Virgin Islands Water and Power Authority
Water Quality Report 2022

St. Thomas/St. John District

January 1, 2022 through December 31, 2022

Dear Water Distributors/Water Customers:

The Virgin Islands Water and Power Authority understands the importance of clean and safe water to your daily lives and well-being. As part of our pledge to be transparent, I am pleased to provide you with our latest *Consumer Confidence Report or Water Quality Report*. This report is a testament to our unwavering commitment to ensuring the purity and safety of our water resources.

The report will provide comprehensive information about the various tested parameters, including microbial contamination and chemical composition. Over the past year, our dedicated team of experts has conducted rigorous testing and analysis of our water supply; and I am thrilled to inform you that the results indicate that the water quality met and often exceeded the stringent standards set by United States Environmental Protection Agency (USEPA).

While maintaining the quality water service in each district, we have completed several projects to enhance our water infrastructure that catered to current and future demands. On St. Thomas, there is the Cassie Hill Waterline Expansion Project where we install 8-inch C-900 PVC waterlines, stretching from Emile Francis Drive to Tutu Ridge Drive. This expansion has not only improved water distribution efficiency but also accommodated the area's growing needs. The Bovoni Quarters Project involved installing 4,000 feet of 4-inch pipes to serve the Bovoni Quarters. This enhancement has increased water access and contributed to a more resilient water system. On St. Croix, the Clifton Hill Waterline Rehabilitation Project is well underway, installing over 12,000 linear feet of pipes. When concluded, this endeavor aims to modernize the existing infrastructure and ensure a robust water supply to residents in the Clifton Hill area.

We are focused on assessing the current state of our water systems and on proactive measures to enhance water quality. Our initiatives include advancements in treatment processes, the adoption of emerging technologies, and community engagement programs that aim to raise awareness about responsible water usage. While you reflect on the findings of this report, let me also recognize the immense potential for positive change within our grasp. We can shape a future where clean water remains a cornerstone of our thriving communities through collaboration, innovation, and shared responsibility.

Thank you for your trust, engagement, and dedication to a sustainable water future. We look forward to the journey ahead and the opportunities it brings for progress and excellence.

Respectfully,

Noel Hodge

Chief Operating Officer-Water Systems

This report contains very important information about your drinking water. Please translate it or speak with someone who understands it.	Ce rapport contient des informations très importantes au sujet de votre eau potable. S'il vous plaît de le traduire ou de parler avec quelqu'un qui le comprend.	Este informe contiene información muy importante sobre su agua potable. Por favor, traducirlo o hablar con alguien que lo entienda.

WATER QUALITY DATA

DISINFECTANTS-CHLORINE RESIDUAL												
Monthly Ave. (ppm)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7
Quarterly Running Ave.	0.9			0.8			0.8			0.8		
Running Annual Ave. (RAA)	0.9			0.9			0.9			0.8		
MRDL	**MRDLG**			**VIOLATION**			**LIKELY SOURCE**					
4 as Cl2	4 as Cl2			No			Water additive used to control microbes					

Note: Reported RAA for quarters 1-3 are based on results from previous quarters in 2021 and are not reported on this Disinfectants-Chlorine table. St. John monitoring sites were included in the Disinfectants-Chlorine Residual calculations.

OCCURRENCE OF MICROBIOLOGICAL CONTAMINANTS (REVISED TOTAL COLIFORM RULE)		
CONTAMINANTS	**HIGHEST # OF POSITIVE SAMPLES IN ANY ONE MONTH**	**TOTAL # OF POSITIVE SAMPLES FOR 2022**
Total Coliform	0	0
E. coli	0	0

MICROBIOLOGICAL CONTAMINANTS (REVISED TOTAL COLIFORM RULE VIOLATIONS)				
CONTAMINANTS	**MCL**	**NUMBER**	**VIOLATION**	**LIKELY SOURCE**
E. coli	E. coli positive repeat following *E. coli* positive routine	0	0	Naturally present in the environment. Human and Animal waste.
	TC-positive repeat following *E. coli* positive routine	0	0	
	Failed to take required repeat samples following *E. coli* positive routine	0	0	
	Failed to test for *E. coli* when any repeat test positive for TC	0	0	

LEVEL 1 & LEVEL 2 ASSESSMENTS (REVISED TOTAL COLIFORM RULE)				
ASSESSMENT	**NO. OF REQUIRED ASSESSMENTS**	**NO. OF COMPLETED ASSESSMENTS**	**NO. OF CORRECTIVE ACTIONS REQUIRED**	**NO. OF CORRECTIVE ACTIONS TAKEN**
LEVEL 1	0	0	0	0
LEVEL 2	0	0	0	0

WATER QUALITY DATA

STAGE 2 DISINFECTANTS AND DISINFECTION BY-PRODUCTS RULE (DDBP)

Trihalomethanes and Haloacetic Acids are byproducts of disinfecting water with chlorine. Some people who drink water containing Trihalomethanes in excess of the highest allowed (MCL) over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer.

Total Trihalomethanes (TTHM) (ppb)	1st Quarter 2022 (Jan)	2nd Quarter 2022 (Apr)	3rd Quarter 2022 (Jul)	4th Quarter 2022 (Oct)
Four Winds	2.1	2.6	BDL	4.9
LRAA	2.4	2.4	2.4	2.4
Estate Bovoni	17.7	76.8	19.9	68.3
LRAA	40.2	43.7	37.9	45.5
Pine Peace (STJ)	10.4	21.6	10.0	45.3
LRAA	17.9	20.5	17.9	21.8
Paradise Laundry (STJ)	4.5	3.6	6.0	10.2
LRAA	3.3	4.2	5.4	6.1

RANGE	HIGHEST LRAA	MCL	MCLG	VIOLATION	LIKELY SOURCE
BDL—76.8	45.5	80	N/A	No	Byproduct of drinking water disinfection

Haloacetic Acids (HAA5) (ppb)	1st Quarter 2022 (Jan)	2nd Quarter 2022 (Apr)	3rd Quarter 2022 (Jul)	4th Quarter 2022 (Oct)
Four Winds	1.5	2.5	BDL	BDL
LRAA	0.6	1.2	1.2	1.0
Estate Bovoni	2.2	6.9	2.1	7.6
LRAA	3.9	3.7	3.4	4.7
Pine Peace (STJ)	1.9	4.2	1.7	2.4
LRAA	1.9	2.6	2.6	2.6
Paradise Laundry (STJ)	1.5	2.5	1.2	5.3
LRAA	0.9	1.5	1.5	2.6

RANGE	HIGHEST LRAA	MCL	MCLG	VIOLATION	LIKELY SOURCE
BDL—7.6	4.7	60	N/A	No	Byproduct of drinking water disinfection

Note: Reported LRAA for quarters 1-3 are based on results from previous quarters in 2021 and are not reported on these DDBP tables.

WATER QUALITY DATA

NITRATE/NITRITE							
CONTAMINANT	LOCATION	UNITS	LEVEL DETECTED	MCL	MCLG	VIOLATION	LIKELY SOURCE
Nitrate	St. Thomas Entry	ppm	BDL	10	10	No	Runoff from fertilizer use, leaching from septic tanks, sewage, corrosion of natural products.
Nitrite	St. Thomas Entry	ppm	BDL	1	1	No	Runoff from fertilizer use, leaching from septic tanks, sewage, corrosion of natural products.

Note: Results were Below Detection Limit (BDL).

SYNTHETIC ORGANIC CHEMICALS (SOC)							
CONTAMINANT	LOCATION	UNITS	LEVEL DETECTED	MCL	MCLG	VIOLATION	LIKELY SOURCE
First Quarter	St. Thomas Entry	ppm	BDL	-	-	No	Naturally occurring in the environment. Byproducts of some agricultural and industrial activities
Second Quarter	St. Thomas Entry	ppm	BDL	-	-	No	Naturally occurring in the environment. Byproducts of some agricultural and industrial activities

Note: VIWAPA-STT/STJ is required to monitor for two (2) quarters once every three (3) years.
A total of 36 chemical contaminants were tested under SOC. All results were Below Detection Limit (BDL).

LEAD AND COPPER

VIWAPA-STT/STJ is on a reduced monitoring schedule of collecting thirty (30) samples between June and September once every three (3) years. The last lead and copper collection was in 2020. VIWAPA-STT/STJ is not required to monitor for lead and copper in 2022. The next monitoring will be in 2023.

LEAD AND COPPER

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. Public utilities are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using the water for drinking and cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at **http://water.epa.gov/drink/info/lead/index.cfm**

TERMS DEFINED

90th Percentile Levels – The highest concentration of lead or copper in tap water that is exceeded by 10 percent of the sites sampled during a monitoring period. This value is compared to the lead action level (AL) to determine whether an AL has been exceeded.

Action Level (AL) – the concentration of a contaminant, which if exceeded, triggers treatment or other requirements**.**

EPA Goal/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.

EPA Limit/ 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 technology.

Maximum Residual Disinfection Level (MRDL) - means a level of disinfection added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects.

Maximum Residual Disinfection Level Goal (MRDLG) - means a level of disinfectant added for water treatment that may not be exceeded at the consumer tap.

Coliforms - bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliform indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment (s) to identify problems and to correct any problems that were found during these assessments.

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 water system.

Level 2 Assessment - is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system.

E. coli – are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short term effects such as diarrhea, cramps, nausea, headaches or other symptoms.

Non-applicable (N/A) - Not applicable. **Non–detected (N/D) -** Not detected. **BDL** – Below detection limit.

Parts per billion (ppb) – one part per billion (micrograms per liter) corresponds to one minute in 2,000 years, or one penny in $10 million.

Parts per million (ppm) – one part per million (milligrams per liter) corresponds to one minute in two years, or a single penny in $10,000.

Curie - the curie (symbol Ci) is a non SI unit of radioactivity, defined as 1 Ci = 3.7 x 10^{10} decays per second.

PicoCurie – (pCi) 0.000,000,000,001 (one trillionth) of a Curie, an international measurement unit of radioactivity.

Million Fibers per Liter (mfl) - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers**.**

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

VIWAPA

The Virgin Islands Water and Power Authority (VIWAPA) is a publicly owned utility company, which produces and distributes electricity and potable water to the residents of the United States Virgin Islands. Operation of the Authority's water distribution systems and standpipes are done on St. Thomas, St. John and St. Croix.

VIWAPA obtains water produced by Seven Seas Water from one source, seawater. As water travels over the land and into the sea or filters through the ground settling in aquifers, it dissolves naturally occurring minerals and can pick up contaminants resulting from the presence of animals or human activity.

REGULATING AGENCIES

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 mean that the water poses a health risk.

The Virgin Islands Department of Planning and Natural Resources (VIDPNR) and the United States Environmental Protection Agency (USEPA) ensures that potable water is safe to drink. Both agencies have prescribed limits on the contaminants in water provided by public water systems. VIDPNR has established the same criteria for contaminants in bottled water.

USEPA defines a water contaminant as any physical, chemical, biological, or radiological substance or matter in water. USEPA sets legal limits on the levels of certain contaminants in drinking water. The legal limits reflect both the level that protects human health and the level that water systems can achieve using the best available technology. Besides prescribing these legal limits, USEPA rules set water testing schedules and methods that water systems must follow. The rules also list acceptable techniques for treating contaminated water.

The Safe Drinking Water Act gives individual territories the opportunity to set and enforce their own drinking water standards if the standards are at least as strong as USEPA's national standards. Most territories directly oversee the water systems within their borders.

SPECIAL PRECAUTIONS

Some people are 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 system disorders, some elderly and infants can be particularly at risk for infections.

These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available for USEPA's Safe Drinking Water Hotline (1-800-426-4791) or EPA's website at www.epa.gov/safewater. More information about contaminants and potential health effects can also be obtained from the hotline or EPA's website.

Nitrate and Nitrite are nitrogen-oxygen chemical units which combine with various organic and inorganic compounds. Once taken into the body, nitrates are converted to nitrites. USEPA has set a MCL because the possible presence can pose a health risk for infants of less than six months of age. The MCL for nitrates has been set at 10ppm, and for nitrites at 1ppm. Excessive nitrate levels in drinking water can cause metahemaglobanemia also called blue baby syndrome. If you are caring for an infant, you should ask for advice from your health care provider.

VIWAPA –STT/STJ WATER FACTS

1. Roughly about 46.8 miles of distribution mains and 16.9 miles of transmission lines throughout.
2. There are about 416 valves, 198 hydrants, 21 fixed Automatic Flushing Devices (AFD) and 10 mobile AFD on both islands.
3. Thirteen (13) pump stations to assist with delivering water.
4. Serves a combined population of about 42,000 people.
5. Consist of 88 sample stations for water quality testing.
6. Daily monitoring of all water quality parameters like chlorine residual, pH, conductivity, turbidity, temperature and orthophosphate residual.
7. Approximately 200 bacteriological test performed every month.

Photo above depicts one of VIWAPA's STT/STJ water sampling stations.

WATER FUN FACTS

1. Roughly 70% of the human body is made up of water.
2. Water makes up 83% of our blood, 70% of our brain, and 90% of our lungs.
3. Drinking too much water too quickly can lead to water intoxication. Water intoxication occurs when water dilutes the sodium level in the bloodstream and causes and imbalance of water in the brain.
4. By the time a person is feeling thirsty, his or her body has already lost over 1% of it's total water amount.
5. The weight a person loses directly after intense physical activity is weight from water, not fat.
6. Pure water (solely hydrogen and oxygen atoms) has a neutral pH of 7, which is neither acidic nor basic.
7. Flushing toilets represent the largest portion of indoor water use.
8. Water dissolves more substances than any other liquid. Wherever it travels it carries chemicals, minerals and nutrients with it.

VI Water and Power Authority

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Please contact VIWAPA's Communications Division at 340-774-3552 Extension 2147 if you have any questions about this Potable Water Quality Report for VI0000443 (St. Thomas/St. John)