



# WATER QUALITY REPORT

## 2011 WATER QUALITY REPORT

### Dear Lincoln Park Water Customer:

As mandated by the United States Environmental Protection Agency, and prompted by the passage of the 1996 Federal Safe Water Drinking Act, we are very pleased to present to our customers the 2011 Water Quality Report for the City of Lincoln Park. We have developed this report in order to provide our customers with valuable information regarding the quality of your drinking water. We are pleased to inform you that we have either met or exceeded all federal and state standards for drinking water during the year 2011.

The Lincoln Park Water and Sewer Department is a division of the Department of Public Services. The responsibility for the water distribution system lies with Robert J. Bartok, Director of Public Services, William Turner, DPS Operations Manager, and John Kozuh, Field Supervisor. Currently the City has 8 full-time employees dedicated to the water & sewer field operations. The Water Office, which is located in City Hall at Southfield Road and Fort Park Street, handles all billing matters.

The Department of Public Services strives to deliver the highest quality of drinking water to our residents while minimizing any disruption in service. If you have any questions concerning this report or any other water-related items, please feel free to contact the Department of Public Services at 313-386-9000.

### Lincoln Park Water Sources

Your source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, in the U.S. and parts of the Thames River, 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 Detroit River source water intakes were determined to be highly susceptible to potential contamination. However, all four Detroit water treatment plants that use source water from Detroit River 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) 386-9000 ext. 224.

The City of Lincoln Park receives water from the City of Detroit Water and Sewerage Department (DWSD). The water is treated at the DWSD Springwells and Southwest Water Treatment Plants (WTP). Springwells WTP is located in the City of Dearborn and the Southwest WTP is located in Allen Park. The intake for the Springwells WTP is on Belle Isle and the intake for the Southwest WTP is on the Detroit River at the Fighting Island Intake facility.

### What Is In The Water?

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, 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 from human activity.

### Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- 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.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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.

### Lead

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. The City of Lincoln Park 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>.

### Cryptosporidium

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 Detroit River 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

# WATER QUALITY REPORT



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.

## Health Information

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 (800-426-4791).

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your homes plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800) 426-4791.

**About The Following Table....** The following table provides detailed water quality analyses for the year 2011. Included in the analyses is contaminant testing on water from the Southwest and Springwell Treatment Plants, which supplies water to Lincoln Park. Below are the results of the testing along with allowable levels and any violations. Sources of contaminants in drinking water are also listed.

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.
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	

## DEFINITIONS:

### Maximum Contaminant Level Goal (MCLG):

The level of contaminant in drinking water below which there is no known or expected risk to health.

### Maximum Contaminant Level (MCL):

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.

### Maximum Residual Disinfectant Level Goal (MRDLG):

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.

### Maximum Residual Disinfectant Level (MRDL):

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.

### Parts per billion (one in one billion) (ppb):

The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.

### Parts per million (one in one million) (ppm):

The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.

### Nephelometric Turbidity Units (NTU):

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

### Action Level (AL):

The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.

### Haloacetic acids (HAA5):

HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.

### Total Trihalomethanes (TTHM):

Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Compliance is based on the total.

n/a: not applicable

>: greater than

# SOUTHWEST WATER TREATMENT PLAN

## 2011 REGULATED DETECTED CONTAMINANTS TABLES

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
<b>Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap</b>								
Fluoride	8/14/2011	ppm	4	4	0.77	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories. Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Nitrate	8/14/2011	ppm	10	10	0.21	n/a	no	
Barium	6/9/2008	ppm	2	2	0.01	n/a	no	
<b>Disinfectant Residuals and Disinfection By-Products – Monitoring in Distribution System</b>								
Total Trihalomethanes (TTHM)	Feb-Nov	ppb	n/a	80	33.1	11.9-49.2	no	By-product of drinking water chlorination.
Haloacetic Acids (HAA5)	Feb-Nov 2011	ppb	n/a	60	16.8	10.3-26.0	no	By-product of drinking water disinfection.
Disinfectant (Total Chlorine) Residual	Jan-Dec 2011	ppm	MRDGL	MRDL 4	0.77	0.60-0.86	no	Water additive used to control microbes.

2011 Turbidity – Monitored every 4 hours at Plant Finished Water Tap			
Highest Single Measurement Cannot exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation yes/no	Major Sources in Drinking Water
0.3 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.			

2011 Microbiological Contaminants – Monthly Monitoring in Distribution System					
Contaminant	MCLG	MCL	Highest Number Detected	Violation (yes/no)	Major Sources in Drinking Water
Total Coliform bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	0	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.	0	no	Human waste and animal fecal waste.

2011 Lead and Copper Monitoring at Customers' Tap								
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	1.1		no	Corrosion of household plumbing system; Erosion of natural deposits. Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.
Copper	2011	ppm	1.3	1.3	0.97		no	
*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.								

Regulated Contaminant	Treatment Technique	Running Annual Average	Monthly Ratio Range	Violation (yes/no)	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

2011 Special Monitoring				
Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	5.02	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.

## SPRINGWELLS WATER TREATMENT PLAN 2011 REGULATED DETECTED CONTAMINANTS TABLES

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
<b>Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap</b>								
Fluoride	8/14/2011	ppm	4	4	0.75	0.72-1.19	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories. Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits. Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Nitrate	8/14/2011	ppm	10	10	0.18	n/a	No	
Barium	6/9/2008	ppm	2	2	0.01	n/a	No	
Selenium	6/9/2008	ppb	50	50	1	n/a	No	
<b>Disinfectant Residuals and Disinfection By-Products – Monitoring in Distribution System</b>								
Total Trihalomethanes (TTHM)	Feb-Nov	ppb	n/a	80	26.5	10.8-45.1	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Feb-Nov 2011	ppb	n/a	60	15.1	8.2-21.0	No	
Disinfectant Chlorine	Jan-Dec 2011	ppm	MRDGL	MRDL 4	0.70	0.62-0.76	No	

2011 Turbidity – Monitored every 4 hours at Plant Finished Water Tap			
Highest Single Measurement Cannot exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation yes/no	Major Sources in Drinking Water
0.3 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.			

2011 Microbiological Contaminants – Monthly Monitoring in Distribution System					
Contaminant	MCLG	MCL	Highest Number Detected	Violation (yes/no)	Major Sources in Drinking Water
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	0	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.	0	no	Human waste and animal fecal waste.

2011 Lead and Copper Monitoring at Customers' Tap								
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	1.1		no	Corrosion of household plumbing system; Erosion of natural deposits. Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.
Copper	2011	ppm	1.3	1.3	0.97		no	
*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.								

Regulated Contaminant	Treatment Technique	Running Annual Average	Monthly Ratio Range	Violation (yes/no)	Typical Source of Contaminant
Total Organic Carbon (TOC)	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

2010 Special Monitoring				
Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.75	Erosion of natural deposits

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 2008 were undetected.