

Groundwater Notes 5

Looking after your Water Bore

February 2009

Introduction

An efficiently-operating bore saves money. Poor construction, installation and maintenance of bores increases the cost of pumping groundwater and the chances of pump failure. This groundwater note describes what you can do to maintain your bore.

What Should You Do To Protect Your Investment?

- **Maintain the pump** according to the manufacturer's specifications. Avoid having electrical components in connection with metal bore casing as this can cause corrosion.
- **Measure the depth to the water level** in the bore several times a year. The best time to measure is immediately before you turn the pump on and again before you turn the pump off.
 - Groundwater levels can go up and down during the course of a year. The start-up level is the water level of the bore before pumping is commenced. Continually falling start-up levels can affect the operation of the pump. The depth of the pump, and perhaps the pump itself, may have to be changed to keep the bore working properly. Start-up levels that drop continually over more than one year may mean the aquifer is being used up, or another bore is interfering with your bore. If this happens it is recommended that you talk to your local Rural Water Corporation.
 - The shut-off level is the water level of the bore immediately before the pump is shut-off. Continually falling shut-off levels can mean the screen or slots that allow water into the casing or perhaps the casing itself is becoming clogged. Your local driller can provide advice on cleaning out the bore.
- **Take a sample of the water** from the bore at least once a year (preferably more frequently than this). Allow the bore to be pumped from at least 20 to 30 minutes before you take the sample.
 - Measure the salinity of the water and see if there is any sand or grit coming up with the water. Salinity can be measured using pocket salinity meters (usually obtained from agricultural or pump suppliers). It is important to follow the manufacturer's use and care instructions to ensure the meter remains accurate.
 - Increasing salinity can mean salty water is leaking from another layer. This may be due to a hole in the bore casing or can mean that pumping of the aquifer is drawing in salty water from further away. Talk to neighbouring groundwater users – they might be able to tell you if it is something that is happening with other bores in the region. If it is just your bore, you may have to replace the bore casing or decommission your bore and drill a new one.
 - If you use the bore for drinking water, more comprehensive water quality tests are recommended. These tests can be done by National Association of Testing Authorities' (NATA) accredited laboratories. Australia's drinking water standards are set out in The National Water Quality Management Strategy Australian Drinking Water Guidelines 6.
- **Keep detailed records of your bore performance.** This includes all of the recommended information above, but also pumping dates, durations and rates. This information can help you see longer term changes in performance that may require maintenance or replacement of your pumps and possibly of the bore.

Remember: Under the *Water Act* (1989), a Bore Construction Licence is required to deepen or alter the casing or screen of an existing bore. Usually it is a condition of the licence that the work is carried out by a licensed driller. For further information, and the names of local licensed drillers, contact your local Rural Water Corporation.

Accessing an Existing Bore

When buying or leasing a property, existing groundwater bores may be on site. The following approach is recommended to check the bore before it is used:

- Talk to previous owners, neighbours and local drillers to find out as much information about the bore as possible. Drillers often keep information on bores they have drilled;

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- Take a good look at the bore. Measure the inside and outside diameter of the casing. Note what the casing is made of. Use a weight attached to the end of a cord or measuring tape to work out the depth of the bore. Measure the depth to water (if the bore is not dry) by listening for the “plop” as the weight hits the water.
Do not drop anything loose down the bore. If the bore is obstructed, a drilling contractor will be required to clean it out before it can be used. A licence is not needed for this providing the bore is not deepened.
- Talk to your local Rural Water Corporation. They have a database of registered bores. If registered, construction, water quality and pumping information may be available.
- Take all this information to a drilling contractor or a pump supplier and arrange for the bore to be tested. Take several water samples during the test to determine the water salinity. If it is for potable use, (drinking purposes) then further tests on the quality are recommended using a NATA accredited testing Laboratory. It is best to take the first sample after 20 to 30 minutes of pumping.

Bore Decommissioning

If a bore is damaged and can't be fixed or is no longer needed, it must be properly decommissioned. This stops the bore being a path for contamination reaching the water, potentially spoiling it for other bores. Causing groundwater to be polluted is an offence under the *Environment Protection Act* (1970).

Under the *Water Act* (1989), a Bore Decommissioning Licence is required to decommission an existing bore. For further information contact your local Rural Water Corporation.

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