



**2021**

CITY OF SOUTH BEND

# DRINKING WATER QUALITY

ANNUAL REPORT



South Bend Drinking Water meets all state and US Environmental Protection Agency (EPA)

**water quality standards.**



Delivered

**5.44 billion**

gallons of safe and reliable drinking water to residents, businesses and visitors in 2020.



An average of

**14.9 million**

gallons was treated and distributed to 112,400 customers daily.



## WHERE DOES **SOUTH BEND DRINKING WATER** COME FROM?

South Bend Water Works utilizes groundwater from the St. Joseph Tributary Valley System and St. Joseph and Hilltop aquifers as its sources for drinking water. There are nine wellfields available for use containing wells ranging from 104 to 237 feet below the ground surface. There is a treatment plant at each wellfield. Some of the treatment plants filter out naturally occurring iron and manganese. Two of the plants have granular activated carbon to remove any volatile organic compounds the water may contain. All treatment plants add fluoride for dental health and chlorine for disinfection. Water Works closely monitors and manages its water quality, going above the level of testing required by regulations.

## **PROTECTING DRINKING WATER** WITH BACKFLOW PREVENTION

Did you know that certain hazards in homes or businesses may contaminate drinking water for you and your neighbors if there is no control in place to prevent it? For example, if the system's water pressure drops and there is no control in place on the irrigation system, chemicals, animal waste and organisms in the lawn may be siphoned back into the drinking water supply. Contamination may also occur through connections at businesses like hair salons, car washes, bars and restaurants, etc. To prevent contaminants from entering the drinking water, Indiana regulations direct local utilities to implement a cross connection control program that requires customers with certain hazards to have an air gap or approved backflow prevention device installed, maintained and tested at least annually by a certified tester. Test results must be reported to the Utility.

To learn more, visit Indiana Department of Environmental Management's (IDEM) Cross Connection Control and Backflow Prevention Manual online at <http://bit.ly/BFPManual>. Questions can be emailed to [backflow@southbendin.gov](mailto:backflow@southbendin.gov).

### **CONTACT INFORMATION**

This report has been prepared by the Department of Public Works – Division of Utilities. For more information on water quality, contact [waterquality@southbendin.gov](mailto:waterquality@southbendin.gov) or **574.235.5994**. For after-hours concerns or water emergencies, call **574.235.9464**. To download this report electronically, visit [southbendin.gov/2021WaterQuality](http://southbendin.gov/2021WaterQuality).

*Este informe contiene información muy importante. Tradúzcalo o hable con alguien que lo entienda bien. Para discutir esta información en español, por favor llame al 311.*



# 2020 WATER QUALITY TEST RESULTS

**Note:** Not all contaminants are required to be analyzed annually. The year those contaminants were detected is listed in the report.

## REGULATED CONTAMINANTS DETECTED

Contaminant (unit of measure)	EPA's Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Range of Results	Average Level Detected	Any Violations?	Typical Source of the Contaminant
<b>Regulated Inorganic Contaminants</b>						
Arsenic (ppb)	0	10	ND - 5.7	ND	No	Erosion of natural deposits, runoff from orchards and glass or electronic waste
Barium (ppm)	2	2	0.033 - 0.270	0.106	No	Discharge from drilling waste or metal refineries, erosion of natural deposits
Chromium (ppb)	100	100	ND - 2.7	1.1	No	Discharge from steel and pulp mills, erosion of natural deposits
Fluoride (ppm)	4	4	0.2 - 0.9	0.7	No	Water additive for strong teeth, erosion of natural deposits, discharge from fertilizer and aluminum factories
Nickel (ppb)	100	100	ND - 2.1	ND	No	Discharge from electroplating, erosion of natural deposits
Nitrate as Nitrogen (ppm)	10	10	ND - 6.9	1.7	No	Runoff from fertilizer, leaking septic tanks, sewage, erosion of natural deposits
<b>Regulated Organic Contaminants</b>						
Cis-1,2-Dichloroethylene (ppb)	70	70	ND - 1.0	ND	No	Discharge from industrial chemical factories
<b>2019 Radioactive Contaminants</b>						
Combined Radium (pCi/L)	0	5	0.48 - 1.25	0.86	No	Erosion of natural deposits
Gross Alpha (pCi/L)	0	15	-0.49 - 8.30	3.90	No	Erosion of natural deposits



# 2020 WATER QUALITY TEST RESULTS

**Note:** Not all contaminants are required to be analyzed annually. The year those contaminants were detected is listed in the report.

Contaminant (unit of measure)	EPA's Ideal Goal (MCLG)	Highest Level Allowed for Rolling An- nual Average (MCL)	Range of Individual Results	Range of Rolling Annual Averages	Highest Rolling Annual Average	Any Violations?	Typical Source of the Contaminant
<b>Disinfection and Disinfection By-Products in the Distribution System</b>							
Free Chlorine Residual (ppm)	(MRDLG) 4.0	(MRDL) 4.0	0.3 - 1.7	1 - 1	1	No	Drinking water disinfection
Total Trihalomethanes (ppb)	NA	80	4.9 - 40.5	14.5 - 25.1	25.1	No	By-product of drinking water disinfection
Haloacetic Acids (ppb)	NA	60	ND - 5.6	2.0 - 3.7	3.7	No	By-product of drinking water disinfection

Contaminant (unit of measure)	EPA's Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Range of Results	# Positive Samples/ Total # Collected	Any Violations?	Typical Source of the Contaminant
<b>Microbial Contaminants</b>						
Total Coliform (% Positive/month)	0	5% of monthly samples positive	0 - 0.7%	5/1727	No	Naturally present in the environment
E. Coli (# Positive/month)	0	0	0	0/1727	No	Human and animal waste

*Total coliforms are a group of closely related, mostly harmless bacteria that live in soil and water as well as the gut of animals. Since total coliforms are common inhabitants of ambient water and may be injured by environmental stresses (lack of nutrients) and water treatment (chlorine disinfection) in a manner similar to many pathogens, EPA considers them a useful indicator of these pathogens. Total coliform samples are also tested for E.coli. E. coli is a total coliform that is commonly found in the intestines of animals and humans.*

Contaminant (unit of measure)	EPA's Ideal Goal (MCLG)	EPA's 90th Percentile Action Level	Number of Samples Over Action Level	Our 90th Percentile	Any Violations?	Typical Source of the Contaminant
<b>2019 Lead and Copper</b>						
Copper (ppm)	1.3	1.3	0	0.198	No	Erosion of natural deposits, Corrosion of household plumbing
Lead (ppb)	0	15	0	2.6	No	Corrosion of household plumbing

*Compliance for the lead and copper rule is based on whether 90% of samples have results less than EPA's Action Level (AL). 48 samples were collected from homes believed to have a lead service line or lead pipes and two samples from homes that may have copper pipes with lead solder.*

# 2020 WATER QUALITY TEST RESULTS

**Note:** Not all contaminants are required to be analyzed annually. The year those contaminants were detected is listed in the report.

## UNREGULATED CONTAMINANTS

Unregulated Contaminant (unit of measure)	EPA's Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Range of Results	Average Level Detected	Any Violations?	Typical Source of the Contaminant
<b>Unregulated Organic Contaminants</b>						
Bromodichloromethane (ppb)	0	No MCL	ND - 2.1	ND	NA	By-product of drinking water disinfection
Bromoform (ppb)	0	No MCL	ND - 1.9	ND	NA	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	60	No MCL	ND - 3.7	ND	NA	By-product of drinking water disinfection
Chloroform (ppb)	70	No MCL	ND - 6.6	ND	NA	By-product of drinking water disinfection

## UNREGULATED CONTAMINANT MONITORING RULE SAMPLING (UCMR 4)

The EPA uses the Unregulated Contaminant Monitoring Rule to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. This data set is one of the primary sources of occurrence and exposure information the Agency uses to develop regulatory decisions for emerging contaminants.

Unregulated Contaminant (unit of measure)	Sample Year	Range of Concentrations Found	Average Concentration Found
<b>2019 Unregulated Disinfection By-Products in Distribution System</b>			
Bromochloroacetic acid (ppb)	2019	1.42 - 2.14	1.65
Bromodichloroacetic acid (ppb)	2019	ND - 1.08	0.669
Chlorodibromoacetic acid (ppb)	2019	0.503 - 1.36	0.874
Dibromoacetic acid (ppb)	2019	0.967 - 1.53	1.18
Dichloroacetic acid (ppb)	2019	0.891 - 1.38	1.11
Monobromoacetic acid (ppb)	2019	ND - 0.442	ND
Tribromoacetic acid (ppb)	2019	ND - 2.36	ND
Trichloroacetic acid (ppb)	2019	ND - 0.65	ND
<b>2019 Unregulated Contaminants in Finished Water</b>			
Manganese (ppb) Current SMCL 50 ppb	2019	ND - 162	28.7
<b>2019 Unregulated Contaminants in Raw Source Water</b>			
Bromide (ppb)	2019	ND - 128	51.5
Total Organic Carbon (ppb)	2019	ND - 1260	ND





# EDUCATIONAL INFORMATION

## Commonly Found

### Drinking Water Contaminants

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the land surface or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material. It can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present include the following:

- Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations or wildlife.
- Inorganic contaminants, such as salts and metals, can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides may come from a variety of sources such as agriculture, urban stormwater runoff or residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, are byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, IDEM and EPA impose regulations that limit certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426.4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as people undergoing chemotherapy for cancer, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. The EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426.4791.

### Nitrate in Drinking Water

Nitrate in drinking water at levels above 10 parts per million is a health risk for infants of less than 6 months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, seek advice from your healthcare provider. Nitrate levels can be found under the Regulated Contaminants section.

### Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. South Bend Water Works is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When water

has been sitting for several hours, minimize the potential for lead exposure by flushing the tap for 30 seconds to two minutes before using water for drinking or cooking.

Although South Bend Water Works has always met the regulations for lead, it is still possible for some lead to get into your water if you have lead pipes or a lead service line. Residential customers can request a free lead test by emailing [waterquality@southbendin.gov](mailto:waterquality@southbendin.gov) or by calling 574.235.5994. To view our Homeowner's Guide to Managing Lead in Drinking Water, visit [southbendin.gov/leadwaterfacts](http://southbendin.gov/leadwaterfacts)

More information on lead in drinking water, testing methods and steps to minimize exposure is available through the Safe Drinking Water Hotline or at [epa.gov/safewater/lead](http://epa.gov/safewater/lead).

### Arsenic in Drinking Water

While your drinking water meets EPA standards for arsenic, it does contain low levels. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

To view the frequently requested water quality parameters, visit

**[southbendin.gov/  
waterworks.](http://southbendin.gov/waterworks)**

# TERMS & MEASUREMENTS

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a system must follow.

**Maximum Contaminant Level (MCL):**

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Contaminant Level**

**Goal (MCLG):**

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant**

**Level (MRDL):**

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.

**Maximum Residual Disinfectant Level**

**Goal (MRDLG):** The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLG does not reflect the benefits of the use of disinfectants to control microbial contaminants.

**ND:** Not detected. ND is used when some samples or the average results from all samples is below the level that the contaminant can be detected.

**pCi/L:** Picocuries per liter, used to measure radioactivity.

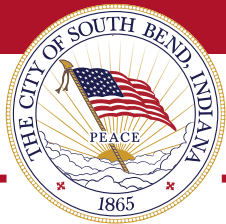
**ppb:** Parts per billion or micrograms per liter ( $\mu\text{g/L}$ )

**ppm:** Parts per million or milligrams per liter ( $\text{mg/L}$ )

**Secondary Maximum Contaminant Level**

**(SMCL):** Non-mandatory water quality standard level set as a guideline for drinking water aesthetic considerations such as taste, color and odor. Parameters at an SMCL are not considered a risk to human health.

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



## DEPARTMENT OF PUBLIC WORKS

Division of Utilities

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