Where Does My Water Come From?

The City of Brentwood utilizes ground water and surface water for its fresh water sources. The ground water is pumped from the City's seven ground water wells. Surface water originates from rivers within the Sierra Mountain Range; the water flows into the Sacramento - San Joaquin Delta. The surface water is treated at the City of Brentwood's Water Treatment Plant and/or Contra Costa Water District's Randall-Bold Water Treatment Plant. The average Brentwood water customer receives a blend of surface and ground water from these sources.

In 2011, the City of Brentwood delivered water to approximately 17,000 service connections; the Brentwood Water Treatment Plant provided 1.7 billion gallons, and City wells supplied 0.88 billion gallons. An additional 0.82 billion gallons were purchased from the Randall-Bold Water Treatment Plant.

The City of Brentwood's distribution system consists of six water tanks with a total storage capacity of 18.8 million gallons, three pressure zones, and six water booster pump stations located within the City limits.

Brentwood's Wastewater Treatment Plant supplied 18 million gallons of recycled water to City parkways and medians for irrigation. An additional 397 million gallons of untreated surface water was used to irrigate golf courses and medians. This wise use of non-potable water is one of the many ways that Brentwood is able to conserve water and help the City meet the new state requirement of a 20% reduction in water use by 2020.

PRSRT STD
U.S. Postage
PAID
Brentwood, CA
Permit # 708

ECRWSS

Postal Customer

City of Brentwood
www.brentwoodca.gov
2201 Elkins Way
Brentwood, CA 94513

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

PWS ID #0710004

Water Testing Performed in 2011

Only Tap Water Delivers...

. . . Quality of Life, Support for the Economy, Fire & Public Health Protection

ANNUAL WATER QUALITY REPORT

THE CITY OF
BRENTWOOD
HERITAGE • VISION • OPPORTUNITY

PUBLIC WORKS DEPARTMENT

Educational Information

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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

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. USEPA/Centers for Disease Control (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 (1-800-426-4791).

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. Water can also pick up substances resulting from the presence of animal or human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants,** such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants,** such as salts and metals, that 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** 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 that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- **Radioactive contaminants** can be naturally-occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Brentwood 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 wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Assessment

An assessment of the drinking water sources for the Brentwood Water System was completed in 2002. A copy of the assessment is available by contacting the City offices at (925) 516-5400. The sources are considered most vulnerable to the following activities not associated with any detected contaminants: gas stations and septic systems.

Community Participation

The City Council meets at 7 p.m. on the second and fourth Tuesday of each month at the City Council Chambers located at City Hall, 150 City Park Way.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Regulated Substances				City of Brentwood Ground Water (Wells)		City of Brentwood Surface Water		Randall - Bold Surface Water		Bollman Surface Water			
Substance (Unit of Measure)	**Year Sampled**	**MCL [MRDL]**	**PHG (MCLG) [MRDLG]**	**Average**	**Range Low - High**	**Average**	**Range Low - High**	**Average**	**Range Low - High**	**Average**	**Range Low - High**	**Violation**	**Typical Source**
Arsenic (ppb)	2011	10	0.004	2.5	ND - 4.1	n/a	ND	n/a	ND	n/a	ND	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2011	1	2	n/a	n/a	n/a	n/a	0.12	ND – 0.18	n/a	n/a	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chloramines (ppm)	2011	[4.0 (as Cl2)]	[4.0 (as Cl2)]	1.76	1.11 - 2.26	n/a	n/a	n/a	n/a	n/a	n/a	No	Drinking water disinfectant added for treatment
Chromium (ppb)	2011	50	(100)	ND	ND -17.0	n/a	ND	n/a	ND	n/a	ND	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppm)	2011	2.0	1	0.3	0.2 - 0.4	ND	ND - 0.2	0.8	0.7 - 1.0	0.8	0.7 - 1.0	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2011	15	(0)	ND	ND - 3.7	ND[1]	ND - 3.1[1]	ND[1]	ND - 3.1[1]	ND[1]	ND - 3.1[1]	No	Erosion of natural deposits
Gross Beta Particle Activity (pCi/L)	2011	*50	(0)	ND	ND - 4.3	ND[1]	ND - 5.8[1]	ND[1]	ND - 5.8[1]	ND[1]	ND - 5.8[1]	No	Decay of natural and man - made deposits
HAA5 [Haloacetic Acids] (ppb)	2011	60	n/a	2.0	ND - 7.2	n/a	n/a	n/a	n/a	n/a	n/a	No	By - product of drinking water disinfection
Nitrate [as nitrate] (ppm)	2011	45	45	11.6	5.8 - 22.0	ND	ND - 2.0	ND	ND - 2.2	ND	ND - 2.7	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (ppb)	2011	50	30	11.7	ND - 18.0	n/a	ND	n/a	ND	n/a	ND	No	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
TTHMs [Total Trihalomethanes] (ppb)	2011	80	n/a	17.8	ND - 42.1	n/a	n/a	n/a	n/a	n/a	n/a	No	By - product of drinking water disinfection
Secondary Substances	*There are no PHGs, MCLGs or mandatory standard health effects for these constituents because secondary MCLs are set on the basis of aesthetics.*												
Chloride (ppm)	2011	500	NS	120	81 - 220	58	19 - 160	31	17 - 61	37	25 - 56	No	Runoff/leaching from natural deposits; seawater influence
Iron (ppb)	2011	300	NS	ND	ND - 150	n/a	n/a	n/a	n/a	n/a	n/a	No	Leaching from natural deposits; industrial wastes
Odor (TON)	2011	3	NS	ND	ND - 1.0	n/a	ND	n/a	ND	n/a	ND	No	Naturally-occurring organic materials
Specific Conductance (uS/cm)	2011	1600	NS	1275	830 - 1700	457	220 - 840	315	220 - 520	348	250 - 490	Yes	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2011	500	NS	155	100 - 290	80	34 - 170	47	31 - 85	60	38 - 83	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2011	1000	NS	773	490 - 1100	236[2]	119 - 476[2]	175[2]	118 - 302[2]	186[2]	139 - 265[2]	Yes	Runoff/leaching from natural deposits

** California Department of Public Health considers 50 pCi/L to be the level of concern for beta particles.* [1] *Analyzed in 2010* [2] *Calculated Results*

DEFINITIONS, ACRONYMS, AND UNITS

- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
- **Regulatory Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- **Public Health Goal (PHG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.
- **Primary Drinking Water Standard (PDWS):** MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, as well as water treatment requirements.
- **Maximum Residual Disinfectant Level (MRDL):** 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.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. However, MRDLGs do not reflect the beneficial use of disinfectants to control microbial contaminants.
- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.
- **TON:** Threshold Odor Number.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **n/a:** Not applicable
- **ND (Not Detected):** Indicates that the substance was not found by laboratory analysis.
- **NR:** Not required
- **NS:** No standard
- **NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **pCi/L (picocuries per liter):** A measure of radioactivity.
- **ppm (parts per million):** One part substance per million parts water (or milligrams per liter).
- **ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).
- **ppt (parts per trillion):** One part substance per trillion parts water (or nanograms per liter).
- **uS/cm (microsiemens per centimeter):** A unit expressing the amount of electrical conductivity of a solution.

The Sampling Results

Regulated Substances				City of Brentwood Ground Water (Wells)		City of Brentwood Surface Water		Randall - Bold Surface Water		Bollman Surface Water			
Substance (Unit of Measure)	Year Sampled	MCL [MRDL]	PHG (MCLG) [MRDLG]	Average	Range Low - High	Lowest monthly % of samples that meet requirements	Maximum effluent value	Lowest monthly % of samples that meet requirements	Maximum effluent value	Lowest monthly % of samples that meet requirements	Maximum effluent value	Violation	Typical Source
Turbidity*	2011	TT=1 NTU TT=95% of samples ≤ 0.3 NTU	n/a			100%	0.25	100%	0.11	100%	0.15	No	Soil Runoff
		5 NTU		0.16	ND - 0.35								

** Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.*

Substance (Unit of Measure)	Year Sampled	Action Level	PHG (MCLG)	Amount Detected (90th %tile)	Sites Above Action Level	Violation	Typical Source
Copper (ppm)	2009	1.3	0.3	0.14	None	No	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2009	15	0.2	ND	None	No	Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

Lead and copper: 30 sites sampled every 3 years.

Unregulated Substance		City of Brentwood Ground Water (Wells)		City of Brentwood Surface Water		Randall - Bold Surface Water		Bollman Surface Water	
Substance (Unit of Measure)	Year Sampled	Average	Range Low - High	Average	Range Low - High	Average	Range Low - High	Average	Range Low - High
Alkalinity (ppm)	2011	202	180 - 230	54	30 - 69	55	33 - 90	49	36 - 81
Ammonia (ppm)	2011	n/a	n/a	n/a	0.8	n/a	0.7	n/a	0.6
Boron (ppm)*	2011	1.6	1.3 - 1.9	n/a	n/a	n/a	n/a	n/a	n/a
Bromide (ppm)	2011	n/a	n/a	ND	ND - 0.2	ND	ND - 0.2	ND	ND
Calcium (ppm)	2011	76	48 - 110	17	10 - 25	17	9.1 - 31	17	12 - 24
Hardness (ppm)**	2011	327	190 - 480	103	60 - 160	88	62 - 140	84	56 - 120
Hardness in grains	2011	19.1	11.1 - 28.1	6.0	3.5 - 9.4	5.1	3.6 - 8.2	4.9	3.3 - 7.1
Magnesium (ppm)	2011	34	17 - 52	11	4.4 - 20	7.3	4.2 - 12	7.8	5.8 - 11
pH (units)	2011	8.0	7.9 - 8.0	8.5	8.0 - 9.0	8.7	8.1 - 9.1	8.5	7.9 - 8.8
Potassium (ppm)	2011	3.2	2.6 - 3.8	1.9	1.2 - 3.9	2.7	1.2 - 3.0	1.8	1.3 - 2.6
Sodium (ppm)***	2011	137	84 - 190	49	24 - 110	34	23 - 59	35	25 - 52

** Notification 1 ppm. The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.*

*** Hardness is the sum of positive ions present in the water, generally magnesium and calcium. The ions are usually naturally occurring.*

**** Sodium refers to the salt present in the water and is generally naturally occurring.*

The City of Brentwood is proud to produce high quality water that continues to comply with or do better than every federal and state standard for safe drinking water. The tables included in this report have been compiled to show what substances were detected in Brentwood's drinking water during 2011. Although the average readings on all of the substances listed within these tables are under the Maximum Contaminant Level (MCL), the Water Operations Division feels it is important that City water consumers know exactly what was detected and how much of the substance was present in the water.

Water Treatment Devices Not Needed

Home water treatment devices are not recommended since Brentwood water complies with or did better than all federal and state safe drinking water standards; however, if you're considering the purchase of a system to enhance the aesthetics of the water:

- Look for the Underwriters Laboratory (UL) label
- Find out what the device will remove, and
- Find out the total cost of maintenance

And remember, some units can harbor disease-causing bacteria if not properly maintained and serviced.

Consumers who would like more information on water quality should contact Jaci Parsons, Regulatory Compliance Supervisor, at (925) 516-6060.