

Sources of drinking water

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 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 byproducts 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.

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. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Source Water Assessment Program

In 2004, the preliminary source water assessment report was released. The purpose of the source water assessment report is to enable the public and decision-makers to make well-founded decisions for the protection and preservation of our drinking water. The source water assessment report identifies the potential contaminating activities for each source of water.

In the report, South Kohala Water System sources are potentially vulnerable to contaminants associated with the following activities: feral animals, grazing, cultivated agriculture, and cesspools. Atrazine has been detected in this system which is attributed to runoff from herbicide used on row crops. Carbon tetrachloride, which is attributed to discharge from chemical plants and other industrial activities has also been detected in this system. For more information, please contact Keith Okamoto, P.E., at 961-8670.

Is my water safe?

Yes it is. Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and State drinking water health standards. The Department of Water Supply vigilantly safeguards its water supplies and once again we are proud to report that your system has complied with all drinking water standards.

Why are there contaminants in my drinking water?

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 Environmental Protection Agency's Safe Drinking Water Hotline 1-(800) 426-4791. If you have any questions regarding this Water Quality Report, please call Keith Okamoto, P.E., at 961-8670.

Do I need to take special precautions?

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 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 health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-(800) 426-4791 .

How can I get involved?

The Water Board meets the fourth Tuesday of every month. Call for the time and location of the meeting.

**You Can Contact Us
at the Following Numbers:**

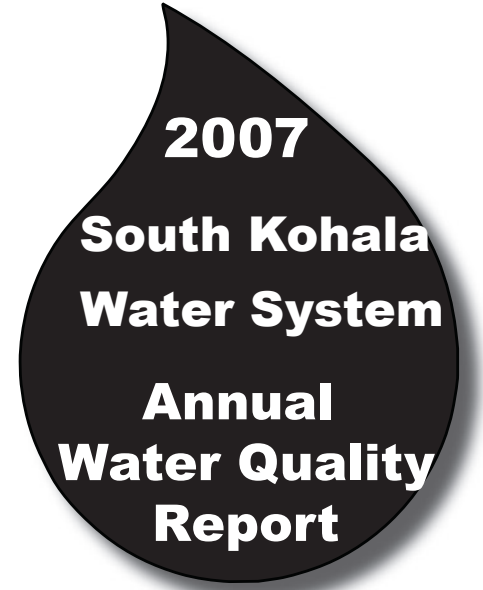
Administration/Finance/General	(808) 961-8050
Billing/Customer Service	(808) 961-8060
Engineering	(808) 961-8070
Emergencies & Field Operations	(808) 961-8790
Water Quality	(808) 961-8670

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Department of
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South Kohala System Water Quality Data Tables

The table below lists the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Regulated Contaminants										
			Waimea Treatment Plant			Waimea Treatment Plant/ Parker Ranch Well 1				
Contaminants	MCL	MCLG	Level Found	Range of Detections	Sample Date	Level Found	Range of Detections	Sample Date	Violation	Typical Source of Contaminant
Microbiological Contaminants										
	TT = maximum of 1 NTU	0	1.00	n/a	2007	1.00	n/a	2007	No	Soil runoff.
Turbidity (NTU)	TT = percentage of samples ≤ 0.3 NTU in at least 95% of measurements taken each month		93.33%	n/a	2007	93.33%	n/a	2007	Yes	
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.										
Inorganic Contaminants										
Nitrate (ppm)	10	10	ND	n/a	2007	0.34	ND - 0.34	2007	No	Runoff from fertilizer use. Leaching from septic tanks. Erosion of natural deposits.
Disinfection By-Products										
Haloacetic acids (ppb)	60	n/a	8.56	ND - 13.5	2007	8.56	ND - 13.5	2007	No	Byproduct of drinking water disinfection.
Total Trihalomethanes (TTHMs) (ppb)	80	n/a	11.1	ND - 15.3	2007	11.1	ND - 15.3	2007	No	Byproduct of drinking water disinfection.
Haloacetic Acids or "HAA5" means the sum of the concentration of the haloacetic acids (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid). Total Trihalomethanes or "TTHM" means the sum of the concentration of the trihalomethane compounds [trichloromethane (chloroform), dibromochloromethane, bromodichloromethane, and tribromomethane (bromoform)].										

Sodium (Not Regulated by State or Federal Government)

			Waimea Treatment Plant			Waimea Treatment Plant/ Parker Ranch Well 1				
Contaminants	MCL	MCLG	Level Found	Range of Detections	Sample Date	Level Found	Range of Detections	Sample Date	Violation	Typical Source of Contaminant
Inorganic Contaminants										
Sodium (ppm)	n/a	none	9.1	n/a	2007	9.1	n/a	2007	No	Erosion of naturally occurring deposits; additive used for corrosion control.

Lead and Copper Rule Compliance

South Kohala Water System							
Contaminant	AL	MCLG	Level Found	# of Sites > AL	Sample Date	Violation	Typical Source of Contaminant
Copper (ppm)	1.3	1.3	0.08	0/41	2006	No	Corrosion of household plumbing systems; erosion of natural deposits.

Sodium in drinking water

There is no State or Federal maximum contaminant level for sodium. Although required, monitoring for sodium is performed primarily to gather information for the consumers, the Safe Drinking Water Branch (SDWB), and the Department of Water Supply (DWS). The EPA Drinking Water Advisory recommends that the sodium concentration in drinking water not exceed a range of 30 to 60 ppm because of the possible adverse effects on taste at higher concentrations. For persons on a sodium-restricted diet, sodium concentrations greater than 120 ppm could be problematic. If you are on a sodium-restricted diet, you should consult your physician about the level of sodium in the drinking water.

Lead and drinking water

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 and not usually from the source water. The Department of Water Supply 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>.

Where does my water come from?

The normal sources of water for South Kohala Water System are Waikoloa and Kohakohau Streams (which are surface water sources). The water is collected and stored in three (3) fifty million-gallon reservoirs. The water is then transmitted to Waimea Treatment Plant where it is processed. The Parker Ranch Well is utilized to supplement the water for South Kohala, when needed. Due to the dry conditions experienced in 2007, Waimea Country Club Well provided water to South Kohala Water System for thirteen days in 2007. If you should wish to review the monitoring data for this source, please contact Keith Okamoto, P.E., at 961-8670.

In previous years we have included a map of the distribution system. However, because we are taking measures to safeguard your water supply, we are not including the map in this year's water quality report. Thank you for your understanding.

June 2007 Treatment Technique Violation

The South Kohala Water System violated a drinking water treatment technique in June of 2007. We routinely monitor your treated water for turbidity (cloudiness). This tells us whether we are effectively filtering the water supply. Water samples showed that 93.33 percent of turbidity measurements were below 0.3 NTU for the month of June. The standard is that at least 95 percent of the measurements taken each month must be less than or equal to 0.3 NTU. None of the water with turbidity units over or equal to 0.3 turbidity units entered the distribution system. Normal turbidity units at our plant are 0.06 to 0.10 NTU.

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms.

These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. These symptoms, however, are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice.

A problem occurred with the treatment system at Waimea Treatment Plant. Due to a mechanical malfunction during the treatment process, the recorded turbidity units exceeded the 0.3 value. This water was not placed in our distribution system. Since this occurred, we have reviewed our treatment process and have implemented stricter controls over equipment monitoring.

August 2007

Drinking Water Standard Violation

The South Kohala Water System violated a drinking water standard in August 2007. In order to ensure proper disinfection, water from the Waimea Treatment Plant must be in contact with chlorine for a minimum amount of time. On August 18 and 21, 2007, this did not occur. The DWS incurred a violation for August because the disinfectant levels were lower than the required amount on two days in the month of August. Although chlorine quickly kills most bacteria, it is less effective against organisms such as viruses and parasites. For this reason, water needs to mix with chlorine for a longer time period to kill such organisms. The amount of time necessary, or the "contact time," depends on the amount of disinfectant in the water and the temperature of the water.

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. These symptoms, however, are not caused only by organisms in drinking

Key definitions of terms used in this report

- MCLG** = Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk for health. MCLGs allow for a margin of safety.
- 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
- AL** = Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- TT** = Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
- ppm** = Parts per million. One ppm corresponds to a single penny in \$10,000 or about one minute in two years.
- ppb** = Parts per billion. One ppb corresponds to a single penny in \$10,000,000 or about one minute in two thousand years.
- NTU** = Nephelometric Turbidity Units: This is a measure of the suspended material in water.
- ND** = Not Detected: If a contaminant is not measured at or above its minimum detection limit, it is reported as Not Detected - detection limits are available upon request.
- n/a** = not applicable

water. If you experience any of these symptoms and they persist, you may want to seek medical advice.

The disinfectant used at Waimea Treatment Plant is chloramine, which is a combination of chlorine and ammonia. Because of a mechanical fault which occurred in the treatment process, the disinfection levels dropped lower than the required amounts. The fault was repaired after which all treatment parameters at the treatment plant were back to normal and met all requirements for the month of August 2007. The mechanical fault did occur again in September 2007 but did not cause a violation.

December 2007

Drinking Water Standard Violation

The South Kohala Water System violated a drinking water standard in December of 2007. *We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards.* During December 2007, we did not complete all monitoring for filter turbidity, and therefore cannot be sure of the quality of our drinking water during that time.

On December 1, 2007, during the daily plant systems and water quality checks, the operator noted that the continuously monitoring turbidity analyzer for the water entering the distribution system was malfunctioning due to an electrical surge. This unit is responsible for calling out the operator if the turbidity becomes excessive during off hours, and provides information, every four hours, for the plant computer-generated report to the State of Hawai'i, Department of Health, Safe Drinking Water Branch.

As it was the weekend, the instrument technician was not available, so the operator increased the frequency of checking the plant computer monitoring system until the unit could be repaired. However, the Surface Water Treatment Rule stipulates that if the continuous monitor is inoperative or malfunctioning, a sample must be collected from that monitoring point, analyzed and the information recorded, by hand, every four hours. This was not done.

The analyzer was repaired on December 3, 2007. A second analyzer has been installed at the monitoring point to provide backup. The plant operators have been given refresher training on the Surface Water Treatment Rule.