

COMMONWEALTH UTILITIES CORPORATION



2014 WATER QUALITY REPORT June 2015

Call Your CNMI Water Regulators and Operators

Bureau of Environmental and Coastal Quality • 664-8500

BECQ Safe Drinking Water Branch Manager, Joe Kaipat • 664-8509

CUC Water Division Manager, Richard Wasser • 322-5032

CUC Water Laboratory Manager, Heidi Yelin • 322-5140

**To Report a Leak or Water Theft,
Call the 24-Hour CUC Call Center at
670-664-4282**

2014 CUC WATER QUALITY REPORT

This report is designed to inform you about the water CUC delivers to you, our customer. Our goal is to provide you and your family a safe and dependable supply of drinking water. Today, 100% of Tinian and Rota water customers enjoy 24-hour water service. However, only 73% of Saipan customers have continuous 24-hour service. This percentage is down from last year due to in-progress construction projects, seasonal supply issues, pipe leakage, and equipment repairs. Despite these supply challenges, most areas with limited service now receive water for longer periods of time each day than in past years. Our CUC water employees continue to strive to deliver a quality product to all of our customers and to protect the CNMI's water resources.

To ensure the safety of your water, CUC routinely monitors for contaminants in your drinking water

according to CNMI Bureau of Environmental and Coastal Quality (BECQ) and the United States Environmental Protection Agency (EPA) laws, rules and regulations.

Each year, trained laboratory and water treatment specialists conduct or supervise more than 15,000 tests of water samples. Water quality samples are collected throughout the CUC water systems and tested regularly. Samples include untreated and treated water taken from our facilities, sample sites throughout the service areas, and at customers' homes.

Except where indicated otherwise, this water quality report is based on the results of CUC's monitoring for the period of January 1, 2014 to December 31, 2014. Data obtained before January 1, 2014, and presented here, are from the most recent monitoring.

From the CUC Executive Director

We are pleased to share the CUC 2014 Water Quality Report with you. Although we have not yet reached our target of providing 24-hour water to all Saipan customers, we continue to make improvements to accomplish this goal. The dedicated CUC staff, in partnership with the Water Task Force, US Department of the Interior – Office of Insular Affairs, Bureau of Reclamation, US Environmental Protection Agency, and US Public Health Service, continue to work on many projects such as the identification and repair of leaks and broken water valves, replacing aging infrastructure, and reconfiguring the water delivery systems. While these projects may cause temporary disruptions in water service, they will enable the water systems to become more efficient and reliable, thereby allowing CUC to provide improved water pressure to all customers, minimize risk of bacterial contamination, and improve overall water quality. More importantly, these efficiencies will allow CUC to reduce the amount of energy necessary to distribute the water throughout the systems and save you money.

We encourage all CUC customers to look through this report to learn about your water system. If you have questions or comments about this report, please call the CUC Call Center at 664-4282, visit our [website](#), or look to [Facebook](#) for the latest news. **Alan W. Fletcher**



CUC Leak Detection Trades Technician, Christopher Deleon Guerrero, uses a ground microphone to locate a water leak. The leak detection crew is tasked to find leaks in the Dandan Tank Service Area water system to help conserve water and also provide adequate water pressure to CUC customers. The leak detection program is partially funded by the US Environmental Protection Agency, Region 9 with 50% matching funds from CUC and the US Department of Interior — Bureau of Reclamation in an effort to reduce energy consumption by pumping less water from wells and thus, ultimately preserving Saipan's water aquifer.

The Sources of CUC Water

The primary source of water for the island of Saipan comes from 136 groundwater wells, one spring, and two Maui-type wells. One Maui-type well supplies all of the CUC Tinian water system. In Rota, the water primarily comes from two surface water sources that are occasionally supplemented with groundwater from three deep groundwater wells. To control bacterial contamination in our water, CUC water operators add trace amounts of chlorine to the water before it is distributed into the pipelines to you, our customers.



How Drinking Water Becomes Contaminated

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 in some cases, radioactive material, 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 discharges, 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 volatile organic chemicals, which are by-products of

industrial processes and petroleum production, and can also come from gas stations, urban storm-water runoff, and septic systems.

- ▶ Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that your tap water is safe to drink, the US EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which 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 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 **1-800-426-4791** or via the internet at www.epa.gov/safewater/.

For People with Sensitive Immune Systems

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 transplant, 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 health care providers. The US EPA and the Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available at the **EPA's Safe Drinking Water Hotline** at **1-800-426-4791** or via the internet at www.epa.gov/safewater/.

Information About Nitrates

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six 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, you should ask for advice from your health care provider. CUC tests the water in Rota and Saipan at least once per year while areas particularly vulnerable to elevated nitrate levels, in Tinian and some areas of Saipan, are tested more frequently. The amount of nitrates in all CUC water is below the health effect level.

For more information about your water quality, please call our Water Laboratory at 322-5140.

Bacterial Contaminants

Total Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. While not disease causing organisms themselves, total coliform is often found in association with other microbes that are capable of causing disease. Coliform bacteria are more persistent than many disease-causing organisms; therefore, their absence from water is a good indication that the water is free from microbial contaminants and safe for human consumption.

To control the presence of microbial contaminants in our water systems, the Commonwealth Utilities Corporation operates 19 chlorine treatment stations on Saipan, one station on Tinian, and one station on Rota. Bacteria may occur in the CUC water when the treatment equipment fails, or when leaks occur in the CUC pipelines allowing ground contaminants to enter the pipes. As problems were detected in 2013, the CUC water operators repaired leaks, flushed the water lines or when needed, added extra chlorine to the reservoirs and pumping stations, and therefore, the public did not have to use alternate water.

Fecal coliforms and *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. They may pose a special health risk for infants, young children, and people with severely compromised immune systems symptoms, however, are not just associated with disease causing organisms in drinking water, but may also be caused by a number of factors other than your drinking water.

EPA has set an enforceable drinking water standard for fecal coliform and *E. coli* to reduce the risk of these adverse health effects. Under this standard, all drinking water must be free of fecal coliform or *E. coli*. Drinking water that meets this standard is associated with little or none of this risk and is considered safe.

Facts about Cryptosporidium

Cryptosporidium is a microscopic organism that has been found in some surface waters in the United States. Cryptosporidium can also be transmitted through contaminated food or direct contact with human or animal waste. The organism can cause a gastrointestinal illness if ingested.

Water treatment plants are capable of removing Cryptosporidium when present, but 100% elimination cannot be guaranteed. Therefore, the CUC Saipan water system was required to monitor for Cryptosporidium in the rainwater collected at the Saipan International Airport catchment.

No Cryptosporidium were detected in any of the twelve (12) samples collected between December 2010 and April 2012 nor in any of the raw water sources or wastewater samples that CUC tested during 2013.

Total Coliform Detection in July 2014

All CUC Water Systems routinely monitor for drinking water contaminants. This monitoring includes regular testing throughout Rota, Tinian, and Saipan for bacteria. During July 2014, CUC Saipan tested 62 samples for bacteria. Four of these samples tested positive for total coliform bacteria. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. Coliforms were found in more Saipan samples than allowed. The coliforms were detected in routine samples serving parts of Garapan, Wireless Ridge, and Kagman II. **All samples were negative for *E. coli*.** CUC Saipan mailed a notice to all customers in the affected areas.

CUC Saipan water staff found that leaks in the Kagman II and Capitol Hill areas as well as limited water service in the Capitol Hill and Garapan areas were most likely the cause of the coliform positive samples. To correct this contamination, CUC staff repaired the leaks, flushed the lines, and increased the disinfection residual in the distribution areas. CUC staff continue to regularly monitor the water systems to provide water to you, our customer.

Information About Lead

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. The Commonwealth Utilities Corporation is 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 or 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** at 1-800-426-479 or at www.epa.gov/safewater/lead.

EPA requires testing for lead and copper at customers' taps that are most likely to contain lead and copper.

We thank our customers for their help in collecting these samples!

None of the homes tested exceeded the action level for lead or copper.



Commonwealth Utilities Corporation

SUMMARY OF PRIMARY DRINKING WATER QUALITY RESULTS FOR 2014



Listed below are the 18 primary contaminants detected in the CUC Water during January 1 to December 31, 2014. Not listed are the many other contaminants that we tested for but were not detected. Unless otherwise noted, all tests were conducted in 2014.

SAIPAN														TINIAN				ROTA			
Contaminant	MCL	MCLG	Year Tested	% or Number of Positive Samples in Month	Total # Samples Tested in Month	Area of Maximum Result	Year Tested	Number of Positive Samples in Month	Year Tested	Number of Positive Samples in Month	Year Tested	Number of Positive Samples in Month	Violation?	Major Source of Contaminant							
Microbiological														Tinian & Rota MCL no more than one (1) positive sample per month							
Coliform	See Each Island	Zero	2014	6.45% or 4 samples in July 2014	62	All Saipan	2014	None	2014	None	2014	None	YES - Saipan (a)	Naturally present in the environment							
Contaminant	MCL	MCLG	Year Tested	Highest Running Annual Average	Range	Area of Maximum Result	Year Tested	Highest Running Annual Average	Range	Year Tested	Highest Running Annual Average	Range	Violation?	Major Source of Contaminant							
Disinfection By-Products and Residual																					
Haloacetic Acids (HAA5)																					
Locational Running Annual Average (ppb)	60	NA	2014	1.3	ND - 3.2	Tanapag	2014	2.6	2.1 - 2.8	2014	ND	ND	NO	By-product of drinking water disinfection							
Total Trihalomethanes (TTHM)																					
Locational Running Annual Average (ppb)	80	NA	2014	11.2	1.8 - 13	Tanapag	2014	13.4	13 - 14	2014	0.4	ND - 1.1	NO	By-product of drinking water disinfection							
Chlorine (ppm)	4	4	2014	1.94	0.26 - 5.95	Chalan Kiya	2014	0.68	0.2 - 1.1	2014	0.89	0.25 - 1.13	NO	Disinfection additive used to control microbes							
Contaminant	MCL	MCLG	Year Tested	Average Result	Range	Area of Maximum Result	Year Tested	Average Result	Range	Year Tested	Average Result	Range	Violation?	Major Source of Contaminant							
Inorganics																					
Arsenic (ppb)	10	Zero	2013	0.6	ND - 4.6	Kannat Tabla, Chalan Kiya, South Garapan	2013	ND	ND	2014	ND	ND	NO	Erosion of natural deposits; runoff from orchards; runoff from glass & electronics production wastes							
Barium (ppb)	2000	2000	2013	6.8	2.5 - 14	Upper Kagman, Papago, San Vicente	2013	2.9	2.9	2014	ND	ND	NO	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits							
Chromium (ppb)	100	100	2013	3.1	ND - 6.7	Saipan Airport	2013	ND	ND	2014	ND	ND	NO	Discharge from steel and pulp mills; erosion of natural deposits							
Fluoride (ppb)	4000	4000	2013	52	ND - 110	Chalan Kiya	2013	100	100	2014	ND	ND	NO	Erosion of natural deposits							
Nickel (ppb)	NE	NE	2013	0.8	ND - 6.8	Chalan Kiya	2013	ND	ND	2014	ND	ND	NA	Erosion of natural deposits							
Nitrates + Nitrites as Nitrogen (ppm)	10	10	2014	4.2	1.2 - 6.5	Part of Koblerville, As Lito, Dandan, Fina Sisu	2014	4.2	4 - 4.3	2014	0.62	0.57 - 0.66	NO	Runoff from fertilizer; leaking septic tanks; sewage; erosion from natural deposits							
Selenium (ppb)	50	50	2013	2	ND - 9.2	Koblerville	2013	ND	ND	2014	ND	ND	NO	Erosion of natural deposits							
Sodium (ppm)	NE	NE	2013	415	17 - 1200	Chalan Kiya	2013	99	99	2014	6.7	6.7	NA	Erosion from natural deposits; sea water							
Organic Chemicals																					
Hexachlorocyclopentadiene (ppb)	50	50	2013	0.008	ND - 0.3	Koblerville	2013	ND	ND	2014	ND	ND	NO	Discharge from chemical factories							
Trichloroethylene (or TCE) (ppb)	5	Zero	2013	0.08	ND - 0.7	Koblerville	2013	ND	ND	2014	ND	ND	NO	Discharge from metal degreasing sites & factories							
Radiological																					
Gross alpha particle (pCi/L)	15	Zero	2013	0.4	ND - 3.8	Koblerville	2013	1.8	1.8	2014	ND	ND	NO	Erosion of natural deposits							
LEAD & COPPER	Action Level	Action Level Goal	Year Tested	Average Result	90th Percentile	Area of Maximum Result	Year Tested	Sites Exceeding AL/ Number of Sites	90th Percentile	Year Tested	Sites Exceeding AL/Number of Sites	90th Percentile	Violation?	Major Source of Contaminant							
Lead (ppb)	15	Zero	2014	0 / 30	2.6	Gualo Rai	2013	0 / 20	2.5	2013	0 / 10	0.9	NO	Corrosion of household plumbing systems; erosion of natural deposits							
Copper (ppb)	1300	1300	2014	0 / 30	38	Kagman	2013	0 / 20	56	2013	0 / 10	41	NO	Corrosion of household plumbing systems; erosion of natural deposits							
UNREGULATED CONTAMINANTS	MCL	MCLG	Year Tested	Average Result	Range	Area of Maximum Result	Year Tested	Result	Year Tested	Result	Violation?	Major Source of Contaminant									
Dieldrin (ppb)	NA	NA	2013	0.002	ND - 0.04	Saipan Airport	2013	ND	2014	ND	NA	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits									

SUMMARY OF SECONDARY DRINKING WATER QUALITY RESULTS FOR 2014

Contaminant	MCL	MCLG	Year Tested	Average Result	Range	Area of Maximum Result	Year Tested	Average Result	Range	Year Tested	Result	Violation?	Major Source of Contaminant
Chloride (ppm)	250	NA	2014	880	24 - 2,785	Kagman	2014	213	212 - 214	2014	8	NA	Erosion or leaching of natural deposits
Hardness, Total as Calcium & Magnesium (ppm)	NA	NA	2014	586	257 - 1,376	Kagman	2014	306	304 - 308	2014	140	NA	Hardness is the sum of the many forms of naturally occurring magnesium and calcium
pH	6.5 to 8.5	NA	2014	7.3	6.4 - 7.9	Koblerville	2014	7.2	7.1 - 7.2	2014	7.1	NA	Measure of acidity or alkalinity of water
Specific Conductance (µS/cm)	NA	NA	2014	3,408	548 - 9,040	Kagman	2014	1,193	1,177 - 1,208	2014	303	NA	Substances that form ions when dissolved in water

(a) In 2014, Saipan exceeded MCL in July. No total coliform detected in Tinian or Rota.

ND: Not Detected - Substance was tested but not detected.

NA: Not Applicable

NE: None Established

MEASUREMENTS

Contaminants are measured in:

ppm:	Parts Per Million or milligrams per Liter (mg/L)
ppb:	Parts Per Billion or micrograms per Liter ($\mu\text{g/L}$)
pCi/L:	Pico curie per Liter - a measurement of radioactivity in water
$\mu\text{S/cm}$:	Micro Siemens per Centimeter - a measurement of a solution's ability to conduct electricity

Think about these comparisons:



Parts per Million:

- 1 second in 12 days
- 1 penny in \$10,000
- 1 drop in 14 gallons



Parts per Billion:

- 1 second in 32 years
- 1 penny in \$10 Million
- 1 drop in 14,000 gallons

DEFINITIONS

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 a contaminant in drinking water below which there is no known or expected risks to your health. The MCLG amount allows for a margin of safety.

MRDL: Maximum Residual Disinfectant Level

The highest level of a disinfectant allowed in drinking water. There is 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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Treatment Technique (TT):

A required process or method intended to reduce the level of a contaminant in drinking water.

AL: Action Level

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that the utility must follow.

PAY YOUR CUC BILL ONLINE OR BY PHONE

Save time and money by paying your CUC bill online or by phone! There is a low \$1.50 convenience fee and you need a Visa or MasterCard credit or debit card.

To register your account for online payments, go to www.cucgov.org

For payment by phone, please call **855-729-2282**.

SECONDARY WATER CONSTITUENTS — NOT ASSOCIATED WITH ADVERSE HEALTH EFFECTS

Many constituents, such as calcium or chlorides, which are often found in drinking water, can cause taste, color, and odor problems. The taste and odor constituents are called secondary constituents and are not regulated by the US EPA or the CNMI Bureau of Environmental and Coastal Quality (BECQ). These constituents are not causes for health concern. While secondary constituents are not required to be reported in this document, they may greatly affect the appearance and taste of your water.

Hardness is a measure of the amount of calcium and magnesium in the water while chlorides measure the amount of salts in the water. In the CUC Saipan water system, the level of the hardness and chlorides in the water varies greatly depending on the source of the water. This is why the water may taste salty in some areas of Saipan but not in other areas.

If You Have Questions — Contact Us

For information about your water quality or to find out about opportunities to participate in public meetings, please contact our 24-hour Call Center at 670-664-4282.

Visit CUC online at www.cucgov.org
or email us at cucadmin@cucgov.org



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Seasonal Water Hours for Saipan

The map of Saipan above shows the water service areas with the approximate number of hours that the area receives water throughout most of the year. However, during the rainy season, or from August to December, the areas with limited water service should receive more water than the hours listed on the map.

What is a Consumer Confidence Report?

Here is your annual Consumer Confidence Report (CCR). It's about your drinking water. In 1996, the U.S. Congress amended the Safe Drinking Water Act and now requires that the Commonwealth Utilities Corporation, your "Community Water System," publish this report each July. **This report contains important information about your drinking water. Speak with someone who understands it or who can translate it.**

We hope you read about the source of your water, the levels of detected contaminants, why our water is so different from village to village, and what is being done to correct or improve water services in the CNMI.

As consumers become better informed, they become involved and make better decisions about our environment, how money is spent, and our options in water utility management.

If you need the report translated, wish to speak with someone about the report, or would like a paper copy delivered or emailed to you, please call CUC at (670) 664-4282.

Hafa I "Consumer Confidence Report"

Estague I risuttan I Consumer Confidence Report (CCR) (Ripot Konfiãnsan Kometsiãnte), pot I un gigimen na hanom. Gi mit nuebe sientos nubentai-sais (1996), I Kongresun I Estãdus Unidos ma'amenda I lai pot Sãfun Hanom. Ha obliga I ofisinan hanom na kada sãkkan gi Julio na mes debi di u malaknos notisian pupbliku pot asunton setbisiun hanom. Sen impotante esti na infotmasion pot I hanom ni un gigimen. **Transulada gi fino-mu, osino faisen otro ni ha komprendi.**

En diseseha na un taitai pot guinahan I hanom-mu; kuãnto na tutãt masodda na gai applacha, hãfa na gai difiriensião I hãnom kada sengsong pot sengsong, ya hãfa machochogue para u makurihe pat adulanta I setbisiun hanom gi hãlom I CNMI.

Kumu consumers manma'imfotma mãolik, ma ñãonão yan manma'tinas mãs mãolik na disision siha gi put iyo-ta environment, taimanu magãsta i salãppi', yan inayek-ta siha gi minanehan water utility.

Yanggin un nisisita i ripot matranslãda, ya malagu' hão kumuentusi hãyi put i ripot pat malagu' hão kopian pãppit u ma'entrega pat mana'hãnão guatu para hãgu, put fabot ãgang i CUC gi (670) 664-4282.

Meeta Ye "Consumer Confidence Report"

Alongal ráagh nge eghal yoor kkapsal Consumer Confidence Report (CCR). Aweewe reel yáámi schaal Liól sangaras tiwabughuw tuweugh me oloow (1996). Sów Allégh (kkongreeso) mellól U.S. e ssiweli Alléghul Schaal (Safe Drinking Water Act.) Ighila nge Commonwealth Utilities Corporation ebwe mweiti ngáli yáámi "Ammwelil schaal mellól sóóbw," iye ebwe ghal akkaté ótol Wuun (July). Eghi welepakk (pirisisu) ammataf yeel reel aweweel schaal kka si ghal ilimi. **Sáleti ngáli mwáliyomw, me ngáre ayeghi eschay ye emmwelil scheyilugh.**

Ebwe ghi ghatch ngáre ów arághi uruwowul schaal; ammwelil schaal ye ekke bwáári ngári eyoor malúl schaal. Meeta bwulu ebwe ghi kkofsang (different) mereel eew sóóbw mwete ngáli bwal eew sóóbw; me meeta ye emmwel sibwe féeru bwe sibwe aghatchú ammwelil schaal mellól CNMI.

Ngáre e ffat arongorongol reer schóól abwóós me yááyál (Consumers), Re bwe toolong rel fféerúl ghatchúl mángemáng rel kkapsal faluwasch, efaisúl mwóghutúghútúl salaapi, me meeta kka e kke ayoora rel Water Utility Management.

Faingi CUC reel (670) 664-4282 ngare u tipeli rebwe seleti ngalúgh amataff kkal, kkapas ngali eschay, me ngare u mwuschel eew kkopiyal rebwe bwughi lló reemw me ngare afanga ngálugh.