

Broken Hill-Menindee Groundwater Bore Drilling Project – Update 4

April 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 completed this month (April 2015).

What has happened so far?

Five test production bores have been drilled at sites MEN1, MEN2, MEN6, MEN 9 and MEN11: see **Figure 1**. These bores are accessing water from sands and gravels at a depth of about 200m below ground. The water entry depth below ground and the pump test rate at each site is outlined in **Table 1**. Water quality samples have been collected at the sites where a pump test has been conducted and are currently being analysed.

Table 1: Test production bore investigation summary

Site ID	Water entry depth (metres below ground level)	Pump test rate (L/s)	Pump test rate (ML/day)
MEN1	198 – 204	10.4	0.9
MEN2	196 – 208	20.7	1.8
MEN6	192 – 204	To be completed	
MEN9	166 – 182	To be completed	
MEN11	196 – 214	21.7	1.9

What’s next?

Drilling of an investigation bore has commenced at MEN17. The purpose of the investigation bore is to confirm the extent of the sand and gravel found at the test production bores.

Pump tests will be conducted and water quality samples collected at MEN6 and MEN9 during April.

It is expected that a completed production 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 to town water supply customers.

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 NSW Health. These samples will be tested for a number of parameters 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 need to 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 403 234

www.water.nsw.gov.au

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