



# COMMONWEALTH UTILITIES CORPORATION

## 2017 SAIPAN WATER QUALITY REPORT

July 1, 2018

*Call Your CNMI Water Regulators and Operators*

*BECQ Safe Drinking Water Branch Manager, Joe Kaipat • (670) 664-8500*

*CUC Water Division Manager, Gary Byrd • (670) 322-5030*

*CUC Water Laboratory Manager, Heidi Yelin • (670) 322-5140*

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

Repair Crew Leader Glenn Dikito  
oversees pumping of water out of  
a trench opened to repair a leak.



# 2017 CUC SAIPAN 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.

The CUC Saipan water team of operators and engineers continue working on leak detection and repairing leaks to bring all Saipan customers 24-hour water. Recent improvements, such as the new tanks in Papago and at Northern Marianas College, allow the water operators to move the water from one area to another. Our CUC water team continues 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 13,000 tests on Saipan water samples. Water quality samples are collected throughout the CUC Saipan water system 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, 2017 to December 31, 2017. Any results reported before January 1, 2017, and presented here, are from the most recent monitoring period.

## *A Message from the CUC Executive Management Team*


The CUC is pleased to provide this Water Quality Report to our customers. CUC continues to improve its operations, response time, efficiency and strategic planning. Capital reinvestment has been CUC's number one effort for the past six years. These have included four water storage tank replacements (between 250,000 and 1 million gallons), eight miles of water mains replaced, targeted upgrades to many of the well facilities, replacement of one mile of sewer mains, rehabilitation of eight sewer pumping stations and a comprehensive replacement of water meters for all residential, commercial and government accounts.

On Saipan, CUC and FEMA are working together to harden the water infrastructure system in order to improve the capacity and capability of the water system to return to operation immediately following an environmental catastrophe.

CUC management continues to focus on reducing non-revenue water loss on all three islands with plans to achieve 24 hour water island-wide on Saipan by the end of 2018. The challenge is fixing transmission mains as they fail with the increased pressures of a fully pressurized system. CUC is adjusting and moving deliberately to fix years of problems that have hurt water system delivery efforts to all customers. As transmission and distribution mains are replaced and water loss recedes, more effort will be made to plan for a feasibility study for alternative water supplies that includes desalination as one option. CUC is working to have the infrastructure systems in place when the current pending demand comes on line in 2019 and 2020. CUC's best long-term strategy to meet increased demand is to be cost competitive and minimize the impact on rates by considering the possibility that developers pay for development, not existing ratepayers.

CUC management encourages customers to read and learn more about the water utility, how it operates and to understand the water quality guidelines that CUC needs to meet. We continue to encourage everyone to report illegal connections, report leaks, and minimize consumption to use only what you need. Only CUC and fire personnel are authorized to use fire hydrants. Please report any problems to the **CUC Call Center at (670) 664-4282**. If you have any comments or questions about this report, please don't hesitate to call the Call Center, visit our [website](#) or check out our [Facebook](#) page.

**Gary P. Camacho, Executive Director**  
**William Gilmore, Deputy Executive Director**



Service Installation Crew Leader Victor Jude (VJ) Concepcion prepares to tap into a main water line to install a water connection to a customer.

## The Sources of CUC Saipan Water

The primary source of water for the island of Saipan comes from 135 groundwater wells, the Donni Spring, and two Maui-type wells. To control the presence of microbial contaminants in our water systems, the CUC operates 19 chlorine treatment stations on Saipan.

Every day, CUC water operators measure and adjust the trace amounts of chlorine added to the water before it is goes into the water lines to you, our customer.



Forbidden Island, Saipan

## 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 (800) 426-4791 or on the internet at [www.epa.gov/safewater/](http://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 (800) 426-4791 or via the internet at [www.epa.gov/safewater/](http://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 Saipan at least once per year. 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 (670) 322-5140.



## Bacterial Contaminants in Drinking Water

**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 coliforms are 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. Each month, CUC tests for the presence of total coliform from at least 50 different tap water samples from all areas of the CUC Saipan water system.

We may find total coliform bacteria in the CUC water when the chlorine treatment equipment fails, or when leaks occur in the CUC pipelines allowing ground contaminants to enter the pipes. As problems were detected in 2017, the CUC water operators repaired leaks, flushed the water lines, and when needed, added extra chlorine to the reservoirs and pumping stations, and therefore, the public did not have to use alternate water. **No *E.coli* were detected in any CUC tap water sample tested during 2017.**

## Source Water Monitoring

On the January 18, 2017, one sample from the Kagman area contained total coliform during our routine testing from the CUC Saipan water system. We were required to test the 13 active Kagman wells, the source water of the total coliform positive sample, for the fecal indicator, *E. coli*. On January 20, 2017, we learned that one well, Kagman 7, contained *E. coli*. We immediately turned off the Kagman 7 well; customers in the Kagman area may remember seeing the notice of *E. coli* detected in the well. Water operators disinfected this well. The Kagman 7 well was put back into service only after a sample collected on February 1, 2017 showed that the well was free of *E. coli*.

Fecal indicators and *E. coli* are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

## 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 two 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 (800) 426-4791 or at [www.epa.gov/safewater/lead](http://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 sites tested exceeded the action level for lead or copper.

## Unregulated Contaminant Monitoring

In 2015, the CUC Saipan water system monitored for 28 unregulated contaminants of concern.

Unregulated contaminants are those that don't yet have a drinking water standard set by the USEPA.

The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. Listed to the right are the results of the unregulated contaminants detected in the CUC Saipan water system tests performed during 2015 and 2016.

Unregulated Contaminant	Year Tested	Average Result	Range
Chlorate (ppb)	2015	3.4	ND - 86
Chlorodifluoromethane (ppt)	2015	3	ND - 130
Dieldrin (ppt)	2016	1.2	ND - 23
Hexavalent Chromium (ppb)	2015	0.9	ND - 7
Stontium (ppb)	2015	434	83 - 820
Vanadium (ppb)	2015	1.9	0.8 - 5.3



# Commonwealth Utilities Corporation

## SUMMARY OF PRIMARY DRINKING WATER QUALITY RESULTS FOR 2017



### SAIPAN

Microbiological Contaminant	TT	TT Goal	Year Tested	Highest Monthly Percent	Total Number Samples Tested in Month	Violation?	Major Source of Contaminant
Coliform bacteria	5%	Zero	2017	4.9% in July	102	NO	Naturally present in the environment
Disinfection By-Products and Residual	MRDL & MCL	MRDLG & MCLG	Year Tested	Highest Running Annual Average	Range	Violation?	Major Source of Contaminant
Chlorine (ppm)	4	4	2017	1.8	0.1 - 4.2	NO	Disinfection additive used to control microbes
Haloacetic Acids (HAA5)							
Locational Running Annual Average (ppb)	60	NA	2017	3.3	ND - 4.8	NO	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)							
Locational Running Annual Average (ppb)	80	NA	2017	28	1.6 - 33	NO	By-product of drinking water disinfection
Inorganic and Radiological Contaminants	MCL	MCLG	Year Tested	Highest Result	Range	Violation?	Major Source of Contaminant
<b>Inorganics</b>							
Arsenic (ppb)	10	Zero	2016	1.4	ND - 1.4	NO	Erosion of natural deposits; runoff from orchards; runoff from glass & electronics production wastes
Barium (ppb)	2000	2000	2016	74	26 - 74	NO	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium, Total (ppb)	100	100	2016	7.6	ND - 7.6	NO	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (ppm)	4	4	2016	0.29	ND - 0.29	NO	Erosion of natural deposits
Nitrates + Nitrites as Nitrogen (ppm)	10	10	2017	6.5	1.4 - 6.5	NO	Runoff from fertilizer; leaking septic tanks; sewage; erosion from natural deposits
Selenium (ppb)	50	50	2016	9.3	ND - 9.3	NO	Erosion of natural deposits
Sodium (ppm)	NE	NE	2016	830	16 - 830	NA	Erosion from natural deposits; sea water
<b>Radiological</b>							
Gross alpha particle (pCi/L)	15	Zero	2016	9.8	ND - 9.8	NO	Erosion of natural deposits
Lead and Copper at Customer Taps	Action Level	Action Level Goal	Year Tested	Sites Exceeding AL/ Number of Sites	90th Percentile	Violation?	Major Source of Contaminant
Lead (ppb)	15	Zero	2017	0 / 30	2.8	NO	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppb)	1,300	1,300	2017	0 / 30	59	NO	Corrosion of household plumbing systems; erosion of natural deposits

### SUMMARY OF SECONDARY DRINKING WATER QUALITY RESULTS FOR 2017

Compound	MCL	MCLG	Year Tested	Average Result	Range	Violation?	What This Compound Measures
Alkalinity, Total as Calcium Carbonate (ppm)	NE	NE	2016	265	209 - 305	NA	Measures the ability of water to resist changes in pH
Chloride (ppm)	250	NE	2016	517	25 - 1,633	NA	Salts and their ions from erosion of natural minerals in the water
Hardness, Total as Calcium & Magnesium (ppm)	NE	NE	2016	463	265 - 1,050	NA	Hardness is the sum of many forms of naturally occurring magnesium and calcium compounds
pH	6.5 to 8.5	NE	2016	7	6.8 - 7.6	NA	Measures the acidity or alkalinity of water
Specific Conductance (µS/cm)	NE	NE	2016	2,407	559 - 7,070	NA	Measures how well water conducts electricity depending on amount of dissolved ions

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

NA: Not Applicable

NE: None Established

# MEASUREMENTS

## Contaminants are measured in:

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

## HOW MUCH IS ONE PART PER MILLION?

### ONE PART PER MILLION IS THE SAME AS:

- 1 second in 12 days
- 1 penny in \$10,000
- 7 drops of water in a bathtub



## HOW MUCH IS ONE PART PER BILLION?



### ONE PART PER BILLION IS THE SAME AS:

- 1 second in 32 years
- 1 penny in \$10 Million
- 1 drop of water in a swimming pool

# 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.

## **TT: Treatment Technique**

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! You can pay with your Visa or MasterCard debit or credit card.

Register your account for online payments at [www.cucgov.org](http://www.cucgov.org)  
For payment by phone, please call (855) 729-2282.

## DO YOU HAVE A QUESTION? Call CUC at (670) 664-4282

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](http://www.cucgov.org) or  
email us at [cucadmin@cucgov.org](mailto:cucadmin@cucgov.org)

## Perfluoroalkyl Substances – PFOS, PFOA and Other PFASs

In 2015, the CUC Saipan detected levels of perfluorooctanesulfonic acid (PFOS) that exceed the EPA Health Advisory level of 70 parts per trillion (ppt). PFOS is one of several perfluoroalkyl substances (PFAS) used extensively in commercial goods such as carpets, furniture, clothing, and non-stick cookware as well as in fire-fighting foams. In June 2016, CUC turned off nine wells with high levels of PFOS and we have tested the water from four sites in the Isley, Obyan, and Koblerville areas for PFASs once every three months.

During 2017, one site exceeded the 70 ppt health advisory level for PFOS and PFOA. We have advised consumers in the villages of Chalan Laulau, Iliying, Chalan Kiya, As Terlaje, Kannat Tabla, Fina Sisú, and parts of As Lito to avoid ingesting the water until the concentrations of PFOS and PFOA are below the health advisory level. Below are the results from tests performed during 2017.

For more information about PFOS and PFOA visit EPA's webpage at <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>.

Perfluoroalkyl Substance (ppt)	Year Tested	Average Result	Range
Perfluorooctanesulfonic acid - PFOS	2017	36	ND - 120
Perfluorooctanoic acid - PFOA	2017	1	ND - 6
Perfluoro-1-butananesulfonic acid - PFBS	2017	1	ND - 4
Perfluoroheptanoic acid - PFHpA	2017	3	ND - 12
Perfluorohexanoic acid	2017	9	ND - 20
Perfluoro-1-hexanesulfonic acid - PFHxS	2017	13	ND - 42

## 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 compounds in the water. 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.

## Water Hours for Saipan

Some areas of Saipan receive water on a set water hour schedule. Unfortunately, unscheduled service interruptions occur when operators need to make adjustments or repairs to the water system.

For an update about when your water service will be restored, please call the **CUC Call Center at (670) 664-4282** or visit our [website](http://www.cucgov.org) for the most recent information.

## CUC is on Facebook!



Follow us to  
get the latest  
news about  
CUC.





# What is a Water Quality Report?

Here is your annual Water Quality Report. It is about the water supplied by the Commonwealth Utilities Corporation. In 1996, the U.S. Congress amended the Safe Drinking Water Act and now requires that the CUC, 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.**

Estagui iyon-miyu ripot gi sàkkan nu i Kuàlidât i Hånum. Put atyu i hånum ni ginin i Commonwealth Utilities Corporation ni mu nânâ'i hamyu, iyon-mâmi customer. Gi 1996 (mit nuebi sientu nubentai sais) na sàkkan, i U.S. Congress ha amenda i Åktun Sinâfu Magimin Hånum ya pâ'gu manisista atyu i CUC, iyon-miyu “Sisteman Hånum Kumunidât” para u pupblika esti na ripot ântis di Huli 1. **Esti na ripot ha sasaguan siha manimpottânti na infotmasyon put i un gigimin na hånum. Kuentus yan otu na taotao ni mu kumprendi pat hâyi siña mu translâda para hâgu.**

In espirânsa na un taitai put source i hånum-mu, i levels ni masodda' i binenu siha, hâfa na i hånum-ta na ti pumarehu gi kada songsong esta otu songsong, ya hâfa machochô'gui para u manadinanchi pat manake'maolik i setbision hånum siha gi hålum i CNMI.

Kumu consumers manma'infotma mâolik, mañaonão yan manma'tinas la'mâolik na disision siha put i uriyâta, taimanu magâsta i salâppi', yan inayek-ta siha gi minanehan water utility.

**Kumu un nisisita i ripot matranslâda, ya malagu' hâo kumuentusi hâyi put i ripot pat malagu' hâo kopian pâppit u ma'entrega pat mana'hânão guatu para hâgu, put fabot hâgan i CUC gi (670) 664-4282.**

Iyeel yóómw arongorong reel Water Quality ghal ráágh. Mileel nge reel schaal iye Commonwealth Utilities Corporation re ayoorai ngálúgh, lemám customer. Llól 1996, U. S. Congress re liiweli mille Safe Drinking Water Act nge ighila re tipáli bwe CUC, yóómw “Community Water System,” bwe ebwe ghommwal akkatééwow arongoorng yeel mmwalil Ulylo 1. **Eyoor impotantil arongorong yeel reel schaal iye si ghal úlúmi. Kkapas ngáli iyo mwu e metaff me ebwe bwal affata ngálúgh reel mileel.**

Ai ghal tettengágh ngáli ghámi bwe ów bwe árághi milikka e toowow bwe arongorong reel schaal iye yáámi, level reel milikka re schúngi bwe mil nngaw, meta bwulul bwe schaal ese weewe me schaalil sóóbw ikka akkâw, me meta iye emmwel sibwe féérú ngáre siiweli bwe ebwe ghatchúló aar alilis reel schaal llól CNMI.

Ngáre re aronga ghatchúr consumers, emmwel rebwe schuu bwe rebwe ppwol fengál reel mwóghutughut ikka e lo weleórosch, efaisúl re yááli selaapi, me sibwe áfilihatch reel mwóghutughutúl mille water utility management.

**Ngare eyoor arongorong iye u mwuschel rebwe seleti, ngare u mwuschel kkapas ngáli escháy reel arongorong yeel, me ngare u mwuschel rebwe afanga ngare email ngálúgh pappid yeel, fafailó CUC reel (670) 664-4282.**

Naglalaman ang report na ito ng importanteng impormasyon tungkol sa iyong iniinom na tubig. Magkaroon ng isang tao na isasalin ito sa iyong wika para sa iyo, o makipag-usap sa isang tao na nakakaintindi dito.

このレポートには飲料水に関する重要な情報が記載されています。この英文を訳してもらるか、またはどなたか英語が分かる方にたずねてください。

此报告包含有关您的饮用水的重要信息。请人帮您翻译出来，或请看懂此报告的人将内容说给您听。

이 보고서에는 귀하의 식수에 대한 중요한 내용이 실려있습니다. 그러므로 이 보고서를 이해할 수 있는 사람한테 번역해 달라고 부탁드립니다.





## Commonwealth Utilities Corporation

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**24-Hour Call Center**  
**(670) 664-4282**

Leak Detection Specialist Chris DeLeon Guererro troubleshoots and then rebuilds a water meter to reduce non-revenue water.