

Dredged Up

Issue 30
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Archaeology Finds Reporting Service Newsletter



Welcome to Issue 30 of ***Dredged Up***, the newsletter of the Marine Aggregate Industry Archaeological Protocol. Since the last newsletter in autumn 2021, **59 finds** have been reported through 11 reports.

On pages **2** and **3**, we celebrate another amazing round of finds awards, naming best attitude by a wharf, best attitude by a vessel and best find. A huge congratulations to all our winners!

Pages **4** and **5** showcase a selection of finds that have been reported since the last issue of *Dredged Up*. We appreciate every single find that is reported and your enthusiasm this year has been great once again.

Visits to wharves are back after a hiatus during the pandemic! Our team have enjoyed getting out and about to see some new and of course familiar faces.

On page **8**, we have a handy guide on dating any pottery you might encounter at the wharves or on board the dredgers.



Get in touch!

If you need any additional information on the Protocol, including learning packs, or if you would like to get in touch with the team for any in-person awareness training, mugs, pens or photo scale cards, then please email protocol@wessexarch.co.uk or call 01722 326867.

Above: in-person awareness training at CEMEX Leamouth Wharf.
Left: Marcel De Koff holding DEME_1022: Pickaxe.

2020–2021 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 2020–2021 reporting year which ran from 1 October 2020 until 30 September 2021. Anything found after this date will be considered for the Finds Awards in spring 2023. For details about all of the discoveries that were made during the 2020–2021 reporting year, you can access and download a copy of the Annual Report: www.wessexarch.co.uk/sites/default/files/field_file/Annual%20report%202020-2021.pdf

Best Attitude by a Vessel

This year we would like to congratulate Tarmac's *City of London* for winning this award, especially to the finders, Jack Tate and Stuart Willis. A white ensign flag (Tarmac_0978) and a Rolls-Royce engine part (Tarmac_0988) were both discovered in Licence Area 254 in the East Coast dredging region, approximately 10 km north-east of Great Yarmouth. Thank you to each vessel that has reported finds through the Protocol over the past reporting year.



Tarmac_0978

This flag (seen above) is the top left corner of a larger white ensign flag. The larger, whole flag would comprise a white flag with a red cross, like the St George flag with the added addition of the union jack in the upper left corner. This find is believed to be relatively modern.

Royal Navy ships and submarines wear the White Ensign at all times when underway on the surface. The logo of the Royal Navy features a waving White Ensign at the top. The White Ensign is also flown on shore establishments including all Royal Marines establishments as well as yachts of members of the Royal Yacht Squadron and by ships of Trinity House when escorting the reigning monarch. The White Ensign is worn at the mastheads when Royal Navy ships are dressed on special occasions such as the Queen's birthday and may similarly be worn by foreign warships when in British waters or when dressed in honour of a British holiday or when firing a salute to British authorities. The Ensign was first introduced in the 15th century when it consisted of a Tudor ensign, with the current version of flag developed in 1707. A red ensign is the official flag used for merchant vessels while the Blue Ensign indicates a ship commanded by an officer of the Royal Naval Reserve.



Tarmac_0988

This find (seen above) was reported as a "metal engine part that looks like a turbine from either a jet or steam engine", which measures over 610 mm. The vessel also identified an "RR" that could possibly stand for Rolls-Royce.

Dr Mark Pacey, Chief Project Engineer, and John Wagstaff at Rolls-Royce were kind enough to offer their views on the part. Their first thoughts on seeing the photos were that we have the remains of a bladed turbine disc from quite a small engine, which implies that it is probably from a military engine. Fortunately, the part numbers were still clearly readable in the blade picture, so they were passed on to the configuration team, who confirmed that they are high pressure (HP) turbine blades from a Rolls-Royce Avon engine.

The Avon powered a wide range of military aircraft from its introduction in 1950, including the English Electric Canberra and Lightning, the Hawker Hunter and the Vickers Valiant, and also had two civil applications – the de Havilland Comet (the world's first jet powered civil airliner) and the Sud Aviation Caravelle. Rolls-Royce ceased production of the Avon aero-engine in 1974 and withdrew in-service support in 2006. However, an industrial variant of the Avon was also produced and is still available today, although Rolls-Royce sold its industrial gas turbine business to Siemens in 2016 and Siemens Energy are now responsible for current production. In total, it is believed that Avon production was in excess of 11,000 engines.

Dr Mark Pacey said that he had passed the details to the defence team and asked if they have any records showing why an Avon might have been in the sea near Great Yarmouth. However, it is quite likely that this was an industrial engine, in which case Rolls-Royce would not necessarily have a record of any loss. When the "BR" prefix was queried, he said that the part number has no particular significance and part numbers series are randomly issued to the various Rolls-Royce design sites. These part numbers actually came from a series allocated to East Kilbride near Glasgow, which is where the design work would have been done.



Best Attitude by a Wharf

This year, the winner of the best attitude by a wharf is Hanson Greenhithe Wharf who submitted 84 finds through six reports! These included munitions, wreck material, an ammunition clip, an inscribed metal plate, a fragment of an anchor and aircraft material. We would like to give our special thanks to Stuart King for reporting all the finds.

Best Find

The best find of this reporting year goes to Tarmac_0985 (seen below); a machine gun discovered from a mixed cargo deriving from Licence Area 509/3 in the Thames Estuary and Licence Area 460 in the East English Channel. Jamie Wallis discovered it at Greenwich Wharf.

This machine gun was reported in two parts and displayed several markings including a serial number "B194.466" that the wharf took excellent close-up photographs of. Images were sent to Graham Scott of Wessex Archaeology's Coastal & Marine team who provisionally identified the gun as a Browning .303.

Images were also sent to Jonathan Ferguson, Keeper of Firearms & Artillery at the Royal Armouries Museum, Leeds. He said that

this is a Browning .303 and the B prefix on the serial number denotes manufacture by Birmingham Small Arms Company (BSA). Through comparison of other guns, Jonathon estimated a date of 1941 for this machine gun. The barrel of the gun is Mk. III while the breech casing is a Mk. II*, and the only way to know whether this was built as a Mk. II and converted or not would be via the original production information.

As the gun is known to be from an aircraft, the images were sent to external aircraft specialist, Steve Vizard, in order to determine what kind of aircraft it may have originated from. He said that the mounting attachments would provide evidence of type (the lug bracket with the two holes on the bottom of the gun body), but unfortunately they are missing. These were reasonably distinctive as to what aircraft the guns were fitted to, for example, static fixtures in a fighter wing as opposed to a gun turret in a bomber. And invariably this attachment bracketry would have part numbers denoting manufacturers. The standard Mk. II Browning was fitted in dozens of different types, but was differentiated by the attachments used. The only other clue is the fluted end to the muzzle of the barrel, as opposed to the flash eliminator. That can sometimes denote between a fighter or bomber, but sadly is completely missing from this example.

As per the *Firearms Act 1968*, the machine gun was reported to the police as a Section 5 firearm (www.legislation.gov.uk/ukpga/1968/27/section/5) as withholding it would be an offence. Although the gun is in two pieces and not functioning, it is still viewed as a weapon as it could be used for parts. The police are now in possession of the find.

"Excellent find! Also illustrates some of the risks involved in completing this important work. Many thanks Jamie. Just a quick thank you to all those that played their part in the effective delivery of the Protocol over this reporting year. I look forward to hearing about next year's finds!" Stuart Churchley, Historic England

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



Finds reported since the Autumn

Brett_1012

These two cannonballs and munition base (images below) were discovered by Harry Knott, Tony Payne and George Lee-Aimes at Cliffe Wharf. The Licence Area they came from is unknown as they were discovered on the magnet, crusher grid and in material from previous oversize stockpile.

These finds consist of one cannonball with a 100 mm diameter (**Image 1**), one cannonball with a 130 mm diameter (**Image 2**) and a shell case base with a 160 mm diameter (**Image 3**).

Images of both cannonballs were sent to Charles Trollope, an expert in historical ordnance, who said that the smaller cannonball is most likely an English six pounder. The larger one is too large to be an English 18 pounder but fits nicely as a French 16 pounder. He also said that the old French pounds were heavier than English, and that the French had at least three different weights for their pound!

The image of the munition base was sent to Trevor Parker, from the Ordnance Society, and Mark Khan, UXO Research Manager at Fellows International. They both said that the diameter measurement comes out at just over 7 inches, which equates to the base diameter of a 6-inch British brass separate loading shell case. They also both commented that the cartridge has had a major trauma and seems to have exploded outside of its 6-inch gun. Mark added that he has seen similar with cartridges that have been subject to demolition on land and that sometimes demolition scrap from land sites was dumped at sea.

Trevor commented that the only uncertainty is the primer; this 6-inch case had a protruding primer which could be interchanged from a percussion fired to an electric fired version. These had a much smaller diameter than the flush fitted primers, but because of the corrosion on this item, he couldn't tell which type it had. The other problem is that there are faint signs of three holes around the primer hole itself, but these were used for a 'primer protector' which was only used with the flush type.

It is unknown whether this particular shell was fired from a gun on a vessel or on land. As it is unknown which gun it was fired from, it is unknown what date the munition is. As stated by Mark, the munition could have come from a demolition scrap yard that was dumped at sea or it could be as a result of military training or combat.



Hanson_1013

This hydraulic unit (above) was recovered from Licence Area 401/2 in the East Coast region approximately 23 km east of Lowestoft. Stuart King discovered it at Greenhithe Wharf. This find was discovered in an over-size bay and was identified as being important due to the brass plate visible on the side of the object, etched with "CHASSIS", "UP", "DOWN" and "FLAPS" along with two arrows.

Images were sent to Steve Vizard, an external aircraft specialist, who said that the item is definitely an aircraft part and is a hydraulic unit pertaining to the undercarriage (chassis) unit operation, and also the wing flaps. Both systems are hydraulically controlled on many types of aircraft. He said that it is not anything vaguely modern in his opinion, and almost certainly something from the 1940s or 1950s.

Steve said that the chances are that it is a military aircraft, and British by the looks of it (as opposed to a wartime American aircraft). By the size of the unit, it seems to be from a larger type of aircraft, a bomber of some kind. He said that it is certainly not from a single seat fighter. He also said that there would definitely be other part numbers on the item, and these numbers, plus inspection stamps, will identify the manufacturer, and therefore (we would hope) the aircraft type. At the wharf Stuart was later able to identify two further markings on the part - "AIR9500F" and "AIR9444", however no other stamps were visible. Therefore, it is still unclear at this time what kind of aircraft this object related to.





Image 4, an aircraft component which appears to be a wing rib brace from a B17; **Image 5**, an aircraft component with paint still visible; **Image 6**, the paint in greater detail, revealing a potential camouflage colour/pattern; **Image 7**, an engine valve; and **Image 8**, munitions discovered in the same cargo and therefore possibly relating to the same aircraft wreckage.



Brett_1019

These aircraft components (above) were discovered in Licence Area 340 in the South Coast dredging region, approximately 8.5 km south-east of the Isle of Wight. Paul Russell and Conrad Stuckey discovered them at Newhaven Wharf.

These three aircraft parts and 43 munitions were discovered in the same cargo, alerting the wharf staff that they may have come across an aircraft crash site. The wharf highlighted at the time of reporting that there is still paint remaining on one of the parts potentially in a camouflage colour/pattern (**Image 5 and 6**).

Images were sent to external specialist Steve Vizard who said that the larger piece is an engine valve that looks to be from a radial engine type, and the ammunition is .50 calibre, therefore initially pointing towards an American aircraft. Apart from the Mustang which had an inline engine (Merlin), most Second World War American aircraft used a radial engine and all American aircraft had .50 calibre Browning machine guns. He said that previous experience would lead him to believe that it's more likely to be a bomber than a fighter which could mean that if it were outbound, there could well be heavy ordnance in the area. Equally, most ditched their ammunition on the way back.

Steve confirmed with a colleague that the engine valve is from a Wright Cyclone. This large radial engine was predominantly fitted to the American B-17 Flying Fortress and this is further confirmed by the aluminium strut section appearing to be a wing rib brace from a B-17.

Further research was done on Area 340. It was found that there is an exclusion zone in place for an aircraft wreck, however that is for a Piper aircraft that lost power in both engines and ditched at sea on 29 July 1975 and therefore not related to these finds. The closest record of a B-17 was approximately 18.5 km WSW of where these discoveries were made. The record for that particular loss states that a Boeing B-17 bomber, serial 42-31149 from 388th Heavy Bombardment Group stationed at Knettishall in Suffolk crashed into the sea some three miles off the coast of Niton on 30 December 1943. Of the crew of 10, only four Staff Sergeants survived: J.E Mont (ball turret gunner), J. Payne (right waist gunner), W.L. Steele (left waist gunner) and F.C. Zagrovicj (tail gunner).

It cannot be confirmed whether these finds are related to this site.

Wharf visits are back!

After a two-year hiatus, in-person awareness training sessions are back. The team have loved seeing some of the staff again and so far, have visited five wharves:

Brett Cliffe Wharf
Brett Newhaven Wharf
CEMEX Leamouth Wharf
Hanson Frindsbury Wharf
Tarmac Shoreham Wharf

If you would like a visit, then contact us on protocol@wessexarch.co.uk or call **01722 326867**.



Above: Cliffe Wharf. Below: CEMEX Leamouth Wharf.

Introducing a new wharf...

Brett Newhaven Wharf is the newest location of Brett Aggregates, and one of the implementation team had the pleasure of visiting it at the end of 2021. It was exciting to see a brand new wharf and meet some enthusiastic people raring to go! Since the visit, they have made two reports of archaeological finds!

Their first find, Brett_1017, was a large cannonball discovered in Licence Area 351 in the South Coast dredging region, approximately 12 km south-east of the Isle of Wight. Lloyd Weedon discovered it at Newhaven Wharf.

This large stone cannonball was found on the feed hopper grill and was reported as having a circumference of 550 mm and weighing 19.883 kg (43.8 lbs).

Charles Trollope, an expert in historical ordnance, studied the images of the find. He said that this is quite an interesting cannonball. Converting the measurement seen on the photographs (260 mm) to imperial, it would result in a 10-inch ball but that the weight reading from the scales seems too high to match this. Charles came to the conclusion that this is a Perier stone shot, dating from the 16th to early 17th century, almost certainly not English but potentially Spanish.

Perier cannons, also known in Spanish as Pedrero cannons, were third class guns that fired stone balls to break and sink ships and defend batteries from assault (www.nps.gov/parkhistory/online_books/source/is3/is3c.htm, accessed February 2022). The Perier cannons were an early form of swivel gun used by the English, Spanish and Portuguese fleets. A bronze Perier canon from Portugal dated to 1627 is stated as having a barrel bore of 267 mm which is comparable with the size of this cannonball and may represent a similar gun to the one this was fired from (collections.royalarmouries.org/object/rac-object-22460.html, accessed February 2022).

Charles said that the cannonball could conceivably be from one of the Spanish Armada ships as the Perier cannon is known to have been on this fleet of ships and as the find was dredged off the Isle of Wight.

A Historic England Research Record gives the following description of the third action of the Armada, south of the Isle of Wight in 1588:

“The third encounter between the English fleet and the Armada took place on 25 July/4 August in a position said to be 18 miles south of the Isle of Wight. A disabled Armada ship had fallen astern which the English then attacked. Spanish galleasses came to the rescue, upon which the English turned their fire. There was ‘very sharp fight for the time’ before the Spanish, in the words of Medina-Sidonia, saw ‘the advantage was no longer with us’”.

(www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=5496302f-1db2-40fb-8480-d798a5bcd2be&resourceID=19191, accessed February 2022).





It is not possible to say whether it was fired during training, battle or perhaps just lost overboard, however, its connection to the location of significant historical battle at sea means it is an exciting find.

Brett Newhaven Wharf's second report consisted of a whopping 46 finds (three aircraft parts and 43 munitions) and can be seen featured on page 5 (Brett_1019). We look forward to seeing even more finds from here in future!

Introducing a new vessel...

We would like to welcome *Hanson Thames* to our fleet of dredgers! This is Hanson's new MAD 3500 model, a new class of dredger and is a major investment for Hanson Marine. The vessel has completed its sea trials and safety certifications and now operates in the North Sea and English Channel. Built by Damen Shipyards Group at its Galati yard in Romania, the vessel is capable of extracting marine-dredged aggregates in water up to 55 metres deep and has been designed to ensure safe, comfortable operations – even in adverse conditions.

Its innovative design provides increased payload and efficiency, which will allow it to carry up to 7,000 tonnes of marine aggregates per trip, as well as reducing fuel consumption (and associated CO₂ emissions) and improving operational and maintenance savings. Other benefits include: reduced maintenance, modular design allowing the easy replacement of parts; exceptional stability offering crew comfort and the capability to work in rough seas; and fast and efficient dry-side unloading.

The introduction of *Hanson Thames* forms part of Hanson's strategy to supply essential sand and gravel to projects in the UK as well as its sister companies in the near continent and gradually replace the existing fleet.



Dating Pottery Finds

A sherd of pottery can be as archaeologically important as a coin. Pottery is one of the most well-known kinds of archaeological material and, unlike metal, it doesn't corrode and it can't be melted down, meaning it can stay around for a long time. Pottery is usually well-preserved (even if broken) and can be dated fairly accurately by a specialist. Even a single sherd is an indicator of human activity and should be reported.

Below are a few simple tips on helping date pottery (ceramic vessels). If you have any questions the finds experts at Wessex Archaeology will be more than happy to help identify your find.

- Mass produced pottery and the uniformity produced is generally only seen in Roman and modern pottery.
- Roman pottery is easy to spot as it is orange in colour. This is called Samian Ware (**Image 1 and 2**).
- Glazed pottery is unlikely to predate the Norman Conquest. Glazed pottery means it has a shiny, smooth surface.
- Transfer print and potters' marks start appearing around 1760 with multicolour printing appearing in the mid-1800s (**Image 3 and 4**). Many potteries used willow print, making it difficult to date or identify the source of something by this alone.
- Rims and bases rather than fragments of the body of the item are the most useful things for dating and identifying pottery (**Image 2**).

If you are interested in pottery and want to find out more, use the link below to see the Portable Antiquities Scheme's guide on Pottery Recording:

finds.org.uk/counties/findsrecordingguides/wp-content/uploads/2019/03/Pottery-Guide-190312.pdf



(1)



(2)



(3)



(4)

Images 1 and 2, Hanson_0171 (2008), examples of Samian Ware; **Image 3**, Tarmac_0691 (2016) showing a transfer print mark; and **Image 4**, CEMEX_0207 (2009), an example of multicolour printing.