



Broken Hill-Menindee Groundwater Bore Drilling Project – Update 3

March 2015

What's happening and when?

The Office of Water is undertaking a groundwater investigation as part of works to secure Broken Hill's water supply during periods when there is insufficient water available in the Menindee Lakes system to meet the city's requirements.

The investigation is being undertaken on the northern margin of Lake Menindee in the vicinity of the interconnecting channel between Copi Hollow and Lake Menindee. This area has been selected due to its proximity to the Broken Hill pipeline and existing infrastructure, as well as the potential suitability of the groundwater aquifer to meet supply requirements.

The investigation is seeking to locate sand aquifers at a depth greater than 200m in the geological unit known as the Renmark Group.

Drilling is being undertaken at a number of sites in this area to assess the geology, water quality and available quantity from the deep aquifer. If a suitable supply is sourced, a bore field will then be constructed to meet Broken Hill's emergency water supply requirements. Drilling is expected to be complete by April 2015.

What has happened so far?

Three test production bores have been drilled at sites MEN1, MEN2 and MEN11: see **Figure 1**.

The progress of the investigation at each site is as follows:

- MEN1 – The test bore has been completed and is accessing five metres of sand at a depth of approximately 200 metres. Pump tests, at a rate of 10.4 litres per second, have been completed to assess the hydrogeological characteristics and potential yield of the test production bore. Water quality samples were collected and are currently being analysed.
- MEN2 – A replacement bore is presently being constructed following a failure of the bore casing on the original bore. The bore is accessing 12 metres of sands and gravels at a depth of approximately 200 metres.
- MEN11 – The bore has been drilled and constructed and is accessing 18 metres of sands and gravels at a depth of approximately 200 metres. A pump test will be conducted to assess the potential yield in late March 2015.

What's next?

Two additional test production bores will be drilled at sites MEN6 and MEN9, while an investigation bore at site MEN17 will also be drilled. The purpose of the investigation bore at MEN17 is to confirm the extent of the sand and gravel found at the previously drilled sites.

Pump tests will be conducted on all of the test production bores and water quality analysis will be undertaken at all of the drilled sites.

It is expected that the completed bore field will yield 24 megalitres of water per day; however, the long-term yield will be dependent on the design of a completed scheme.

This water will then be treated to potable standards before it is delivered.

Figure 1: Location of potential drilling sites included in the REF



Water treatment

In NSW, any new water source from bores, rivers or dams proposed to be used for a reticulated potable water supply **must** meet the following requirements.

Firstly, the water source needs to be comprehensively tested for its quality characteristics including:

- physical
- chemical
- microbial
- radiological

If the tests confirm that the water quality meets the drinking water standards, as set out in the current *Australian Drinking Water Guidelines*, the water source is deemed suitable for use as a potable water supply.

If the test results indicate health related parameter(s) are outside the guidelines, treatment is required to remove/reduce the contaminants to conform to drinking water standards.

Water samples from each bore site will be collected during the pump test and sent for analysis by the Department of Health. These samples will be tested for a number of analytes at two independent laboratories.

Reverse osmosis

The raw water from all of the production bores constructed as part of this emergency water supply scheme will be treated by reverse osmosis (a process in which dissolved salts are removed by passing the water through a membrane) prior to being piped to Broken Hill for further treatment.

Who can I contact for more information?

For further information regarding the groundwater investigation program, please call:

NSW Office of Water: Bunty Driver T 0407 403234

www.water.nsw.gov.au

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