



DETROIT METRO • WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY

2024 Water Quality Report



The Wayne County Airport Authority wants you to know the water we supply to our customers complies with all Federal and State standards for quality and safety.

Water System Serial Number (WSSN):
01798

Consumer Confidence Report

Drinking water quality is important to communities near Detroit Metropolitan Airport (DTW). The Wayne County Airport Authority (WCAA) 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, GLWA consistently delivers safe drinking water to Detroit Metro Airport. The WCAA operates the system of water mains that carry this water to Airport buildings. The Water Quality Report highlights the performance of GLWA and WCAA water professionals in delivering some of the nation's best drinking water. Together, GLWA and WCAA remain committed to protecting public health and maintaining open communication with the public concerning DTW's drinking water.

OUR WATER IS SAFE

Last year DTW's tap water met all standards required by the U.S. Environmental Protection Agency (EPA) and the State of Michigan Department of Environment, Great Lakes, and Energy (EGLE). This 2024 Annual Water Quality Report describes water sources, lists test results, and contains important information about water and health. This report is intended to provide consumers with an understanding of drinking water issues and to heighten awareness of the need to protect drinking water resources. For more information on these testing results, please see the water quality tables and definitions as provided. The WCAA hopes you find this report helpful.

DRINKING 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 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 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 human health.

PEOPLE WITH SPECIAL HEALTH CONCERNS

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 be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Center for Disease Control 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).

LEAD & COPPER INFORMATION

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead could experience delays in their physical and 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.

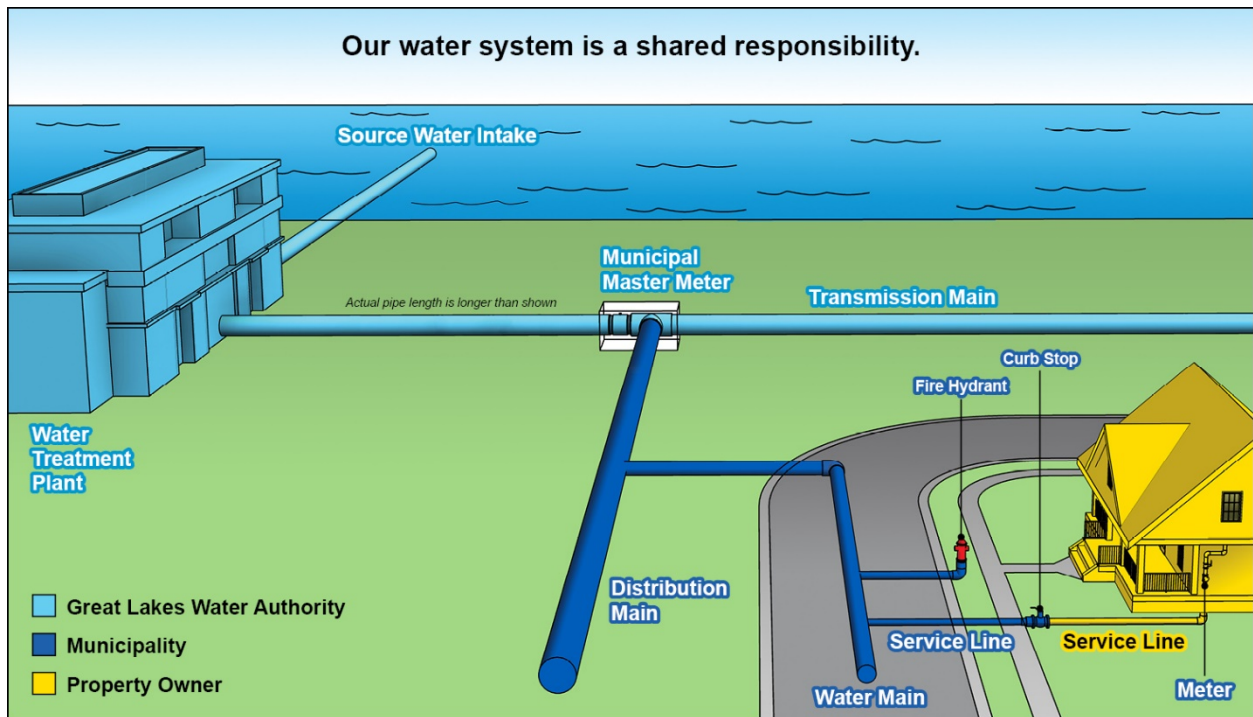
Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. WCAA is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for at least 5 minutes to flush water from both your home plumbing and the lead service line. If you are concerned about lead in your water and wish to have your water tested, contact Wayne County Airport Authority Detroit Metro Water System Utility Manager and Water Operator at (734) 247-2780 for available resources. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. Copper in drinking water is primarily from corrosion of household plumbing systems, erosion of natural deposits, and leaching from wood preservatives.

Number of Lead Service Lines	0	
Number of Service Lines of Unknown Material	0	
Number of Service Lines in the Supply	47	

SOURCE WATER INFORMATION

Your source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, watersheds 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 GLWA's Detroit River source water for potential contamination. The susceptibility rating is based on a seven-tiered scale and ranges from very low to very high determined primarily using geologic sensitivity, water chemistry, and potential contaminant sources. The report described GLWA's Detroit River intakes as highly susceptible to potential contamination. GLWA's Springwells and Southwest water treatment plants that draws water from the Detroit River have historically provided satisfactory treatment and meets drinking water standards.



GLWA has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA participates in the National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. GLWA has an updated Surface Water Intake Protection plan for the Fighting Island Intake. The plan has seven elements that include: roles and duties of government units and water supply agencies, delineation of a source water protection areas, identification of potential sources of contamination, management approaches for protection, contingency plans, siting of new water sources, public participation, and public education activities. If you would like to know more information about the Source Water Assessment Report, please contact GLWA at (313) 926-8127).

As a water supplier to the Detroit Metropolitan Airport, the Great Lakes Water Authority (GLWA) is required to notify water users of any unresolved significant deficiencies identified by the Michigan Department of Environment, Great Lakes, and Energy, Drinking Water and Environment Health Division (EGLE). Below is the status of significant deficiencies in the GLWA water system identified by EGLE:

Date Identified by EGLE	Description	Compliance Agreement Deadline	Status
08-02-2022	Improper rapid mixing and coagulant feed location at the GLWA Southwest water plant	12-31-2027	Contractor has been identified
08-02-2022	Inoperable flocculation equipment at the GLWA Southwest water plant	07-31-2031	Preliminary procurement phase
05-25-2022	Inoperable rapid mixing equipment at the GLWA Springwells 1930's water plant	12-31-2023	Completed in December 2023.
05-25-2022	Inoperable flocculation equipment at the 1958 GLWA Springwells water plant	11-11-2027	Phase I - Construction phase in progress and is scheduled to be completed in 2025
09-02-2024	Incomplete turbidity monitoring for a 5 hour period due to power loss at GLWA Springwells Water Treatment Plant	09-02-2024	Resolved

WCAA 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.

For more information please contact:

Jason O. Ferrall
 Department of Environment & Sustainability
 Wayne County Airport Authority
 Berry Administration Building
 Detroit Metropolitan Airport, 11050 Rogell Dr.
 Detroit MI 48242
 Office: (734) 247 2780
 Mon-Fri, 8:00am to 4:30pm

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
Reporting Requirements Not Met for GLWA Springwells

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. We routinely monitor your water for turbidity (cloudiness). This tells us whether we are effectively filtering the water supply. We did not monitor individual filter turbidity for five hours on September 2, 2024, due to an interruption of power at the GLWA Springwells Water Treatment Plant.

“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 which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.” These symptoms are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice.

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. Even though this is not an emergency, as our customers, you have a right to know what happened and what we did to correct the situation.

What happened? What is being done? Power was restored and turbidity monitoring resumed on September 2, 2024. Additional response actions have also been implemented at the plant. We are making every effort to ensure this does not happen again.

For more information, please contact GLWA Water Quality, at waterquality@glwater.org
Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.
This notice is being sent to you by GLWA.

CERTIFICATION:

WSSN: 02838

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: Patrick Williford Title: Water Quality Manager Date Distributed: _____

2024 Detroit Metro Airport (DTW) Regulated Detected Contaminants Table

Lead and Copper Monitoring at the Customer's Tap in 2024 – Detroit Metro Airport (DTW)								
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	2024	0	15	0	0 – 2.6	0	Lead services lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits.
Copper	ppm	2024	1.3	1.3	0.5	0 - 0.66	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.

2024 Disinfection By-Products - Monitoring in the Distribution System – Detroit Metro Airport (DTW)								
Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
Chlorine Residual	2024	ppm	4	4	0.71	0.27 – 1.19	No	Water additive used to control microbes

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	2024	ppb	n/a	80	36	39	No	By-product of drinking water chlorination
(HAA5) Haloacetic Acids	2024	ppb	n/a	60	9.9	9.9	No	By-product of drinking water chlorination

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	# of Samples	Total Detections	Violation	Major Sources in Drinking Water
Total Coliform	2024	MPN	ND	ND	84	0	No	Naturally present in the environment
E.coli	2024	MPN	ND	ND	84	0	No	Human and animal fecal waste

These tables are based on tests conducted by the WCAA in the year 2024. The WCAA conducts tests throughout the year, only tests that show the presence of a substance or require special monitoring are presented in these tables. The data is representative of the water quality, but some may be more than one year old.

2024 Southwest Regulated Detected Contaminants Table

2024 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	02-13-2024	ppm	4	4	0.66	n/a	no	Erosion of natural deposit; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	02-13-2024	ppm	10	10	0.31	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

2024 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	2024	ppm	4	4	0.70	0.52-0.80	no	Water additive used to control microbes

2024 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
0.1 NTU	100%			no	Soil Runoff
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system					

2024 Special Monitoring						
Contaminant	Test Date	Unit	MCLG	MCL	Highest Level Detected	Source of Contaminant
Sodium	02-13-2024	ppm	n/a	n/a	5.2	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

These tables are based on tests conducted by GLWA in the year 2024 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.

About Unregulated Contaminant Monitoring

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where these contaminants occur and whether it needs to regulate those contaminants.

Unregulated Contaminant	Average Level Detected	Range	Year Sampled	Comments
[Name of Unregulated Contaminant] (unit)				
[Name of Unregulated Contaminant] (unit)				

2024 Southwest Tap Water Mineral Analysis

Parameter	Units	Max.	Min.	Avg.	Parameter	Units	Max.	Min.	Avg.
Turbidity	N.T.U.	1.50	0.05	0.27	Phosphorus	mg/L	0.61	0.38	0.47
Total Solids	mg/L	158	125	140	Free Carbon Dioxide	mg/L	18.1	6.6	9.6
Total Dissolved Solids	mg/L	153	101	126	Total Hardness	mg/L	114	90	102
Aluminum	mg/L	0.118	0.023	0.054	Total Alkalinity	mg/L	76	64	70
Iron	mg/L	0.4	0.2	0.2	Carbonate Alkalinity	mg/L	10	0	1
Copper	mg/L	0.032	ND	0.004	Bi-Carbonate Alkalinity	mg/L	76	46	68
Magnesium	mg/L	8.2	7.5	7.8	Non-Carbonate Hardness	mg/L	48	18	32
Calcium	mg/L	29.3	23.3	27.2	Chemical Oxygen Demand	mg/L	8.7	ND	4.2
Sodium	mg/L	6.1	0.5	4.6	Dissolved Oxygen	mg/L	16.9	8.4	11.4
Potassium	mg/L	1.2	1.0	1.1	Nitrite Nitrogen	mg/L	ND	ND	0.0
Manganese	mg/L	0.005	ND	0.001	Nitrate Nitrogen	mg/L	0.48	0.17	0.29
Lead	mg/L	ND	ND	0.000	Fluoride	mg/L	0.82	0.39	0.68
Zinc	mg/L	0.002	ND	0.000	pH		7.34	6.85	7.17
Silica	mg/L	3.6	1.5	2.2	Specific Conductance @ 25 °C	µmhos	231	151	199
Sulfate	mg/L	38.3	24.1	30.5	Temperature	°C	22.6	2.9	13.5
Chloride	mg/L	12.2	8.8	10.4					

2024 Springwells Regulated Detected Contaminants Table

2024 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	02-13-2024	ppm	4	4	0.49	n/a	no	Erosion of natural deposit; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	02-13-2024	ppm	10	10	0.31	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

2024 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
Chlorine Residual	2024	ppm	4	4	0.74	0.63-0.76	no	Water additive used to control microbes

2024 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
0.13 NTU	100%			no	Soil Runoff
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system					
Summary of Violation: Great Lakes Water Authority (GLWA) did not monitor individual filter turbidity for five hours on September 2, 2024, due to an interruption of power at the GLWA Springwells Water Treatment Plant. The issue was resolved.					

2024 Special Monitoring						
Contaminant	Test Date	Unit	MCLG	MCL	Highest Level Detected	Source of Contaminant
Sodium	02-13-2024	ppm	n/a	n/a	5.2	Erosion of natural deposits

Regulated Contaminant	Treatment Technique	Typical Source of Contaminant
Total Organic Carbon	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

These tables are based on tests conducted by GLWA in the year 2024 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.

About Unregulated Contaminant Monitoring

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where these contaminants occur and whether it needs to regulate those contaminants.

Unregulated Contaminant	Average Level Detected	Range	Year Sampled	Comments
[Name of Unregulated Contaminant] (unit)				
[Name of Unregulated Contaminant] (unit)				

2024 Springwells Tap Water Mineral Analysis

Parameter	Units	Max.	Min.	Avg.	Parameter	Units	Max.	Min.	Avg.
Turbidity	N.T.U.	0.78	0.03	0.13	Phosphorus	mg/L	0.81	0.35	0.52
Total Solids	mg/L	148	126	136	Free Carbon Dioxide	mg/L	13.6	6.2	10.3
Total Dissolved Solids	mg/L	150	92	120	Total Hardness	mg/L	110	88	101
Aluminum	mg/L	0.088	0.020	0.037	Total Alkalinity	mg/L	82	66	73
Iron	mg/L	0.3	0.2	0.2	Carbonate Alkalinity	mg/L	9	0	1
Copper	mg/L	0.002	ND	0.001	Bi-Carbonate Alkalinity	mg/L	82	56	71
Magnesium	mg/L	8.6	6.7	7.8	Non-Carbonate Hardness	mg/L	36	12	28
Calcium	mg/L	29.8	25.6	27.4	Chemical Oxygen Demand	mg/L	8.3	ND	4.2
Sodium	mg/L	8.9	0.5	4.8	Dissolved Oxygen	mg/L	14.3	6.7	10.5
Potassium	mg/L	1.2	0.9	1.1	Nitrite Nitrogen	mg/L	ND	ND	0.0
Manganese	mg/L	ND	ND	0.000	Nitrate Nitrogen	mg/L	0.40	0.17	0.27
Lead	mg/L	ND	ND	0.000	Fluoride	mg/L	0.65	0.43	0.54
Zinc	mg/L	0.002	ND	0.000	pH		7.39	7.02	7.15
Silica	mg/L	3.7	1.7	2.3	Specific Conductance @ 25 °C	µmhos	233	147	200
Sulfate	mg/L	35.9	24.8	28.8	Temperature	°C	23.2	1.9	13.7
Chloride	mg/L	13.2	9.9	11.1					

Key to the Detected Contaminants Table

Symbol	Abbreviation	Definition/Explanation
>	Greater than	
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.
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, 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



Water: RAW
Year: 2024

Plant Name: **Lake Huron (LH)**

WATER QUALITY DEPARTMENT
10100 EAST JEFFERSON AVENUE
DETROIT, MICHIGAN 48214
PHONE: 313-926-8102 / 313-926-8127

Yearly Summary **Monthly Mineral Analyses Annual Averages**

Parameter	Units	Max.	Min.	Avg.	01/16/2024	02/13/2024	03/12/2024	04/16/2024	05/14/2024	06/11/2024	07/09/2024	08/13/2024	09/10/2024	10/08/2024	11/05/2024	12/10/2024	← Sample Dates			
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MCL	Sec.Std	RL	STDEV
Turbidity	N.T.U.	1.16	0.24	0.53	0.56	0.62	1.16	0.49	0.35	0.64	0.29	0.41	0.78	0.24	0.43	0.36	0.3/95% (1)			0.25
Total Solids	mg/L	146	112	124	118	112	115	123	125	120	130	123	146	123	128	119		500	10	9
Total Dissolved Solids	mg/L	133	86	112	104	92	86	113	122	100	129	125	128	108	133	106		500	10	15
Aluminum	mg/L	0.041	0.003	0.012	0.010	0.023	0.041	0.011	0.005	0.013	0.003	0.006	AE	AE	0.007	0.005		0.05-0.2	0.001	0.012
Iron	mg/L	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2		0.3	0.1	0.054
Copper	mg/L	0.009	0.003	0.005	0.009	0.005	0.004	0.004	0.003	0.006	0.005	0.007	0.006	0.003	0.005	0.006	1.3 (AL)		0.001	0.002
Magnesium	mg/L	8.1	7.3	7.7	7.5	7.6	7.3	7.9	7.9	8.1	7.6	7.8	7.7	7.4	7.5	7.9			0.1	0.23
Calcium	mg/L	27.9	24.1	26.2	25.5	24.1	25.2	26.8	26.8	27.9	26.1	26.4	27.2	25.4	25.8	27.4			0.1	1.1
Sodium	mg/L	5.3	0.5	4.3	4.3	5.1	5.3	0.5	5.2	5.3	5.2	5.1	5.0	4.9	0.5	5.2	20 (2)		0.1	1.80
Potassium	mg/L	1.1	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.0	1.0	1.1	1.0	1.0	1.0			0.1	0.04
Manganese	mg/L	0.004	ND	0.001	0.001	0.002	0.004	<0.001	<0.001	0.002	<0.001	<0.001	0.001	<0.001	<0.001	<0.001		0.05	0.001	0.001
Lead	mg/L	ND	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.015 (AL)		0.001	
Zinc	mg/L	0.005	ND	0.003	0.002	0.003	AE	0.002	<0.001	0.005	0.003	0.005	0.003	0.002	0.003	0.004		5	0.001	0.00
Silica	mg/L	2.1	1.6	1.9	2.0	2.1	2.1	2.0	1.7	1.6	1.8	1.9	1.8	1.6	1.9	2.0			0.4	0.2
Sulfate	mg/L	28.4	15.2	17.4	16.5	16.1	16.1	28.4	15.4	16.1	15.8	18.4	18.2	16.9	15.5	15.2				3.6
Chloride	mg/L	9.2	7.5	8.4	8.7	7.9	9.0	8.1	9.0	8.9	8.2	7.5	9.2	8.5	7.6	8.2	250		5	0.6
Phosphorus	mg/L	ND	ND	0.00	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			0.05	
Free Carbon Dioxide	mg/L	1.8	0.7	1.2	1.3	1.8	1.7	1.0	1.1	1.3	0.9	0.8	1.1	0.7	1.0	1.1				0.3
Total Hardness (3), (4), (5)	mg/L	110	88	99	102	102	104	104	110	98	90	88	96	88	104	104				7
Total Alkalinity (3)	mg/L	90	82	86	86	82	86	84	88	90	88	86	86	84	84	82				2
Carbonate Alkalinity (3)	mg/L	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0				0
Bi-Carbonate Alkalinity (3)	mg/L	89	81	84	85	81	85	82	87	89	86	84	85	82	83	81				2
Non-Carbonate Hardness (3)	mg/L	22	2	14	16	20	18	20	22	8	2	2	10	4	20	22				8
Chemical Oxygen Demand	mg/L	11.4	2.4	5.9	3.2	5.5	11.4	8.7	9.1	9.2	7.6	2.7	2.4	3.5	3.4	3.7			2	3.1
Dissolved Oxygen	mg/L	13.5	8.2	10.5	11.5	13.5	13.0	11.8	11.8	9.7	9.4	8.2	8.2	8.7	9.3	10.7				1.8
Nitrite Nitrogen	mg/L	ND	ND	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1		0.1	
Nitrate Nitrogen	mg/L	0.39	0.19	0.29	0.34	0.34	0.32	0.39	0.34	0.34	0.29	0.20	0.22	0.19	0.25	0.23	10	10	0.1	0.07
Fluoride	mg/L	0.10	0.07	0.09	0.09	0.09	0.09	0.07	0.09	0.09	0.09	0.10	0.09	0.08	0.09	0.08	4		0.5	0.01
pH		8.40	7.96	8.18	8.10	7.96	8.00	8.20	8.20	8.14	8.30	8.30	8.20	8.40	8.20	8.15	6.5-8.5	6.5-8.5		0.12
Specific Conductance @ 25 °C.	µmhos	217	131	187	172	186	181	217	213	189	166	131	209	196	204	176				24
Temperature	°C	23.0	4.4	16.1	4.4	11.3	11.2	13.5	15.3	17.8	18.4	23.0	22.7	21.2	18.3	16.6				5.4

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of daily samples in any month
Sec.Std: Secondary Standard	(2) EPA Guidance Level
NTU: Nephelometric Turbidity Unit	(3) As Calcium Carbonate
mg/L: Milligram Per Liter (ppm)	(4) By Titration
AL: Action Level	(5) Tap Water Hardness in Grains per Gallon multiply value by 0.058 (Grains/Gallon)/(mg/L) -->
RL: Reporting Limit	(6) Reported results are below the low calibration standard but above the instrument detection limit.
< : Less than	NA = Not available
AE: Analytical Error	ND = Not detected above the reporting limit
IN: Invalid Sample	

Maximum	Minimum	Average	
6.4	5.1	5.8	GPG



Water: TAP
Year: 2024

Plant Name: **Lake Huron (LH)**

WATER OPERATING SERVICES
WATER QUALITY
10100 EAST JEFFERSON AVENUE
DETROIT, MICHIGAN 48214
PHONE: 313-926-8102 / 313-926-8127

Yearly Summary **Monthly Mineral Analyses Annual Averages**

Parameter	Units	Max.	Min.	Avg.	01/16/2024	02/13/2024	03/12/2024	04/16/2024	05/14/2024	06/11/2024	07/09/2024	08/13/2024	09/10/2024	10/08/2024	11/05/2024	12/10/2024	← Sample Dates				
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MCL	Sec.Std	RL	STDEV	
Turbidity	N.T.U.	0.10	0.04	0.07	0.04	0.09	0.06	0.04	0.05	0.07	0.09	0.10	0.09	0.09	0.06	0.04	0.3/95% (1)			0.02	
Total Solids	mg/L	156	89	125	128	89	121	122	144	139	144	117	156	94	113	133		500	10	20	
Total Dissolved Solids	mg/L	140	92	113	105	95	122	99	126	92	140	124	115	116	116	105		500	10	14	
Aluminum	mg/L	0.084	0.022	0.043	0.024	0.026	0.022	0.024	0.027	0.039	0.072	0.060	0.084	0.073	0.044	0.023		0.05-0.2	0.001	0.023	
Iron	mg/L	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2		0.3	0.1	0.047	
Copper	mg/L	0.005	ND	0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005	0.001	1.3 (AL)		0.001	0.002	
Magnesium	mg/L	8.0	7.4	7.6	7.5	7.4	7.5	7.8	7.7	7.9	7.6	7.5	7.7	7.6	7.5	8.0			0.1	0.19	
Calcium	mg/L	27.9	23.3	26.2	25.5	23.3	26.0	27.2	26.5	27.3	26.2	25.8	26.9	25.9	25.6	27.9			0.1	1.2	
Sodium	mg/L	5.3	0.5	4.3	4.3	5.1	5.3	0.5	5.1	5.3	5.2	5.2	5.0	4.9	0.5	5.2	20 (2)		0.1	1.79	
Potassium	mg/L	1.1	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0			0.1	0.03	
Manganese	mg/L	0.001	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001		0.05	0.001		
Lead	mg/L	ND	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.015 (AL)		0.001		
Zinc	mg/L	0.010	ND	0.003	0.002	0.003	0.003	0.002	<0.001	0.002	0.002	0.002	0.002	0.002	0.010	0.005		5	0.001	0.00	
Silica	mg/L	2.4	1.9	2.2	2.2	2.3	2.2	2.3	2.3	2.4	1.9	2.1	2.0	2.1	2.0	2.3			0.4	0.2	
Sulfate	mg/L	32.8	18.1	21.4	20.3	20.6	18.9	32.8	18.8	18.1	19.9	20.7	23.0	23.9	21.5	18.8				4.0	
Chloride	mg/L	11.0	9.0	9.9	10.0	9.0	11.0	9.0	11.0	10.5	9.7	10.2	10.0	9.7	9.8	9.1		250	5	0.7	
Phosphorus	mg/L	0.68	0.37	0.48	0.37	0.49	0.55	0.43	0.41	0.45	0.42	0.42	0.41	0.55	0.54	0.68			0.05	0.09	
Free Carbon Dioxide	mg/L	7.8	4.6	6.2	6.0	6.6	7.8	4.6	6.6	6.2	6.5	4.8	6.2	4.7	7.4	7.2				1.1	
Total Hardness (3), (4), (5)	mg/L	106	88	99	104	106	102	104	106	100	88	90	102	88	104	98				7	
Total Alkalinity (3)	mg/L	82	74	77	76	76	78	74	80	80	82	76	78	74	74	74				3	
Carbonate Alkalinity (3)	mg/L	6	0	0	0	0	0	6	0	0	0	0	0	0	0	0				2	
Bi-Carbonate Alkalinity (3)	mg/L	82	63	76	76	76	78	63	80	80	82	76	78	74	74	74				5	
Non-Carbonate Hardness (3)	mg/L	30	6	23	28	30	24	30	26	20	6	14	24	14	30	24				8	
Chemical Oxygen Demand	mg/L	8.7	2.0	4.4	2.1	4.1	3.8	5.3	6.5	8.7	7.5	2.0	2.8	2.1	3.6	4.7			2	2.2	
Dissolved Oxygen	mg/L	12.9	8.3	10.3	10.5	12.7	12.9	12.0	10.2	10.0	9.6	8.3	8.4	8.9	9.3	11.0				1.6	
Nitrite Nitrogen	mg/L	ND	ND	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		1	0.1		
Nitrate Nitrogen	mg/L	0.40	0.20	0.28	0.34	0.35	0.33	0.40	0.32	0.35	0.27	0.20	0.21	0.20	0.20	0.23		10	10	0.1	0.07
Fluoride	mg/L	0.80	0.51	0.72	0.73	0.80	0.74	0.51	0.74	0.79	0.80	0.78	0.75	0.69	0.71	0.60		4	0.5		0.09
pH		7.50	7.30	7.39	7.40	7.36	7.30	7.44	7.39	7.41	7.40	7.50	7.40	7.50	7.30	7.31	6.5-8.5	6.5-8.5			0.07
Specific Conductance @ 25 °C.	µmhos	222	135	189	183	190	183	222	205	196	163	135	210	201	205	180					23
Temperature	°C	22.8	8.9	16.1	9.6	9.5	8.9	12.4	14.5	17.2	21.6	22.8	22.4	21.0	18.9	14.8					5.3

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of daily samples in any month
Sec.Std: Secondary Standard	(2) EPA Guidance Level
NTU: Nephelometric Turbidity Unit	(3) As Calcium Carbonate
mg/L: Milligram Per Liter (ppm)	(4) By Titration
AL: Action Level	(5) Tap Water Hardness in Grains per Gallon multiply value by 0.058 (Grains/Gallon)/(mg/L) -->
RL: Reporting Limit	(6) Reported results are below the low calibration standard but above the instrument detection limit.
< : Less than	NA = Not available
AE: Analytical Error	ND = Not detected above the reporting limit
IN: Invalid Sample	

Maximum	Minimum	Average	
6.1	5.1	5.8	GPG



Water: RAW
Year: 2024

Plant Name: **Southwest (SW)**

WATER OPERATING SERVICES
WATER QUALITY
10100 EAST JEFFERSON AVENUE
DETROIT, MICHIGAN 48214
PHONE: 313-926-8102 / 313-926-8127

Yearly Summary **Monthly Mineral Analyses Annual Averages**

Parameter	Units	Max.	Min.	Avg.	01/16/2024	02/13/2024	03/12/2024	04/16/2024	05/14/2024	06/11/2024	07/09/2024	08/13/2024	09/10/2024	10/08/2024	11/05/2024	12/10/2024	← Sample Dates			
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MCL	Sec.Std	RL	STDEV
Turbidity	N.T.U.	18.00	1.10	4.47	18.00	1.57	5.18	3.50	2.50	1.26	1.10	1.53	2.00	1.40	4.20	11.40	0.3/95% (1)			5.14
Total Solids	mg/L	145	107	128	132	107	123	121	145	135	132	122	129	123	131	140		500	10	10
Total Dissolved Solids	mg/L	148	79	117	103	79	85	115	124	122	139	124	110	146	148	114		500	10	22
Aluminum	mg/L	0.463	0.031	0.116	0.463	0.052	0.141	0.097	0.047	AE	0.032	AE	AE	0.031	0.080	0.104		0.05-0.2	0.001	0.135
Iron	mg/L	0.9	0.2	0.4	0.9	0.3	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.4	12.000	0.3	0.1	0.187
Copper	mg/L	0.045	0.019	0.033	0.029	0.028	0.040	0.039	0.034	0.032	0.019	0.033	0.031	0.039	0.045	0.032	1.3 (AL)		0.001	0.007
Magnesium	mg/L	8.1	7.0	7.4	8.1	7.5	7.4	7.3	7.6	7.0	7.6	7.7	7.0	7.1	7.0	8.0			0.1	0.38
Calcium	mg/L	28.3	24.1	25.8	27.7	24.1	25.9	25.4	27.4	24.2	25.3	26.4	25.2	25.3	24.8	28.3			0.1	1.4
Sodium	mg/L	5.9	0.5	4.5	4.7	5.1	5.2	0.5	5.7	5.3	5.5	5.6	5.1	4.9	0.5	5.9	20 (2)		0.1	1.90
Potassium	mg/L	1.3	0.9	1.1	1.3	1.1	1.1	1.0	1.1	0.9	1.0	1.2	1.0	1.0	1.0	1.1			0.1	0.10
Manganese	mg/L	0.010	0.002	0.003	0.010	0.002	0.004	0.003	0.002	0.002	0.002	0.003	0.002	0.002	0.003	0.005		0.05	0.001	0.003
Lead	mg/L	ND	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.015 (AL)		0.001	0.001
Zinc	mg/L	0.004	ND	0.001	0.003	0.002	AE	AE	<0.001	AE	<0.001	<0.001	AE	AE	0.004	0.001		5	0.001	0.00
Silica	mg/L	2.6	1.3	1.9	2.1	2.1	2.0	1.8	1.3	1.5	1.5	2.2	1.7	1.9	1.9	2.6			0.4	0.4
Sulfate	mg/L	28.2	14.3	18.3	20.2	17.0	18.0	28.2	14.3	16.0	17.3	19.8	17.8	18.2	14.5	17.8				3.6
Chloride	mg/L	10.2	7.8	8.8	10.0	8.1	8.0	7.8	10.2	9.2	9.0	8.5	9.2	8.5	8.3	8.4		250	5	0.8
Phosphorus	mg/L	ND	ND	0.00	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			0.05	0.4
Free Carbon Dioxide	mg/L	1.7	0.4	1.0	1.2	1.0	1.4	1.0	0.8	0.9	0.4	0.5	0.8	1.1	1.1	1.7				0.4
Total Hardness (3), (4), (5)	mg/L	112	86	98	104	98	96	104	112	102	86	88	92	90	100	100				8
Total Alkalinity (3)	mg/L	96	82	88	88	86	82	84	96	92	90	88	88	86	86	86				4
Carbonate Alkalinity (3)	mg/L	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0				0
Bi-Carbonate Alkalinity (3)	mg/L	94	81	86	87	85	81	82	94	90	86	85	86	85	85	85				3
Non-Carbonate Hardness (3)	mg/L	20	-4	10	16	12	14	20	16	10	-4	0	4	4	14	14				7
Chemical Oxygen Demand	mg/L	10.2	ND	5.8	5.0	5.6	5.3	10.1	7.9	10.2	8.4	3.9	5.9	3.4	3.9	<2			2	2.4
Dissolved Oxygen	mg/L	13.9	8.1	10.7	13.9	13.4	13.8	10.6	11.2	8.7	9.6	8.1	8.4	8.6	9.1	12.7				2.2
Nitrite Nitrogen	mg/L	ND	ND	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		1	0.1	0.11
Nitrate Nitrogen	mg/L	0.55	0.18	0.31	0.55	0.39	0.27	0.38	0.47	0.31	0.22	0.28	0.18	0.19	0.24	0.27	10	10	0.1	0.11
Fluoride	mg/L	0.81	0.07	0.15	0.09	0.08	0.09	0.07	0.09	0.10	0.10	0.10	0.81	0.08	0.08	0.08		4	0.5	0.21
pH		8.66	7.99	8.27	8.16	8.23	8.07	8.20	8.38	8.29	8.66	8.51	8.33	8.18	8.20	7.99	6.5-8.5	6.5-8.5		0.18
Specific Conductance @ 25 °C.	µmhos	223	144	190	184	191	177	223	200	189	161	144	212	206	208	185				22
Temperature	°C	23.0	2.8	15.0	2.8	18.2	6.2	11.2	15.0	18.0	23.0	22.9	20.7	19.0	16.0	6.6				6.8

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of daily samples in any month
Sec.Std: Secondary Standard	(2) EPA Guidance Level
NTU: Nephelometric Turbidity Unit	(3) As Calcium Carbonate
mg/L: Milligram Per Liter (ppm)	(4) By Titration
AL: Action Level	(5) Tap Water Hardness in Grains per Gallon multiply value by 0.058 (Grains/Gallon)/(mg/L) -->
RL: Reporting Limit	(6) Reported results are below the low calibration standard but above the instrument detection limit.
< : Less than	NA = Not available
AE: Analytical Error	ND = Not detected above the reporting limit
IN: Invalid Sample	

Maximum	Minimum	Average
6.5	5.0	5.7



Water: TAP
Year: 2024

Plant Name: **Southwest (SW)**

WATER OPERATING SERVICES
WATER QUALITY
10100 EAST JEFFERSON AVENUE
DETROIT, MICHIGAN 48214
PHONE: 313-926-8102 / 313-926-8127

Yearly Summary **Monthly Mineral Analyses Annual Averages**

Parameter	Units	Max.	Min.	Avg.	01/16/2024	02/13/2024	03/12/2024	04/16/2024	05/14/2024	06/11/2024	07/09/2024	08/13/2024	09/10/2024	10/08/2024	11/05/2024	12/10/2024	← Sample Dates			
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MCL	Sec.Std	RL	STDEV
Turbidity	N.T.U.	1.50	0.05	0.27	0.08	1.50	0.12	0.18	0.08	0.20	0.26	0.35	0.05	0.10	0.09	0.24	0.3/95% (1)			0.40
Total Solids	mg/L	158	125	140	135	130	129	139	158	148	148	125	134	143	153	142		500	10	10
Total Dissolved Solids	mg/L	153	101	126	109	111	106	101	133	110	143	142	153	132	148	128		500	10	18
Aluminum	mg/L	0.118	0.023	0.054	0.091	0.030	0.052	0.037	0.023	0.041	0.063	0.057	0.044	0.046	0.050	0.118	0.05-0.2		0.001	0.027
Iron	mg/L	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.4		0.3	0.1	0.062
Copper	mg/L	0.032	ND	0.004	0.001	< 0.001	0.001	0.001	0.001	0.001	0.001	0.001	< 0.001	< 0.001	0.002	0.032	1.3 (AL)		0.001	0.010
Magnesium	mg/L	8.2	7.5	7.8	7.9	7.5	8.0	7.9	8.1	8.2	7.7	7.7	7.8	7.5	7.6	8.1			0.1	0.24
Calcium	mg/L	29.3	23.3	27.2	27.8	23.3	27.9	27.2	29.3	28.2	26.2	27.0	27.3	26.6	26.7	28.9			0.1	1.6
Sodium	mg/L	6.1	0.5	4.6	5.0	5.2	5.2	0.5	6.1	5.7	5.5	5.7	5.2	5.1	0.5	5.7	20 (2)		0.1	1.95
Potassium	mg/L	1.2	1.0	1.1	1.1	1.0	1.1	1.1	1.2	1.1	1.0	1.2	1.1	1.1	1.0	1.1			0.1	0.06
Manganese	mg/L	0.005	ND	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	0.005		0.05	0.001	0.002
Lead	mg/L	ND	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.015 (AL)		0.001	
Zinc	mg/L	0.002	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002		5	0.001	0.00
Silica	mg/L	3.6	1.5	2.2	1.5	2.5	2.4	1.9	1.5	2.2	1.7	3.6	1.9	2.1	2.2	3.2			0.4	0.6
Sulfate	mg/L	38.3	24.1	30.5	36.0	28.6	32.8	38.3	35.5	27.2	27.6	31.9	29.5	27.2	24.1	27.6				4.3
Chloride	mg/L	12.2	8.8	10.4	11.6	9.3	10.0	8.8	12.2	11.3	10.5	11.2	10.8	10.2	9.5	9.5		250	5	1.0
Phosphorus	mg/L	0.61	0.38	0.47	0.39	0.47	0.44	0.41	0.45	0.49	0.51	0.38	0.46	0.40	0.61	0.58			0.05	0.07
Free Carbon Dioxide	mg/L	18.1	6.6	9.6	11.8	7.3	8.3	7.3	11.7	8.7	7.5	11.7	8.6	6.6	7.2	18.1				3.3
Total Hardness (3), (4), (5)	mg/L	114	90	102	104	106	104	112	114	106	96	90	102	92	94	100				8
Total Alkalinity (3)	mg/L	76	64	70	68	70	64	64	74	76	72	72	70	72	72	64				4
Carbonate Alkalinity (3)	mg/L	10	0	1	0	0	0	10	0	0	0	0	0	0	0	0				3
Bi-Carbonate Alkalinity (3)	mg/L	76	46	68	68	70	64	46	74	76	72	72	70	72	72	64				8
Non-Carbonate Hardness (3)	mg/L	48	18	32	36	36	40	48	40	30	24	18	32	20	22	36				9
Chemical Oxygen Demand	mg/L	8.7	ND	4.2	<2	5.3	3.6	6.4	5.8	8.7	7.7	2.6	2.2	2.4	2.8	2.3			2	2.4
Dissolved Oxygen	mg/L	16.9	8.4	11.4	16.9	15.4	15.8	10.6	11.0	9.0	9.6	8.4	9.2	9.1	9.7	12.5				3.0
Nitrite Nitrogen	mg/L	ND	ND	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1		0.1	
Nitrate Nitrogen	mg/L	0.48	0.17	0.29	0.46	0.31	0.28	0.38	0.48	0.33	0.21	0.28	0.17	0.17	0.19	0.26	10	10	0.1	0.11
Fluoride	mg/L	0.82	0.39	0.68	0.57	0.66	0.70	0.53	0.72	0.78	0.72	0.82	0.81	0.74	0.67	0.39	4		0.5	0.13
pH		7.34	6.85	7.17	7.06	7.28	7.19	7.10	7.10	7.24	7.28	7.09	7.21	7.34	7.30	6.85	6.5-8.5	6.5-8.5		0.14
Specific Conductance @ 25 °C.	µmhos	231	151	199	197	197	183	231	218	203	166	151	218	208	214	200				23
Temperature	°C	22.6	2.9	13.5	2.9	8.4	5.1	11.3	14.3	17.7	22.0	22.6	20.0	18.6	14.2	4.6				7.0

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of daily samples in any month
Sec.Std: Secondary Standard	(2) EPA Guidance Level
NTU: Nephelometric Turbidity Unit	(3) As Calcium Carbonate
mg/L: Milligram Per Liter (ppm)	(4) By Titration
AL: Action Level	(5) Tap Water Hardness in Grains per Gallon multiply value by 0.058 (Grains/Gallon)/(mg/L) -->
RL: Reporting Limit	(6) Reported results are below the low calibration standard but above the instrument detection limit.
< : Less than	NA = Not available
AE: Analytical Error	ND = Not detected above the reporting limit
IN: Invalid Sample	

Maximum	Minimum	Average
6.6	5.2	5.9



Water: RAW
Year: 2024

Plant Name: **Belle Isle (WWP-SPW-NE)**

WATER OPERATING SERVICES
WATER QUALITY
10100 EAST JEFFERSON AVENUE
DETROIT, MICHIGAN 48214
PHONE: 313-926-8102 / 313-926-8127

Yearly Summary **Monthly Mineral Analyses Annual Averages**

Parameter	Units	Max.	Min.	Avg.	01/16/2024	02/13/2024	03/12/2024	04/16/2024	05/14/2024	06/11/2024	07/09/2024	08/13/2024	09/10/2024	10/08/2024	11/05/2024	12/10/2024	← Sample Dates			
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MCL	Sec.Std	RL	STDEV
Turbidity	N.T.U.	16.20	1.50	3.72	16.20	2.36	1.50	3.10	1.56	1.70	1.95	1.74	1.60	2.90	3.70	6.29	0.3/95% (1)			4.16
Total Solids	mg/L	156	105	132	130	105	109	130	146	134	140	127	156	133	153	122		500	10	16
Total Dissolved Solids	mg/L	148	88	121	105	88	112	106	123	148	137	123	138	120	140	108		500	10	18
Aluminum	mg/L	0.382	0.031	0.085	0.382	0.056	0.036	0.041	0.031	AE	0.046	0.041	0.046	0.050	0.093	0.111		0.05-0.2	0.001	0.102
Iron	mg/L	0.8	0.3	0.3	0.8	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.4		0.3	0.1	0.139
Copper	mg/L	0.003	ND	0.001	0.001	< 0.001	AE	AE	< 0.001	AE	0.002	0.002	0.002	0.002	0.003	0.001	1.3 (AL)		0.001	0.001
Magnesium	mg/L	7.7	6.9	7.3	7.6	7.5	6.9	7.4	7.5	7.3	7.1	7.7	7.2	7.1	7.3	7.4			0.1	0.22
Calcium	mg/L	26.8	23.7	25.5	25.7	26.5	24.4	26.2	26.8	25.7	24.3	26.1	25.4	25.7	25.5	23.7			0.1	0.9
Sodium	mg/L	5.4	0.5	4.3	4.4	5.1	5.0	0.5	5.3	5.4	5.3	5.2	4.9	4.9	0.6	5.2	20 (2)		0.1	1.76
Potassium	mg/L	1.2	0.9	1.0	1.2	1.0	1.0	1.0	1.1	1.0	0.9	1.0	1.0	1.0	1.1	1.0			0.1	0.06
Manganese	mg/L	0.007	0.001	0.003	0.007	0.002	0.001	0.002	0.002	0.004	0.004	0.004	0.003	0.003	0.005	0.004		0.05	0.001	0.002
Lead	mg/L	ND	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.015 (AL)		0.001	0.001
Zinc	mg/L	0.003	ND	0.002	0.003	0.001	AE	AE	<0.001	AE	AE	0.001	AE	AE	0.003	0.002		5	0.001	0.00
Silica	mg/L	2.2	1.3	1.8	2.1	2.2	2.1	1.4	1.3	1.7	1.6	1.8	1.6	1.9	1.9	2.2			0.4	0.3
Sulfate	mg/L	29.1	15.1	17.9	19.2	16.3	16.1	29.1	15.1	15.9	15.6	16.4	19.4	17.7	19.0	15.4				3.8
Chloride	mg/L	10.2	7.5	8.5	9.5	7.9	7.5	9.0	9.2	8.7	8.2	8.0	8.2	8.5	10.2	7.5		250	5	0.8
Phosphorus	mg/L	ND	ND	0.00	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			0.05	0.6
Free Carbon Dioxide	mg/L	2.7	0.2	1.0	1.2	1.2	0.8	0.2	0.9	1.1	0.5	0.7	0.9	1.0	2.7	1.3				10
Total Hardness (3), (4), (5)	mg/L	115	84	98	102	104	100	114	115	100	88	84	84	92	94	96				4
Total Alkalinity (3)	mg/L	94	82	87	90	82	82	88	94	92	86	84	84	85	86	82				0
Carbonate Alkalinity (3)	mg/L	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0				8
Bi-Carbonate Alkalinity (3)	mg/L	92	61	83	89	81	80	61	92	91	89	84	82	84	85	81				10
Non-Carbonate Hardness (3)	mg/L	26	-4	11	12	22	18	26	21	8	-4	-2	0	7	8	14				1.9
Chemical Oxygen Demand	mg/L	9.2	3.9	6.3	5.0	5.1	6.4	9.2	8.4	8.4	8.4	5.7	4.2	3.9	4.0	6.3			2	2.7
Dissolved Oxygen	mg/L	14.9	7.4	11.1	14.1	14.2	12.7	11.8	10.0	7.4	8.0	8.4	13.6	8.1	10.7	14.9				0.08
Nitrite Nitrogen	mg/L	ND	ND	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1		0.1	0.01
Nitrate Nitrogen	mg/L	0.39	0.18	0.29	0.37	0.39	0.29	0.39	0.35	0.32	0.22	0.18	0.18	0.21	0.31	0.21	10	10	0.1	0.08
Fluoride	mg/L	0.10	0.07	0.09	0.09	0.09	0.09	0.07	0.09	0.09	0.09	0.10	0.09	0.09	0.09	0.08	4		0.5	0.01
pH		8.53	7.80	8.23	8.17	8.14	8.30	8.32	8.33	8.21	8.53	8.36	8.27	8.23	7.80	8.11	6.5-8.5	6.5-8.5		0.18
Specific Conductance @ 25 °C.	µmhos	233	136	192	176	197	186	223	220	190	160	136	206	204	233	170				28
Temperature	°C	23.0	5.7	14.6	5.7	8.4	7.0	11.2	15.1	17.8	22.9	23.0	21.1	18.8	15.9	8.0				6.3

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of daily samples in any month
Sec.Std: Secondary Standard	(2) EPA Guidance Level
NTU: Nephelometric Turbidity Unit	(3) As Calcium Carbonate
mg/L: Milligram Per Liter (ppm)	(4) By Titration
AL: Action Level	(5) Tap Water Hardness in Grains per Gallon multiply value by 0.058 (Grains/Gallon)/(mg/L) -->
RL: Reporting Limit	(6) Reported results are below the low calibration standard but above the instrument detection limit.
< : Less than	NA = Not available
AE: Analytical Error	ND = Not detected above the reporting limit
IN: Invalid Sample	

Maximum	Minimum	Average
6.7	4.9	5.7



Water: TAP
Year: 2024

Plant Name: **Water Works Park (WWP)**

WATER OPERATING SERVICES
WATER QUALITY
10100 EAST JEFFERSON AVENUE
DETROIT, MICHIGAN 48214
PHONE: 313-926-8102 / 313-926-8127

Yearly Summary **Monthly Mineral Analyses Annual Averages**

Parameter	Units	Max.	Min.	Avg.	01/16/2024	02/13/2024	03/12/2024	04/16/2024	05/14/2024	06/11/2024	07/09/2024	08/13/2024	09/10/2024	10/08/2024	11/05/2024	12/10/2024	← Sample Dates			
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MCL	Sec.Std	RL	STDEV
Turbidity	N.T.U.	0.70	0.03	0.13	0.03	0.06	0.05	0.05	0.05	0.70	0.13	0.12	0.17	0.04	0.08	0.07	0.3/95% (1)			0.18
Total Solids	mg/L	160	121	139	127	127	121	131	155	127	152	125	160	141	152	152		500	10	14
Total Dissolved Solids	mg/L	140	97	120	117	107	97	102	134	122	139	127	140	110	122	119		500	10	14
Aluminum	mg/L	0.293	0.012	0.075	0.012	0.022	0.017	0.030	0.094	0.053	0.105	0.293	0.161	0.062	0.037	0.016		0.05-0.2	0.001	0.082
Iron	mg/L	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2		0.3	0.1	0.056
Copper	mg/L	0.001	ND	0.000	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	1.3 (AL)		0.001	
Magnesium	mg/L	8.1	7.4	7.7	7.7	7.4	7.6	7.7	8.0	8.1	7.8	7.7	7.8	7.6	7.5	8.0			0.1	0.21
Calcium	mg/L	28.1	2.6	24.9	2.6	25.7	26.4	26.9	27.9	28.1	25.9	26.8	28.0	26.6	25.9	28.0			0.1	7.1
Sodium	mg/L	6.0	0.5	4.6	4.5	5.1	5.9	0.5	5.4	5.7	5.9	5.4	5.1	5.1	0.5	6.0	20 (2)		0.1	1.95
Potassium	mg/L	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.0	1.1	1.1	1.1	1.0	1.1			0.1	0.03
Manganese	mg/L	ND	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		0.05	0.001	
Lead	mg/L	ND	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.015 (AL)		0.001	
Zinc	mg/L	0.003	ND	0.002	0.002	0.002	0.003	0.002	<0.001	0.003	0.002	0.003	0.002	0.002	0.003	0.003		5	0.001	0.00
Silica	mg/L	3.6	1.5	2.2	2.1	2.4	2.3	1.7	1.5	2.3	1.8	1.9	1.9	2.1	3.6	2.3			0.4	0.5
Sulfate	mg/L	37.2	23.6	27.7	28.6	25.8	26.0	37.2	23.6	27.1	24.1	27.1	24.0	26.2	30.0	32.6				4.0
Chloride	mg/L	11.8	9.5	10.5	10.8	9.8	10.0	9.5	11.2	11.8	11.7	10.5	10.3	10.0	10.5	9.5		250	5	0.8
Phosphorus	mg/L	0.82	0.34	0.52	0.34	0.47	0.62	0.47	0.53	0.43	0.37	0.61	0.43	0.52	0.69	0.82			0.05	0.14
Free Carbon Dioxide	mg/L	11.1	5.7	7.5	7.2	7.4	7.9	5.7	6.1	8.2	6.8	6.4	6.5	6.4	10.5	11.1				1.7
Total Hardness (3), (4), (5)	mg/L	110	74	99	104	98	106	108	110	102	74	86	102	90	104	100				10
Total Alkalinity (3)	mg/L	81	64	72	74	72	70	70	81	70	74	74	78	74	66	64				5
Carbonate Alkalinity (3)	mg/L	7	0	1	0	0	0	7	0	0	0	0	0	0	0	0				2
Bi-Carbonate Alkalinity (3)	mg/L	81	57	71	74	72	70	57	81	70	74	74	78	74	66	64				6
Non-Carbonate Hardness (3)	mg/L	38	0	26	30	26	36	38	29	32	0	12	24	16	38	36				12
Chemical Oxygen Demand	mg/L	7.8	ND	3.5	2.1	3.2	3.0	6.1	6.5	6.2	7.8	<2	<2	<2	4.8	2.4			2	2.1
Dissolved Oxygen	mg/L	19.0	7.7	12.9	14.1	14.5	15.4	11.8	10.2	7.7	8.0	11.2	19.0	11.6	13.7	17.2				3.4
Nitrite Nitrogen	mg/L	ND	ND	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1		0.1	
Nitrate Nitrogen	mg/L	0.39	ND	0.25	0.37	0.38	0.27	0.39	0.34	0.30	0.21	0.17	0.18	0.19	<0.1	0.25	10	10	0.1	0.08
Fluoride	mg/L	0.78	0.43	0.63	0.54	0.55	0.71	0.43	0.56	0.68	0.70	0.66	0.66	0.55	0.78	0.71	4		0.5	0.10
pH		7.42	7.06	7.28	7.31	7.29	7.25	7.30	7.42	7.23	7.34	7.36	7.38	7.36	7.10	7.06	6.5-8.5	6.5-8.5		0.11
Specific Conductance @ 25 °C.	µmhos	226	138	194	182	196	193	226	210	202	163	138	211	205	215	182				24
Temperature	°C	21.9	6.9	14.4	6.9	8.0	7.0	12.0	14.0	18.0	21.8	21.9	21.0	18.2	15.3	8.5				5.8

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of daily samples in any month
Sec.Std: Secondary Standard	(2) EPA Guidance Level
NTU: Nephelometric Turbidity Unit	(3) As Calcium Carbonate
mg/L: Milligram Per Liter (ppm)	(4) By Titration
AL: Action Level	(5) Tap Water Hardness in Grains per Gallon multiply value by 0.058 (Grains/Gallon)/(mg/L) -->
RL: Reporting Limit	(6) Reported results are below the low calibration standard but above the instrument detection limit.
< : Less than	NA = Not available
AE: Analytical Error	ND = Not detected above the reporting limit
IN: Invalid Sample	

Maximum	Minimum	Average
6.4	4.3	5.7



Water: TAP
Year: 2024

Plant Name: **Northeast (NE)**

WATER OPERATING SERVICES
WATER QUALITY
10100 EAST JEFFERSON AVENUE
DETROIT, MICHIGAN 48214
PHONE: 313-926-8102 / 313-926-8127

Yearly Summary **Monthly Mineral Analyses Annual Averages**

Parameter	Units	Max.	Min.	Avg.	01/16/2024	02/13/2024	03/12/2024	04/16/2024	05/14/2024	06/11/2024	07/09/2024	08/13/2024	09/10/2024	10/08/2024	11/05/2024	12/10/2024	← Sample Dates				
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MCL	Sec.Std	RL	STDEV	
Turbidity	N.T.U.	0.07	0.02	0.06	0.07	0.04	0.02	0.04	0.06	0.07	0.03	0.05	0.07	0.07	0.07	0.07	0.07	0.3/95% (1)			0.02
Total Solids	mg/L	147	76	128	128	123	127	130	136	140	144	129	147	131	120	76		500	10		18
Total Dissolved Solids	mg/L	148	102	122	102	108	113	109	127	126	148	139	138	124	115	112		500	10		14
Aluminum	mg/L	0.104	0.024	0.050	0.094	0.052	0.024	0.028	0.029	0.034	0.087	0.033	0.050	0.030	0.033	0.104		0.05-0.2	0.001		0.029
Iron	mg/L	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3		0.3	0.1		0.058
Copper	mg/L	0.032	ND	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	< 0.001	0.001	0.002	0.032	1.3 (AL)		0.001		0.009
Magnesium	mg/L	8.1	7.5	7.8	7.7	7.5	8.1	8.0	8.0	8.1	7.6	7.5	7.6	7.5	7.5	8.1			0.1		0.27
Calcium	mg/L	29.0	25.8	27.3	26.6	28.1	27.7	28.0	28.4	28.0	25.8	26.4	26.8	26.7	26.1	29.0			0.1		1.0
Sodium	mg/L	6.0	0.5	4.6	4.6	5.3	5.4	0.5	5.5	5.7	6.0	5.4	5.2	5.2	0.5	5.7	20 (2)		0.1		1.93
Potassium	mg/L	1.1	1.0	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.1			0.1		0.04
Manganese	mg/L	0.005	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005		0.05	0.001		
Lead	mg/L	ND	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.015 (AL)		0.001		
Zinc	mg/L	0.002	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.001		5	0.001		0.00
Silica	mg/L	2.3	1.5	2.0	2.1	2.3	2.2	2.1	1.5	1.8	1.7	1.9	1.7	2.3	2.3	2.2			0.4		0.3
Sulfate	mg/L	40.0	21.6	29.3	40.0	29.5	27.7	37.4	26.8	23.9	24.1	29.7	29.3	32.1	21.6	29.7					5.3
Chloride	mg/L	11.7	9.5	10.6	10.8	9.8	9.5	9.9	11.5	11.6	11.7	10.7	10.8	10.5	9.5	10.7		250	5		0.8
Phosphorus	mg/L	0.70	0.43	0.53	0.43	0.45	0.57	0.46	0.54	0.54	0.46	0.67	0.53	0.43	0.59	0.70			0.05		0.09
Free Carbon Dioxide	mg/L	15.1	6.3	10.4	15.1	10.4	10.9	6.3	9.2	8.6	7.4	11.2	8.7	11.1	13.4	12.3					2.5
Total Hardness (3), (4), (5)	mg/L	108	88	99	100	106	101	108	106	100	88	90	105	90	90	98					7
Total Alkalinity (3)	mg/L	80	60	72	60	70	70	72	78	80	76	74	72	70	72	66					5
Carbonate Alkalinity (3)	mg/L	8	0	1	0	0	0	8	0	0	0	0	0	0	0	0					2
Bi-Carbonate Alkalinity (3)	mg/L	80	57	70	60	70	70	57	78	80	76	74	72	70	72	66					7
Non-Carbonate Hardness (3)	mg/L	40	12	27	40	36	31	36	28	20	12	16	33	20	18	32					9
Chemical Oxygen Demand	mg/L	7.9	ND	4.0	<2	3.0	4.1	7.2	7.0	7.9	6.1	2.4	<2	2.5	5.2	2.0			2		2.2
Dissolved Oxygen	mg/L	13.1	6.7	9.6	13.1	11.8	12.7	11.0	8.1	9.4	8.9	8.9	6.9	6.7	9.7	7.9					2.1
Nitrite Nitrogen	mg/L	ND	ND	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		1		0.1	
Nitrate Nitrogen	mg/L	0.39	0.18	0.26	0.37	0.32	0.26	0.39	0.33	0.30	0.21	0.19	0.18	0.18	0.20	0.23		10	10	0.1	0.08
Fluoride	mg/L	0.66	0.46	0.55	0.46	0.47	0.66	0.48	0.56	0.63	0.66	0.56	0.51	0.52	0.65	0.49		4		0.5	0.08
pH		7.31	6.90	7.14	6.90	7.13	7.11	7.26	7.23	7.27	7.31	7.12	7.22	7.10	7.03	7.03		6.5-8.5	6.5-8.5		0.12
Specific Conductance @ 25 °C.	µmhos	231	146	196	187	194	186	231	204	201	170	146	219	214	209	191					23
Temperature	°C	23.2	8.4	16.0	8.4	10.9	10.1	13.1	16.6	18.4	23.0	23.2	22.4	19.7	16.4	10.3					5.4

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of daily samples in any month
Sec.Std: Secondary Standard	(2) EPA Guidance Level
NTU: Nephelometric Turbidity Unit	(3) As Calcium Carbonate
mg/L: Milligram Per Liter (ppm)	(4) By Titration
AL: Action Level	(5) Tap Water Hardness in Grains per Gallon multiply value by 0.058 (Grains/Gallon)/(mg/L) -->
RL: Reporting Limit	(6) Reported results are below the low calibration standard but above the instrument detection limit.
< : Less than	NA = Not available
AE: Analytical Error	ND = Not detected above the reporting limit
IN: Invalid Sample	

Maximum	Minimum	Average
6.3	5.1	5.7

GPG



Water: TAP
Year: 2024

Plant Name: **Springwells (SPW)**

WATER OPERATING SERVICES
WATER QUALITY
10100 EAST JEFFERSON AVENUE
DETROIT, MICHIGAN 48214
PHONE: 313-926-8102 / 313-926-8127

Yearly Summary **Monthly Mineral Analyses Annual Averages**

Parameter	Units	Max.	Min.	Avg.	01/16/2024	02/13/2024	03/12/2024	04/16/2024	05/14/2024	06/11/2024	07/09/2024	08/13/2024	09/10/2024	10/08/2024	11/05/2024	12/10/2024	← Sample Dates			
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MCL	Sec.Std	RL	STDEV
Turbidity	N.T.U.	0.78	0.03	0.13	0.07	0.06	0.03	0.04	0.08	0.08	0.03	0.08	0.10	0.04	0.78	0.13	0.3/95% (1)			0.21
Total Solids	mg/L	148	126	136	130	129	126	138	148	136	144	139	129	138	138	135		500	10	6
Total Dissolved Solids	mg/L	150	92	120	98	100	92	111	127	130	150	132	130	141	123	110		500	10	18
Aluminum	mg/L	0.088	0.020	0.037	0.029	0.030	0.025	0.026	0.020	0.032	0.088	0.033	0.038	0.035	0.058	0.023		0.05-0.2	0.001	0.019
Iron	mg/L	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2		0.3	0.1	0.051
Copper	mg/L	0.002	ND	0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.001	< 0.001	0.001	0.001	0.001	0.002	0.002	1.3 (AL)		0.001	0.000
Magnesium	mg/L	8.6	6.7	7.8	7.6	6.7	7.7	8.1	8.1	8.6	7.5	7.6	8.0	7.7	7.5	8.2			0.1	0.48
Calcium	mg/L	29.8	25.6	27.4	26.6	28.1	26.6	27.7	28.1	29.8	25.6	26.6	28.0	27.1	26.1	29.0			0.1	1.2
Sodium	mg/L	8.9	0.5	4.8	4.5	5.2	5.2	0.5	5.6	5.9	5.9	5.3	5.2	5.1	0.5	8.9	20 (2)		0.1	2.28
Potassium	mg/L	1.2	0.9	1.1	1.0	0.9	1.0	1.1	1.1	1.2	1.0	1.0	1.1	1.1	1.0	1.1			0.1	0.07
Manganese	mg/L	ND	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		0.05	0.001	
Lead	mg/L	ND	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.015 (AL)		0.001	
Zinc	mg/L	0.002	ND	0.000	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.002		5	0.001	0.00
Silica	mg/L	3.7	1.7	2.3	2.3	2.2	2.3	2.1	2.8	1.9	1.7	3.7	1.8	2.2	2.4	2.2			0.4	0.5
Sulfate	mg/L	35.9	24.8	28.8	32.8	28.4	24.9	35.9	26.5	26.5	24.8	32.3	28.1	31.0	26.0	28.5				3.5
Chloride	mg/L	13.2	9.9	11.1	10.5	10.2	10.0	9.9	11.5	13.2	11.7	11.2	11.3	11.7	11.4	10.2		250	5	0.9
Phosphorus	mg/L	0.81	0.35	0.52	0.42	0.51	0.44	0.50	0.46	0.42	0.35	0.45	0.47	0.69	0.81	0.75			0.05	0.14
Free Carbon Dioxide	mg/L	13.6	6.2	10.3	12.6	9.5	7.2	7.3	10.3	13.6	6.2	11.2	10.9	9.7	11.6	13.4				2.4
Total Hardness (3), (4), (5)	mg/L	110	88	101	100	102	104	110	106	104	88	92	106	90	106	100				7
Total Alkalinity (3)	mg/L	82	66	73	66	72	70	74	82	80	76	72	72	72	70	70				4
Carbonate Alkalinity (3)	mg/L	9	0	1	0	0	0	9	0	0	0	0	0	0	0	0				3
Bi-Carbonate Alkalinity (3)	mg/L	82	56	71	66	72	70	56	82	80	76	72	72	72	70	70				6
Non-Carbonate Hardness (3)	mg/L	36	12	28	34	30	34	36	24	24	12	20	34	18	36	30				8
Chemical Oxygen Demand	mg/L	8.3	ND	4.2	2.5	2.7	4.8	6.7	7.5	8.3	8.0	2.1	<2	2.5	2.6	3.2			2	2.5
Dissolved Oxygen	mg/L	14.3	6.7	10.5	11.7	14.3	10.2	11.2	9.6	10.1	10.0	9.2	9.8	6.7	10.3	12.5				1.9
Nitrite Nitrogen	mg/L	ND	ND	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		1		0.1
Nitrate Nitrogen	mg/L	0.40	0.17	0.27	0.40	0.31	0.31	0.38	0.36	0.31	0.20	0.20	0.18	0.17	0.24	0.21		10	10	0.1
Fluoride	mg/L	0.65	0.43	0.54	0.56	0.49	0.64	0.46	0.55	0.59	0.65	0.54	0.49	0.50	0.62	0.43		4		0.5
pH		7.39	7.02	7.15	7.02	7.18	7.29	7.19	7.20	7.07	7.39	7.11	7.12	7.17	7.08	7.02	6.5-8.5	6.5-8.5		0.11
Specific Conductance @ 25 °C.	µmhos	233	147	200	182	198	191	231	233	204	163	147	220	220	218	193				27
Temperature	°C	23.2	1.9	13.7	1.9	4.5	5.0	10.3	13.9	18.5	23.0	23.2	20.4	19.0	16.4	8.6				7.5

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of daily samples in any month
Sec.Std: Secondary Standard	(2) EPA Guidance Level
NTU: Nephelometric Turbidity Unit	(3) As Calcium Carbonate
mg/L: Milligram Per Liter (ppm)	(4) By Titration
AL: Action Level	(5) Tap Water Hardness in Grains per Gallon multiply value by 0.058 (Grains/Gallon)/(mg/L) -->
RL: Reporting Limit	(6) Reported results are below the low calibration standard but above the instrument detection limit.
< : Less than	NA = Not available
AE: Analytical Error	ND = Not detected above the reporting limit
IN: Invalid Sample	

Maximum	Minimum	Average	
6.4	5.1	5.8	GPG



Water: TAP
Year: 2024

Plant Name: **Detroit (WWP-SPW-NE-SW)**

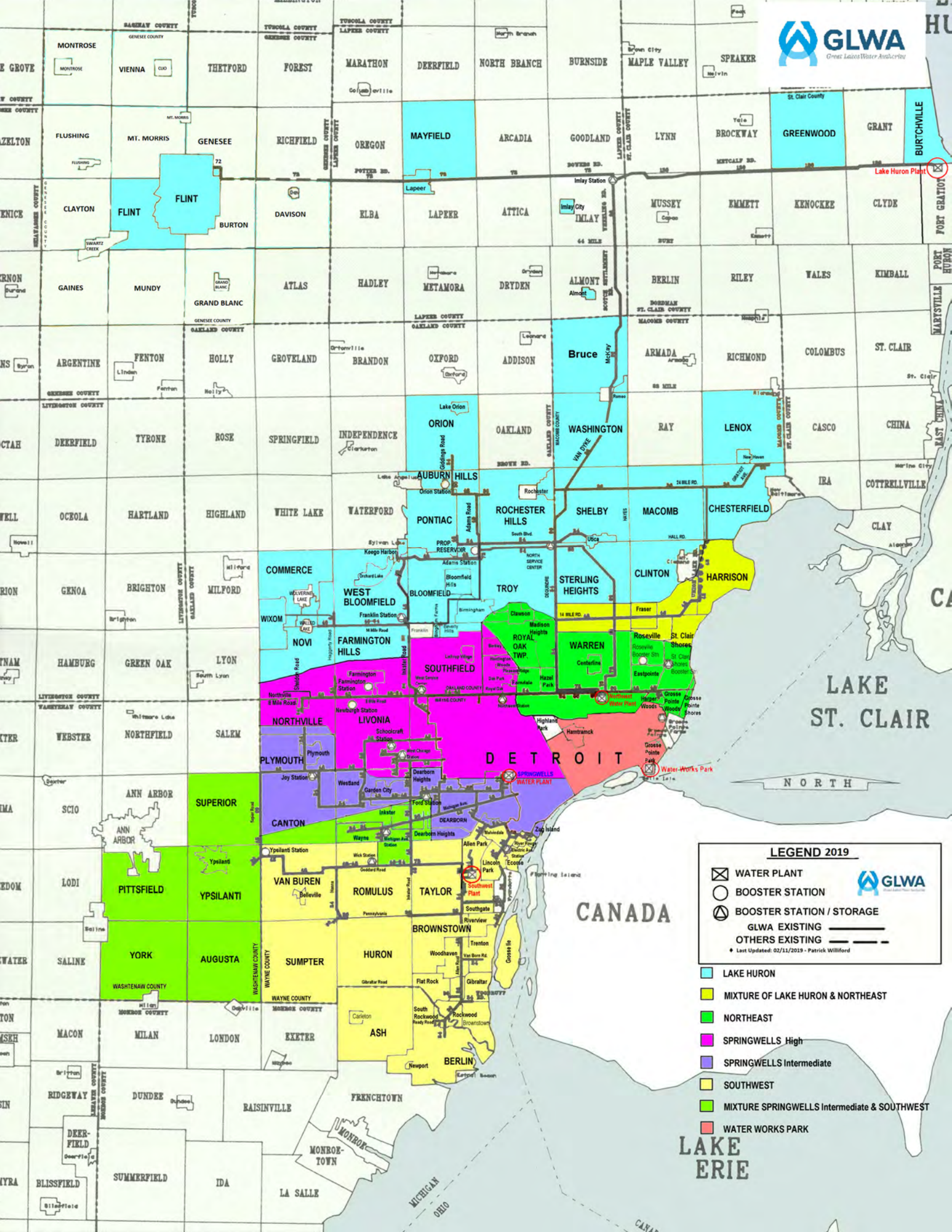
WATER OPERATING SERVICES
WATER QUALITY
10100 EAST JEFFERSON AVENUE
DETROIT, MICHIGAN 48214
PHONE: 313-926-8102 / 313-926-8127

Yearly Summary **Monthly Mineral Analyses Annual Averages**






Parameter	Units	Max.	Min.	Avg.	01/16/2024	02/13/2024	03/12/2024	04/16/2024	05/14/2024	06/11/2024	07/09/2024	08/13/2024	09/10/2024	10/08/2024	11/05/2024	12/10/2024	← Sample Dates			
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MCL	Sec.Std	RL	STDEV
Turbidity	N.T.U.	1.50	0.02	0.15	0.06	0.42	0.05	0.08	0.07	0.26	0.11	0.15	0.10	0.06	0.26	0.13	0.3/95% (1)			0.11
Total Solids	mg/L	160	76	136	130	127	126	135	149	138	147	130	143	138	141	126		500	10	8
Total Dissolved Solids	mg/L	153	92	122	107	107	102	106	130	122	145	135	140	127	127	117		500	10	15
Aluminum	mg/L	0.293	0.012	0.054	0.056	0.034	0.030	0.030	0.041	0.040	0.086	0.104	0.074	0.043	0.045	0.065		0.05-0.2	0.001	0.024
Iron	mg/L	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3		0.3	0.1	0.052
Copper	mg/L	0.032	ND	0.002	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.002	0.017	1.3 (AL)		0.001	0.005
Magnesium	mg/L	8.6	6.7	7.8	7.7	7.3	7.8	7.9	8.1	8.3	7.7	7.6	7.8	7.6	7.5	8.1			0.1	0.28
Calcium	mg/L	29.8	2.6	26.7	20.9	26.3	27.2	27.5	28.4	28.5	25.9	26.7	27.5	26.8	26.2	28.7			0.1	2.1
Sodium	mg/L	8.9	0.5	4.7	4.6	5.2	5.4	0.5	5.6	5.7	5.8	5.4	5.2	5.1	0.5	6.6	20 (2)		0.1	1.99
Potassium	mg/L	1.2	0.9	1.1	1.1	1.0	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.1	1.0	1.1			0.1	0.04
Manganese	mg/L	0.005	ND	0.000	ND	ND	ND	ND	ND	ND	ND	0.000	ND	ND	0.000	0.002		0.05	0.001	0.001
Lead	mg/L	ND	ND	0.000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.015 (AL)		0.001	0.001
Zinc	mg/L	0.003	ND	0.001	0.001	0.001	0.001	0.001	ND	0.002	0.000	0.001	0.000	0.000	0.001	0.002		5	0.001	0.00
Silica	mg/L	3.7	1.5	2.2	2.0	2.3	2.3	1.9	1.8	2.1	1.7	2.8	1.8	2.2	2.6	2.5			0.4	0.3
Sulfate	mg/L	40.0	21.6	29.1	34.3	28.1	27.8	37.2	28.1	26.2	25.1	30.3	27.7	29.1	25.4	29.6				3.5
Chloride	mg/L	13.2	8.8	10.6	10.9	9.8	9.9	9.5	11.6	12.0	11.4	10.9	10.8	10.6	10.2	10.0		250	5	0.8
Phosphorus	mg/L	0.82	0.34	0.51	0.39	0.47	0.52	0.46	0.50	0.47	0.42	0.53	0.47	0.51	0.67	0.71			0.05	0.09
Free Carbon Dioxide	mg/L	18.1	5.7	9.4	11.7	8.6	8.5	6.6	9.3	9.8	7.0	10.1	8.7	8.5	10.7	13.7				2.0
Total Hardness (3), (4), (5)	mg/L	114	74	100	102	103	104	110	109	103	87	90	104	91	99	100				7
Total Alkalinity (3)	mg/L	82	60	72	67	71	69	70	79	77	75	73	73	72	70	66				4
Carbonate Alkalinity (3)	mg/L	10	0	1	0	0	0	8	0	0	0	0	0	0	0	0				2
Bi-Carbonate Alkalinity (3)	mg/L	82	46	70	67	71	68	54	79	76	74	73	73	72	70	66				6
Non-Carbonate Hardness (3)	mg/L	48	0	28	35	32	35	40	30	27	12	17	31	19	29	34				8
Chemical Oxygen Demand	mg/L	8.7	ND	4.0	1.2	3.6	3.9	6.6	6.7	7.8	7.4	1.8	0.6	1.9	3.9	2.5			2	2.6
Dissolved Oxygen	mg/L	19.0	6.7	11.1	14.0	14.0	13.5	11.2	9.7	9.1	9.1	9.4	11.2	8.5	10.8	12.5				2.0
Nitrite Nitrogen	mg/L	ND	ND	0.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			1	0.1
Nitrate Nitrogen	mg/L	0.48	ND	0.27	0.40	0.33	0.28	0.39	0.38	0.31	0.21	0.21	0.18	0.17	0.16	0.24		10	10	0.09
Fluoride	mg/L	0.82	0.39	0.60	0.53	0.54	0.68	0.47	0.60	0.67	0.68	0.64	0.62	0.58	0.68	0.51		4		0.07
pH		7.42	6.85	7.19	7.07	7.22	7.21	7.21	7.24	7.20	7.33	7.17	7.23	7.24	7.13	6.99	6.5-8.5	6.5-8.5		0.09
Specific Conductance @ 25 °C.	µmhos	233	138	197	187	196	188	230	216	203	165	146	217	212	214	192				24
Temperature	°C	23.2	1.9	14.4	5.0	8.0	6.8	11.7	14.7	18.2	22.5	22.7	21.0	18.9	15.6	8.0				6.4

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of daily samples in any month
Sec.Std: Secondary Standard	(2) EPA Guidance Level
NTU: Nephelometric Turbidity Unit	(3) As Calcium Carbonate
mg/L: Milligram Per Liter (ppm)	(4) By Titration
AL: Action Level	(5) Tap Water Hardness in Grains per Gallon multiply value by 0.058 (Grains/Gallon)/(mg/L) -->
RL: Reporting Limit	(6) Reported results are below the low calibration standard but above the instrument detection limit.
< : Less than	NA = Not available
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


Maximum	Minimum	Average
6.6	4.3	5.8



LEGEND 2019

-  WATER PLANT
-  BOOSTER STATION
-  BOOSTER STATION / STORAGE
-  GLWA EXISTING
-  OTHERS EXISTING

◆ Last Updated: 02/11/2019 - Patrick Williford

-  LAKE HURON
-  MIXTURE OF LAKE HURON & NORTHEAST
-  NORTHEAST
-  SPRINGWELLS High
-  SPRINGWELLS Intermediate
-  SOUTHWEST
-  MIXTURE SPRINGWELLS Intermediate & SOUTHWEST
-  WATER WORKS PARK

LAKE ERIE