



Royal Oak

2024 CONSUMER'S ANNUAL REPORT ON WATER QUALITY



An Important Report on Water Quality & Safety

The City of Royal Oak, the Southeastern Oakland County Water Authority (SOCWA), and the Great Lakes Water Authority (GLWA) are proud of the fine drinking water they supply and are honored to provide this report to you. The 2024 Consumer's Annual Report on Water Quality shows the sources of our water, lists the results of our tests, and contains important information about water and health. We will notify you immediately if there is ever any reason for concern about our water.

We are pleased to show you how we have met water quality standards as mandated by the Environmental Protection Agency (EPA) and the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

About the System

The City of Royal Oak purchases water from the Southeastern Oakland County Water Authority (SOCWA). SOCWA provides GLWA water through its member distribution systems to a population of 210,000 within a 56 square-mile area. Current members are Berkley, Beverly Hills, Bingham Farms, Birmingham, Clawson, Huntington Woods, Lathrup Village, Pleasant Ridge, Royal Oak, Southfield, and Southfield Township.



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 water treatment plants Northeast and Springwells that draw water from the Detroit River have historically provided satisfactory treatment and 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 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 Lake Huron water 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 about the Source Water Assessment Report, please, contact GLWA at 313-926-8127.



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 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 can dissolve naturally occurring minerals and, in some cases, radioactive materials, 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 discharge, 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 organic chemicals that are byproducts of industrial processes and petroleum production, as well as from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in the 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. GLWA voluntarily monitors for *Cryptosporidium* and *Giardia* in our source water monthly. The untreated water samples collected from our Belle Isle Intake indicated the presence of one *Giardia* cyst in November 2024. All other samples collected from the Belle Isle intake in 2024 were absent for the presence of *Cryptosporidium* and *Giardia*. Systems using surface water like GLWA must provide treatment so that 99.9 percent of *Giardia lamblia* and *Cryptosporidium* is removed or inactivated. GLWA's drinking water treatment process is designed to remove and inactivate these protozoans.

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. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctors 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



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, Dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total. |
| Level 1 | Level 1 Assessment | A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the water 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. |
| 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. MRLDG's do not reflect the benefits of the use of disinfectants to control microbial contaminants. |
| n/a | Not applicable | |
| ND | Not detected | Below the detection limit of the method. |
| 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 analytical results for all samples during the previous four quarters. |
| SMCL | Secondary Maximum Contaminant Level | An MCL which involves a biological, chemical, or physical characteristic of water that may adversely affect the taste, odor, color, or appearance (aesthetics), which may thereby affect public confidence or acceptance of the drinking water. |
| 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. |

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 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.

2024 Springwells Tap Water Mineral Analysis

| Parameter | Units | Max. | Min. | Avg. |
|------------------------|--------|-------|------|--------------|
| Turbidity | N.T.U. | 0.78 | 0.03 | 0.13 |
| Total Solids | mg/L | 148 | 126 | 136 |
| Total Dissolved Solids | mg/L | 150 | 92 | 120 |
| Aluminum | mg/L | 0.088 | 0.02 | 0.037 |
| Iron | mg/L | 0.3 | 0.2 | 0.2 |
| Copper | mg/L | 0.002 | ND | 0.001 |
| Magnesium | mg/L | 8.6 | 6.7 | 7.8 |
| Calcium | mg/L | 29.8 | 25.6 | 27.4 |
| Sodium | mg/L | 8.9 | 0.5 | 4.8 |
| Potassium | mg/L | 1.2 | 0.9 | 1.1 |
| Manganese | mg/L | ND | ND | 0 |
| Lead | mg/L | ND | ND | 0 |
| Zinc | mg/L | 0.002 | ND | 0 |
| Silica | mg/L | 3.7 | 1.7 | 2.3 |
| Sulfate | mg/L | 35.9 | 24.8 | 28.8 |
| Chloride | mg/L | 13.2 | 9.9 | 11.1 |

| Parameter | Units | Max. | Min. | Avg. |
|------------------------------|-------|------|------|-------------|
| Phosphorus | mg/L | 0.81 | 0.35 | 0.52 |
| Free Carbon Dioxide | mg/L | 13.6 | 6.2 | 10.3 |
| Total Hardness | mg/L | 110 | 88 | 101 |
| Total Alkalinity | mg/L | 82 | 66 | 73 |
| Carbonate Alkalinity | mg/L | 9 | 0 | 1 |
| Bi-Carbonate Alkalinity | mg/L | 82 | 56 | 71 |
| Non-Carbonate Hardness | mg/L | 36 | 12 | 28 |
| Chemical Oxygen Demand | mg/L | 8.3 | ND | 4.2 |
| Dissolved Oxygen | mg/L | 14.3 | 6.7 | 10.5 |
| Nitrite Nitrogen | mg/L | ND | ND | 0 |
| Nitrate Nitrogen | mg/L | 0.4 | 0.17 | 0.27 |
| Fluoride | mg/L | 0.65 | 0.43 | 0.54 |
| pH | | 7.39 | 7.02 | 7.15 |
| Specific Conductance @ 25 °C | µmhos | 233 | 147 | 200 |
| Temperature | °C | 23.2 | 1.9 | 13.7 |

2024 Northeast 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 | 0.47 | 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 | 0.32 | 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 | 0.77 | 0.68-0.82 | 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 |
|---|--|-----------|---------------------------------|
| 0.28 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 | 5.3 | 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 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.

2024 Northeast Tap Water Mineral Analysis

| Parameter | Units | Max. | Min. | Avg. |
|------------------------|--------|-------|-------|--------------|
| Turbidity | N.T.U. | 0.07 | 0.02 | 0.06 |
| Total Solids | mg/L | 147 | 76 | 128 |
| Total Dissolved Solids | mg/L | 148 | 102 | 122 |
| Aluminum | mg/L | 0.104 | 0.024 | 0.05 |
| Iron | mg/L | 0.3 | 0.2 | 0.2 |
| Copper | mg/L | 0.032 | ND | 0.004 |
| Magnesium | mg/L | 8.1 | 7.5 | 7.8 |
| Calcium | mg/L | 29 | 25.8 | 27.3 |
| Sodium | mg/L | 6 | 0.5 | 4.6 |
| Potassium | mg/L | 1.1 | 1 | 1.1 |
| Manganese | mg/L | 0.005 | ND | 0 |
| Lead | mg/L | ND | ND | 0 |
| Zinc | mg/L | 0.002 | ND | 0 |
| Silica | mg/L | 2.3 | 1.5 | 2 |
| Sulfate | mg/L | 40 | 21.6 | 29.3 |
| Chloride | mg/L | 11.7 | 9.5 | 10.6 |

| Parameter | Units | Max. | Min. | Avg. |
|------------------------------|-------|------|------|-------------|
| Phosphorus | mg/L | 0.7 | 0.43 | 0.53 |
| Free Carbon Dioxide | mg/L | 15.1 | 6.3 | 10.4 |
| Total Hardness | mg/L | 108 | 88 | 99 |
| Total Alkalinity | mg/L | 80 | 60 | 72 |
| Carbonate Alkalinity | mg/L | 8 | 0 | 1 |
| Bi-Carbonate Alkalinity | mg/L | 80 | 57 | 70 |
| Non-Carbonate Hardness | mg/L | 40 | 12 | 27 |
| Chemical Oxygen Demand | mg/L | 7.9 | ND | 4 |
| Dissolved Oxygen | mg/L | 13.1 | 6.7 | 9.6 |
| Nitrite Nitrogen | mg/L | ND | ND | 0 |
| Nitrate Nitrogen | mg/L | 0.39 | 0.18 | 0.26 |
| Fluoride | mg/L | 0.66 | 0.46 | 0.55 |
| pH | | 7.31 | 6.9 | 7.14 |
| Specific Conductance @ 25 °C | µmhos | 231 | 146 | 196 |
| Temperature | °C | 23.2 | 8.4 | 16 |

2024 Lake Huron 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 | 0.8 | 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 | 0.35 | 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 | 0.80 | 0.68-0.87 | 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 |
|---|--|-----------|---------------------------------|
| 0.2 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 | 5.1 | 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 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.

2024 Lake Huron Tap Water Mineral Analysis

| Parameter | Units | Max. | Min. | Avg. |
|------------------------|--------|-------|-------|--------------|
| Turbidity | N.T.U. | 0.1 | 0.04 | 0.07 |
| Total Solids | mg/L | 156 | 89 | 125 |
| Total Dissolved Solids | mg/L | 140 | 92 | 113 |
| Aluminum | mg/L | 0.084 | 0.022 | 0.043 |
| Iron | mg/L | 0.3 | 0.2 | 0.2 |
| Copper | mg/L | 0.005 | ND | 0.001 |
| Magnesium | mg/L | 8 | 7.4 | 7.6 |
| Calcium | mg/L | 27.9 | 23.3 | 26.2 |
| Sodium | mg/L | 5.3 | 0.5 | 4.3 |
| Potassium | mg/L | 1.1 | 1 | 1 |
| Manganese | mg/L | 0.001 | ND | 0 |
| Lead | mg/L | ND | ND | 0 |
| Zinc | mg/L | 0.01 | ND | 0.003 |
| Silica | mg/L | 2.4 | 1.9 | 2.2 |
| Sulfate | mg/L | 32.8 | 18.1 | 21.4 |
| Chloride | mg/L | 11 | 9 | 9.9 |

| Parameter | Units | Max. | Min. | Avg. |
|------------------------------|-------|------|------|-------------|
| Phosphorus | mg/L | 0.68 | 0.37 | 0.48 |
| Free Carbon Dioxide | mg/L | 7.8 | 4.6 | 6.2 |
| Total Hardness | mg/L | 106 | 88 | 99 |
| Total Alkalinity | mg/L | 82 | 74 | 77 |
| Carbonate Alkalinity | mg/L | 6 | 0 | 0 |
| Bi-Carbonate Alkalinity | mg/L | 82 | 63 | 76 |
| Non-Carbonate Hardness | mg/L | 30 | 6 | 23 |
| Chemical Oxygen Demand | mg/L | 8.7 | 2 | 4.4 |
| Dissolved Oxygen | mg/L | 12.9 | 8.3 | 10.3 |
| Nitrite Nitrogen | mg/L | ND | ND | 0 |
| Nitrate Nitrogen | mg/L | 0.4 | 0.2 | 0.28 |
| Fluoride | mg/L | 0.8 | 0.51 | 0.72 |
| pH | | 7.5 | 7.3 | 7.39 |
| Specific Conductance @ 25 °C | µmhos | 222 | 135 | 189 |
| Temperature | °C | 22.8 | 8.9 | 16.1 |

City of Royal Oak

2024 Microbiological Contaminants – Monthly Monitoring in Distribution System

| Regulated Contaminant | MCLG | MCL | Highest Number Detected | Violation | Major Sources in Drinking Water |
|-------------------------|------|--|-------------------------|-----------|--------------------------------------|
| Total Coliform Bacteria | 0 | Presence of Coliform bacteria > 5% of monthly samples | 0 | no | Naturally present in the environment |
| <i>E. coli</i> Bacteria | 0 | A routine sample and a repeat sample are total coliform positive, and one is also <i>E. coli</i> positive. | 0 | no | Sanitary defects |

2024 Disinfection Byproducts - Stage 2 Disinfection Byproducts 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 | 2024 | ppb | n/a | 80 | 34 | 15-53 | no | Byproduct of drinking water chlorination |
| (HAA5) Haloacetic Acids | 2024 | ppb | n/a | 60 | 16 | 9-24 | no | Byproduct of drinking water chlorination |

Lead and Copper Monitoring at the Customer's Tap in 2024

| Regulated Contaminant | Test Date | Unit | Health Goal MCLG | Action Level AL | 90th Percentile Value* | Range of Individual Samples Results | Number of Samples Over AL | Major Sources in Drinking water |
|-----------------------|-----------|------|------------------|-----------------|------------------------|-------------------------------------|---------------------------|---|
| Lead | 2024 | ppb | 0 | 15 | 1 | 0-11 | 0 | Lead services lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits |
| Copper | 2024 | ppm | 1.3 | 1.3 | 0.1 | 0.0 - 0.2 | 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 Number of Water Service Connections by Service Line Material

| Number of Lead Service Lines | Number of Service Lines of Unknown Material | Total Number of service Lines |
|------------------------------|---|-------------------------------|
| 837 | 668 | 23,616 |

For more Information about the community water system inventory, visit www.romi.gov/1873/Comprehensive-Water-Distribution-System-

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.

In 2023 the City of Royal Oak participated in the Fifth Unregulated Contaminant Monitoring Rule. During this monitoring period 29 per- and polyfluoroalkyl substances and lithium were analyzed. For the four quarters of monitoring all 29 per- and polyfluoroalkyl substances and lithium sampling results reported as non-detect. All systems are required to report their data to the EPA. The analytical results from the UCMR are stored in the National Contaminant Occurrence Database for drinking water. For a summary of the UCMR results, please refer to the UCMR Occurrence Data webpage at www.epa.gov.



Important Health Information

Lead

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. The City of Royal Oak 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 the City of Royal Oak 248-246-3300 for available resources. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at www.epa.gov/safewater/lead/.



There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of persons who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney, or nervous system problems.

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 those with cancer undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk from infections and should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.

Important Information About your Drinking Water

Reporting Requirements Not Met for GLWA Springwells

Reporting Requirements Not Met for GLWA Springwells

Great Lakes Water Authority (GLWA) is 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. Your water is routinely monitored 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.

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 |
|-------------------------|---|-------------------------------|---|
| 5/25/2022 | Inoperable rapid mixing equipment at the Springwells 1930's water plant | 12/31/2023 | Completed in December 2023. |
| 5/25/2022 | Inoperable flocculation equipment at the 1958 Springwells water plant | 11/11/2027 | Phase I construction is completed as of December 2024. Phase II scheduled to begin at the fall of 2025. |

For more information, please contact GLWA Water Quality at waterquality@glwater.org



City of Royal Oak
Department of Public Services
1600 N. Campbell
Royal Oak, MI 48067

POSTAL CUSTOMER

Local Distribution

City of Royal Oak
248-246-3300

Southeastern Oakland County Water Supply System

248-288-5150
www.socwa.org

Oakland County

www.oakgov.com/community/sustainability/water

Great Lakes Water Authority

www.glwater.org

Michigan Dept. of Environment, Great Lakes, & Energy (EGLE)

586-753-3755
www.michigan.gov/egle

US Environmental Protection Agency

Safe Drinking Water Hotline
800-426-4791

Water quality data for community water systems throughout the United States is available at www.epa.gov/wqs-tech

