

**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**

To protect public health, 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.

**Maximum Residual Disinfectant Level Goal** (MRDLG) is 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 contaminants.

**Maximum Residual Disinfectant Level** (MRD) is the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Hazard Index** (HI) is an approach that determines the health concerns associated with mixtures of certain PFAS in finished drinking water. Low levels of multiple PFAS that individually would not likely result in adverse health effects may pose health concerns when combined in a mixture. The Hazard Index MCL represents the maximum level for mixtures of PFHxS, PFNA, HFPO-DA, and/or PFBS allowed in water delivered by a public water system. A Hazard Index greater than 1 requires a system to take action.

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, every three years, or as determined by federal and state drinking water regulations. So some data, though representative, are more than one year old.

In 2023, a fifth round of EPA's periodically required Unregulated Contaminant Monitoring Rule (UCMR5) was done. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of periodically monitoring for unregulated contaminants is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

**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 O'ahu, drinking water begins as rain falling over the Ko'olau and Wai'anae 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 BWS Water Quality Division Administrator 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?**

**Contaminant** is any physical, chemical, biological, or radiological substance or matter in 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.

**Pesticide** is generally, any substance or mixture of substances in-

tended for preventing, destroying, repelling, or mitigating any pest; and **Herbicide** is any chemical(s) used to control undesirable vegetation 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 by visiting [www.epa.gov/safewater](http://www.epa.gov/safewater).

**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 and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline at 1-800-426-4791 or the State of Hawaii Department of Health at (808) 586-4258.**

**What Kinds of Contaminants Have Been Found in O'ahu's Water?**

Below is a list of substances that have been found in O'ahu'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.

**Bromacil** is a broad-spectrum herbicide used for weed control in citrus and pineapple.

**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** is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

**DCPA Mono/Di-acid degradates** are environmental breakdown products of the herbicide DCPA also known as Dacthal. DCPA is used to control weeds in ornamental turf and plants, strawberries, seeded and transplanted vegetables, cotton, and field beans.

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

**Dibromochloropropane** (DBCP) is an organic chemical formerly used in Hawai'i as a soil fumigant in pineapple cultivation and a petroleum additive. It has been found in several groundwater wells in Central O'ahu.

**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 Hawai'i as a soil fumigant in pineapple cultivation and petroleum additive. It has been found in some groundwater wells in Central O'ahu.

**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** (HAAs) 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, exposure to lead in drinking water can cause serious health effects in all age groups, especially pregnant people, infants (both formula-fed and breastfed) and young children. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

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. Board of Water Supply (BWS) is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility and help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. You can also use a filter certified by an American National Standards

Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact the Water Quality Division Program Administrator at (808) 748-5080. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

**Manganese** is a naturally-occurring element that can be found ubiquitously in the air, soil, and water. It is also used in the manufacturing of steel alloys, ceramics, glass, and as a food additive. The United States Environmental Protection Agency secondary drinking water maximum contaminant limit (SMCL) for manganese is 0.05 milligrams per Liter (50 parts per billion). Concentrations in water above the SMCL may create black to brown color staining and a bitter metallic taste.

**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.

**Perfluoropentanoic acid (PFPeA), perfluorooctanoic acid (PFOA), perfluorohexanesulfonic acid (PFHxS), perfluorohexanoic acid (PFHxA), perfluorooctanesulfonic acid (PFOS), perfluorobutanoic acid (PFBA), and perfluorobutanesulfonic acid (PFBS) and other similar chemicals are known as perfluoroalkyl and/or polyfluoroalkyl substances (PFAS).** Sources of regulated PFAS and Potential Health Effects from Long-Term Exposure Above the MCL is available in EPA site: <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations#seven>

Unregulated PFAS is a synthetic chemical used in a wide range of consumer products and industrial applications. PFAS exposure over a long period of time can cause cancer and other illnesses that decrease quality of life or result in death. PFAS exposure during critical life stages such as pregnancy or early childhood can also result in adverse health impacts.

**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.

**Sulfates** are naturally occurring substances that are found in minerals, soil, and rocks. They are present in ambient air, groundwater, plants, and food. The principal commercial use of sulfate is in the chemical industry. Sulfates are discharged into water in industrial wastes and through atmospheric deposition. According to the United States Environmental Protection Agency, studies suggest sulfate levels more than 500 mg/L can act as a mild laxative.

**Tetrachloroethylene** (PCE) is used in dry cleaning, textile processing and as a degreaser. It can be discharged 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 O'ahu.

**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



# 2025 SEMIANNUAL WATER QUALITY REPORT

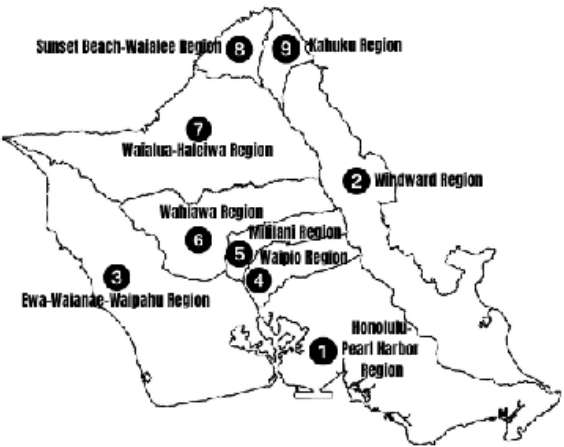
## Supplemental Information

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

### 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.



**Board of Water Supply**

City and County of Honolulu

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