OAKLAND COUNTY MICHIGAN
HEALTH DIVISION
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INTERPRETATION OF DRINKING WATER SAMPLE RESULTS

ANALYTE NAME	MCL/AL[1] (in mg/l)	SOURCES IN WATER	POSSIBLE HEALTH EFFECTS
Coliform Bacteria	ND [1] (M.P.N [1])	Coliforms are bacteria that are naturally present in the environment and used as an indicator that other, potentially harmful, bacteria may be present. If the presence of coliform bacteria is observed by the laboratory, the sample will be tested for E. coli presence or absence. E. coli is a coliform bacteria whose presence indicates that water may be contaminated by human or animal wastes.	Exposure to some coliforms, such as E. coli, can cause short term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.
Fluoride	4.0	Fluoride can be naturally occurring in groundwater or added to municipal water to fight cavities. Fluoride compounds are salts that form when the element fluorine combines with minerals in soil or rocks.	Exposure to excessive fluoride over a lifetime may lead to increased likelihood of bone fractures in adults, and may result in effects on bone leading to pain and tenderness. Children aged 8 years and younger exposed to excessive amounts of fluoride have an increased chance of developing pits in the tooth enamel, along with a range of cosmetic effects to teeth. Fluoride has a secondary standard [2] of 2.0 mg/l
Chloride	250 [2]	Chlorides are widely distributed in nature as salts of sodium (NaCl), potassium (KCl), and calcium (CaCl2). Chlorides are leached from various rocks into soil and water by weathering. Run-off containing road de-icing salts, the use of inorganic fertilizers, landfill leachates, septic tank effluents, animal feeds, industrial effluents, and irrigation drainage can contribute to chlorides in the environment.	Chlorides are often found in water with sodium. At high levels, chlorides are corrosive to plumbing and give water a salty taste.
Nitrite	1.0	Nitrite is present in fertilizers, human sewage, and animal waste. Nitrate can also be found naturally from organics in soil and bedrock. Nitrite can contaminate a private well through groundwater movement, surface water seepage, and water run-off.	Nitrites may act directly to cause methemoglobinemia (blue baby syndrome) in infants due to the effects of nitrite on the oxygen carrying ability of the red blood cells. Refer to comments under "Nitrates" below.
Nitrates	10	Nitrate is present in fertilizers, human sewage, animal waste, and run-off. Nitrate can contaminate a private well through groundwater movement, surface water seepage, and water run-off.	Once taken into the body, nitrates are converted to nitrites. High nitrate levels may affect children under one year of age. Nitrates are absorbed into the bloodstream where circulation of oxygen is affected. A respiratory problem known as "blue baby" may result.

Sulfate	250 [2]	Sulfates occur naturally in many minerals. Sulfates may also enter the environment through industrial processes.	Sulfate may cause unpleasant taste or "rotten egg" odor in water. High concentrations may contribute to the formation of scale in boilers and heat exchanges. At high concentrations, sulfates may have a laxative effect on some individuals.
Arsenic	0.01	Arsenic enters drinking water supplies from natural deposits in the earth or from agricultural and industrial practices. Arsenic in the U.S. is currently used as a wood preservative, but is also used in paints, dyes, metals, drugs, soaps, and semi-conductors. Agricultural applications, mining, and smelting also contribute to arsenic releases in the environment.	Arsenic is odorless and tasteless. Some people who drink water containing arsenic in excess of the MCL for many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Lead	0.012 [3]	The major sources of lead in drinking water are corrosion of household plumbing systems and erosion of natural deposits. Lead leaches into water through corrosion – a dissolving or wearing away of metal caused by a chemical reaction between water and plumbing. Lead can leach into water from pipes, solder, fixtures, faucets (brass), and fittings.	Even at low levels, lead may cause a range of health effects including behavioral problems and learning disabilities. Children six years old and under are most at risk because this is when the brain is developing. The primary source of lead exposure for most children is lead-based paint in older homes. Lead in drinking water can add to that exposure.
Copper	1.3 [3]	Copper is a metal found in natural deposits such as ores containing other elements and is widely used in household plumbing materials. Copper can leach into water through corrosion – a dissolving or wearing away of metal caused by a chemical reaction between water and plumbing.	Some people who drink water containing copper in excess of the action level may, with short term exposure, experience gastrointestinal distress, and with long-term exposure may experience liver or kidney damage. People with Wilson's Disease should consult their personal doctor if the amount of copper in their water exceeds the action level.

The health effects language is not intended to catalog all possible health effects for the listed analytes. Rather, it is intended to inform consumers of some of the possible health effects associated with these analytes in drinking water.

1. AL - Action Level. The Action Level is the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water supply shall follow.
   MCL - Maximum Contaminant Level. The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water. These are enforceable standards.
   mg/l - Milligrams per Liter. All results are reported in Milligrams per Liter unless otherwise noted. Milligrams per liter are equivalent to parts per million (ppm).
   M.P.N - Most Probable Number. The Most Probable Number is a laboratory method used to quantify bacteria. **Note**: If coliform bacteria are present upon resample, results would be reported as M.P.N.
   ND - Not Detected. Not Detected is a way of reporting coliform bacteria sample results to indicate the absence of coliform bacteria.

2. Secondary Standards are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.

3. Lead and Copper standards are reported as an Action Level