



**UNITED STATES MARINE CORPS
MARINE CORPS BASE HAWAII
BOX 63002
KANEHOE BAY, HAWAII 96863-3002**

IN REPLY REFER TO:
5090
LE/046-18

JUN 25 2018

From: Commanding Officer, Marine Corps Base Hawaii
To: Residents, Marine Corps Base Hawaii

Subj: MARINE CORPS BASE HAWAII (MCBH) KANEHOE BAY 2018 ANNUAL WATER QUALITY REPORT

Encl: (1) Board of Water Supply (BWS), City and County of Honolulu, 2018 Annual Water Quality Report

1. In 1998, the U.S. Environmental Protection Agency (EPA) put into effect regulations that require community water system operators to provide their customers an annual report on the quality of their drinking water. This letter, along with enclosure (1), describes where your water comes from, what was detected in the water in the past year, and how those results compare to standards for safe drinking water. **MCBH test results show your drinking water meets all Federal and State standards and is safe to drink.**

2. MCBH Kaneohe Bay purchases its water from the City and County of Honolulu Board of Water Supply (BWS) and adds chlorine prior to delivering to its customers. MCBH Kaneohe Bay also tests the water for the following: lead, copper, chromium, total trihalomethanes (TTHM), total haloacetic acid (HAA5), asbestos, total coliform bacteria, escherichia coliform bacteria (E-coli) and unregulated contaminants. Water samples are taken from various locations in the MCBH Kaneohe Bay distribution system and analyzed by State certified laboratories. The tables below list the results of this testing for calendar year 2017. We monitor for some contaminants less than once per year because the concentrations for those contaminants are stable and not expected to vary significantly from year to year. As a result, some of the data in this report is more than a year old. If a substance is not listed, then it was not detected.

Regulated Contaminants - MCBH Kaneohe Bay

Substance	Sample Year	Average	Range		MCL	MCLG	Common Sources
			Min	Max			
TTHM (ppb)	2017	2.30	1.50	3.10	80	None	Byproducts of drinking water disinfection
Chromium (ppb)	2015	1.50	1.50	1.50	100	100	Erosion of natural deposits

Substance	Sample Year	90 th Percentile Reading	Action Level (AL)	# Samples Above AL	Common Sources
Copper (ppm)	2015	0.056	1.3	0	Corrosion of household plumbing systems
Lead (ppb)	2015	8.42	15	2	

ppm = parts per million or milligrams per liter

ppb = parts per billion or micrograms per liter

ND = not detected

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 risk to health. MCLGs allow for a margin of safety.

Unregulated Contaminants - MCBH Kaneohe Bay

Substance	Sample Year	Unit	Average	Range		Health Advisory
				Min	Max	
Chromium, Hexavalent	2015	ppb	1.55	1.5	1.6	13.00
Strontium	2015	ppb	96	96	96	4000.00
Vanadium	2015	ppb	9.35	9.3	9.4	21.00

Unregulated contaminants do not have designated maximum limits but require monitoring.

3. All water provided at MCBH installations for drinking purposes comes from off base sources managed by the BWS. 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. This water can also pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in various types of source water include:

- * Viruses and bacteria, which may come from sewage treatment plants, septic systems, livestock, and wildlife.
- * Salts and metals, which can be natural or may result from storm runoff, wastewater discharges, and farming.
- * Organic chemicals, which originate from industrial processes, petroleum processes, petroleum production, gas stations, storm runoff and septic systems.
- * Radioactive substances, which can be naturally occurring.
- * Pesticides and herbicides, from a variety of sources including agriculture, urban storm water runoff, and residential use.

In order to ensure safe tap water, the EPA sets regulatory limits for the amounts of certain contaminants in water provided by public water systems. These contaminant standards are required by the Safe Drinking Water Act (SDWA). The Food and Drug Administration (FDA) establishes limits for contaminants in bottled water. Drinking water, including bottled water, may reasonably be expected to contain a small amount of some contaminants. The presence of contaminants in drinking water is not always indicative of a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791) or by accessing the EPA's drinking water web site (www.epa.gov/safewater/). Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals with cancer undergoing chemotherapy, people who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly more susceptible to infection. These individuals should seek advice about drinking water from their health care provider. EPA/CDC (Center for Disease Control) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791).

4. 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. MCBH 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 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 or at <http://www.epa.gov/safewater/lead>.

5. In 2017, in an effort to promote increased protection to the Board of Water Supply system, three new 10" backflow prevention devices were installed at the water treatment facility. Additionally, upgraded sampling stations were installed at 6 locations increasing efficiency, and ensuring a high standard of sample accuracy.

6. A source water assessment for the wells serving MCBH Kaneohe Bay was completed in 2003; it is available for review at the MCBH Environmental Department. Additional test results and drinking water information can be found in enclosure (1). MCBH does not have routine public meetings about the drinking water system, however questions regarding MCBH Kaneohe Bay Drinking Water (including the 2003 source water assessment) can be directed to LtCol Timothy Pochop, Director of Environmental MCBH, 257-5640.



T. B. POCHOP
By direction

2 0 1 8 A N N U A L

WATER QUALITY REPORT

Federal and state law requires testing your drinking water for many different types of contaminants.

This report contains test results showing your water is **safe to drink** and meets all federal and state requirements.

If a contaminant is **not listed**, then it was **not detected**.



Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843
www.boardofwatersupply.com

Federal and state law requires testing your drinking water for many different types of contaminants. Below is a complete list.

Regulated Primary Contaminants

Acrylamide	Cyanide	Ethylene dibromide (EDB)	Radium 226 + 228
Alachlor	2,4-D	Fecal coliform	Selenium
Alpha emitters	Dalapon	Fluoride	Simazine
Antimony	Di (2-ethylhexyl)adipate	Glyphosate	Styrene
Arsenic	Dibromochloropropane (DBCP)	Haloacetic Acids (HAA5)	Tetrachloroethylene (PCE)
Asbestos (>10 micron)	o-Dichlorobenzene	Heptachlor	Thallium
Atrazine	p-Dichlorobenzene	Heptachlor epoxide	Toluene
Barium	1,2-Dichloroethane	Hexachlorobenzene	Total coliform
Benzene	1,1-Dichloroethylene	Hexachlorocyclopentadiene	Total Trihalomethanes (TTHMs)
Beryllium	cis-1,2-Dichloroethylene	Lead	Toxaphene
Beta/photon emitters	trans-1,2-Dichloroethylene	Lindane	2,4,5-TP
Bromate	Dichloromethane	Mercury (total)	1,2,4-Trichlorobenzene
Cadmium	1,2-Dichloropropane (DCP)	Methoxychlor	1,1,1-Trichloroethane
Carbofuran	Dinoseb	Nitrate (as N)	1,1,2-Trichloroethane
Carbon tetrachloride	Dioxin	Nitrite (as N)	Trichloroethylene (TCE)
Chlordane	Di(2-ethylhexyl)phthalate	Oxamyl (Vydate)	1,2,3-Trichloropropane (TCP)
Chlorite	Diquat	PCBs	Turbidity
Chlorobenzene	Endothall	Pentachlorophenol	Uranium
Chromium (total)	Endrin	Picloram	Vinyl chloride
Copper	Epichlorohydrin	Polyaromatic hydrocarbons	Xylenes (total)
	Ethylbenzene	[benzo(a) pyrene]	

Unregulated Contaminants

Boron	Chloride	Dieldrin	Sodium
Bromoform	Chlorodifluoromethane	Manganese	Strontium
Chlorate	Chromium, hexavalent	Methyl t-Butyl Ether (MTBE)	Vanadium

Measurements In this report, one part per million (ppm) is the same as one milligram of the substance in one liter of water (mg/L). To put this into perspective, one part per million is approximately one second in 11.5 days. One part per billion (ppb) is even smaller! – about 1 second in 31.7 years.



Is My Drinking Water Really Safe?

Yes, we take our responsibility to provide safe drinking water very seriously. Like you, we drink the same water and share the same concerns about its quality. Islandwide, the Board of Water Supply (BWS) operates over 94 water sources that are located among nine different water regions. Your tap water generally comes from those sources located within your area and not from all 94. The report shows the name of the source(s) serving your area and the region it is located in.

Each year, these sources and systems are tested for more than 80 different types of contaminants by the BWS.

The sources serving your area did not contain any of the listed contaminants except for the ones shown on the report. In all cases, the amounts found are fully compliant with the standards for safe drinking water.

Drinking Water Standards and Testing

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health. A contaminant is any substance that may pose a potential health concern if present in very large quantities.

The regulations require testing tap water for many different categories of contaminants. One category is the regulated or primary contaminants. Each has a maximum contaminant goal and maximum contaminant level. The **Maximum Contaminant Level Goal (MCLG)** is 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. The **Maximum Contaminant Level (MCL)** is the highest level of a contaminant that is allowed in drinking water. This limit is the standard for safe drinking water and is set by federal and/or state health agencies. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

The regulations also have testing requirements for certain unregulated contaminants. Health agencies generally do not specify MCLs or MCLGs for unregulated contaminants. However, they may establish an **action level** which is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

The rules also require testing the water in the distribution system (for trihalomethanes and coliform bacteria) and at the consumer's tap (for lead and copper).

Each contaminant category has its own monitoring frequency established by regulation. The testing is performed either annually, every two years or every three years as determined by federal and state drinking water regulations.

Where Does My Water Come From?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. On Oahu, drinking water begins as rain falling over the Koolau and Waianae Mountain ranges. Because volcanic rock is porous, much of this rain is naturally filtered through the ground on its way to large underground formations called aquifers.

As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, radioactive material, and substances resulting from the presence of animals or from human activity.

Source Water Assessments, reports that evaluate the susceptibility of our drinking water sources to pollution, have been completed as of 2004. These reports are available for review by calling Erwin Kawata at (808) 748-5080.

BWS Water Sources and Systems

The Board of Water Supply operates and maintains over 94 water sources that combine to deliver an average of 145 million gallons of water per day.

The water is supplied through a distribution system that contains over 2,100 miles of pipeline and 171 reservoirs. The entire system is monitored 24 hours a day.

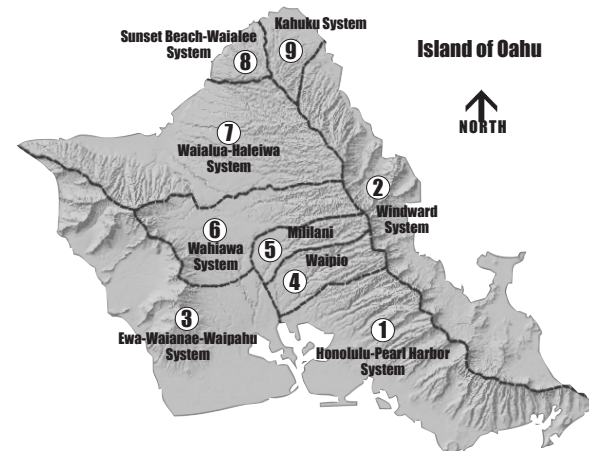
What Kinds of Contaminants are a Concern to Drinking Water?

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 stormwater 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 stormwater runoff, and residential 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 oil and gas production and mining activities.

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 1-800-426-4791 or the DOH at (808) 586-4258.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by cryptosporidium are available from the EPA's Safe Drinking Water Hotline at 1-800-426-4791 or the DOH at (808) 586-4258.

What Kinds of Contaminants Have Been Found in Oahu's Water?

Below is a list of substances that have been found in Oahu's water

and their possible sources. See the water quality report for the substances found in your water. In all cases, the amounts present are fully compliant with the standards.

Alpha and beta activity occur naturally in groundwater from the erosion of natural deposits and decay of natural and man-made deposits.

Antimony is found in discharge from petroleum refineries, fire retardants, ceramics, electronics, and solder.

Arsenic may occur from the erosion of natural deposits; runoff from orchards, runoff from glass, and electronics production wastes.

Atrazine may occur from runoff from herbicide used on row crops.

Barium may occur naturally in groundwater from the erosion of natural deposits.

Boron is a mineral found in food and the environment. It occurs naturally in rocks, soil, and seawater and is also used in vitamin supplements.

Bromide occurs naturally in the environment and is not being considered for regulation.

Carbon tetrachloride is an organic chemical that may occur in drinking water from discharge from chemical plants and other industrial activities.

Chlorate is a byproduct of the drinking water disinfection process that forms when using sodium hypochlorite. According to EPA, chlorate levels more than 210 parts per billion may be a health concern.

Chlordane is a residue of a banned termiticide.

Chloride is a common element in the environment that occurs widely in soils, plants, water, and foods. It is most commonly found in nature as a salt of sodium called sodium chloride better known as table salt.

Chlorodifluoromethane also known as R-22, is a gas used for cooling in refrigeration and air conditioning systems.

Chromium may occur naturally in groundwater from the erosion of natural deposits.

Chromium, Hexavalent also known as chromium 6 is a chemical form of chromium that occurs naturally in rocks, animals, plants, soil, and in volcanic dust and gases. Water sources can be affected by hexavalent chromium naturally, or through contamination plumes from industrial centers, landfills, and improper discharge of industrial processing streams. EPA has not yet determined if low levels of hexavalent chromium in drinking water are a health risk.

Copper may occur in tap water from new or the corrosion

Honolulu Board of Water Supply
2018 Annual Water Quality Report

Special Notice for Board of Water Supply Kamaile Well Pump #2

On October 25, 2017, the Board of Water Supply (BWS) detected E.coli bacteria in Kamaile Well Pump #2 in a sample collected the previous day. E. coli testing requires 24 hours to complete. The test was conducted in accordance with the United States Environmental Protection Agency's Ground Water Rule which required BWS to test Kamaile Well Pump #2 after detecting total coliform in a routine sample from Keeau Beach Park collected on October 23, 2017. The water from Kamaile Well Pump #2 is chlorinated before it reaches customers. The routine sample collected from Keeau Beach Park on October 23 and a follow up sample collected on October 24, 2017 both tested positive for chlorine and negative for E. coli. For this reason, the public was not at risk of E. coli exposure. BWS disclosed this incident in a press release dated October 27, 2017 and a legal notice in the Honolulu Star Advertiser on November 2, 2017. A corrective action plan for Kamaile Well Pump #2 was prepared by BWS in consultation with, and approved by the Hawaii Department of Health. The plan was then implemented and the well placed back into service on April 25, 2018. In accordance with the corrective action plan, the well is being tested monthly for E. coli bacteria and the water chlorinated before it reaches customers.

E. coli bacteria can exist in tropical, sub-tropical, and temperate soil and may persist in soil for a number of years. E. coli is a fecal indicator and microbe 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, 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.

The water serving 600 Mokapu Road has been tested and meets all Federal and State standards.

The water quality monitoring results are presented below.

The water sources serving this address are:

Source Name	Origin of Water	Treatment	Region
a) Maakua Well	Groundwater	Chlorination	2
b) Punaluu Wells II	Groundwater	Chlorination	2
c) Punaluu Wells III	Groundwater	Chlorination	2
d) Waihee Tunnel	Groundwater	Chlorination	2

Source Water Monitoring

The substances detected in these sources are shown below. If a substance is not shown then it was not detected.

Regulated Contaminants (2)

Contaminant	Sample Year	Unit	Highest Average	Range		MCL (Allowed)	MCLG (Goal)	Found in Sources
				Minimum	Maximum			
Barium	2017	ppm	0.004	0.002	0.004	2.000	2.000	All Sources
Chromium	2017	ppb	2.000	1.300	2.200	100.000	100.000	All Sources
Nitrate	2017	ppm	0.170	0.160	0.170	10.000	10.000	a,d

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 risk to health. MCLGs allow for a margin of safety.
- GAC** Granular Activated Carbon Filtration
- Health Advisory** An estimate of acceptable drinking water levels for a chemical substance based on health effects information. Health advisory is not a legally enforceable standard.
- CFU/100ml** Colony forming units per 100 milliliter
- mrem/yr** Millirems Per Year (A Measure of Radiation)
- pCi/L** Picocuries Per Liter (A Measure of Radioactivity)
- ppb** Parts Per Billion or Micrograms Per Liter"
- ppm** Parts Per Million or Milligrams Per Liter
- ppt** Parts Per Trillion or Nanograms Per Liter
- NQ** Not Quantifiable (<means \"less than!\")
- NYA** Not Yet Available
- N/A** Not Applicable
- ND** Not Detected
- *** EPA considers 50 pCi/L to be the level of concern for beta particles
- (1)** Analysis by the State of Hawaii Department of Health.
- (2)** Analysis by the Honolulu Board Of Water Supply. Questions, call 808-748-5370.
- LRAA** Locational running annual average is the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.
- MRDL** Maximum residual disinfectant level: The highest level of a disinfectant allowed in drinking water.
- MRDLG** Maximum residual disinfectant level goal: The level of a drinking water disinfectant below which there is no known or expected risk to health.

Unregulated Contaminants (Do not have designated maximum limits but require monitoring)

Contaminant	Tested By	Sample Year	Unit	Highest Average	Range		Health Advisory	Found in Sources
					Minimum	Maximum		
Chlorate	(2)	2017	ppb	42.000	38.000	42.000	210.000	a,c,d
Chloride	(2)	2017	ppm	160.000	16.000	160.000	250 **	All Sources
Chromium, Hexavalent	(2)	2017	ppb	1.900	1.200	1.900	13.000	All Sources
Sodium	(2)	2017	ppm	36.000	13.000	36.000	60.000	All Sources
Strontium	(2)	2017	ppb	210.000	51.000	210.000	4000.000	All Sources
Sulfate	(2)	2017	ppm	21.000	2.600	21.000	250 **	All Sources
Vanadium	(2)	2017	ppb	14.000	7.000	14.000	21.000	All Sources

** Secondary Maximum Contaminant Levels (SMCLs) are standards established as guidelines to assist public water systems in managing the aesthetic quality (taste, odor and color) of drinking water. EPA does not enforce SMCLs.

Distribution System Monitoring

Disinfection By-Products (2)

System Name	Contaminant	Unit	Range		Highest LRAA	MCL (Allowed)	MCLG (Goal)
			Min	Max			
Honolulu-Windward-Pearl Harbor	Total Trihalomethanes	ppb	0.00	14.00	4.90	80	None
	Haloacetic Acids	ppb	0.00	0.00	0.00	60	None

Microbial Contaminants (2)

System Name	Contaminant	Number of positive E. Coli samples found	Violation (Yes/No)	Number of assessments required to perform	Source of contaminant
Honolulu-Windward-Pearl Harbor	E. Coli	0	No	0	Naturally present in the environment

Residual Chlorine

System Name	Sample Year	Unit	Lowest Monthly Average	Highest Monthly Average	Running Annual Average	MRDL	MRDLG
Honolulu-Windward-Pearl Harbor	2017	ppm	0.28	0.32	0.30	4	4

Lead/Copper Testing (2)

Contaminant	Sample Year	Unit	90th Percentile Reading	Action Level	# Samples Above Action Level
Copper Lead	2015	ppm	0.058	1.300	0
	2015	ppb	<1.000	15.000	0

of household copper plumbing systems, erosion of natural deposits, or leaching from wood preservatives.

Di (2-ethylhexyl) phthalate is found in discharge from rubber and chemical factories.

Dibromochloropropane (DBCP) is an organic chemical formerly used in Hawaii as a soil fumigant in pineapple cultivation and a petroleum additive. It has been found in several groundwater wells in Central Oahu.

1,2-Dichloropropane (DCP) is an organic chemical used as a solvent and pesticide that may occur in drinking water by leaching into groundwater. It also may come from improper waste disposal and discharge from industrial chemical factories.

Dieldrin is an organic chemical once used as a pesticide for controlling ground termites and may occur in drinking water by leaching into groundwater.

Ethylene dibromide (EDB) is an organic chemical formerly used in Hawaii as a soil fumigant in pineapple cultivation and petroleum additive. It has been found in some groundwater wells in Central Oahu.

Fecal coliform bacteria and **E. Coli** can be found in human and animal fecal waste and may also be found in soil.

Fluoride occurs naturally in groundwater. According to EPA, it may also come from the erosion of natural deposits or discharged from fertilizer and aluminum factories. It can be a water additive that promotes strong teeth. BWS does not add fluoride.

Haloacetic Acids (HAA) and **Total Trihalomethanes** (TTHMs)[such as bromoform, bromodichloromethane, and dibromochloromethane] are by-products of drinking water chlorination.

Heptachlor epoxide is an organic chemical formed by the chemical and biological transformation of heptachlor in the environment. Heptachlor was once used as a non-agricultural insecticide. Heptachlor and its epoxide adsorbs strongly to soil.

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. BWS 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 water for drinking or cooking. If you are concerned about lead in your water, you may choose to

have your water tested by contacting private laboratories that are certified by the State for doing drinking water analyses. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Methyl t-Butyl Ether (MTBE) is used in gasoline to reduce auto emissions.

Nitrate (as nitrogen) occurs naturally in groundwater. According to EPA, nitrates may come from runoff from fertilizer use or leaching from septic tanks, sewage, or erosion of natural deposits. Nitrate in drinking water at levels above 10 parts per million (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 if the nitrate level is between 5 to 10 ppm.

Nitrite (as nitrogen) occurs naturally in groundwater. According to EPA, nitrites may come from runoff from fertilizer use or leaching from septic tanks, sewage, or erosion of natural deposits. Nitrite levels in drinking water in excess of the MCL could cause serious illness or be fatal to infants below the age of six months.

Radium occurs naturally in groundwater from the erosion of natural deposits.

Radon is a naturally-occurring radioactive substance found everywhere on earth. It is a colorless, odorless gas produced from the natural decomposition of uranium. Because radon is a gas, it can move from water to the air in the course of dishwashing, showering, and other water-using activities. In the atmosphere, radon is harmless because it is diluted. However, in enclosed spaces such as basements, radon levels can build up. Appropriate ventilation is the best way to prevent indoor air accumulation of radon.

Selenium is found in discharge from petroleum and metal refineries, erosion of natural deposits, and discharge from mines.

Simazine may occur from herbicide runoff.

Sodium is a common element in the environment that occurs widely in soils, plants, water, and foods. It is also found in personal care products, foods, nutritional supplements, and medications.

Strontium is an alkaline earth metal that occurs naturally in the environment. Air, dust, soil, foods, and drinking water all contain small amounts of strontium. Ingestion of small amounts of strontium is not harmful. According to EPA, strontium levels more than 4000 parts per billion per day may lead to negative health effects. There is no evidence that drinking water with trace amounts of naturally-occurring strontium is harmful.

Tetrachloroethylene (PCE) is an organic chemical that may come from leaching from PVC pipes, discharge from factories, and dry cleaners.

Total coliform bacteria are naturally present in the environment.

Trichloroethylene (TCE) is an organic chemical that may come from metal degreasing sites and other factories.

1,2,3-Trichloropropane (TCP) is an organic chemical formerly used as a soil fumigant in agriculture and as a gasoline additive. It has been found in a number of wells in Central Oahu.

Uranium occurs from the erosion of natural deposits.

Vanadium is a metal that naturally occurs in many different minerals and in fossil fuel deposits. Exposure to vanadium is very common, as it is a naturally occurring element that is found in many parts of the environment including at low levels in many foods. According to EPA, levels more than 21 parts per billion per day may lead to negative health effects. There is no federal drinking water standard for vanadium at this time.

Where Can I Get More Information?

Visit our web site at boardofwatersupply.com or call Erwin Kawata at (808) 748-5080 or Owen Narikawa at (808) 748-5851. You can also reach us by e-mail at contactus@hbws.org.

For information about the following topics, call:

Environmental Protection Agency

Federal drinking water regulations, health effects

Safe Drinking Water Hotline 1-800-426-4791

Board of Water Supply

Communications Office (808) 748-5041

Water testing program (chemicals) (808) 748-5840

Microbiology testing/chlorine taste (808) 748-5850

Copies of your Water Quality Report (808) 748-5041

State Department of Health

State and Federal drinking water standards, Hawaii drinking water monitoring/compliance, health effects

Safe Drinking Water Branch..... (808) 586-4258

How Can I Get Involved?

The Board meets at 2:00 p.m. on the fourth Monday of each month at the Board of Water Supply, 630 South Beretania Street, Honolulu, Hawaii. You are invited to participate in these meetings. For copies of Board meeting schedules and minutes, call (808) 748-5061 or visit www.boardofwatersupply.com.

2 0 1 8 A N N U A L

WATER QUALITY REPORT

Supplemental Information

A separate report, containing the results of tests performed on samples of your water, accompanies this Supplemental Information.



Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843
www.boardofwatersupply.com