



**Australian Government**  
**Geoscience Australia**

**Certificate of Verification of a Reference Standard of a Position-Measurement in Accordance with  
Regulation 13 of the National Measurement Regulations 1999 in Accordance with the National  
Measurement Act 1960.**

**Name of verifying authority:**

Geoscience Australia – National Geospatial Reference Systems  
Corner Jerrabomberra Ave and Hindmarsh Drive  
Symonston ACT 2609 Australia  
Telephone: (02) 6249 9111 Facsimile: (02) 6249 9969 Email: [geodesy@ga.gov.au](mailto:geodesy@ga.gov.au)

**Client detail:**

Name: Dr Volker Janssen  
Organisation: Survey Infrastructure & Geodesy, Land and Property Management Authority, NSW  
Address: 346 Panorama Avenue, Bathurst NSW 2795  
Telephone: (02) 6332 8426 Facsimile: (02) 6332 8479 Email: [Volker.Janssen@lpma.nsw.gov.au](mailto:Volker.Janssen@lpma.nsw.gov.au)  
Date of request: 21 October 2009

**Description and denomination of standard of measurement:**

Position of a stainless steel plate on galvanised steel pillar (5/8 inch spigot thread) at Government Office Block building, 117 Bull Street, Newcastle (4 character ID: NEWC). Measurement of this mark's position was undertaken using an Ashtech Dorne Margolin chokering with radome (SCIGN) Antenna (International GNSS Service Antenna description ASH701945E\_M SCIS) Serial No. CR6200323013.

**Permanent distinguishing marks:**

Exempt under Regulation 16 (4)

**Date of verification:**

01 April 2010

**Date of expiry of certificate:**

31 March 2015

**Value of standard of measurement:**

South Latitude and its uncertainty of value:

32° 55' 46.51111" ± 0.032 m

East Longitude and its uncertainty of value:

151° 45' 54.82088" ± 0.032 m

Elevation above Ellipsoid and its uncertainty of value:

52.952 m ± 0.054 m


Geocentric Datum of Australia (GDA94) coordinates referred to the GRS80 ellipsoid being in the ITRF92 reference system at the epoch 1994. The uncertainties are calculated in accordance with the principles of the ISO Guide to the Expression of Uncertainty in Measurement (1995), with an interval estimated to have a confidence level of 95% at the time of verification. The combined standard uncertainty was converted to an expanded uncertainty using a coverage factor,  $k$ , of 2.

**Details of any relevant environmental or other influence factor(s) at the time of verification:**

Uncertainty of the coordinates of the recognized-value standard of measurement of position (i.e. GDA94); and  
Uncertainty due to instability of the GPS antenna mounting and modelling of the antenna phase centre variations.

**NATA approved signatory**

Signature:

  
8/4/2010

Date:

Name of signatory:

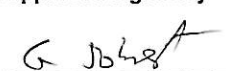
John Dawson

Position held:

Research Scientist,  
National Geospatial  
Reference Systems

**Geoscience Australia approved signatory**

Signature:



Date:

8/4/2010

Name of signatory:

Gary Johnston

Position held:

Project Leader,  
National Geospatial  
Reference Systems

Being a person, or a person representing a body, appointed as a verifying authority under Regulations 71 and 73 of the National Measurement Regulations 1999 in accordance with the National Measurement Act 1960, I hereby certify that the above standard is verified as a reference standard of measurement in accordance with the Regulations, by the above-named authority.