could also flush your tap for 30 seconds to 2 minutes before using your tap water. Additional information is also available by calling GEPA at **(671) 475-1660/1**.

Other Information

Stipulated Order for Preliminary Relief

In December 2002, a civil suit was filed against GWA and the Government of Guam by the United States Department of Justice (DOJ) seeking to address Public Health compliance issues in GWA's wastewater and drinking water systems. In June 2003, Federal DOJ and EPA, GWA and the Government of Guam negotiated the terms of a Stipulated Order (SO) by which GWA, under EPA oversight, undertook a broad initiative to restore its facilities and to provide safe, reliable service to the island while meeting all regulations. The compliance issues to be addressed under the SO include the management and organizational structure of GWA, independent operations and financial administration, construction and rehabilitation projects, and training at GWA. There are reporting requirements and notice provisions incorporated in the SO that are more stringent than normal regulatory reporting. GWA is working closely with both USEPA and Guam EPA in order to achieve or exceed the goals of the SO. A water resources master plan, an interim disinfection program, an interim disinfection residual level monitoring program, a leak detection and response program, a water meter improvement program and renovations of GWA's wastewater treatment systems including new deeper ocean outfalls are only some of the projects being implemented under the terms of the SO, with guidelines and schedules that carry potential penalty provisions for failure to meet deadlines.

A copy of the Stipulated Order for preliminary Relief; Civil Case No. 02-0035 is posted on the GWA web site: http://www.guamwaterworks.org/. A cumulative progress report, of the work done on SO projects, is also posted on this site titled the "Quarterly Compliance Progress Report". It is updated every three months. If you need more information on the SO, please call **Paul Kemp**, GWA Assistant General Manager for Compliance and Safety at **(671) 647-2605.**

GUAM WATERWORKS AUTHORITY
Good Water Always
578 N. Marine Corps Drive, Tamuning, GU 96913-4111
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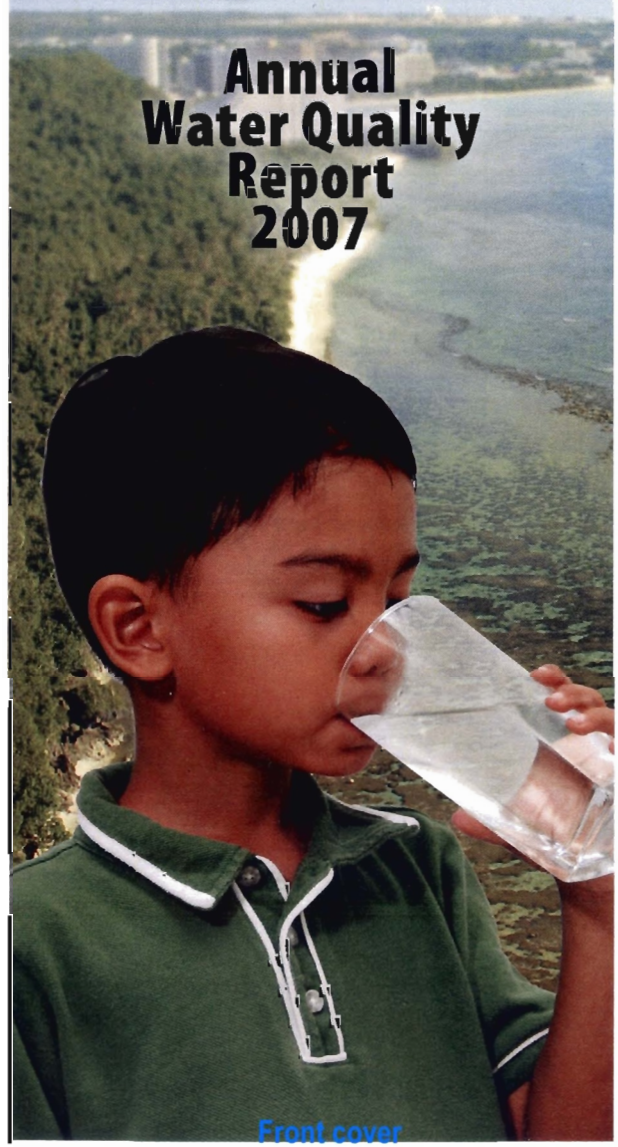
Back cover

GUAM WATERWORKS AUTHORITY

Is Guam's Water Safe to Drink? Hungaan Yes!

Annual Water Quality Report 2007



Front cover

Annual Water Quality Report – 2007

Is My Drinking Water Really Safe?

Yes. GWA takes the responsibility to provide safe drinking water very seriously. Like you, we also drink the same water and share the same concerns about its quality. We are customers too! We are pleased to report that improvements to the island's drinking water and wastewater treatment systems, along with EPA oversight of the Guam Waterworks Authority (GWA), has resulted in the **safest drinking water Guam has experienced in decades!**

Federal and Guam laws require testing your drinking water for many different types of contaminants. This report contains the results of those tests performed on samples collected over the past year. **These results show your water is safe to drink. If a contaminant is not listed, then it was not detected.**

GWA's drinking water sources contain low levels of a variety of chemicals. Some are of natural origin and some are man-made. Lots of chemicals occur naturally in water. Levels of these naturally occurring chemicals are normally so low that they pose no health problem. It's not really the presence of the chemical that is important. What is important is how much of the chemical is present. For example, some of the heavy metals, such as lead, cadmium and mercury, occur naturally in water. But they are so low in our water they are not a problem.

Nature does an excellent job in providing us with abundant drinking water. However, nature needs our active participation in order to maintain its clarity and purity.

Sources of Your Drinking Water

Your water on Guam is derived from several sources including **ground, surface** and **spring water**. The island's principal source of potable water comes from groundwater contained in the aquifer beneath the northern half of the island. Groundwater is pumped from this underground aquifer into the water distribution system by over **120 wells**. Surface sources used by GWA include an intake from the Ugum River and water purchased from the US Navy Water System (FENA). Spring water from Santa Rita is used to supplement the water supply from FENA for

the villages of Agat, and Santa Rita. We are working with the Guam Environmental Protection Agency (GEPA) and the Water and Environmental Research Institute, University of Guam (WERI) to determine the vulnerability of our water sources to contamination. Copies of the Guam Water Data Management System reports are available at GEPA and at WERI.

Why are there Contaminants in the Water?

Drinking water, **including bottled water,** may reasonably be expected to contain at least small amounts of some contaminants of natural origin. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at **1-800-426-4791** or GEPA's Safe Drinking Water Program at **(671) 475-1660/1**.

In compliance with the Guam Primary Safe Drinking Water Regulations (GPSDWR), our drinking water is monitored for all the regulated and unregulated contaminants as it leaves our potable water sources. The contaminants measured include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage spills, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from stormwater runoff, wastewater discharges, or farming.
- **Pesticide and herbicide contaminants**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and home uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants,** which can be naturally occurring or be the result of improper disposal of radioactive waste.

If you would like a complete listing of GWA test results, or if you have any questions regarding this report, please call **Carmen Sian-Denton**, at our Laboratory Services Division at **(671) 632-9697 or 637-2895** during normal business hours.

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 system disorders, some elderly people, and infants can be particularly at risk from infections. These people should seek advice about drinking water, from their health care providers. EPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporydium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Is our Water System Meeting other Rules that Govern our Operations?

Previous monitoring results, from household taps sampled islandwide in January 1992, showed that the system exceeded the Lead and Copper Rule (LCR) lead action level. In January 1996, GEPA issued a Notice of Violation and Compliance Order to GWA, which included the need for a Corrosion Control Study to mitigate the lead contamination problem and meet the requirements of the LCR. The corrosion control study, completed in July 1998, recommended a corrosion control treatment. However, subsequent samplings, in 1998 and 2002, for lead and copper in the distribution system have shown levels to be acceptable to the Lead and Copper Rule. Island wide sampling for lead and copper is scheduled to begin again later this year. GWA will be working in conjunction with GEPA to determine the sampling points necessary to complete this task.

Do You Need to Take Special Precautions?

Lead and Copper: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your faucet may be higher than at other homes in the community as a result of piping and fixtures used in your water plumbing system. If you are concerned about elevated lead levels in your home's water supply, you may wish to have your water tested by a commercial certified laboratory (e.g. WERI). You

2007 WATER QUALITY DATA

PRIMARY STANDARDS: Mandatory Health-Related Standards

CONTAMINANT (units)	MCLG	MCL	GROUND WATER		UGUM WATER		FENA WATER		Major Sources of Contaminant
			Range	RV	Range	RV	Range	RV	
Regulated VOCs									
Carbon Tetrachloride (ppb)	0	5	nd - 1.0	1	nd	nd	nd	nd	Discharge from industrial activities
Tetrachloroethylene (PCE) (ppb)	0	5	nd - 1.9	1.9	nd	nd	nd	nd	Leaching from PVC pipes, discharge from dry cleaners
Trichloroethylene (TCE) (ppb)	0	5	nd - 1.2	1.2	nd	nd	nd	nd	Discharge from metal degreasing sites
HAA5 (Five Haloacetic Acids) (ppb)[2]	n/a	60	nd - 30	13	240-080	55	1.3 - 82	38	By-product of drinking water chlorination
Total Trihalomethanes (ppb)[2]	n/a	80	nd - 69	37	24 - 73	65	0.6 - 101	49	By-product of drinking water chlorination
Regulated SOCs									
Chlordane (ppb)	0	2	nd - 1.1	1.1	nd	nd	nd	nd	Banned termiticide residue
Heptachlor epoxide (ppt)	0	200	nd - 0.01	0.01	nd	nd	nd	nd	Banned termiticide residue
Regulated IOCs									
Barium (ppb)[1]	2000	2000	nd	nd	nd - 6.6	6.6	nd - 4.3	4.3	Occurs naturally
Chromium (ppb)[1]	100	100	nd - 1.2	1	nd	nd	nd	nd	Erosion of natural deposits
Fluoride (ppm)[1]	4	4	nd	nd	nd	nd	nd - 0.25	0.25	Water additive; naturally occuring which promotes strong teeth
Nitrate-N (ppm)	10	10	0.6 - 4.9	4.90	nd	nd	0.1 - 0.42	0.42	Runoff from fertilizer use; leaching from sewage
Radionuclides[1]									
Gross Alpha Activity (pCi/l)	0	15	nd - 7.3	n/a	nd	nd	nd - 5	n/a	Erosion of natural deposits
Gross Beta Activity (pCi/l)	0	50*	nd - 10	n/a	nd	nd	nd - 4.5	n/a	Decay of natural and man-made deposits

* The MCL for beta particles is 4 mrem/year. However, EPA considers 50 pCi/l to be the level of concern for beta particles.

Microbial Contaminants[2]

CONTAMINANT (units)	MCLG	MCL	NORTHERN		CENTRAL		SOUTHERN		Major Sources of Contaminant
			Violation	RV	Violation	RV	Violation	RV	
Total Coliform (TC) (% positive/month)	0	5 %	No	0.1%	No	0%	No	0.3%	Naturally present in environment
Fecal coliform (FC) or *E. coli*	0	See Note 1	No	0	No	0	No	0	Human and animal fecal waste

Note 1: MCL = a routine sample and a repeat sample are TC positive, and one is also FC or *E. coli* positive

Definitions and Abbreviations:

- **MCLG:** Maximum Contaminant Level Goal, or 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.
- **MCL:** Maximum Contaminant Level, or the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technique.
- **AL:** Action Level, or the concentration of a contaminant which, when exceeded triggers treatment or other requirements that a water system must follow. Copper AL = 1300 ppb; Lead AL = 15 ppb.
- **TT:** Treatment Technique or a required process intended to reduce the level of a contaminant in drinking water.
- **RV:** Reporting Value, or that used for determining compliance with the MCL, and is the highest average value for any single source tested. For VOCs and SOCs, RV= the highest annual average. For IOCs and radionuclides, RV= the highest value detected. If the RV is below the MCL, the water is meeting the health and safety-based standards.
- **Range:** range of values actually detected in samples from all the water tested
- **VOC:** Volatile Organic Chemical
- **SOC:** Synthetic Organic Chemical
- **IOC:** Inorganic Chemical
- **ntu:** nephelometric turbidity units
- **ppm:** parts per million, or milligrams per liter
- **ppb:** parts per billion, or micrograms per liter
- **ppt:** parts per trillion, or nanograms per liter
- **pCi/l:** picocuries per liter, a measure of radioactivity
- **mrem/yr:** millirems per year, a measure of radioactivity
- **nd:** not detectable at testing limits
- **n/a:** not applicable
- **ns:** no standard

Turbidity as Indicator of Filtration Performance

CONTAMINANT (units)	MCLG	MCL	UGUM WATER		FENA WATER		Major Sources of Contaminant
			RV	Violation	RV	Violation	
Turbidity (ntu)	n/a	TT See Note 2	100.00%	No	100.00%	No	Soil runoff

Note 2: TT = 95 % of samples measured every 4 hours < 0.3 ntu

Unregulated Contaminants (Monitoring Required)**

CONTAMINANT (units)	MCLG	MCL	GROUND WATER		UGUM WATER		FENA WATER	
			Range	RV	Range	RV	Range	RV
Unregulated VOCs								
Bromodichloromethane (ppb)	ns	ns	nd - 7.6	7.6	7.1 - 11	11	7.4 - 17	17
Bromoform (ppb)	ns	ns	nd - 30	30	nd - 0.5	0.5	nd	nd
Chlorodibromomethane (ppb)	ns	ns	nd - 9.9	9.9	0.9 - 4.3	4.3	2.3 - 2.6	2.6
Chloroform (ppb)	ns	ns	nd - 29	29	13 - 37	37	12 - 56	56
Unregulated SOCs								
Dieldrin (ppb)	ns	ns	nd - 0.04	0.004	nd	nd	nd	nd
Unregulated IOCs								
Sulfate (ppm)[1]	ns	250	5.5 - 81	81	nd - 29	29	nd - 26	26

** Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether there is a need to regulate those contaminants.

Secondary Maximum Contaminant Levels - Consumer Acceptance Limits***

CONTAMINANT (units)	MCLG	MCL	GROUND WATER	UGUM WATER	FENA WATER
			Range	Range	Range
Chloride (ppm)	n/a	250	13 - 652	17 - 40	Jul-42
Conductivity (µmho/cm)	n/a	1600	304 - 6440	120 - 168	195 - 340
pH (units)	n/a	6.5 - 8.5	6.99 - 7.95	7.4 - 7.52	7.0 - 7.62

*** Secondary MCL monitoring helps GWA to determine areas in need of adjustment, additional maintenance or rehabilitation in order to provide a high quality water that appeals to the consumer.

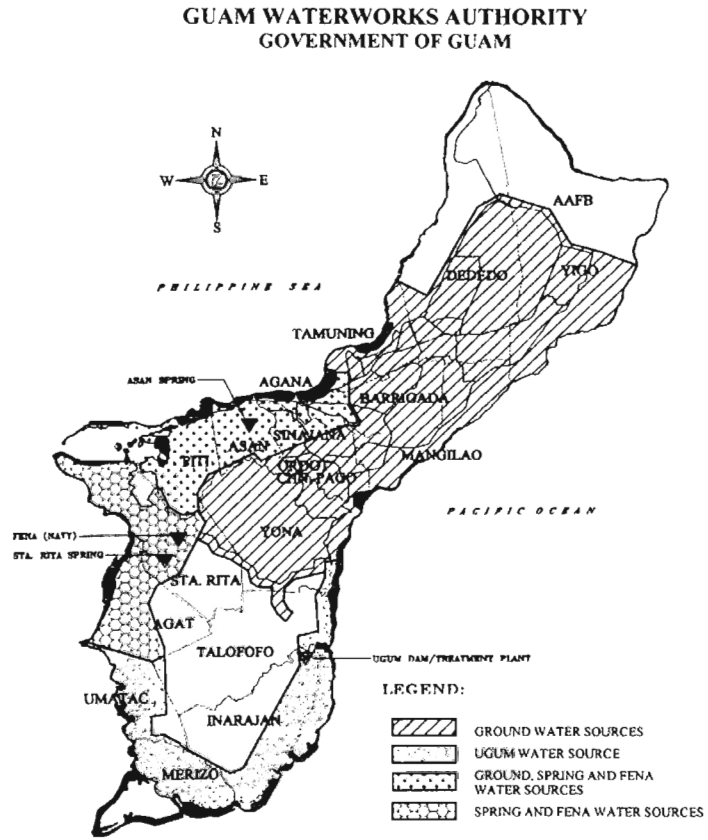
Additional Constituents Analyzed

CONTAMINANT (units)	MCLG	MCL	GROUND WATER	UGUM WATER	FENA WATER
			Range	Range	Range
Alkalinity as $CaCO_3$ (ppm)	n/a	n/a	122 - 362	28 - 52	42 - 106
Sodium (ppm)	n/a	n/a	8.1 - 270	nd - 8.1	nd - 27
Hardness as $CaCO_3$ (ppm)	n/a	n/a	136 - 530	50 - 94	104 - 136

About the Data:

1. Data presented in these tables list the results of tests done between Jan 1 – Dec 31, 2007. Tables list only the contaminants detected. Detection does not necessarily mean a violation or exceedence of an MCL or Treatment Technique. GWA monitors for some constituents less than once per year because they are not expected to vary significantly from year to year. Therefore, some of the water quality data reported, although representative , may be more than one year old. If you have questions about this water quality report, please contact Carmen M. Sian-Denton, GWA's Monitoring Laboratory Services Administrator at 632-9697 or 637-2895.

2. Microbial, Haloacetic acid (HAA5), and total trihalomethane (TTHM) samples were taken from the distribution system, not from source waters.



ISLAND OF GUAM WATER DISTRIBUTION