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WATER QUALITY REPORT

Purissima Hills Water District (PHWD) is pleased to present the 2013 edition of the Water Quality Report (Consumer Confidence Report). PHWD receives 100% of its water from the San Francisco Public Utilities Commission's (SFPUC) Hetch Hetchy regional system. This report is prepared in conjunction with the SFPUC as a public service to provide information about the physical and chemical elements of our water supplies. This state-mandated annual report contains important information on the quality of your drinking water. This is in response to the National Primary Drinking Water Regulation and California Code of Regulation, Title 22, Section 116470, Regulations, which requires 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. Customers can make health decisions concerning water use for themselves and their families with the information in this report. During 2013, the SFPUC monitored water quality, both source and treated water supplies, and met the maximum contaminant levels (MCLs) and treatment standards. The PHWD and the 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. Call the District Secretary at (650) 948-1217 regarding any inquiries about these meetings.

Patrick Walter
General Manager
July 2014

**PURISSIMA HILLS WATER DISTRICT
2013 ANNUAL WATER QUALITY REPORT
(CONSUMER CONFIDENCE REPORT)**

SFPUC DRINKING WATER SOURCES

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, oceans, ponds, reservoirs, springs, and wells. For the San Francisco Public Utilities Commission (SFPUC) system, the major water source originates from spring snowmelt flowing down the Tuolumne River to the **Hetch Hetchy Reservoir**, where it is stored. This pristine, well protected Sierra water source is approved by the United States Environmental Protection Agency (USEPA) and California Department of Public Health (CDPH) so that no filtration is required. Water treatments including disinfections by ultraviolet light and chlorine, pH adjustment for corrosion control, fluoridation for dental health protection, and chloramination for maintaining disinfectant residual and minimizing disinfection byproduct formation are in place to meet the drinking water regulation requirements.

Hetch Hetchy water is supplemented with surface water from two local watersheds. Rainfall and runoff from the 35,000-acre Alameda Watershed spanning Alameda and Santa Clara counties—are collected in the Calaveras Reservoirs and San Antonio Reservoir for filtration and disinfection at the Sunol Valley Water Treatment Plant. Rainfall and runoff from the 23,000-acre Peninsula Watershed in San Mateo County are stored in the Crystal Springs Reservoir, San Andreas Reservoir, and Pilarcitos Reservoir, and are filtered and disinfected at the Harry Tracy Water Treatment Plant.

As in the past, the Hetch Hetchy Watershed provided the majority of our total water supply, with the remainder contributed by the two local watersheds in 2013.

THE HIGHEST QUALITY WATER

The SFPUC's Water Quality Division (WQD) regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure that the water meets or exceeds federal and state drinking water standards. In 2013, WQD staff conducted 102,650 drinking water tests in the transmission and distribution systems. This monitoring effort is in addition to the extensive treatment process control monitoring performed by the SFPUC certified and knowledgeable treatment plant staff. The SFPUC also has online instruments providing continuous water quality monitoring data at numerous locations.

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. Such substances are called contaminants. 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 the water poses a health risk.

In order to ensure that tap water is safe to drink, the USEPA and the CDPH prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH 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 at (800) 426-4791.

SFPUC PROTECTS THE WATERSHED

The SFPUC actively and aggressively protects the natural water resources entrusted to its care. The Hetch Hetchy Watershed Sanitary Survey evaluates the sanitary conditions, water quality, potential contamination sources, and the results of watershed management activities conducted by the SFPUC and its partner agencies (including the National Park Service and the U.S. Forest Service).

The SFPUC also conducts sanitary surveys every five years to detect and track sanitary concerns for the Bay Area watersheds and the approved standby sources in the Early Intake Watershed, which includes Cherry Lake and Lake Eleanor. The latest 5-year surveys were completed in 2011 for the period of 2006-2010. These surveys identified wildlife, stock, and human activities as potential contamination sources. These reports are available for review at the CDPH's San Francisco District office by calling (510) 620-3474.

Purissima Hills Water District (PHWD)
2013 Water Quality Data ⁽¹⁾
Hetch Hetchy and Sunol Valley Water Treatment Plant

DETECTED CONTAMINANTS	Unit	MCL	PHG or (MCLG)	Range or Level Found	Average or [Max]	Major Sources in Drinking Water
TURBIDITY						
Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.2 - 0.3 ⁽²⁾	[3.6] ⁽³⁾	Soil runoff
	NTU	1 ⁽⁴⁾	N/A	-	[0.98]	Soil runoff
Filtered Water from Sunol Valley Water Treatment Plant (SVWTP)	-	min 95% of samples ≤ 0.3 NTU ⁽⁴⁾	N/A	99.9%	-	Soil runoff
DISINFECTION BYPRODUCTS AND PRECURSOR (SFPUC Regional System) - for information only						
Total Trihalomethanes	ppb	80	N/A	10 - 63	[46] ⁽⁵⁾	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	4 - 45	[36] ⁽⁵⁾	Byproduct of drinking water disinfection
Total Organic Carbon ⁽⁶⁾	ppm	TT	N/A	1-3.4	2.2	Various natural and man-made sources
DISINFECTION BYPRODUCTS AND PRECURSOR						
Total Trihalomethanes	ppb	80	N/A	32.9 - 50.1	[44.8] ⁽⁵⁾	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	21.3 - 46.9	[40.5] ⁽⁵⁾	Byproduct of drinking water disinfection
Total Organic Carbon ⁽⁶⁾	ppm	N/A	N/A	1.07 - 1.57	1.28	Various natural and man-made sources
MICROBIOLOGICAL						
Total Coliform	-	NoP ≤ 5.0% of monthly samples	(0)	-	[0]	Naturally present in the environment
<i>Giardia lamblia</i>	cyst/L	TT	(0)	<0.01 - 0.04	<0.01	Naturally present in the environment
INORGANICS						
Fluoride (source water) ⁽⁷⁾	ppm	2.0	1	ND - 0.8	0.4 ⁽⁸⁾	Erosion of natural deposits; water additive to promote strong teeth
Chloramine (as chlorine)	ppm	MRDL = 4.0	MRDLG = 4	0.30-2.90	[2.39] ⁽⁹⁾	Drinking water disinfectant added for treatment
CONSTITUENTS WITH SECONDARY STANDARDS						
Unit	SMCL	PHG	Range	Average	Typical Sources of Contaminant	
Aluminum ⁽¹⁰⁾	ppb	200	600	ND - 52	ND	Erosion of natural deposits; some water treatment residue
Chloride	ppm	500	N/A	3 - 18	10.2	Runoff / leaching from natural deposits
Color	unit	15	N/A	<5 - 6	<5	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	N/A	29 - 258	169	Substances that form ions when in water
Sulfate	ppm	500	N/A	0.8 - 33	16.6	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	<20 - 109	71	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.1 - 0.3	0.1	Soil runoff

LEAD AND COPPER	Unit	AL	PHG	Range	90th Percentile	Typical Sources in Drinking Water
Copper	ppb	1300	300	6.5-160 ⁽¹¹⁾	77.0	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	<1.0-5.0 ⁽¹²⁾	4.6	Internal corrosion of household water plumbing systems

OTHER WATER QUALITY PARAMETERS	Unit	ORL	Range	Average
Alkalinity (as CaCO ₃)	ppm	N/A	7 - 71	46
Bromide	ppb	N/A	17 - 24	21
Calcium (as Ca)	ppm	N/A	3 - 23	13
Chlorate ⁽¹³⁾	ppb	(800) NL	39 - 690	303
Hardness (as CaCO ₃)	ppm	N/A	7 - 89	53
Magnesium	ppm	N/A	<0.2 - 8.3	5.3
pH	-	N/A	6.5 - 9.4	8.4
Silica	ppm	N/A	4.8 - 5.2	5.0
Sodium	ppm	N/A	3 - 18	12

KEY:
< / ≤ = less than / less than or equal to
AL = Action Level
Max = Maximum
Min = Minimum
N/A = Not Available
ND = Non-detect
NL = Notification Level
NoP = Number of Coliform - Positive Sample
NTU = Nephelometric Turbidity Unit
ORL = Other Regulatory Level
ppb = part per billion
ppm = part per million
µS/cm = microSiemens / centimeter

Notes:

- (1) All results met State and Federal drinking water health standards.
- (2) Turbidity is measured every four hours. These are monthly average turbidity values.
- (3) The highest turbidity of the unfiltered water in 2013 was 3.6 NTU.
- (4) There is no turbidity MCL for filtered water. The limits are based on the TT requirements in the State drinking water regulations.
- (5) This is the highest locational running annual average value.
- (6) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only.
- (7) The SFPUC adds fluoride to an optimal level of 0.9 ppm to help prevent dental caries in consumers. The CDPH specifies the fluoride levels in the treated water to be maintained within a range of 0.8 ppm - 1.5 ppm. In 2013, the range and average of the fluoride levels were 0.7 ppm - 1.4 ppm and 0.9 ppm, respectively.
- (8) The natural fluoride levels in the Hetch Hetchy supply was ND. Elevated fluoride levels in the SVWTP and HTWTP raw water are attributed to the transfer of fluoridated Hetch
- (9) This is the highest running annual average value.
- (10) Aluminum also has an MCL of 1000 ppb.
- (11) The most recent Lead and Copper Rule monitoring was in September, 2013. 0 of 22 water samples collected at consumer taps had COPPER concentrations above the Action Level.
- (12) The most recent Lead and Copper Rule monitoring was in September, 2013. 0 of 22 water samples collected at consumer taps had LEAD concentrations above the Action Level.
- (13) The detected chlorate in treated water is a degradation product of sodium hypochlorite used by SFPUC for water disinfection.

Note: Additional water quality data may be obtained by calling the Purissima Hills Water District at (650) 948-1217.

WATER QUALITY DATA FOR 2013

The adjacent table lists drinking water contaminants detected in 2013 and the information about their typical sources. Contaminants below detection limits are not shown, in accordance with CDPH guidance. The CDPH allows the SFPUC to monitor for some contaminants less than once per year because their concentrations do not change frequently. The SFPUC received a monitoring waiver from the CDPH for some contaminants that were absent in the water. Some contaminants, such as radionuclides, synthetic organics and those having notification levels are monitored once every nine years due to their historical absence in our water sources.

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, 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 organic chemicals, which 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 be the result of oil and gas production and mining activities.
- **Pesticides and Herbicides** that may come from a variety of sources such as agricultural, urban storm water runoff, and residential uses.

KEY WATER QUALITY TERMS

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

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 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.

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 technologically feasible. Secondary MCLs (SMCLs) are set to protect odor, taste, and appearance of drinking water.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants

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

Regulatory Action Level: 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.

Turbidity: A water clarity indicator that measures cloudiness in the water is also used to indicate the effectiveness of the filtration systems. High turbidity can hinder the effectiveness of disinfectants.

CRYPTOSPORIDIUM

Cryptosporidium is a parasitic microbe found in most surface water supplies and can pose a potential health threat. The SFPUC regularly tests for this waterborne pathogen and found it at very low levels in both source and treated water supplies in 2013. However, current test methods approved by the USEPA do not distinguish between dead organisms and those capable of causing disease. Ingestion of *Cryptosporidium* may produce symptoms of nausea, abdominal cramps, diarrhea, and associated headaches. *Cryptosporidium* must be ingested to cause disease and it may be spread through means other than drinking water.

SPECIAL HEALTH NEEDS

Some people may be more vulnerable to contaminants in drinking 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 people, 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 (CDC) guidelines on appropriate means to lessen the risk of infection by *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.

UNREGULATED CONTAMINANT MONITORING RULE (UCMR3)

In May 2012, USEPA published the third Unregulated Contaminant Monitoring Rule(UCMR3) that lists a total of 28 chemical contaminants and two viruses for monitoring by some public water systems between 2013 and 2015. USEPA uses the UCMR to collect data for contaminants suspected to be present in drinking water to help determine if drinking water standards need to be developed in the future. SFPUC is required to monitor the 28 chemical contaminants, and completed four quarters of UCMR3 monitoring in 2013. Only 5of the 28 contaminants were detected at very low levels as reported in the following table. In the absence of identifiable industrial sources other than chlorate, these contaminants are naturally occurring in our watersheds. Chlorate is a degradation product of the disinfectant used by SFPUC for water disinfection, and is a common contaminant found in water treatment facilities throughout the nation.

UCMR3 SAMPLING RESULTS

DETECTED CONTAMINANTS	Unit	MCL ¹	PHG or (MCLG)	Range	Average	Typical Sources in Drinking Water
Chlorate	ppb	800(NL)	NA	30 - 270	150	Degradation of disinfectant
Chromium-total ²	ppb	50	(100)	<0.2 - 0.35	<0.2	Erosion of natural deposits; industrial discharges
Chromium-6 ³	ppb	10	0.02	<0.03 - 0.15	0.09	Erosion of natural deposits; industrial discharges
Strontium	ppb	NA	NA	15 - 170	74	Erosion of natural and pipe deposits
Vanadium	ppb	50 (NL)	NA	<0.2 - 0.48	<0.2	Erosion of natural and pipe deposits

¹For definitions of these water quality terms see the listing below.

²This MCL was established by CDPH. USEPA has a MCL of 100 ppb.

³CDPH has proposed a MCL of 10 ppb for chromium-6.

REDUCING LEAD FROM PLUMBING FIXTURES

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The PHWD is responsible for providing high quality drinking water, but cannot control the variety of materials used in households or building plumbing components. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800) 426-4791 or at www.epa.gov/safewater/lead.

FLUORIDATION AND DENTAL FLUOROSIS

Mandated by State law, water fluoridation is a widely accepted practice proven to be safe and effective for preventing and controlling tooth decay. Our water is optimally fluoridated at 1.0 mg/l. Infants fed formula mixed with water containing fluoride at the optimal level may have an increased chance of developing tiny white lines or streaks in their teeth. These marks are referred to as mild to very mild fluorosis, and are often only visible under a microscope. Even in cases where the marks are visible, they do not pose any health risk. CDC considers it safe to use optimally fluoridated water for preparing infant formula. To lessen this chance of dental fluorosis, you may choose to use low-fluoride bottled water to prepare infant formula. Nevertheless, children may still develop dental fluorosis due to fluoride intake from other sources such as food, toothpaste and dental products. Contact your health provider or CDPH if you have concerns about dental fluorosis. Additional information can be found at CDP website www.cdph.ca.gov/certlic/drinkingwater/pages/fluoridation.aspx or CDC website www.cdc.gov/fluoridation.

TO LEARN MORE

Visit the CDPH website at www.cdph.ca.gov or the USEPA website at www.epa.gov/safewater if you want to learn more about drinking water regulations.

Purissima Hills Water District
26375 Fremont Road
Los Altos Hills CA 94022

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