



Pure, safe water.
Always.

SCALABLE HALLETT SYSTEM SOLVES MUNICIPALITY'S THM AND HARDNESS PROBLEM.*

In 2002, Baltimore, a town in southeastern Ontario of approximately 300 homes, had a Trihalomethane (THM) problem in their water. Environmental engineering firm Gamsby and Mannerow (www.gamsby.com) were retained to design and install a new water treatment system. They selected the Hallett systems to overcome the THMs and extreme hardness in the water, while also benefiting from the low cost scalable feature of Halletts.

High THMs in Baltimore's Water

Trihalomethanes (THMs) are toxic chemicals formed when chlorine or other disinfectants in drinking water react with naturally occurring organic matter. Baltimore had high levels of organic material and therefore needed to find an alternative to breakpoint chlorination. G&M recommended a multiple barrier system using ultraviolet (UV) purification for primary disinfection and then specified UV Pure's Hallett systems to overcome the town's pre-treatment characteristics.

Reasons Why Hallett Systems Were Selected For Baltimore's Uv Treatment

1. High levels of organic carbons and colour exist in most natural water and this results in low UV transmittance (UVT), as was the case in Baltimore. UV Pure's NSF/ANSI 55 Class A certified Hallett systems are certified at 70% UVT, whereas conventional non-NSF UV systems typically make performance claims for 95% UVT, which is much like distilled water. UV systems requiring 95% UVT need additional pre-filtration systems prior to the UV purification stage, which translates to a significant added cost and maintenance burden for the township. For more information on UVT please read UV Pure's May online newsletter.
2. Water hardness, caused by dissolved calcium and magnesium in the water, leads to a highly problematic build-up in conventional UV systems since these systems must be shut down, emptied, cleaned and reassembled frequently. In contrast, UV Pure's patented wiper blade system is automatically and continuously self-cleaning, even in extreme hard-water applications.
3. Halletts can be scaled as capacity requirements change. These scalable, small systems also allow for system redundancy WITHOUT the 100% system replication and cost-doubling of conventional UV systems.

Operational Parameters of Hallett System

	Min	Max
Hardness	0	50 Grain (855 mg/L)
Iron	0	3 mg/L
Manganese	0	0.5 mg/L
% UV Transmittance	75%	100%
pH	6.00	9.00
TDS	0	1000 mg/L
Water Temperature	34° F	100° F
Air Temperature	45° F	100° F

Turbidity	0 NTU	1NTU
Water Pressure	5 PSI	100 PSI

Results: Baltimore's system commissioned in 2003 and added 20% more capacity in 2006



Initial installation in Baltimore, Ontario: 6 Hallett 30s in parallel, plus 1 for redundancy

The Hallett system's reliability and maintenance-free operation prompted G&M to specify additional capacity for Baltimore's system. In 2003, Baltimore's 680 L/min flow capacity requirement was achieved using six Hallett 30s (H30s with 30 gpm flow rate) operating in parallel with a common header. An additional H30 was installed for system redundancy. For enhanced simplicity and operational ease, G&M ran all seven units concurrently and added a PLC monitor for alarming. The township added another two units to the system in 2006, making a total of nine.

* This story was published in Canadian Consulting Engineers, June/July 2006

To find out everything, visit www.puresafewater.com or call 888-407-9997.

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