



Dug Wells

What You Need to Know

Dug Well Treatment Requirements

The Safe Drinking Water Act (Ontario Regulation 170/03) defines the minimum level of treatment necessary to provide a safe (potable) drinking water source. According to this regulation, a drinking-water system that obtains ground water that is under the direct influence of surface water is considered a surface water supply. **Reg 170 2. (1)** Furthermore, a well that is not a drilled well or does not have a watertight casing that extends to a depth of six metres below ground level is considered to be under the direct influence of surface water. **Reg 170 2. (2) 1.**

Surface water without treatment, is unfit for human consumption as it is open to contamination from a number of sources (including animal feces). Animal feces have the potential to harbour harmful bacteria, viruses and/or protozoan parasites. A normal disinfection process, such as chlorination, does not kill protozoan parasites. They must be physically removed from the water with the use of a 1micron absolute filter (or National Sanitation Foundation (NSF) standard 53). The water must then be disinfected to kill any potentially harmful bacteria or viruses before it is considered potable. Disinfection could be chlorination or some other form of treatment such as a ultra violet (UV) light, which provides equal to or better disinfection.

Dug Well Construction Problems

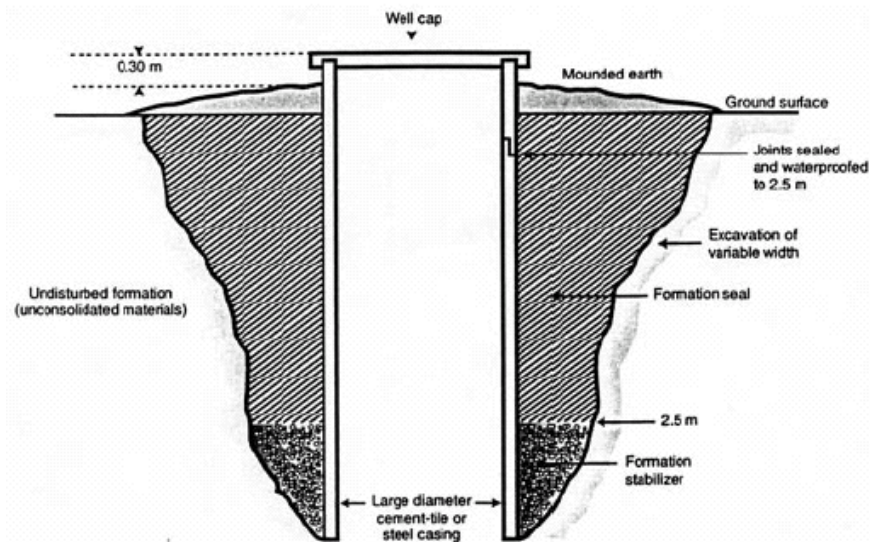
The following is a list of problems which may promote surface water infiltration into a dug well.

1. Ground which does not slope away from the casing allowing surface water to pool on the surface of the ground beside the casing
2. Cracks or holes in the casing
3. Improperly installed well tiles or well lids
4. Broken or chipped access covers

* It should be noted that the depth of soil above a dug well aquifer, does not permit adequate soil filtration to remove all harmful organisms from surface water before it reaches the ground water table as it does for a drilled well.



Figure 1 – Properly Constructed Dug Well



Preventing Contamination of your Dug Well:

To prevent contamination of wells the following actions should be taken:

1. Make sure that the sanitary seal or well cap is securely in place and watertight.
2. Be sure that the well cap is at least 12 inches above the ground.
3. Seal all joints, cracks and connections in the well casing. Screen the well cap and vent pipe on drilled wells where applicable.
4. Direct all surface water drainage away from the well casing.
5. Do not allow surface water to pond near the well.
6. Do not allow liquids or wastes from garbage, manure piles or sewage systems to drain towards the well casing.
7. Do not treat the area around the well with pesticides or fertilizer.
8. Do not flush oils, detergents, paints, solvents or other chemicals down the toilet.
9. Chlorinate and test the well after any repairs.
10. Check well pumps and distribution systems regularly.
11. Changes in the quantity and quality of the water should be investigated immediately.

*** For more information, contact your local *Northwestern Health Unit*.**

