



# Groundwater Monitoring Newsletter

September 2013

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Canadian Pipe & Pump Supply is an industry leader engaged in the manufacturing and distribution of pipe product used in waterwell and groundwater monitoring applications. In addition, we supply pumps and accessories used in conjunction with our pipe. We firmly believe in helping our customers grow their businesses. Our skilled team of industry experts can help select the proper product for your application or help to design a custom solution.

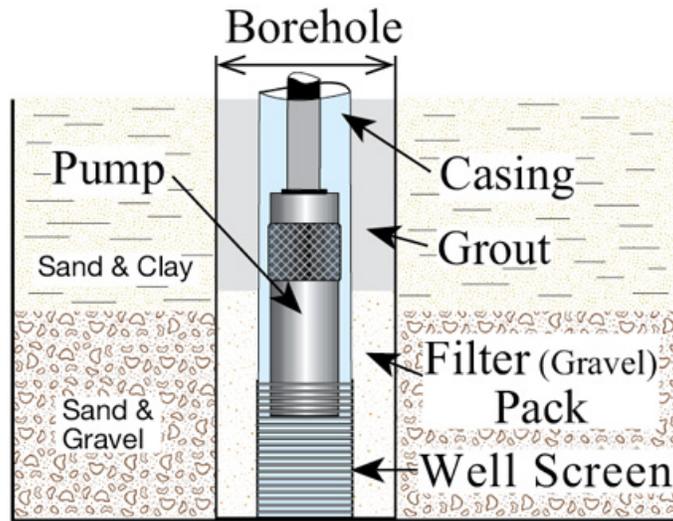
We have four locations across Ontario to serve your needs. Please visit us at one of our branches located in Toronto, Orillia, Ottawa or Tillsonburg.

## Pack Filters: Giving You Longer Lasting and More Efficient Wells

The first known wells were wood-lined, dating back to 5,200 BC in Schletz, Austria; we have come a long way since then. Over the years, we have learned that there are a few key elements that go into developing an efficient well, which include:

- Borehole Size
- Type of Pump and Casing
- Screen Type and Slot Size
- Correct Pack Filter
- Annular and Surface Seals

These critically important interdependent elements, if chosen wisely, can dramatically increase the well's performance level and lifetime. The pack filter (described below) helps increase the effectiveness of the well screen, a subject of previous newsletters.



The well screen acts as a filter that allows ground water from an aquifer to enter the well while preventing most of the sand and gravel from coming in, all the while helping to prevent the borehole from collapsing. An important complement to the well screen is the Filter Pack.

In general, Filter Packs are gravels or coarse sands placed into the borehole surrounding the well screen area. A properly designed Filter Pack actually has two parts: the Primary Filter Pack and the Secondary Filter Pack.

- The Primary Filter Pack area protects the screen from most of the aquifer materials while increasing the borehole diameter. In order to allow for settling during the well's early life, the Filter Pack should extend several feet above the top of the well screen. The benefits of this pack include the use of a larger slot size which translates into a more efficient and longer lasting well.
- The Secondary Filter Pack has a finer grain size than the Primary pack and is put into the borehole directly on top of the Primary Filter Pack. The Secondary Filter Pack's purpose is to prevent material from the annular seal from seeping into, and thereby reducing the effectiveness of the Primary Filter Pack and adversely affecting the water chemistry entering the well screen.

The key benefits of using proper materials for your packing include:

- Shorter well development time with higher water yields
- Extended well life and lateral support for well screen
- Higher water quality and elimination of sand from water

To learn more about building more efficient wells and the proper applications of Pack Filters, please contact your CPPS Representative for assistance.

We look forward to your business and partnering with you to help drive your growth in 2013.

Sincerely,

Robert Martini  
Vice-President General Manager