



St. Elmo-Irvington Water Authority Water Quality Report 2021

St. Elmo-Irvington Water Authority
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We are pleased to provide you with the 2021 (for the year 2020) version of our annual Water Quality Report. We will continue to provide this report each year as required by the Environmental Protection Agency (EPA) and the Alabama Department of Environmental Management (ADEM) to inform you, the customer, about what is in your drinking water. Our continuing goal is to provide the people in the St. Elmo – Irvington community with a safe and dependable supply of drinking water. You will be happy to know that our water is safe and meets both Federal and State requirements.

Testing

The St. Elmo-Irvington Water Authority (SEIWA) tests the water for over 150 possible contaminants. The employees at the Water Works do our best to make sure that our water will be of the best quality that we (SEIWA) can achieve, following ADEM and EPA requirements. There is a **Table of Detected Contaminants** included in this report showing only those contaminants that we detected in our water, along with the **Table of Primary Contaminants**. None of these contaminants are detected at a level that is in violation of the Maximum Contaminant Level set by ADEM.

All drinking water, INCLUDING bottled water, may reasonably be expected to contain at least small amounts of some contaminants. It is important to remember that 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 EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Some of the water tests are performed by our own staff (the water pH and chlorine residuals), some by the Mobile County Board of Health (Bacteriological and for Coli form Bacteria), and others by an ADEM certified private testing laboratory. The tests conducted by the certified laboratory are for Primary and Secondary, Radiological, Inorganic, Volatile Organic, and Synthetic Organic Contaminants. We also conduct distribution system testing for Disinfection By-Products, Lead-Copper Rule compliance, Corrosion Control, and many other general water quality tests. This CCR for 2020 is the first to report sampling results for a group of man-made chemicals known as PFAS which are Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS). Neither ADEM nor the U.S. Environmental Protection Agency (EPA) have established national primary drinking water regulations for PFOA, PFOS or other PFAS substances. However, EPA is evaluating PFOA and PFOS as drinking water contaminants in accordance with the process required by the Safe Drinking Water Act. A total of 18 chemicals in this group were tested in all three system water supply wells; the tests were conducted twice during 2020. None of these substances were detected, and therefore, are not included in the "Table of Detected Contaminants". Copies of the most recent tests for all contaminants tested are available at our office for inspection during working hours and the results of the tests are published in the Water Quality Report each year.

Water Sources and How the System Works

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 radioactive materials, and can pick up substances resulting from the presence of animals or from human activity. In our water system, water is pumped from Well #1 which is located at Highway 90 just west of March Road, Well #2 which is located just southeast of the railroad tracks on Padgett Switch Road North, and Well #3 which is located on March Road just south of Interstate 10. These wells draw from the Miocene-Pliocene and Citronelle Aquifers. The water is treated with chlorine to disinfect, and either lime or soda ash is added for pH adjustment, and a polyphosphate additive is provided to inhibit corrosion. The water produced from Well #1 and Well #3 is also aerated and mixed in a clearwell before being pumped into the water mains which make up the distribution system. The water then goes into the storage tanks and the distribution system. We have three elevated tanks, located at or near our well sites, which hold a total of one million gallons of water. These tanks are what give you water pressure and provide water storage as a reserve supply.

Definitions

ND – Non-Detects. Laboratory analysis indicates that the constituent is not present.

PPM – Parts per Million(ppm). One part per million corresponds to one minute in TWO years, or a single penny in \$10,000.

PPB – Parts per Billion(ppb). Corresponds to a penny in \$10,000,000.

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

Treatment Technique (TT) – A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

MCL – Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

MCLG – Maximum Contaminant Level Goal. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

pCi/l – Pico curies per liter is a measure of radioactivity in water.

Nanograms per Liter – Parts per Trillion(ppt). One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

NTU – Nephelometric Turbidity Unit. A measurement of the turbidity, or cloudiness, of water.

To understand the possible health effects described for many of the regulated contaminants, a person would have to drink two liters of water every day for a LIFETIME at the Maximum Contaminant Level to have a ONE-IN-A-MILLION chance of having the described health effect.

Monitoring Period and Source Water Assessment

All of the results in this report were for testing done in the Monitoring Periods through the 2020 calendar year. The latest available results are the ones reported. You will continue to receive a report like this one every year, with results being used of the testing from the previous year, or latest results before that.

The Source Water Assessment Baseline Report was completed and sent to ADEM and approved in August of 2000. The Report was updated in 2007 in conjunction with the upgrades constructed at Well #1. ADEM has reviewed the potential sources of contamination of the aquifers for each of the three wells, and these reports are available at our office for inspection. The Water Authority has not yet enacted a Well Head Protection Plan.

Vulnerability

Some people may be more vulnerable to contaminants in drinking water than the general public. Immuno-compromised persons such as people with cancer undergoing chemotherapy, people who have undergone organ transplants, people with AIDS/HIV or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about their drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at **800-426-4791**.

Table of Detected Contaminants in our Water

Following is a table listing the contaminants that were detected in our water during the most recent testing period. The St. Elmo-Irvington Water System was not in violation of the Maximum Contaminant Levels for any constituent sampled or tested. Your water, based on ADEM's standards, is safe to drink. Based on a study by ADEM with the approval of EPA, a statewide waiver for the monitoring of asbestos and dioxin was issued. Thus monitoring for these contaminants was not required.

Before ending our report to you, we would like to update you on notable endeavors of the water system:

1. The water system personnel have completed the replacement of the existing water meters with new meters which transmit usage information directly to the billing program. The Automatic Meter Reading system, called AMR, will increase the accuracy of the data used to prepare your monthly water bill, will reduce human errors in the meter reading process, and will reduce system costs overall. It also provides increased safety for the water system employees as accidents relating to the meter reading activities make up a large percentage of the total accidents.
2. The Water Board is continuing in their efforts to provide public sewer service to the St. Elmo-Irvington area. Construction work on the decentralized plant and lines has been completed and the system is now in operation.
3. The Water Board is well underway with the process to construct an additional water supply well and treatment facility and other system improvements that will be required to meet the increased water demand which will occur over the coming years. The planning, permitting, and funding phase of this project are complete and construction is expected to be underway in the near future. The construction of these facilities will take approximately 12 months.

The Water Board continues to monitor all of the cost necessary to provide water and sewer service to the residents and businesses located throughout the system and works very hard to maintain a high level of service at the lowest possible cost. To meet the needs of the system in the coming years, increases in service rates have been necessary for capital improvement needs of the system, to offset the cost of inflation, relocate water mains affected by road improvement projects, and to maintain the high level of service required by the system. Please call the Water Authority office if you have questions about this report or your drinking water quality, if you find or suspect a leak, or if we can help you in any other way with your water or sewer service. Office hours are 7:30 a.m. to 3:30 p.m., Monday through Friday. Calls after hours are forwarded to the "On-Call" system operator. You are also welcome to attend our Water Board meetings, which are usually held on the second Wednesday of each month at 1:00 p.m. If you plan to attend, please confirm the meeting date and time with the water office, as sometimes the schedule for meetings is changed. Thank you again for allowing us to provide you and your family with safe, clean, quality water. We look forward to providing your water service for another year.

Sincerely,

St. Elmo-Irvington Water Authority

Henry Newton, President
Francine Janes, Vice President
William Sellers, Secretary-Treasurer

James Vaughn, Superintendent

Table of Primary Contaminants

At high levels, primary contaminants are known to pose a health risks to humans. This table provides a quick glance of any primary contaminant detections.

CONTAMINANT	MCL	AMOUNT DETECTED	CONTAMINANT	MCL	AMOUNT DETECTED
Bacteriological			Endothall	100	ND
Total Coliform Bacteria	< 5%	ND	Endrin	2	ND
Turbidity	TT	2.7	Epichlorohydrin	TT	ND
Radiological			Glyphosate	700	ND
Beta/photon emitters (mrem/yr)	4	2.10	Heptachlor	400	ND
Alpha emitters (pci/l)	15	4.00	Heptachlor epoxide	200	ND
Combined radium (pci/l)	5	1.30	Hexachlorobenzene	1	ND
Inorganic			Hexachloropentadiene	1	ND
Antimony (ppb)	6	ND	Lindane	200	ND
Arsenic (ppb)	50	ND	Methoxychlor	40	ND
Asbestos (MFL)	7	ND	Oxamyl [Vydate]	200	ND
Barium (ppm)	2	0.19	PCBs	500	ND
Beryllium (ppb)	4	ND	Pentachlorophenol	1	ND
Cadmium	5	ND	Picloram	500	ND
Chromium	100	ND	Simazine	4	ND
Copper	AL=1.3	1.2	Toxaphene	3	ND
Cyanide	200	ND	Benzene	5	ND
Fluoride	4	ND	Carbon Tetrachloride	5	ND
Lead	AL=15	1.5	Chlorobenzene	100	ND
Mercury	2	ND	Dibromochloropropane	200	ND
Nitrate	10	1.9	0-Dichlorobenzene	600	ND
Nitrite	1	ND	p-Dichlorobenzene	75	ND
Selenium	50	ND	1,2-Dichloroethane	5	ND
Thallium	2	ND	1,1-Dichloroethylene	7	ND
Organic Chemicals			Cis-1,2-Dichloroethylene	70	ND
2,4-D	70	ND	trans-1,2-Dichloroethylene	100	ND
2,4,5-TP (Silvex)	50	ND	Dichloromethane	5	ND
Acrylamide	TT	ND	1,2-Dichloropropane	5	ND
Alachlor	2	ND	Ethylbenzene	700	ND
Atrazine	3	ND	Ethylene dibromide	50	ND
Benzo(a)pyrene[PHAs]	200	ND	Styrene	100	ND
Carbofuran	40	ND	Tetrachloroethylene	5	ND
Chlordane	2	ND	1,2,4-Trichlorobenzene	70	ND
Dalapon	200	ND	1,1,1-Trichloroethane	200	ND
Di-(2-ethylhexyl)adipate	400	ND	1,1,2-Trichloroethane	5	ND
Di(2-ethylhexyl)phthlates	6	ND	Trichloroethylene	5	ND
Dinoseb	7	ND	TTHM	80	2.3
Diquat	20	ND	Toluene	1	ND
Dioxin[2,3,7,8-TCDD]	30	ND	Vinyl Chloride	2	ND
			Xylenes	10	ND

Table of Detected Contaminants

Regulated Contaminants Detected

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Beta/photon Emitters	N	2.10 (0.49- 2.1) ♦ 2018*	mrem/yr	0	4	Erosion of natural deposits
Alpha Emitters	N	4.00 (0.83-4.00) ♦ 2018*	pCi/L	0	15	Erosion of natural deposits
Combined Radium	N	1.30 (1.22-1.30) ♦ 2018*	pCi/L	0	5	Erosion of natural deposits
Barium	N	0.19 (0.011-0.19) ♦ 2019*	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Copper	N	1.2 [▫] (ND – 2.0) ○ 2019*	ppm	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	N	1.5 [▫] (ND – 6.2) ○ 2019*	ppb	0	15	Corrosion of household plumbing systems, erosion of natural deposits.
Nitrate	N	1.9 (0.56 – 1.9) ♦	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Turbidity	N	2.7 (ND-2.7) ♦ 2019*	NTU	0	TT	Soil runoff, treatment by-products.
TTHM	N	2.30 ^{▫▫} (ND-2.30)	ppb	NA	80	By-product of drinking water chlorination.

Unregulated Contaminants Detected

Nickel	N	0.018 (ND–0.018) ♦ 2019*	ppm	----	0.1	Erosion of natural deposits
Chloride	N	10.0 (4.2 – 10.0) ♦ 2019*	ppm	----	250	Erosion of natural deposits
Iron	N	0.16 (ND–0.16) ♦ 2019*	ppm	----	0.3	Erosion of natural deposits
Magnesium	N	2.20 (0.57–2.20) ♦ 2019*	ppm	----	-----	Erosion of natural deposits

Unregulated Contaminants Detected (Continued)

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Manganese	N	1.1 (ND – 1.1) ♦ 2019*	ppm	----	0.05	Erosion of natural deposits
Sodium	N	9.0 (3.3 – 9.0) ♦ 2019*	ppm	----	-----	Erosion of natural deposits
Total Dissolved Solids	N	84 (28 - 84) ♦ 2019*	ppm	----	500	Erosion of natural deposits
Zinc	N	0.02 (ND–0.02) ♦ 2019*	ppm	----	5	Erosion of natural deposits

System Corrosion Control Sampling

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Calcium	---	3.1 (ND - 3.1)	ppm	---	---	Erosion of natural deposits
Total Dissolved Solids	N	98 (26 – 98)	ppm	---	500	Erosion of natural deposits
Ortho-Phosphate	---	0.54 (ND – 0.54)	ppm	---	---	Corrosion Inhibitor added by Water System

Distribution System Disinfection By-Product Sampling

Chloroform	---	ND ^{□□}	ppb	---	---	By-product of drinking water chlorination.
Dichlorobromo-methane	---	ND ^{□□}	ppb	---	---	By-product of drinking water chlorination.
Bromoform	---	ND ^{□□}	ppb	---	---	By-product of drinking water chlorination.
Chlorodibromo-methane	---	ND ^{□□}	ppb	---	---	By-product of drinking water chlorination.
TTHM (System)	N	2.30 ^{□□} (ND -2.30)	ppb	NA	80	By-product of drinking water chlorination.
Haloacetic Acids (System)	N	ND ^{□□}	ppb	NA	60	By-product of drinking water chlorination.

Notes for Table of Detected Contaminants:

- * Test date if tested prior to 2020
- ♦ Range of detected levels tested in Wells #1, #2, & #3
- 90th Percentile Level shown; the number of sites above the Action Level = 0
- Sample results from System DBP testing
- o Sample Results from System Lead Copper Testing

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