The construction of a simple sand dumping barge to aid reburial of a shipwreck site

Jon Carpenter (Maritime Archaeological Conservator)
Jan Dols & Jim Grehan (Marine Engineers/Fitters)
Asia-Pacific Regional Conference on Underwater Cultural Heritage, May 2014
Western Australia: the current Great White shark attack capital of the world.

A barrier of shark shields was positioned around the site.
Initial concept sketch of the sand barge

Members of the marine engineer team

Engineers Jan Dols and Jim Grehan

Plan View (drawn after construction of the barge)
Making the drum framework

Preparations to make the floor
Welding the ‘C’ section purlins used for the floor

Testing the function of the dumper door hinges
Installing the catches to hold door
The gap alongside the hinged side of the door was sealed with a strip of sheet rubber to prevent sand loss.
Securing the 14 drums
The captured-ring locking assembly
Winch and pulley assembly
Assembling and launching the barge
Preferred method of launching the pre-assembled barge

The seaworthy barge underway

One of the two tow points
20 cubic metres of sand was bagged and moved by many helpers.
Mention sand bags in cnrs to prevent leaks

Transferring sand to the barge

Positioning the barge to dump sand
Unlocking the door by hammering the ring and releasing a load of sand
The shallow depth of the wreck site and barrier wall minimised drift which was limited to the very fine dust component within the sand.
Snorkellers quickly removed sand trapped on the ledges on either side of the door.
Raising and locking the door
Some of the clean white sand discharged from the barge surrounded by the barrier wall and underneath the later installed mesh.

**Acknowledgements**

The Marine Engineers team comprises of eight retired marine engineers and their manager, Richard Garcia. The two persons, Jim Grehan and Jan Dols, engaged full-time in the barge manufacture, are listed as main contributors to this paper. The additional contribution of the other team members, however small, is still considered significant and is hereby gratefully acknowledged.