HEALTH DEPARTMENT of Northwest Michigan

Understanding Your Water Test Results

Getting your water samples to a certified drinking water lab for testing is a big step - but then what do you do with the results? Interpreting the paper work the lab sends you can be difficult, but don't worry, there are numerous resources available to help you fully understand your water test results. Our staff can also help to answer questions regarding the results of your water test.

Reporting Terms, Abbreviations and Units

To better understand how to read the results of your water test, it helps to know a few key abbreviations and unit of measurement used in the report, as well as what some of the specialized terms mean.

The **Parameter** indicates which water quality parameter is being reported on in that line.

The **Result** column lists the results from the test for each water quality parameter. Sometimes it is listed in number form. Other times it is listed as "Non-Detect" or "Detect" which is a PASS/FAIL or as <MRL.

"Non-Detected" indicates that the amount of that contaminant present does not exceed harmful levels; No coliform organisms were detested in the water sample. The sample met the state drinking water standard for bacteriological quality at the time of sampling.

"Detected or Positive" indicates that it does. The PASS/FAIL form of measurement is only used for bacteria testing because bacteria are measured on a presence versus absence basis. Coliform organisms were present in the water sample. Safety cannot be assured. Collection of a resample to confirm the original result is recommended. An investigation in to the cause of the problem by a qualified individual is advised.

"E. coli Detected" E. coli organisms were detected in the water sample. E. coli organisms are found in the intestines of warm-blooded animals, and as such, their presence in a water supply is considered an indication of sewer contamination. Precautions are recommended in the use of the water supply. These results are the same as fecal coliform positive; however, E. coli results indicate sewage contamination with more certainty.

Comments Coliform organisms may die during sample holding time (time from collection to testing). The laboratory will comment that results may not be valid if sample holding time is longer than 48 hours. The federal standard for a coliform holding time limit for public water supplies is 30 hours.

MRL stands for Method Reporting Limit. **<MRL** means that the amount of contaminant present is less than the lab instrument used to measure it could detect.

MCL stands for Maximum Contaminant Limit. The **MCL** column displays the amount in which the contaminant measured should not exceed. Should your results indicate that you water contains a greater amount of contaminant than listed in the MCL column, your water could be harmful to your health. In cases where the results are greater than the EPA designated MCL, you will notice that there is an **"H"** in the **Flags** column.

Units for water tests are generally presented in **milligrams per liter (mg/L)** or **micrograms per liter (ug/L).** Another way to reference those would be in **parts per million** or **parts per billion**, respectively

Interpreting Your Results

Now that you understand how to read the lab report, what do you do with this information? The first thing people may be concerned about is if any of the parameters received a flag for being above the EPA recommended limit. This is definitely something to pay attention to, as treatment of some kind will generally be recommended.

In some cases, if the result level is close to but does not exceed the recommended level, you may want to consider testing again at a future time to monitor the situation.

Partial Chemical Analysis

TEST	GOOD	SATISFACTORY	CAUTION	PROBLEM
Nitrate as Nitrogen	ND-3	4-10	Over 10	Methemoglobinemia (blue baby) in infants under six months, pregnant women and certain sensitive schedules.
Nitrite as Nitrogen	ND-0.3	0.4-1	Over 1	Methemoglobinemia (blue baby) especially infants
Fluoride	1.0-1.2	0.7-2	Over 2	Low levels are beneficial in preventing tooth decay. High levels may cause mottling of enamel, pitting of teeth or skeletal fluorosis and increase in fractures in adults.
Chloride	ND-20	20-250	Over 250	Taste, corrosion
Hardness	25-100	100-250	Over 250	Scaling of water fixtures, soap scum at high levels, corrosion at low levels.
Iron	ND-0.2	0.2-0.3	Over 0.3	Taste, staining, turbidity, odor, health concerns for certain sensitive individuals
Sodium	ND-20	20-160	Over 160	Taste, special diets may require water of low sodium content.
Sulfate	ND-50	50-250	Over 250 Over 500	Taste, odor, scaling in boilers & heat exchangers May have laxative effect especially for new supply users (traveler's diarrhea)