Dredged Up

Archaeology Finds Reporting Service Newsletter

Issue 24
Spring 2019

Welcome to Issue 24 of ***Dredged Up***, the newsletter of the Marine Aggregate Industry Archaeological Protocol. Since the last newsletter in September 2018, **23 finds** have been reported in 18 reports and two wharves have been visited.

Pulley sheave
(see page 5)

We'd like to say a BIG THANK YOU to everyone who has reported finds through the Protocol since the start of the new reporting year and to everyone who has been in touch with us.

Pages 2 and **3** showcase a selection of finds that have been reported since the last issue of *Dredged Up*.

We are celebrating our annual finds awards on **pages 4** and **5**. Find out who the winners of the best find, the best attitude by a wharf and the best attitude by a vessel are as well as our runners up. Congratulations to them all!

We have new **Site Champions** at Dagenham Wharf. Read all about them on **page 6**.

Page 7 gives an insight into early dredging activities and dredging barges written by Paul Whittle, a retired employee of the Marine Aggregate Industry.

On **page 8**, we celebrate yet another display of past finds reported through the Protocol at the **Boscombe Down Aviation Collection** as well as an update on the display of a propeller reported through the **Marine Antiquities Scheme**.

If you would like to book an awareness visit, then get in touch by emailing **protocol@wessexarch.co.uk** or call **01722 326867**

A Round-up of Finds since the Autumn Issue

From 1 October 2018 to the present, we have had 23 archaeological finds reported through the Protocol. Over the next two pages we will look at the range of material reported.

Hanson_0898
(no scale provided)

This fairly **large fragment of bone** (Hanson_0898) was discovered in Licence Area 401/2B in the East Coast dredging region, approximately 22 km east of Lowestoft. M. Morley discovered it on board *Arco Avon*. The image of the find was sent to Lorrain Higbee, the animal remains expert at Wessex Archaeology, who examined it and determined that the bone looks like the proximal end of a femur and that it more than likely belongs to cattle. A femur is the upper part of the leg bone; with the head (proximal end) of the femur articulating with the acetabulum in the pelvic bone forming the hip joint, while the distal part of the femur articulates with the tibia and fibula. A cow has two femurs; one in each hind leg. It was originally thought that the bone had been burnt due to the black colour appearing at each end. Lorrain said that it is difficult to say from the photo since staining can happen as a result of being in waterlogged conditions particularly if the sediment has a high organic content.

This **cannonball** (Brett_0901) was discovered by George Lee-Amies at Cliffe Wharf. The find is from an oversize stockpile and therefore the exact licence area is unknown, but it is thought to have come from Area 498 in the Thames or Area 461 in the East English Channel. Brett_0901 is a cast iron cannonball reported as having a diameter of 110 mm or 4.3 inches. Based on the diameter alone, this cannonball could have been fired by a Demi Culverin. A Demi Culverin is a medium sized smooth-bored brass gun with a long barrel used to bombard targets from a distance, developed in the late 16th century. Barrels of Demi Culverins were typically about 11 feet (3.4 m) long, had a calibre of 4 inches (100 mm) and could weigh up to 3400 pounds (1500 kg). Following the standardisation of artillery sizes by the British Board of Ordnance in 1716, rather than refer to guns by their various names, they were standardised to the weight of round ball that they fired, rounded up to the nearest pound of the commonest weights.

Brett_0901

Tarmac_0902 was correctly identified as being one half of a **bar shot** by staff at Greenwich Wharf with the remains of the iron bar protruding from the ball. It was discovered by Paul Scrace after being dredged in Licence Area 460 in the East English Channel dredging region, approximately 14 km south of Hastings. Despite being broken, the ball has a diameter of 120 mm. When whole, the bar shot consisted of two solid iron balls connected by an iron bar. They were only effective against wooden vessels and so fell out of use (as did cannon) when such vessels were replaced with steel plated vessels that did not rely on sails and masts for propulsion. Charles Trollope, an expert in historical ordnance, studied images and the available measurements of the finds. He confirmed that this was a bar shot and very much part of a warship's armoury, used to immobilise the opposition. He suggested that these examples would have been fired from a 12-pounder gun and date from the 17th century as the cast shot ends still have the casting mark where the two halves of the mould met. He determined that based on it being a 12-pounder gun, it was likely to be Dutch, but cast in Sweden. As this was found close to Hastings, Charles suggested that it may be connected to the Battle of Beachy Head that occurred in 1690 which was fought along the coast from Beachy Head to Hastings. The Battle of Beachy Head was a naval engagement fought during the Nine Years' War between the French and a coalition of the English, Dutch Republic, Spain, Savoy and the Holy Roman Empire. The Dutch lost nine ships while their English allies lost one. The French did not lose a single vessel and control of the English Channel temporarily fell into French hands.

Tarmac_0902

Tarmac_0891 is a modern **piece of alloy construction** measuring 180 mm by 170 mm believed to be an idler arm. It was dredged in Licence Area 460 in the East English Channel dredging region, approximately 14 km south of Hastings and was found at Greenwich Wharf by Paul Scrace. The number '1960' is printed in raised letters on the side of this object which may indicate the construction date of the find however this has not been confirmed. Images of the find were sent to Bob Clarke, Wessex Archaeology's Senior Research Manager, and Anthony Mansfield, a senior Naval Engineer. Bob identified the piece of alloy construction as an idler arm or similar from a control or torque tube system, also known as flying controls, making this a piece of aviation equipment. An idler arm is a pivoting support for the steering linkage in several automated vehicles. Anthony also agreed that the item belonged to the aviation world but believes that it is an actuator arm. An actuator is a component of a machine that is responsible for moving and controlling a mechanism or system, for example by opening a valve. Whether this component came from a wreck of an aircraft or it was just a part that was simply lost is unknown.

Tarmac_0891

Tarmac_0890

Tarmac_0890 is a fragment of a white or cream **glazed plate fragment** measuring 60 mm by 55 mm with half a printed stamp visible on its surface. The text inside the circular area reads 'MPANY LIMITED' while the text under the circle reads '& SONS' 'GLAND' 'Co LIM' and 'RPOOL'. It was dredged from Licence Area 500/3 in the South Coast dredging region and Barry Gardner discovered it at Burnley Wharf. Images of the find were sent to Wessex Archaeology's in-house pottery expert, Lorraine Mepham, who said that after analysing and looking for the stamp among sources, it became apparent that too much of it was missing to be able to properly identify it. Based on the 'RPOOL', it is assumed that the pottery originated from Liverpool. Liverpool, England, has been the site of many pottery and porcelain factories since the 18th century that produced a great variety of wares and some figures, with the main production being blue and white. Some printed wares, over and under glaze, were made as well as polychrome decorated pieces. Despite research, we have been unable to locate a company from Liverpool with an '& SONS' in their name or found a suitable equivalent to this stamp. Based on the glaze and colours, this fragment is most likely late 19th-century or early 20th-century in date.

This broken **metal object** (CEMEX_0906) was dredged in Licence Area 137 in the South Coast dredging region and discovered by Steve Bomber at Leamouth Wharf. It measures 400 mm long by 150 mm at its widest point. Graham Scott, a Senior Maritime Technical Specialist at Wessex Archaeology, suggested the find is a minesweeping cutter. During the First World War, trawlers and drifters were fitted with mine sweeping gear to clear moored contact mines. During the Second World War, cable cutters, which the crew called Sharks' Mouths, were attached to the minesweeping cable. On the end of the cable there was a float designed to move away from the minesweeper allowing a strip of sea to be swept. Once the contact mine's tether was cut and floating on the surface the minesweeper's crew would fire their rifles at it. The fact that no trace of a blade is visible on this minesweeping cutter may mean that it was heavily used and possibly discarded as it had reached the end of its working life. Alternatively, it could have been lost overboard during everyday operations or lost during wartime activities. A similar minesweeping cutter (CEMEX_0838) was found in the 2017–2018 reporting year from the same licence area and at the same wharf as this one. Although it is uncertain whether both cutters are related at this time, further finds of this nature should continue to be reported as they may be indicative of an area heavily associated with wartime activity.

CEMEX_0906

2017–2018 Finds Awards

It's time to celebrate the annual Finds Awards! In this issue, we are pleased to announce the winners and runners up from the 2017–2018 reporting year:

Best Attitude by a Wharf

This year, the winner of the best attitude by a wharf is **Tarmac's Marchwood Wharf**. Despite not reporting any finds themselves, the attitude of this wharf towards the Protocol is second to none and they have recently purchased cabinets to display past finds. During the summer of 2018, Marchwood wharf was visited by two members of the **Implementation Team** and all the staff were great sports when asked to pose with us for photographs. We can't thank you enough.

Visit to Marchwood Wharf

Runner-up of best wharf goes to **Hanson's Antwerp Wharf** who submitted a find from the Humber area, which does not happen regularly. Hanson_0873 consisted of a **hook and two bullets** which were discovered by Dirk Geleyn from Licence Area 106/3. The hook is similar to a crane hook that would have been attached to the crane via the hole at the top with a secure D ring rather than a fishing hook. Images of the two bullets were sent to Trevor Parker of the Ordnance Society who said that he thinks both are examples of British 20 mm cannon shells. Based on the image, he says they resemble Hispano bullets that are fired from aircraft, rather than Oerlikon bullets that are fired from ships.

Hanson_0873

Tarmac_0849

Best Attitude by a Vessel

The best attitude by a vessel goes to **Tarmac's *City of Cardiff*** with a big thank you from the Implementation Team for reporting the first finds from the north-west dredging region since 2007 and not only one, but two objects!

Tarmac_0849 is an **animal bone** discovered by Paul Warren Sinclaire in Licence Area 392, which is situated in Welsh waters. Images of the bone were sent to our in-house animal bone specialist, Lorrain Higbee. She said that this example is a tibia from a sheep or goat. She said that it looks quite gracile which means it is an unimproved breed and could be anything from prehistoric to medieval in date. Animal bone can enter the archaeological record offshore in a number of ways. There is the potential for the bones to be washed into the sea from terrestrial deposits. Alternatively, animal bones on the seabed may derive from an animal carried on-board a vessel. In the 18th and 19th centuries, ships would carry livestock as a source of fresh meat, with animals such as cattle, pigs, goats and poultry carried on-board.

Tarmac_0850 is a **pulley sheave**, also discovered in Licence Area 392 by a member of the crew of *City of Cardiff* and reported by Phil Robertson. The sheave measures approximately 220 mm in diameter and has a thickness of 40 mm. In a maritime context, sheaves are a wheel or disc with a grooved rim, used as a pulley in the ship's rigging system that sits inside a rigging block. Prior to the 19th century, sheaves and blocks were made entirely from wood; therefore, this find may date to this period. After this date, while the rigging blocks themselves remained to be made of wood for a period of time, the sheaves themselves changed to be made of metal as the groove around the rim would not wear down as quickly.

Tarmac_0850

Best Find

The best find this year is a beautiful example of a **hand grenade** and comes from **CEMEX's Leamouth Wharf**. CEMEX_0825 was dredged from Licence Area 137 in the South Coast dredging region and discovered by the **Site Champion**, Steve Bomber.

The find was reported to the police and removed from site by the Explosive Ordnance Disposal team. Finds like this one are not uncommon offshore and staff in the aggregate industry have been trained to recognise and report them for their safety. Unexploded ordnance (UXO) pose a significant risk as degradation of the detonator or fuse can render them unstable and an impact could potentially detonate the device therefore it is vital that they are reported immediately.

Images of the find were sent to Trevor Parker of the Ordnance Society. He said that the find looked like a British hand grenade which had split open and therefore was probably completely inert. He said that the marks on the surface of the grenade are quite common on First World War grenades and are most likely batch numbers. Based on the shape of the remains of the spoon pin retainer towards the top of the grenade, it has been determined that this is a No. 36 or No. 36M grenade, known as a Mills bomb. William Mills, a hand grenade designer from Sunderland, patented, developed and manufactured the 'Mills bomb' at the Mills Munition Factory in Birmingham, England, in 1915. The Mills bomb was adopted by the British Army as its standard hand grenade in 1915 and over the years, undertook a series of modifications. The final variation of the Mills bomb, the No. 36M, was designed and waterproofed for use in the hot climate of Mesopotamia in 1917, but was still manufactured in the UK up until 1972 and later in some countries. Over 70 million of the British Mills Bomb hand grenades were manufactured from 1915 to 1972.

The No. 36M grenade was an anti-personnel bomb with a danger zone on detonation of 100 yards. The grenade had a cast iron body which was filled with a high explosive, Baratol 20/80 through the filling hole in the shoulder, which was closed by a screw-threaded plug. The centre piece was made of aluminium or tinned brass and comprised of two adjacent chambers. The smaller chamber received the detonator and was empty until the grenade was primed. The larger or Striker Chamber was positioned in the centre of the body and contained the Striker and Striker Spring; the head of the striker protruded through the circular hole at the top; the opening in the base received the cartridge end of the Igniting Set. There were two types of Igniting Set that varied in time of burning of the fuse; seven second fuses were coloured yellow while four second fuses were coloured white and had a rubber band around them which was never to be removed as it provided the means of identification at night.

The runner-up for the best find goes to DEME_0851: **Fossilised Woolly Rhino Tooth** from Licence Area 228 discovered by C. Matton at Flushing wharf and a **Worked Flint** (Hanson_0885) discovered by Malcolm O'Neill in Licence Area 240.

CEMEX_0825

DEME_0851

All our winners receive a £100 cheque and a certificate of their achievement. Congratulations to all of you!

New Site Champions

We would like to welcome two new **Site Champions** to our ever-growing crew. **Hanson's Dagenham Wharf** have recently appointed two Champions; Kate Harris and Troy Potter after a recent wharf visit. Both members of staff have been trained how to recognise archaeological finds and have been shown how to report material.

Kate said:
'I have worked for Hanson for seven years, three years now at Dagenham Wharf as Production Manager. I wanted to be Site Champion as I take a high interest in archaeological finds and would love to find something here at the Wharf!'

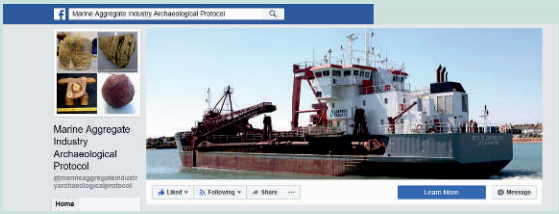
Troy said:
'I have worked for Hanson at Dagenham Wharf for 15 years. I have been Wharf Supervisor now for just over two years. I wanted to be Site Champion as I am interested in anything to do with history and the evolutionary stages.'

Site Champions play a huge roll in the success of the Protocol and we appreciate all of your hard work and contributions.

Please contact us if your wharf is missing a **Site Champion** and would like to have one, or if you would like to know more about what it takes to become a Champion, email us at protocol@wessexarch.co.uk or call us on 01722 326867.

Social Media

If you would like to keep up to date with the latest news and finds from the Protocol, then please give our Facebook page a like.



Over 100 years of the UK's Marine Aggregate Industry

1912 saw the RMS *Titanic* sail on her fateful maiden voyage, Robert Scott reach the South Pole, and on 15 June that year, the 49-ton, steam driven suction dredger *City of York* sailed from Bristol and dredged a cargo of sand in the Bristol Channel thus marking the start of the modern British aggregate dredging industry.

City of London © *BMAPA*

Dredging stone from the seabed had taken place for at least 200 years prior to the *City of York's* maiden voyage with ballast for ships probably being the earliest reason for doing so. In the early days, both aggregate and maintenance dredging was the by way of 'spoon and bag' or 'ballast heaving' which allowed two to four men to lift up to 60 tons of ballast in a tide from a depth of some 3 fathoms. There are records of convicts at Woolwich upon the Thames being employed to perform this task.

The common dredging boat or barge was worked by two or more men, by whom the gravel, or ballast, was taken up in a leather bag, the mouth of which was extended by an iron hoop, attached to a pole, of sufficient length to reach the bottom. The barge being moored, one man took his station at the stern with the pole and bag in his hand, the other stood at the head, having hold of a rope, tied fast to the hoop of the leather bag. The man at the stern put the pole and bag down, over the barge's side, to the bottom, in an inclined position. The hoop being farthest from the man at the head of the barge, and having a rope, one end of which is fast to the gunwale of the barge, he passed it twice round the pole, then holds tight: the man in bow now pulled the rope, fastened to the hoop, and ran the hoop and bag along the ground, the other allowing the pole to slip through the rope as it approached the vertical position, at the same time causing such a friction, that the hoop dug into the ground, the leather bag receiving whatever passed through the hoop: both men assisted in getting the bag into the barge, and delivering its contents. When the bag was large, several men were employed: and, to increase the effect, a windlass, with a wheel-work, was sometimes used. A chain or rope was brought to the winch from the spoon, through a block suspended from a small crane for bearing the spoon and its contents to the side of the boat and brought it over the gunwale to be emptied into it. The purchase rope was led upon deck by a snatch block in the proper direction for the barrel of the winch. Two to four men could, with this simple apparatus, lift between 20 to 60 tons a tide from a depth of 2.5 to 3 fathoms, when the ground was favourable.

Paul Whittle

This is an extract from a wider research project sponsored by BMAPA and The Crown Estate.

Britannia Beaver © *BMAPA*

New Displays at Boscombe Down

The **Boscombe Down Aviation Collection (BDAC)** on Old Sarum airfield in Salisbury is now home to a new display of past Marine Aggregate Industry finds after the sad closing of **Littlehampton Look & Sea Centre** late last year. BDAC houses an incredible collection of aircraft, cockpits, replicas and models, weapons and trials equipment to show the story of flight and flight test in the UK, all within an original First World War hangar. There are knowledgeable guides to show you around and the cockpits are mostly open meaning you can sit in them and use the controls!

BDAC were keen to showcase a variety of dredged finds, including aircraft fragments to show the impact that being submerged can have on the material when compared to the other pieces on display around the hangar.

Also housed in the BDAC is a **Merlin 45 Supermarine Spitfire propeller** (bottom right) that was reported at the end of last year through the **Marine Antiquities Scheme (MAS)** after being left on the dock at Shoreham. It is believed that the propeller was dredged from the seabed by a scallop dredger, however its origins are unknown. The staff at BDAC are conducting research in to the amazing piece of aviation in order to try and establish where it was made.

The MAS, supported by The Crown Estate, the Portable Antiquities Scheme and Wessex Archaeology, encourages the voluntary recording of archaeological objects and sites found by marine users (divers, fishermen, boat enthusiasts, coastal visitors and walkers) in England, Wales and Northern Ireland. While vessel and wharf staff should continue to report finds made at work through the **Marine Aggregate Industry Protocol**, perhaps if you dive or fish as a hobby or often go on walks near the coast, you too could record your discoveries through the MAS app on your phone or through the website at **http://marinefinds.org.uk**.

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** Tel: **01722 326867**
or visit Wessex Archaeology's Protocol website
www.wessexarch.co.uk/projects/marine/bmapa

Protocol
for the Reporting of Finds of Archaeological Interest

mpa essential materials sustainable solutions bmapa

THE CROWN ESTATE

Prepared by wessex archaeology