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## ***PURISSIMA PIPELINE***

### **WATER QUALITY REPORT**

Purissima Hills Water District (PHWD) is pleased to present this edition of the 2006 Annual Water Quality Report (Consumer Confidence Report). This report is prepared in conjunction with the San Francisco Public Utilities Commission (SFPUC) as a public service to provide information on the physical and chemical elements of our water supplies. This is in response to the National Primary Drinking Water Regulation and California Code of Regulation, Title 22, Section 116470, Regulations, which require all public water supply agencies to issue an Annual Water Quality Report to their customers by July 1.

We want our customers to know where their drinking water comes from, how it is treated to make it safe and healthy and the results of water quality monitoring performed by the SFPUC on a daily basis. With this knowledge, customers can make health decisions concerning water use for themselves and their families. During 2006, the SFPUC monitored water quality, both source and treated water supplies, and has met the maximum contaminant levels (MCLs) and treatment standards. The PHWD and SFPUC continue their commitment to consistently provide safe and high quality drinking water.

### **ADDITIONAL INFORMATION**

Additional information about the contents of this report can be obtained by calling the District office at 650/948-1217. Decisions about water issues are made in public meetings. The Board of Directors meets the second Wednesday of each month at 6:30 p.m. in the District office at 26375 Fremont Road, Los Altos Hills. Inquiries regarding these meetings can be made by calling the District Secretary at 650/948-1217.

Patrick Walter  
General Manager  
June 2007

**PURISSIMA HILLS WATER DISTRICT  
2006 ANNUAL WATER QUALITY REPORT  
(CONSUMER CONFIDENCE REPORT)**

**WATER SOURCES**

The Purissima Hills Water District (PHWD) receives 100 percent of its water from the San Francisco Public Utilities Commission (SFPUC) which has three watershed systems (Hetch Hetchy, Alameda and the Peninsula). PHWD receives a mix between the Hetch Hetchy and the Alameda sources that varies during the year due to distribution capabilities. The District also has emergency inter-ties with the California Water Service Company and the City of Palo Alto. The District did not use these inter-ties during 2006.

The Hetch Hetchy watershed, located in Yosemite National Park, provides approximately 86 percent of San Francisco's total water needs for 2.4 million customers in the Bay Area. Hetch Hetchy is supplemented by local watersheds in Alameda, Santa Clara and San Mateo Counties. Spring snowmelt runs down the Tuolumne River and fills the Hetch Hetchy Reservoir. The water then flows through two small regulating reservoirs, Priest and Moccasin, and is gravity fed through a system of dams, tunnels, reservoirs and pipelines to Crystal Springs. During 2006, the SFPUC's Water Quality Bureau performed over 88,096 water quality tests from its source and treated water supplies. All compliance monitoring results met or exceeded federal and state drinking water regulations. The water in the Hetch Hetchy Reservoir is treated but not filtered because it meets all Federal and State criteria for watershed protection, disinfection treatment, bacteriological quality and operational standards. As a result, the U.S. Environmental Protection Agency (USEPA) and the State Department of Health Services (DHS) has granted the Hetch Hetchy water source a filtration exemption. This exemption is contingent upon the Hetch Hetchy water quality continuing to meet all filtration avoidance criteria.

The Alameda and Peninsula watersheds provide the remaining SFPUC water supply. The Alameda watershed, approximately 35,000 acres in Alameda and Santa Clara Counties, utilizes the Calaveras and San Antonio reservoirs and is treated at the Sunol Valley Water Treatment Plant (SVWTP) prior to distribution. Treatment processes include coagulation, flocculation, sedimentation, filtration, and disinfection. Fluoridation, chloramination and corrosion control treatment are provided for the combined Hetch Hetchy and SVWTP water at the Sunol Chloramination and Fluoridation Facilities.

The 23,000 acre Peninsula watershed captures runoff in the Crystal Springs and the San Andreas Reservoirs and in two smaller reservoirs, Pilarcitos and Stone Dam. This water source is treated and filtered at the Harry Tracy Treatment Plant prior to serving residents north of Belmont.

**SFPUC PROTECTS THE WATERSHED**

The SFPUC aggressively protects the natural water resources entrusted to its care. The SFPUC continuously monitors the Hetch Hetchy watershed weather conditions, water turbidity levels, microbial contaminants, and aqueduct disinfectant levels. The SFPUC complies with monitoring and reporting requirements to protect its watersheds, and updates its watershed sanitary surveys for the Hetch Hetchy supply annually. The annual update on Watershed Control Program and Sanitary Survey describes the Hetch Hetchy, Priest and Moccasin watersheds and water supply system, identifies potential sources of contamination in the watersheds, discusses the existing and recommended watershed management practices that protect water quality, and summarizes the water quality monitoring conducted. The 2006 sanitary survey concludes that very low levels of contaminants associated with wildlife and human activities exist in these watersheds.

**Purissima Hills Water District (PHWD)**  
**2006 Water Quality Data <sup>(1)</sup>**  
**Hetch Hetchy and Sunol Valley Water Treatment Plant**

| DETECTED CONTAMINANTS  | Unit | MCL        | PHG or [MCLG] | Range                      | Average or [Max]     | Typical Sources in Drinking Water               |
|--|------|------------|---------------|----------------------------|----------------------|---|
| <b>TURBIDITY <sup>(2)</sup></b>  |      |            |               |                            |                      |   |
| Unfiltered Hetch Hetchy Water, max 5 NTU   | -    | TT         | N/A           | 0.22 - 0.93 <sup>(3)</sup> | [4.4] <sup>(4)</sup> | Soil runoff                                     |
| Filtered Water - Harry Tracy WTP, max 1 NTU  | -    | TT         | N/A           | -                          | [0.2]                | Soil runoff                                     |
| more than 95% of samples =< 0.3 NTU  | -    | TT         | N/A           | 99.3% <sup>(5)</sup>       | -                    | Soil runoff                                     |
| Filtered Water - Sunol Valley WTP, max 1 NTU   | -    | TT         | N/A           | -                          | [0.18]               | Soil runoff                                     |
| more than 95% of samples =< 0.3 NTU  | -    | TT         | N/A           | 100% <sup>(5)</sup>        | -                    | Soil runoff                                     |
| <b>DISINFECTION BYPRODUCTS AND PRECURSOR (SFUC Regional System) - for information only</b> |      |            |               |                            |                      |   |
| Total Trihalomethanes  | ppb  | 80         | N/A           | 22 - 57                    | [38] <sup>(6)</sup>  | Byproduct of drinking water chlorination        |
| Haloacetic Acids   | ppb  | 60         | N/A           | 8 - 45                     | [25] <sup>(6)</sup>  | Byproduct of drinking water chlorination        |
| Total Organic Carbon   | ppm  | TT         | N/A           | 1.1 - 2.9                  | 2.4                  | Various natural and man-made sources            |
| <b>DISINFECTION BYPRODUCTS AND PRECURSOR (PHWD treated water)</b>                          |      |            |               |                            |                      |   |
| Total Trihalomethanes  | ppb  | 80         | N/A           | 31.0 - 56.7                | 53.2                 | Byproduct of drinking water chlorination        |
| Haloacetic Acids   | ppb  | 60         | N/A           | 11.6 - 26.1                | 23.7                 | Byproduct of drinking water chlorination        |
| Total Organic Carbon   | ppm  | N/A        | N/A           | .74 - 1.89                 | 1.31                 | Various natural and man-made sources            |
| <b>MICROBIOLOGICAL (PHWD treated water)</b>  |      |            |               |                            |                      |   |
| Total Coliform, highest % of positives detected in any month                               | %    | ≤ 5        | [0]           | 0                          | 0                    | Naturally present in the environment            |
| <b>INORGANIC CHEMICALS</b>   |      |            |               |                            |                      |   |
| Aluminum   | ppb  | 1000       | 600           | <50 - 71                   | <50                  | Erosion of natural deposits                     |
| Fluoride   | ppm  | 2.0        | 1             | 0.1 - 1.5                  | 1.0                  | Water additive that promotes strong teeth       |
| Chlorine (PHWD treated water)  | ppm  | MRDL = 4.0 | MRDLG = 4     | 1.22 - 2.64                | 2.32                 | Drinking water disinfectant added for treatment |

| CONSTITUENTS WITH SECONDARY STANDARDS | Unit  | SMCL | PHG | Range       | Average | Typical Sources in Drinking Water       |
|---------------------------------------|-------|------|-----|-------------|---------|---|
| Chloride                              | ppm   | 500  | N/A | 3 - 22      | 12      | Runoff / leaching from natural deposits |
| Color                                 | unit  | 15   | N/A | <5 - 10     | <5      | Naturally-occurring organic materials   |
| Specific Conductance                  | μS/cm | 1600 | N/A | 24 - 376    | 195     | Substances that form ions when in water |
| Sulfate                               | ppm   | 500  | N/A | 0.8 - 44    | 20      | Runoff / leaching from natural deposits |
| Total Dissolved Solids                | ppm   | 1000 | N/A | 20 - 190    | 112     | Runoff / leaching from natural deposits |
| Turbidity                             | NTU   | 5    | N/A | 0.08 - 0.45 | 0.21    | Soil runoff                             |

| LEAD AND COPPER (PHWD treated water) | Unit | AL   | PHG | Range                      | 90th Percentile | Typical Sources in Drinking Water       |
|--------------------------------------|------|------|-----|----------------------------|-----------------|---|
| Copper                               | ppb  | 1300 | 170 | 10.4 -956.3 <sup>(7)</sup> | 160.4           | Corrosion of household plumbing systems |
| Lead                                 | ppb  | 15   | 2   | <.1 - 287.4 <sup>(8)</sup> | 19.3            | Corrosion of household plumbing systems |

| OTHER WATER QUALITY PARAMETERS     | Unit | NL   | Range       | Average |
|------------------------------------|------|------|-------------|---------|
| Alkalinity (as CaCO <sub>3</sub> ) | ppm  | N/A  | 6 - 114     | 58      |
| Boron                              | ppb  | 1000 | <100 - 161  | <100    |
| Calcium                            | ppm  | N/A  | 3 - 28      | 15      |
| Fluoride (source water)            | ppm  | N/A  | <0.1 - 0.2  | 0.1     |
| Hardness (as CaCO <sub>3</sub> )   | ppm  | N/A  | 6 - 146     | 66      |
| Magnesium                          | ppm  | N/A  | <0.2 - 11.5 | 6.3     |
| pH                                 | unit | N/A  | 7.6 - 9.7   | 8.9     |
| Potassium                          | ppm  | N/A  | 0.2 - 1.8   | 1.0     |
| Silica                             | ppm  | N/A  | 3.8 - 7.2   | 5.0     |
| Sodium                             | ppm  | N/A  | 2 - 24      | 14.3    |

| KEY:                                      |
|---|
| < / ≤ = less than / less than or equal to |
| AL = Action Level                         |
| Max = Maximum                             |
| NL = Notification Level                   |
| N/A = Not Available                       |
| NTU = Nephelometric Turbidity Unit        |
| ppb = parts per billion                   |
| ppm = parts per million                   |
| TT = Treatment Technique                  |
| μS/cm = microSiemens/centimeter           |

- (1) All results except LEAD testing met State and Federal drinking water regulations.
- (2) Turbidity is the water clarity indicator; it also indicates the quality of the water and the treatment system efficiency.
- (3) Turbidity is measured every four hours. These are monthly average turbidity values.
- (4) This is a single, maximum measurement. This elevated turbidity was caused by the startup of the Hetch Hetchy Aqueduct after shutdown for maintenance work. The turbid water was not served to customers.
- (5) This is the minimum percentage of time that the filtered water turbidity was equal to or less than 0.3 NTU.
- (6) This is the highest quarterly running annual average value.
- (7) Latest round of Lead and Copper Rule monitoring was in 2007. 0 out of 24 residences were over the COPPER Action Level at consumer taps.
- (8) Latest round of Lead and Copper Rule monitoring was in 2007. 3 out of 24 residences were over the LEAD Action Level at consumer taps.

| WHAT DO THESE TABLES MEAN?   |
|--|
| These tables list all drinking water contaminants detected in 2006. Contaminants below detection limits, such as arsenic, perchlorate, MTBE, and others, are not listed. The table contains the name of each contaminant, the applicable drinking water standards or action levels, the ideal goals for public health, the amount detected in water, the typical contaminant sources, and footnotes explaining the findings. |

## **PROTECTING WATER QUALITY**

The sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs and wells. The SFPUC major water source originates from spring snowmelt flowing down the Tuolumne River and is stored in the Hetch Hetchy Reservoir. 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.

### **Contaminants that may be present in source water include:**

- **Microbial Contaminants** such as viruses and bacteria may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic Contaminants** such as salts and metals can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Organic Chemical Contaminants**, including synthetic and volatile organics, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
- **Radioactive Contaminants** can be naturally occurring or the result of oil and gas production and mining activities.
- **Pesticides and Herbicides** may come from a variety of sources such as agricultural, urban storm water runoff and residential uses.

In order to ensure that tap water is safe to drink, the USEPA and the DHS prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (800) 426-4791.

## **IMPORTANT DEFINITIONS FOR UNDERSTANDING THIS WATER QUALITY REPORT**

The following are definitions of key terms noted on the adjacent water quality data chart. These terms refer to the standards and goals for water quality described below.

**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 and MCLGs as is economically or technically feasible. Secondary MCLs are set to protect odor, taste and appearance of drinking water.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water for which there is no known or expected risk to health. MCLGs are set by the USEPA.

**Public Health Goal (PHG):** The level of a contaminant in drinking water for which there is no known or expected risk to health. PHGs are set by the California 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 for which there is no known or expected risk of health. MRDLGs are set by the USEPA.

**Primary Drinking Water Standard (PDWS):** MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**Variations and Exemptions:** State or USEPA permission not to meet an MCL or a treatment technique under certain conditions.

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

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

### **SPECIAL HEALTH CONCERNS**

Some people may be more vulnerable to contaminants in drinking water, including bottled water, than the general population. Immuno-compromised persons 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 providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection from *Cryptosporidium* and other microbial contaminants are available from the USEPA Safe Drinking Water Hotline (800) 426-4791 or on the USEPA website [www.epa.gov/safewater](http://www.epa.gov/safewater).

### **CRYPTOSPORIDIUM AND GIARDIA**

*Cryptosporidium* and *Giardia* are parasitic microbes found in most surface water supplies and can pose a potential health threat. The SFPUC tests regularly for *Cryptosporidium* and *Giardia* in both source and treated water supplies. Both were occasionally found at very low levels in the SFPUC's water in 2006. If ingested, either may produce symptoms of diarrhea, stomach cramps, upset stomach and slight fever. More information about contaminants and potential health effects can be obtained by calling the USEPA Safe Drinking Water Hotline (800) 426-4791.

### **PURISSIMA HILLS OPERATION AND MAINTENANCE**

The Purissima Hills Water District, serving two-thirds of Los Altos Hills, operates the distribution system to ensure that the treated water maintains residual chloramine to prevent the re-growth of microorganisms during the storage and transmission of water. Water is kept fresh by flushing mains and cycling storage tanks, as well as maintaining an active backflow, or cross-connection control, program to help prevent the intrusion of potentially harmful materials into the drinking water system.

### **REDUCING LEAD FROM PLUMBING FIXTURES**

Some homes in the District may have increased levels of lead in their tap water caused by the deterioration of household plumbing materials that contain lead. Infants and young children are typically at greatest health risk. If you are concerned about elevated lead levels in your water, have your water tested or flush your tap for 30 seconds to 2 minutes before using the water whenever the tap has not been used for several hours.

### **STORING EMERGENCY WATER SUPPLIES**

Although the SFPUC strives to ensure a reliable supply of water for our customers, a natural disaster such as a major earthquake could interrupt water delivery. Residents are encouraged to store drinking water in case of an emergency. We recommend storing at least three days worth of water (one gallon of water per person, per day, including pets) in food-grade plastic containers, such as two-liter soda bottles, and replacing supplies every six months. To learn more about emergency preparedness for yourself and your family, visit [www.72hours.org](http://www.72hours.org).