Attention Homeowners living in the following areas:

*Foster Village & Salt Lake AREAS*

We have received the 2005 Report (most recent available) on the GROUNDWATER CONTAMINATION on Oahu, from the *State of Hawaii Department of Health*, published 7/06. According to the report all the water coming into your home meets the Federal & State standards. *The big issue is the STANDARDS.* — [Click Here >]

The report shows that the WELLS that can service the Region where your home is located, (BOWS Region 1– *Foster Village & Salt Lake AREAS*),
can contain at least **THREE (3) known VOC Contaminants:**

- **EDB (Ethylene dibromide)** — [Click Here >]
- **TCE (Trichloroethylene)** — [Click Here >]
- **TCP (1,2,3-Trichloropropene)** — [Click Here >]

NOTE: *Volatile Organic Compounds (VOCs) can be absorbed through the skin’s pores and inhaled while taking a Shower, Bath, Washing Hands or Dishes at the Sink, and Standing over a Heated Pot of Water while Cooking!* When you take a Shower or Bath, you could be getting as much exposure to these contaminants as drinking a couple of glasses of water!

... and ... The BOWS reports show that your area’s water supplies to your home, can contain

**As many as THREE (3) different known DBPs:** — [Click Here >]

- **HAA5 (Total Haloacetic Acid), TTHMs (Trihalomethanes) & Bromoform**

This report also shows the possible non-carcinogenic *Health effects & EPA Carcinogen (Cancer Causing) Rating* for exposure to those particular Contaminants. Please review, with your spouse, the entire enclosed information.

When you review the **entire enclosed information**, you will understand why

we recommend you include a

**Whole-House GAC Filter/Purification System** — [Click Here >]

as part of any **Water Treatment Systems** you install in your home.

*Please see the following pages, and Equipment Brochures.*
The evidence will show that ...

1. **testing** by the Dept. of Health and Honolulu Board of Water Supply has detected contamination that has been found to affect a substantial portion of Oahu’s water supply, even though they were only testing for a small number of contaminants.

2. ... the known extent of ground water contamination is but the “tip of the iceberg” of a problem whose actual dimension is as of yet largely unknown. Other contaminants may exist in the water supply; but it is unknown due to limited testing as a result of government budget restraints and other considerations.

3. ... Oahu’s water distribution systems are interconnected, blending many sources of water is possible. Contaminated water from one community can be distributed to other communities.

4. ... the contaminants found in the water supply are known to have many possible health effects.

5. ... standards exist for only a limited number of contaminants (only about 100 out of 70,000).

6. ... the evidence will show that the established government standards that set the safe level of contamination for our water, are assuming that only one VOC contaminant exists in the water.
The evidence will show that ...

... most areas found to be contaminated have had multiple contaminants.

... the fact is no federal, state or local government standards exist for multiple VOC contaminants in the water.

... government standards that are used to say that our water is safe, in virtually all instances, DO NOT APPLY to our water contamination; because of multiple VOC contaminants in the water.

... what is considered “safe” today, may not be considered safe tomorrow.

...the only “safe” course is to err on the side of caution — remove the contaminants from the water — filter your water at the point of entry and point of use in your home — you no longer have to worry what standard is a “safe level” if the contaminants are removed from the water — you now have the “peace-of-mind” you desire and require.
In April 1983, local TV news programs, reported that the Mililani Wells were contaminated with FOUR different **VOCs (Volatile Organic Compounds)**. That was the first time any well contamination was revealed to the public. **What the public didn’t know at that time**, was that the Hawaii Department of Health and Honolulu Board of Water Supply already knew in **February of 1981**, that the Mililani Wells were contaminated with VOCs. … and, they also knew, as far back as **April of 1977**, of the first known well contamination on Oahu, that occurred in Waipahu — **with extremely high levels of VOC contamination**. The Hawaii Department of Health and Honolulu Board of Water Supply did not reveal to the public what they knew about well contamination until many years later, and then only limited information was revealed to the public. **The facts were only fully revealed to the public in 1993, not by the State, or City, or the Hawaii Department of Health, but by the NATURAL RESOURCES DEFENSE COUNCIL / 1993 Publication ‘Groundwater In Hawai’i’**

This publication is a must read for every resident of Oahu — anyone who reads this publication will be shocked and appalled to find out what wasn’t revealed to them by the responsible agencies at the time — the extent of contamination, the number of different contaminants, and the health effects associated with exposure to those contaminants. To see the publication and get all the shocking facts and history of Oahu’s well water contamination [click here](#).

Does this scenario of government water suppliers not revealing the extent of water contamination and related health effects to consumers, and telling the public that the water supplies are perfectly healthy and safe, ‘sound familiar’? Have you ever seen the movies ‘Erin Brockovich’ with **Julia Roberts** and ‘A Civil Action’ with **John Travolta**?

**Today, over 191 wells on Oahu are contaminated with many different VOCs**— Virtually all the wells that can service most of Oahu’s areas: North Shore-Mokuleia, Waialua, Haleiwa, Waimea, Pupukea, Sunset Beach; Wahiawa; Mililani Town; West Oahu-Waianae; Kapolei-Ko'Olina, Makakilo, Ewa, Ewa Beach; Waipahu-Royal Kunia, Village Park, Waikele, Seaview, Crestview, Waipio; Pearl City; Aiea; Foster Village; Salt Lake; Moanalua Valley; Kalihi; throughout town to Wilder area; McCully; Kaimuki; St. Louis Heights; Palolo Valley; Maunalani Heights; Wilhelmina Rise; Diamond Head; Kahala; and East Oahu-Waialae Nui, Kalani Valley, Waialae Iki, Aina Haina, Hawaiioa Ridge, Niu Valley, Kuliouou, Hahaione Valley, Mariners Ridge, Port Lock, Hawaii Kai, Kalama Valley, Queens Gate; & Waimanalo.

**In addition**, virtually all the water distributed throughout Oahu, contains up to THREE different **DBPs**. **In addition**, virtually all the water distributed throughout Oahu, contains various levels of **NITRATE**.

Please see the following pages for current information on the Water Quality Issues for your area . . .
What are Disinfection By-Products (DBPs)?

Water is chlorinated by the Honolulu Board of Water Supply to fight bacteria. Unfortunately, the chlorine is very reactive and easily combines with naturally occurring organic material to form disinfection by-products (DBPs), such as HAA5 (Total Haloacetic Acid), and trihalomethanes (TTHMs). TTHMs are a group of four chemicals: chloroform, bromoform, bromodichloromethane, and dibromochloromethane.

It is these trihalomethanes that you are more likely to see at the tap than you would chlorine depending on where you are located within the water distribution system. The farther away from the treatment plant the more likely you will have trihalomethanes in your water as the time the water must travel within the distribution systems allows the chlorine to react.

In December 1998, the EPA enacted the stage 1 Disinfectants and Disinfection By-Products Rule. This rule lowered the maximum contaminant level (MCL) for TTHMs (Total Trihalomethanes) from 100 ppb to 80 ppb. Ground water systems were requested to comply with Stage 1 Disinfectants and Disinfection By-Products Rule by January 2004.

What are the health risks associated with DBPs?

Here is the EPA’s statement: “EPA’s main mission is the protection of human health and the environment. When carrying out this mission, EPA bases its decisions on the best available science. However, EPA must often make regulatory decisions with less than complete information and with uncertainties in the available information. EPA believes that consistent with public health protection goals of the SDWA, it is appropriate and prudent to err on the side of public health protection when there are indications that exposure to a contaminant may present risks to public health, rather than take no action until risks are unequivocally proven. Such is the case with the Stage 2 DBPR. The best available science indicates that cancer, reproductive and developmental risks may be associated with exposure to DBPs and disinfected drinking water.” … “While recognizing these uncertainties, EPA believes that the weight of evidence represented by the available epidemiology and toxicology studies on disinfected water and DBPs continues to support a concern for health risk and a protective public health approach to regulation of DBPs.”

“A number of epidemiology studies have been conducted to investigate the relationship between exposure to disinfected water and adverse effects like cancer or developmental and reproductive outcomes. While EPA cannot conclude there is a causal link between exposure to chlorinated surface water and cancer, some epidemiology studies have suggested an association, albeit small, between bladder, rectal, and colon cancer and long term exposure to chlorinated surface water. Although there are fewer published epidemiology studies that have been conducted to evaluate the possible relationship between drinking water and reproductive and developmental effects, recent studies report increased risks for low birth weight, term low birth weight, birth defects, miscarriage, and still birth to women exposed to chlorinated surface water and elevated concentrations of TTHM. As with cancer, although EPA cannot conclude at this time that there is a causal link between exposure to chlorinated water or DBPs and reproductive and developmental effects, there is a troubling indication of an association. Furthermore, developmental effects may occur after short durations of exposure.”
Here is the EPA’s statement (continued):

“...the Agency believes the weight of evidence presented by the available epidemiological studies on chlorinated drinking water and toxicological studies on individual DBPs support EPA’s concern about a potential health hazard.”

“After reviewing the science, all committee members expressed concern for potential health risks to pregnant women and their fetuses from DBPs…”

Ozonation: Ozonation is used for disinfection in some Bottled Water production.

Here is the EPA’s statement regarding Ozonation: “…if bromide ion is present in the raw water halogenated DBPs may be formed. These brominated DBPs appear to pose a greater health risk than non-brominated DBPs.”

How am I Exposed to Disinfection By-Products (DBPs)?

**BY INGESTION**

Drinking Water, or Beverages & Food Prepared with Chlorinated Water; and, may be found in BOTTLED WATER that uses Ozonation for disinfection.

Honolulu Board of Water Supply Distribution System Monitoring for Disinfection By-Products, 5/31/06 & 5/23/07 Reports
REGION 1 (Honolulu-Windward-Pearl Harbor System) FOSTER VILLAGE & SALT LAKE AREAS—Tested by the State Dept. of Health

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Average</th>
<th>Maximum</th>
<th>MCL (Maximum Contaminant Level) Allowed</th>
<th>MCLG (GOAL)</th>
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</thead>
<tbody>
<tr>
<td>Bromoform</td>
<td>0.671 ppm</td>
<td>3.000 ppm</td>
<td>Not Yet Available</td>
<td>0</td>
</tr>
<tr>
<td>TTHMs (Trihalomethanes)</td>
<td>0.671 ppm</td>
<td>3.000 ppm</td>
<td>80.000 ppm</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>HAA5 (Total Haloacetic Acid)</td>
<td>0.082 ppm</td>
<td>1.200 ppm</td>
<td>60.000 ppm</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

**NOTE:** A system in compliance with an MCL could have TTHM or HAA5 occurrences well above the MCL. What is reported to the public is the running annual average. DBPs can peak above regulated levels. There are Health Risks with short durations of exposure to DBPs.

How will DBPs be Removed from My Water?

**Best Available Technology (BAT):**

Granular activated carbon (GAC) under the SDWA is the best available technology (BAT) for removing DBPs. **SOURCE:** EPA Guidance Manual, M-DBP simultaneous Compliance

**AAA BestWater Co’s exclusive OPTI-CARB 1200+™** is a ‘superior’ Premium Grade extra hard highly microporous ‘coconut shell’ granular activated charcoal manufactured for ‘optimum’ DBP adsorption, and long life. The **AAA BestWater Co’s (POE) Whole-House GAC Filter/Purification System** contains the proper amount and type of GAC to handle the household flow rates, for the contact time required for the GAC to ‘adsorb’ the DBPs, thereby filtering all the water throughout your home.

**OPTI-CARB 1200+™** meets **AWWA Standard B-600-74, ANSI/NSF Standard 61** and **Food Chemicals Codex Standards** for drinking water applications.
What are volatile organic compounds?
Organic compounds are chemicals that contain carbon and are found in all living things. Volatile organic compounds, sometimes referred to as VOCs, are organic compounds that easily become vapors or gases. Along with carbon, they contain elements such as hydrogen, oxygen, fluorine, chlorine, bromine, sulfur or nitrogen.¹

A volatile organic compound is an organic compound which has a boiling point below that of water and which can easily vaporize or volatilize.²

Volatile Organic Compounds (VOCs) in Drinking Water

Drinking water containing high levels of volatile organic compounds (VOCs) may be harmful to human health. VOCs are a class of chemicals that have important properties in common: They evaporate, or vaporize, readily (they are volatile), and they contain carbon (and are therefore called organic).

Health Concerns

Volatile organic compounds may have a variety of harmful health effects. … Drinking water containing one or more VOCs at levels above standards should not be consumed. In addition, because little is known about the additive effects of these chemicals, special attention should be paid to detecting and eliminating VOC sources if two or more chemicals are found in water. In any case, sources of VOC contamination should be eliminated if possible. … Keep in mind, however, that VOCs may also enter the body through skin absorption or through inhalation of water vapor. … POE treatment systems are recommended for VOC removal to ensure that all water used for drinking, cooking, cleaning, and bathing is free of contamination.³

How will VOCs be removed from my water?
The following treatment method has been approved by the EPA for removing VOCs: Granular activated charcoal (GAC)²

[AAA BestWater Co’s OPTI-CARB 1200+™ is a ‘superior’ Premium Grade extra hard highly microporous ‘coconut shell’ granular activated charcoal specifically manufactured for ‘optimum’ VOC adsorption.]

¹National Library of Medicine
²Environmental Protection Agency (EPA)
³[Prepared by: Gregory D. Jennings and Ronald E. Sneed Extension Specialists, Biological & Agricultural Engineering, Mary Beth St. Clair, Extension Specialist, Toxicology. Published by: North Carolina Cooperative Extension Service]
Import Facts You Should Know:

Many of the types of CONTAMINANTS found in Oahu’s ground water supplies are considered ‘VOLATILE’ [Volatile Organic Compounds (VOCs)], and therefore will release from the water when they are heated and exposed to the air. In their volatile state, these compounds can be absorbed through the skin and inhaled.

Volatile Organic Compounds (VOCs) can be absorbed through the skin’s pores and inhaled while taking a Hot Shower, Hot Bath, Washing Dishes, and Standing over a Heated Pot of Water while Cooking!

It has been said that while taking a hot shower or bath, the amount of volatile compounds inhaled or absorbed through the skin, can be the equivalent of drinking two quarts of water with the same level of contaminant. Even washing dishes in hot water, or standing over a pot of water while cooking, can give you the same exposure.

This is according to scientists and the EPA, as reported on National T.V. news programs, and at meetings at Village Park in the fall of 1999, attended by Village Park Resident’s and their Attorney’s Representatives, the Board of Water Supply’s, and the State Dept. of Health’s representatives.

“There is no substitute for Pure Water”
Honolulu Board of Water Supply
There is no substitute for Pure Water
Honolulu Board of Water Supply

EPA Health Advisory on the Non-Carcinogenic Health Effects
Of Exposure to the following Contaminants Found in the Well Sources of
REGION 1, FOSTER VILLAGE & SALT LAKE AREAS,
As reported by the Hawaii Department of Health, 2005 Groundwater Contamination Maps Report (The most recent Report available)

Hawaii Dept. of Health Report

<table>
<thead>
<tr>
<th>Regulated Contaminant</th>
<th>Actual Levels Detected ppb</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDB Waipahu,1, P2, 2400-01</td>
<td>NQ&lt;0.04</td>
</tr>
<tr>
<td>TCE Waipahu,1, P2, 2400-01</td>
<td>NQ&lt;0.50</td>
</tr>
<tr>
<td>TCP Waipahu,1, P2, 2400-01</td>
<td>0.40</td>
</tr>
<tr>
<td>EDB Waipahu,1, P1, 2400-02</td>
<td>NQ&lt;0.04</td>
</tr>
<tr>
<td>TCE Waipahu,1, P1, 2400-02</td>
<td>NQ&lt;0.50</td>
</tr>
<tr>
<td>TCP Waipahu,1, P1, 2400-02</td>
<td>0.50</td>
</tr>
<tr>
<td>EDB Waipahu,1, P4, 2400-03</td>
<td>NQ&lt;0.04</td>
</tr>
<tr>
<td>TCP Waipahu,1, P4, 2400-03</td>
<td>NQ&lt;0.50</td>
</tr>
<tr>
<td>EDB Waipahu,1, P3, 2400-04</td>
<td>NQ&lt;0.04</td>
</tr>
<tr>
<td>TCE Waipahu,1, P3, 2400-04</td>
<td>NQ&lt;0.50</td>
</tr>
<tr>
<td>TCP Waipahu,1, P3, 2400-04</td>
<td>0.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>EPA: Possible Non-Carcinogenic Health Effects</th>
<th>EPA: Carcinogen Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDB (Ethylene dibromide)</td>
<td>Heart, &amp; Kidney, &amp; Liver, &amp; Stomach, &amp; Gastrointestinal System, &amp; Respiratory System, &amp; Nervous System Damage; &amp; Reproductive System Problems</td>
<td>Increased Risk of CANCER</td>
</tr>
<tr>
<td>TCE (Trichloroethylene)</td>
<td>Central Nervous System Depression; &amp; Liver, &amp; Kidney Damage</td>
<td>Increased Risk of CANCER</td>
</tr>
<tr>
<td>TCP (Trichloroethylene)</td>
<td>Decreased Red Blood Cells; &amp; Liver, &amp; Kidney Damage</td>
<td>Increased Risk of CANCER</td>
</tr>
</tbody>
</table>

“There is no substitute for Pure Water”
Honolulu Board of Water Supply

AAA BestWater Co.’s exclusive: OPTI-CARB 1200+™

OPTI-CARB 1200+™ is a ‘superior’ Premium Grade extra hard highly micro-porous ‘coconut shell’ granular activated charcoal (GAC) specifically manufactured for ’optimum’ VOC adsorption (VOCs such as pesticides, insecticides, herbicides, termitecides, fumigants, solvents, & gas additives, etc.), [(VOC) is the scientific abbreviation for 'Volatile Organic Compound’ that is used by the scientific community, the EPA (Environmental Protection Agency), and the DOH (Hawaii Department of Health)], as well as removing DBPs (Disinfection Byproducts). [Naturally Occurring Organic Backgrounds (NOBs) reacting with chlorine during the disinfection process create chlorinated chemicals commonly referred to as Disinfection Byproducts (DBPs), which are suspected carcinogens (cancer causing agents)].
Did you know? The Hawaii State Dept. of Health has stated that “... what is considered safe [federal and state standards] today may not be considered safe tomorrow. ...”

“... as a matter of policy, the United States Environmental Protection Agency has taken the position that an increased cancer risk can be expected to occur at any level. Therefore, there is no “safe” level of exposure for carcinogenic agents....”

(SOURCE: Director, State Dept. of Health Advertisement, The Honolulu Advertiser, June 29, 1988)

The 2003, 2004 & 2005 Maps reports includes the following:—

Exposure to the known VOCs in Hawaii’s water supplies have been reported by the EPA and the Hawaii DOH to include the following known health effects:

► Increased Risk of CANCER
► Increased Risk of BREAST CANCER

► Liver Damage
► Kidney Damage
► Bladder Damage
► Changes in Adrenal Glands
► Respiratory System Damage
► Cardiovascular System Problems
► Heart Damage
► Retinal Degeneration
► Anemia
► Decreased Red Blood Cells

► Muscle Degeneration
► Stomach Damage
► Gastrointestinal Tract Damage
► Nervous System Damage
► Central Nervous System Depression
► Chromosome Aberrations
► Reproductive System Problems & Difficulties
► Anti-Fertility Effects
► Male Reproductive System Problems
► Malformation of Male Sex Organs

Are you willing to risk the known health effects associated with Exposure to the VOCs in your water supply?
Pesticide combinations
add up to big trouble

Associated Press

WASHINGTON - Pesticides that by themselves have been linked to breast cancer and male birth defects are up to 1,000 times more potent when combined, according to a study.

A federal environmental official called the finding astonishing and said if it is confirmed in other labs, it could force a revolution in the way environmental effects of chemicals are measured.

The study centered on endosulfan, dieldrin, toxaphene and chlordane, all pesticide chemicals that are known to turn on a gene that makes estrogen in animals.

Estrogen is a hormone that controls formation of female organs. A surplus of the hormone has been linked to breast cancer and, to malformation of male sex organs.

By themselves, the pesticides have only a very weak effect on the estrogen gene, said John A. McLachlan of Tulane University, leader of a team that tested the chemicals. "If you test them individually, you could almost conclude that they were non-estrogenic, almost inconsequential," he said.

“These findings are astonishing”
Dr. Lynn Goldman, Environmental Protection Agency

"But when we put them in combination, their potency Jumped up 500 to 1,000-fold.”
 McLachlan said it was expected that combinations of the chemicals would be additive; that is, the effects of two chemicals together would equal the sum of the effects of the chemicals alone.

"Instead of one plus one equaling two, we found in some cases that one plus one equals a thousand.”
The study is being published today in the journal Science.

“These findings are astonishing,” said Dr. Lynn Goldman, chief of the Environmental Protection Agency's Office of Prevention, Pesticides and Toxic Substances.

“The policy implications are enormous about how we screen environmental chemicals for estrogen effects.”
Pollution, fetal changes linked in study

NEW YORK (AP) -- A study of New York City newborns suggests that prenatal exposure to air pollution may be linked to genetic changes associated with an increased risk of cancer, researchers have said.

The study by Columbia University followed 60 newborns and their non-smoking mothers in low-income neighborhoods, primarily in Harlem and the Bronx.

Their exposure to combustion-related pollutants caused primarily by vehicles was measured by backpack air monitors worn by the women during the third trimester of their pregnancies.

When the babies were born, genetic alterations were measured. Researchers found about a 50 percent increase in the level of persistent genetic abnormalities in the infants who had the higher levels of exposure, said Dr. Frederica Perera, director of the center and senior author of the study.

“We already knew that air pollutants significantly reduced fetal growth, but this is the first time we've seen evidence that they can change chromosomes in utero,” Perera said Tuesday.

She said the kind of genetic changes that occurred have been linked in other studies to increased risk of cancer.

"While we can't estimate the precise increase in cancer risk," Perera said, the findings underscore the need for government to take steps to protect children.

The study, published in the journal Cancer Epidemiology Biomarkers and Prevention, is part of a broader multi-year research project started in 1998 that examines the health effects of exposure of pregnant women and babies to air pollutants, pesticides and tobacco smoking.

James Quinn, a biologist at McMaster University in Ontario, Canada, who was one of the authors of an earlier study that examined pollution-related mutations in mice, said the Columbia study merits attention.

"This study adds to a growing list of studies suggesting that anthropogenic air pollution carries health risks and genetic consequences that may affect the next generation," Quinn said in an e-mail.

Although the research isn't conclusive and leaves open other possible causes for the genetic changes, Quinn said, the pollutants were "a likely explanation for the elevated anomalies. Presumably there will be follow-up experimental work."

Christopher Somers, a research associate at the University of Regina who was another author of the mouse study, said, "The fact that the simple act of an expectant mother breathing might cause chromosome abnormalities in her unborn child is cause for concern."
Many of the types of pesticides, insecticides, herbicides, termiticides, fumigants, solvents, & gas additives found in Oahu’s ground water supplies are considered “VOLATILE” [Volatile Organic Compounds (VOCs)], and therefore will release from the water when they are heated and exposed to the air. In their volatile state, these compounds can be absorbed through the skin’s pores and inhaled while taking a Hot Shower, Hot Bath, Washing Dishes, and Standing over a Heated Pot of Water while Cooking!

**POISONING THE WELL**

Hawaii’s Groundwater becomes contaminated when toxic material from pesticides, herbicides, insecticides, termite ground treatment, old military leaking underground fuel storage tanks, old commercial leaking underground fuel storage tanks, old military buried chemical drums and toxic waste dumps, old commercial buried chemical drums, community landfills, fuel oil spills from leaking fuel oil transmission lines, waste injection wells, etc., reaches an aquifer. The pollution often forms a “plume” that often goes undetected.

“There is no substitute for Pure Water”

Honolulu Board of Water Supply
The 2005 Groundwater Contamination Maps for the State of Hawai‘i are the tenth edition of the Maps since they were first published in August of 1989. The Maps were not published between 1999 and 2001 due to resource limitations. However, this publication includes historical monitoring data generated since the first publication unless subsequent monitoring data shows no detection at which time the contaminant was removed from the report.

Where do these Maps come from?

The 2005 Groundwater Contamination Maps for the State of Hawai‘i were prepared by the Groundwater Protection Program, Safe Drinking Water Branch of the Hawai‘i Department of Health (DOH). The Maps represent current information available to the DOH between January 1, 2005, through December 31, 2005, and are based on monitoring data for public drinking water wells, select non-potable wells, fresh water springs, and other testing data available to the DOH.

What do these Maps represent?

The 2005 Maps identify **organic and other chemical contaminants that have been detected and confirmed in drinking water wells, select non-potable wells, and fresh water springs** throughout the state. Groundwater can become contaminated through natural processes, but anthropogenic, or human-induced, contamination poses more serious problems. **Contaminants may come from** herbicides, pesticides, industrial solvents, and other sources which are applied, spilled, or leaked into the ground. **Groundwater contamination is a significant concern** because nearly all of Hawai‘i’s drinking water comes from groundwater sources.

The intent of the Maps is to identify only those wells with detectable levels of groundwater contamination. **Some contaminated wells may not be reported because of lack of confirmed data, or the wells have not been tested.** The contamination levels in this document refer to reported levels of contamination on a specific sampling date. **Levels of groundwater contamination may fluctuate for a number of reasons,** including actual diminishing or increasing levels of contamination, chemical breakdown of contaminants, variability in sampling and analytical methods, the effects of pumping rates, and other factors.
These are the contaminated wells that can service the following areas:

**Foster Village & Salt Lake AREAS:**

**BOWS Region 1 (Honolulu-Windward-Pearl Harbor System)**

The **Contaminated Wells** are highlighted in ‘ORANGE’

The **VOC Contaminants for that Well** are highlighted in ‘YELLOW’

<table>
<thead>
<tr>
<th>O'AHU Map &amp; Well Name</th>
<th>Use</th>
<th>Contaminant</th>
<th>Detected Level (ppb)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 2255-32 Halawa Plant (Navy)</td>
<td>DW</td>
<td>chlorodane</td>
<td>0.3</td>
<td>04/13/05</td>
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<tr>
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<tr>
<td>20 2301-34 Hoesae, P1</td>
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<td>Atrazine</td>
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<tr>
<td>20 2301-38 Hoesae, P4</td>
<td>DWV</td>
<td>Desethyl Atrazine</td>
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<tr>
<td>20 2301-39 Hoesae, P4</td>
<td>DWV</td>
<td>dieldrin</td>
<td>0.01</td>
<td>10/27/05</td>
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<tr>
<td>20 2301-36 Hoesae, P4</td>
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<td>TCP</td>
<td>0.32</td>
<td>10/27/05</td>
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<td>TCE</td>
<td>NQ&lt;0.5</td>
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What do these Maps tell us?

The 2005 Maps show that groundwater contamination continues to occur in Hawai‘i. In most cases, once a groundwater source becomes contaminated, it remains contaminated for many years. The Maps show that a few wells that were previously not contaminated by a particular chemical have now shown positive detections of chemicals known to be present in nearby wells. All new contaminant levels are below the Maximum Contaminant Levels (MCLs) established by the Federal Environmental Protection Agency (EPA) as part of the Federal Drinking Water Standards.

New contaminant(s) were found in the following wells on O‘ahu in 2005.

Map #22    Kunia I, Pump 3 (Well #2302-03)    TCE
Map #27    Kunia II, Pump 3 (Well #2402-03)    DCP

MTBE detected in Wahiawa Well II, Pump 2 (Well #2902-02) in 2004 was not detected in 2005.

New contaminant(s) were found in the following wells on O‘ahu in 2004.

Map #18    Navy Halawa Plant (Well #2255-32)    Chlordane
Map #20    Ho‘ae‘ae, Pump 3 (Well #2301-37)    Atrazine, Dieldrin
Map #21    Kunia I, Pump 2 (Well #2302-02)    TCE
Map #27    Kunia II, Pump 4 (Well #2402-04)    DBCP, DCP, TCE, TCP
Map #42    Wahiawa II, Pump 2 (Well #2902-02)    CTC, MTBE, PCE, TCP

No chemical contaminants have been detected in the drinking water wells on Moloka‘i and Lana‘i since the Maps were first prepared in 1989.

Is the water safe?

The 2005 Maps indicate that the contaminant concentrations detected in Hawai‘i’s groundwater are generally below state and federal drinking water standards. This means that as long as concentrations are below these standards and advisory levels, the water is considered safe and does not pose a serious health risk. If contamination levels approach state and federal drinking water standards, the well’s owner is required to take steps to reduce the contaminant concentration to a safe level. This could involve the installation of a treatment system, blending of the water with higher quality water, or removing the well from service.

How are the Maps organized?

This report contains maps and tables for the islands of O‘ahu, Hawai‘i, Maui and Kaua‘i. The Maps identify the locations of wells, well fields (an area where many wells in proximity share the same groundwater source), and fresh water springs with current and historical monitoring information.

The tables include information about the contaminated well or spring, such as the use of the well (e.g. drinking water, irrigation, industrial or inactive), the contaminant(s)

1 Federal and State Drinking Water Standards and Health Advisories are listed at the end of this report, including acronyms.
Volatile Organic Compounds (VOCs):

**INHALED - ABSORBED THROUGH SKIN PORES**

SHOWERING - BATHING
WASHING HANDS-FACE-BODY
WASHING DISHES
— IN HOT OR WARM WATER —

**INHALED**
STANDING OVER HEATED WATER WHILE COOKING

**INGESTED**
DRINKING WATER OR BEVERAGES PREPARED WITH WATER
EDB (Ethylene dibromide) is one of the THREE (3) VOC Contaminants found in Wells that can service the Honolulu Board of Water Supply REGION 1 (Honolulu-Windward-Pearl Harbor System) FOSTER VILLAGE & SALT LAKE AREAS. Here are the EPA’s non-carcinogenic Health Effects and CANCER Rating for this contaminant, as reported in the EPA Reports, & Hawaii Dept. of Health’s Groundwater Contamination Report.

EDB (Ethylene dibromide):

**EPA Non-carcinogenic Health Effects:**
Heart, Kidney, Liver, Stomach, Respiratory System, Nervous System Damage

**EDB (Ethylene dibromide)** (Potential Source: Pesticide, Gasoline Additive, Solvent)

**EPA Carcinogen Rating:**
Increased Risk of Cancer

EDB (Ethylene dibromide) is inhaled & absorbed through the skin when showering, bathing, washing hands, face & body in Hot or Warm water; or, inhaled when standing over boiling water while cooking; or, ingested when drinking water or beverages prepared with water.

The solution to this problem and concern is the **Ali'i 5-TECH+ Pure Water Quality System™** with our exclusive **OPTI-CARB 1200+™**

Removes Atrazine and other VOCs & DBPs from ALL the water in your home!

Call AAA BestWater Co.: 454-2666
TCE (Trichloroethylene) is one of the THREE (3) VOC Contaminants found in Wells that can service the Honolulu Board of Water Supply REGION 1 (Honolulu-Windward-Pearl Harbor System) FOSTER VILLAGE & SALT LAKE AREAS.

Here are the EPA’s non-carcinogenic **Health Effects** and **CANCER Rating** for this contaminant, as reported in the EPA Reports, & Hawaii Dept. of Health’s Groundwater Contamination Report.

**EPA Non-carcinogenic Health Effects:**
- Kidney, Liver Damage;
- Central Nervous System Depression

**EPA Carcinogen Rating:**
- Increased Risk of Cancer

**TCE (Trichloroethylene):**
(Potential Source: Solvent)

**TCE (Trichloroethylene) is inhaled & absorbed through the skin when showering, bathing, washing hands, face & body in Hot or Warm water; or, inhaled when standing over boiling water while cooking; or, ingested when drinking water or beverages prepared with water.**

*The solution to this problem and concern is the Ali‘i 5-TECH+ Pure Water Quality System™ with our exclusive OPTI-CARB 1200+™*

*Removes Atrazine and other VOCs & DBPs from ALL the water in your home!*

Call AAA BestWater Co.: 454-2666
TCP (1,2,3-Trichloropropane) is one of the THREE (3) VOC Contaminants found in Wells that can service the Honolulu Board of Water Supply REGION 1 (Honolulu-Windward-Pearl Harbor System) FOSTER VILLAGE & SALT LAKE AREAS

Here are the EPA’s non-carcinogenic Health Effects and Cancer Rating for this contaminant, as reported in the EPA Reports, & Hawaii Dept. of Health’s Groundwater Contamination Report.

TCP (1,2,3-Trichloropropane):
EPA Non-carcinogenic Health Effects:
Kidney, Liver Damage;
Decreased Red Blood Cells

TCP (1,2,3-Trichloropropane) (Potential Source: Solvent, Pesticide)

EPA Carcinogen Rating:
Increased Risk of Cancer

TCP (1,2,3-Trichloropropane) is inhaled & absorbed through the skin when showering, bathing, washing hands, face & body in Hot or Warm water; or, inhaled when standing over boiling water while cooking; or, ingested when drinking water or beverages prepared with water.

The solution to this problem and concern is the Ali’i 5-TECH+ Pure Water Quality System™ with our exclusive OPTI-CARB 1200+™

Removes Atrazine and other VOCs & DBPs from ALL the water in your home!

Call AAA BestWater Co.: 454-2666
**NITRATE**
is found in the
Honolulu Board of Water Supply REGION 1 (Honolulu-Windward-Pearl Harbor System)
FOSTER VILLAGE & SALT LAKE AREAS
Here are the EPA’s **Health Effects** for this contaminant,
as reported in the EPA Reports, & Honolulu Board of Water Supply “Water Quality Report”.

---

**NITRATE:**

**EPA Health Effects:**

**Blue baby syndrome:** It is a rare but sometimes fatal disease that occurs primarily during the first four months of life. Symptoms include a blue discoloration of the lips, nose, and ears. Other symptoms include crying, vomiting and diarrhea.

It can be caused by a chemical called nitrate sometimes found at unsafe levels in tap water that is used to mix powdered formula.

---

**NOTE**

- **U.S.** mcl Standard for Nitrate: **10 ppm** (Maximum Contaminant Level)
- **Germany** mcl Standard for Nitrate: **4.4 ppm** (Maximum Contaminant Level)
- **S. Africa** mcl Standard for Nitrate: **4.4 ppm** (Maximum Contaminant Level)
- **European Economic Community** mcl Standard for Nitrate: **5.6 ppm** (Maximum Contaminant Level)

**The U.S. STANDARD is Half as Protective ≥ As Other Countries’ Standards!!!!**

---

**Nitrate** is ingested when drinking water, or beverages prepared with water.

The solution to this problem and concern is the

**Ali’i 5-TECH+ Pure Water Quality System™**

**with our Reverse Osmosis System MEMBRANE**

Removes Nitrate and other Inorganic Contaminants from your Drinking Water, Ice Cubes, & Food Preparation Water!

Call AAA BestWater Co.: 454-2666

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WASHINGTON (CNN)  An environmental group says federal drinking water standards are too loose to protect newborns from a chemical that may cause something called “blue baby syndrome.”

Blue baby syndrome is a rare but sometimes fatal disease that occurs primarily during the first four months of life. Symptoms include a blue discoloration of the lips, nose, and ears. Other symptoms include crying, vomiting and diarrhea.

It can be caused by a chemical called nitrate sometimes found at unsafe levels in tap water that is used to mix powdered formula.

Nitrate is widely used in fertilizer applied to crops in the corn belt, Texas, and California, and it can run off into water supplies.

A research group called the Environmental Working Group says federal standards for nitrate in drinking water should be tougher. “We don’t want to become a nation of bottled water, and we are rapidly becoming that,” says Ken Cook of EWG.

The group says the U.S. standard for nitrate should be twice as protective as it is now. That would put it in line with Germany, Denmark, and South Africa.

But spokesmen for the Environmental Protection Agency and the nation's water systems say the current standard is sufficient to protect infants. The standard is really not in question, and to cast aspersions on it is misleading,” says Jack Sullivan with the American Water Works Association.

Sullivan agrees that more steps are needed to prevent pollution by farmers but says there is no widespread public health threat.

The Environmental Working Group says that in 1994, about 500,000 people, many of them in the Midwest, drank tap water from systems that exceeded the federal standard for nitrate.

Water systems experts say when violations occur, they notify the public so pregnant women and infants will switch to bottled water. They say nitrate contamination is generally a bigger problem in drinking water from private wells.

Pediatricians say parents who are worried should check with their local water company or get their water tested. “If parents have kids under a year of age and live in part of the country where the water system has been contaminated and is at risk, then they ought to consider use of bottled water,” says Dr. Jerome Paulson with the George Washington University Medical center.

Boiling tap water does not eliminate the problem because nitrate is a chemical, not a form of bacteria.
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 advice from your health care provider if the nitrate level is between 5 to 10 ppm.

Technical Fact Sheet on: NITRATE/NITRITE

As part of the Drinking Water and Health pages, this fact sheet is part of a larger publication: National Primary Drinking Water Regulations

Drinking Water Standards (in mg/L)

Nitrate- MCLG: 10; MCL: 10; 10-day HAL: 10
Nitrite- MCLG: 1; MCL: 1; 10-day HAL: 1
Total (Nitrate+Nitrite)- MCLG: 10; MCL: 10; 10-day HAL: 10

Health Effects Summary

Acute: Excessive levels of nitrate in drinking water have caused serious illness and sometimes death. The serious illness in infants is due to the conversion of nitrate to nitrite by the body, which can interfere with the oxygen-carrying capacity of the child’s blood. This can bear acute condition in which health deteriorates rapidly over a period of days. Symptoms include shortness of breath and blueness of the skin.

Drinking water levels which are considered “safe” for short-term exposures: For a 10-kg (22 lb.) child consuming 1 liter of water per day a ten-day exposure to 10 mg/L total nitrate/nitrite.

Chronic: Effects of chronic exposure to high levels of nitrate/nitrite include diuresis, increased starchy deposits and hemorrhaging of the spleen.

Cancer: There is inadequate evidence to state whether or not nitrates or nitrites have the potential to cause cancer from lifetime exposures in drinking water.
What is nitrate?

Nitrate is a chemical found in most fertilizers, in manure, and in the liquid waste discharged from septic tanks. Natural bacteria in soil can convert nitrogen into nitrate.

How can nitrate get into my well water?

Nitrate can be carried by rain or irrigation water down through the soil and into the groundwater. If your well draws water from this groundwater, your well water may contain nitrate.

Why is nitrate in drinking water a problem?

Nitrate can affect red blood cells and reduce their ability to carry oxygen to the body. In most adults and children these affected blood cells rapidly return back to normal. However, the blood cells of infants who are given water with high levels of nitrate (or foods made with nitrate contaminated water) may develop a serious health condition due to the lack of oxygen. This condition is called methemoglobinemia or “blue baby syndrome.” Some scientists think that diarrhea can make this problem even worse.

How is nitrate in drinking water regulated?

The U.S. Environmental Protection Agency has established a federal drinking water standard, called a Maximum Contaminant Level of 10 milligrams per liter (mg/L), or 10 parts per million (ppm) for nitrate. Washington State’s drinking water quality standard is also 10 mg/L. Public water systems are required to sample for various contaminants, including nitrate, on a regular basis. There is no required sampling of private individual wells. However, private well owners are encouraged to test their well for nitrate on a regular basis.

Signs of “blue baby syndrome”

An infant with moderate to serious “blue baby syndrome” may have a brownish-blue color due to the lack of oxygen. This condition may be hard to detect in infants with dark skin. In mild to moderate cases babies may have the same symptoms as when they have a cold or another infection (fussy, tired, diarrhea, or vomiting). While there is a simple blood test to see if an infant has “blue baby syndrome,” doctors may not think to do this test for babies with mild to moderate symptoms.

**NOTE:**

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<tr>
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<th>Value</th>
<th>Source</th>
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<td>Maximum Contaminant Level</td>
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<td>Germany</td>
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<td>Maximum Contaminant Level</td>
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The U.S. STANDARD is Half as Protective As Other Countries’ Standards!!!!

Now what do you think of the U.S. Government’s STANDARDS? >
(Nitrate Continued)

What to do about “blue baby syndrome”

If your baby has a brownish-blue color, bring your baby to a hospital immediately. There is a medication (methylene blue) that will quickly return your baby’s blood to normal.

Prevention of “blue baby syndrome”

The best way to prevent "blue baby syndrome" is to avoid giving your baby water that may be contaminated with nitrate. Infants under one of age should not drink water exceeding the drinking water standard of 10 parts per million (ppm) of nitrate. Boiling water will kill bacteria that are in well water, but it will not reduce the level of nitrate.

Nitrate in water will not have a long-lasting effect on your baby. If your baby does not have any of the symptoms of “blue baby syndrome” your do not need to bring your baby to the doctor.

Will breast-feeding give my infant “blue baby syndrome”?  

Although nitrate has been found in breast milk, there are no confirmed reports of “blue baby syndrome” being caused by a nursing mother who consumed well water that contained nitrate.

Can nitrate affect adults?

Most older children and adults will not be affected because their red blood cells will be quickly converted back to normal. Some people have conditions that make them susceptible to having health problems from nitrate. This includes:

• Individuals who don’t have enough stomach acids.
• Individuals with an inherited lack of the enzyme that converts affected red blood cells back to normal (methemoglobin reductase).

Some studies have found an increase risk of spontaneous abortion or certain birth defects if the mother drank water high in nitrate. Women who are pregnant or who are trying to become pregnant should not consume water that is high in nitrate.

“There is no substitute for Pure Water”
Honolulu Board of Water Supply
## TYPICAL — Nominal Rejection Performance for Reverse Osmosis Membranes at 60 psi Net Pressure and 70°F.

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</tr>
<tr>
<td>Lead</td>
<td>90-95%</td>
<td>93-98%</td>
</tr>
<tr>
<td>Chloride</td>
<td>85-95%</td>
<td>90-95%</td>
</tr>
<tr>
<td>Bicarbonate</td>
<td>85-90%</td>
<td>90-95%</td>
</tr>
<tr>
<td>Nitrate</td>
<td>40-50%</td>
<td>85-90%</td>
</tr>
<tr>
<td>Fluoride</td>
<td>85-90%</td>
<td>90-95%</td>
</tr>
<tr>
<td>Phosphate</td>
<td>90-95%</td>
<td>93-98%</td>
</tr>
<tr>
<td>Chromate</td>
<td>85-90%</td>
<td>90-95%</td>
</tr>
<tr>
<td>Cyanide</td>
<td>85-90%</td>
<td>90-95%</td>
</tr>
<tr>
<td>Sulfate</td>
<td>90-95%</td>
<td>93-98%</td>
</tr>
<tr>
<td>Boron</td>
<td>30-40%</td>
<td>55-60%</td>
</tr>
<tr>
<td>Arsenic</td>
<td>60-70%</td>
<td>70-80%</td>
</tr>
<tr>
<td>Arsenic</td>
<td>85-90%</td>
<td>93-98%</td>
</tr>
<tr>
<td>Selenium</td>
<td>90-95%</td>
<td>93-98%</td>
</tr>
<tr>
<td>Radioactivity</td>
<td>90-95%</td>
<td>93-98%</td>
</tr>
</tbody>
</table>

### Biological & Particulate Contaminants

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>CTA*</th>
<th>TFC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteria</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>Protozoa</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>Ameobic Cysts</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>Giardia</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>Asbestos</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>Sediment/Turbidity</td>
<td>99%</td>
<td>99%</td>
</tr>
</tbody>
</table>

### Organic Contaminants

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>CTA*</th>
<th>TFC*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic molecules with a molecular weight ≤300</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>Organic molecules with a molecular weight ≤500²</td>
<td>0-99%</td>
<td>0-99%</td>
</tr>
</tbody>
</table>

*CTA — Celulosic Membrane
*TFC — Thin Film Composite Membrane

1. This table of nominal rejection performance is for the two types of membranes used in drinking water systems operating at a net pressure (feed pressure less back pressure and osmotic pressure) of 60 psi and 77°F water temperature. The actual performance of systems incorporating these membranes may be less due to changes in feed pressure, temperature, water chemistry, contaminant level, net pressure on membrane, and individual membrane efficiency.

2. While iron and manganese are effectively removed by the membrane, they also can easily foul its surface with deposits even at low concentrations. Generally, iron and manganese should be removed by other water treatment methods prior to RO treatment.

3. Nitrate removal depends on factors such as pH, temperature, net pressure across membrane, and other contaminants present.

4. While reverse osmotic membranes theoretically remove virtually all known microorganisms, including virus, they cannot offer foolproof protection when incorporated into a consumer drinking water system. Potential seal leaks and manufacturing imperfections may allow some microorganisms to pass into the treated water. Therefore, small home RO drinking water systems should never be used as a primary means of removing biological contamination to make a water supply fit for consumption.

5. The degree of rejection of organic molecules less than molecular weight (MW) 300 depends on the size and shape of the molecule. Activated carbon is always incorporated along with reverse osmosis to insure complete removal of these lower molecular weight organic contaminants.
POINT 1: The Federal and State governments have established “Safe Drinking Water STANDARDS”.

POINT 2: According to current STANDARDS, the state Department of Health and Board of Water Supply has represented that the water meets these STANDARDS and therefore, based on those STANDARDS, is safe to drink.

POINT 3: There are TWO STANDARDS — non-enforceable and enforceable.

POINT 4: How have these STANDARDS been established and what are they based on?

POINT 5: Some STANDARDS are established taking into account technological and economic limitations of the public water supplier.

POINT 6: Are the government STANDARDS that are considered “safe” today going to be considered “safe” tomorrow?

POINT 7: The Federal government has established HEALTH EFFECTS & HEALTH RISKS for exposure to certain water contaminants.

POINT 8: Are today’s government established HEALTH EFFECTS & HEALTH RISKS for exposure to certain water contaminants going to change and/or increase in the future?

POINT 9: Water, containing certain pesticides, herbicides, insecticides and other Volatile Organic Compounds (VOCs), is just as much a health concern when you bathe in it as when you drink it.

POINT 10: What it really comes down to is: STANDARDS. STANDARDS. STANDARDS.

Question: Are you willing to accept current government STANDARDS?

Question: Or, do you want your water to have better STANDARDS — the STANDARDS you set?

Question: Do you realize that you actually have a choice?

Question: Do you realize that you can choose better STANDARDS — your own STANDARDS?

Everything comes down to standards. The big question is: Are these standards which are used today “the standards” that you want for you and your family. Standards are constantly changing and the standards they use today for determining the safety of your water may not be applicable in the future. Just as the standards change continually so does the assessment of the health risks from contaminants. Unfortunately, the health risk assessments take a long time to ascertain because of the studies required to prove the risk. So, until the risk is proved we (the general public) are basically used as test subjects... “Guinea Pigs”, so to speak. So, which standards would you like to use? Yours (the standards that you set), or the governments (the standards someone else sets for you that they constantly change)? We believe that once you have ALL THE FACTS, the evidence will lead you to choose a better STANDARD — YOURS!
Erring on the Side of Caution
— Not Risk —
When it Comes to Your Health & Water Quality

(Or, You DO NOT Have to Settle
for the Quality of Water Provided by the City)

The Choice for Safer, Healthier,
Quality Water,
is YOURS!

Everything comes down to standards.
The big question is: Are these standards which are used today “the standards”
that you want for you and your family? Standards are constantly changing and
the standards they use today for determining the safety of your water may not
be applicable in the future. Just as the standards change continually so does the
assessment of the health risks from contaminants. Unfortunately, the health risk
assessments take a long time to ascertain because of the studies required to
prove the risk. So, until the risk is proved we (the general public) are basically used as test subjects — Guinea pigs, so to speak.

So, For your family’s “Peace-of-Mind”

Which standard would you prefer?

(A) Yours (the standards that you set) ; Or;
(B) The government’s (the standards someone else sets for you,
that they constantly change)?

We believe, now that you have ALL THE FACTS,
the evidence will lead you to choose a better STANDARD — YOURS!
“... Not all contaminants can be removed from drinking water using the same treatment process. In some instances, contaminated groundwater may have to be passed through several treatment systems to remove chemical mixtures before it is safe to drink.”

-JOHN C. LEWIN, M. D., Director of Health
State of Hawai‘i Department of Health

“... Volatile organic compounds may have a variety of harmful health effects. ... Drinking water containing one or more VOCs at levels above standards should not be consumed. In addition, because little is known about the additive effects of these chemicals, special attention should be paid to detecting and eliminating VOC sources if two or more chemicals are found in water. In any case, sources of VOC contamination should be eliminated if possible.

... Keep in mind, however, that VOCs may also enter the body through skin absorption or through inhalation of water vapor.

... POE treatment systems are recommended for VOC removal to ensure that all water used for drinking, cooking, cleaning, and bathing is free of contamination.”

3 [Prepared by: Gregory D. Jennings and Ronald E. Sneed, Extension Specialists, Biological & Agricultural Engineering. Mary Beth St. Clair, Extension Specialist, Toxicology. Published by: North Carolina Cooperative Extension Service]
WITH ALL THE LAWN AND FARM CHEMICALS IN THE WATER, I WON'T HAVE TO BUY ANY FERTILIZER THIS YEAR.

Six hundred fifty toxic sites in Hawaii!!? Not only will I never bury another bone... but I'm going to cut way back on paw licking...

BARK, the dog