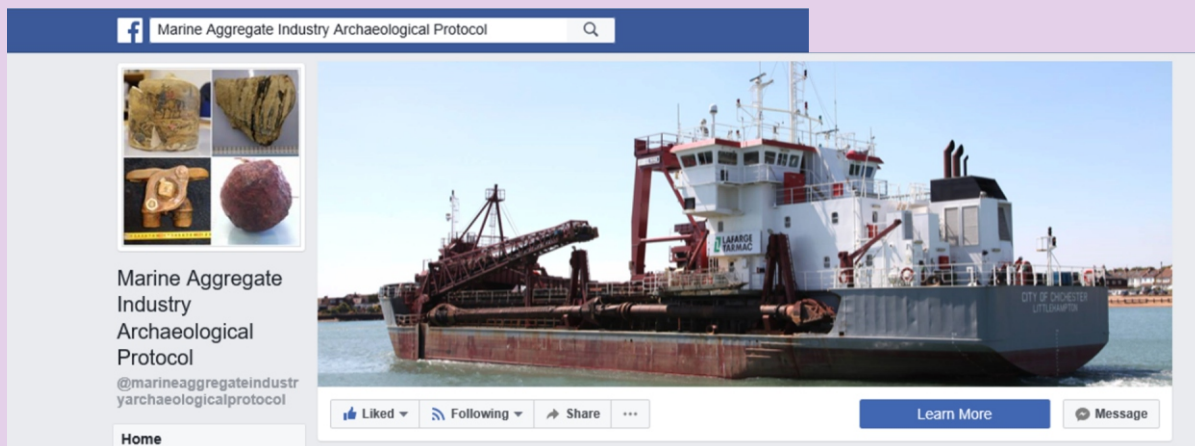


## Bob Davis

Bob is a Senior Building Archaeologist and has a broad knowledge of several aspects of archaeology. He has worked for Wessex Archaeology since 1990 and has an interest in numerous periods of history which means he has a broad knowledge of finds, and in particular flint artefacts. Because of his many years of experience, any unusual finds are usually sent Bob's way, and he always does his utmost to help identify them.

# Protocol on Facebook

SINCE THE LAST NEWSLETTER we have set up a **Protocol Facebook page!** This year we have been focusing on outreach and have taken steps to improve our social media presence. We have been busy publishing the finds we receive through the Protocol so that wharf and vessel staff and the public can engage with the discoveries. If you would like to keep up to date with the Protocol, please give our Facebook page a like at <https://www.facebook.com/marineaggregateindustryarchaeologicalprotocol/>.





# New Site Champion in Southampton

A NEW **Site Champion** has been appointed at CEMEX's Leamouth Wharf in Southampton. We would like to welcome Steve Bomber to the team of Champions! After receiving the Marine Aggregate Industry Archaeological Protocol awareness talk in June, Steve expressed an interest in archaeology and was happy to take on the responsibility of **Site Champion** once the position became available. Steve has since reported his first find; the first ever for Leamouth Wharf in the form of a **flat belt pulley wheel** (CEMEX\_0796) (right) and we look forward to further discoveries!



Steve Bomber



CEMEX\_0796



0 50 mm

## Protocol Feedback

THIS YEAR, we have received some great feedback and suggestions from wharf staff that will help in making the **Protocol** an even bigger success. It has come to our attention that some wharf staff would prefer more direct contact from the **Implementation Team**, particularly with regards to the distribution of finds reports. As a team, we are going to rectify this by sending relevant reports back to the **Site Champion** for the individual wharves or vessels that the finds were reported from, as well as to the **Nominated Contact** for each company. This way, it ensures that everyone is better informed on the objects coming from their wharf or vessel and hopefully, it will encourage everyone to continue the high level of reporting that we have received this year. If you would like to make further suggestions, please send an email to [protocol@wessexarch.co.uk](mailto:protocol@wessexarch.co.uk).

## 2017 Wharf Visits

THE SUCCESS of the wharf visits this summer by members of the **Implementation Team** have reiterated the dedication of the staff at the wharves. We appreciate all the enthusiasm and cooperation, and we have enjoyed visiting six individual wharves so far this year:

1. Brett Aggregates Ltd, Cliffe Wharf, Kent;
2. CEMEX UK Materials Ltd, Wessex Wharf, Poole;
3. Tarmac Limited, Burnley Wharf, Southampton;
4. CEMEX UK Materials Ltd, Northfleet Wharf, Kent;
5. CEMEX UK Materials Ltd, Brighton Wharf, West Sussex; and
6. Brett Aggregates Ltd, Ipswich Port, Suffolk.

During these visits, we discuss the different types of archaeological material that may be encountered by the dredgers as well as how it may have come to be in the marine environment. We also bring a collection of material with us to demonstrate the variety of finds that have been reported since the Protocol was implemented in 2005. One of the finds in our awareness case is a **relish pot** that was reunited with its finder this year during our visit to Brighton wharf. Michael Pettitt discovered the pot (CEMEX\_0207) and reported it back in 2009. The pot depicted battle scenes from the Napoleonic period (right). A partial inscription reads 'the battle of the A...' with the final word missing except for the first letter 'A'. Looking at Napoleonic Battles with a name beginning with an 'A' only 11 examples exist and of this only one battle has 'the' before the place name. This is the Battle of la Albuera, which was a small Spanish village where a mixed force of Spanish, Portuguese and British corps faced elements of the French Army of the South on the



Cliffe Wharf, Kent

16 May 1811. Both sides faced heavy casualties but the French Army was eventually forced to retreat. View our 3D model of the pot at <http://tinyurl.com/y92dtsff>.

If you would like to arrange an awareness visit as a refresher, please contact the team (see contact details below).



Napoleonic battle scene on the relish pot (CEMEX\_0207)

For more information on the Protocol,  
how to book visits or to request copies of any awareness material  
please contact Wessex Archaeology  
Email: [protocol@wessexarch.co.uk](mailto:protocol@wessexarch.co.uk) Tel: **01722 326867**  
Or visit Wessex Archaeology's Protocol website  
[www.wessexarch.co.uk/projects/marine/bmapa](http://www.wessexarch.co.uk/projects/marine/bmapa)

# Protocol

for the Reporting of Finds of Archaeological Interest