

Technical Bulletin

Wells Regulation – Understanding the Meaning of Well, Test Hole and Dewatering Well

This technical bulletin is one in a series of seventeen ¹ on well issues created for a person who:

- may have a new test hole or dewatering well constructed in the future, or
- currently owns a test hole or dewatering well.

The purpose of this technical bulletin is to summarize the information found in the *Test Holes and Dewatering Wells – Requirements and Best Management Practices* manual published by the Ministry of the Environment, April 2014 (**hereon in referred to as the “Manual”**) regarding what is considered a well, test hole and dewatering well under the legislation.

Improperly constructed or poorly maintained wells can act as direct pathways for contaminants to enter groundwater or allow mineralized water or gas bearing formations to impair groundwater that could be used as a source of drinking water.

Terms such as a “well” are defined in the Ontario Water Resources Act, R.S.O. 1990, c. O. 40. Terms such as “test hole” and “dewatering well” are found in Regulation 903 (Wells Regulation) as amended made under the Ontario Water Resources Act.

Based on the definitions of the terms “well”, test hole” and dewatering well”, the regulation and the Act set minimum requirements to provide for the conservation, protection and management of Ontario’s waters and for their efficient and sustainable use, in order to promote Ontario’s long-term environmental, social and economic well-being.

¹ A list of the seventeen technical bulletins is shown in the Additional Information Sources section near the end of this technical bulletin.

Well

Many holes are made in the ground to locate or obtain groundwater for a variety of purposes including human consumption. All holes made in the ground for such purposes fall under the definition of “well”.

During geological assessments, environmental assessments, geotechnical investigations or project involving the dewatering of subsurface formations, holes are made in the ground. Some of these holes meet the definition of “well” in the Ontario Water Resources Act².

Subsection 1(1) of the Ontario Water Resources Act defines a “well” as:

“a *hole* made in the ground to locate or to obtain ground water or to test or to obtain information in respect of ground water or an aquifer, and includes a spring around or in which works are made or equipment is installed for collection or transmission of water and that is or is likely to be used as a source of water for human consumption.”

For clarification, there are three parts to the definition of “well”:

1. A hole used to locate or obtain groundwater is a well.
2. A hole to test or obtain information with respect to groundwater or an aquifer is a well.
3. A spring (natural groundwater discharge at ground surface) where works or equipment are installed and where the water will, or is likely to be used for human consumption is a well.

If a person is constructing a hole that may encounter groundwater but the purpose for constructing the hole is not to locate groundwater, or test or obtain information about groundwater or an aquifer, then the hole is not a well.

If a hole is made in a subsurface formation below the ground surface or below a surface water body for the sole purpose of sediment, overburden and bedrock observations, the hole is not a well.

² Well, subsection 1(1) of the Ontario Water Resources Act, R.S.O. 1990, c. O. 40 E-laws - http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o40_e.htm

There are other systems and scenarios that are not discussed above. Each scenario needs to be evaluated on its own merits to determine whether or not a hole is a “well” as defined in the Ontario Water Resources Act.

Dry Hole

If a hole is advanced or excavated to test or obtain information with respect to an aquifer or groundwater but the hole does not locate groundwater (i.e. a dry hole), then the hole is still considered a “well”.

Test Hole & Dewatering Well

The Wells Regulation further defines two types of “wells”, the “test hole”³ and “dewatering well”⁴.

- A test hole means a “well” that,
 - is made to test or to obtain information in respect of groundwater or an aquifer, and
 - is not used or intended for use as a source of water for agriculture or human consumption;
- A dewatering well means a “well” that is not used or intended for use as a source of water for agriculture or human consumption and that is made,
 - to lower or control the level of groundwater in the area of the well, or
 - to remove materials that may be in the groundwater;

³ Subsection 1(1) of R.R.O. 1990, Regulation 903 (Wells) as amended made under the Ontario Water Resources Act, R.S.O. 1990, c. O. 40, “test hole”, E-laws - http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900903_e.htm

⁴ Subsection 1(1) of R.R.O. 1990, Regulation 903 (Wells) as amended made under the Ontario Water Resources Act, R.S.O. 1990, c. O. 40, “dewatering well”, E-laws - http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900903_e.htm

Examples of testing or obtaining information in respect of groundwater or an aquifer using a test hole include:

- measuring a groundwater level,
- measuring the location of the groundwater or aquifer in a subsurface formation,
- field testing the quality of the groundwater (including tasting and smelling),
- obtaining a water sample of the groundwater for laboratory analysis,
- conducting a pumping test,
- conducting hydraulic conductivity tests, including rising or falling head tests, and
- conducting thermal conductivity tests of the groundwater to determine the groundwater's temperature or heat exchange capabilities.

Examples of scenarios where dewatering groundwater are used include:

- one or more holes are installed and used for the purposes of lowering the groundwater level to allow for:
 - the mining of an aggregate or mineral,
 - the installation of water mains and sewer systems, and
 - the plugging and sealing of an uncontrolled flowing well
- one or more holes are installed and used for the purposes of collecting and treating a contaminant in the groundwater.

The examples of a test hole or dewatering well only apply if the well is **not** used or intended for use as a source of water for agriculture or human consumption. For example, many wells are constructed in proposed private services subdivisions for groundwater quality and quantity testing. After testing, and if the subdivision development is approved, many of the wells are subsequently used by the developer to supply groundwater to residences for ordinary household purposes. In this case, the wells formerly used for testing no longer meet the definition of “test hole” because the subsequent use of wells is for human consumption. These wells would be considered water supply wells.

There are other systems and scenarios that are not discussed above. Each scenario needs to be evaluated on its own merits to determine whether or not a hole is a “test hole” or “dewatering well” as defined in the Wells Regulation.

Exempted Wells

The Wells Regulation exempts certain types of wells from the Wells Regulation and from the sections of the Ontario Water Resources Act (s. 36 to 50) that pertain to licensing requirements related to wells ⁵. The exempted wells are:

- trench,
- pond,
- ditch,
- reservoir,
- lagoon,
- artificial wetland,
- canal,
- tile drain and
- wick drain.

Table 1 at the end of this technical bulletin provides descriptions of the exempted wells.

The other sections of the Ontario Water Resources Act and the Environmental Protection Act, however, do apply to exempt wells including offences for any discharges that may impair waters and permits for water takings of more than 50,000 Litres (11,000 Imperial gallons) on any one day.

Water Supply Wells

Certain licensing and construction requirements for water supply wells are different from the requirements for test holes and dewatering wells as defined by the Wells Regulation. For further information on the requirements for water supply wells see the *Water Supply Wells – Requirements and Best Management Practices* manual, published by the Ministry of the Environment, December 2009 and the Wells Regulation.

⁵ Sections 36 to 50 of the Ontario Water Resources Act, R.S.O. 1990, c. O. 40, e-laws: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o40_e.htm

Shallow Works

A shallow works is a test hole or dewatering well that is made to a depth of not more than 3.0 m (10') below the ground surface.

There are special construction and abandonment requirements for shallow works and circumstances when the test hole or dewatering well is not considered a shallow works.

See the *Wells Regulation – Shallow Works* technical bulletin and the Wells Regulation for further information.

Additional Information Sources

The seventeen technical bulletins on test holes and dewatering wells are:

- Wells Regulation – Understanding the Meaning of Well, Test Hole and Dewatering Well
- Wells Regulation – Shallow Works Test Holes & Dewatering Wells
- Wells Regulation – Exempted Activities Performed on Wells, Including Test Holes & Dewatering Wells
- Wells Regulation – Test Hole and Dewatering Well Licensing
- Wells Regulation – Licensing (Class 5) for Individuals who Perform Tests on Wells
- Wells Regulation – Site Considerations & Initial Planning for Test Holes & Dewatering Wells
- Wells Regulation – Constructing New Uncased Test Holes & Dewatering Wells in Operation for No Longer than 30 Days
- Wells Regulation – Constructing New Test Holes & Dewatering Wells in Operation for No Longer than 180 Days
- Wells Regulation – Constructing New Test Holes & Dewatering Wells
- Wells Regulation – Constructing New Multi-level Monitoring Test Holes
- Wells Regulation – Completing the Structure of the New Test Hole or Dewatering Well
- Wells Regulation – Flowing Test Holes & Dewatering Wells
- Wells Regulation – Test Hole & Dewatering Well Maintenance
- Wells Regulation – Well Record, Reporting & Tagging for a Test Hole & Dewatering Well
- Wells Regulation – Test Hole & Dewatering Well Repairs & Alterations
- Wells Regulation – Well Abandonment - When to Plug & Seal a Test Hole or Dewatering Well

- Wells Regulation – Well Abandonment - How to Plug & Seal a Test Hole or Dewatering Well

These technical bulletins are available on Ontario.ca.

Further information on the terms well, test hole and dewatering well can be found in Chapter 2: *Definitions and Clarifications* and Chapter 3: *Exemptions: Wells, Activities & Experienced Professionals of the Manual*.

A copy of the *Test Holes and Dewatering Wells – Requirements and Best Management Practices* manual can be obtained on Ontario.ca.

A copy of the Ontario Water Resources Act, Regulation 903 as amended made under the Ontario Water Resources Act (Wells Regulation) and other regulations can be obtained from the e-Laws website at www.e-laws.gov.on.ca.

The publications are also available by calling the Publications Information Centre at 1-800-565-4923 or (416) 325-4000.

For further information about wells, contact the Wells Help Desk at 1-888-396-9355 (Well) or the nearest Ministry of the Environment office listed in the blue pages of the telephone directory.

Notice: This bulletin is being provided for information purposes only and is not intended, nor should it be construed as providing legal advice in any circumstances. The applicable environmental legislation, including the following, should be consulted.

- ***Ontario Water Resources Act, R.S.O. 1990, c. O. 40***
- ***R.R.O. 1990, Regulation 903 (Wells) as amended made under the Ontario Water Resources Act, R.S.O. 1990, c. O. 40***

Legislation and regulations change from time to time so it is essential that the most current versions be used.

Table 1: Exemptions – Types of Wells and Descriptions

The terms described in Table 1 may have other meanings in different contexts or in relation to other legislation. Unless otherwise indicated, they are derived from the ordinary dictionary meaning of the word.

Pond	A natural or man-made depression, smaller than a lake, that collects groundwater and/or surface water.
Reservoir	An artificial lake used for the storage or control of water.
Lagoon	May include an engineered excavation designed to hold waste or wastewater or in some cases allow for the exfiltration of the waste.
Artificial Wetlands	Wetlands that are artificially created. Includes permanently or intermittently anthropogenic wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions.
Canal	An artificial channel for surface water that may intersect groundwater. There are two types of canals: irrigation canals, which are used for the delivery of water, and waterways, which are navigable transportation canals.
Trench	An elongated excavation where the excavation depth typically exceeds the excavation width.
Tile Drain	A pipe surrounded by granular material to collect and convey water.
Wick Drain	A piece of equipment, such as a prefabricated plastic core wrapped in a geotextile cloth, that is pushed into the ground and draws water from the soil under embankment loading to accelerate the settlement of embankments.
Ditch	An excavation that is created to channel water. A ditch can also be used for drainage of low lying areas, alongside roadways or fields.