

Our Water Quality

ANNUAL REPORT 2017

WE ARE PROUD to provide you with some of the nation's highest quality water that meets or exceeds all State and Federal standards for drinking water.

THIS BROCHURE HIGHLIGHTS important information about your drinking water and our commitment to providing excellent water quality.

This Annual Consumer Confidence Report about your water supply is prepared according to California law.

For More Information

WATER QUALITY

- City of Palo Alto Utilities, Water Transmission (650) 496-6967
- City of Palo Alto
www.cityofpaloalto.org/water
- San Francisco Public Utilities Commission (SFPUC)

我們的水質

2017 年度報告

我們非常自豪地向您供應達到或超過所有州和聯邦飲用水標準的全國最優質的飲用水。

本手冊強調有關您的飲用水的重要資訊以及我們對供應優質水的承諾。

本年度消費者信心報告是依照加州法律編寫的有關您的供水狀況的報告。

如需瞭解詳情

水質

- 帕羅奧圖市公用事業局輸水部門
(650) 496-6967
- 帕羅奧圖市
www.cityofpaloalto.org/water

www.sfwater.org

- U.S. Environmental Protection Agency (USEPA) Drinking Water
www.epa.gov/safewater
- USEPA Safe Drinking Water Hotline (800) 426-4791

HEALTH CONCERNS & REGULATIONS

- State Water Resources Control Board (SWRCB)
www.swrcb.ca.gov
- USEPA www.epa.gov

EMERGENCY PREPAREDNESS

California Department of Public Health
<http://bepreparedcalifornia.ca.gov>

如需瞭解有關水質的進一步詳情，請查閱網站

www.cityofpaloalto.org/WaterReportMandarin

Para obtener más información sobre la calidad del agua, visite
www.cityofpaloalto.org/WaterReportSpanish

Our Drinking Water Sources and Treatment

Palo Alto's water is supplied by the San Francisco Regional Water System (SFRWS), which is owned and operated by the San Francisco Public Utilities Commission (SFPUC). Our major water source originates from spring snowmelt flowing down the Tuolumne River to storage in the Hetch Hetchy Reservoir. This pristine, well-protected water source is exempt from filtration requirements by the United States Environmental Protection Agency (USEPA) and State Water Resources Control Board's Division of Drinking Water (SWRCB-DDW). Water from the Hetch Hetchy reservoir receives the following treatments to meet appropriate drinking water standards: disinfection by ultraviolet light and chlorine, corrosion control by adjustment of the water pH value, fluoridation for dental

- 三藩市公用事業管理局 (SFPUC)
www.sfwater.org
- 美國環境保護署 (USEPA) 飲用水分部
www.epa.gov/safewater
- 美國環境保護署 (USEPA) 安全飲用水熱線電話 (800) 426-4791

健康問題和法規

- 加州水資源管理委員會 (SWRCB)
www.swrcb.ca.gov
- 美國環境保護署 (USEPA) www.epa.gov

緊急情況準備工作

加州公共衛生部

<http://bepreparedcalifornia.ca.gov>

如需瞭解有關水質的進一步詳情，請查閱網站

www.cityofpaloalto.org/WaterReportMandarin

Para obtener más información sobre la calidad del agua, visite
www.cityofpaloalto.org/WaterReportSpanish

我們的飲用水源和處理

帕羅奧圖市的水由三藩市地區供水系統 (SFRWS) 供應，該系統由三藩市公用事業管理局 (SFPUC) 擁有和運營。我們的主要水源來自春季雪融水，這些雪融水沿圖奧魯米河 (Tuolumne River) 流入赫奇赫奇水庫 (Hetch Hetchy Reservoir)。該原始的、保護良好的水源獲得美國環境保護署 (USEPA) 和加州水資源控制委員會飲用水分部 (SWRCB-DDW) 的過濾要求豁免。來自赫奇赫奇水庫的水為了達到適當的飲用水標準接受了以下處理：用紫外線和氯氣消毒、透過調整水酸度進行腐蝕控制、為保護牙齒健康加氟以及進行氯胺消毒以控制消毒劑殘留物和盡量減少消毒副產品形成。

赫奇赫奇的水由以下兩個地方水域的地表水補充。來自阿拉米達縣 (Alameda) 和聖塔克拉拉縣 (Santa Clara) 內 35,000 英畝阿拉米達流域的雨水和徑流，這些雨水和徑流匯集在卡拉弗拉斯 (Calaveras) 水庫和聖安東尼奧 (San Antonio) 水庫內，輸送至蘇諾谷自來水處理廠 (SVWTP)。來自聖馬特奧縣 (San Mateo) 23,000 英畝半島流域的雨水和徑流被儲存在水晶泉 (Crystal

health protection, and chloramination for maintaining disinfectant residual and minimizing disinfection byproduct formation.

Hetch Hetchy water is supplemented with surface water from two local watersheds. Rainfall and runoff from the 35,000-acre Alameda Watershed in Alameda and Santa Clara counties are collected in the Calaveras and San Antonio reservoirs, and delivered to the Sunol Valley Water Treatment Plant (SVWTP). Rainfall and runoff from the 23,000-acre Peninsula Watershed in San Mateo County are stored in the Crystal Springs, San Andreas and Pilarcitos reservoirs, and are delivered to the Harry Tracy Water Treatment Plant. In addition to these local sources, the SWRCB-DDW approved the SFPUC to use the surface water in Lake Eleanor, Lake Cherry and the associated creeks all conveyed via the Lower Cherry Aqueduct, Early Intake Reservoir and Tuolumne River (collectively known as Upcountry Non-Hetch Hetchy Sources, or UNHHS) as additional drinking water sources to the SFRWS. The UNHHS water, if used, will be treated at the SVWTP prior to service to customers. In 2017, the SFRWS did not use UNHHS. Water at the two local treatment plants is subject to filtration, disinfection, fluoridation, and pH adjustment for corrosion control optimization.

Protecting Our Watersheds

The SFPUC conducts watershed sanitary surveys for the Hetch Hetchy source annually and local water sources as well as UNHHS every five years. The latest local sanitary survey was completed in 2016 for the period of 2011-2015. The SFPUC conducted a special watershed sanitary survey for UNHHS in 2015 as part of its drought response plan efforts. These surveys evaluate the sanitary conditions, water quality, potential contamination sources and the results of watershed management activities, and were completed with support from partner agencies including National Park Service and US Forest Service.

These surveys identified wildlife, stock, and human activities as potential contamination sources. You may contact the San Francisco District office of SWRCB-DDW at (510) 620-3474 for the review of these reports.

Springs)、聖安地列斯(San Andreas)和皮拉西托斯(Pilarcitos)水庫中，輸送至哈利翠西自來水處理廠(HTWTP)。除這些地方來源外，SWRCB-DDW 還批准 SFRWS 使用在埃利諾湖(Lake Eleanor)、櫻桃湖(Lake Cherry)和所有透過下游櫻桃高架渠(Lower Cherry Aqueduct)、厄利英推克水庫(Early Intake Reservoir)和圖奧魯米河(Tuolumne River)輸送的相關溪流(統稱為內陸非赫奇赫奇水源(UNHHS))中的地表水，將這些水作為 SFRWS 的額外飲用水源。UNHHS 的水(如使用)在配送給客戶之前在 SVWTP 處理。2017 年，SFRWS 沒有使用 UNHHS 的水。這兩家自來水處理廠的水需要接受過濾、消毒、加氟和酸鹼度調整，以便進行腐蝕控制優化。

保護我們的流域

SFPUC 每年對赫奇赫奇水源進行一次流域衛生調查，並每五年對地方水源及 UNHHS 進行一次衛生調查。最近一次地方衛生調查在 2016 年完成，涵蓋 2011-2015 年階段。2015 年，作為 SFPUC 乾旱應對計劃工作的一部分，SFPUC 對 UNHHS 進行了一次特殊流域衛生調查。這些調查評估了衛生狀況、水質、潛在污染源和流域管理活動結果，在合作機構 — 包括全國公園服務部(National Park Service)和美國林務局(US Forest Service) — 的支持下完成了這些調查。

這些調查將野生動物、家畜和人類活動確認為潛在污染源。您可以與 SWRCB-DDW 三藩市地區辦公室聯繫，查閱這些調查報告，電話號碼(510) 620-3474。

Water Supply Conditions

Because water supply availability is a long-term challenge, the State and Palo Alto are continuing efforts to make water conservation a way of life. A number of prohibitions on wasteful practices, such as watering turf and ornamental landscapes between 10 am and 6 pm, are permanently in place via City ordinance. To learn more about current water supply conditions, water use restrictions, and available efficiency resources, please visit www.cityofpaloalto.org/water

Make Water Conservation a Way of Life.

It is important to use water wisely every day, regardless of rain or drought conditions. Everyone in California must make wise water use a priority to ensure an adequate supply in the future. The City of Palo Alto Utilities offers many resources to help customers easily save water with free services, educational tools and rebates for upgrading appliances and high-water using landscapes. Attend one of our workshops to learn how you can have a beautiful, sustainable, low water use landscape while maintaining the health of trees and our urban canopy.

Call or visit us online to discover how you can live a water wise life which will benefit current and future generations, as well as fish and wildlife species, urban, rural and wildland ecosystems.

WATER EFFICIENCY SERVICES AND REBATE PROGRAMS

City of Palo Alto Utilities, Utility Program Services

(650) 329-2241 www.cityofpaloalto.org/water

供水狀況

由於可用供水是一項長期挑戰，加州和帕洛阿爾托市（Palo Alto）繼續加強使節約用水成為一種生活方式的工作。透過市政府條例制定了對浪費水的做法作出的多項永久性限制，例如在上午 10 時至下午 6 時之間不得為草皮和觀賞景觀澆水。如需瞭解有關當前水供應狀況、用水限制和可供使用的高效資源的詳細資訊，請查閱網站 www.cityofpaloalto.org/water。

使節水成為一種生活方式

無論雨水或旱情如何，每天都明智地用水十分重要。加州的每一個人必須將明智地用水視為首要任務，以確保未來的適當水供應。帕洛阿爾托市公用事業部（City of Palo Alto Utilities）提供很多幫助客戶利用免費服務、教育工具、電器升級回扣和高用水量庭園景觀節水的資源。請參加我們舉辦的講座，瞭解如何擁有美麗、可持續、低用水量的庭園景觀，同時保持樹木和我們的城市冠層健康。

請打電話給我們或查閱我們的網站，瞭解如何在生活中明智地用水，這將對當代和今後數代人以及魚類和野生動植物、城市、鄉村和荒野的生態系統有益。

節水服務和回扣計劃

帕洛阿爾托市公用事業部（City of Palo Alto Utilities）
公用事業計劃服務中心（Utility Program Services）
(650) 329-2241 www.cityofpaloalto.org/water

GET INVOLVED

We welcome your input on important water issues. Visit www.cityofpaloalto.org for details about upcoming public meetings.

CITY COUNCIL MEETINGS

Mondays, 7 PM, City Hall

UTILITIES ADVISORY COMMISSION (UAC)

1st Wednesday of each month, 7 PM, City Hall

Tap vs. Bottled

City of Palo Alto Utilities (CPAU) customers are fortunate to have access to high quality water flowing from the faucet - the pristine snowmelt from the Hetch Hetchy reservoir. [Avoid the high cost, lower quality and environmental impact of buying bottled water, and enjoy a glass of tap water today!](#)

Protecting the SFPUC Water System from Seismic Disaster

The SFPUC has invested more than \$4 billion in the Water System Improvement Program (WSIP) to ensure that the regional water system will be able to deliver water for public health, firefighting and disaster recovery as quickly as possible following a seismic event. The majority of the WSIP's infrastructure projects have been completed. The last major remaining project is construction of the new Calaveras Dam, which is scheduled for completion in 2019.

Palo Alto Infrastructure Improvements

CPAU conducts an ongoing infrastructure replacement program to find, fix and replace aging pipes. Based on seismic studies, 75 miles of aging cast iron, asbestos cement and other at-risk water mains have been identified for replacement in order to increase reliability of the local

積極參與

我們歡迎大家對重要的供水問題提出意見。請查閱網站 www.cityofpaloalto.org，瞭解有關即將召開的公眾會議詳情。

市議會會議

星期一下午七時，市政廳

公用事業顧問委員會 (UAC)

每個月第一個星期三下午七時，市政廳

自來水與瓶裝水

帕洛阿爾托市公用事業部 (CPAU) 客戶很榮幸能夠享受優質自來水 — 來自赫奇赫奇水庫的原始雪融水。避免購買價格高、低水質和影響環境的瓶裝水，今天就享用一杯自來水！

在地震災難中保護 SFPUC 供水系統

SFPUC 已經在供水系統改進計劃 (WSIP) 中投資 40 多億美元，以確保地區供水系統能夠在地震災難後盡快供水，保護公眾健康、消防和協助災難恢復。大多數 WSIP 基礎設施專案已經完成。剩下的最後一個重要專案是建造新卡拉維拉斯大壩 (Calaveras Dam)，預計在 2019 年完工。

帕洛阿爾托市基礎設施改進計劃

CPAU 開展了一項持續性基礎設施更換計劃，發現、修理和更換年久失修的管道。根據地震研究，發現了 75 英里長的老舊鑄鐵、石棉水泥和其他具有風險的自來水總管道需要更換，以便加強地方系統的可靠性、改進水質和提高消防能力。

system, improve water quality and increase fire protection capacity.

Recycled Water Pipeline

The City has used recycled water since 1980 at the municipal golf course, Greer Park, the Emily Renzel Marsh, the duck pond, and the Regional Water Quality Control Plant. The City is evaluating expanding the distribution system and using recycled water for landscaping in the Stanford Research Park and other City parks along the proposed pipeline route. Funding from State and Federal grant and loan programs is being pursued to reduce costs. Other alternatives for using the water are also being considered.

✓ Prepare Yourself for Emergencies

Although the SFPUC and CPAU strive to ensure a reliable supply of water for our customers, a natural disaster such as a major earthquake could interrupt water delivery. As a result, it is imperative that everyone be prepared for the unexpected both at home and at work.

- Store at least three to five days worth of tap water in a dark, cool place (one gallon of water per person, per day, including pets) in clean, airtight food grade containers.
- Label each container with a date and replace the water every six months.
- At the time of usage, add 8 drops of bleach to each gallon to ensure disinfection. (Use pure household bleach only—not products with scents or other additives.) Mix and allow to stand for 30 minutes before use. If a camp stove is available, you can also disinfect the water by bringing it to a rolling boil for 5 to 10 minutes.
- If you run out of stored drinking water, strain and treat water from your water heater. To strain, pour it through a clean cloth or layers of paper towels. Treat with household bleach, as directed above. Other sources of water inside the home are ice cubes and the reservoir tank of your toilet (not the bowl).
- Remember to drain your water heater periodically to remove any

回收水管道

自從 1980 年以來，帕洛阿爾托市一直在高爾夫球場、格利爾公園（Greer Park）、艾蜜莉-倫澤爾沼澤地（Emily Renzel Marsh）、鴨塘和地區水質控制廠（Regional Water Quality Control Plant）使用回收水。該市正在評估擴大分配系統，並在用回收水灌溉斯坦福研究園（Stanford Research Park）的景觀和其他提議的管道沿線的城市公園。正在考慮從州和聯邦撥款和貸款計劃獲得資金，以便降低費用。同時也在考慮使用水的其他替代方法。

✓ 為緊急情況做好準備

雖然 SFPUC 和 CPAU 努力確保向我們的客戶提供可靠的供水，大地震之類的自然災害可能中斷供水。因此，每一個人在家中和工作場所做好應對意外情況的準備是當務之急。

- 至少儲存三到五天用量的自來水，用清潔、密封的食品級容器存放在陰暗、涼爽的地點（每個人每天一加侖水，包括寵物）。
- 在每個容器上貼上標籤，註明日期，每六個月換一次水。
- 使用時，在每加侖水中加入八滴漂白劑，確保水消毒（僅限使用純家用漂白劑 — 不得使用帶有香味或其他添加劑的產品）。將漂白劑調勻，使用前等候 30 分鐘。如有野營用爐，可以將水燒開 5-10 分鐘消毒。
- 如果儲存的飲用水用完，將熱水器中的水過濾和處理。用一塊清潔的布或幾層紙巾過濾水。按照以上說明，用家用漂白劑處理水。家中的其他水源包括冰塊和抽水馬桶儲水箱內的水（不是抽水馬桶內的水）。
- 請記住定期排空熱水器中的水，清除任何集聚的沉澱物。
- 如果儲存的水量不足，不能用來洗手，使用消毒洗手膏或濕紙巾。

sediment build up.

- If your water supply is not sufficient for hand washing, use antiseptic hand gel or wipes.

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. The SFPUC's fluoride target level for water is 0.7 milligrams per liter, consistent with the State regulatory guidance on optimal fluoride levels. Infants fed formula mixed with water containing fluoride at this level may still have a 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. The Centers for Disease Control (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 SWRCB-DDW if you have concerns about dental fluorosis. For additional information about fluoridation or oral health, visit the CDC website www.cdc.gov/fluoridation or SWRCB-DDW website www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml.

Ensuring the Highest Water Quality

The SFPUC's Water Quality Division (WQD) regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure the water delivered to you meets or exceeds Federal and State drinking water standards. In 2017, WQD staff conducted more than 101,900 drinking water tests in the transmission and distribution systems. This is in addition to the extensive treatment process control monitoring performed by the SFPUC's certified operators and online

加氟和氟斑牙

根據州法強制規定，水加氟是廣泛接受的做法，已經證明對預防和控制齲齒安全有效。SFPUC 的水氟化物目標標準為每公升水 0.7 毫克，與州立新優化氟水準監管指南一致。用該含氟量的水調配的配方奶餵養的嬰兒牙齒可能出現細小的白條或條紋。這些條紋被稱為輕微或極輕微氟中毒，這些條紋經常只會在顯微鏡下才能看到。即使能夠看到這些條紋，也不會構成任何健康風險。疾病控制中心（CDC）認為可安全地使用以最佳含氟水配製的嬰兒配方奶。如需減少出現氟斑牙的機率，您可以選擇用低氟瓶裝水調配配方奶。但由於來自其他來源（例如食物、牙膏和牙齒用品）的氟攝入，兒童亦可能出現氟斑牙。

如果您對氟斑牙有顧慮，請與您的健康護理服務提供者或 SWRCB-DDW 聯繫。

如需獲得有關加氟或口腔健康的進一步資訊，請查閱 CDC 網站

www.cdc.gov/fluoridation，或查閱 SWRCB-DDW 網站

www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml。

確保最佳水質

SFPUC 水質分部（WQD）定期從水庫和整個系統中指定的取樣點搜集和測試水樣，以確保輸送給您的水符合或超過聯邦和州飲用水標準。2017 年，WQD 的工作人員對傳輸和配送系統進行了逾 101,900 次飲用水測試。這些測試是在 SFPUC 經認證運營商和利用在線器械進行的廣泛處理流程控制和監管之外進行的水質監管工作。

人們可能會合理地預期飲用水（包括瓶裝水）至少包含少量某些污染物。污染

instruments.

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. In order to ensure that tap water is safe to drink, the USEPA and SWRCB-DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

Reducing Lead from Plumbing Fixtures

Some homes in the community may have increased levels of lead in their tap water caused by the deterioration of household plumbing materials that contain lead. CPAU provides high-quality drinking water, but cannot control the variety of materials associated with your home plumbing. Pregnant women, infants and young children are typically at the greatest health risk. If you are concerned about lead levels in your water, you may wish to have your water tested. You can also flush your tap for 30 seconds to 2 minutes before using the water whenever the tap has not been used for several hours. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available by calling the Safe Drinking Water Hotline (800) 426-4791 or online at www.epa.gov/safewater/lead

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/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial

物的存在不一定表示飲用水會對健康構成風險。為了確保自來水能夠安全地飲用，USEPA 和 SWRCB-DDW 制定了限制公共供水系統供應的水中某些污染物含量的規章。美國食品與藥物管理局規章和加州法律還規定了瓶裝水中污染物含量限制，為公眾健康提供相同的保護。

減少來自管道附件的鉛含量

社區中的一些家庭的自來水因含鉛住宅管道材料腐蝕可能有較高的含鉛量。CPAU 提供優質飲用水，但不能控制與您的家庭管道相關的各種物質。孕婦、嬰兒和幼兒通常會面臨最大的健康風險。如果您對飲用水中的含鉛量有顧慮，最好請人對水進行測試。您還可以在幾小時沒有用自來水的情況下打開自來水龍頭，讓水流動 30 秒到 2 分鐘後再使用。如需瞭解有關飲用水的含鉛量、測試方法和可以採取的盡量減少鉛接觸措施的資訊，請撥打安全飲用水熱線電話 (800) 426-4791，或查閱網站 www.epa.gov/safewater/lead。


特殊健康需求

有些人可能比普通人更容易受到飲用水中污染物的影響。缺乏免疫的人（例如，正在接受化療的癌症患者、已接受器官移植的人、HIV 攜帶者 / 愛滋病患者或有其他免疫系統障礙的人）、部分年長者和嬰兒尤其具有感染風險。

這些人應當向自己的醫療護理服務提供者瞭解有關飲水的建議。可撥打 USEPA 的安全飲用水熱線電話 (800) 426-4791 或進入網站 www.epa.gov/safewater，查閱 USEPA/CDD 有關減少隱孢子蟲和其他微生物污染物感染風險適當方法的指南。

contaminants are available from the USEPA's Safe Drinking Water Hotline (800) 426-4791 or at www.epa.gov/safewater

Individuals with disabilities who require accommodations to access City facilities, services or programs, or who would like information on the City's compliance with the Americans with Disabilities Act (ADA) of 1990, may contact the City's ADA Coordinator at (650) 329-2368 (voice) or email ada@cityofpaloalto.org

 Printed on 100% post-consumer recycled paper, bleached without chlorine. 6/18

Bay Tunnel and New Irvington Tunnel Projects

These new SFPUC facilities were brought into service in 2015 and have strengthened the seismic reliability of the SFRWS by providing crucial system redundancies. They are part of the SFPUC's Water System Improvement Program, a \$4.8 billion investment in capital projects that strengthen our ability to provide reliable, high-quality water to 2.6 million customers, even after a natural disaster.

在利用市政府設施、服務或計劃時需要便利設施或希望獲得有關本市符合《1990年殘障美國人法案》(ADA)資訊的殘障人士可電洽本市 ADA 協調員，電話號碼 (650) 329-2368 (語音)，或發電子郵件至 ada@cityofpaloalto.org。

 用 100% 消費後無氯漂白回收紙列印。2018 年 6 月

海灣隧道和新歐文頓隧道專案

這些新 SFPUC 設施於 2015 年投入使用，透過提供重要的系統冗餘提高了 SFRWS 的抗震可靠性。這些新設施是 SFPUC 供水系統改進計劃的一部分，對基本工程專案的 48 億美元的投資可增強我們向 260 萬客戶提供可靠優質水的能力，甚至在發生自然災害後亦如此。

帕洛阿爾托市 2017 年水質資料 ⁽¹⁾

www.cityofpaloalto.org/water (650) 329-2161

符號表

</ ≤ = 小於/小於或等於	Min = 最少	NL = 通告水準	ORL = 其他監管水準
AL = 行動閾值	N/A = 不適用	NoP = 大腸菌群陽性樣本數目	ppb = 十億分之幾
Max = 最高	ND = 未發現	NTU = 濁度單位	ppm = 百萬分之幾
			µS/cm = 微西門子 / 公分

發現的污染物	單位	最高污染物水準 (MCL)	公眾健康目標 (PHG) 或 [最高污染物水準目標 (MCLG)]	發現的範圍或水準	平均值或 [最高值]	飲用水主要來源
濁度 (濁度是一項水清澈指標; 也表示過濾廠的效力。)						
未過濾的赫奇赫奇水	NTU	5	N/A	0.3 - 0.1 ⁽²⁾	[2.7]	土壤徑流
來自蘇諾谷自來水處理廠 (SVWTP) 的過濾水	NTU	1 ⁽³⁾	N/A	-	[1]	土壤徑流
	-	最少 95% 樣本 ≤ 0.3 NTU ⁽³⁾	N/A	99% - 100%	-	土壤徑流
來自哈利翠西自來水處理廠 (HTWTP) 的過濾水	NTU	1 ⁽³⁾	N/A	-	[0.01]	土壤徑流
	-	最少 95% 樣本 ≤ 0.3 NTU ⁽³⁾	N/A	100%	-	土壤徑流
消毒副產品和前體						
三鹵甲烷總量	ppb	80	N/A	15.0-50.0	[31.08] ⁽⁴⁾	飲用水消毒副產品
鹵乙酸	ppb	60	N/A	11.0-41.0	[27.05] ⁽⁴⁾	飲用水消毒副產品
有機碳總量 ⁽⁵⁾	ppm	處理技術 (TT)	N/A	1.0-3.7	2.4	多種天然和人工來源
微生物						
總大腸菌群 ⁽⁶⁾	-	NoP ≤ 5.0% 每月樣本	(0)	-	[0.0%]	天然存在於環境中
腸菌伯氏鞭毛蟲	cyst/L	處理技術 (TT)	(0)	0 - 0.22	0.05	天然存在於環境中
無機物						
氟化物 (水源水) ⁽⁷⁾	ppm	2.0	1	ND - 0.6	0.2 ⁽⁸⁾	天然沉積物腐蝕; 固齒水添加物
氯胺 (以氯氣形式)	ppm	最高殘留消毒劑水準 (MRDL) = 4.0	最高殘留消毒劑水準目 標 (MRDLG) = 4	2.12 - 2.41	[2.27] ⁽⁹⁾	處理時添加的飲用水消毒劑

二級標準成分	單位	二級最高污染物水準 (SMCL)	公眾健康目標 (PHG)	範圍	平均值	污染物主要來源
鋁 ⁽¹⁰⁾	ppb	200	600	ND-99	ND	天然沉積物腐蝕；一些地表水處理殘留物
氟化物	ppm	500	N/A	<3 - 17	9.0	徑流/從天然沉積物浸出
顏色	unit	15	N/A	<5 - 13	<5	天然存在的有機物質
電導率	µS/cm	1600	N/A	29 - 256	168	在水中形成鐵的物質
硫酸鹽	ppm	500	N/A	0.9 - 34	17	徑流/從天然沉積物浸出
總溶解性固體	ppm	1000	N/A	<20 - 122	76	徑流/從天然沉積物浸出
濁度	NTU	5	N/A	0.1 - 1	0.4	土壤徑流
鉛和銅	單位	行動閾值 (AL)	公眾健康目標 (PHG)	範圍	90 百分位	飲用水中的典型來源
銅	ppb	1300	300	N/A – 0.100 ⁽¹¹⁾	0	家用水管系統內部腐蝕
鉛 ⁽¹²⁾	ppb	15	0.2	N/A – 0.0116 ⁽¹¹⁾	0	家用水管系統內部腐蝕
其他水質參數	單位	其他監管水準 (ORL)	範圍	平均值	相鄰的表格列出所有 2016 年發現的飲用水污染物及其典型來源資訊。按照監管指南的規定，未顯示低於報告探測限度的污染物。SFPUC 對某些污染物有 SWRCB-DDW 監管豁免，因此這些污染物的監控頻率每年不到一次。	
硬度 (以碳酸鈣形式)	ppm	N/A	6 - 131	52		
硼	ppb	1000 (NL)	ND - 203	ND		
溴化物	ppb	N/A	<5 – 30	13		
鈣 (Ca)	ppm	N/A	2 - 31	16		
氯酸鹽 ⁽¹³⁾	ppb	800 (NL)	51 - 180	86		
硬度 (以碳酸鈣形式)	ppm	N/A	7 - 82	51		
鎂	ppm	N/A	0.2 - 11	6.2		
pH 值	-	N/A	7.4 - 9.8	9.2		
鉀	ppm	N/A	0.2 - 2	1.0		
二氧化矽	ppm	N/A	4.6 - 12	7.6		
鈉	ppm	N/A	2.3 - 31	18		
錫	ppb	N/A	12 - 234	111		

- (1) All results met State and Federal drinking water health standards.
- (2) These are monthly average turbidity values measured every 4 hours daily.
- (3) There is no turbidity MCL for filtered water. The limits are based on the Treatment Technique (TT) requirements for filtration systems.

- (1) 所有結果均符合州和聯邦飲用水健康標準。
- (2) 每天每四小時測量一次得出的每月平均濁度值。
- (3) 過濾水沒有濁度最高污染物水準 (MCL)。限度係基於過濾系統的處理技術 (TT) 要求。

- (4) This is the highest locational running annual average value.
- (5) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only.
- (6) For systems collecting <40 samples per month, the highest number (not the percentage) of positive samples collected in any one month is reported.
- (7) In May 2015, the SWRCB recommended an optimal fluoride level of 0.7 ppm be maintained in treated water. In 2017, the range and average of fluoride levels were 0.5 ppm - 0.9 ppm and 0.7 ppm, respectively.
- (8) The natural fluoride level 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 Hetchy water into the local reservoirs.
- (9) This is the highest running annual average value.
- (10) Aluminum also has a primary MCL of 1,000 ppb.
- (11) The most recent Lead and Copper Rule monitoring was in 2017. 0 of 55 site samples collected at consumer taps had copper concentrations above the AL.
- (12) Number of schools requesting lead sampling in 2017 - 0.
- (13) The detected chlorate in the treated water is a degradation product of sodium hypochlorite used by the SFPUC for water disinfection.

Note: Additional water quality data may be obtained by calling the City of Palo Alto Utilities Staff at (650) 496-6967.

Key Water Quality Terms

The following are definitions of key terms referring to water quality standards and goals noted on the adjacent data table.

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.

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 USEPA.

MAXIMUM CONTAMINANT LEVEL (MCL): The highest level of a

- (4) 此為最高區位流動年度平均值。
- (5) 總有機碳是消毒副產品形成的前體。處理技術 (TT) 要求僅適用於來自 SVWTP 的過濾水。
- (6) 對於每個月收集的樣本 <40 的系統，報告任何一個月收集的达标樣本的數目 (不是百分比)。
- (7) 2015 年 5 月，SWRCB 建議處理水的最佳氟化物水準保持在 0.7 ppm。2017 年，氟化物水準範圍和平均值分別為 0.5 ppm-0.9 ppm 和 0.7 ppm。
- (8) 赫奇赫奇供水中的天然氟化物水準未發現 (ND)。SVWTP 和 HTWTP 未淨化水升高的氟化物水準是由於加氟赫奇赫奇水輸送至地方水庫所致。
- (9) 此為最高流動年度平均值。
- (10) 鋁也有 1,000 ppb 基本最高污染物水準 (MCL)。
- (11) 最近一次《鉛和銅規定》監控在 2017 年進行，對從消費者水龍頭採集的 55 份現場樣本中，沒有任何一份樣本的銅濃度超過行動閾值 (AL)。
- (12) 2017 年要求鉛取樣的學校數目為零。
- (13) 在處理水中發現的氯酸鹽是 SFPUC 用於水消毒的次氯酸鈉降解產品。
註釋：如需獲取其他水質資料，請電洽帕洛阿爾托市公用事業部工作人員，電話號碼 (650) 496-6967。

重要的水質術語

以下是在相鄰的資料表中使用的有關水質標準和目標的重要術語定義。

公眾健康目標 (PHG)：飲用水污染物水準低於此目標則不存在已知或預期的健康風險。PHG 由加州環境保護署 (California Environmental Protection Agency) 制定。

最高污染物水準目標 (MCLG)：飲用水污染物水準低於此目標則不存在已知或預期的健康風險。MCLG 由美國環境保護署 (USEPA) 制定。

最高污染物水準 (MCL)：飲用水允許的最高污染物水準。主要最高污染物水準 (MCL) 在經濟和技術許可的情況下盡量接近公眾健康目標 (PHG) 或最高污染物水準目標 (MCLG)。二級最高污染物水準

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 (SMCLs) are set to protect the 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 a 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 and reporting requirements, 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 the water.

TURBIDITY: A water clarity indicator that measures cloudiness of the water, and is also used to indicate the effectiveness of the filtration system. High turbidity can hinder the effectiveness of disinfectants.

Cryptosporidium is a parasitic microbe found in most surface water. The SFPUC regularly tests for this waterborne pathogen, and found it at very low levels in source water and treated water in 2017.

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

(SMCL) 旨在保護飲用水的氣味、口味和外觀。

最高殘留消毒劑水準 (MRDL) : 飲用水允許的最高消毒劑水準。有令人信服的證據表明需要添加消毒劑，控制微生物污染物。

最高殘留消毒劑水準目標 (MRDLG) : 飲用水消毒劑水準低於此目標則不存在已知或預期的健康風險。MRDLG 不反映使用消毒劑控制微生物污染物的益處。

主要飲用水標準 (PDWS) : 有關影響健康的污染物及其監控和報告要求的最高污染物水準 (MCL) 和最高殘留消毒劑水準 (MRDL) 以及水處理要求。

監管行動水準 : 如果污染物濃度超過該數值則會觸發供水系統必須遵守的處理或其他要求。

處理技術 (TT) : 旨在降低水中污染物水準要求採取的流程。

濁度 : 測量水渾濁度的水透明度指標，還用於表示過濾系統的有效性。高濁度會影響消毒劑的效力。

隱孢子蟲 是一種在大多數地表水中發現的寄生微生物。SFPUC 定期測試這種水生病原體，在 2017 年的水源水和處理水中發現該病原體處於很低的水準。但是，USEPA 批准的目前使用的測試方法不能區別死生物體與能夠造成疾病的生物體。攝入隱孢子蟲可能造成嘔心、腹部痙攣、腹瀉和相關頭痛的症狀。必須攝入隱孢子蟲才能造成疾病，隱孢子蟲可能透過飲用水之外的途徑傳播。

spread through means other than drinking water.

Contaminants

Generally, the sources of drinking water (both tap water and bottled water) include rivers, lakes, oceans, 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. Such substances are called contaminants, and may be present in source water as:

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 that 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, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application and septic systems.

RADIOACTIVE CONTAMINANTS which can be naturally occurring or be the result of oil and gas production, and mining activities.

More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

HETCH HETCHY REGIONAL WATER SYSTEM

污染物

通常，飲用水（自來水和瓶裝水）來源包括河流、湖泊、海洋、溪流、池塘、水庫、泉水和井水。當水在地表或地下流動時，會溶解天然存在的礦物質，在某些情況下，會溶解放射性物質，並會匯入來自動物或人類活動生成的物質。此類物質稱為污染物，污染物可能以下列形式存在於水源水中：

微生物污染物，例如病毒和細菌，可能來自污水處理廠、淨化系統、農業牲畜運營設施和野生動物。

無機污染物，例如鹽和金屬，可能是天然存在的物質或來自城市雨水徑流、工業或家用廢物排放、油氣生產、採礦或農業。

殺蟲劑和除草劑，可能來自各種不同的來源，例如農業、城市雨水徑流和家用。

有機化學污染物，包括作為工業流程和石油生產副產品的合成和揮發性有機化學品，亦可能來自加油站、城市雨水徑流、農業應用和淨化系統。

放射性污染物，可能是天然存在或是油氣生產和採礦活動的產物。

有關污染物和潛在健康影響的進一步資訊，請撥打 USEPA 安全飲用水熱線電話 (800) 426-4791。

赫奇赫奇地區供水系統

