



Potentiometric surface for the Cadna-owie – Hooray and equivalents aquifer, with inferred flow lines

METADATA

RANSLEY, T., FEITZ, A., RADKE, B., OWENS, R., RANSOM, G., BELL, J., STEWART, G.





© Commonwealth of Australia (Geoscience Australia) 2014

With the exception of the Commonwealth Coat of Arms and where otherwise noted, all material in this publication is provided under a Creative Commons Attribution 3.0 Australia Licence.

(<http://www.creativecommons.org/licenses/by/3.0/au/deed.en>)

Geoscience Australia has tried to make the information in this product as accurate as possible. However, it does not guarantee that the information is totally accurate or complete. Therefore, you should not solely rely on this information when making a commercial decision.

The data referred to in this document can be obtained from Geoscience Australia at www.ga.gov.au

Version: 01

Hydrogeology

Potentiometric surface for the Cadna-owie-Hooray and equivalents Aquifer

Title	Great Artesian Basin - Cadna-owie Hooray Potentiometric Surface
Record Id. in GA	Geocat record number: 81688
Abstract	<p>Composite temperature and density corrected potentiometric surface contours for the Cadna-owie-Hooray and equivalents Aquifer and inferred regional groundwater flow directions comprises of two separate data layers;</p> <p>A: Potentiometric surface contours B: Regional groundwater flow direction arrows – Inferred</p> <p>The composite potentiometric surface contours are modified from (Ransley & Smerdon 2013) (figure 7.4 - Modern (Circa 2010) potentiometric surface) and Love et.al. (eds) 2013 (Figure 5.14 Present-day corrected potentiometric surface of the J aquifer for the variable temperature assumption) which was generated from a surface grid that is calculated from temperature and density corrected waterbore head measurements obtained between 2000 and 2010.</p> <p>The regional flow is inferred to occur down hydraulic gradient perpendicular to groundwater head isopotential contours.</p> <p>This dataset and associated metadata can be obtained from www.ga.gov.au, using catalogue number 81688.</p> <p>REFERENCES: Love et al. (eds) 2013, <i>Allocating Water and Maintaining Springs in the Great Artesian Basin. Volume II: Groundwater Recharge , Hydrodynamics and Hydrochemistry of the Western Great Artesian Basin</i>, National Water Commission, Canberra Ransley TR and Smerdon BD (eds) (2012) <i>Hydrostratigraphy, hydrogeology and system conceptualisation of the Great Artesian Basin. A technical report to the Australian Government from the CSIRO Great Artesian Basin Water Resource Assessment</i>. CSIRO Water for a Healthy Country Flagship, Australia. Ransley, T., Radke, B., Feitz, A., Kellett, J., Owens, R., Bell, J. and Stewart, G., 2014. <i>Hydrogeological Atlas of the Great Artesian Basin</i>. Geoscience Australia. Canberra. [available from www.ga.gov.au using catalogue number 79790]</p>
Lineage	<p>SOURCE DATA: Data was obtained from a variety of sources, as listed below:</p> <ol style="list-style-type: none"> 1. Ransley & Smerdon 2013) (figure 7.4 - Modern (Circa 2010) potentiometric surface) 2. Love et.al. (eds) 2013 (Figure 5.14 Present-day corrected potentiometric surface of the J aquifer for the variable temperature assumption) <p>METHOD: Potentiometric surface contours Contours from data sources 1 & 2 were imported into ArcGIS. Within the SA/NT portion of GAB, contours from data source 1 were deleted and replaced by data source 2. Manual</p>

	<p>modification of potentiometric contours was carried out along the boundary of the two data sources to edge match the two datasets.</p> <p>Inferred Regional groundwater flow directions Inferred flow direction arrows were produced by manual interpretation in ArcGIS by drawing arrows perpendicular to the potentiometric surface contours.</p> <p>QAQC: Data has undergone a QAQC verification process in order to capture and repair attribute and geometric errors.</p> <p>SOFTWARE: All modifications/edits and geoprocessing were performed using ESRI ArcGIS 10 software.</p>
Use Limitations	<p>These datasets have been compiled or interpreted from existing and new data sets that vary in scale. They are intended to be used for broad, regional understanding of the basin and are not designed to be used at a local scale. Where existing data sets have been used we have attempted to correct any errors, however errors may remain.</p> <p>It has to be stressed that this generalised basin-wide concept is scale dependant, and may exaggerate the distinction between the superposed aquitards and aquifers. Although this hydrostratigraphy offers more accessible comprehension of the regional hydroarchitecture, the generalisation comes with the inherent dangers of simplification and apparent enhanced contrast of a complex system. For local hydrogeological study, such generalisations may not necessarily survive closer scrutiny.</p>
Extent	
Scale	1:9,000,000
Projection	Lambert conformal conic GDA 1994, with central meridian 134 degrees longitude, standard parallels at -18 and -36 degrees latitude.