Ensuring Your Drinking Water is Safe

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simcoe muskoka
DISTRICT HEALTH UNIT
Your Health Connection

What you need to know:

- Where does your drinking water come from?
- How do you test it?
- What do the test results mean?
- How do you make the water safe?

MUSKOKA STEWARDSHIP CONFERENCE

Get to the source:

Surface Water

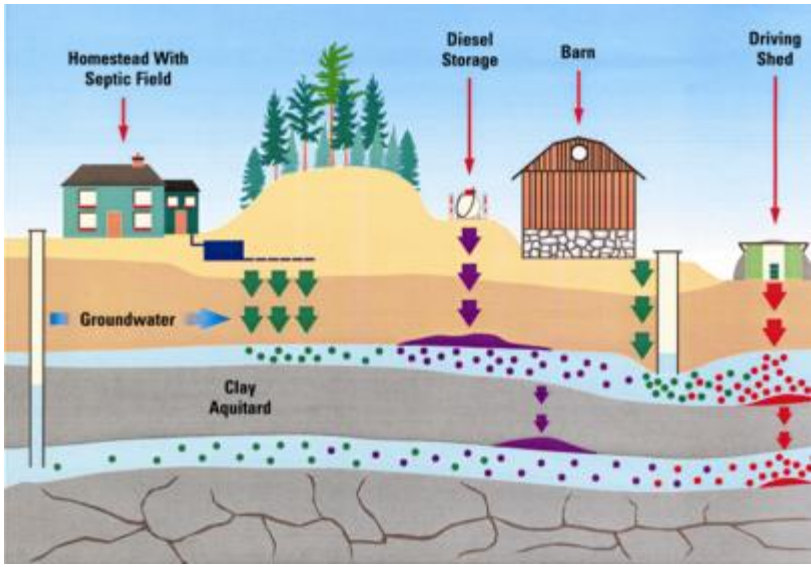
- Lakes, streams, rivers and ponds

Groundwater

- Water that is from a source deep in the ground

Springs

- Sources of water that emerge at the ground surface, such as artesian wells

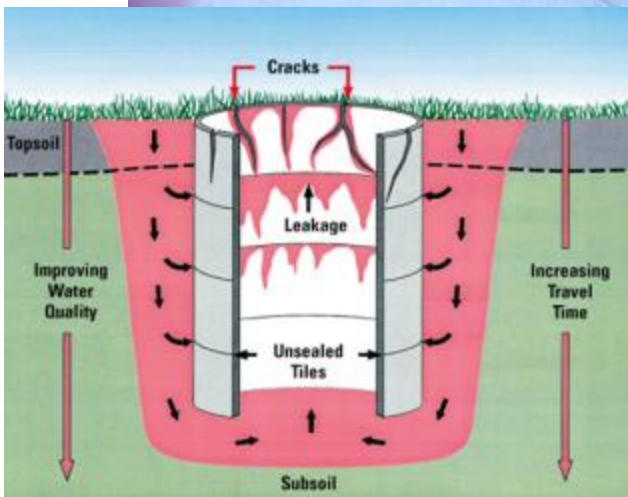


Types of groundwater wells:

Sand Points

Dug/bored wells

- Usually are shallow, cement well tile and wide diameter
  - Advantage – easy and inexpensive to construct
  - Disadvantage – vulnerable to surface water contamination
- Construction problems
  - Ground slopes toward the well, allowing for ponding
  - Cracks or holes in well tile
  - Improperly sealed well tiles or lids
  - Broken or chipped access covers



Drilled Wells:

Usually deep, with a small diameter steel casing

Advantage

- Less subject to contamination

Disadvantage

- Deep aquifers may have more dissolved minerals or metals (like salt, fluoride, iron and hydrogen sulfide

Construction Problems with Drilled wells:

- Casing tops are below the ground (in a pit), subject to flooding
- Presence of insects and vermin inside cap
- Faulty seals
- Fractured bedrock in area

Water testing 101:

Bacteriological – indicators of contamination
- Total coliform
- E. coli
- FREE for private home owners at the public health lab

Parasites
- Giardia
- Cryptosporidium
- Not practical to test for

Chemical
- Nitrates/nitrites
- Fluoride
- Sodium, hardness, total dissolved solids etc.
- Available for a fee at private labs

Frequency of Testing:

- Recommend at least 3 times per year
  - Include a test after a heavy rainfall
- If you notice any changes in water quality, such as changes in colour, taste or odour
- Before purchasing a new house or property (with a well)
- What are the first steps?

Locations of Health Unit offices:

- Gravenhurst - 2-5 Pineridge Gate
- Huntsville - 34 Chaffey Street
- Midland - B-865 Hugel Avenue
- Orillia - 120-169 Front Street South
- Barrie – 15 Sperling Drive
- Collingwood - 280 Pretty River Parkway
- Cookstown - 2-25 King Street South

How to Take a Water Sample:

- Get the sample bottle
- Remove the aerator/attachments and disinfect
- Run cold water for 3- 4 minutes before sampling
- Unscrew the cap from the bottle without touching the neck of the bottle or the inside of the cap
- Fill the bottle to the line, do not replace the cap snugly
- Carefully fill in all grey-shaded the lab submission form
- The refrigerated bottle MUST BE RECEIVED by the lab within 48 hours (e.g. 24 hours to the health unit to allow time to travel overnight to the lab)

Lab Results?

Can call 1 877 723-3426 or wait for mailed report

Total Coliforms	E.Coli	What it Means
0	0	Safe for drinking. Maintain regular testing.
1 to 5	0	May be unsafe for drinking unless boiled or treated. Resample. If this range is achieved, for three samples, taken one to three weeks apart, the water is considered satisfactory.
6 to greater than 80	0	May be unsafe for drinking unless boiled or treated.
1 to greater than 80	1 to greater than 80	Unsafe for drinking unless boiled or treated.
Overgrown* (O/G)		May be unsafe for drinking unless boiled or treated.

Bad results – What next?

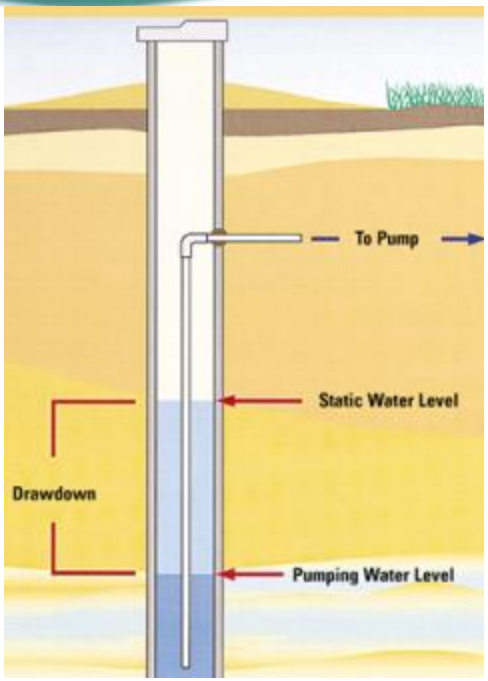
- If unsafe, stop using the water for:
  - drinking
  - making infant formula, juices, ice or recipes
  - brushing teeth
  - washing food or dishes

- Bring water to a rolling boil for one minute
- Use bottle water

Longer term measures

- Disinfect your well/system
- Retest
- If problem continues, consult with your local public health inspector, well contractor, or the MOECC
- Consider replacing the well, and/or adding a treatment system

Well Disinfection:



- Measure your well's diameter
- Measure well depth and resting water level
- Measure bleach needed and pour into well
- Mix water in well if possible
- Remove or bypass any carbon filters in the system
- Run water at every faucet until a strong chlorine odour is detected
- Add more bleach if smell is weak and run again

Treatment Devices for Bacterial Removal:

- UV disinfection units
- Chlorinators
- Ceramic or glass filters
- Distillers

Treatment devices for Chemical Removal:

- Activated carbon filters – odour and taste
- Reverse Osmosis
- Water softeners

Take away thoughts:

- Inspect your well and water system for cracks, broken seals, ponding of water etc.

- Test your well correctly and frequently

- Ensure that your septic system is maintained properly and pumped out regularly