Drinking Water Source Assessment

Drinking Water Source Assessments are conducted to determine how vulnerable drinking water sources are to contamination. Assessments have been completed for all of ACWD's water sources.

- The San Francisco Public Utilities Commission (SFPUC), which administers the Hetch Hetchy system, completed its assessment in 2000. It was found that SFPUC watersheds are vulnerable to contaminants associated with wildlife and, to a limited extent, human recreational activity. Historically, the levels of contaminants have been very low in the watersheds.
- The South Bay Aqueduct (SBA) source assessment was completed in 2002. This source is most vulnerable to agricultural drainage, wastewater treatment plant discharges, urban runoff, recreational usage of the water, and cattle grazing. In addition, seawater intrusion contributes salt and bromide to the water supply.
- ACWD's assessment of local groundwater sources was also completed in 2002. These sources are most vulnerable to existing and historic gas stations, known contaminant plumes, confirmed leaking underground storage tanks, dry cleaners, metal plating/finishing/fabricating, and sewer collection.

Although ACWD water sources are vulnerable to potentially contaminating activities, our treatment and blending facilities purify your tap water to the strict standards set by federal and state regulatory agencies. Complete assessments may be reviewed at ACWD headquarters located at 43885 South Grimmer Boulevard in Fremont. To have a summary of the assessments sent to you, contact Laura Hidas at (510) 668-6516.

Frequently Asked Questions about Disinfection Byproducts (DBPs)

Q. ***What are disinfection byproducts?***

A. Disinfection byproducts are chemical compounds that may form when water is disinfected. Some water contains naturally occurring organic matter that reacts with certain disinfectants, such as chlorine. Two groups of DBPs may form during this reaction: trihalomethanes (THMs) and haloacetic acids (HAA5).

Q. ***Can exposure to disinfection byproducts affect my health?***

A. Some studies suggest that there may be a link between exposure to high levels of certain DBPs and an increased risk of certain types of cancer. Adverse impacts to reproductive health, including low birth weight and possible miscarriage, have been indicated in some studies as well. These research findings have not been confirmed and studies are continuing. However, at this time, the USEPA is enforcing more stringent regulations for DBPs.

Q. ***What has ACWD been doing to reduce my exposure to DBPs?***

A. ACWD continues to monitor THMs and HAA5 in our distribution system and will be increasing the number of monitoring sites in 2006 to comply with future EPA regulations. ACWD continues to update and optimize its treatment processes to reduce DBP formation. These treatment processes include ozonation, desalination, and membrane filtration. As indicated in this report, the water you receive from ACWD is below the federal maximum contaminant level for DBPs and well within the standards for safe drinking water.

Q. ***How can I get more information about disinfection byproducts?***

A. Contact Dr. Jeannette Weber at the ACWD Water Quality Laboratory at (510) 668-6520.

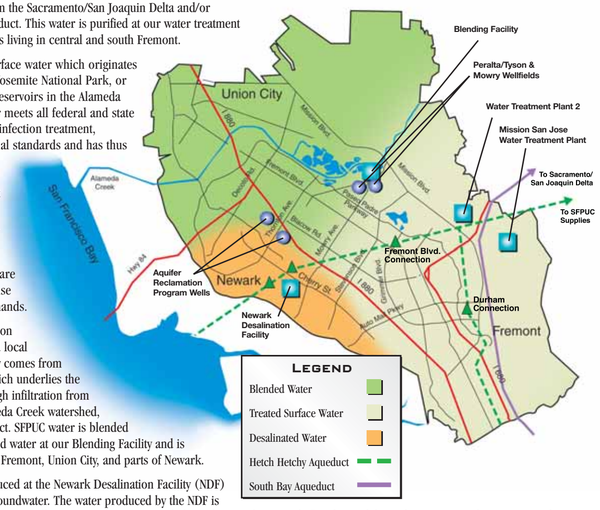
Where Our Water Comes From

ACWD supplies water to the Tri-City area from four sources.

- Treated surface water is imported from the Sacramento/San Joaquin Delta and/or Lake Del Valle via the South Bay Aqueduct. This water is purified at our water treatment plants and then delivered to customers living in central and south Fremont.
- Purchased San Francisco water is surface water which originates in either Hetch Hetchy Reservoir in Yosemite National Park, or locally in Calaveras or San Antonio Reservoirs in the Alameda Creek watershed. Hetch Hetchy water meets all federal and state criteria for watershed protection, disinfection treatment, bacteriological quality, and operational standards and has thus been granted a filtration exemption by the USEPA and the CDHS. Water from the local reservoirs is treated at a water treatment plant. Water from the San Francisco system is delivered through Hetch Hetchy Aqueduct connections in Fremont. Additional connections in Fremont and Newark are opened occasionally for emergency use and to meet peak summer water demands.
- Blended water consists of a combination of purchased San Francisco water and local groundwater. Our groundwater supply comes from the Niles Cone Groundwater Basin which underlies the Tri-City area and is replenished through infiltration from local rainwater, runoff from the Alameda Creek watershed, and water from the South Bay Aqueduct. SFPUC water is blended with Peralta/Tyson and Mowry Wellfield water at our Blending Facility and is delivered to customers living in north Fremont, Union City, and parts of Newark.
- Desalted or desalinated water is produced at the Newark Desalination Facility (NDF) from brackish (slightly salty) local groundwater. The water produced by the NDF is blended with Aquifer Reclamation Program well water to achieve a more balanced mineral content before being delivered to customers living in Newark.

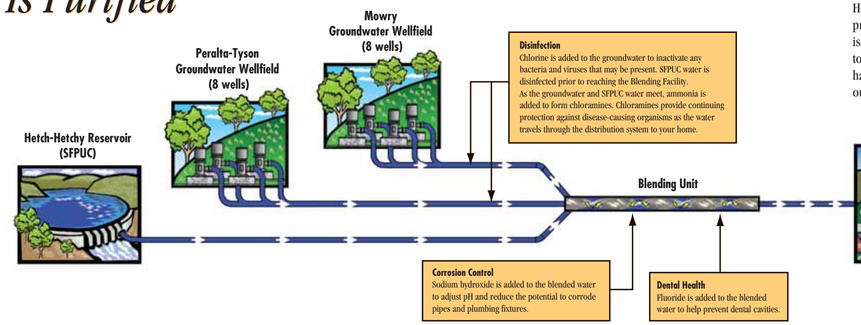
Typical Distribution System Map

Your location in the Tri-City area determines the type of water you receive.



How Your Water Is Purified

ACWD operates four treatment facilities, each of which utilizes a unique treatment process. The diagram below illustrates how groundwater from the Niles Cone Groundwater Basin is blended with surface water purchased from the SFPUC and treated at the Blending Facility.



Blending – The Blending Facility houses three identical blending units. Inside each unit, groundwater from the Mowry Wellfield, the Peralta-Tyson Wellfield, and surface water from the SFPUC are blended together.

Hardness Reduction – In the blending process, relatively hard groundwater is mixed with very soft SFPUC water to produce water of moderate hardness and uniform quality for our customers.

Distribution System

Did You Know?

- The Niles Cone Groundwater Basin is the only water source that ACWD directly manages and protects.
- The Blending Facility produces about 50% of ACWD's annual water supply.

Your Views Are Welcome

Meetings of ACWD's Board of Directors typically begin at 6:00 p.m. on the second and fourth Thursdays of each month and are open to the public. Meetings are held in the ACWD Board Room at the District's headquarters at 43885 South Grimmer Boulevard in Fremont. Further information regarding the Board meeting schedule can be found on our website at: www.acwd.org/bod_meetings.php5.

If you have any questions or need any more information about the quality of your water, please let us know. We would also appreciate any comments you have about this report. We can be reached by phone at (510) 668-4200, fax (510) 770-1793, on the Internet at www.acwd.org, or by mail at: Alameda County Water District, P.O. Box 5110, Fremont, CA 94537. Dr. Jeannette Weber, our Water Quality Laboratory Supervisor, can be reached at (510) 668-6520. For current water quality information, check the ACWD Water Quality Website at: www.acwd.org/wq_production_report.php5.

ALAMEDA COUNTY WATER DISTRICT

Este reporte contiene información muy importante de su salud y el agua que toma. Tradúzcalo por favor ó hable con alguien que lo entienda bien.

Este relatório contém informações importantes sobre sua água potável. Por favor traduza-o ou fale com alguém que entenda o que está escrito.

Mabalaga ang impormasyong ito. Mangyaring ipasalin ito.

Dieser Report enthält wichtige Informationen Über Ihr Trinkwasser. übersetzen Sie ihn bitte oder sprechen Sie mit jemand, das ihn versteht.

Ce rapport contient de l'information importante concernant votre eau potable. Veuillez le traduire, ou parlez-en avec quelqu'un qui le comprend.

此份有關你的食水報告,內有重要資料和訊息,請找他人為你翻譯及解釋清楚。

Chi tiết này thật quan trọng. Xin nhờ người dịch cho quý vị.

यह सूचना महत्वपूर्ण है ।
कृपा करके किसी से :इका अनुवाद कराये ।

このレポートはあなたの飲料水に関する重要な情報が含まれています。翻訳するか、レポートの内容を理解できる方に説明してもらってください。

이 안내는 매우 중요합니다.
본인을 위해 번역인을 사용하십시요.

Данный рапорт содержит важную информацию о вашей питьевой воде. Переведите его или проконсультируйтесь с тем, кто его понимает.

این اطلاعیه شامل اطلاعات مهمی راجع به آب آشامیدنی است. اگر نمیتوانید این اطلاعات را بزبان انگلیسی بخوانید لطفا از کسی که میتواند برای بگیرید تا مطالب را برای شما به فارسی ترجمه کنند.

"هذا التقرير يحتوي على معلوماً ت مهمّة تتعلق بمياه الشفة (أو الشرب).
ترجم التقرير" أو تكلم مع شخص يستطيع أن يفهم التقرير."

ਇਸ ਰਿਪੋਰਟ ਵਿਚ ਤੁਹਾਡੇ ਪੀਣ ਵਾਲੇ ਪਾਣੀ ਵਾਰੇ ਬਹੁਤ ਜਰੂਰੀ ਸੂਚਨਾ ਹੈ। ਇਸ ਨੂੰ ਪੜ੍ਹੋ ਜਾਂ ਜੋ ਸਸਨ ਇਸ ਨੂੰ ਸਮਝ ਸਕਦੇ ਹਨ, ਉਸ ਕੋਲੋਂ ਸਮਝੋ।

ACWD
ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd.
Fremont, CA 94538

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2005 Water Quality Report

Dear ACWD Customer:

This report summarizes the results of the approximately 70,000 analyses conducted on your drinking water during 2005. I'm proud to report that your water consistently met or surpassed all federal and state drinking water standards for public health and safety over the course of the year. To learn more about the quality of your drinking water, turn to the following pages:

Paul Piraino
General Manager

A Message from the USEPA and the California Department of Health Services

A Note About Drinking Water

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. These contaminants enter water as it travels over the surface of the land or through the ground, dissolving substances that are naturally present in the environment or picking up substances resulting from the presence of animals or human activity. The presence of contaminants does not necessarily indicate that water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. To make sure that this water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Health Services (CDHS) prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. CDHS regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. CDHS regulations are in many cases more stringent than federal ones. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (800-426-4791).

A Note to the Immuno-compromised

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 guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Comprehensive Water Quality Monitoring

ACWD works diligently to ensure that your water meets or surpasses all state and federal drinking water standards. This is an extensive task and includes monitoring and testing for many types of contaminants that may be present in source water (i.e., water before treatment), including:

- Microbials, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganics, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemicals, including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, or that may come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive constituents, which can be naturally occurring or be the result of oil and gas production and mining activities.

Laboratory analysts test your water for more than 180 substances to help ensure your health and safety.

Highly trained analysts in our state-certified laboratory are committed to conducting these tests under a stringent Quality Assurance/Quality Control (QA/QC) program. Through written procedures, work instructions, and detailed record maintenance, the QA/QC program ensures the quality of the analytical data produced by the laboratory. Analysts collect samples daily from the distribution system, treatment facilities, and water sources to ensure the high quality of the water you drink. Very few of the more than 180 substances we tested for were found in our water and in all cases we were in compliance with federal and state standards.

Voluntary Monitoring

To help ensure the safety of your drinking water, ACWD also voluntarily monitors for contaminants that are not yet regulated. You will find the results of this monitoring below.

Cryptosporidium is a microscopic organism that, when ingested, can result in fever, diarrhea, and other gastrointestinal symptoms. It is found in all of California's rivers and streams and comes from animal and human wastes. Although testing done in 1998 and 1999 revealed that it was occasionally present in source water from Hetch Hetchy Reservoir and the South Bay Aqueduct before treatment, **no *Cryptosporidium* was detected in the water delivered to our customers**.

Radon is a naturally occurring radioactive gas that enters air and water from underground rock formations and is found throughout the U.S. If drinking water contains high levels of radon it may cause increased risk of stomach cancer. Breathing radon gas may lead to lung cancer. The radon released when you use tap water contributes very little to the amount of radon inside your home. The EPA is recommending that drinking water should contain less than 4,000 pCi/L of radon as part of a proposed mitigation program. In 2005, we conducted monitoring for radon in all our source waters and detected it only in our groundwater supply. Our groundwater is blended with purchased San Francisco water. This blended water produced a radon level of no more than 200 pCi/L. Moreover, the blended water served out of the Newark Desalination Facility produced a radon level of no more than 100 pCi/L.

ACWD's new Water Quality Laboratory, which houses a water sample receiving area, six analytical areas, and staff work stations, will enhance our ability to deliver high quality water.

2005 Water Quality Information

The chemists and technicians in ACWD's state certified laboratory performed approximately 70,000 chemical and bacteriological analyses on your water during 2005. The results revealed that very few of the more than 180 substances we tested for were found in your water. In all cases, we were in compliance with federal and state standards for public health and safety. There are two types of standards we are required to meet:

Primary Drinking Water Standards set limits for substances in water that may be harmful to humans if consumed in excess. They include MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards deal with aesthetic qualities such as taste and odor which relate to consumer acceptance rather than health factors.

A summary of key results for 2005 is presented in the following charts. Technical terms and abbreviations used in the charts are explained below.

Definitions

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 or 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.

Maximum Residual Disinfectant Level (MRDL): The level of disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of disinfectant added for water treatment below which there is no known or expected risk to health. MRDLs are set by the U.S. Environmental Protection Agency.

Notification Level (NL): CDHS health-based advisory levels used to provide information to public water systems and others about unregulated contaminants in drinking water. Unregulated contaminant monitoring helps the EPA and the CDHS to determine where certain contaminants occur and whether the contaminants need to be regulated.

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.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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

Abbreviations

mg/L: Milligrams per liter (which is equal to parts per million).

µg/L: Micrograms per liter (which is equal to parts per billion).

ppm: Parts per million (which is equal to milligrams per liter).

ppb: Parts per billion (which is equal to micrograms per liter).

pCi/L: Picocuries per liter (a measure of radioactivity).

µmhos/cm: Micromhos/centimeter.

NTU: Nephelometric turbidity units.

ND: The substance could not be found at the minimum amount that can be detected.

NA: Non-Applicable.

Primary Drinking Water Standards

Parameters	Units	Primary MCL or [MRDL]	(PHG) (MCLG) or [MRDLG]	Treated Surface Water (1)		Purchased San Francisco Water (1)		Blended Water (1)		Desalinated Water (1)		Major Sources
				Range	Average	Range	Average	Range	Average	Range	Average	
Aluminum	ppm	1	(0.6)	ND - 0.05	ND	ND - 0.08	ND	ND - 0.05	ND	ND		Erosion of natural deposits
Barium	ppm	1	(2)	ND		ND		ND - 0.15	ND	ND		Erosion of natural deposits
Fluoride (naturally occurring) (2)	ppm	2	(1)	ND - 0.12	0.06	ND		0.1 - 0.3	0.2	ND - 0.3	0.2	Erosion of natural deposits
Fluoride (treated water) (2)	ppm	2	(1)	Average = 0.95 (Range 0.8 - 1.2)								Water additive that promotes strong teeth
Combined Radium (3)	pCi/L	5	(0)	1.2 - 1.6	1.3	ND - 1.2	ND	ND - 1.3	ND	ND(4)		Erosion of natural deposits
Bromate	ppb	10	(0)	Highest RAA (5) = ND		NA		NA		NA		Disinfection by-product
Disinfectant Residual (as Cl_2) (6)	ppm	[4]	[4]	Annual Average (7) = 2.0 (Range of individual detections: 0.1 - 3.0)								Disinfectant residual
5 Haloacetic Acids (HAA5) (8)	ppb	60	NA	Highest RAA (9) = 17 (Range of individual detections: ND - 38)								Disinfection by-product
Nitrate (as NO_3)	ppm	45	(45)	ND		ND		ND		ND - 3.1	ND	Runoff from fertilizer use, erosion of natural deposits
Total Trihalomethanes (TTHMs) (10)	ppb	80	NA	Highest RAA (9) = 31 (Range of individual detections: ND - 58)								Disinfection by-product
Turbidity (11)	NTU	TT = 0.3 (12)	NA	0.02 - 0.14	0.04	NA	NA	Not subject to the turbidity monitoring requirement				Soil Runoff
		TT = 5.0 (13)	NA	NA	NA	0.13 - 1.13	0.32					

Lead and Copper Sampling Program	Units	Action Level (14)	(PHG)	Range	90th Percentile Value	Number of Samples Collected	Number of Samples above AL	Typical Sources in Drinking Water
Copper (15)	ppm	1.3	(0.17)	ND - 1.10	0.94	64	0	Corrosion of household plumbing systems
Lead (15)	ppb	15	(2)	ND - 20	7.4	64	2	Corrosion of household plumbing systems

Secondary Drinking Water Standards

Parameters	Units	Secondary MCL	Treated Surface Water		Purchased San Francisco Water		Blended Water		Desalinated Water		Major Sources
			Range	Average	Range	Average	Range	Average	Range	Average	
Aluminum	ppb	200	ND - 51	ND	ND - 77	ND	ND - 50	ND	ND		Erosion of natural deposits
Chloride	ppm	500	16 - 64	43	4 - 8	5	44 - 78	66	80 - 87	83	Runoff/leaching from natural deposits; seawater influence
Threshold Odor Number (TON)	TON	3	1	1	1	1	1	1	1	1	Naturally occurring organic materials
Specific Conductance	µmhos / cm	1600	200 - 521	384	40 - 144	79	577 - 755	679	536 - 713	639	Substances that form ions when in water; seawater influence
Total Dissolved Solids	ppm	1000	124 - 262	207	25 - 84	58	303 - 423	374	264 - 378	321	Naturally occurring minerals and metals
Sulfate	ppm	500	12 - 44	28	0.9 - 13.6	5.5	44 - 45	45	21 - 33	28	Naturally occurring minerals

Other Water Quality Parameters

Parameters	Units	NL	Treated Surface Water		Purchased San Francisco Water		Blended Water		Desalinated Water		Major Sources
			Range	Average	Range	Average	Range	Average	Range	Average	
Alkalinity	ppm as $CaCO_3$	NA	50 - 128	94	22 - 60	39	166 - 194	184	92 - 146	123	Naturally occurring mineral
Boron (16)	ppb	1000	100 - 140	120	—	ND (17)	—	400 (17)	—	530 (17)	Naturally occurring mineral
Calcium	ppm	NA	9 - 28	18	3 - 12	6	37 - 54	47	21 - 27	24	Naturally occurring mineral
Hardness	ppm as $CaCO_3$	NA	36 - 158	96	12 - 38	28	173 - 222	201	91 - 130	110	Naturally occurring mineral
Magnesium	ppm	NA	4 - 15	11	0.2 - 2.7	1.2	17 - 21	19	9 - 14	12	Naturally occurring mineral
pH	units	NA	8.3 - 9.0	8.6	9.0 - 9.3	9.1	7.7 - 8.0	7.8	8.0 - 8.5	8.2	Naturally occurring mineral
Potassium	ppm	NA	1.6 - 2.5	2.1	0.7 - 1.0	0.9	1.4 - 1.9	1.7	0.8 - 1.1	0.9	Naturally occurring mineral
Sodium	ppm	NA	25 - 54	40	5 - 12	7	50 - 58	54	65 - 98	84	Naturally occurring mineral

(1) Refer to the "Distribution System Map" (page 6) to determine the type of water you receive based on your location.

(2) ACWD treats your water by adding fluoride to the naturally occurring level in order to help prevent dental caries in consumers. The fluoride levels in treated water are maintained within a range of 0.8 - 1.4 ppm, as required by State regulations.

(3) Combined Radium was reported as ND by the laboratory at a higher detection limit than the Detection Limit for Purposes of Reporting (DLR), due to analytical limitations. Combined Radium samples were collected by ACWD in 2002.

(4) Data for Desalinated water were collected from the fourth quarter of 2003 through the third quarter of 2004.

(5) Compliance is based on the highest running annual average (RAA) of treatment plant samples collected monthly. Range of individual detections: ND - 5.56 ppb.

(6) Disinfectant residual in the distribution system consists of combined chlorine (chloramines); results are reported as Cl_2.

(7) For disinfectant residual the annual average for 2005 is reported.

(8) Five Haloacetic Acids is the sum of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.

(9) Compliance is based on a running annual average (RAA) of distribution system samples collected in 4 quarters.

(10) Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform.

(11) Turbidity is a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness. Turbidity is measured in NTUs (nephelometric turbidity units).

(12) Treatment Technique performance standard: 0.3 NTU for filtered water in 95% of the measurements taken each month and shall not exceed 1.0 NTU at any time. The treated surface water met this standard 100% of the time.

(13) Treatment Technique performance standard: 5 NTU for unfiltered water. The purchased SFPUC water met this standard 100% of the time.

(14) Compliance is based on 90th percentile values, which should be less than the action levels (ALs).

(15) Due to favorable sampling results, CDHS approved reduced lead and copper monitoring (every 3 years). Results reported here were collected by ACWD in 2003. The next sampling round is scheduled for 2006.

(16) Unregulated Contaminant Monitoring Rule samples were collected by ACWD in 2005.

(17) A single sample was collected from this location.