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APPLIE VALLIEN RANICHOS WATER COMPANNY ANNUAL WATER QUALLENY REPORT 2003/2004

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2003/2004 Annual Water Quality Report The Value of Water

The more successfully a good or service is delivered, the more likely it is that the

recipient will take it for granted regardless of how critical the need for that good or service. As a result, consumers can be somewhat apathetic about the value of water services. Providing water services involves locating adequate supplies, transporting that supply to where it is needed, treating it to meet drinking water standards,



drinking water standards, *conve* and then distributing it

How do you value water conveniently delivered to your tap?

through the vast array of infrastructure to your tap. You may be aware of the "price" of water, but unmindful of the "value" of the services that makes water readily available to you. Here are a few of the services Apple Valley Ranchos Water Company provides that give tap water "value".

Water Service Reliability – AVR has 22 groundwater wells. Redundancy in water supplies insures reliable service. Back-up power is available in case of an emergency. In addition, interconnections with neighboring systems ensure water is supplied to the community in the event of an outage.

Water Quality – Hundreds of water samples taken every month are analyzed to assure that all healthrelated and aesthetic drinking water standards are met. The water provided by AVR does not exceed any federal or state drinking water standard.

Round-The-Clock Service – We have staff monitoring the water system 24 hours per day, 7 days per week, 365 days per year. If repairs are needed, your call will be answered and service will be provided quickly.

Fire Service – Fire hydrants are placed strategically in your community for your protection. They are designed to meet fire-fighting standards and are tested annually.

System Security – The distribution system is monitored for vandalism and terrorism



threats 24 hours a day. Motion detector lighting and intrusion alarms are installed at all facilities.

Capital Improvements – AVR invests in replacing old distribution system components and maintaining the system to make clean water available at the turn of a tap.

Water Conservation – AVR offers conservation programs such as residential water audits, low flush toilet rebates, and water conservation magic shows for elementary schools to help preserve our water resources.

Utility Experts – Experienced staff, that includes state certified water distribution and treatment operators and professional engineers, assure optimal operation and maintenance of the water system. In addition, our friendly customer service representatives and water quality experts are available to answer any of your questions.

Cost Effective – Tap water costs only \$0.0045/gallon compared to \$21.19/gallon of Evian bottled water.

Simply speaking, value is the worth, importance, or usefulness of something. AVR understands the necessity and benefit of water and is committed to delivering reliable water services in an efficient and cost effective manner that provides immeasurable "value" to you. If you have an opinion on this or other topics, we would like to hear from you. Visit our website at www.avrwater.com or call 760-247-6484.

Apple Valley Ranchos Water Company Sources

Apple Valley Ranchos Water Company is pleased to provide you with our annual water quality report for 2003/04. This report is a summary of the quality of water provided in 2003. It reflects the many resources, both human and capital, required to bring you water that satisfies all of the requirements of the state and federal Safe Drinking Water Acts.

AVRWC pumps 100% of our source water from 22 deep wells located throughout the community. These wells draw water from the deep Alto subunit of the Mojave ground water basin. This high quality aquifer is recharged from snowmelt from the San Bernardino Mountains to the south and the Mojave River to the west. Also, the Mojave Water Agency (MWA) imports water from the California State Water project to spread in the Mojave River to help recharge the ground water. In 2003, MWA reached agreement with the Metropolitan Water District of Southern California to store an additional 60,000 acre feet of water in the Mojave basin in exchange for MWD to have the right to withdraw an equal amount of water in the future should there be a significant drought that would reduce imported water to the MWD. This exchange/storage program had a dollar benefit to the high desert community of approximately \$300,000.

New well #29 was drilled in 2003. In 2004, old deteriorating wells #15 and #17 will be destroyed and new well #17R will be drilled.

Some of the water we pump has been age-dated close to 10,000 years old by the United States Geologic Survey. That means it has been protected and naturally filtered for a very long time.



Public Health Goal Report and Public Hearing

Every three years, large water utilities must compare their source water quality to existing Public Health Goals (PHG's). This will occur again this year. AVR will be preparing a report on gross alpha radiation and uranium. The report will describe any available treatment technology to remove or reduce these contaminants, the cost to treat for removal and the annual cost per customer to meet all PHG's. A public hearing to receive and respond to comments from the public will be held at the PWC office on Thursday, October 7, 2004 at 10:00 a.m. All interested members of the public are invited to attend.

Apple Valley Ranchos Water Company is Now Offering "Automatic Bill Payment"

- * Much More Convenient
- * No More Checks
- Optional, free method to pay your water bill on time
- Choose to sign up and future bills will be paid by automatic deduction from your checking account
- Even when you are out of town, your bill will be paid
- You will still receive a statement, but it will say "Do not pay"
- To sign up, call our Customer Service representatives at (760) 247-6484

CAPITAL IMPROVEMENTS

One of the important aspects of operating a public water system is reinvestment in infrastructure. Pipeline and facility replacement is an often overlooked necessity to assuring continued superior service. Maintaining a strong infrastructure benefits everyone in the community.



APPLE VALLEY RANCHOS WATER COMPANY • Capital Improvements from 1999 - 2003									
Length of Water Main Installed (feet)	Number of Fire Hydrants Installed (each)	Number of Services Installed (each)	Amount of Water Main Fire Hydrant and Services Installed (\$)	Amount of Source of Supply Improvements (\$)	Total Dollars Reinvested				
107,163	203	2,427	\$11,583,622	\$2,812,158	\$14,395,780				
Apple Valley Ranchos Water Company's 2004 Capital Budget totals \$3,382,600. This amount includes \$290,000 in General Plant improvements.									

Source Water Assessment Completed and Available

Some of the water we pump has been age-dated close to 10,000 years old by the United States Geology Survey. This means it has been protected for a long time.

The 1996 Safe Drinking Water Act amendments required states to perform an assessment of potentially contaminating activities near drinking water sources of all water utilities. In California, the DHS required the utilities to perform the assessments themselves. AVRWC completed the Source Water Assessment in December of 2002. The table below summarizes the findings of the Source Water Assessment.

A copy of the complete assessment is available at Apple Valley Ranchos Water Company and at the DHS San Bernardino office. You may request a summary of the assessment be sent to you by contacting Scott Weldy of AVRWC at 760-247-6848 or by calling the DHS office at 909-383-4328.

	MOST VULNERABLE ACTIVITIES							POTENTIALLY VULNERABLE ACTIVITIES								
Well #	High Density Housing	High/Low Density Septic Systems	Parks	Irrigated Crops	Golf Courses	Sewer Collection Systems	Gas Stations	Roads, Streets, Railroads	Storm Water Injection Wells	Storm Drain Discharge Points	Storm Water Detention Facilities	Agric./ Irrigation/ Water Wells	Historic Grazing	Historic Waste Dumps / Landfills	Machine Shops	Leaking Underground Storage Tanks
4	X	X	X						X							
7								x				х				
9		х						X								
10R	Х	x										х				
11R	х	х					Х									
12	х	х								X	X					
16	Х	x									X					
17	х	х		X								х				
18	Х	x				x		X				х				
19	Х	x				x			Х							
20	х	х		X									Х			
21		x				х								Х		
22		х				х			Х							
23		х														
24	х	х													X	
25		х		X		х						х				
26	X					x						x				
28		x				x										
29						x	X									
30	X	x			X	x										Х
31		x			X	x	X									Х
32						X										

Apple Valley Ranchos Water Company has a history of reinvesting back into the company. Over the last five years, AVR has invested over \$14 million in the water system. Included is over 20 miles of new water mains installed. The table below summarizes these improvements.

This job is a 14-inch water main replacement on Apple Valley Road.



EMERGING CONTAMINANTS & ISSUES

LEAD

In the last few months there has been much publicity over the high lead levels found in the water system in Washington D.C. Customers there rightfully are concerned. You should know that things are much different in California, especially for AVR customers. For one thing, AVR has no lead service lines or other plumbing components in our water system that could add lead to water delivered to customers. Since 1992, AVR has conducted eight rounds of lead and copper monitoring of homes with what USEPA defines as the "highest risk" to lead corrosion. Although rarely detected, when lead has been detected, the levels have been well below maximum allowable levels. Results have been so good that monitoring has been reduced and is performed once every three years. The lead and copper standards have never been exceeded by AVR.

ARSENIC

The new USEPA drinking water standard for arsenic lowers the maximum contaminant level (MCL) from 50 ppb to 10 ppb and will take effect in January of 2006. There are no AVRWC wells that exceed the new MCL of 10 ppb. AVRWC wells range from "not detected" to 7 ppb in arsenic, with an average of 2 ppb.

California is in the process of adopting this regulation and must either accept the federal standard or adopt a lower value. State law requires this to be done by June 30, 2004. The first step in this process is the setting of a Public Health Goal (PHG) by California's Office of Health Hazard Assessment. A PHG is a risk assessment that does not take into consideration analytical or treatment technology. The arsenic PHG was proposed in March of 2003 at 4 parts per trillion (ppt). This level is 1,000 times below current laboratory analytical capabilities. Current treatment technologies are also not capable of assuring removal of arsenic to these levels. The DHS is required to set the arsenic standard as close to the PHG as is technologically and economically feasible.

While no AVRWC wells exceed the new arsenic MCL, we want to assure our customers that we are considering all the possibilities to reduce arsenic in our drinking water. This includes reducing pumping of wells with detectable levels of arsenic and drilling a new well with no detectable arsenic. Because we have detected arsenic at or above one-half of the new drinking water standard in two of our twenty-two wells, both USEPA and the DHS require that we publish the health effects information below:

While your drinking water meets the current standard for arsenic, it does contain low levels of arsenic. The standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The California Department of Health Services continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

WEST NILE VIRUS

You can help prevent West Nile virus outbreaks this summer:

- Eliminate standing water outdoors
 - Mosquitos breed in standing water. Empty water from cans, buckets, flowerpots, pet bowls, old tires and rain gutters.
- Guard against mosquito bites.
 - Minimize time spent outdoors at dawn and dusk when mosquitos are most active.
 - Wear long pants and long sleeve shirts when outdoors.
 - Apply mosquito repellant containing DEET, according to label instructions.
- For more information or to report a dead bird(s), call **1-877-WNV-BIRD** or visit www.wipeoutwestnile.com

What Kinds of Contaminants Might be Found in Drinking Water?

As water travels over the surface of the land or through is proud to tell you that there have been no the ground, it dissolves naturally occurring minerals contaminants detected that exceed any federal or and, in some cases, radioactive material, and can pick state drinking water standards. Hundreds of up substances resulting from the presence of animals samples every month and thousands every year or from human activity. In order to ensure that tap are taken by AVRWC and are analyzed by state water is safe to drink, USEPA and the California certified laboratories to assure that all primary Department of Health Services (DHS) prescribe (health related) and secondary (aesthetic) regulations that limit the amount of certain drinking water standards are being met. See contaminants in water provided by public water the tables on the following page to see how systems. The federal Food and Drug Administration your water quality rates. (FDA) and DHS regulations also establish limits for contaminants in bottled water, which must provide the This report is intended to provide information for all water users. If received by an absentee landlord, a

Contaminants that may be present in source water include:

- same protection for public health. business, or a school, please share the information with tenants, employees or students. We will be happy to make additional copies of this report available. Complete records of water quality • Microbial contaminants, such as viruses and bacteria analyses are open for inspection by the public upon that may come from sewage treatment plants, septic request. You may also access this report on the systems, agricultural livestock operations, and wildlife. AVRWC web page at **www.avrwater.com**.
- 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 by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas productions and mining activities.

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. The tables in this report indicate which minerals and substances have been detected in the water provided by AVRWC. More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency (EPA) Safe Drinking Water Hotline at 1-800-426-4791.

This report describes those contaminants that have been detected in the analysis of almost 200 different potential contaminants, nearly 100 of which are regulated by USEPA and DHS. AVRWC

If you would like more information about water quality, please call: Marc Mullen at (760) 247-6484

SENSITIVE POPULATIONS MAY BE MORE VULNERABLE

Some people may be more vulnerable to contaminants in drinking water than the general population. Persons with compromised immune systems such as those 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 provider. The USEPA and the national Centers for Disease Control (CDC) have guidelines on appropriate means to lessen the risk of infection by *Cruptosporidium* and other microbial contaminants. These are available by calling the Safe Drinking Water Hotline at 1-800-426-4791.

Water Results

Apple Valley Ranchos Water Co. -- 2003 / 2004 Annual Water Quality Report Water Quality Parameters Detected in Apple Valley Ranchos Company Wells

PRIMARY STANDARDS Mandatory (health-related) INORGANIC CHEMICALS	State MCL	PHG or (MCLG)	Units of Measurement	AVR Range (including highest value)	Average for AVR Wells (a)	(b) AVR Date of Last Measurement	Potential Sources of Contamination
Arsenic	50 (10*)	none	ppb	< 2 - 7	2	2001/02/03	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes
Chromium (total)	50	none	ppb	< 1 - 5	ND	2001/02/03	Erosion of natural deposits; discharge from steel and pulp mills and chrome plating operations
Copper	AL = 1.3#	0.17	ppm	< 0.05 - 0.159	0.051	2001	Internal corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives
Fluoride	2.0	1.0	ppm	0.28 - 1.2	0.7	2001/02/03	Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive that promotes strong teeth (not added by AVR)
Nitrate (as NO3)	45.0	45	ppm	< 2.0 - 14.5	5.46	2003	Erosion of natural deposits; runoff and leaching from fertilizer use; leaching from septic tanks and sewers
Nitrite/Nitrate (as N)	10.0	10.0	ppm	< 0.4 - 3.3	1.30	2003	Erosion of natural deposits; runoff and leaching from fertilizer use; leaching from septic tanks and sewers

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Gross Alpha	15	(0)	pCi/L	< 1 - 8.1	2.72	2000/01/02/03	Erosion of natural deposits
Radium 226/Radium 228	5	(0)	pCi/L	NA*** or 0 - 1.0	NA***	2000/01/02/03	Erosion of natural deposits
Uranium	20	0.43	pCi/L	NA*** or < 2 - 7.6	NA***	2000/01/02/03	Erosion of natural deposits

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Sales and	۲	Water C	Juality Para	Distribution System			
DISTRIBUTION SYSTEM	State MCL	PHG or (MCLG)	Units of Measurement	AVR Range (including highest value)	Average for AVR Wells (a)	(b) AVR Date of Last Measurement	Potential Sources of Contamination
Chlorine residual	MRDL = 4	MRDLG = 4	ppm	0.01 - 1.2	0.39	weekly	Added for disinfection purposes
Microbiological (c)	5% positive	(0)	% positive	0.00%	0.00%	weekly	Naturally present in the environment
E. coli / Fecal coliform (c)	0	(0)	positive/negative	0	0	weekly	Human and animal fecal waste
Heterotrophic Plate Count Bacteria	NS	none	colony forming units	< 1 - 750	10	weekly	Naturally present in the environment
Color	15##	none	units	< 1 - 23	0.99	monthly	Naturally occurring organic materials
Odor-Threshold	3##	none	units	< 1	< 1	monthly	Naturally occurring organic materials
Turbidity	5##	none	NTU	0.05 - 0.286	0.153	monthly	Soil run-off
Total Trihalomethanes (TTHMs)	80	none	ppb	1.4 - 3.8	2.8	quarterly	By-product of drinking water disinfection
Haloacetic Acid (HAA-5)	60	none	ppb	< 1.0	ND	quarterly	By-product of drinking water disinfection

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SECONDARY STANDARDS Aesthetic standards (non health-related)	State MCL	PHG or (MCLG)	Units of Measurement	AVR Range (including	Average for AVR	(b) AVR Date of Last Measurement	Potential Sources of Contamination
CHEMICAL PARAMETERS				nignest value)	Wells (a)	meusurement	Containingtion
Chloride	500	none	ppm	3 - 310	52	2001/02/03	Runoff/leaching from natural deposits; seawater influence
Corrosivity (Langlier Index) (d)	non-corrosive	none	pos/neg	(-0.5) - (+0.5)	0.15	2001/02/03	Natural or industrially-influenced balance of hydrogen, carbon δ oxygen in the water; affected by temperature and other factors
Specific Conductance	1,600	none	micromho/cm	148 - 1490	488	2001/02/03	Substances that form ions when in water; seawater influence
Sulfate	500	none	ppm	6 - 240	91	2001/02/03	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	1,000	none	ppm	110 - 940	334	2001/02/03	Runoff/leaching from natural deposits

	PHYSICAL PARAMETERS		200					
ť.	Color	15	none	units	< 1 - 3	ND	2001/02/03	Naturally occurring organic materials
	Odor Threshold	3	none	units	< 1 - 3.0	1.0	2001/02/03	Naturally occurring organic materials
	Turbidity/clarity	5.0	none	NTU	< 0.1 - 0.3	0.1	2001/02/03	Soil runoff

-		Detected Unr	egulated (Chemicals Th	at May be of I	nterest to Co	nsumers**
	ADDITIONAL PARAMETERS unregulated	State MCL	PHG or (MCLG)	Units of Measurement	AVR Range (including highest value)	Average for AVR Wells (a)	(b) AVR Date of Last Measurement
	Aggressiveness Index (e)	NS	none	units	10.8 - 12.4	11.9	2001/02/03
	Alkalinity (as Ca CO3)	NS	none	ppm	48 - 97	79	2001/02/03
2	Boron	NS	AL = 1,000	ppb	< 100 - 920	320	2002
	Calcium	NS	none	ppm	11 - 120	36	2001/02/03
	Hardness (Ca CO3)	NS	none	ppm	31 - 415	124	2001/02/03
	Hardness (grains)	NS	none	grains	1.8 - 24.3	7.2	2001/02/03
N	Hexavalent Chromium	NS	none	ppb	< 1 - 7	3	2002
÷.	Magnesium	NS	none	ppm	1 - 30	7.4	2001/02/03
	рН	6.5 - 8.5	none	units	7.3 - 8.7	8.1	2001/02/03
5	Potassium	NS	none	ppm	< 1 - 4.4	1.9	2001/02/03
	Radon	NS	none	pCi/L	220 - 1920	447	1997/98
	Sodium	NS	none	ppm	12 - 150	56	2001/02/03
	Vanadium	NS	AL = 50	ppb	3 - 43	20	2002
-	NAME OF TAXABLE PARTY OF TAXABLE PARTY.	And and a subscription of the local division	Contraction of the local division of the loc	-			-

KEY TO ABBREVIATIONS AND FOOTNOTES

191	MCL = Maximum Contaminant Level, a drinking water standard	# = Action Level m
-	ND = Not Detected	No samples ex
Sec. 1	NG = No Standard	roquiromonte
1000	NS – No Stalidard	## _ o occordom
-	NA = Not Applicable at this time or not required to analyze for	## = a secondary
	NTU = Nephelometric Turbidity Units. This is a measure	< = less than (ess
	of the suspended material in water.	* = revised federa
-	ppm = parts per million or milligrams per liter	** = Unregulated
	ppb = parts per billion or micrograms per liter	occur and wh
-	pCi/L = picoCuries per liter	were monitor
	MRDL = Maximum Residual Disinfectant Level	*** = Monitoring of
1000	MRDLG = Maximum Residual Disinfectant Level Goal	
	(a) = The average is weighted according to the individual contribu	tion in pumping by e
1000	(b) = The state allows us to monitor for some contaminants less t	han once per vear b
-	change frequently. Some of our data though representative	are more than one
- C	(a) = Total Caliform MCL'a. No more than 5.0% of monthly complete	s may be total calife
	(c) = 10tar Comorni MCLS: No more than $5.0%$ or monuny sample	s may be total como
	coliform- positive samples, one of which contains fecal colif	orm/E. coli, constitut
	(d) = A positive number Langlier Index indicates that the water is	noncorrosive.

(e) = An aggressiveness index of 11 or greater indicates that the water is not aggressive (noncorrosive)

Definitions

Public Health Goal (PHG): Protection Agency.

Maximum Contaminant Level (MCL):

The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to the PHG's (or MCLG's) as is economically and technologically feasible. Secondary MCL's 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. MCLG's are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL):

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

The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDL's are set by the U.S. Environmental Protection Agency.

Regulatory Action Level (AL):

The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow. Primary Drinking Water Standard:

MCL's and MDRL's for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

neasured at the consumer's tap, a primary standard. Compliance determined at the 90th ue. The value shown as the "average" for copper is the 90th percentile value for 30 samples. xceeded the AL. Lead and copper monitored every three years per federal and state Next monitoring period in 2004.

(aesthetic) drinking water standard.

sentially equivalent to ND)

al primary drinking water standard effective January 2006

contaminant monitoring helps EPA and the DHS to determine where certain contaminants hether the contaminants need to be regulated. Boron, hexavalent chromium and vanadium red as part of the federal and state Unregulated Contaminant Monitoring Regulations. only required for wells whose gross alpha readings exceed 5 pCi/L

each well to the total (active wells only).

pecause the concentrations of these contaminants in groundwater sources do not year old.

orm-positive. Fecal Coliform/E. coli MCL's: The occurrence of 2 consecutive total tes an acute MCL violation (none occurred in 2003).

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHG's are set by the California Environmental