

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

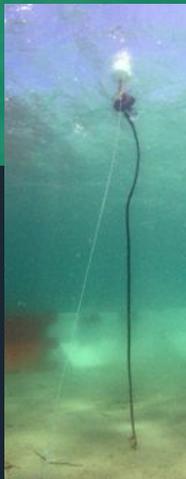


Jon Carpenter (Maritime Archaeological Conservator)
Jan Dols & Jim Grehan (Marine Engineers/Fitters)
**Asia-Pacific Regional Conference on Underwater
Cultural Heritage, May 2014**

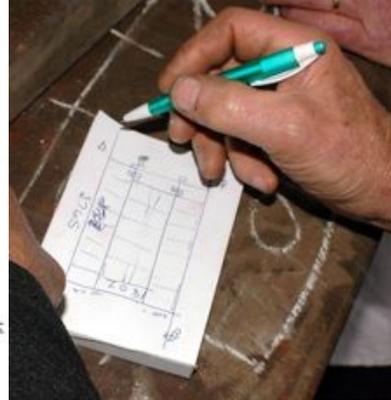
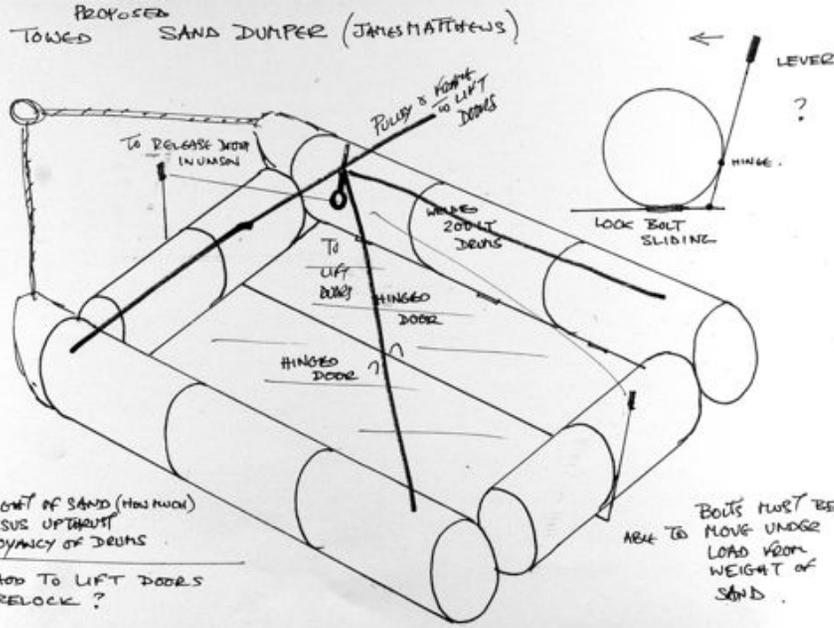




A barrier of shark shields was positioned around the site



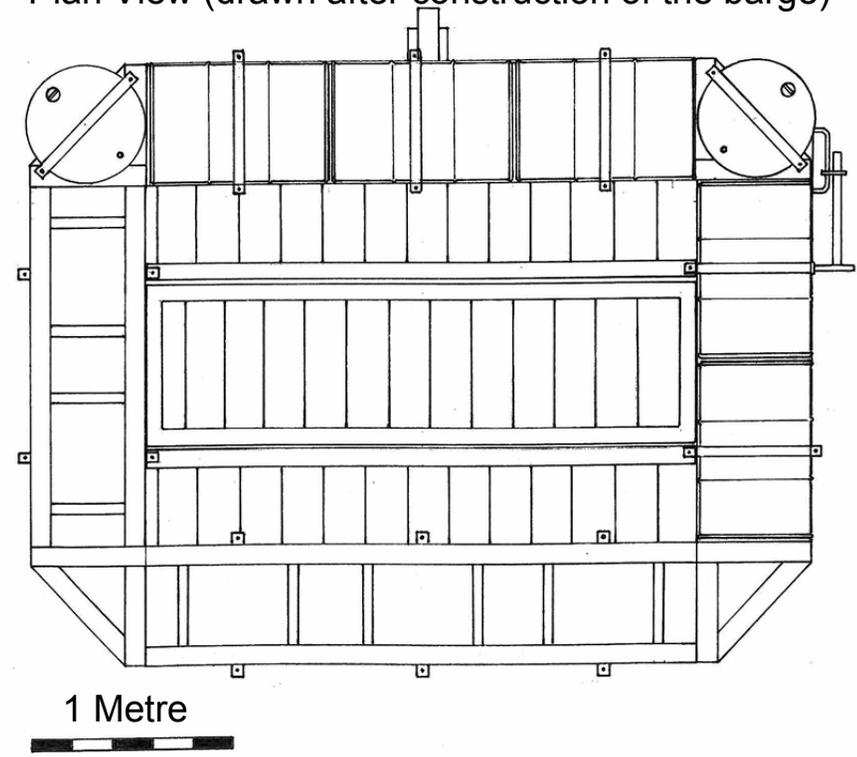
Western Australia the current Great White shark attack capital of the world



Engineers Jan Dols and Jim Grehan

Initial concept sketch of the sand barge

Plan View (drawn after construction of the barge)



Members of the marine engineer team

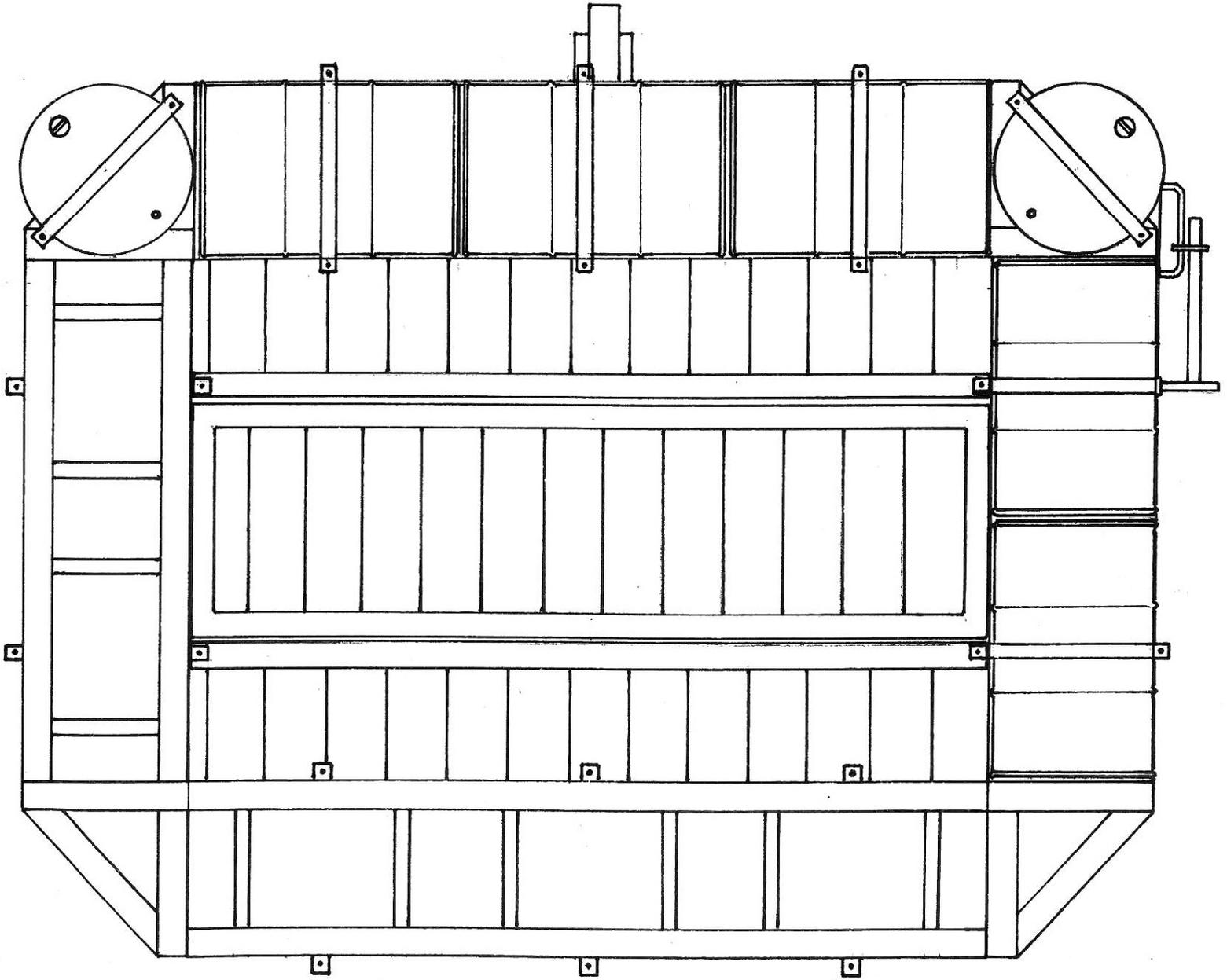
Main Dimensions

2760 mm

1800 mm

3050 mm

3900 mm



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



HAND WINCH 3:1 RATIO
LINE PULL CAPACITY: 500Kg
MODEL F 10212
SERIAL No. 533874
Jarrett
MANUFACTURED BY
ADVANSA PTY. LTD.
258 Halifax Street, Adelaide South Australia, 8000
Phone: (08) 8243 9100 Fax: (08) 8243 9185



Assembling and launching the barge





The seaworthy barge underway

Preferred method of launching the pre-assembled barge



One of the two tow points

20 cubic metres of sand was bagged and moved by a many helpers





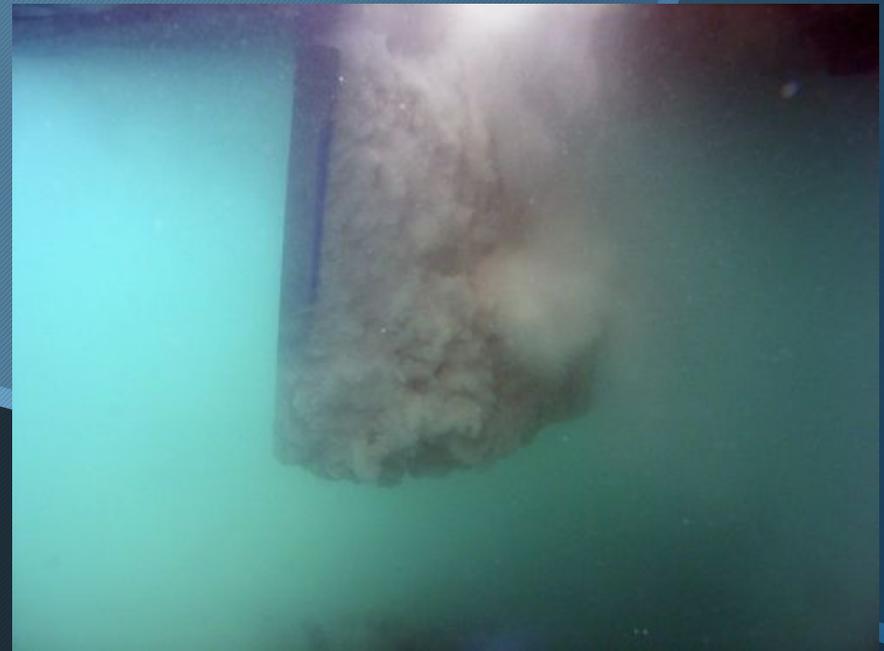
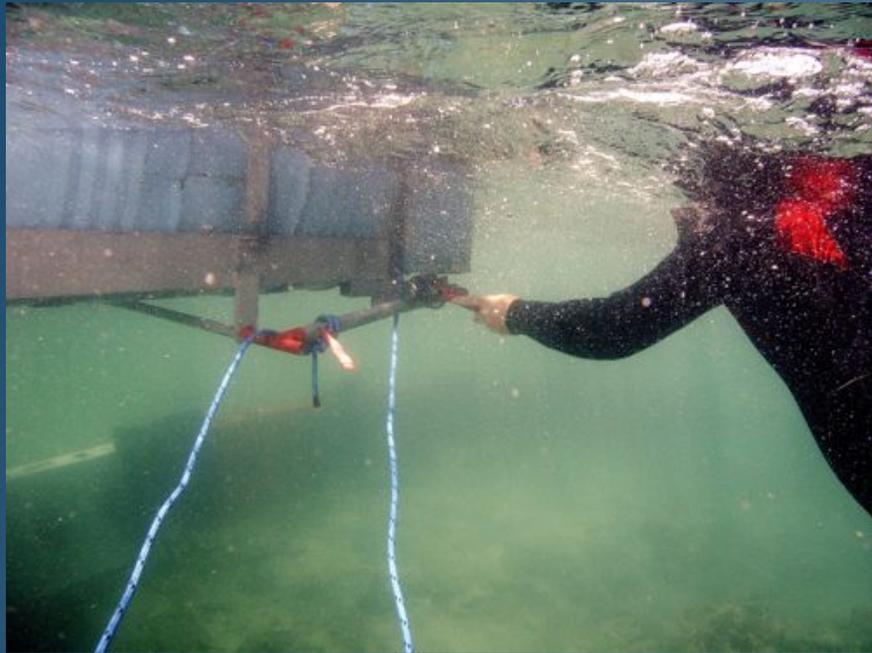
Transferring sand to the barge



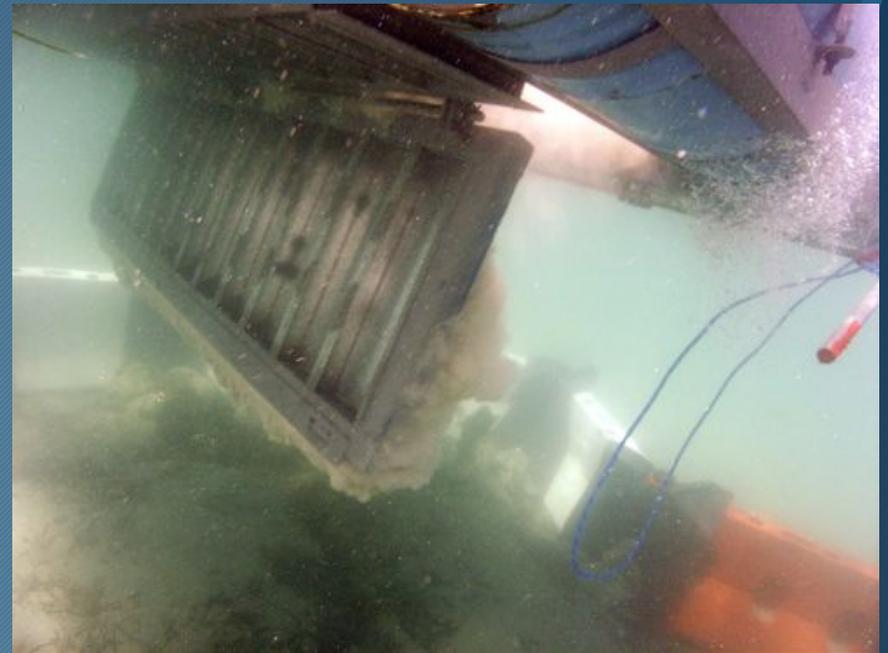
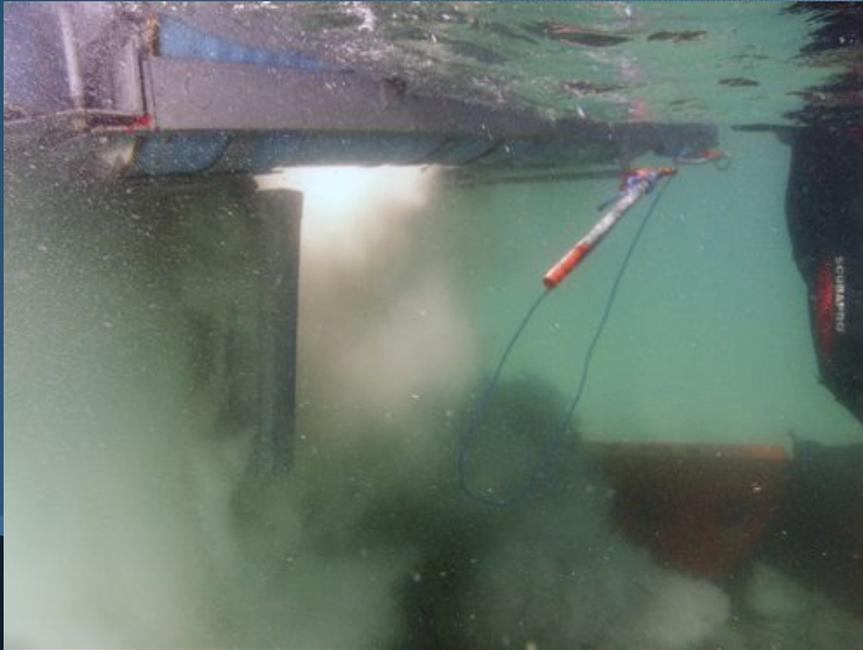
Positioning the barge to dump sand



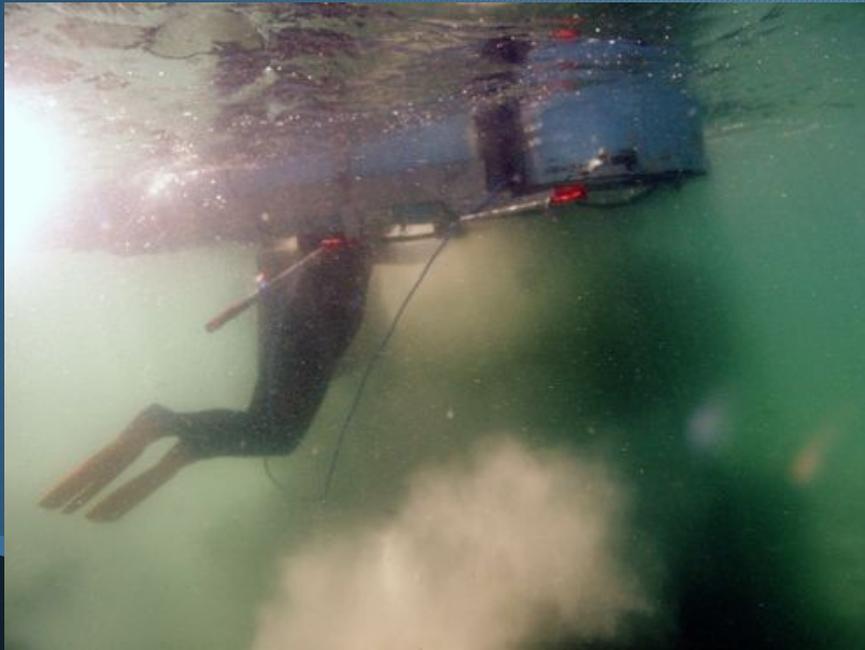
Unlocking the door by hammering the ring and releasing a load of sand



The shallow depth of the wreck site and barrier wall minimised drift which was limited to the very fine dust component within the sand



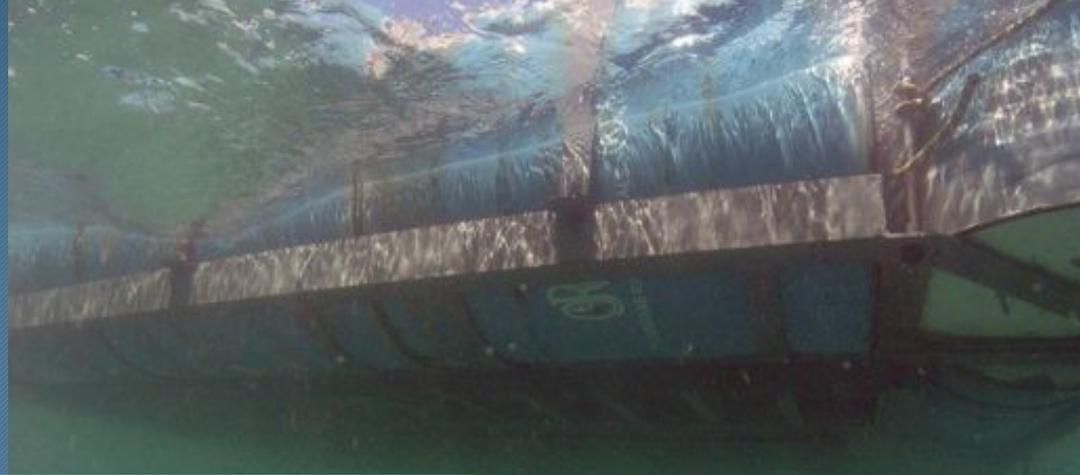
Snorkellers quickly removed sand trapped on the ledges on either side of the door



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