



COMMONWEALTH UTILITIES CORPORATION

2018 SAIPAN WATER QUALITY REPORT

July 1, 2019

*Call Your CNMI Water
Regulators and Operators*

BECQ - DEQ Director,

Ray Masga • (670) 664-8500

*CUC Acting Water Division Manager,
Yvonne Cabrera • (670) 322-5030*

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

Hector Efraim,
Thomas Nizer, Ray
Itibus, Paul Celis, and
Allen Teliu replace
the pump in a well.
CUC operates 140
wells to provide
water to customers
on three islands.

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

2018 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 As Terlaje, allow the water operators to move the water from one area to another.

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 1,000 tests on Tinian water samples. Water quality samples are collected throughout the CUC Tinian 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, 2018 to December 31, 2018. Any results reported before January 1, 2018, and presented here, are from the most recent monitoring period.



Peter Taitano, CUC Rota (bottom), Ralph Ascano, CUC Saipan (middle), and Mike Benavente, Guam Waterworks Authority (top) work together to remove rocks under an 8-inch waterline. CUC thanks the many operators from our neighbor islands of Rota and Guam who helped CUC Saipan and Tinian restore water services after Super Typhoon Yutu.

A Message from the CUC Executive Director

Welcome to Commonwealth Utilities Corporation's (CUC's) Annual Water Quality Report. Each year we produce this report to update our customers and the community on the quality of the drinking water we supply throughout our service areas. Due to the low levels of some chemical elements, CUC is allowed to monitor for these compounds on a less frequent basis; for example, we test for lead and copper once every three years.

Our corporate strategy is to be an exceptional service provider offering 24-hour water that puts customers first and benefits the community. Safe, high quality drinking water is a life-giving resource; its provision contributes to community health and hygiene. We strive to deliver our services in a reliable and affordable way that is accessible to everyone in our community. Our service area is growing and encompasses Saipan, Tinian, and Rota.

We supply water to our customers via an extensive, largely underground network of over 400 miles of water mains, as well as associated valves, holding tanks, pumping stations, and secondary disinfection plants. Our priority as an exceptional service provider is to manage and operate this network so that our customers continue to reliably receive the quality, safe drinking water they expect.

The information presented in this report explains the sources of our drinking water, how it is treated so that it is safe to consume without further treatment, and demonstrates in detail how the quality consistently meets primary drinking water quality standards such as bacterial contaminants. We verify the quality of the drinking water supply via a comprehensive monitoring program that also allows us to identify potential improvements to benefit our customers and community.

I am pleased to report that this independent chemical and microbial testing continues to demonstrate that the quality of our drinking water supply meets EPA standards as established by the Safe Drinking Water Act (SDWA) of 1974 and associated regulations that are periodically revised. Details of the testing and the results form a major part of this report.

Further to monitoring the supplied water quality, we also rely upon feedback from customers to advise us of local issues that may arise. Such feedback is recorded as water quality related customer complaints.

Our drinking water quality management processes are endorsed through an uninterrupted history of successfully retaining drinking water certification and compliance as required by the SDWA.

CUC is committed to continue to providing high quality, safe drinking water to all our customers and community. I am confident that you will find the information contained in this report helpful to better understanding the quality of our drinking water supply.

Gary P. Camacho, Executive Director

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 bacterial contamination in our water, 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 goes into the water lines to you, our customer.



Forbidden Island, Saipan

Photo Courtesy of OptimImagery.com

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/.

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/.

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 Tinian 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 2018, 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 2018.**

Source Water Monitoring

On May 1, 2018, one sample from the Koblerville area contained total coliform during our routine testing from the CUC Saipan water system. We were required to test the 23 active Obyan and Koblerville wells, the source water of the total coliform positive sample, for the fecal indicator, *E. coli*. On May 4, 2018 we learned that two wells, Obyan 8 and Obyan 11, contained *E. coli*. We immediately turned off the two wells; customers in the Isley Reservoir service area may remember seeing the notice of *E. coli* detected in the wells. Water operators disinfected both wells. The Obyan 8 and Obyan 11 wells were put back into service only after samples collected on May 21, 2018 showed that both wells were 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.

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.

Unregulated Contaminant	Year Tested	Average Result	Range
Chlorate (ppb)	2015	3.4	ND - 86
Chlorodifluoromethane (ppt)	2015	3	ND - 130
Hexavalent Chromium (ppb)	2015	0.9	ND - 7
Strontium (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 2018



PWS ID: MP0000001

SAIPAN

Microbiological Contaminant	TT	TT Goal	Year Tested	Highest Monthly Percent	Total Number Samples Tested in Month	Violation?	Major Source of Contaminant
No more than 5% positive samples per month allowed							
Coliform Bacteria	5%	Zero	2018	4.95% in April and August	101	NO	Naturally present in the environment
Disinfectant Residual	MRDL	MRDLG	Year Tested	Highest Running Annual Average	Range	Violation?	Major Source of Contaminant
Chlorine (ppm)	4	4	2018	1.3	0.02 - 11	NO	Disinfection additive used to control microbes
Disinfection By-Products	MCL	MCLG	Year Tested	Highest Running Annual Average	Range	Violation?	Major Source of Contaminant
Haloacetic Acids (HAA5)							
Locational Running Annual Average (ppb)	60	NA	2018	9.3	ND - 37	NO	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)							
Locational Running Annual Average (ppb)	80	NA	2018	41	1.2 - 86	NO	By-product of drinking water disinfection
Inorganic and Radiological Contaminants	MCL	MCLG	Year Tested	Highest Result	Range	Violation?	Major Source of Contaminant
Inorganics							
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	2018	6.4	1.4 - 6.4	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
Radiological							
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

MEASUREMENTS

Contaminants are measured in:

- ppm:** Parts Per Million or milligrams per Liter (mg/L)
- ppb:** Parts Per Billion or micrograms per Liter (µg/L)
- pCi/L:** Pico Curie Per Liter - a measurement of radioactivity in water
- µS/cm:** micro Siemens per centimeter – a measurement of a solution's ability to conduct electricity

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

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

Water Hours to Repair Lines

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](#) for the most recent information.

PAY YOUR CUC BILL ONLINE OR BY PHONE

Save time and money by paying your CUC bill online or by phone! You will need a MasterCard or Visa debit or credit card.

Register your account for online payments at www.cucgov.org

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

QUESTIONS? 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 or email us at cucadmin@cucgov.org

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CUC.



Per- and Poly-fluoroalkyl Substances - PFOS, PFOA, and Other PFAS

In 2018, 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 per- and poly-fluoroalkyl substances (PFAS), used extensively in commercial goods such as carpets, furniture, clothing, and non-stick cookware as well as in fire-fighting foams. As of 2018, CUC turned off eight wells with high levels of PFOS and we have tested the water from four sites in the Isley, Obyan, and Koblerville areas for PFAS once every three months. During 2018, one site exceeded the 70 ppt health advisory level for PFOS and PFOA. We have advised consumers in the villages of Chalan Kiya, Chalan Laulau, Ilying, As Terlaje, Kannat Tabla, Fina Sisú, San Jose, and parts of southern Garapan, Gualo Rai, Susupe, As Lito, and As Perdido areas 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 2018.

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	Average	Range
Perfluorooctanesulfonic acid - PFOS	2018	51	14 – 150
Perfluorooctanoic acid - PFOA	2018	3	ND – 9
Perfluoro-1-buthanesulfonic acid - PFBS	2018	2	ND – 8
Perfluoroheptanoic acid - PFHpA	2018	5	ND – 14
Perfluorohexanoic acid	2017	9	ND – 20
Perfluoro-1-hexanesulfonic acid - PFHxS	2018	21	8 – 59

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. Please see the table below.

Secondary Water Constituent	MCL	Year Tested	Average Result	Range	What This Constituent Measures
Alkalinity, Total as Calcium	NE	2016	265	209 - 305	Measures the ability of water to resist changes in pH
Chloride (ppm)	250	2018	998	28 - 3,087	Salts and their ions from erosion of natural minerals in the water
Hardness, Total as Calcium & Magnesium (ppm)	NE	2018	580	245 - 1,206	Hardness is the sum of many forms of naturally occurring magnesium and calcium compounds
pH	6.5 to 8.5	2018	7.5	7.0 - 8.1	Measures the acidity or alkalinity of water
Specific Conductance (µS/cm)	NE	2018	3,682	576 - 10,080	Measures how well water conducts electricity depending on amount of dissolved ions



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 sáakkan nu i Kuálidát i Hånum. Put atyu i hånun ni ginin i Commonwealth Utilities Corporation ni mu nânâ'i hamyu, iyon-mâmi customer. Gi 1996 (mit nuebi sientu nubentai sais) na sáakkan, i U.S. Congress ha amenda i Áktun Sináfu Magimin Hånun ya pâ'gu manisisita atyu i CUC, iyon-miyu "Sisteman Hånun Kumunidát" para u pupblika esti na ripot ántis di Huli 1. **Esti na ripot ha sasaguan siha manimpottáti na infotmasion put i un gigimin na hånun. Kuentus yan otu na taotao ni mu kumprendi pat háyi siña mu transláda para hágu.**

In espiránsa na un taitai put source i hånun-mu, i levels ni masodda' i binenu siha, háfa na i hånun-ta na ti pumarehu gi kada songsong esta otu songsong, ya háfa machocho'gui para u manadinanchi pat manake'maolik i setbision hånun siha gi hálum i CNMI.

Kumu consumers manma'infotma mǎolik, mañáonão yan manma'tinas la'mǎolik na disision siha put i uriyáta, taimanu magásta i saláppi', yan inayek-ta siha gi minanehan water utility.

Kumu un nisisita i ripot matransiáda, ya malagu' hǎo kumuentusi háyi put i ripot pat malagu' hǎo kopian páppit u ma'entrega pat mana'hǎnǎo guatu para hágu, put fabot hágan 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 Uliyo 1. **Eyoor impotantil arongorong yeel reel schaal iye si ghal úlúmi. Kkpas 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 ngaw, meta bwulul bwe schaal ese weewe me schaalil sóóbw ikka akkáv, 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 kkpas 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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Fax (670) 235-5131

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**Call the CUC 24-Hour Call Center
at (670) 664-4282 for Updates on
Water Service Interruptions**

Water operators from Guam Waterworks Authority, CUC Rota, and CUC Saipan repair an 8-inch main water line in Saipan during restoration from Super Typhoon Yutu.