



Technical Report

Report No. SYD/2019/36

At the request of the NSW Department of Primary Industries - Lands, the undersigned prepared this report from information gained from a review of a report prepared on the 28th June 2019 by McLennan's Diving Service. This is following their underwater inspection on 12th & 13th June 2019, of the vessel Ex-HMAS Adelaide where she rests following the vessel's scuttling.

The vessel's details are:

Ship name:	Ex-HMAS Adelaide
Displacement Tonnage:	2954.90 tonnes
LBP:	407ft
Breadth Moulded:	47ft

1. Introduction

Ex-HMAS Adelaide is a former guided missile armed frigate de-commissioned from the Royal Australian Navy. The vessel was scuttled at a position off Avoca, New South Wales on 13th April 2011 to create an artificial reef for scuba diving.

An underwater inspection of the wreck is carried out annually. The latest inspection was carried out as mentioned above, in June 2019, by McLennan's Diving Service.

2. Report

From the diver's report the underwater inspection of the vessel found that the steel structure was substantially unchanged since the previous underwater inspection which was carried out 12th July 2018.

It is reported that during the inspection there was no sign of any cracking or deformation of the steel hull and deck and this area has built up a uniform coverage of marine growth. There are very few signs of new corrosion and from the diver's report the corrosion level appears to be very low.

The diver's report indicates that the hull is still fully supported by the sand. There was no scouring observed by the divers. The sonar dome was now not visible above the sand at the bow and the sand level was very close to the ship's design waterline. This is similar to that reported last year.

PO Box 722, Gordon, NSW, 2072, Australia.

Ph: +61 2 94408472 Fax: +61 2 94025212 e-mail: info@shearforce.com.au

Web: www.shearforce.com.au

The diver's report states that the aluminium superstructure has suffered from major deterioration in the last twelve months. During this inspection they observed widespread cracking, corrosion breakouts, missing and loose panels and collapsed structure. The specific locations of the deterioration are:

1. the port side Helicopter Hangar plating. The entire hangar side shell has now detached and is laying on the seabed,
2. the starboard side shell plating on 01 deck and the exterior panels of the bridge have corroded,
3. around the bathroom in the bridge area plating is corroded extensively. many plates and support components are wasted entirely. Holes were observed in frames and panels due to corrosion,
4. corrosion is continuing to develop along plating weld lines over an extensive area of the aluminium structure, and
5. corrosion noted last year has become more wide spread.

As noted in our last report, "In our report 23rd June 2015 it was noted that the starboard helicopter hanger side structure was damaged. The diver's report at the time noted that the edges of this damage had been covered up with marine growth, but most visitors would not notice that the plating is missing as It then appeared to be a normal opening in the wreck. The structural members that hold up the remaining bulkheads were still fully intact and appeared to be undamaged. The centre and port side hangar bulkheads were fully intact. The remaining hangar components appeared to be tolerating the ocean forces very well." This paragraph is relevant to this report.

As with last year, from the latest report it would appear the light aluminium plating is continuing to breaking away, but the main support structure is still intact.

The vessel developed a 4-degree list to port in 2012. The divers confirmed that this list remains unchanged.

3. Conclusion

It is my opinion that, the vessel is still structurally sound, and the vessel is stable. However, the light aluminium plating in way of the accommodation and hanger decks is continuing to deteriorate. It is my opinion that this deterioration will continue as the plating continues to break away from its supports thus allowing it to move with the currents and the weather. It is also my opinion that the corrosion of the aluminium plating will continue as the light structure continues to work in the seaway. This area is also in the upper region of the vessel so in the area where the seawater becomes aerated in adverse weather.

From the information in the diver's report I consider there are no new factors that may affect recreational divers though the Dive Masters should take precautions when taking divers near the damaged accommodation structure.

4. Disclaimer

The under signed shall not be liable in any way to any person or company in respect to any claim for any kind, including claims for negligence, for loss occasioned to any person or company in consequence of any person or company acting or refraining from action as a result of material in this report.

Signed,



L. H. Michaels
CEng. CMarEng, FIMarEST. MAIMS, MEngSc. Extra First Class Eng.
for Shearforce Maritime Services Pty. Ltd.
1st July 2019