



Converting oil and gas exploration holes for use as water bores

Petroleum companies drill exploration holes as part of their search for oil and gas. Much of this drilling occurs within the Great Artesian Basin.

Landholders often seek to have exploration holes converted to water bores once the petroleum company has finished with them, believing they can reduce costs associated with constructing a water bore. However, such conversions are not easy as there are different construction standards for water bores and petroleum exploration bores. Water bores are relatively permanent features, and need to be constructed to a higher standard than exploration bores, which in comparison are temporary in nature.

Petroleum drilling is authorised under petroleum tenures issued under either the *Petroleum Act 1923* or the *Petroleum and Gas (Production and Safety) Act 2004*. This legislation regulates the drilling of these exploration holes and covers matters such as decommissioning, as well as the potential transfer of ownership of these bores to landholders and the potential conversion of these holes to water bores.

The conversion requirements set out in the petroleum legislation also mean that exploration bores being converted to water bores need to comply with the same construction standards set out for all other water bores under the *Water Act 2000*. This prevents substandard water bores being constructed under petroleum legislation.

Protection of the groundwater resource

Water bores, while essential for allowing access to groundwater, also pose a risk to groundwater pressure and quality, especially in the Great Artesian Basin. Poorly constructed bores can connect otherwise separated aquifers and formations. This can result in groundwater moving from one aquifer to another, or into drier formations, resulting in a loss of groundwater pressure in the higher pressure aquifer. The same process can also lead to poorer quality groundwater contaminating better quality aquifers.

Licensed water bore drillers

To prevent the deterioration of groundwater resources, only drillers with the necessary skills, knowledge, and competence are allowed to construct water bores. Such drillers are licensed under the Water Act after they have been able to demonstrate their competence in constructing bores that comply with standards. This approach minimises the risk that poorly constructed water bores pose to groundwater.

Converting an exploration bore to a water bore

Landholders considering using a converted oil or gas exploration bore as a water bore need to be aware that the following requirements of the petroleum legislation must be complied with before ownership of the bore can be transferred to them from the oil or gas company:

- The landholder must hold any necessary water licence required under the Water Act.
- All work on the bore must be carried out or physically supervised by a water bore driller appropriately licensed under the Water Act.

Water bores constructed by oil or gas companies that do not meet the above criteria are not transferable to the landholder. Such bores remain the property of the petroleum tenure holder and may need to be decommissioned on completion of the tenure.

Water bores that are not converted from exploration bores require development approval under the *Integrated Planning Act 1997 (IPA)*. Converted water bores that have been transferred to a landowner in accordance with the petroleum legislation requirements require no further planning approval under the IPA, because the bore was approved under the petroleum legislation.

The Water Act also requires the following, which are best resolved before the exploration bore is converted:

- The conversion to a water bore must comply with the construction standards required for all other water bores.
- The take of water from a water bore needs to comply with any required water licence. This means there may be limitations on the location of a water bore, or on which aquifer a water bore can tap (for example in terms of location relative to springs or other bores).



The conversion of an oil or gas exploration bore to a water bore needs to comply with the same water bore construction standards applicable to other water bores drilled under the Water Act and IPA in the same aquifer. These standards set minimum requirements for grouting, casing, and centralisers. Drillers also need to report to the Department of Natural Resources and Water (NRW) on the work they carry out, to comply with drillers' licensing requirements.

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For further information phone 13 13 04

Because exploration bores are generally constructed to different standards than those for water bores it can be difficult to convert them. Some exploration holes have a small diameter and any casing used is smaller than what is allowed to be used in water bore construction. Water bores need a greater diameter to provide for minimum grout thicknesses and minimum casing sizes, which greatly improve the likelihood of water bores being constructed in ways that protect the groundwater resource from deterioration.

Water licensing matters

Landholders are advised to consult with NRW about water licensing requirements before any work starts on converting an exploration bore to a water bore. Water licensing rules might constrain the location of a bore or the aquifer from which water can be taken. Consulting with NRW will identify any constraints before a bore is constructed.

The Great Artesian Basin

The Great Artesian Basin Resource Operations Plan 2006 only allows new water licences to be issued where the location of take is not too close to springs or other bores sourcing water from the same aquifer. By prudent choice of an appropriate source aquifer and bore site these restrictions rarely need prevent a stock or domestic water licence being issued. These limitations are best considered before a new water bore is constructed.

Further information

Water licensing and water bore standards

For more information on water licensing or water bore construction standards please visit the NRW website at <www.nrw.qld.gov.au> or contact one of the following NRW regional offices:

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| Rockhampton | 209 Bolsover St | 4938 4947 |
| Toowoomba | 203 Tor St | 4688 1000 |

Drillers licensing

If you have queries concerning the licensing of water bore drillers, please contact NRW's Principal Technical Officer (Drilling) at:

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| Mareeba | 167 Walsh St | 4048 4875 |
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