

**Water Quality Report 2008**  
**Department of Water Works Michigan City, Indiana**

### **Message from the Superintendent**

We're pleased to once again present to you this year's Annual Water Quality Report. This report is to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are pleased to report that our drinking water is safe and meets federal and state requirements.

If you have any questions about this report or concerning your water utility, you may contact the Main Office at (219) 874-3228. We want our valued customers to be informed about their water utility. If you want to learn more you may attend the Water Board meetings. They are scheduled twice monthly on the 2<sup>nd</sup> and 4<sup>th</sup> Tuesdays at 7:00 p.m. in the Main Office, 532 Franklin Street.

### **Water Source and Treatment**

The greater area of Michigan City receives its drinking water directly from Lake Michigan, a surface water source. It is treated through a conventional treatment process that includes Flocculation-Sedimentation (the mixing of Alum into the water to create "Floc" which allows large particulate matter to settle out of the water) and Filtration (to remove fine particulate matter and micro-organisms from the water). Chemical additions are also required which includes Chlorine (for bacteriological removal), Alum (to remove large particulate matter), Fluoride (to prevent dental decay), and Chloramines (the mixture of chlorine and ammonia which allows for longer disinfectant levels in the water distribution system and remove chlorine odor from the water).

### **Monitoring & Measuring Contaminates**

The Department of Water Works of Michigan City, IN routinely monitors for contaminants in your drinking water according to Federal and State laws. The Table on the back shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2008. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

It is important to know that some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/Aids or other immune systems disorders, some elderly, and infants can particularly be at risk and should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are also available from the Safe Drinking Water Hotline (800) 426-4791.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. The Department of Water Works is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

### **Other Related Data**

The sources of drinking water (both tap and bottled water) include, rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water are:

1. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural, livestock operations and wildlife.
2. Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
3. Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff and residential uses.
4. Organic chemicals, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can, also come from gas stations, urban stormwater runoff, and septic systems.
5. Radioactive materials, which can be naturally occurring or be the result of oil and gas productions and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

## Water Quality Analysis

The following chart lists the highest recorded level in Michigan City in 2008 and the highest allowed by the USEPA. Michigan City water has met all EPA requirements.

SUBSTANCE	HIGHEST LEVEL DETECTED 2008	EPA'S MCL	IDEAL GOALS EPA'S MCLG'S	Sources of Contamination
Total Trihalomethanes*	28.2 ppb	80 ppb	0.0 ppb	Disinfection interaction
Total Haloacetic Acids**	5.2 ppb	60 ppb	0.0 ppb	Disinfection interaction
Fluoride***	1.0 ppm	4.0 ppm	4.0 ppm	Water additive which promotes strong teeth; Erosion of Natural deposits; leaching from wood Preservatives
Nitrate	0.33 ppm	10.00 ppm	10.00 ppm	Erosion of natural deposits, runoff from fertilizers, Leaching from Septic systems-sewers
Rad-228	0.8 pCi/p (2003 Result)	5 pCi/l	0.0 pCi/l	Cancer Risk
Lead****	3.4 ppb = 90 <sup>th</sup> percentile 0 sample out of 30 was higher than action level	AL= 15 ppb	0.0 ppb	Corrosion of household plumbing systems; Erosion of natural deposits
Copper*****	0.18 ppm = 90 <sup>th</sup> percentile 0 of 30 samples exceeded the action limit of 1.3 ppm	AL = 1.30 ppm	1.3 ppm	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood deposits; leaching from wood preservatives
Turbidity	0.15 ntu's was the highest single measurement	100 % was the lowest monthly percentage of samples meeting the turbidity limits for the filtration technology being used		Soil runoff
Sodium	7.6 ppm	Not regulated	Not regulated	Metal
Total Organic Carbon *****	3.0 ppm	Treatment Technique	Treatment Technique	Naturally present in the Environment
Chlorodibromomethane	4.6 ppm	Not Regulated	Not Regulated	Compounds of Trihalomethanes
Total Coli form 40/month	0	Presence of total Coli form =>5% of Monthly samples	0.0	Naturally present in the Environment
Antimony	0.00018 ppm	0.006 ppm	0.006 ppm	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition
Arsenic	0.00021 ppm	0.05 ppm	0.0	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronic production wastes
Cadmium	0.0000094 ppm	0.005 ppm	0.005 ppm	Corrosion of galvanized pipes; Discharge from metal refineries; Erosion of natural deposits; Runoff from waste batteries and paint
Selenium	0.000061ppm	0.05 ppm	0.05 ppm	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Barium	0.020 ppm	2 ppm	2 ppm	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

\*The detected range of total trihalomethanes was 11.5 ppb – 28.2 ppb. 18.2 ppb is the annual average.

\*\*The detected range of haloacetic acids was 0 – 5.2 ppb. 2.7 ppb is the annual average.

\*\*\*The detected range of fluoride .8 ppm – 1 ppm

\*\*\*\*Next round of required testing is 2011 – Results are from the 2008 round

\*\*\*\*\* TOC detected was 1.00 mg/l to 3.00 mg/l. 2.02 mg/l is the annual average

### Definitions

ppm = mg/l = One part per million

ppb = One part per billion

Action level (AL): The concentration of a contaminate which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum contaminate level (MCL): The highest level of a contaminate that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

Maximum Contaminate Level Goal (MCLG): The level of a contaminate in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Treatment Technique (TT): A required process intended to reduce the level of a contaminate in drinking water.

Variance and Exception: both of these are defined as the State's permission not to meet an MCL or treatment technique under certain conditions.

Nephelometric Turbidity Unit (NTU): Is the measure of clarity of the water

N.D. = Non-detect