# *The City of Melvindale*
# *Water and Sewer Department*
*3100 Oakwood Melvindale, MI. 48122*
*313-429-1064*

Rick Browning
*Director*

Stacy Striz
*Mayor*


## 2014 Consumers Annual Report on Water Quality

### People with Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than is 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 system disorders, some elderly, and infants can be particularly at risk from infections. These people 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 and other microbial contaminants are available from the **Safe Drinking Water Hotline at (800-426-4791).**

## The City of Melvindale Water and Sewer Department wants you to know your tap water meets or surpasses all federal and state standards for quality and safety.

Our department is proud of the fine drinking water it provides and is honored to provide this report to you. This 2014 Consumers Annual Report on Water Quality shows the sources of our water, lists the results of tests, and contains important information about water and health. The Melvindale Water and Sewer Department will notify you immediately if there is ever any reason for concern about our water. We are pleased to show you how we have surpassed water quality standards as mandated by the Environmental Protection Agency (EPA) and the State of Michigan Department of the Environmental Quality (DEQ).

The Melvindale Water and Sewer Department is a member of the partnership for Safe Water, a new national initiative to help achieve operational excellence in water treatment. The partnership was developed through cooperation among the U. S. Environmental Protection Agency (EPA), states and water supply associations to provide better protection for consumers from microbial contaminants that can cause intestinal illness.

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 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)**.

The sources of drinking water (both tap water and bottled water) include rivers, 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 materials, and can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in source water include:

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 water 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, urban stormwater runoff and residential uses.
4. Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
5. Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining.

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

### DetroitRiver Intakes:

Your source water comes from the DetroitRiver, situated within the Lake St. Clair, ClintonRiver, DetroitRiver, RougeRiver, andEcorseRiver, in the U.S. and parts of the ThamesRiver, Little River, Turkey Creek and Sydenham watersheds in Canada. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of potential contamination. The susceptibility rating is on a seven-tiered scale from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The susceptibility of our DetroitRiver source water intakes were determined to be highly susceptible to potential contamination. However, all four Detroit water treatment plants that use source water from DetroitRiver have historically provided satisfactory treatment of this source water to meet drinking water standards. DWSD has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. DWSD participates in a National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. If you would like to know more information about this report or a complete copy of this report please, contact your water department (313) 429-1064.

# How Do We Know The Water Is Safe To Drink

We obtain water from the City of Detroit whose treatment facilities operate 24 hours a day, seven days a week. The treatment process begins with disinfecting the source water with chlorine to kill harmful microorganisms that can cause illness. Next, a chemical called Alum is mixed with the water to remove the fine particles that make the water cloudy or turbid. Alum causes the particles to clump together and settle to the bottom. Fluoride is also added to protect our teeth from cavities and decay.

The water then flows through fine sand filters called beds. These filters remove even more particles and certain microorganisms that are resistant to chlorine. Finally, a small amount of phosphoric acid and chlorine are added to the treated water just before it leaves the treatment plant. The phosphoric acid helps control the lead that may dissolve in water from household plumbing systems. The chlorine keeps the water disinfected as it travels through water mains to reach your home.

In addition to a carefully controlled and monitored treatment process, the water is tested for a variety of substances before treatment, during various stages of treatment, and throughout the distribution system. Hundreds of samples are tested each week in Detroit's certified laboratories by highly qualified, trained staff. Melvindale's water not only meets safety and health standards but also ranks among the top 10 in the country for quality and value.

## Important Information About Lead

Since 1992, with the cooperation of many Melvindale residents, the Melvindale Water and Sewer Department has been testing homes with plumbing systems that may contribute lead to the household water supply. Our latest round of testing in 2011shows none of the homes at the 90th percentile has lead levels above the action level.

Health Effects: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Melvindale Water Department 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 exposures available from the Safe Drinking Water Hotline (800-426-4791) or at *http://www.epa.gov/safewater/lead* .

## Springwells Water Treatment Plant
## 2013 Regulated Detected Contaminants Tables

2011 Lead and Copper Monitoring at Customers' Tap

| Regulated Contaminant | Test Date | Units | Health Goal MCLG | Action Level AL | 90th Percentile Value* | Number of Samples over AL | Violation yes/no | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|---|---|
| Lead | 2011 | ppb | 0 | 15 | 2 | 0 | No | Corrosion of household plumbing system; Erosion of natural deposits. |
| Copper | 2011 | ppb | 1300 | 1300 | 15 | 0 | No | Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives. |

*The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.

| Contaminant | Treatment Technique | Typical Source of Contaminant |
|---|---|---|
| Total Organic Carbon (ppm) | The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month and because the level was low, there is no requirement for TOC removal. | Erosion of natural deposits |

2013 Special Monitoring

| Contaminant | MCLG | MCL | Level Detected | Source of Contamination |
|---|---|---|---|---|
| Sodium (ppm) | n/a | n/a | 4.62 | Erosion of natural deposits |

Collection and sampling result information in the table provided by Detroit Water and Sewerage Department (DWSD) Water Quality Division ML Semegen

# Detected Contaminants Tables

These tables are based on tests conducted on our water by Detroit's Water and Sewer Department within the last five (5) calendar years. They conduct many tests throughout the year; however, only tests that show the presence of a contaminant are shown here. This page is a key to the terms used in the tables.

| Key to Detected Contaminants Tables | | |
|---|---|---|
| **Symbol** | **Abbreviation for** | **Definition/Explanation** |
| MCLG | Maximum Contaminant Level Goal | The level of contaminant in drinking water below which there is no known or expected risk to health. |
| MCL | Maximum Contaminant Level | The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. |
| MRDLG | Maximum Residual Disinfectant Level Goal | The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants. |
| MRDL | Maximum Residual Disinfectant Level | The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants. |
| ppb | Parts per billion (one in one billion) | The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram. |
| ppm | Parts per million (one in one million) | The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram. |
| NTU | Nephelometric Turbidity Units | Measures the cloudiness of water. |
| ND | Not Detected | |
| TT | Treatment Technique | A required process intended to reduce the level of a contaminant in drinking water. |
| AL | Action Level | The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow. |
| HAA5 | Haloacetic acids | HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. .Compliance is based on the total. |
| TTHM | Total Trihalomethanes | Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Compliance is based on the total. |
| n/a | not applicable | |
| > | Greater than | |

# Springwells Water Treatment Plant
## 2013 Regulated Detected Contaminants Tables

| Regulated Contaminant | Test Date | Unit | Health Goal MCLG | Allowed Level MCL | Highest Level Detected | Range of Detection | Violation | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|---|---|
| **Inorganic Chemicals – Monitoring at Plant Finished Water Tap** | | | | | | | | |
| Fluoride | 5/13/2013 | ppm | 4 | 4 | 0.66 | n/a | no | Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories. |
| Nitrate | 5/13/2013 | ppm | 10 | 10 | 0.42 | n/a | no | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. |
| Barium | 6/9/2008 | ppm | 2 | 2 | 0.01 | n/a | no | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits. |
| Selenium | 6/9/2008 | ppb | 50 | 50 | 1.0 | n/a | no | Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines. |

| Regulated Contaminant | Test Date | Unit | Health Goal MCLG | Allowed Level MCL | Highest Level Detected | Range of Detection | Violation | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Contaminants – Monitoring at Plant Finished Water Tap** | | | | | | | | |
| Xylene | 11/12/2013 | ppm | 10 | 10 | 0.0009 | n/a | no | Discharge from petroleum factories; Discharge from chemical factories |

| Regulated Contaminant | Test Date | Unit | Health Goal MCLG | Allowed Level MCL | Highest Level LRAA | Range of Detection | Violation | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|---|---|
| **Disinfection By-Products – Monitoring in Distribution System Stage 2** | | | | | | | | |
| Total Trihalomethanes (TTHM) | 2013 | ppb | n/a | 80 | 24 | 14-35 | no | By-product of drinking water chlorination |
| Haloacetic Acids (HAA5) | 2013 | ppb | n/a | 60 | 12 | 3-17 | no | By-product of drinking water disinfection |

| Regulated Contaminant | Test Date | Unit | Health Goal MRDGL | Allowed Level MRDL | Highest Level RAA | Range of Detection | Violation | Major Sources in Drinking Water |
|---|---|---|---|---|---|---|---|---|
| **Disinfectant Residuals – Monitoring in Distribution System** | | | | | | | | |
| Disinfectant Total Chlorine residual | 2013 | ppm | 4 | 4 | 0.70 | 0.59-0.77 | no | Water additive used to control microbes |

| Highest Single Measurement Cannot exceed 1 NTU | Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%) | Violation | Major Sources in Drinking Water |
|---|---|---|---|
| **2013 Turbidity – Monitored every 4 hours at Plant Finished Water Tap** | | | |
| 0.17 NTU | 100 % | No | Soil Runoff |

Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

| Regulated Contaminant | MCLG | MCL | Highest Number Detected | Violation yes/no | Major Sources in Drinking Water |
|---|---|---|---|---|---|
| **2013 Microbiological Contaminants – Monthly Monitoring in Distribution System** | | | | | |
| Total Coliform Bacteria | 0 | Presence of Coliform bacteria > 5% of monthly samples | in one month 1 | no | Naturally present in the environment. |
| *E.coli* or Fecal Coliform Bacteria | 0 | A routine sample and a repeat sample are total coliform positive, and one is also fecal or E.coli positive. | Entire year 0 | no | Human waste and animal fecal waste. |

## What, Exactly, is Cryptosporidium?

Cryptosporidium is a disease-causing parasite that lives in the intestinal tract of many animals including dogs and cats. Symptoms of infection include diarrhea, abdominal cramps, headaches, nausea and vomiting. The disease is typically spread through contact with feces of an infected animal or person and consuming contaminated food or water. Cryptosporidium can be introduced into bodies of water by way of surface water runoff containing animal waste and sewage discharge.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Cryptosporidium was detected once, during a twelve-month period at our DetroitRiver intake plants. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

### About Detroit's System

The Detroit Water and Sewerage Department provides drinking water to approximately 4.2 million people in 126 southeastern Michigan communities. The system uses water drawn from two intakes in the DetroitRiver; one to the north near the mouth of Lake St. Clair and one to the south near Lake Erie. The water is directed to four (4) large water treatment plants for processing. A fifth water treatment plant located in St. Clair County uses surface water from Lake Huron. The four plants that treat water drawn from the Detroit River service customers in our area. Our water is obtained from either the Southwest or Springwells water treatment plants.

## National Primary Drinking Water Regulation Compliance

In 2013, the City of Melvindale had one sampling violations. The City was required to collect two samples in December 2013 for Disinfectants and Disinfection By-Product (DDBP). Subsequent samples were taken in March 2014 to comply with DDBP rules. Attached to this report is a notice that explains the sampling violation in more detail.

## IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

### *Monitoring Requirements Not Met for Melvindale*

*We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During December, 2013, we did not monitor or test for Disinfectants and Disinfection Byproducts (DDBP's) and, therefore, cannot be sure of the quality of our drinking water during that time.*

**What should I do?** There is nothing you need to do at this time. This is not an emergency. You do not need to boil water or use an alternative source of water at this time.

The table below lists the contaminants we did not properly test for during December, 2013, how often we are supposed to sample for these contaminants and how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date we will collect follow-up samples.

| Contaminant | Required sampling frequency | Number of samples taken | When all samples should have been taken | Date additional samples will be taken |
|---|---|---|---|---|
| TTHM[1] | 1 sample per quarter | 0 | 12/01/2013 to 12/31/2013 | 03/01/14 to 03/31/14 |
| HAA5[2] | 1 sample per quarter | 0 | 12/01/2013 to 12/31/2013 | 03/01/14 to 03/31/14 |

**What happened? What is being done?** Disinfectants and Disinfection Byproducts (DDBP's) samples were not taken in December 2013. Samples were taken on at the next scheduled quarterly sampling period in March 2014. DDBP's samples were taken on 03/13/14 and the results are listed below:

Total Trihalomethanes Test Result: 0.0140 mg/L Action Level: 0.080 mg/L

Total Haloacetic Acids (5) Test Result: 0.006 mg/L Action Level: 0.060 mg/L

The test results for the Disinfectants and Disinfection Byproducts are the below the action level.

For more information, please contact Mr. Rick Browning, DPW Director, at 313-429-1080.

This notice is being sent to you by the city of Melvindale.

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[1] TTHM, also known as total trihalomethanes, are tested by collecting one sample and testing that sample for chloroform, bromodichloromethane, dibromochloromethane, and bromoform.

[2] HAA5, also known as haloacetic acids, are tested by collecting one sample and testing that sample for monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.

CERTIFICATION: WSSN: 04220

I certify that this water supply has fully complied with the public notification regulations in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature: _____ Title: DPW Director Date Distributed: 6/6/14

**Other Monitoring**

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. Beginning in July of 2008, the Detroit Water and Sewerage Department (DWSD) began monitoring quarterly for unregulated contaminants under the Unregulated Contaminant Monitoring Rule 2 (UCMR2.) All the UCMR2 contaminants monitored on List 1 and List 2 in 2009 were undetected.
In addition to testing that is required to be performed, our water supplier voluntarily tests for hundreds of additional substances and microscopic organisms to make certain our water is safe and of the highest quality. If you are interested in a more detailed report, contact **Rick Browning in the Water Department at (313) 429-1064.**

*We welcome your comments and opinions about this report and will be happy to answer any questions you may have. Please direct your comments or questions to* ***Rick Browning in the Water Department at (313) 429-1064.***

AEl informe contiene informacion importante sobre la calidad del agua en su comunidad> Traduzcalo o hable con alguien que lo entienda bien≅

******NOTE: THE WATER DEPARTMENT WILL BE FLUSHING FIRE HYDRANTS FROM SEPTEMBER THROUGH THE END OF OCTOBER. THIS MAY CAUSE A DISCOLORATION OF YOUR LAUNDRY ,IT IS SUGGESTED THAT YOU DO YOUR LAUNDRY IN THE EVENING IF POSSIBLE. WE ARE SORRY FOR ANY INCONVENIENCE THIS MAY CAUSE. IF YOU HAVE ANY QUESTIONS PLEASE CALL THE WATER DEPARTMENT AT 313-429-1064.**

The City Council meets the First and Third Wednesday of each month at City Hall 3100 Oakwood Blvd. Melvindale at 7:30 P.M. Any comments or questions about your water are appreciated.

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