Technical Bulletin

Wells Regulation – Well Record, Reporting & Tagging for a Test Hole & 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 ² or dewatering well ³ 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 well records, reporting and tagging for test holes and dewatering wells, and
- present the well record, notification and well tag requirements in Regulation 903 (Wells Regulation), as amended, made under the Ontario Water Resources Act for a test hole or dewatering well.

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

² A "test hole" means a well that, (a) is made to test or to obtain information in respect of ground water or an aquifer, and (b) is not used or intended for use as a source of water for agriculture or human consumption, subsection 1(1) of the Wells Regulation, e-laws: <u>http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900903_e.htm</u>

³ 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, (a) to lower or control the level of ground water in the area of the well, or (b) to remove materials that may be in the ground water, subsection 1(1) of the Wells Regulation, e-laws: <u>http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900903_e.htm</u>

Log & Field Notes

Keeping accurate logs and field notes is important for the following reasons:

- To complete the well record and logs prepared for various hydrogeological or geotechnical reports. The information transposed onto the well record may be used by the water well industry and environmental consultants seeking information on groundwater resources in an area (see the "Well Record & Well Tag," section below).
- To document construction activities, field conditions, incidents and subsurface information prior to the completion of the well record.
- To reduce confusion about which well record matches which well cluster on sites where multiple groups of wells have been constructed.

Overburden & Bedrock Log Requirements

Every person constructing a test hole or dewatering well must make a log of overburden and bedrock materials and have it available at the well site for inspection.

Exemptions - Overburden & Bedrock Log

The person constructing the well is exempted from the requirement to complete and keep a log of overburden and bedrock materials when:

- constructing a well by the use of a driven point,
- altering a well without deepening it, or
- only installing a pump.

The person abandoning the well is exempt from completing and keeping a log of overburden and bedrock materials for a well abandonment.

Field Notes Requirements

Every person constructing or abandoning a well is required to make and have available at the well site, for inspection, field notes that include an up to date record of the construction or abandonment activities.



Notifications

Where a test hole or dewatering well is constructed and "natural gas" is encountered, the person constructing the well must immediately notify the well purchaser, the owner of the land on which the well is located and the Director under the Act of the condition.

In some cases, gas can be generated from a contaminant in the ground. For example, a benzene gas plume can be generated by a petroleum hydrocarbon spill. In this example, the gas plume generated in the ground from the contaminated zone is not considered to be a "natural gas".

Test holes or dewatering wells constructed in a contaminated zone, resulting from a petroleum hydrocarbon spill for example, are commonly designed to look for and remediate groundwater quality problems and other associated issues such as gas. Typically, testing is completed by a Professional Engineer or Professional Geoscientist representing the well owner some time after the test hole or dewatering well is put into operation. In these circumstances, owners and their agents should be made aware of a gas issue in the test hole or dewatering well.

For further information see the *Wells Regulation – Constructing New Test Holes & Dewatering Wells* technical bulletin.

Well Record and Well Tag Importance

Well records provide well construction and general groundwater quantity and quality information. The well tag is a unique identifier that links one or a group of test hole(s) or dewatering well(s) in the field with the well record. Well records and well tags are a notification system for use by the province, well contractors, consultants and current and future well owners to:

- provide information on the groundwater and geology of an area, including:
 - o groundwater availability,
 - o general idea of depth to water, and
 - o possible flowing well conditions
- provide information on well construction in an area to help well technicians anticipate equipment needs and estimated costs,
- help to protect well owners and contractors from being subject to enforcement action by the Ministry or civil action between parties,
- provide information to manage the groundwater resources,
- provide information for consultants and regulators on groundwater quality and quantity issues in an area,
- provide information on the location of wells and their construction details in case of spills, and





• assist in locating existing wells when purchasing a new property to ensure they are properly maintained or abandoned (plugged and sealed).

Information from well records is compiled at the Ministry of the Environment. Together, with other databases and geographical information systems (GIS), the information provides an overview of groundwater and aquifers in Ontario, including:

- types of construction, uses and locations of wells in the province,
- areas where natural gas, mineralized water or flowing wells occur,
- the location of high and low static water levels in different formations, and
- the location of low and high-yield aquifers.

Well Tags

Affixing Well Tags to New Cased Test Holes or Dewatering Wells

Before the structural stage of a new cased test hole or dewatering well is complete, the person constructing the well must permanently affix a well tag, issued by the Ministry, to the outside of the casing or to a permanent structure associated with the well. The affixed well tag must be visible and must not be obstructed by the well cap, other well components or equipment associated with the well.

Affixing Well Tags to New Test Holes or Dewatering Wells that are Part of a Well <u>Cluster</u>

If one well record is prepared for a group of new test holes or dewatering wells that meets the definition of "well cluster" ⁴ in the Wells Regulation allows the person constructing the wells to permanently affix a well tag to only the outside of the casing or to a permanent structure associated with the deepest well in the well cluster. The well tag must be affixed as described in the "Affixing Well Tags to New Cased Test Holes or Dewatering Wells" section in this technical bulletin.



⁴ A group of wells for which the person constructing the wells may complete one well record under subsection 16.4(1), subsection 1(1) of the Wells Regulation, e-laws: <u>http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900903_e.htm</u>

Affixing Well Tags During Alterations of Existing Test Holes or Dewatering Wells

Test Hole or Dewatering Well without a Well Tag

If an alteration, other than a minor alteration ⁵, is made to a cased test hole or dewatering well that does not have a well tag, a Ministry well tag must be obtained and affixed permanently to the outside of the casing or to a permanent structure associated with the well as described in the "Affixing Well Tags to New Test Holes or Dewatering Wells" section in this technical bulletin. This also applies to a test hole or dewatering well that was originally part of a well cluster and the well does not already have a well tag.

Test Hole or Dewatering Well with a Well Tag

During alterations to a cased well with a well tag, the well tag must be safeguarded and, if removed, it must be re-affixed permanently to the outside of the casing or to a permanent structure associated with the well upon completion of the alteration as described in the "Affixing Well Tags to New Test Holes or Dewatering Wells" section in this technical bulletin.

Replacement of Damaged Well Tag and Well Record Completion

If an alteration, including a minor alteration, is made to a cased well with a well tag and the existing well tag is broken, defaced, illegible or otherwise unusable, the person constructing the well must:

- remove the well tag and return it to the Director under the Act no later than the date that the well record is submitted to the Director (within 30 days after affixing the new well tag),
- affix a new well tag issued by the Ministry (as described in "Affixing Well Tags to New Test Holes or Dewatering Wells" section in this technical bulletin) before the alteration is completed, and



⁵ A "minor alteration" means, with respect to a well, (a) routine repair or maintenance, (b) the installation of monitoring, sampling or testing equipment, other than equipment used to test the yield of the well or the aquifer, (c) the installation of a pump in a test hole, or (d) the installation of a well cap or watertight well cover, subsection 1(1) of the Wells Regulation, e-laws: <u>http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900903_e.htm</u>

• complete a well record with respect to the replacement of the well tag and submit the well record to the Director under the Act within 30 days after affixing the new well tag.

Removal of Well Tags During Well Abandonment

If there is a well tag on a test hole or dewatering well that is being abandoned, the person abandoning the well, often the well owner, must ensure that the well tag is removed as the first step in the well abandonment procedure and that it is returned to the Director within 30 days after its removal. If a well record is required to be completed for the abandonment, it is a best management practice to submit the well tag with the well record to the Director.

See Chapter 17 of the Manual: *Abandonment: How to Plug & Seal Test Holes & Dewatering Wells* for further information on the required steps for well abandonment.

Offence for Defacing or Removing Well Tags

It is not permitted to deface, alter, conceal or obstruct a well tag.

It is not permitted to remove a well tag that is affixed to a well unless:

- the person has the written consent from the Director,
- the well tag on the well that is being altered is broken, defaced, illegible or otherwise unusable, or
- the well is being altered or abandoned (plugged and sealed).

It is not permitted to use a well tag issued by the Ministry except in accordance with the Wells Regulation.

Well Tag Exemption for New Uncased Test Holes or Dewatering Wells

The person constructing a new test hole or dewatering well without a well casing is not required to affix a well tag.

Uncased wells are used for a short period of time and must be scheduled to be abandoned within 30 days of completion of the wells' structural stage. For these test holes and dewatering wells, there is no casing or permanent structure on which to attach a well tag. For further information on uncased test holes and dewatering wells see the *Wells Regulation – Constructing New Uncased Test Holes & Dewatering Wells in Operation for No Longer than 30 Days* technical bulletin.



Well Record

<u>Completing and Submitting Wells Records for the Construction of Test Holes or</u> <u>Dewatering Wells</u>

On completion of a well's structural stage, the person constructing a test hole or dewatering well must:

- complete a well record for the well in full detail following the instructions and explanations on the form,
- deliver a copy of the well record to the well purchaser and the owner of the land on which the well is situated within 14 days,
- forward a copy of the well record to the Director under the Act within 30 days,, and
- retain a copy of the well record for at least two years.

Exemptions for Completing Well Records for Well Construction

Well Record Completion and Submission Exemption for Minor Alteration or Pump Installation

A person who performs a "minor alteration" or installs a "pump" ⁶ in a test hole or dewatering well is not required to complete and submit a well record, unless there is a damaged well tag.

The physical structure of a test hole or dewatering well is not significantly altered when a person installs a pump or performs a "minor alteration". In these cases, there is no major change to the structure of a test hole or dewatering well to be documented on a well record.

For further information on the term "minor alteration", see the *Wells Regulation – Test Hole & Dewatering Well Repairs & Alterations* technical bulletin and Table 2-3 of Chapter 2 of the Manual: *Definitions & Clarifications*.

For further information on replacing a damaged well tag, see the "Replacement of Damaged Well Tag and Well Record Completion" section in this technical bulletin.



⁶ "Pump" includes associated pumping equipment, subsection 1(1) of the Wells Regulation, elaws: <u>http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900903_e.htm</u>.

Well Record Completion and Submission Exemption for Test Hole or Dewatering Well Abandoned within 30 Days of Completion

The person constructing the well is not required to complete a well record for the construction, including an alteration, of a test hole or dewatering well if the well is abandoned within 30 days of the completion of the well's structural stage ⁷.

The reporting requirements of the Wells Regulation capture the construction, alteration and abandonment test holes and dewatering wells that will be in place for more than 30 days. For example, the Ministry expects a well record for a new test hole that will monitor the long term groundwater impact of a waste disposal site or for a dewatering well that will be pumping contaminated groundwater to contain a spill.

<u>Completing and Submitting a Well Record when Constructing a Well Cluster of</u> <u>New Test Holes or Dewatering Wells</u>

A "well cluster" means a group of wells for which the person constructing the wells may complete one well record under subsection 16.4(1) of the Wells Regulation.

Circumstances When Well Cluster Option Can Be Used

A person constructing a group of test holes or dewatering wells may complete one well record for the test holes or dewatering wells instead of a separate well record for each individual well if all the following circumstances exist:

- every well in the group is a test hole or dewatering well,
- every well in the group is located:
 - on the same property as another well in the group,
 - on a property that is adjacent to a property on which another well in the group is located, or that would be adjacent but for a road between the two properties, or

⁷ A well's structural stage is complete on the day on which the well is capable of being used for the purpose for which it was constructed but for, (a) compliance with section 15; (b) the installation of a pump; or (c) any alterations necessary to accommodate pumping, monitoring, sampling, testing or water treatment equipment, subsection 1(1) of the Wells Regulation, e-laws: <u>http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900903_e.htm</u>.

- on a property that has only one or two intervening properties between it and a property on which another well in the group is located (see "Well Record – Determining Intervening Properties for Cluster Wells" in this technical bulletin),
- the structural stage of every well in the group is complete or, if the wells are being constructed in phases, the structural stage of every well in the relevant phase of construction is complete, and
- each owner of land on which a well in the group is situated has given written consent for the use of one well record for the group and the well record states that all the required consents have been given.

A person may alternatively choose to complete a separate well record for each individual well even though the group of test holes or dewatering wells meets all of the above conditions.

Determining Intervening Properties for Cluster Wells

To determine the number of intervening properties between two properties on which wells are located, the person constructing the group of wells must follow the following rules:

- the number of intervening properties must be determined along a straight line joining the two wells,
- if the straight line (mentioned in the first bullet) crosses a road, the road must not be counted as an intervening property, unless one or both of the two wells is located on or inside the boundaries of the road, and
- if part of the straight line (mentioned in the first bullet) is on or within the boundaries of a road, the number of intervening properties must be determined with reference to the properties adjacent to that portion of the road, on the side of the road that has fewer properties.

For further information on determining intervening properties and various scenarios, see Figures 15-2 to 15-8 in Chapter 15 of the Manual: *Well Records, Documentation, Reporting & Tagging.*



Information Required for Well Cluster Record Completed for Construction

A person who constructs a group of test holes or dewatering wells and who completes one well record for a well cluster must:

- indicate on the well record, in a convenient, concise and comprehensive manner, which of the wells share common features, such as diameter, construction technique, casing, venting and pumps, and
- include on the well record a statement that the person constructing the well will promptly submit to the Director under the Act, on request, any additional information in the person's custody or control related to any well in the well cluster that the person has constructed.

A well record form for a "well cluster" is made up of three parts:

- Well Record for Well Cluster Part 1 of 3,
- Well Record for Well Cluster Part 2 of 3 Land Owners Consent, and
- Well Record for Well Cluster Part 3 of 3 Detailed Drawing of All Well Locations.

A person who constructs a group of test holes or dewatering wells and who decides to use a well record for a well cluster must complete the record in accordance with the instructions and explanations on the three parts that make up a well record form for a "well cluster".

To view the forms, see "Completing Well Record for Well Cluster" section in Chapter 15 of the Manual: *Well Records, Documentation, Reporting & Tagging.*

Delivery Requirement for Well Cluster Record Completed for Construction

A person who constructs a group of test holes or dewatering wells and who completes one well record for a well cluster must:

- deliver to the well purchaser and each owner of land on which a well in the well cluster is situated, a copy of the well record for the well cluster within 60 days after the commencement of construction:
 - o of the first well or,
 - of the first well in the relevant phase of construction, if the wells are being constructed in phases.
- forward a copy of the well record for the well cluster to the Director within 75 days after the commencement of construction:



- o of the first well or,
- of the first well in the relevant phase of construction, if the wells are being constructed in phases.

<u>Completing and Submitting a Well Record for Alterations and Repairs to Test</u> <u>Holes or Dewatering Wells in a Well Cluster</u>

If one well record is completed for a well cluster and an alteration, other than a minor alteration, is made to a well in the well cluster:

- a single well record must be completed by the person constructing (altering) the well as described in the "Well Record Constructing Test Holes or Dewatering Wells" in this technical bulletin, and
- the person making the alteration must obtain and affix a well tag to the well if it does not already have a well tag.

A person who constructs (alters) the well and completes a new well record must:

- deliver to the well purchaser and each owner of land on which the altered test hole or dewatering well is situated, a copy of the well record within 60 days after the commencement of:
 - o the subsequent construction (alteration), or
 - the relevant phase of alteration, if wells are being altered in phases;
- forward a copy of the well record to the Director within 75 days after the commencement of:
 - o the subsequent construction (alteration), or
 - o the relevant phase of alteration, if wells are being altered in phases.

<u>Completing and Submitting a Well Record for the Abandonment of a Test Hole or</u> <u>Dewatering Well</u>

Unless exempt, a well record must be completed when a test hole or dewatering well is abandoned.

Well Record for the Abandonment of a Single Well (Well Not in a Well Cluster)

When abandoning a test hole or dewatering well the person abandoning the well, often the well owner, must:



- complete a well record for the well in accordance with the instructions and explanations on the record,
- within 14 days after the date on which the well construction equipment is removed from the site, deliver a copy of the well record to the owner of the land on which the well is situated, and
- within 30 days after the date on which the well construction equipment is removed from the site, forward a copy of the well record and any well tag that was removed from the well, to the Director under the Act.

See Wells Regulation – Well Abandonment - How to Plug & Seal a Test Hole or Dewatering Well technical bulletin for further information how to plug and seal test holes and dewatering wells.

Well Record for the Abandonment of Test Hole or Dewatering Well in a Well Cluster

When abandoning a group of test holes or dewatering wells, a person who abandons the wells, often the well owner, **may complete** one well record for the wells, **instead** of a separate well record for each individual well, if all the following circumstances exist:

- every well in the group is a test hole or dewatering well,
- all wells must have met the requirements of a well cluster when they were originally constructed (see the "Well Record Well Cluster Option for Constructing New Test Holes or Dewatering Wells" section in this technical bulletin),
- a Well Record for a Well Cluster was properly completed and submitted for the original construction of the test holes and dewatering wells in accordance with the Wells Regulation (see the "Well Record Well Cluster Option for Constructing New Test Holes or Dewatering Wells" section in this technical bulletin).

Information for Well Cluster Record Completed for Abandonment

If the well cluster option is chosen, the person abandoning the test holes or dewatering wells, often the well owner, must complete the record in accordance with the instructions and explanations on the three parts of the Well Record for Well Cluster.



Delivery Requirement for Well Cluster Record Completed for Abandonment

If the well cluster option is chosen, the person abandoning the test holes or dewatering wells, often the well owner, must:

- deliver a copy of the well record to the owner of the land on which the well is situated within 60 days after the date on which the first well in the well cluster is abandoned, and
- forward a copy of the well record to the Director under the Act within 75 days after the date on which the first well in the well cluster is abandoned.

It should be noted that the person abandoning the well must ensure that the well tag is returned to the Director under the Act within 30 days after its removal. For further information, see "Well Tags – Removal during Well Abandonment" in this technical bulletin.

Exemption for Well Records for Test Hole or Dewatering Well Abandonment

The person abandoning the well, often the well owner, is not required to complete a well record for the abandonment of a test hole or dewatering well if the test hole or dewatering well is abandoned within 30 days after the date on which its structural stage is complete.

The reporting requirements of the Wells Regulation capture the construction, alteration and abandonment of test holes and dewatering wells that will be in place for more than 30 days.

See the *Wells Regulation – Well Abandonment - How to Plug & Seal a Test Hole or Dewatering Well* technical bulletin for further clarification on the term "person abandoning the well".

Exempted Wells & Shallow Works

The Wells Regulation exempts certain types of wells, such as a pond or trench, from the Wells Regulation and from the sections on licensing of the Ontario Water Resources Act that pertain to wells 8 .



⁸ Sections 36 to 50 of the Ontario Water Resources Act, R.S.O. 1990, c. O. 40, e-laws: <u>http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o40_e.htm</u>

A person who constructs, maintains or abandons a shallow works that meets the conditions set out in section 1.1 of the Wells Regulation:

- is exempt from the sections on licencing of the Ontario Water Resources Act that pertain to wells, ⁹ and
- need only meet the requirements found in section 1.1 of the Wells Regulation.

The shallow works exemption contained in section 1.1 of the Wells Regulation does not apply to a monitoring well that is constructed as part of a phase one or two environmental site assessment for a record of site condition ¹⁰.

See the Wells Regulation – Understanding a Well, Test Hole and Dewatering Well and Wells Regulation – Shallows Works technical bulletins for further information.

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.

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



⁹ Sections 36 to 50 of the Ontario Water Resources Act, R.S.O. 1990, c. O. 40, e-laws: <u>http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o40_e.htm</u>

¹⁰ Ontario Regulation 153/04 as amended made under the Environmental Protection Act, R.S.O. 1990, c. E. 19, e-laws: http://www.e-

laws.gov.on.ca/html/statutes/english/elaws_statutes_90e19_e.htm

- 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
- Well 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 maintenance of a test hole or dewatering well can be found in Chapter 15 of the Manual: *Well Records, Documentation, Reporting & Tagging*.

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, Wells Regulation and other regulations can be obtained from the e-Laws website at <u>www.e-laws.gov.on.ca</u>.

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
- Ontario Regulation 153/04 as amended made under the Environmental Protection Act, R.S.O. 1990, c. E. 19

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

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