



EX HMAS ADELAIDE ARTIFICIAL REEF AND DIVE SITE

POST SCUTTLING REPORT

19 April 2011



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Introduction

Sea Dumping Permit No. SD2008/1062 was issued by the delegate of the then Minister for Environment Protection, Heritage and the Arts on 22 March 2010.

Condition 20 of the Permit requires a report to the Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) within 5 days of placement which includes:

- a) *Date and time of placement;*
- b) *The position of the Ex-HMAS Adelaide (confirmation of the placement site to two decimal places of a minute, plus horizontal datum, in latitude and longitude format;*
- c) *The estimated depth of water over the Ex-HMAS Adelaide as measured at LAT, and the date and time of the observation;*
- d) *Video footage (as specified in Condition 15) including a discussion on the scuttling detailing whether any problems arose during the scuttling, how they were rectified and if any clean up actions were undertaken;*
- e) *Verification from an independent observer, agreed by the Department, of the highest point of the vessel (as specified in Condition 17) prior to the exclusion zone being removed;*
- f) *Details of the inspection dive (as specified in Condition 18) including whether any items were removed or hazards rectified;*
- g) *Confirming the removal of all pyrotechnics equipment from the vessel (as specified in condition 9);*
- h) *The position and description of the cardinal mark and any other visual indicators (eg buoys and/or lights) marking the wreck;*
- i) *Evidence of notification to the RAN Hydrographic Office and NSW Maritime as specified in Condition 21.*

a) Date and time of placement

Ex-HMAS Adelaide was scuttled on 13 April 2011, with the detonation of cutting charges occurring at approximately 11:48am and the vessel submerged at approximately 11:50am as shown in the following sequence of photos.

11:48am:





11:49am:



11:50am:



b) Position

The position of the **highest** point of the ship (main mast) was recorded using GPS (horizontal datum 1984 World Geodetic System, WGS84) as:

- Latitude 33° 27.88' South
- Longitude 151° 27.45' East

The position at **mid ship** was derived from this recording (horizontal datum WGS84) as:

- Latitude 33° 27.87' South
- Longitude 151° 27.44' East

The design orientation of the ship was ESE (112°). The orientation was measured at 116° on 15 April 2011. (Four readings were taken: 106°, 100°, 106° and 102°, giving an average reading of 103.5°. Adding 12.5° to correct for magnetic north produced a result of 116°.)

The vessel is upright, with a small list of 2.5 degrees to port.

c) Estimated depth of water

The depth of water over the highest point of the ship (main mast) was measured on 14 April 2011 at 9:40am as 8.6 metres (raw reading), equivalent to 8.02m at lowest astronomical tide (LAT).

d) Video footage and discussion on scuttling

Video footage showing the scuttling is attached on CD.

The scuttling was planned for 10:30am on 13 April 2011. At 09:45am, a pod of approximately 50 dolphins was observed near the placement site. The scuttling was delayed until 11:48am, waiting for the dolphins to move on. During this period, the Office of Environment and Heritage (National Parks and Wildlife Division) provided support and advice.

The scuttling proceeded as designed.

After the scuttling, the main cleanup actions required were to retrieve items associated with the pyrotechnics display.

e) Verification of the highest point of vessel

As approved by DSEWPC on 8 April 2011, NSW Maritime provided an independent observer (Ray Moss) to verify the measurement of the highest point of the vessel on 14 April 2011. NSW Maritime also converted the raw reading to give the result of 8.02m at LAT. A copy of correspondence from NSW Maritime regarding the verification is attached at Annexure 1.



f) Inspection dives

The clearance dives were undertaken by McLennan's Diving Services on 13 April 2011, commencing at 13:10. The divers confirmed that all cutting charges had detonated and created 16 holes below the water line as intended.

Further dives took place on 13-15 and 18-19 April 2011 to inspect the vessel, identify any hazards requiring rectification, and undertake minor remedial works. The main points noted are summarised below:

- The vessel is sitting on the surface of the sand at bed level.
- The ship is upright, with a slight inclination to port of 2.5°.
- The six monitoring locations identified in the Long Term Monitoring and Management Plan were inspected – no damage was evident.
- Minor damage was identified at the following locations, requiring rectification works to remove:
 - a loose panel from the shower cubicle in the Captain's Quarters;
 - a loose panel in the passageway outside the Scullery (forward bulkhead);
 - 3 loose panels in the Female and Petty Officers' accommodation area adjacent to the mural (on 2 Deck); and
 - a loose panel from the forward end, starboard side of the Galley (2 Deck).
- Four small cracks were identified on 02 Deck in the vicinity of the elevator shaft. These were photographed to provide a basis for comparison with future inspections – see Annexure 2.

g) Removal of pyrotechnics equipment

All equipment from the pyrotechnics display was removed and the firing cable was cleared from the vessel.

h) Position of navigation markers

As described in the Scuttling Plan, two navigation markers were placed 20 metres forward and aft of the bow and stern at the following coordinates (measured by GPS, horizontal datum WGS84):

- Forward Mark: 33° 27.90' S, 151° 27.50' E
- Aft Mark: 33° 27.85' S, 151° 27.40' E

i) Notification to the RAN Hydrographic Office and NSW Maritime

Details as specified in Condition 20 (a), (b), (c) and (h) were supplied to the RAN Hydrographic Office and NSW Maritime by email on 18 April 2011.

Copies of the email notifications are attached at Annexure 3.



ANNEXURE 1

CORRESPONDENCE FROM NSW MARITIME REGARDING VERIFICATION OF HIGHEST POINT OF VESSEL

19 April 2011

Ms Cathy Cole
Project Manager
Land & Property Management Authority
PO Box 2185
DANGAR NSW 2309

Dear Cathy

I refer to your e-mail of 17 April 2011 requesting verification of the measured depth to the highest point of the scuttled vessel ex-HMAS Adelaide.

I wish to advise an observation to determine the height below sea level from the highest point of the vessel was carried out at 0940hrs EST on 14 April 2011. The tape measured from the top of mast to water surface was observed at 8.6m.

Actual tide record level from Sydney Ports tide gauge at Fort Denison at 0940hrs EST on 14 April 2011 was 0.58m. Fort Denison tide was used for sea level calculations. (LAT approx .03m).

As a result of the observation the highest point on the mast of the vessel ex-HMAS Adelaide below sea level was calculated at 8.02m.

Please contact me on 9477 6600 if you require further information.

Yours sincerely



Stephen Black
Regional Manager
Hawkesbury/Broken Bay

NSW MARITIME

4 Bridge Road,
Hornsby NSW 2077

PO Box 797,
Hornsby NSW 1630

TELEPHONE: (02) 9477 6600
FACSIMILE: (02) 9477 3418

www.maritime.nsw.gov.au
ABN.21 220 712 305

ANNEXURE 2

DIVING INSPECTION REPORT

DIVING INSPECTION REPORT

McLennan's Dive # 1 and # 2 – Clearance Dives

13 April 2011 commencing at 13:10

Reported all charges detonated correctly, counted 16 holes below the waterline as planned.

Released bow and stern anchor.

[Meanwhile McMahons retrieved some surface debris from pyrotechnics display – plastic buckets etc.]

Geoff Paynter Dive # 1

13 April 2011 commencing at 14:40

Ship is upright and in one piece. Approx 9.2-9.5 m water clearance above highest point (measured on dive computer; not adjusted for LAT).

Checked for damage to:

- Sick bay – no damage.
- Female and Petty Officers' accommodation on 2 Deck – minor damage observed to three panels near female bathrooms (near mural) and Internal Comms (IC) room. Panels are loose and will be removed.
- Swam along bridge and upper area to helicopter hangars – no damage observed.
- Scullery – minor damage, aluminium paneling loose and will be removed.

Identified four small cracks on 02 Deck in the vicinity of the elevator shaft – to be further inspected next dive.

Removed all underwater cameras.

Geoff Paynter Dive # 2

13 April 2011 commencing at 16:25

Inclination of ship measured using plumb bob at 2.5-3 degrees to port.

Inspected four cracks identified previous day, as described below. Each crack approx 5-15 mm wide. Crack # 1 runs along an old weld line on 02 Deck from aft end of hole into elevator shaft, running across to port side and down side of hull approx 0.5 metre (see photos below).



Crack # 1 - top view



Crack # 1 - side view

Crack # 2 on 02 Deck starts from the diver access hole immediately forward and to starboard side of elevator shaft. It runs from aft / port side of access hole and continues to midship.



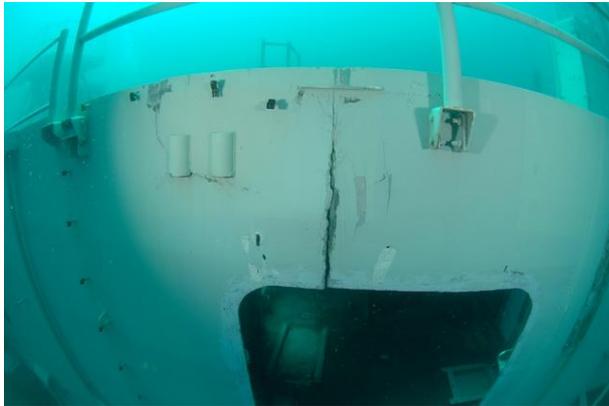
Crack # 2 - top view

Crack # 3 runs approx 0.5m aft of the same diver access hole.



Crack # 3 - top view

Crack # 4 is the larger crack running vertically down to the dive access hole into the STIR equipment room on the starboard side of ship. The smaller (curved) crack shown in the photo below is a continuation of Crack # 3.



Crack # 4 - side view

Geoff Paynter Dive # 3

14 April 2011 commencing at 09:40

Checked depth to highest point on ship, on main mast. NSW Maritime provided independent observer. Diver placed one end of a tape measure on the highest point of the main mast, while the other end was held at surface level from a small boat. Second diver checked for verticality. Measurement was 8.6m taken at 09:40 on 14 April 2011; measurement converted to 8.02m at LAT. Dropped to bow and measured sea bed level at bow 34.5m; repeated at stern 33.2m.

Swam full length of ship on 4 Deck from bow to stern. No damage observed. Moved some of the blast hole plates to a stable position.

Checked for settlement into seabed – vessel appears to be sitting on surface of sand. Gouge hole in sand observed forward of bow, approx 400mm diameter and 300m deep. Keel sitting proud of sand for first 10-12 metres.

Removed forward deck banner (McMahons).

Geoff Paynter Dive # 4

14 April 2011 commencing at 12:00

Measured depth to top of bulwark at bow (shallowest point at bow) at 20.2m at 12:15 (to be adjusted for LAT).

Checked monitoring points as per Long Term Monitoring and Management Plan - no damage observed. Monitoring locations are listed below:

- Location 1 - the hull plating on the forecastle just aft of where the GMLS launcher was removed
- Location 2 - midships at the base of the forward screen (where the superstructure and hull are bonded together)
- Location 3 – at the vertical midpoint of the main mast
- Location 4 - where the main mast attaches to 02Deck
- Location 5 - the hull plating on the transom
- Location 6 – where the helicopter hangars are attached to the hull

Cleaned up debris from pyrotechnics.

Geoff Paynter Dive # 5

14 April 2011 commencing at 14:00

Cleaned up more debris from pyrotechnics.

Geoff Paynter Dive # 6

15 April 2011 commencing at 09:15

Measured depth to top of fairlead (holes for ropes to pass through for towing) – this is the shallowest point at stern: 25.9m at 09:22 (to be adjusted for LAT).

Cleared all firing cable from port side of vessel.

Noted damage to shower cubicle in Captain’s quarters – panel to be removed.
 Noted damage to Galley (2 Deck) forward end, starboard side – loose panel.

Geoff Paynter Dive # 7

15 April 2011 commencing at 11:45

Cleared all firing cable from starboard side of vessel.

* * * * *

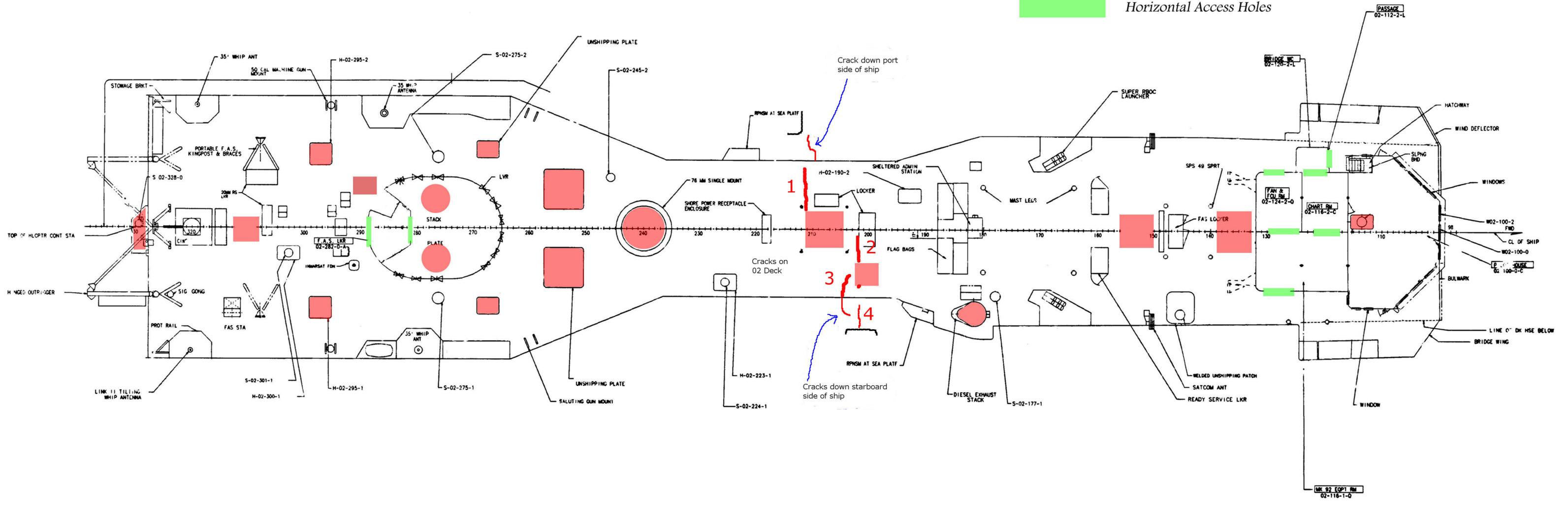
Work undertaken by McLennan’s Diving Services on 18-19 April 2011:

- Completed clean up by removing:
 - banners on each side of hangar and on aft deck
 - blast baffles on aft-most charge holes, port and starboard
 - leftover pyrotechnics near transom and aft area of 02 Deck

- Repaired damage by removing:
 - loose panel from shower cubicle in Captain's Quarters
 - loose panel in passageway outside Scullery (forward bulkhead)
 - 3 loose panels in Female and Petty Officer accommodation area adjacent to mural (2 Deck)
 - loose panel from forward end, starboard side of Galley (2 Deck)

Vertical Access Holes

Horizontal Access Holes



ANNEXURE 3

EVIDENCE OF NOTIFICATIONS TO RAN HYDROGRAPHIC OFFICE AND NSW MARITIME

Cathy Cole

From: Richard Arthur [richard.arthur@cbdesign.com.au]
Sent: Monday, 18 April 2011 9:41 AM
To: Kevin.Slade@drnln.defence.gov.au
Cc: Cathy Cole
Subject: ex_HMAS ADELAIDE Scuttling Data

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Kevin,

As discussed here is the initial data for your Charts people. Please note that the "least depth" has to be converted to LAT (we weren't 100% sure how this should be accomplished – and will follow up when we do):

I can confirm that the scuttling I took place at 1148 13 April 2011:

- Position of the vessel to 2 decimal places of a minute: 33o 27.88' S and 151o 27.45' E at the highest point (being the main mast); horizontal datum WGS84 (readings were taken using GPS)
- Vessel directional and settling orientation (direction and any list) – Direction was 116 degrees at a list to Port of 2.5 degrees
- Least depth over wreck – 8.6m @ 0940 14 April 2011 (to be converted to LAT).
- Two wreck markers have been placed - The forward navigation marker was positioned 20m forward of the bow and is located at 33o 27.897' S and 151o 27.502' E.
The aft navigation marker was positioned 20m aft of the stern and is located at 33o 27.845' S and 151o 27.401' E.

Please let me know if you any further info is needed.

Regards

Richard Arthur

Consultant Engineer



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T: +61 2 9760 2309

F: +61 2 9760 2941

M: 0448700092

www.cbdesign.com.au

Cathy Cole

From: Cathy Cole
Sent: Monday, 18 April 2011 5:50 PM
To: 'Steve Black'
Cc: 'Richard Arthur'
Subject: FW: ex_HMAS ADELAIDE Scuttling Data

Steve

Below is the info sent to the RAN Hydrographic Office today. It contains the coordinates you requested when we spoke by phone earlier today. The other depth measurements recorded last Thursday (all still to be converted to LAT) were:

- Seabed level at bow: 34.5m at 0945 on 14 April 2011
- Seabed level at stern: 33.2m at 0945 on 14 April 2011
- Main deck level at bow: 20.2m at 1215 on 14 April 2011
- Main deck level at stern: 25.9m at 0922 on 15 April 2011

Please let me know if you need anything further. Appreciate your assistance in converting to LAT and in anticipation of the letter verifying the highest point of the vessel.

Regards

Cathy Cole
Project Manager
Land and Property Management Authority
Phone (02) 4920 5086
Mobile 0467 734 539

From: Richard Arthur [<mailto:richard.arthur@cbdesign.com.au>]
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Regards

Richard Arthur

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T: +61 2 9760 2309

F: +61 2 9760 2941

M: 0448700092

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