



CITY OF MELVINDALE
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2022 Consumers Annual Report on Water Quality

WATER AND SEWER DEPARTMENT

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2022 Consumers Annual Report on Water Quality

Drinking water quality is important to our community and the region. The City of Melvindale and the Great Lakes Water Authority (GLWA) are committed to meeting state and federal water quality standards including the Lead and Copper Rule. With the Great Lakes as our water source and proven treatment technologies, the GLWA consistently delivers safe drinking water to our community. The City of Melvindale operates the system of water mains that carry this water to your home's service line. This year's Water Quality Report highlights the performance of the GLWA and the City of Melvindale water professionals in delivering some of the nation's best drinking water. Together, we remain committed to protecting public health and maintaining open communication with the public about our drinking water.

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.

This 2022 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.

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 Regulations

Contaminants and their presence in 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.

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 results from urban storm water 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 storm water 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 storm water runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. When this occurs, we are required to conduct assessments to identify problems and to correct the problems that were found during these assessments.

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.

Sources of drinking water: The sources of drinking water (both tap 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.

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 Environment, Great Lakes and Energy 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.

GLWA has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA participates in a National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. In 2015, GLWA received a grant from the Michigan Department of Environmental Quality to develop a source water protection program for the Detroit River intakes. The programs include seven elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education. If you would like to know more information about the Source Water Assessment report, please contact the Great Lakes Water Authority at (313) 926-8102.

Vulnerability of sub-populations: 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.

Important information about lead

There are approximately 4,500 water service lines throughout the City of Melvindale. Of those, it is estimated that 750 are lead service lines and 200 are service lines of unknown material. 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 2022 showed the community water supply’s 90th percentile value DID NOT exceed the Action Level for lead during the monitoring of drinking water taps from June 1, 2022, through September 30, 2022.

Please see the ‘LEAD AND COPPER MONITORING AT CUSTOMER’S TAP in 2022’ section of the Southwest Water Treatment Plant 2022 Regulated Detected Contaminants Tables.

An action level exceedance is not a violation, but it triggers other requirements under the administrative rules promulgated under the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act. 399). Requirements include water quality parameter (WQP) monitoring, source water monitoring, corrosion control treatment, and public education (PE).

Safe drinking water is a shared responsibility. The water that GLWA delivers to our community does not contain lead. Lead can leach into drinking water through corrosion of household plumbing, including fittings and fixtures, erosion of natural deposits, and in some cases, customer service lines. Corrosion control reduces the risk of lead and copper from leaching into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in service pipes throughout the system, including in your home or business. The City of Melvindale performs required lead and copper sampling and testing in our community. Water consumers also have a responsibility to maintain the plumbing in their homes and businesses, and can take steps to limit their exposure to 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 Melvindale 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 have a service line that is lead, galvanized previously connected to lead, or unknown but likely to be lead, it is recommended that you run your water for 5 minutes to flush water from both your home plumbing and the lead service line. 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 for the Safe Drinking Water Hotline at (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. Infants and children who drink water containing lead in excess of the Action Level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. 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 home's 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 at (800) 426-4791.

The City of Melvindale and the Great Lakes Water Authority are committed to safeguarding our water supply and delivering the highest quality drinking water to protect public health. Please contact us with any questions or concerns about your water.

Check for leaks and stop money from going down the drain

A leaky faucet or toilet can waste hundreds of gallons of water every day. If your faucet drips, even a little, replace the rubber washer in the faucet head – a few cents and a few moments will save you money every day. Leaking toilets are the most common and hard to detect of water wasters. If you suspect a leaky toilet, put a little food coloring in the tank (not the bowl). Do not flush for 15 minutes. If the color begins to appear in the bowl (without flushing), you have a leak that needs to be fixed right away. Or, if you notice the toilet running from time to time when no one has used it, there is a leak. ***Please remember, the City of Melvindale cannot adjust your bill for water wasted through leaks.***

2022 Southwest Regulated Detected Contaminants Table

2022 Inorganic Chemicals - Annual Monitoring at Plant Finished Tap								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation	Major Sources in Drinking Water
Fluoride	7/12/2022	ppm	4	4	0.71	n/a	no	Erosion of natural deposit; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	7/12/2022	ppm	10	10	0.82	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	05/16/2017	ppm	2	2	0.01	n/a	no	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Lead and Copper Monitoring at the Customer's Tap in 2022								
Regulated Contaminant	Unit	Year Sampled	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Range of Individual Samples Results	Number of Samples Over AL	Major Sources in Drinking Water
Lead	ppb	2021	0	15	3 ppb	0 ppb-52 ppb	1	Lead services lines, corrosion of household plumbing including fittings and fixtures; erosion of natural deposits.
Copper	ppm	2021	1.3	1.3	0.0 ppm	0.0 ppm-0.0 ppm	0.0	Corrosion of household plumbing systems; Erosion of natural deposits

* 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.

2022 Disinfection Residual - Monitoring in the Distribution System								
Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
Total Chlorine Residual	2022	ppm	4	4	0.61	0.51-0.70	no	Water additive used to control microbes

2022 Disinfection By-Products - Stage 2 Disinfection By-Products Monitoring in the Distribution System								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level LRAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
(TTHM) Total Trihalomethanes	2022	ppb	n/a	80	18.25	11-31	no	By-product of drinking water chlorination
(HAA5) Haloacetic Acids	2022	ppb	n/a	60	13.68	10-19	no	By-product of drinking water chlorination

2022 Turbidity - Monitored Every 4 Hours at the 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	Major Sources in Drinking Water
0.14 NTU	100%	no	Soil Runoff
Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.			

2021 Special Monitoring						
Contaminant	Test Date	Unit	MCLG	MCL	Highest Level Detected	Source of Contaminant
Sodium	7/12/2022	ppm	n/a	n/a	6.2	Erosion of natural deposits

Regulated 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 is measured each quarter and because the level is low, there is no requirement for TOC removal.	Erosion of natural deposits

Radionuclides - Monitored at the Plant Finished Tap in 2014							
Regulated Contaminant	Test Date	Unit	MCLG	MCL	Level Detected	Violation	Major Sources in Drinking Water
Combined Radium Radium 226 and 228	5-13-14	pCi/L	0	5	0.65 ± 0.54	no	Erosion of natural deposits

These tables are based on tests conducted by GLWA in the year 2021 or the most recent testing done within the last five calendar years. GLWA conducts tests throughout the year only tests that show the presence of a substance or require special monitoring are presented in these tables. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. The data is representative of the water quality, but some are more than one year old.

2022 Southwest Tap Water Mineral Analysis									
Parameter	Units	Max.	Min.	Avg.	Parameter	Units	Max.	Min.	Avg.
Turbidity	NTU	0.23	0.02	0.09	Phosphorus	ppm	0.57	0.33	0.45
Total Solids	ppm	183	110	145	Free Carbon Dioxide	ppm	10.1	1.0	7.6
Total Dissolved Solids	ppm	166	114	139	Total Hardness	ppm	102	66	94
Aluminum	ppm	0.092	0.020	0.045	Total Alkalinity	ppm	90	70	80
Iron	ppm	0.5	0.2	0.3	Carbonate Alkalinity	ppm	ND	ND	ND
Copper	ppm	0.001	ND	0.000	Bi-Carbonate Alkalinity	ppm	90	69	79
Magnesium	ppm	8.3	7.4	7.8	Non-Carbonate Hardness	ppm	26	ND	16
Calcium	ppm	30.2	25.2	26.8	Chemical Oxygen Demand	ppm	8.1	ND	3.6
Sodium	ppm	8.1	5.0	5.9	Dissolved Oxygen	ppm	16.0	7.5	10.9
Potassium	ppm	1.3	0.9	1.1	Nitrite Nitrogen	ppm	ND	ND	ND
Manganese	ppm	0.001	ND	0.000	Nitrate Nitrogen	ppm	0.82	0.21	0.43
Lead	ppm	0.001	ND	0.000	Fluoride	ppm	0.72	0.53	0.64
Zinc	ppm	0.003	ND	0.001	pH		8.16	7.20	7.37
Silica	ppm	2.5	1.4	2.0	Specific Conductance @ 25 °C	µmhos	260	179	216
Sulfate	ppm	33.9	20.2	27.4	Temperature	°C	22.9	0.9	11.8
Chloride	ppm	18.7	9.4	11.7					

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 the Detected Contaminants Table

Symbol	Abbreviation	Definition/Explanation
AL	Action Level	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.
>	Greater than	
HAA5	Haloacetic Acids	HAA5 is the total of bromoacetic, chloroacetic, di-bromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
Level 1	Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our system.
LRAA	Locational Running Annual Average	The average of analytical results for samples at a particular monitoring location during the previous four quarters.
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.
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow a margin of safety.
MRDL	Maximum Residual Disinfectant Level	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum Residual Disinfectant Level Goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
n/a	not applicable	
ND	Not Detected	
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
pCi/L	Picocuries Per Liter	A measure of radioactivity
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.
RAA	Running Annual Average	The average of all analytical results for all samples during the previous four quarters.
SMCL	Secondary Maximum Contaminant Level	
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on the total.
µmhos	Micromhos	Measure of electrical conductance of water

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A message from Mayor Wheeler T. Marsee, Jr. _____

Greetings! This year we have received grant funding for several projects. Bids are currently being reviewed and construction is expected to begin in 2023/2024:

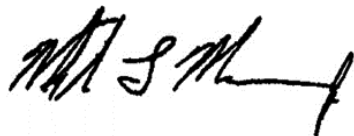
- Kessey Fieldhouse upgrades
- Melvindale Pool house upgrades.

There are several ongoing/upcoming road projects as well as lead service line replacements:

- Watermain replacement on Robert from Oakwood to S. Dearborn. Any lead service lines within this area will also be replaced
- Watermain replacement on Henry from Oakwood to S. Dearborn. Any lead service lines within this area will also be replaced
- Watermain replacement on Oakwood from Allen to Elizabeth
- From August, 2022, to the present, over 600 lead service lines have already been replaced
- Harman is being resurfaced from Oakwood to S. Dearborn
- Hanna is being resurfaced from Elizabeth to S. Dearborn

As always, the Council and I strive to provide the very best service for our residents. Best wishes for a safe and enjoyable summer!

Sincerely,



Mayor Wheeler T. Marsee, Jr.