

APPENDIX A - AHO – CONTROLLING DEPTH ACCURACIES

Torres Strait Under-Keel Clearance Modeling – Controlling Depth Accuracies

The following information is provided in relation to the depth accuracies for the controlling depths in Torres Strait for the purposes of deriving an Under-Keel Clearance (UKC) model. The surveys assessed were those undertaken in the areas of the five identified controlling depth areas:

- Gannet Passage
- Prince of Wales Channel (Western entrance)
- Nardana Patches
- Herald and Alert Patches
- Brothers Patches

Gannet Passage - 289

HI 321 – Western Approaches to Torres Strait (Gannet and Varzin Passages)
HMAS MELVILLE
Oct 2000 – Feb 2001
S57 CATZOC: A1
DHDB Id: 12740

Depth Accuracy (@ 2 sigma or 95%)

Equation determined from input error sources: $2*(0.040525 + 0.00001369*depth^2)$

Therefore, with a least surveyed depth of 9.54 metres on the main route (charted as 9.6 m in position 10°35'.242S 141°53'.016E on AUS289), the associated depth accuracy is ±0.41metres.

Prince of Wales Channel (Western Entrance)

HI 335 – Prince of Wales Channel
HMAS MELVILLE
Jun – Jul 2001
S57 CATZOC: A2
DHDB Id: 12896

The depth accuracy of this survey was impacted by a tide gauge failure, hence the significantly larger error estimates.

Depth Accuracy (@ 2 sigma or 95%)

Equation determined from input error sources: $2*(0.0902 + 0.00026274*depth^2)$

Therefore, with a least surveyed depth of 11.80 metres (charted as 11 in position 10°33'.542S 142°07'.807E on AUS293), the associated depth accuracy is ±0.71 metres.

Nardana Patches

HI 335 – Prince of Wales Channel
HMAS MELVILLE
Jun – Jul 2001
S57 CATZOC: A2
DHDB Id: 12896

The depth accuracy of this survey was impacted by a tide gauge failure, hence the significantly larger error estimates.

Depth Accuracy (@ 2 sigma or 95%)

Equation determined from input error sources: $2*(0.0902 + 0.00026274*depth^2)$

Therefore, with a least surveyed depth (adjacent to the Recommended Track) of 11.70 metres (charted as 116 in position 10°30'.641S 142°14'.787E on AUS293), the associated depth accuracy is ±0.71metres.

Herald and Alert Patches

HI 335 – Prince of Wales Channel
HMAS MELVILLE
Jun – Jul 2001
S57 CATZOC: A2
DHDB Id: 12896

The depth accuracy of this survey was impacted by a tide gauge failure, hence the significantly larger error estimates.

Depth Accuracy (@ 2 sigma or 95%)

Equation determined from input error sources: $2*(0.0902 + 0.00026274*depth^2)$

Therefore, with a least surveyed depth (SW of OG Rock) of 10.20 metres (charted as 10.2 metres in position 10°30'.044S 142°20'.257E on AUS293), the associated depth accuracy is ±0.69metres.

Brothers Patches

HI 274a – Brothers Patches
HMAS PALUMA
Mar 1998
S57 CATZOC: A2
DHDB Id: 12105

Depth Accuracy (@ 2 sigma or 95%)

Equation determined from input error sources: $2*(0.021731 + 0.00000625*depth^2)$

Therefore, with a least surveyed depth of 11.18 metres (charted as 112 in position 10°44'.708S 141°41'.415E on AUS292), the associated depth accuracy is ±0.30metres.