Quality on Tap: 2001

Zone 7 Water Agency is proud to report that during calendar year 2001, as in years past, your tap water met all federal and state health standards.

This Consumer Confidence Report is a snapshot of last year's water quality and includes informtion about where your water comes from, what it contains, and how it compares to drinking water standards. Zone 7 is committed to providing you with information because informed customers are our best allies.

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.

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).**

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

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. Zone 7's water system has the flexibility to address security concerns.

The following assessments of the drinking water sources for Zone 7 have been conducted:

Surface Water Sources: A sanitary survey for the State Water Project, including Lake Del Valle, was completed in December 2001. According to the sanitary survey, the Sacramento–San Joaquin Delta is considered most vulnerable to contamination from agricultural drainage, geologic hazards, and seawater intrusion. The open portion of the South Bay Aqueduct is considered most vulnerable to algal blooms. And Lake Del Valle is considered most vulnerable to recreation and land use changes.

Groundwater Sources: The assessment for Mocho Wells was completed in July 2001 and Hopyard Well No. 9 in August 2000. The assessment for the remaining wells, Hopyard Well No. 6 and Stoneridge Well, was completed in March 2002. The wells are considered most vulnerable to chemical/petroleum pipelines, leaking tanks, dry cleaners, gas stations, groundwater contaminant plumes, machine shops, photo processing/printing, and sewer collection systems. These activities have potential to contaminate water supplies, but no organic contaminants from these activities have ever been detected in Zone 7 groundwater supply.

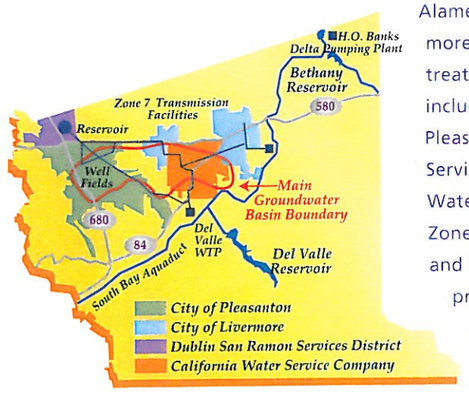
For a copy of any summary report or to review any complete assessment, please contact Zone 7.

As a resident, you can do your part to prevent water 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.

ZONE 7 WATER AGENCY

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 173,000. Zone 7 wholesales treated water to local retailers, including the Cities of Livermore and Pleasanton, the Dublin San Ramon Services District and the California Water Service Company. In addition to Zone 7 supply, the City of Pleasanton and Cal Water have their own water production wells. Zone 7 also distributes untreated water to agriculture and golf courses.



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.

Action Level The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

(The State allows water agencies to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative, are more than one year old.)

- ***TTHMs*** (Total Trihalomethanes) are by-products of drinking water disinfection (chlorination). Some people who use water containing TTHMS in excess of the MCL over many years may experience liver, kidney, or central nervous system problems and may have an increased risk of cancer.
- ***Turbidity*** is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.
- ***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 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 a 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*** Chromium 6 concentration in wellfields ranged from 3.0 to 14 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 that require monitoring 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 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.

JANUARY – DECEMBER 2001 WATER QUALITY DATA — CONTAMINANTS DETECTED IN WATER SUPPLY

REGULATED CONTAMINANTS WITH PRIMARY MCLs, established by the State of California Department of Health Services

DISTRIBUTION SYSTEM

CONTAMINANT	MCL	DLR	PHG MCLG*		
Total trihalomethanes (THMs) (ug/L)	100	0.5	NA	Highest running annual average: 35	Range of individual samples: ND – 76
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		PATTERSON PASS WATER TREATMENT PLANT		MOCHO WELLFIELD		STONERIDGE WELL		HOPYARD WELLFIELD		HOPYARD 6 – ASR WELL Aquifer Storage Recovery (ASR)	
Turbidity	TT = 5 NTU		NA	Highest Level Found = 0.15 NTU		Highest Level Found = 0.12 NTU		Average 0.10	Range 0.05 – 0.27	Average 0.09	Range 0.05 – 0.21	Average 0.45	Range 0.07 – 1.4	Average 0.14	Range 0.06 – 0.23
	TT = percentage of samples < 0.5 NTU		NA	100%		100%		Not applicable		Not applicable		Not applicable		Not applicable	
Inorganic Chemicals				Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range
Arsenic (ug/L)	50	2	NA	ND	ND	ND	ND	ND	ND – 3	ND	ND – 3	ND	ND – 3	ND	ND
Barium (ug/L)	1000	100	2000*	ND	ND	ND	ND	150	140 – 170	250	220 – 270	140	100 – 170	110	NA
Chromium total (ug/L)	50	10	100*	ND	ND	ND	ND	ND	ND – 12	13	12 – 15	ND	ND – 12	ND	ND
Selenium (ug/L)	50	5	50*	ND	ND	ND	ND	ND	ND – 6	ND	ND	ND	ND	ND	ND
Fluoride (mg/L)	2	0.1	1	0.1	0.1	0.1	ND – 0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1 – 0.2
Nitrate (as NO3) (mg/L)	45	2	45	ND	ND – 5	2	ND – 5	15	14 – 17	14	13 – 16	10	8 – 13	6	6 – 7
Radionuclides (a)															
Gross Alpha (pCi/L)	15	1	NA	ND	ND	ND	ND – 1	3	2 – 10	2	ND – 3	3	ND – 5	5	ND – 11
Gross Beta (pCi/L)	50	4	NA	ND	ND	ND	ND – 5	ND	ND – 7	ND	ND	ND	ND	ND	ND – 6
Uranium (pCi/L)	20	2	0.5	ND	ND	ND	ND	ND	ND – 3	ND	ND	2	ND – 4	ND	ND
REGULATED CONTAMINANTS WITH SECONDARY MCLS, ESTABLISHED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES															
Conductivity (umhos/cm)	1600		–	567	449 – 738	591	418 – 785	898	736 – 1145	650	623 – 707	907	743 – 1175	757	711 – 821
Chloride (mg/L)	500		–	94	68 – 159	104	61 – 173	76	59 – 105	44	38 – 56	73	46 – 112	73	64 – 78
Sulfate (mg/L)	500	0.5	–	40	20 – 64	44	20 – 82	69	46 – 103	36	33 – 38	81	43 – 139	62	59 – 65
Total Dissolved Solids (mg/L)	1000		–	316	270 – 398	333	246 – 432	529	434 – 662	383	362 – 408	547	438 – 750	455	428 – 492
UNREGULATED CHEMICALS REQUIRING MONITORING, ESTABLISHED BY THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES															
Chromium 6 (ug/L)	–	1	NA	ND	ND	ND	ND	9	6 – 12	13	12 – 14	8	8 – 9	4	3 – 5
Vanadium (ug/L)	AL = 50	3	NA	ND	ND	ND	ND	ND	ND – 5	6	4 – 8	ND	ND – 5	ND	ND
ADDITIONAL PARAMETERS — INCLUDED TO ASSIST CONSUMERS IN MAKING HEALTH OR ECONOMIC DECISIONS, I.E. LOW SODIUM DIET, WATER SOFTENING, ETC.															
Corrosivity (Units)	(b)		–	12.4	11.8 – 12.7	12.4	12.1 – 12.8	12.2	11.9 – 12.5	12.2	11.9 – 12.3	12.3	12.0 – 12.5	12.1	11.9 – 12.3
Alkalinity (as CACO3) (mg/L)	–		–	100	74 –142	85	78 – 93	295	256 – 355	236	229 – 252	292	272 – 341	222	181 – 252
Hardness total (as CaCO3) (mg/L)	–		–	126	86 – 160	113	82 –133	371	302 – 470	251	238 – 274	379	314 – 511	238	211 – 266
Calcium (mg/L)	–		–	25	20 – 33	25	20 – 31	72	54 – 82	48	47 – 50	79	62 – 97	52	47 – 56
Magnesium (mg/L)	–		–	11	7.3 – 17	12	7.5 – 17	46	39 – 67	31	29 – 38	44	31 – 65	26	23 – 30
Potassium (mg/L)	–		–	2.6	1.8 – 4.0	3.1	2.1 – 4.2	1.8	1.4 – 2.3	1.6	1.3 – 1.8	1.8	1.7 – 2.0	2.1	1.9 – 2.2
Sodium (mg/L)	–		–	66	51 – 102	74	53 – 100	49	36 – 64	40	37 – 43	51	35 – 65	71	69 – 74
pH (Units)	–		–	8.6	8.1 – 9.0	8.7	8.3 – 9.2	7.5	7.2 – 7.7	7.7	7.4 – 7.9	7.5	7.2 – 7.8	7.6	7.5 – 7.8
Boron (ug/L)	–	100	–	360	100 – 670	380	100 – 670	500	180 – 820	360	140 – 550	390	150 – 590	410	160 – 580
Silica (mg/L)	–		–	12.3	9.18 – 15.1	14.2	11.3 – 17.4	24.1	21.6 – 26.7	25.4	23.7 – 26.7	20.4	14.0 – 22.9	20.2	18.5 – 21.6
Total Organic Carbon (mg/L)	–	0.7	–	2.3	0.7 – 3.1	2.3	1.5 – 3.7	0.8	ND – 1.3	ND	ND – 1.1	1.0	0.7 – 1.4	1.1	0.9 – 1.3
Total Radon (pCi/L), (a)	–	100	–	NA	NA	NA	NA	272	117 – 320	329	270 – 370	325	210 – 460	243	ND – 510

(a) Data is from latest monitoring in 2000, (b) Zone 7 strives to supply non-aggressive water (Corrosivity > 12) by pH adjustment. **Abbreviations/Units:** **MCL** = Maximum Contaminant Level, **DLR** = Detection Limit for Purposes of Reporting (DHS established), **PHG** = Public Health Goal, **MCLG** = Maximum Contaminant Goal, **NA** = Not Available, **TT** = Treatment Technique, **NTU** = Nephelometric Turbidity Unit, **ug/L** = Micrograms per liter, **mg/L** = Milligrams per liter, **pCi/L**= Picocuries per liter, **AL** = Action level, **ND** = Monitored but not detected at or above DLR. ND or value in the range column indicates that more than one analysis performed.

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.

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

- ***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.
- ***Selenium*** Erosion of natural deposits, discharge from mines, and runoff from livestock lots.
- ***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 PROGRAM

By the end of 2002, Zone 7 should complete the development of its Water Quality Management Program with the aid of active customer involvement.

The program will assist in determining policies to effectively manage various water quality issues. The program will also help guide operations, establish capital facilities needs and design guidelines, and incorporate a funding strategy.

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
Methyl-tert-butyl ether (MTBE)
Monochlorobenzene
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
Dibromochloropropane (DBCP)*
Di(2-ethylhexyl)adipate*
Di(2-ethylhexyl)phthalate*
Dinoseb
Diquat
Endothall
Endrin*
Ethylene Dibromide (EDB)*
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

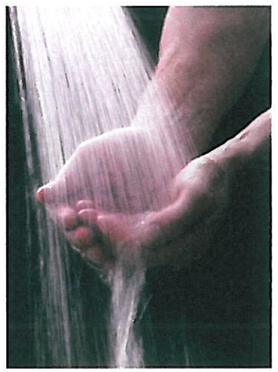
Aluminum
Antimony
Asbestos***
Beryllium
Cadmium
Cyanide***
Mercury
Nickel
Nitrite (as nitrogen)
Thallium

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



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