

# **Review of Landfill Groundwater Monitoring Requirements from an Ontario Perspective**

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## **Abstract**

Landfill groundwater monitoring requirements are key to monitoring the performance of a landfill site. With new methods of design and increased awareness of the potential for landfill sites to cause negative impacts on human health and the environment, including contaminating water resources, there has been a push to up-grade groundwater monitoring requirements. This paper is an assessment of the groundwater monitoring requirements for five jurisdictions, including the Province of Ontario, and states of Michigan, New York and Wisconsin as well as England and Wales. The author is a hydrogeologist with the Ontario Ministry of the Environment (MOE) and selected Ontario as the point of comparison. The other jurisdictions were selected according to their proximity to Ontario, or as in the case of England and Wales, for being from a similar latitude and geologic environment as well as having a similar form of government.

The results indicate that while in many respects the requirements are quite similar. In each of the jurisdictions there appears to be a tendency to grandfather older landfills, rather than apply new revisions to the requirements, which tend to be more stringent requirements over their discharges. Yet, a closer examination of the monitoring requirements suggests that changes to the methods of interpretation of monitoring data, i.e. use of statistical methods, among others, cannot easily be prescribed to old and closed landfill sites, due to the difficulties associated with assessing background water quality data for a landfill once it is in place.