Dredged Up

Archaeology Finds Reporting Service Newsletter

Issue 25
Autumn 2019

Welcome to Issue 25 of ***Dredged Up***, the newsletter of the Marine Aggregate Industry Archaeological Protocol. Since the last newsletter in Spring 2019, **73 finds** have been reported in 25 reports and nine wharves have been visited.

CEMEX_0908 submarine pyrotechnic (see page 4)

We are celebrating our new promotional material on **pages 2** and **3**. The new photo scale cards and mugs have clearly been going down well at the wharves and on the vessels!

Pages 4 and **5** showcase a selection of finds that have been reported since the last issue of *Dredged Up*.

Biosecurity is a new issue within the UK Marine Aggregate Industry. See **page 6** to learn more about how you can help.

A new CEMEX dredger will soon be making an appearance. Read all about it on **page 7**.

On **page 8**, we provide a brief update to all the wharves that have been visited over the summer and congratulate their enthusiasm and cooperation.

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

Photo Scale Cards and Mugs

This year, we have successfully launched new promotional material for the Marine Aggregate Industry Archaeological Protocol in the form of photo scale cards and mugs.

The photo scale cards are the perfect size to be kept in a pocket, wallet or purse and were designed to be used when taking photographs of archaeological finds found on site or on deck. If you wish to continue to use the blue laminated A3 or A4 photo scale sheets that are handed out at each awareness visit, then please feel free to do so. However, if you feel that using the small cards is easier, you are welcome to do so. Both sides of the card are a variation of each other and either side can be used.

Please continue to take several photographs from every angle of each object so that we have a better chance of identifying the find.

Just days after releasing the photo scale cards, we received the first report which used the card as a scale! A big thank you to Hanson for the enthusiasm whilst reporting **Hanson_0911**, a cast iron cannonball from Licence Area 240 in the East Coast dredging region that was discovered by M. Morley on board *Arco Avon*.

The mugs are a superb addition to the kitchens at the wharves and on the dredgers. We have loved getting all the pictures of all the aggregate staff sipping out of them, so please keep them coming!

Hanson_0911 with new photo scale card (scale bar side)

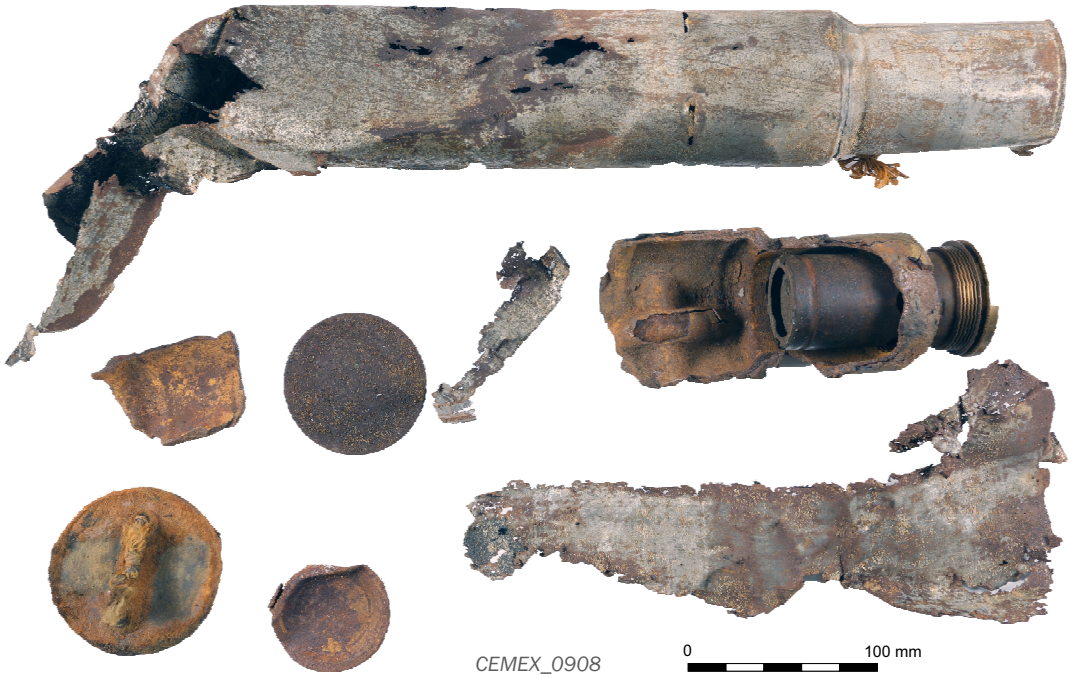
If you require any more photo scale cards or mugs or have not received them, please get in touch with the team via **protocol@wessexarch.co.uk**.

Our mug with photo scale card (ruler side)

Top row (left to right): CEMEX Shoreham Wharf, Tarmac Greenwich Wharf
Middle row top (left to right): Hanson Dagenham Wharf, Tarmac Medina Wharf, Tarmac Thurrock Wharf (centre), CEMEX Angerstein Wharf, Brett Cliffe Wharf
Middle row bottom (left to right): CEMEX Angerstein Wharf, Tarmac Erith Wharf, CEMEX Angerstein Wharf, Hanson Dagenham Wharf
Bottom row (left to right): Brett Cliff Wharf, Tarmac Medina Wharf, Tarmac Marchwood Wharf

Finds reported since the Spring

Between March 2019 and September 2019, we have had 73 archaeological finds reported through the Protocol. Over the next two pages we will examine some examples of the materials reported.



CEMEX_0908

CEMEX_0908 is a submarine pyrotechnic discovered in two parts in cargo dredged from Licence Area 137 in the South Coast dredging region, approximately 10 km south of the Needles. Michael Pettitt, Tim Bethune and Mark Nichols discovered it at Shoreham Wharf. The first element is a broken metal cylindrical tube that measures 820 mm long and 70 mm wide that appears to be made of aluminium with an associated brass mechanism. One of the brass rings at its end is inscribed 'Ejector No. 2 MK I/L II MB/44' as well as the Navy Broad arrow. Wire is present at one broken end of the cylinder while a series of electrical components are visible at the other. The second component of this find is a canvas parachute, that despite a few holes is complete with the remains of the string that would have held it to the pyrotechnic. Images of the finds were sent to our in-house specialists, Bob Davis and Bob Clarke.

Bob Davis said that it looked 'percussive' and suggested that both finds were connected and that the 44 on the brass ring may be a date of manufacture. He suggested that this find is an example of a Submarine Emergency Identification Signal, Star, Mk 2 Mod 2 or Mk 3 Mod 0. These signals were for day or night use and were used exclusively with the submarine signal ejector and were ejected by compressed air. On rising to the surface of the water, Submarine Emergency Identification Signals Mk 2 Mod 2 and Mk 3 Mod 0 project a Single Star Grenade Mk 5 to a height of 250 feet (76 m), where a parachute would open to support the star, which would burn for approximately 13 seconds. The complete signal was available in three colours – red, green or yellow. The Identification Signals consisted of a buoyant tube of aluminium 18.5 inches (470 mm) long and three inches (76 mm) in diameter, which contained the Single-Star Grenade Mk 5 Mod 0. One end was closed with an ogive nose cap. The other end carried the ignition device.

Bob Clarke had a different opinion. He said it looks more like a 2-inch UP (unrotated projectile) Anti-Aircraft Rocket. The name 'unrotated projectile' was a cover name to disguise the use of a rocket system and comes from the fact that the projectile was not spin-stabilized. The 2-inch (51 mm) and 3-inch (76 mm) UP systems were successfully deployed in the anti-aircraft Z Batteries which were operated by the Home Guard and was the basis of the RP-3 air-to-surface rocket and the Mattress surface-to-surface multiple rocket launcher. Bob Clarke also said that the parachute is a drogue chute which are used to pull out bigger chutes or used to slow objects down. He said the chute looks to be 5 feet (1.5 m) based on the images, which unfortunately is a standard size. He said it may not be associated with the other find.

CEMEX_0908 canvas parachute

Tarmac_0902 bar shot

Tarmac_0902 is a bar shot and was discovered in Licence Area 460 in the East English Channel dredging region, approximately 14 km south of Hastings. It was discovered by Paul Scrace at Greenwich Wharf. When whole, the bar shot would consist of two solid iron balls connected with an iron bar. Despite being broken, the ball has a diameter of 120 mm. They were only effective against wooden vessels and so fell out of use when wooden vessels were replaced with steel plated vessels.

Charles Trollope, an expert in historical ordnance, studied images and the available measurements of the find. 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 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 also lost one. The French did not lose a single vessel and control of the English Channel temporarily fell into French hands.


Tarmac_0907 aircraft propeller blade

Tarmac_0907 is an aircraft propeller blade and was discovered in Licence Area 430 in the East Coast dredging region, approximately 28 km east-south-east of Southwold. Chaminda Tennekoon discovered this in the draghead of *City of Westminster*. Images of the find were sent to Steve Vizard, an external aircraft specialist, and to Bob Clarke, an aircraft specialist at Wessex Archaeology. Bob said that metal propeller blades, made of aluminium alloy (duralumin) came into production in the late 1930s, mainly in America, with Britain following suit in the 1940s. He said that the hollow hub is characteristic and used for balancing. The curve that can be seen on the propeller blade is distinctive evidence of damage to a rotating prop hitting water. Steve said that it's a British blade from an RAF aircraft and that the configuration of the blade, the way it would be attached to the actual hub unit, at its base, strongly indicates that it is a DeHavilland type prop unit. Unfortunately, this would not tell us the aircraft type, as the DeHavilland propellers were fitted to a variety of different RAF aircraft throughout the Second World War. He said it could, however, be from an early Spitfire, or at least from that period. Combining all the aircraft material now recovered from this area, it would seem that they represent three different aircraft of varied nationalities; with American, German and now a possibly British part having been discovered.

CEMEX_0915 shoe fragments

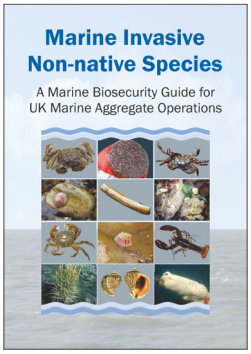
CEMEX_0915 comprised a collection of finds including aircraft components, three shoe fragments, a mooring bollard and a munition that were discovered at Angerstein Wharf by Jake Goodwin. They originated from Licence Area 511 in the East Coast dredging region, approximately 9 km north-east of Lowestoft. The aircraft components are part of a larger collection (**CEMEX_0914** and **CEMEX_0918**) and are believed to be German in origin although no diagnostic pieces have been discovered. The largest shoe fragment is a complete sole measuring 310 mm by 110 mm while the smallest fragment is 80 mm by 80 mm. The two smallest shoe fragments have visible markings on them. One of the soles has 'Made in' written in raised letters while the other has a series of stamps present including '10C' '73' and 'VIII'. Images of the aircraft components, shoes and possible mooring bollard were sent to an external aircraft specialist, Steve Vizard. Steve confirmed that all the lightly coloured metal components were definitely aircraft but were too fragmented to determine much else. He said that the shoe remnants certainly do not appear to be flying boots. Once it was concluded that the shoes were not believed to be related to the aircraft, the images were sent to an external leather shoe specialist, Quita Mould. She believes that on the tip of one of the shoes it the lettering 'Made in England'. Quita said there are two components to the stamped shoe; the sole and probably the midsole from a shoe bottom of adult male size which originally had a separate, low, D-shaped heel attached that is now missing. Quita said that as it has no upper it cannot be closely independently dated but it looks to be a 20th-century mass produced item.

CEMEX_0915 aircraft components

Biosecurity for Marine Aggregate Operations

Due to the successful running of the Marine Aggregate Industry Archaeological Protocol, the production of related materials and their delivery, Wessex Archaeology was commissioned by the British Marine Aggregate Producers Association (BMAPA) to create resources to help raise awareness on biosecurity. Marine biosecurity plans are being developed to protect waters, habitats and infrastructure from the potentially damaging effects of marine invasive non-native species (INNS). More than 90 marine INNS currently reside in the UK, some of which can cause significant operational disruption and environmental harm. They have been introduced to British waters through a variety of pathways including aquaculture equipment, hull fouling, ship ballast water, oyster shipments or attached to floating plastic debris. INNS can be redistributed by birds, animals, humans, water currents, and recreational boats and ships' ballast water.

A booklet and poster have been produced for marine aggregate wharves and dredgers to highlight the 12 most prevalent and easily recognisable species. These materials aid the identification of these species, and explain why INNS and biosecurity measures are so important to protect the marine environment.



Poster and booklet

A short introduction to marine biosecurity has been added to the archaeological awareness training delivered to wharves by our implementation team. This is intended to reinforce the importance and answer any questions raised.

Some INNS are listed under Schedule 9 of the *Wildlife and Countryside Act* 1981 with respect to England and Wales. As such, it is an offence to release or allow the escape of this species into the wild.

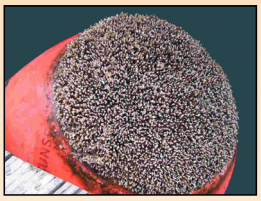
UK Marine Invasive Non-Native Species


Slipper limpet (*Crepidula fornicata*)


Carpet sea-squirt (*Didemnum vexillum*)

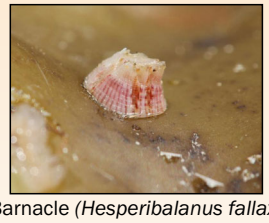

Jack knife clam *(Ensis directus)*

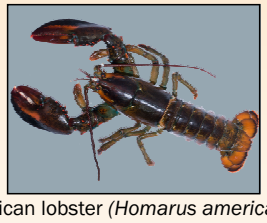

Chinese mitten crab *(Eriocheir sinensis)*

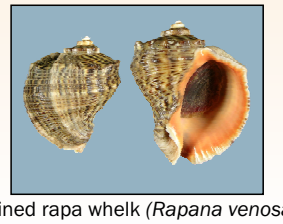

Australian tube worm *(Ficopomatus enigmaticus)*


Asian shore crab *(Hemigrapsus sanguineus)*


Brush-clawed shore crab *(Hemigrapsus takanoi)*


Barnacle *(Hesperibalanus fallax)*


American lobster *(Homarus americanus)*


Veined rapa whelk *(Rapana venosa)*


Common cord-grass *(Spartina Anglica)*


Leathery sea squirt *(Styela clava)*

A New Dredger

CEMEX Marine Ltd has a new marine aggregate dredger added to its fleet alongside *Sand Heron*, *Sand Falcon*, *Sand Fulmar* and *Welsh Piper*. The new dredger, named *CEMEX Go Innovation*, has an overall length of 103.5 m, a deadweight of just under 7000 tonnes and a maximum loaded speed of approximately 12 knots.

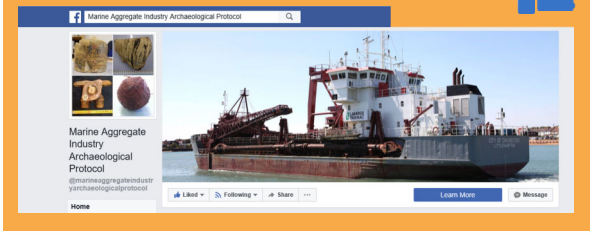
The vessel, which is the first new CEMEX vessel in 20 years, was built at Damen Shipyards Galati in Romania and was designed to extract sand and gravel from the seabed up to depths of 55 m and has a hopper capacity of 3500 m^3.

The design aspects of *CEMEX Go Innovation* has been developed to give major environmental savings while ensuring safety, high performance and sustainability. The result is a dredger which has a 25% increased capacity, nearly double the dredging depth and discharge rate increase of 20%. The dredger will also give an additional 20% of aggregates that can be delivered per trip, compared to CEMEX UK Marine's dredger, *Sand Heron*.

We're looking forward to seeing the first find reported from the vessel!

Keep Up to Date with our Facebook page!

@marineaggregateindustryarchaeologicalprotocol



A Summer of Wharf Visits

The wharf visits this summer by Lowri Roberts of the Wessex Archaeology Protocol Implementation team have been a fantastic opportunity to celebrate the dedication of the staff at the wharves. We appreciate all the enthusiasm and cooperation and have enjoyed visiting **nine individual wharves** this year:

1. Isle of Wight Aggregates Ltd, Medina Wharf, Isle of Wight
2. Kendall Bros Ltd, Shoreham Wharf, West Sussex
3. CEMEX UK Materials Ltd, Brighton Wharf, West Sussex
4. CEMEX UK Materials Ltd, Angerstein Wharf, Greenwich
5. Tarmac Ltd, Murphys Wharf, Greenwich
6. Tarmac Northern Ltd, Cochranes Wharf, Middlesbrough
7. CEMEX UK Materials Ltd, Mercantile Wharf, South Tyneside
8. Tarmac Ltd, Thurrock Wharf, Essex
9. Hanson, Johnsons Wharf, Kent

If you would like your wharf or vessel to receive a visit from one of the team, please get in contact by sending an email to **protocol@wessexarch.co.uk**.

Hanson Dagenham Wharf

Tarmac Thurrock Wharf

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