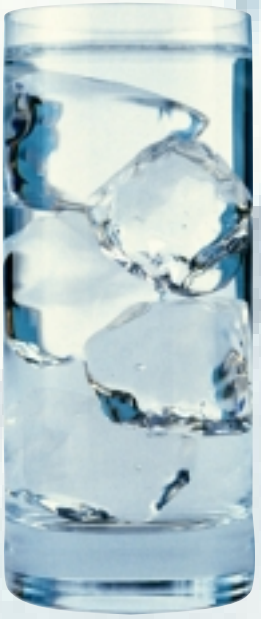
Quality on Tap: 2000

This is an annual report on the quality of drinking water delivered by the Zone 7 Water Agency. We are proud to report that during calendar year 2000, as in years past, your tap water met or exceeded all federal and state standards for drinking water.

Since its formation more than 40 years ago, Zone 7 has placed a premium on water quality. Its well-trained and highly qualified staff employs state-of-the-art treatment and monitoring methods to ensure that the water you and your family use meets or exceeds the most rigorous standards. In order to safeguard the quality of your tap water, the California Department of Health Services (DHS) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. We treat our water according to the Department's regulations, which are at least as, and in many cases, more stringent than federal (U.S. EPA) standards.

You, as a consumer, have a right to know what is in your drinking water and where that water comes from. It is the goal of this Annual Consumer Confidence Report to answer questions you may have so that you may make informed choices regarding the water you and your family use. **For more information, please contact Gurpal Deol, Zone 7 Water Quality Laboratory Supervisor, at 925-447-0533.**

As a member of the public, you are afforded numerous opportunities to participate in decisions surrounding the quality of your tap water. Regular meetings of the Zone 7 Board of Directors are open to the public and are scheduled the third Wednesday of each month at 7 p.m. in the Board Room. Special meetings, also open to the public, are held as needed. Meeting agendas are posted online at Zone 7's website (www.zone7water.com) or are available by calling 925-484-2600, Ext. 223.



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

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. For more information about contaminants and potential health effects, call the EPA'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. U.S. EPA/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).

over many years may experience liver, kidney, or central nervous system problems and may have an increased risk of getting cancer.

▼ **MTBE** All Zone 7 water supply sources were monitored four times for MTBE during 2000. MTBE was not detected in any source at or above current DLR (detection limit for reporting purposes) of 3 ug/L.

▼ **Turbidity** is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our treatment plants' filtration systems. Zone 7 monitors raw water once per quarter for *Giardia* and *Cryptosporidium*. There were no detections during 2000.

▼ **Radon** is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive

JANUARY – DECEMBER 2000 WATER QUALITY DATA

PRIMARY STANDARDS — Mandatory Health-Related Standards, esta

DISTRIBUTION SYSTEM

CONTAMINANT	MCL	DLR MRL*	PHG MCLG*		
Total trihalomethanes (THMs) (ug/L)	100	0.5	NA	Highest annual average: 37	Range of indiv: ND –
Total coliform bacteria	5% of monthly samples are positive		0*	Highest percentage of monthly positive samples: 0%	

WATER SUPPLY SOURCES

CONTAMINANT	MCL		PHG MCLG*	DEL VALLE WATER TREATMENT PLANT		PATTERS WATER TREAT
Turbidity	TT (maximum 5 NTU)		NA	Highest Level Found = 0.10 NTU		Highest Level Fo
	TT (95 percent of monthly samples < 0.5 NTU)		NA	Lowest percentage of monthly samples < 0.5 NTU = 100%		Lowest percentage < 0.5 NTU
				Average	Range	Average
Inorganic Chemicals						
Aluminum (mg/L)	1000	50	NA	ND	ND – 94	ND
Arsenic (ug/L)	50	2	NA	ND	ND	ND
Barium (mg/L)	1000	100	2*	ND	ND	ND
Chromium total (ug/L)	50	10	2.5	ND	ND	ND
Fluoride (mg/L)	2	0.1	1	0.1	0.1 – 0.2	0.1
Nitrate (as NO3) (mg/L)	45	2	45	ND	ND – 3.99	ND
Radionuclides						
Gross Alpha (pCi/L)	15	1	NA	ND	ND	ND
Gross Beta (pCi/L)	50	4	NA	ND	ND	ND
Uranium (pCi/L)	20	2	NA	ND	ND	ND
SECONDARY STANDARDS —						
Conductivity (umhos/cm)	900 (a)		–	460	302 – 684	408
Chloride (mg/L)	250 (a)		–	58	30 – 139	57
Sulfate (mg/L)	250 (a)	0.5	–	41	26 – 65	42
Total Dissolved Solids (mg/L)	500 (a)		–	256	174 – 350	231
Additional Parameters — included to assist consumers in making he						
Corrosivity (Units)	(b)		–	12.4	11.9 – 13.0	12.0
Alkalinity (as CACO3) (mg/L)	–		–	96	65 –157	68
Hardness total (as CaCO3) (mg/L)	–		–	115	73 – 187	86
Calcium (mg/L)	–		–	26	17 – 38	20
Magnesium (mg/L)	–		–	12	7.0 – 22	8.4
Potassium (mg/L)	–		–	1.9	1.2 – 3.4	2.0
Sodium (mg/L)	–		–	48	33 – 86	47
pH (units)	–		–	8.6	8.2 – 9.0	8.5
Boron (mg/L)	–	200*	–	300	ND – 630	220
Silica (mg/L)	–		–	11.7	8.90 – 16.3	12.8
Total Organic Carbon (mg/L)	–	0.50*	–	2.41	1.66 – 3.58	2.27
Total Radon (pCi/L)	–	100	–	NA	NA	NA

(a) DHS recommended limit, (b) Zone 7 strives to supply non-aggressive water (Corrosivity > 12) by pH adjustment. **Abbreviations/Units: MCL** = Maximum Contaminant Level, **DLR** = Detection Limit for Pur Turbidity Unit, **ug/L** = Micrograms per liter, **mg/L** = Milligrams per liter, **pCi/L**= Picocuries per liter, **ND** = Monitored but not detected. ND or value in the range column indicates that more than one analysis perf

and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your State radon program or EPA's Radon Hotline (800-SOS-RADON).

Currently there are no regulatory monitoring requirements for radon but federal drinking waters standards of 4,000 pCi/L with multimedia mitigation program was proposed in November 1999. Being proactive to water quality concerns, Zone 7 initiated radon monitoring in 1992. Year 2000 radon monitoring data are listed under additional parameters in the table below.

▼ **Chromium 6** Due to recent public concerns, Zone 7 initiated quarterly monitoring in October 2000. Chromium-6 concentration in wellfields ranged from 2.8 to 12 ug/L and non-detect (less than 1 ug/L) for treated surface water. Effective January 3, 2001, chromium-6 is one of the DHS-unregulated chemicals for drinking water.

WHERE DO CONTAMINANTS COME FROM?

The sources of drinking water, (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the

A — CONTAMINANTS DETECTED IN WATER SUPPLY
ablished by the State of California Department of Health Services

idual samples						
- 61						
;						
ON PASS TMENT PLANT	**MOCHO WELLFIELD**		**STONERIDGE WELL**		**HOPYARD 6 – ASR WELL** Aquifer Storage Recovery (ASR)	
und = 0.21 NTU	Average 0.07	Range 0.05 – 0.10	Average 0.07	Range 0.05 – 0.10	Average 0.19	Range 0.08 -0.34
of monthly samples = 100%	Not applicable		Not applicable		Not applicable	
Range	Average	Range	Average	Range	Average	Range
ND - 180	ND	ND	ND	ND	ND	ND – 96
ND	ND	ND – 2.7	ND	ND – 2.5	ND	ND
ND	110	ND – 210	140	ND – 270	ND	ND
ND	ND	ND – 11	13	12 – 14	ND	ND
0.1	0.1	0.1	0.1	0.1	0.1	0.1
ND – 4.07	13.5	12.0 – 14.9	12.1	11.6 – 12.8	3.86	ND – 5.62
ND – 1.4	3.4	1.5 – 9.7	1.6	ND – 2.7	5.0	ND – 11
ND – 5.2	ND	ND – 7.1	ND	ND	ND	ND – 5.8
ND	ND	ND – 3.3	ND	ND	ND	ND
Aesthetic Standards						
276 – 626	863	785 – 935	628	606 – 645	574	396 – 681
29 – 108	69	57 – 78	40	36 – 46	74	56 – 82
26 – 60	57	48 – 73	32	31 – 34	40	28 – 52
156 – 326	489	428 – 544	371	360 – 388	317	218 – 396
alth or economic decisions, i.e. low sodium diet, water softening, etc.						
11.5 – 12.6	12.2	12.0 – 12.5	12.1	11.9 – 12.3	12.1	11.9 – 12.3
47 – 80	278	252 – 305	231	228 – 235	130	82 – 172
63 –107	341	286 – 370	237	230 – 251	145	92 – 186
15 – 26	67	54 – 82	45	44 – 47	31	22 – 38
2.9 – 12	42	36 – 51	30	29 – 32	17	9.2 – 23
1.1 – 3.4	1.6	1.4 – 1.8	1.6	1.4 – 1.8	2.0	1.3 – 2.6
30 – 79	49	38 – 64	44	40 – 56	58	48 – 63
8.1 – 9.0	7.5	7.3 – 7.9	7.7	7.5 – 7.9	8.2	7.7 – 8.5
ND – 540	690	500 – 700	400	200 – 600	310	200 – 420
6.06 – 16.4	25.4	21.8 – 30.0	27.2	25.2 – 31.2	17.2	12.2 – 20.2
1.78 – 3.76	0.69	0.51 – 0.87	ND	ND – 0.72	1.45	1.08 – 2.08
NA	272	117 – 320	329	270 – 370	243	ND – 510

poses of Reporting (DHS established), **MRL** = Minimum Reporting Limit, **PHG** = Public Health Goal, **MCLG** = Maximum Contaminant Goal, **NA** = Not Available, **TT** = Treatment Technique, **NTU** = Nephelometric ormed.

In July 1997 Zone 7 initiated an 18-month data collection effort to comply with EPA's Information Collection Rule (ICR). This data will be used for future regulations. Monitoring requirements under the ICR included those for *Cryptosporidium, Giardia,* viruses, disinfectants/disinfection by-products (D/DBPs), miscellaneous water quality parameters, and treatment plant operational data. DBP data from ICR monitoring is summarized below:

INFORMATION COLLECTION RULE (ICR) DISINFECTION BYPRODUCTS (DBPs)

July 1997 – December 1998

		DEL VALLE WATER TREATMENT PLANT		PATTERSON PASS WATER TREATMENT PLANT	
DBP	**Units**	**RANGE**	**AVERAGE**	**RANGE**	**AVERAGE**
Trihalomethanes (THM4)	ug/L	32 – 51	41	34 – 93	58
Haloacetic acids (HAA5)	ug/L	14 – 40	24	22 – 50	30
Haloactonitriles (HAN)	ug/L	3.0 – 7.5	5.5	4.5 – 11	7.7
Haloketones (HK)	ug/L	0.5 – 2.7	1.7	ND – 2.2	1.6
Chloropicrin	ug/L	0.5 – 1.8	0.6	ND – 1.0	0.6
Chloral hydrate	ug/L	ND – 2.4	1.3	ND – 2.1	1.0
Total Organic Halides (TOX)	ug/L	105 – 175	135	105 – 220	142
Cyanogen chloride	ug/L	2.7 – 4.2	3.3	2.6 – 7.4	4.9
Chlorate	ug/L	70 – 134	94	NA	NA
Disinfectant residual (total chlorine)	mg/L	1.87 - 2.80	2.22	1.96 - 2.70	2.35

ug/L = Micrograms per liter
mg/L = Milligrams per liter
ND = Not detected
NA = Not Applicable
Trihalomethanes = Sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform.
Haloacetic acids = Sum of mono-, di-, and trichloroacetic acid, and mono- and dibromoacetic acid.
Haloacetonitriles = Sum of dichloro-, trichloro-, bromochloro-, and dibromoacetonitrile.
Haloketones = Sum of 1,1-dichloropropanone and 1,1,1-trichloropropanone.

ZONE 7 SAMPLING FREQUENCY VERSUS DHS REQUIREMENTS

SURFACE WATER SUPPLY

PARAMETER	DHS REQUIREMENT	ZONE 7
Asbestos	Once every 9 years	Once every 9 years
Inorganic Chemicals	Once per year	Monthly
VOCs	Once per year	Semiannually
SOCs	Waived	Semiannually *
EDB and DBCP**	Once per year	Semiannually
Radionuclides	Every four years	Every four years

GROUNDWATER SUPPLY ***

PARAMETER	DHS REQUIREMENT	ZONE 7
Inorganic Chemicals	Once per year	Semiannually

DISTRIBUTION SYSTEM

PARAMETER	DHS REQUIREMENT	ZONE 7
Bacteriological	Weekly	Weekly
Trihalomethanes	Quarterly	Quarterly

* In-house certified methods only.
** EDB = Ethylene dibromide and DBCP = 1,2-Dibromo-3-chloropropane
*** Parameters with different monitoring frequency from surface water.

EVERYDAY EQUIVALENTS:

One **milligram per liter** (mg/L) = a single penny in $10,000.

One **microgram per liter** (ug/L) = one inch in a distance roughly equal to twice the diameter of the earth.

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, 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**, 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, that 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, U.S. EPA and the California Department of Health Services 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 must provide the same protection for public health.

MAJOR SOURCES FOR DETECTED PRIMARY STANDARDS

- **Aluminum** Erosion from natural deposits; from alum use as a coagulant durng surface water treatment.
- **Arsenic** Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
- **Barium** Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
- **Chromium** Discharge from steel and pulp mills; erosion of natural deposits.
- **Fluoride** Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
- **Nitrate** Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
- **Gross alpha** Erosion of natural deposits.
- **Gross beta** Decay of natural and man-made deposits.
- **Uranium** Erosion of natural deposits.
- **Turbidity** Soil runoff.

ZONE 7'S WATER QUALITY MANAGEMENT PLAN

As of Winter 2000/01, Zone 7 was in the process of preparing a Water Quality Management Plan to assist with determining policies to effectively manage various water quality issues. The plan will also help guide operations, establish capital facilities needs and design guidelines, and incorporate a funding strategy. Development of this plan is a collaborative process, with input from water retailers and the general public. With the aid of customer involvement, the Water Quality Management Plan will help Zone 7 continue to meet the highest standards of water quality and service.

PRIMARY STANDARDS

ORGANIC CHEMICALS

Volatile Organic Chemicals (VOCs)

Benzene
Carbon Tetrachloride
1,2-Dichlorobenzene
1,4-Dichlorobenzene
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
cis-1,2-Dichloroethylene
trans-1,2-Dichloroethylene
Dichloromethane
1,2-Dichloropropane
1,3-Dichloropropene
Ethylbenzene
Monochlorobenzene
Methyl-tert-butylether (MTBE
Styrene
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Trichlorofluoromethane
1,1,2-Trichloro-1,2,2-Trifluoroethane
Vinyl Chloride
Xylenes

Synthetic Organic Chemicals (SOCs)**

Alachlor*
Atrazine*
Bentazon
Benzo(a)pyrene*
Carbofuran
Chlordane
2,4-D
Dalapon
1,2-Dibromo-3-chloropropane*
Di(2-ethylhexyl)adipate*
Di(2-ethylhexyl)phthalate*
Dinoseb
Diquat

Endothall
Endrin*
Ethylene Dibromide*
Glyphosate
Heptachlor*
Heptachlor Epoxide*
Hexachlorobenzene*
Hexachlorocyclopentadiene*
Lindane*
Methoxychlor*
Molinate*
Oxamyl
Pentachlorophenol
Picloram
Polychlorinated Biphenyls
Simazine*
Thiobencarb*
Toxaphene
2,3,7,8-TCDD (Dioxin)***
2,4,5-TP (Silvex)

INORGANIC CHEMICALS

Antimony
Asbestos***
Beryllium
Cadmium
Cyanide***
Mercury
Nickel
Nitrite (as nitrogen)
Selenium
Thallium

RADIONUCLIDES

Combined Radium-226 and Radium-228
Tritium, Strontium-90

None of the primary contaminants listed above were detected in Zone 7 water supply.
* Zone 7 in-house monitoring
** Due to low vulnerability, a monitoring waiver for SOCs (except EDB and DBCP) and cyanide was granted for 3rd compliance period (1999–2001). Latest complete SOCs monitoring conducted in 1996.
*** Latest monitoring conducted in 1993.

ZONE 7 WATER AGENCY

5997 Parkside Drive
Pleasanton, CA 94588-5127

Phone: 925-484-2600
Fax: 925-462-3914
www.zone7water.com

EPA SAFE DRINKING WATER HOTLINE
1-800-426-4791

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ZONE 7'S SOURCES OF SUPPLY

The primary source of Zone 7's supply is surface water from the **State Water Project**. Originating north of the Sacramento-San Joaquin Delta in the Feather River watershed, state water is brought into the Valley by the South Bay Aqueduct.

A second source of surface water is the local supply conserved in **Lake Del Valle**. The area's third major water source is **groundwater** pumped from the Livermore-Amador Valley Groundwater Basin with its Bernal (west), Amador, and Mocho (east) sub-basins. The groundwater basin stores water against times of drought and helps meet peak summer demands.

Surface water is treated at Zone 7's two water treatment plants, Del Valle and Patterson Pass. Groundwater is disinfected to protect you against microbial contaminants.

While much attention is directed toward providing DHS-approved treatment to achieve drinking water quality standards, Zone 7 recognizes the importance of protecting source water from contamination. The Agency has long been involved in matters surrounding the Delta, the source of our surface supply, and in protecting the groundwater basin from contamination and increasing salinity through monitoring and management programs. As a resident, you can do your part to prevent pollution by using yard and garden chemicals wisely, keeping your car free from oil leaks and recycling automotive fluids, and following other tips available from Zone 7.

DEFINITIONS OF KEY TERMS

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 is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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.

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 for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Treatment Technique A required process intended to reduce the level of a contaminant in drinking water.

DETECTED CONTAMINANTS

The following table shows the average level and range of each detected regulated contaminant. Detected secondary standards and additional parameters are also listed.

In addition to the regulated organic contaminants, Zone 7 monitors unregulated contaminants for regulatory requirements. Unregulated contaminant monitoring helps EPA and the DHS to determine where certain contaminants occur and whether the contaminants need to be regulated in the future. Zone 7's frequency for monitoring unregulated organic contaminants is the same as for regulated organics.

▼ **TTHMS (Total Trihalomethanes)** are by-products of drinking water disinfection (chlorination). Some people who use water containing TTHMS in excess of the MCL

ABOUT ZONE 7

Zone 7 Water Agency was created by area voters in 1958. It is one of 10 active zones of the Alameda County Flood Control and Water Conservation District, a public agency established by voters in 1949 to address the county's water supply, drainage, and flood control problems.

Zone 7 serves water to all of eastern Alameda County and a population of more than 172,000. The water piped to your home or business is treated and wholesaled by the Agency to local retailers, including the Cities of Livermore and Pleasanton, the Dublin San Ramon Services District and the California Water Service Company. Zone 7 also distributes untreated water to agriculture and golf courses.