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# Searching for Groundwater

National Groundwater and Contaminated Land Centre



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The Environment Agency is the leading public body protecting and improving the environment in England and Wales.

It's our job to make sure that air, land and water are looked after by everyone in today's society, so that tomorrow's generations inherit a cleaner, healthier world.

Our work includes tackling flooding and pollution incidents, reducing industry's impacts on the environment, cleaning up rivers, coastal waters and contaminated land, and improving wildlife habitats.

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# A new framework

A key task for the Environment Agency as part of its abstraction licensing work is managing groundwater in England and Wales.

The Agency's policies and procedures for controlling the drilling and test pumping of groundwater sources reflect:

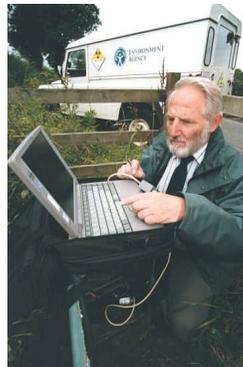
- the importance of good scientifically-based, groundwater management
- the requirement for a consistent approach across England and Wales
- the need for those who wish to develop groundwater sources to work with the Agency to understand the potential effects of that development.

## The need for controls

Parliament has entrusted the Agency, through the Water Resources Act 1991, with the management of water resources. This includes licensing water abstractions in a way that is fair to all users. However, an Abstraction Licence is not required in order to investigate potential groundwater supplies. According to the Act, anyone wishing to carry out activities

such as drilling and test pumping boreholes, and the excavation and test pumping of seepage lagoons or catchpits, must seek and gain Agency consent to carry out the work. This is to safeguard water resources and any existing abstractions.

The procedures for obtaining consent are more straightforward than those for an Abstraction Licence. The Agency may, however, include conditions that enable it to control any adverse effects of drilling and test pumping, for example, effects on water features or potential mobilisation of pollutants.



Agency staff downloading monitoring data in the field

Sometimes works may also require further Agency consents, for instance Land Drainage or Discharge Consents. The works may also need planning permission from the Local Authority.

### Drilling and test pumping

Consents granted by the Agency will specify various conditions. There are, however, still the following concerns:

- that sufficient water resources are available in the area
- that test pumping does not have an adverse effect on other water features or the environment, for example, wells, boreholes, streams, wetlands, nature conservation sites etc
- that the work does not cause pollution, or damage to nearby streams or to groundwater
- that works do not introduce waterborne diseases into the groundwater
- that any wastes, including drilling cuttings, are disposed of correctly.



V-notch weir tank measuring discharge rate during pumping test

Drilling waste is normally classed as 'controlled waste' and disposal must comply with the Waste Management Duty of Care: A Code of Practice.

### The Consent procedure

To apply for consent you must complete form WR-32. The Agency encourages informal discussions of any proposals in advance of the formal application but this is not a requirement.

The Agency will carry out a preliminary appraisal to inform you if it will be unlikely to grant a Consent or a subsequent licence. For example, in an area where groundwater resources are already considered to be suffering from over abstraction, the Agency will advise you that you are going to waste time and money by pursuing your application.

Before the Agency will issue a Consent, a survey of water features must be carried out around the proposed works. This will usually be within a specified radius from the site. The results of the survey will help set up a baseline for the measurements that will need to be made throughout the test pumping, to assess the situation and predict how your activities may alter it.

The Agency will provide available information about licensed abstractions in the area to assist

with the survey, along with any advice it can give. The quality of the survey, however, is the responsibility of the applicant, and it must be of an appropriate standard. The application cannot proceed until the Agency considers the survey to have been carried out correctly and it appears unlikely that test pumping will significantly affect other water features.

If the survey, or the application itself, suggests that the proposed works are likely to have more than a negligible effect on the environment, the Agency will require further work to assess these effects as part of an Environmental Appraisal.

### The Consent

When the results of the survey, and where necessary the Environmental Appraisal, are satisfactory, the Agency will issue a Consent. This allows the work to proceed subject to conditions. There are two kinds of conditions, a set of general



Agency staff measuring groundwater levels using a borehole



Core drilling samples are taken whenever there is a change in rock type or at 1 metre intervals

conditions which apply to all Consents and conditions specially tailored to the specific proposal. Specific conditions could be the dimension of the borehole and any monitoring required, details of required test pumping and where to recharge water. Any development close to environmentally sensitive sites will require testing over a longer period to estimate the effects of the abstraction.

General conditions state how to keep the Agency informed as the work progresses. The Agency must be told when work is intended to start and when different stages of the work such as source development or test pumping are to begin. The Agency reserves the right to attend each stage of the works to ensure that Consent conditions are complied with.

The Agency also reserves the right to withdraw or alter a Consent at any time. This might happen, for example, if other sources are being

adversely affected by test pumping, and no agreement is reached with the owners of these sources about how to deal with the situation. It may be necessary to carry out further survey work to help reach a decision that will be in everyone's interests.

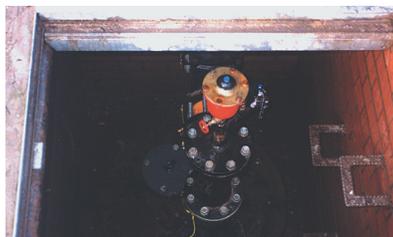
### Next steps

The next step will be to apply for an Abstraction Licence, unless you decide to go no further with your proposals. The results of the test pumping will be analysed either by you or by the Agency, depending upon the nature of your proposal. This analysis will then be used in the determination of any subsequent licence application. It may be necessary for you to employ a qualified hydrogeologist to analyse the results.

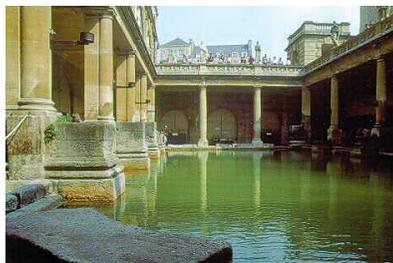
If requested, Agency staff may discuss your proposals with you before submission of the Abstraction Licence application.

### More Information

For more information contact your local Environment Agency office.



Well head works and below surface chamber



The Great Roman Bath at Bath

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