

**Meeting Date: 8/20/2013**

**Report Type:** Public Hearing

**Report ID:** 2013-00228

**Title: Required Report on City's Water Quality Relative to Public Health Goals**

**Location:** Citywide

**Issue:** A public hearing is required every three years for the purpose of accepting and responding to public comment on a report comparing the City's drinking water quality to public health goals.

**Recommendation:** Conduct a public hearing on the 2013 Report on City's Water Quality Relative to Public Health Goals.

**Contact:** Michael Malone, Operations & Maintenance Manager, (916) 808-6226; Pravani Vandeyar, Water Quality Superintendent, (916) 808-3765, Department of Utilities

**Presenter:** Pravani Vandeyar, Water Quality Superintendent, (916) 808-3765, Department of Utilities

**Department:** Department Of Utilities

**Division:** Water Quality Lab and R&D

**Dept ID:** 14001371

**Attachments:**

1-Description/Analysis

2-Background

3-City of Sacramento Department of Utilities 2013 Report on City's Water Quality Relative to Public Health Goals

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**City Attorney Review**

Approved as to Form

Joe Robinson

8/6/2013 2:56:28 PM

**City Treasurer Review**

Reviewed for Impact on Cash and Debt

Russell Fehr

7/31/2013 4:36:14 PM

**Approvals/Acknowledgements**

Department Director or Designee: Jamille Moens - 8/2/2013 4:54:47 PM

## Description/Analysis

**Issue Detail:** The California Health and Safety Code specifies that a report be prepared every three years to provide information to the public in addition to the annually distributed Consumer Confidence Report. The required report compares the City of Sacramento's drinking water quality to public health goals. Comments received at today's public hearing may be addressed at this meeting or will be responded to in an addendum to the 2013 Public Health Goal Report, which will be made available to the public.

**Policy Considerations:** Consistent with the 2030 General Plan, the drinking water quality provided by the City of Sacramento's Department of Utilities meets or surpasses all state and federal minimum drinking water standards set to protect public health. This public hearing on the "2013 Report on City's Water Quality Relative to Public Health Goals" provides compliance with Section 116470(c) of the California Health and Safety Code, which requires a public hearing for the purpose of accepting and responding to public comment on the report.

**Economic Impacts:** None

**Environmental Considerations:** This public hearing is required under State law and constitutes a non-discretionary action to which the California Environmental Quality Act does not apply, under Section 21080 of the California Public Resources Code.

**Sustainability:** The City's drinking water program is consistent with the 2030 General Plan and the goals and targets of the City's Sustainability Master Plan by protecting the sources of water.

**Commission/Committee Action:** None

**Rationale for Recommendation:** The California Health and Safety Code, Section 116470, requires the public water system to hold a public hearing for the purpose of accepting and responding to public comment on the public health goal report.

**Financial Considerations:** There are no financial implications from this report.

**Emerging Small Business Development (ESBD):** Not applicable

## Background

The California Health and Safety Code mandates that a report be prepared by July 1, 1998, and every three years thereafter to compare drinking water quality with public health goals (PHGs) set by the California Office of Environmental Health Hazard Assessment (OEHHA) and with maximum contaminant level goals (MCLGs) adopted by the U.S. Environmental Protection Agency (EPA).

- PHGs are developed by OEHHA solely based on evaluating public health risk, and do not consider the practical risk management factors that are evaluated by the California Department of Public Health or EPA in setting state and federal drinking water standards, respectively. These factors that are not considered include the ability of laboratories to analyze the constituent at low levels, available treatment technology, costs, and benefits. MCLGs are the federal equivalent to PHGs. PHGs and MCLGs are goals and not enforceable standards, and no action to meet them is required.
- The City's water system complies with all of the health-based drinking water standards, known as maximum contaminant levels (MCLs), required by the California Department of Public Health and EPA.
- The City's drinking water program regularly and proactively monitors our drinking water quality. More than 400 tests are performed each day. On an ongoing basis, City staff optimizes water treatment processes and conducts programs to protect the quality of the City's water supply. City staff tracks the latest information and actively works with regulatory agencies and professional organizations to support development of appropriate treatment for emerging constituents.
- The California Health and Safety Code also requires that a public hearing be held for the purpose of accepting and responding to public comments or questions on the "2013 Report on City's Water Quality Relative to Public Health Goals". The report is included for reference.

**CITY OF SACRAMENTO  
DEPARTMENT OF UTILITIES  
2013 REPORT ON CITY'S WATER QUALITY  
RELATIVE TO PUBLIC HEALTH GOALS**

**BACKGROUND**

Provisions of the California Health and Safety Code specify that large water utilities (those with more than 10,000 service connections) prepare a special report should any of their water quality measurements exceed any Public Health Goals (PHGs). The first report was completed by July 1, 1998, and new reports are required every three years. The City of Sacramento (City) developed the required reports in 1998, 2001, 2004, 2007 and 2010, and the current report was completed by July 1, 2013 as required. Reference No. 1 (Attached) is an excerpt of the California Health and Safety Code that specifies what information is to be provided in the report. The purpose of this document is to satisfy the PHG Report requirements for the City of Sacramento. This is a separate requirement from the annual Consumer Confidence Report.

**WHAT ARE PHGs?**

PHGs are non-enforceable goals established by the Cal-Environmental Protection Agency's (CalEPA's) Office of Environmental Health Hazard Assessment (OEHHA). The law requires that where OEHHA has not adopted a PHG for a constituent, the water suppliers are to use the Maximum Contaminant Level Goals (MCLGs) adopted by the United States Environmental Protection Agency (USEPA). Only those constituents that are regulated in drinking water, such as those with a maximum contaminant level (MCL) or Treatment Technique (TT) requirement, and for which either a PHG or MCLG has been set are to be included in the report. Reference No. 2 (Attached) is a list of all currently-regulated constituents that must be addressed in this PHG Report. Contaminants that do not have an MCLG or PHG and contaminants with secondary standards are not required to be addressed. Note that there are some constituents that are routinely detected in water systems at levels below the drinking water standards for which no PHG or MCLG have yet been adopted. One example is the individual compounds making up Total Trihalomethanes<sup>1</sup>. These will be addressed in a future report if PHGs are adopted by OEHHA.

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<sup>1</sup> The MCL for total trihalomethanes is based on the sum of the following four compounds: chloroform, bromodichloromethane, chlorodibromomethane, and bromoform. There is no PHG or MCLG for total trihalomethanes.

A PHG is the level below which CalEPA has determined that a drinking water contaminant does not pose a significant health risk. None of the practical risk-management factors that are considered by the USEPA or the California Department of Public Health (CDPH) in setting enforceable drinking water standards are considered in setting the PHGs. Such factors include analytical detection capability, treatment technology availability, and benefits and costs. MCLGs are set by the USEPA and are the federal equivalent to PHGs.

### **WHAT WATER QUALITY DATA WERE CONSIDERED?**

All of the water quality data collected by the City's water system during 2010 through 2012 for purposes of determining compliance with drinking water standards were considered in this analysis. These data were all summarized in the 2010, 2011, and 2012 annual Consumer Confidence Reports (CCRs) that were mailed to all City customers and posted on the City's internet website. Reference No. 3 (Attached) includes the CCRs for these three years. As required by law, this report includes information about constituents detected in the City of Sacramento's drinking water supply during these three years at a level exceeding a PHG or MCLG. The report includes the numerical public health risk associated with the MCL and the PHG or MCLG, the category or type of risk to health that is associated with each constituent, the best treatment technology available that could be used to reduce the constituent level, and an estimate of the cost to install that treatment if it is appropriate and feasible.

### **WHAT GUIDELINES WERE FOLLOWED IN PREPARING THIS REPORT?**

The Association of California Water Agencies (ACWA) formed a workgroup that prepared guidelines for water utilities to use in preparing their PHG reports. The ACWA guidelines were used to prepare this Report. No guidance materials were available from the CDPH regarding preparation of the PHG report. OEHHA prepared a document with health risk information, which was used in preparation of this report.

### **WHAT IS BEST AVAILABLE TECHNOLOGY AND HOW ARE COSTS ESTIMATED?**

Both the USEPA and CDPH designate Best Available Technologies (BATs) for each regulated constituent. These technologies are the best available treatment technology, treatment techniques, or other means available for achieving compliance with the MCLs. Costs have been estimated by USEPA and others for implementing such technologies. However, since many PHGs and MCLGs are set at levels much lower than the enforceable MCLs, it is not

always possible or feasible to determine what treatment is needed to further reduce a constituent downward to or near the PHG or MCLG. USEPA sets the MCLGs for carcinogens at a level of “zero” as a matter of policy. Estimating the costs to reduce a constituent to zero is difficult, if not impossible, because it is not possible to verify by analytical means that the level has been lowered to zero. In some cases, installing treatment to try and further reduce very low levels of one constituent may have adverse effects on other aspects of water quality.

### **CONSTITUENTS DETECTED IN OUR WATER THAT EXCEED A PHG OR MCLG**

The following sections contain information about constituents that were detected in one or more of the City’s drinking water sources at levels above the PHG, or if there is no PHG, above the MCLG.

#### Arsenic:

The MCL for arsenic is 10 micrograms per liter ( $\mu\text{g/L}$ )<sup>2</sup>, while the PHG is 0.004  $\mu\text{g/L}$ . The analytical detection limit is 2  $\mu\text{g/L}$ . Therefore, the lowest level that can be determined analytically is 500 times higher than the PHG. Some people who drink water containing arsenic in excess of the MCL over many years can experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer<sup>3</sup>. The numerical cancer risk associated with the MCL is 2.5 per thousand, and the numerical cancer risk associated with the PHG is one per one million.

Twenty-five of the City of Sacramento’s 34 permitted wells had detectable levels of arsenic, and all levels were less than half of the MCL. Table 1 includes the analytical results measured during 2011 in the wells with detectable arsenic levels.

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<sup>2</sup> Note that 1  $\mu\text{g/L}$  is equivalent to 1 ppb (parts per billion).

<sup>3</sup> USEPA pamphlet “Just the Facts for Consumers - Arsenic in Your Drinking Water” March 2007

**Table 1 – Measured Arsenic Level in City of Sacramento Source Waters, 2011**

<b>Source</b>	<b>Arsenic Concentration , µg/L</b>
WELL 92	4.2
WELL 93	3.7
WELL 94	3.7
WELL 107	4.4
WELL 116	3.2
WELL 120	3.0
WELL 122	3.1
WELL 124	3.2
WELL 126	3.2
WELL 127	2.6
WELL 129	2.9
WELL 131	2.5
WELL 133	4.2
WELL 134	4.3
WELL 137	3.2
WELL 138	3.4
WELL 139	4.0
WELL 142	2.5
WELL 143	3.1
WELL 144	3.0
WELL 153A	4.0
WELL 155	2.7
WELL 156	3.5
WELL 158	3.5
WELL 159	4.7

Seven BATs have been identified to meet the arsenic MCL: activated alumina, coagulation/filtration, ion exchange, lime softening, electrodialysis reversal, oxidation/filtration, and reverse osmosis. The best arsenic reduction performance that can be expected from these technologies is approximately 95 percent. Based on this percent reduction and the current levels of arsenic in the wells, it is unlikely that any of these technologies

could actually reduce the level of arsenic to the PHG of 0.004 µg/L. Nonetheless, it is thought that ion exchange would be the most appropriate technology for the City to implement at the wells if there is a decision to pursue production of water with arsenic concentrations closer to the PHG level.

The estimated cost to install and operate ion exchange systems on the 25 wells identified above to attempt to reduce the arsenic level closer to the PHG of 0.004 µg/L, would be approximately \$14,567,000 for the initial construction<sup>4</sup> plus an estimated order of magnitude cost of \$4,000,000 for land acquisition. This land acquisition estimate is based on the assumption of partial lot acquisition, which is uncertain. If partial lot acquisition would not be possible, planning for arsenic treatment or replacement of this water supply could require acquisition of real property with structures or development of new wells at a much higher cost, from 100 to 200 percent higher. The operation and maintenance costs have been estimated at \$1,757,000 per year. These costs would result in an estimated increased cost per customer of \$81 in the first year and \$10 per year thereafter.

#### Gross Alpha:

There is no PHG for gross alpha, the MCL for gross alpha is 15pCi/L<sup>5</sup>, while the MCLG is 0 pCi/L. The analytical detection limit is 3 pCi/L. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer<sup>6</sup>. The numerical health risk for an MCLG of 0 is zero.

Two of the City of Sacramento's 34 permitted wells had detectable levels of gross alpha, all less than the MCL. Table 2 includes the analytical results measured during 2012 in the wells with detectable gross alpha levels.

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<sup>4</sup> Costs from 2010 PHG report adjusted to 2013 dollars per U.S. Department of Labor Consumer Price Index (CPI) and inflation values. Costs originally generated using equations generated by USEPA and presented in the manual "Arsenic Treatment Technology Evaluation Handbook for Small Systems", 2003.

<sup>5</sup> pCi/L=picocuries per liter of water.

<sup>6</sup> EPA Basic Information about Radionuclides in Drinking Water.

**Table 2 – Measured Gross Alpha in City of Sacramento Source Waters, 2012**

Source	Gross Alpha Concentration, pCi/L
WELL 107	3
WELL 142	8

Four BATs have been identified to meet the gross alpha MCL: ion exchange, reverse osmosis, lime softening and enhanced coagulation/filtration. The BAT identified to meet the gross alpha MCL is reverse osmosis<sup>7</sup>. The best reduction performance is achieved by reverse osmosis, and this technology is expected to achieve approximately 99 percent reduction. Based on this percent reduction and the current levels of gross alpha in the wells, it is unlikely that this technology could actually reduce the level of gross alpha to the MCLG of 0 pCi/L.

The estimated cost to install and operate reverse osmosis (RO) systems on the wells identified above, to attempt to reduce the gross alpha level closer to the MCLG of 0 pCi/L, would be approximately \$30,000,000<sup>8</sup>. This estimate does not include the cost of land acquisition, if required. The land acquisition costs could be significant, and it is uncertain if partial lot acquisition would be possible. If partial lot acquisition was not possible, acquisition of real property with structures or development of new wells could be at a much higher cost. This cost would result in an estimated increased cost per customer of \$166 per year.

Trichloroethylene (TCE):

The MCL for TCE is 5 µg/L<sup>9</sup>, while the PHG is 1.7 µg/L. The analytical detection limit is 0.5 µg/L. People who drink water containing TCE in excess of the MCL over many years could experience an increased risk of getting cancer. The numerical health risk of ingesting drinking water with TCE at the PHG is one in one million, or one additional theoretical cancer case in one million people drinking two liters of water a day for 70 years. The numerical cancer risk associated with the MCL is 3 in one million.

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<sup>7</sup> EPA Federal Register/Vol. 65, No. 236/Thursday, December 7, 2000/Rule and Regulations  
<sup>8</sup> Pasadena Water and Power, Report on City's Water Quality Relative to Public Health Goals, June 2010.  
<sup>9</sup> Note that 1 µg/L is equivalent to 1 ppb (parts per billion).

Well 142, one of the City of Sacramento's 34 permitted wells had detectable levels of TCE, at an average of 3.8 µg/L. The last two results from October 2012 were above the MCL at 8.1 µg/L and 5.9 µg/L respectively. This well was immediately removed from service. Since the well was immediately removed from service, this does not constitute a violation per CDPH. The City is investigating possible wellhead treatment for TCE, or decommissioning of the well.

The BATs identified to reduce the TCE level closer to the PHG are Granular Activated Carbon (GAC) or Packed Tower Aeration (PTA). The GAC technology is expected to achieve an approximately 75 to 99% removal of TCE<sup>10</sup>.

The estimated cost to install and operate GAC systems on this well, to attempt to reduce the TCE level to the PHG of 1.7 µg/L, would be approximately \$5,740,000 annually for capital, operations and maintenance costs<sup>11</sup>. This estimate does not include the cost of land acquisition, if required. If partial lot acquisition was not possible, acquisition of real property with structures or development of new wells could be at a much higher cost. This cost would result in an estimated increased cost per customer of \$32 per year.

#### Tetrachloroethylene (PCE):

The MCL for PCE is 5 µg/L, while the PHG is 0.06 µg/L. The analytical detection limit is 0.5 µg/L. Therefore, the lowest level that can be determined analytically is over 8 times higher than the PHG. People who drink water containing PCE in excess of the MCL over many years could experience an increased risk of getting cancer. The numerical health risk of ingesting drinking water with PCE at the PHG is one in a million, or one additional theoretical cancer case in one million people drinking two liters of water a day for 70 years. The numerical cancer risk associated with the MCL is 8 in one hundred thousand.

Two of the City of Sacramento's 34 permitted wells had detectable levels of PCE, below the MCL. Well 116 had an average of 0.7 µg/L of PCE. This well was removed from service. The City is investigating possible wellhead

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<sup>10</sup> EPA, Drinking Water Treatability Database, TCE, website found at <http://iaspub.epa.gov/tdb/pages/contaminant/treatmentSummary.do;jsessionid=fFB3Rb5GkLnS8QSTJ81TTvv9T13vdMnrTXlMpXwBLcP2BBr23vW4!-1218231222>

<sup>11</sup> ACWA Suggested Guidelines for Preparation of Required Reports on PUBLIC HEALTH GOALS (PHGs) to satisfy requirements of California Health and Safety Code Section 116470(b), February 2013.

treatment for PCE, or decommissioning of the well. Well 127 had a PCE result of 0.6µg/L. This well is currently out of service due to motor failure. Once the well is repaired it will be resampled to confirm the initial result. If the result is confirmed, the City will investigate possible wellhead treatment for PCE, or decommissioning of the well.

As with TCE, the BATs identified to lower the PCE level closer to the PHG are GAC or PTA. The GAC technology is expected to achieve an approximately 95% reduction in the PCE level<sup>12</sup>.

The estimated cost to install and operate GAC systems on each of these wells is the same as for TCE. This cost would result in an estimated increased cost per customer of \$64 per year.

Coliform Bacteria:

The City collects in excess of 200 samples each month for coliform analysis. Occasionally a sample was found to be positive for coliform bacteria, but check samples were negative. A maximum of 2% of these samples were positive in any given month. The MCL for total coliform is determined as follows: at the end of the month, the number of coliform-positive samples is divided by the total number of samples collected for that month. This value should not exceed the MCL which is 5%. The MCLG for total coliform is zero. From 2010 through 2012 there were four individual months which had percentage positive total coliform results that exceeded the MCLG of zero, although all were well below the MCL of 5%. These are shown in Table 2.

**Table 2 – Summary of Total Coliform Results**

<b>Year</b>	<b>Month</b>	<b>Percent Positive</b>
2010	August	2
2011	October	2
2012	August	1
2012	December	1

The reason for the coliform drinking water standard is to minimize the possibility of the water containing pathogens, which are organisms that

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<sup>12</sup> ACWA Suggested Guidelines for Preparation of Required Reports on PUBLIC HEALTH GOALS (PHGs) to satisfy requirements of California Health and Safety Code Section 116470(b), February 2013.

cause waterborne disease. As coliform is only a surrogate indicator of the potential presence of pathogens, it is not possible to state a specific numerical health risk. While USEPA normally sets MCLGs “at a level where no known or anticipated adverse effects on persons would occur”, they indicate that they cannot do so with coliforms.

Exceeding zero % coliform bacteria in any month, in and of itself, will not normally constitute the need for any treatment. There is no treatment that can be implemented that will ensure that the system would always have 0% coliform every single month. The one single action that would most likely decrease the possibility of a system having any positive coliform results would be to significantly increase the chlorine disinfectant residual. However, raising the chlorine residual would likely result in the increase of Disinfection By-Products (DBPs) which have adverse health consequences of their own. Additionally there are limits to the level of disinfectant residual allowed in the distribution system.

Coliform bacteria are an indicator organism that are ubiquitous in nature and are not generally considered harmful. They are used because of the ease in monitoring and analysis. If a positive sample is found, it indicates a potential problem that needs to be investigated and follow up samples are to be collected and analyzed. It is not unusual for a system to have an occasional positive sample. It is difficult, if not impossible, to ensure that a system will never get a positive sample.

The City adds chlorine at the drinking water treatment sources to assure that the water served is microbiologically safe. The chlorine residual levels are carefully controlled to provide the best health protection without causing the water to have undesirable taste and odor and without increasing the disinfection byproduct level. This careful balance of treatment processes is essential to continue supplying safe drinking water to the consumers. Other equally important measures that are implemented include: an effective cross-connection control program, maintenance of a disinfectant residual throughout our system, an effective monitoring and surveillance program, and maintaining positive pressures in our distribution system. Our system has already taken all of the steps described by CDPH as “best available technology” for coliform bacteria in Section 64447, Title 22, California Code of Regulations.

## **RECOMMENDATIONS FOR FURTHER ACTION**

The drinking water quality of the City of Sacramento – Department of Utilities meets all State of California and USEPA drinking water standards set

to protect public health. To further reduce the levels of the constituents identified in this report that are already significantly below the health-based Maximum Contaminant Levels established to provide “safe drinking water”, would require additional costly treatment processes. The ability of these new treatment processes to provide significant reductions in constituent levels at these already low values is uncertain. The health protection benefits of these further hypothetical reductions are unclear and may not be quantifiable. Therefore, no action is proposed.

**REFERENCES:**

- No.1 Excerpt from California Health & Safety Code: Section 116470 (b)
- No.2 Table of California Regulated Constituents with MCLs and PHGs, Table of EPA Drinking Water Regulations Showing MCLGs
- No.3 City of Sacramento – Department of Utilities 2010, 2011 and 2012 Consumer Confidence Reports

Reference No.1 Excerpt from California Health & Safety Code: Section 116470 (b)

116470.

(b) On or before July 1, 1998, and every three years thereafter, public water systems serving more than 10,000 service connections that detect one or more contaminants in drinking water that exceed the applicable public health goal, shall prepare a brief written report in plain language that does all of the following:

(1) Identifies each contaminant detected in drinking water that exceeds the applicable public health goal.

(2) Discloses the numerical public health risk, determined by the office, associated with the maximum contaminant level for each contaminant identified in paragraph (1) and the numerical public health risk determined by the office associated with the public health goal for that contaminant.

(3) Identifies the category of risk to public health, including, but not limited to, carcinogenic, mutagenic, teratogenic, and acute toxicity, associated with exposure to the contaminant in drinking water, and includes a brief plainly worded description of these terms.

(4) Describes the best available technology, if any is then available on a commercial basis, to remove the contaminant or reduce the concentration of the contaminant. The public water system may, solely at its own discretion, briefly describe actions that have been taken on its own, or by other entities, to prevent the introduction of the contaminant into drinking water supplies.

(5) Estimates the aggregate cost and the cost per customer of utilizing the technology described in paragraph (4), if any, to reduce the concentration of that contaminant in drinking water to a level at or below the public health goal.

(6) Briefly describes what action, if any, the local water purveyor intends to take to reduce the concentration of the contaminant in public drinking water supplies and the basis for that decision.

(c) Public water systems required to prepare a report pursuant to subdivision (b) shall hold a public hearing for the purpose of accepting and responding to public comment on the report. Public water systems may hold the public hearing as part of any regularly scheduled meeting.

(d) The department shall not require a public water system to take any action to reduce or eliminate any exceedance of a public health goal.

(e) Enforcement of this section does not require the department to amend a public water system's operating permit.

(f) Pending adoption of a public health goal by the Office of Environmental Health Hazard Assessment pursuant to subdivision (c) of Section 116365, and in lieu thereof, public water systems shall use the national maximum contaminant level goal adopted by the United States Environmental Protection Agency for the corresponding contaminant for purposes of complying with the notice and hearing requirements of this section.

Reference No. 2 Table of California Regulated Constituents with MCLs and PHGs, Table of EPA Drinking Water Regulations Showing MCLGs

2013 PHG Triennial Report: Calendar Years 2010-2011-2012				
MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants (Units are in milligrams per liter (mg/L), unless otherwise noted.)				
Last Update: February 12, 2013 (Reference: <a href="http://www.cdph.ca.gov/certlic/drinkingwater/Pages/MCLsandPHGs.aspx">http://www.cdph.ca.gov/certlic/drinkingwater/Pages/MCLsandPHGs.aspx</a> )				
This table includes:				
<ul style="list-style-type: none"> <li>• CDPH's maximum contaminant levels (MCLs)</li> <li>• CDPH's detection limits for purposes of reporting (DLRs)</li> <li>• <a href="#">Public health goals (PHGs) from the Office of Environmental Health Hazard Assessment (OEHHA)</a></li> <li>• PHGs for NDMA and 1,2,3-Trichloropropane (1,2,3-TCP is unregulated) are at the bottom of this table</li> <li>• The federal MCLG for chemicals without a PHG, microbial contaminants, and the DLR for 1,2,3-TCP</li> </ul>				
Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
<b>Chemicals with MCLs in 22 CCR §64431—Inorganic Chemicals</b>				
Aluminum	1	0.05	0.6	2001
Antimony	0.006	0.006	0.02	1997
Arsenic	0.010	0.002	0.000004	2004
Asbestos (MFL = million fibers per liter; for fibers >10 microns long)	7 MFL	0.2 MFL	7 MFL	2003
Barium	1	0.1	2	2003
Beryllium	0.004	0.001	0.001	2003
Cadmium	0.005	0.001	0.00004	2006
Chromium, Total - OEHHA withdrew the 1999 0.0025 mg/L PHG in Nov 2001	0.05	0.01	(0.100)	
Chromium, Hexavalent (Chromium-6) - MCL to be established - currently regulated under the total chromium MCL	--	0.001	0.00002	2011
Cyanide	0.15	0.1	0.15	1997
Fluoride	2	0.1	1	1997
Mercury (inorganic)	0.002	0.001	0.0012	1999 (rev2005)*
Nickel	0.1	0.01	0.012	2001
Nitrate (as NO3)	45	2	45	1997
Nitrite (as N)	1 as N	0.4	1 as N	1997
Nitrate + Nitrite	10 as N	0.4	10 as N	1997
Perchlorate	0.006	0.004	0.006	2004
Selenium	0.05	0.005	0.03	2010
Thallium	0.002	0.001	0.0001	1999 (rev2004)
<b>Copper and Lead, 22 CCR §64672.3</b>				
<i>Values referred to as MCLs for lead and copper are not actually MCLs; instead, they are called "Action Levels" under the lead and copper rule</i>				
Copper	1.3	0.05	0.3	2008
Lead	0.015	0.005	0.0002	2009

**ATTACHMENT No. 2**

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
<b>Radionuclides with MCLs in 22 CCR §64441 and §64443—Radioactivity</b>				
[units are picocuries per liter (pCi/L), unless otherwise stated; n/a = not applicable]				
Gross alpha particle activity - OEHHA concluded in 2003 that a PHG was not practical	15	3	(zero)	n/a
Gross beta particle activity - OEHHA concluded in 2003 that a PHG was not practical	4 mrem/yr	4	(zero)	n/a
Radium-226	--	1	0.05	2006
Radium-228	--	1	0.019	2006
Radium-226 + Radium-228	5	--	(zero)	--
Strontium-90	8	2	0.35	2006
Tritium	20,000	1,000	400	2006
Uranium	20	1	0.43	2001
<b>Chemicals with MCLs in 22 CCR §64444—Organic Chemicals</b>				
<b>(a) Volatile Organic Chemicals (VOCs)</b>				
Benzene	0.001	0.0005	0.00015	2001
Carbon tetrachloride	0.0005	0.0005	0.0001	2000
1,2-Dichlorobenzene	0.6	0.0005	0.6	1997 (rev2009)
1,4-Dichlorobenzene (p-DCB)	0.005	0.0005	0.006	1997
1,1-Dichloroethane (1,1-DCA)	0.005	0.0005	0.003	2003
1,2-Dichloroethane (1,2-DCA)	0.0005	0.0005	0.0004	1999 (rev2005)
1,1-Dichloroethylene (1,1-DCE)	0.006	0.0005	0.01	1999
cis-1,2-Dichloroethylene	0.006	0.0005	0.1	2006
trans-1,2-Dichloroethylene	0.01	0.0005	0.06	2006
Dichloromethane (Methylene chloride)	0.005	0.0005	0.004	2000
1,2-Dichloropropane	0.005	0.0005	0.0005	1999
1,3-Dichloropropene	0.0005	0.0005	0.0002	1999 (rev2006)
Ethylbenzene	0.3	0.0005	0.3	1997
Methyl tertiary butyl ether (MTBE)	0.013	0.003	0.013	1999
Monochlorobenzene	0.07	0.0005	0.2	2003
Styrene	0.1	0.0005	0.0005	2010
1,1,2,2-Tetrachloroethane	0.001	0.0005	0.0001	2003
Tetrachloroethylene (PCE)	0.005	0.0005	0.00006	2001
Toluene	0.15	0.0005	0.15	1999
1,2,4-Trichlorobenzene	0.005	0.0005	0.005	1999
1,1,1-Trichloroethane (1,1,1-TCA)	0.2	0.0005	1	2006
1,1,2-Trichloroethane (1,1,2-TCA)	0.005	0.0005	0.0003	2006
Trichloroethylene (TCE)	0.005	0.0005	0.0017	2009
Trichlorofluoromethane (Freon 11)	0.15	0.005	0.7	1997
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	1.2	0.01	4	1997 (rev2011)
Vinyl chloride	0.0005	0.0005	0.00005	2000
Xylenes	1.75	0.0005	1.8	1997

**ATTACHMENT No. 2**

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
<b>Chemicals with MCLs in 22 CCR §64444—Organic Chemicals</b>				
<b>(b) Non-Volatile Synthetic Organic Chemicals (SOCs)</b>				
Alachlor	0.002	0.001	0.004	1997
Atrazine	0.001	0.0005	0.00015	1999
Bentazon	0.018	0.002	0.2	1999 (rev2009)
Benzo(a)pyrene	0.0002	0.0001	0.000007	2010
Carbofuran	0.018	0.005	0.0017	2000
Chlordane	0.0001	0.0001	0.00003	1997 (rev2006)
Dalapon	0.2	0.01	0.79	1997 (rev2009)
1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0.00001	0.0000017	1999
2,4-Dichlorophenoxyacetic acid (2,4-D)	0.07	0.01	0.02	2009
Di(2-ethylhexyl)adipate	0.4	0.005	0.2	2003
Di(2-ethylhexyl)phthalate (DEHP)	0.004	0.003	0.012	1997
Dinoseb	0.007	0.002	0.014	1997 (rev2010)
Diquat	0.02	0.004	0.015	2000
Endrin	0.002	0.0001	0.0018	1999 (rev2008)
Endothal	0.1	0.045	0.58	1997
Ethylene dibromide (EDB)	0.00005	0.00002	0.00001	2003
Glyphosate	0.7	0.025	0.9	2007
Heptachlor	0.00001	0.00001	0.000008	1999
Heptachlor epoxide	0.00001	0.00001	0.000006	1999
Hexachlorobenzene	0.001	0.0005	0.00003	2003
Hexachlorocyclopentadiene	0.05	0.001	0.05	1999
Lindane	0.0002	0.0002	0.000032	1999 (rev2005)
Methoxychlor	0.03	0.01	0.00009	2010
Molinate	0.02	0.002	0.001	2008
Oxamyl	0.05	0.02	0.026	2009
Pentachlorophenol	0.001	0.0002	0.0003	2009
Picloram	0.5	0.001	0.5	1997
Polychlorinated biphenyls (PCBs)	0.0005	0.0005	0.00009	2007
Simazine	0.004	0.001	0.004	2001
2,4,5-TP (Silvex)	0.05	0.001	0.025	2003
2,3,7,8-TCDD (dioxin)	3x10 <sup>-8</sup>	5x10 <sup>-9</sup>	5x10 <sup>-11</sup>	2010
Thiobencarb	0.07	0.001	0.07	2000
Toxaphene	0.003	0.001	0.00003	2003

**ATTACHMENT No. 2**

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
<b>Chemicals with MCLs in 22 CCR §64533—Disinfection Byproducts</b>				
Total Trihalomethanes	0.080	--	--	--
Bromodichloromethane	--	0.0010	(zero)	--
Bromoform	--	0.0010	(zero)	--
Chloroform	--	0.0010	(0.07)	--
Dibromochloromethane	--	0.0010	(0.06)	--
Haloacetic Acids (five) (HAA5)	0.060	--	--	--
Monochloroacetic Acid	--	0.0020	(0.07)	--
Dichloroacetic Acid	--	0.0010	(zero)	--
Trichloroacetic Acid	--	0.0010	(0.02)	--
Monobromoacetic Acid	--	0.0010	--	--
Dibromoacetic Acid	--	0.0010	--	--
Bromate	0.010	0.0050 or 0.0010 <sup>a</sup>	0.0001	2009
Chlorite	1.0	0.020	0.05	2009
<b>Microbiological Contaminants (TT = Treatment Technique)</b>				
Coliform % positive samples	%	5	(zero)	
<i>Cryptosporidium</i> **		TT	(zero)	
<i>Giardia lamblia</i> **		TT	(zero)	
<i>Legionella</i> **		TT	(zero)	
Viruses**		TT	(zero)	
<b>Chemicals with PHGs established in response to CDPH requests. These are <u>not</u> currently regulated drinking water contaminants.</b>				
N-Nitrosodimethylamine (NDMA)	--	--	0.000003	2006
1,2,3-Trichloropropane	--	0.000005	0.000007	2009

**Notes:**

<sup>a</sup> CDPH will maintain a 0.0050 mg/L DLR for bromate to accommodate laboratories that are using EPA Method 300.1. However, laboratories using EPA Methods 317.0 Revision 2.0, 321.8, or 326.0 must meet a 0.0010 mg/L MRL for bromate and should report results with a DLR of 0.0010 mg/L per Federal requirements.

\*OEHHA's review of this chemical during the year indicated (rev20XX) resulted in no change in the PHG

\*\* Surface water treatment = TT

## INFORMATION YOU SHOULD KNOW ABOUT WATER

This Consumer Confidence Report (CCR) is a summary of results of tests conducted to detect contaminants in your drinking water. It has been provided to educate you, our customer, about the quality of your drinking water. Many tests were conducted and only those constituents detected are listed in this report.

The CCR includes a comparison of the detected chemicals in the City of Sacramento Department of Utilities' drinking water to the standards set by the State Department of Health Services (Department) and the United States Environmental Protection Agency (USEPA).

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. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (1-800-426-4791).

**YOUR WATER MEETS OR EXCEEDS ALL CURRENT FEDERAL AND STATE REQUIREMENTS**

## SPECIAL INFORMATION AVAILABLE

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

## HELPFUL PHONE NUMBERS AND INFORMATION

The City of Sacramento Department of Utilities is dedicated to providing safe, reliable and environmentally sensitive water, drainage, sewer and flood control to our customers.

### City of Sacramento Department of Utilities

(24 hours a day, 7 days a week)

311 or (916) 264-5011

[www.cityofsacramento.org/utilities](http://www.cityofsacramento.org/utilities)

### USEPA Safe Drinking Water Hotline

(800) 426-4791

[www.epa.gov/drink](http://www.epa.gov/drink)

**The City Council** holds public meetings most Tuesdays at 6 p.m. in the City Council Chambers at 915 I Street, Sacramento. You can access Council agendas at [www.cityofsacramento.org/clerk](http://www.cityofsacramento.org/clerk).

本報告有關於您的飲用水的重要資料。請找人為您翻譯，或與能明白該報告的人交談。

Phúc trình này có các chi tiết quan trọng về nước uống của quý vị. Hãy nhờ người dịch cho quý vị, hoặc hỏi người nào hiểu rõ các chi tiết này.

Este informe contiene información importante sobre el agua que usted bebe. Pida a alguien que se lo traduzca o hable con alguien que lo entienda.

ລາຍງານນີ້ມີຂໍ້ມູນສໍາຄັນກ່ຽວກັບນໍ້າປະປາຂອງທ່ານ. ຈົ່ງໃຫ້ຄົນອື່ນຮຽນຄວາມໃຫ້ທ່ານ, ຫລືໃຫ້ປຶກສາກັບຄົນໃດຄົນໜຶ່ງທີ່ເຂົ້າໃຈເລື່ອງ.

この報告書には私達の飲料水に関する重要な情報が記載されています。貴方のために翻訳してくれる人、あるいは内容を理解し説明してくれる人を見つけてください。

Tsab ntawv (report) no muaj cov kev qhia tseemceeb txog koj cov dej haus. Thov ib tus tibneeg pab txhais rau koj lossis nrog tej tus tibneeg uas totaub txog tsab ntawv no tham.

Ang report na ito ay naglalaman ng mahalagang impormasyon tungkol sa tubig na inyong iniinum. Magpatulong sa taong maaring magsalin, o makipag-usap sa taong nakakaunawa nito.

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



CALL	916-264-5011
我們講中文 · Hablamos Español	
Мы говорим по-русски · ພວກເຮົາເວົ້າພາສາລາວໄດ້	
Peb hais lus Hmoob · Chúng tôi nói tiếng Việt	

# 2010 WATER QUALITY REPORT

A Consumer Confidence Report for the Citizens of Sacramento

**Congratulations!**  
Your water meets or exceeds all federal and state drinking water standards



CITY OF SACRAMENTO  
DEPARTMENT OF UTILITIES

19 59 25

## TRADITION OF EXCELLENCE

Since its founding in 1849, the City of Sacramento has considered water quality of utmost importance. This Consumer Confidence Report is presented to enhance your understanding of where your water comes from and what it contains and to confirm that your drinking water continues to meet or exceed all state and federal drinking water standards.

The City of Sacramento Department of Utilities is committed to providing high quality, reliable, and environmentally sensitive water, sewer, drainage and solid waste services to the residents of Sacramento. In doing so, we work to conserve and preserve our water sources.

## CALIFORNIA SOURCE WATER QUALITY

The sources of drinking water (both tap water and bottled water) include rivers, lakes, 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.

### 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, 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 that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems.

**Radioactive contaminants**, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, U.S. Environmental Protection Agency (USEPA) and the State

Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

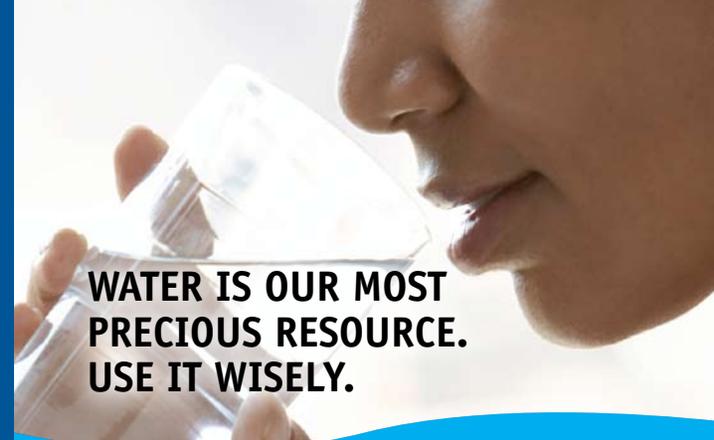
## SACRAMENTO'S WATER SOURCE ASSESSMENT

The City of Sacramento has two independent water sources. Our primary water source is river water from the American and Sacramento Rivers, which provide 84 percent of our water supply. Groundwater provides the remaining 16 percent. Assessments of potential contaminating activities for the City's Sacramento River and American River water sources were completed in December 2000 and April 2001. These reports indicated that both rivers are most vulnerable to contaminants from recreational activities and that the Sacramento River is also most susceptible to agricultural contaminants.

An assessment of the City's groundwater wells was completed in December 2002. Two wells are considered most vulnerable to automotive services and have an associated contaminant detected in the water that the wells produce. However, the City's drinking water meets all current state and federal drinking water standards. In addition, due to the proximity to potential contaminant sources, the wells north of the American River are considered most vulnerable to sewage collection systems, leaking underground storage tanks, known contaminant plumes, agricultural drainage, gas stations, dry cleaners, metal plating and chemical processing storage facilities, electrical/electronic manufacturing, and automobile repair and body shops. Wells south of the American River are considered vulnerable to leaking underground storage tanks and sewage collection systems. Copies of the complete assessments are available for review at the City of Sacramento Department of Utilities, 1395 35th Ave., or call 808-5454 to request a summary of the assessments.

## TEAMWORK—TOGETHER WE CAN PROTECT OUR WATER RESOURCES

The City of Sacramento Department of Utilities works hard to bring you quality drinking water. Please be careful as you live, work and play to limit what goes into the storm drains and rivers, so we can continue to preserve the quality of the water and our diverse river ecosystem.



**WATER IS OUR MOST PRECIOUS RESOURCE. USE IT WISELY.**

### HERE ARE SOME WAYS THAT YOU CAN HELP PRESERVE AND CONSERVE OUR WATER RESOURCES

**FILL IT UP.** Use your dishwasher and washing machine only for full loads.

**GO GREEN.** Purchase household and garden products that are "least toxic" to the environment.

**LOOK FOR LEAKS.** Inspect and maintain your car regularly to prevent leaks of oil, antifreeze and other fluids. Also, conserve water by fixing leaks around your home and yard.

**APPLY WHEN DRY.** Do not apply lawn or garden products when rain is forecasted and do not over-water your lawn.

**PICK-UP AFTER YOURSELF AND YOUR PETS.** Pick up your trash and put recycling in an appropriate bin. Shovel up animal wastes, seal it in bags and throw it away in a garbage can. Also, when visiting our rivers, be sure to use a public restroom or if your boat has a restroom, be sure to use a pumpout station to dispose of sewage safely.

**SLOW THE FLOW.** Use a low-flow hose nozzle when landscaping and only water on your assigned day. Also use a low-flow showerhead and take showers instead of baths.

**SPEND TIME IN THE GUTTER.** Keep the gutters clear of debris and lawn clipping to prevent clogging of storm drains. If you are putting out yard clippings for pick-up, sweep them into the street. Using a yard waste container can protect our local waterways by keeping yard waste out of the storm drain. Call 311 or (916) 264-5011 to request a container.

# WATER QUALITY ANALYSIS RESULTS FOR 2010

The following table shows the detected contaminants in your drinking water and compares them with drinking water standards set by United States Environmental Protection Agency (USEPA) and the State Department of Public Health (Department). To request a complete report, including non-detected items, please call 311 or (916) 264-5011.

**YOUR WATER MEETS OR EXCEEDS ALL CURRENT FEDERAL AND STATE REQUIREMENTS**

DETECTED PRIMARY DRINKING WATER CONSTITUENTS REGULATED TO PROTECT YOUR HEALTH											
CONSTITUENT	UNITS	PHG OR (MCLG) OR [MRDLG]	MCL OR [MRDL]	SURFACE WATER			GROUND WATER			MAJOR SOURCES	
				RANGE	AVERAGE	YEAR OF SAMPLING	RANGE	AVERAGE	YEAR OF SAMPLING		
ARSENIC	PPB	0.004	10	ND-ND	ND	2006	ND-5.8	3.3	2008-2009	EROSION OR LEACHING OF NATURAL DEPOSITS	
BARIUM	PPM	2	1	ND-ND	ND	2006	ND-0.197	0.14	2008-2009	EROSION OR LEACHING OF NATURAL DEPOSITS	
CHROMIUM (TOTAL)	PPB	(100)	50	ND-ND	ND	2006	ND-16	ND	2008	EROSION OR LEACHING OF NATURAL DEPOSITS	
FLUORIDE (a)	PPM	1	2	0.17-1.11	0.83	2010	0.42-1.5	0.98	2010	WATER ADDITIVE THAT PROMOTES STRONG TEETH	
NITRATE (AS NITRATE)	PPM	45	45	ND	ND	2010	ND-20	6.46	2010	RUNOFF AND LEACHING FROM FERTILIZER USE; LEACHING FROM SEPTIC TANKS AND SEWAGE; EROSION OF NATURAL DEPOSITS	
DISTRIBUTION SYSTEM				RANGE	AVERAGE	YEAR OF SAMPLING	MAJOR SOURCES				
CHLORINE (DISTRIBUTION SYSTEM)	PPM	[4]	[4.0]	0.10-1.38			0.55			2010	DRINKING WATER DISINFECTANT ADDED FOR TREATMENT
TOTAL TRIHALOMETHANES (DISTRIBUTION SYSTEM)	PPB	N/A	80	ND-54			32.1			2010	BY-PRODUCT OF DRINKING WATER DISINFECTION
HALOACETIC ACIDS (DISTRIBUTION SYSTEM)	PPB	N/A	60	ND-46			21.5			2010	BY-PRODUCT OF DRINKING WATER DISINFECTION
CONTROL OF DISINFECTION BY PRODUCT PRECURSORS (TOC) (raw) (b)	PPM	N/A	TREATMENT REQUIREMENT OF AVERAGE TOC>2	1.1-2.0			1.47			2010	VARIOUS NATURAL AND MANMADE SOURCES
CONSTITUENT	UNITS	PHG OR (MCLG)	MCL OR [MRDL]	LEVEL FOUND			YEAR OF SAMPLING	MAJOR SOURCES			
TOTAL COLIFORM BACTERIA (TOTAL COLIFORM RULE)	% SAMPLES POSITIVE	(0)	MORE THAN 5.0% OF MONTHLY SAMPLES ARE POSITIVE	1.89%			2010	NATURALLY PRESENT IN THE ENVIRONMENT			
TURBIDITY (c), (d)	NTU	N/A	TT=1 NTU	0.44			2010	SOIL RUNOFF			
			TT=95% OF SAMPLES ≤0.3 NTU	99.6%							

DETECTED SECONDARY DRINKING WATER CONSTITUENTS REGULATED FOR AESTHETIC QUALITIES										
CONSTITUENT	UNITS	PHG OR (MCLG)	MCL	SURFACE WATER		YEAR OF SAMPLING	GROUND WATER		YEAR OF SAMPLING	MAJOR SOURCES
				RANGE	AVERAGE		RANGE	AVERAGE		
CHLORIDE	PPM	N/A	500	<5-10	5.7	2010	15-106	41	2008	EROSION OR LEACHING OF NATURAL DEPOSITS
COLOR	UNITS	N/A	15	1-1	1	2010	1-5	1	2008-2009	NATURALLY OCCURRING ORGANIC MATERIALS
SPECIFIC CONDUCTANCE	US/CM	N/A	1600	69-215	127	2010	270-720	440	2010	SUBSTANCES THAT FORM IONS WHEN IN WATER
SULFATE	PPM	N/A	500	5.9-25	12	2010	4.7-36	14	2008	EROSION OR LEACHING OF NATURAL DEPOSITS
TOTAL DISSOLVED SOLIDS (TDS)	PPM	N/A	1000	42-381	90	2010	207-613	238	2008-2009	EROSION OR LEACHING OF NATURAL DEPOSITS
TURBIDITY	NTU	N/A	5	0.03-0.18	0.07	2010	0.05-6.2	0.73	2008-2009	SOIL RUNOFF

DETECTED UNREGULATED DRINKING WATER CONSTITUENTS (e)										
CONSTITUENT	UNITS	PHG OR (MCLG)	MCL	SURFACE WATER		YEAR OF SAMPLING	GROUND WATER		YEAR OF SAMPLING	MAJOR SOURCES
				RANGE	AVERAGE		RANGE	AVERAGE		
HARDNESS	PPM	N/A	N/A	29-87	51.2	2010	116-332	190	2006-2007	HARDNESS IS THE SUM OF POLYVALENT CATIONS PRESENT IN THE WATER, GENERALLY NATURALLY OCCURRING MAGNESIUM AND CALCIUM
SODIUM	PPM	N/A	N/A	1.8-7.1	4.5	2006	19-39	28	2008	NATURALLY OCCURRING SALT IN THE WATER
CALCIUM	PPM	N/A	N/A	9.6-28	17.8	2010	30-110	55	2008	EROSION OR LEACHING OF NATURAL DEPOSITS
MAGNESIUM	PPM	N/A	N/A	1.4-5.4	3.4	2006	9.0-42	21	2008	EROSION OR LEACHING OF NATURAL DEPOSITS

(a) THE CITY'S FLUORIDATION PROGRAM PROVIDES THE ADDITION OF FLUORIDE TO ALL THE CITY'S DRINKING WATER. THE CITY ADJUSTS THE NATURAL LEVELS OF FLUORIDE IN OUR WATER SUPPLIES TO THE CALIFORNIA DPH RECOMMENDED OPTIMAL LEVEL.

(b) ONLY SURFACE WATER SOURCES MUST MONITOR FOR DBP PRECURSORS IN RAW WATER.

(c) ONLY SURFACE WATER SOURCES MUST COMPLY WITH PDWS FOR TURBIDITY.

(d) TURBIDITY IS A MEASURE OF THE CLOUDINESS OF THE WATER. WE MONITOR IT BECAUSE IT IS A GOOD INDICATOR OF THE EFFECTIVENESS OF OUR FILTRATION SYSTEM.

(e) UNREGULATED CONTAMINANT MONITORING HELPS DETERMINE WHERE CERTAIN CONTAMINANTS OCCUR AND WHETHER THEY NEED TO BE REGULATED.

THE STATE ALLOWS US TO MONITOR FOR SOME CONTAMINANTS LESS THAN ONCE PER YEAR BECAUSE THE CONCENTRATIONS OF THESE CONTAMINANTS DO NOT CHANGE FREQUENTLY. SOME OF OUR DATA, THOUGH REPRESENTATIVE, ARE MORE THAN A YEAR OLD.

## WATER QUALITY TABLE ABBREVIATIONS

**ND:** Not detectable at reporting limit

**NR:** Not required

**NTU:** Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

**PPB:** Parts per billion or micrograms per liter

**PPM:** Parts per million or milligrams per liter

**pCi/L:** Picocuries per liter is a measure of radioactivity

**µS/CM:** Microsiemens per centimeter

## IMPORTANT DEFINITIONS

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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

**Maximum Residual Disinfectant Level (MRDL):** The 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.

**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.

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

## WHAT YOU SHOULD KNOW ABOUT...

**Arsenic:** While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency 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.

**Radon:** Radon is a radioactive gas that you cannot see, taste or smell. Radon is found throughout the United States and can move up through the ground and into a home through cracks and holes in the foundation. Tap water may also release radon into the air in your home when showering, washing dishes or performing other household activities. Radon entering the home through tap water will, in most cases, be a small source of radon. Breathing air containing radon may lead to lung cancer and drinking water containing radon may cause increased risk of stomach cancer.

If you are concerned about radon in your home, testing is easy and inexpensive. There are simple, low cost ways to fix a radon problem, if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. Average radon levels in the City's groundwater supply between 1999 and 2000 ranged from 306 to 730 picocuries per liter, which is equal to less than 1 picocurie per liter in the air. For additional information, call the State Radon Program at (1-800-745-7236), the EPA Safe Drinking Water Act Hotline (1-800-426-4791), or the National Safe Council Radon Hotline (1-800-SOS-RADON).

**Lead:** If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. City of Sacramento Department of Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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 cooking or drinking. 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 or at <http://www.epa.gov/safewater/lead>.

The City of Sacramento Department of Utilities is dedicated to providing safe, reliable and environmentally sensitive water, drainage, sewer and flood control to our customers.

**FOR MORE INFORMATION VISIT:**  
[www.cityofsacramento.org/utilities](http://www.cityofsacramento.org/utilities)

 [www.facebook.com/SacramentoCityUtilities](http://www.facebook.com/SacramentoCityUtilities)

 [www.twitter.com/saccityutility](http://www.twitter.com/saccityutility)

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### 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, 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 that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems.

**Radioactive contaminants**, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, U.S. Environmental Protection Agency (USEPA) and the State Department of Public Health (Department) prescribe

regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

## SACRAMENTO'S WATER SOURCE ASSESSMENT

The City of Sacramento has two independent water sources. Our primary water source is river water from the American and Sacramento Rivers, which provide 84 percent of our water supply. Groundwater provides the remaining 16 percent. Assessments of potential contaminating activities for the City's Sacramento River and American River water sources were completed in December 2000 and April 2001. These reports indicated that both rivers are most vulnerable to contaminants from recreational activities and that the Sacramento River is also most susceptible to agricultural contaminants.

An assessment of the City's groundwater wells was completed in December 2002. One well is considered most vulnerable to automotive services and has an associated contaminant detected in the water that the well produces. However, the City's drinking water meets all current state and federal drinking water standards. In addition, due to the proximity to potential contaminant sources, the wells north of the American River are considered most vulnerable to sewage collection systems, leaking underground storage tanks, known contaminant plumes, agricultural drainage, gas stations, dry cleaners, metal plating and chemical processing storage facilities, electrical/electronic manufacturing, and automobile repair and body shops. Wells south of the American River are considered vulnerable to leaking underground storage tanks and sewage collection systems. Copies of the complete assessments are available for review at the City of Sacramento Department of Utilities, 1395 35th Ave., or call 808-5454 to request a summary of the assessments.

## TEAMWORK—TOGETHER WE CAN PROTECT OUR WATER RESOURCES

The City of Sacramento Department of Utilities works hard to bring you quality drinking water. Please be careful as you live, work and play to limit what goes into the storm drains and rivers, so we can continue to preserve the quality of the water and our diverse river ecosystem.



**WATER IS OUR MOST PRECIOUS RESOURCE. USE IT WISELY.**

### HERE ARE SOME WAYS THAT YOU CAN HELP PRESERVE AND CONSERVE OUR WATER RESOURCES

**FILL IT UP.** Use your dishwasher and washing machine only for full loads.

**GO GREEN.** Purchase household and garden products that are "least toxic" to the environment.

**LOOK FOR LEAKS.** Inspect and maintain your car regularly to prevent leaks of oil, antifreeze and other fluids. Also, conserve water by fixing leaks around your home and yard.

**APPLY WHEN DRY.** Do not apply lawn or garden products when rain is forecasted and do not over-water your lawn.

**PICK-UP AFTER YOURSELF AND YOUR PETS.** Pick up your trash and put recycling in an appropriate bin. Shovel up animal wastes, seal it in bags and throw it away in a garbage can. Also, when visiting our rivers, be sure to use a public restroom or if your boat has a restroom, be sure to use a pumpout station to dispose of sewage safely.

**SLOW THE FLOW.** Use a low-flow hose nozzle when landscaping and only water on your assigned day. Also use a low-flow showerhead and take showers instead of baths.

**SPEND TIME IN THE GUTTER.** Keep the gutters clear of debris and lawn clipping to prevent clogging of storm drains. If you are putting out yard clippings for pick-up, sweep them into the street. Using a yard waste container can protect our local waterways by keeping yard waste out of the storm drain. Call 311 or (916) 264-5011 to request a container.

## INFORMATION YOU SHOULD KNOW ABOUT WATER

This Consumer Confidence Report (CCR) is a summary of results of tests conducted to detect contaminants in your drinking water. It has been provided to educate you, our customer, about the quality of your drinking water. Many tests were conducted and only those constituents detected are listed in this report.

The CCR includes a comparison of the detected chemicals in the City of Sacramento Department of Utilities' drinking water to the standards set by the California Department of Public Health (Department) and the United States Environmental Protection Agency (USEPA).

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. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (1-800-426-4791).

**YOUR WATER MEETS OR EXCEEDS ALL CURRENT FEDERAL AND STATE REQUIREMENTS**

## SPECIAL INFORMATION AVAILABLE

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

### FOR MORE INFORMATION VISIT:

[www.cityofsacramento.org/utilities](http://www.cityofsacramento.org/utilities)

[www.facebook.com/SacramentoCityUtilities](https://www.facebook.com/SacramentoCityUtilities)

[www.twitter.com/saccityutility](https://www.twitter.com/saccityutility)

## HELPFUL PHONE NUMBERS AND INFORMATION

The City of Sacramento Department of Utilities is dedicated to providing safe, reliable and environmentally sensitive water, drainage, sewer and flood control to our customers.

### City of Sacramento Department of Utilities

(24 hours a day, 7 days a week)

311 or (916) 264-5011

[www.cityofsacramento.org/utilities](http://www.cityofsacramento.org/utilities)

### USEPA Safe Drinking Water Hotline

(800) 426-4791

[www.epa.gov/drink](http://www.epa.gov/drink)

**The City Council** holds public meetings most Tuesdays at 6 p.m. in the City Council Chambers at 915 I Street, Sacramento. You can access Council agendas at [www.cityofsacramento.org/clerk](http://www.cityofsacramento.org/clerk).

本報告有關於您的飲用水的重要資料。請找人為您翻譯，或與能明白該報告的人交談。

Phúc trình này có các chi tiết quan trọng về nước uống của quý vị. Hãy nhờ người dịch cho quý vị, hoặc hỏi người nào hiểu rõ các chi tiết này.

Este informe contiene información importante sobre el agua que usted bebe. Pida a alguien que se lo traduzca o hable con alguien que lo entienda.

ລາຍງານນີ້ມີຂໍ້ມູນສຳຄັນກ່ຽວກັບນ້ຳປະປາຂອງທ່ານ. ຈົ່ງໃຫ້ຄົນອື່ນຜູ້ປະຈຳພາບໃຫ້ທ່ານ, ຫລືໃຫ້ປຶກສາກັບຄົນໃດຄົນໜຶ່ງທີ່ເຂົາເຈົ້າເຂົ້າໃຈເລື່ອງ.

この報告書には私達の飲料水に関する重要な情報が記載されています。貴方のために翻訳してくれる人、あるいは内容を理解し説明してくれる人を見つけてください。

Tsab ntawv (report) no muaj cov kev qhia tseemceeb txog koj cov dej haus. Thov ib tus tibneeg pab txhais rau koj lossis nrog tej tus tibneeg uas totaub txog tsab ntawv no tham.

Ang report na ito ay naglalaman ng mahalagang impormasyon tungkol sa tubig na inyong iniinum. Magpatulong sa taong maaring magsalin, o makipag-usap sa taong nakakaunawa nito.

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

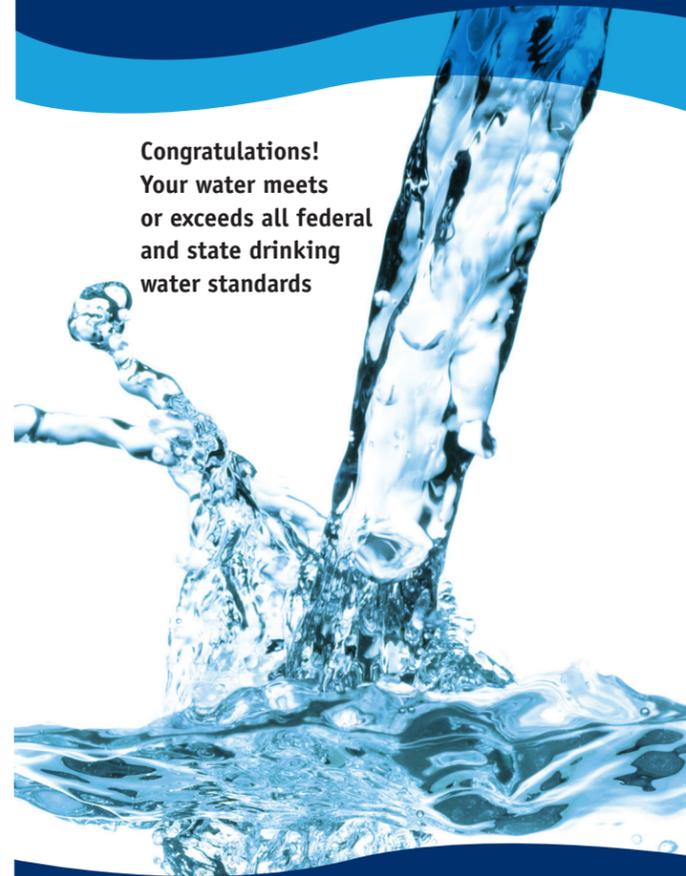
The City of Sacramento Department of Utilities is dedicated to providing safe, reliable and environmentally sensitive water, drainage, sewer and flood control to our customers.



CALL 916-264-5011  
我們講中文 · Hablamos Español  
Мы говорим по-русски · ພວກເຮົາເວົ້າພາສາລາວໄດ້  
Peb hais lus Hmoob · Chúng tôi nói tiếng Việt

## 2011 WATER QUALITY REPORT

A Consumer Confidence Report for the Citizens of Sacramento



**Congratulations! Your water meets or exceeds all federal and state drinking water standards**



CITY OF SACRAMENTO  
DEPARTMENT OF UTILITIES

# WATER QUALITY ANALYSIS RESULTS FOR 2011

The following table shows the detected contaminants in your drinking water and compares them with drinking water standards set by United States Environmental Protection Agency (USEPA) and the State Department of Public Health (Department). To request a complete report, including non-detected items, please call 311 or (916) 264-5011.

**YOUR WATER MEETS OR EXCEEDS ALL CURRENT FEDERAL AND STATE REQUIREMENTS**

## DETECTED PRIMARY DRINKING WATER CONSTITUENTS REGULATED TO PROTECT YOUR HEALTH

CONSTITUENT	UNITS	PHG OR (MCLG) OR [MRDLG]	MCL OR [MRDL]	SURFACE WATER			GROUND WATER			MAJOR SOURCES	
				RANGE	AVERAGE	YEAR OF SAMPLING	RANGE	AVERAGE	YEAR OF SAMPLING		
ALUMINUM	PPM	0.6	1	ND-ND	ND	2011	ND-0.19	ND	2011	EROSION OR LEACHING OF NATURAL DEPOSITS AND WATER TREATMENT CHEMICALS ADDED TO WATER	
ARSENIC	PPB	0.004	10	ND-ND	ND	2006	ND-4.7	3.3	2011	EROSION OR LEACHING OF NATURAL DEPOSITS	
BARIIUM	PPM	2	1	ND-ND	ND	2006	ND-0.259	ND	2011	EROSION OR LEACHING OF NATURAL DEPOSITS	
CHROMIUM (TOTAL)	PPB	(100)	50	ND-ND	ND	2006	ND-19	ND	2011	EROSION OR LEACHING OF NATURAL DEPOSITS	
FLUORIDE (a)	PPM	1	2	0.84-0.93	0.89	2011	0.56-1.2	0.87	2011	WATER ADDITIVE THAT PROMOTES STRONG TEETH	
NITRATE (AS NITRATE)	PPM	45	45	ND-ND	ND	2011	ND-23	8.5	2011	RUNOFF AND LEACHING FROM FERTILIZER USE; LEACHING FROM SEPTIC TANKS AND SEWAGE; EROSION OF NATURAL DEPOSITS	
SELENIUM	PPB	30	50	ND-ND	ND	2006	ND-8.6	ND	2011	EROSION OF NATURAL DEPOSITS	
TETRACHLOROETHYLENE	PPB	0.06	5	ND-ND	ND	2009	ND-0.73	ND	2011	A MAN-MADE CONTAMINANT ASSOCIATED WITH DRY CLEANING, TEXTILE OPERATIONS, AND METAL DEGREASING ACTIVITIES.	
TRICHLOROETHYLENE	PPB	1.7	5	ND-ND	ND	2009	ND-3.6	0.6	2011	A MAN-MADE CONTAMINANT USED TO REMOVE GREASE FROM FABRICATED METAL PARTS AND IN THE PRODUCTION OF SOME TEXTILES.	
DISTRIBUTION SYSTEM				RANGE	AVERAGE	YEAR OF SAMPLING	MAJOR SOURCES				
CHLORINE (DISTRIBUTION SYSTEM)	PPM	[4]	[4.0]	0.12-1.02			0.57			2011	DRINKING WATER DISINFECTANT ADDED FOR TREATMENT
TOTAL TRIHALOMETHANES (DISTRIBUTION SYSTEM)	PPB	N/A	80	16-69			44.0			2011	BY-PRODUCT OF DRINKING WATER DISINFECTION
HALOACETIC ACIDS (DISTRIBUTION SYSTEM)	PPB	N/A	60	10-34			23.0			2011	BY-PRODUCT OF DRINKING WATER DISINFECTION
CONTROL OF DISINFECTION BY-PRODUCT PRECURSORS (TOC) (raw) (b)	PPM	N/A	TREATMENT REQUIREMENT IF AVERAGE TOC>2	0.67-1.56			0.93			2011	VARIOUS NATURAL AND MAN-MADE SOURCES
CONSTITUENT	UNITS	PHG OR (MCLG)	MCL OR [MRDL]	LEVEL FOUND			YEAR OF SAMPLING	MAJOR SOURCES			
TOTAL COLIFORM BACTERIA (TOTAL COLIFORM RULE)	% SAMPLES POSITIVE	(0)	MORE THAN 5.0% OF MONTHLY SAMPLES ARE POSITIVE	1.90%			2011	NATURALLY PRESENT IN THE ENVIRONMENT			
TURBIDITY (c), (d)	NTU	N/A	TT=1 NTU	0.10			2011	SOIL RUNOFF			
		N/A	TT=95% OF SAMPLES ≤0.3 NTU	100.0%							

## DETECTED SECONDARY DRINKING WATER CONSTITUENTS REGULATED FOR AESTHETIC QUALITIES

CONSTITUENT	UNITS	PHG OR (MCLG)	MCL	SURFACE WATER		YEAR OF SAMPLING	GROUND WATER		YEAR OF SAMPLING	MAJOR SOURCES
				RANGE	AVERAGE		RANGE	AVERAGE		
CHLORIDE	PPM	N/A	500	4.6-9.0	7.4	2011	15-86	42	2011	EROSION OR LEACHING OF NATURAL DEPOSITS
COLOR	COLOR UNIT	N/A	15	1-1	1	2011	ND-10	2.7	2011	NATURALLY OCCURRING ORGANIC MATERIALS
COPPER	PPM	N/A	1	ND-ND	ND	2011	ND-0.067	0.003	2011	NATURALLY OCCURRING ORGANIC MATERIALS
IRON (e)	PPM	N/A	0.3	ND-ND	ND	2006	ND-4.7	0.58	2011	EROSION OR LEACHING OF NATURAL DEPOSITS
MANGANESE (e)	PPB	N/A	50	ND-ND	ND	2006	ND-320	19	2011	EROSION OR LEACHING OF NATURAL DEPOSITS
ODOR	ODOR UNIT	N/A	3	ND-ND	ND	2011	ND-1	ND	2011	NATURALLY OCCURRING ORGANIC SUBSTANCES IN WATER. DISINFECTANTS ADDED TO WATER.
SPECIFIC CONDUCTANCE	US/CM	N/A	1600	99-223	169	2011	238-873	465	2011	SUBSTANCES THAT FORM IONS WHEN IN WATER
SULFATE	PPM	N/A	500	9.4-9.7	9.6	2011	3.7-56	14	2011	EROSION OR LEACHING OF NATURAL DEPOSITS
TOTAL DISSOLVED SOLIDS (TDS)	PPM	N/A	1000	68-91	83	2011	100-473	219	2011	EROSION OR LEACHING OF NATURAL DEPOSITS
TURBIDITY (e)	NTU	N/A	5	0.02-0.10	0.05	2011	0.04-14	1.5	2011	SOIL RUNOFF

## DETECTED UNREGULATED DRINKING WATER CONSTITUENTS (f)

CONSTITUENT	UNITS	PHG OR (MCLG)	MCL	SURFACE WATER		YEAR OF SAMPLING	GROUND WATER		YEAR OF SAMPLING	MAJOR SOURCES
				RANGE	AVERAGE		RANGE	AVERAGE		
HARDNESS	PPM	N/A	N/A	42-79	65.0	2011	65-370	170	2011	HARDNESS IS THE SUM OF POLYVALENT CATIONS PRESENT IN THE WATER, GENERALLY NATURALLY OCCURRING MAGNESIUM AND CALCIUM
SODIUM	PPM	N/A	N/A	1.8-7.1	4.5	2006	13-31	21	2011	NATURALLY OCCURRING SALT IN THE WATER
CALCIUM	PPM	N/A	N/A	9.6-26	20	2011	10-46	22	2011	EROSION OR LEACHING OF NATURAL DEPOSITS
MAGNESIUM	PPM	N/A	N/A	1.4-5.4	3.4	2006	6.8-30	15	2011	EROSION OR LEACHING OF NATURAL DEPOSITS
CHROMIUM VI (HEXAVALENT CHROMIUM)	PPB	0.02	N/A	ND-ND	ND	2003	1.0-12.6	5.5	2002	EROSION OR LEACHING OF NATURAL DEPOSITS

## LEAD AND COPPER

CONSTITUENT	UNITS	PHG OR (MCLG)	AL	NUMBER OF SAMPLES COLLECTED	90TH PERCENTILE LEVEL DETECTED	NUMBER OF SITES EXCEEDING AL	YEAR OF SAMPLING	MAJOR SOURCES
LEAD	PPB	2	15	53	ND	0	2011	INTERNAL CORROSION OF HOUSEHOLD WATER PLUMBING SYSTEMS; DISCHARGE FROM INDUSTRIAL MANUFACTURING; EROSION OF NATURAL DEPOSITS.
COPPER	PPM	0.30	1.3	53	0.0655	0	2011	INTERNAL CORROSION OF HOUSEHOLD WATER PLUMBING SYSTEMS; EROSION OF NATURAL DEPOSITS; LEACHING FROM WOOD PRESERVATIVES.

- (a) THE CITY'S FLUORIDATION PROGRAM PROVIDES THE ADDITION OF FLUORIDE TO ALL THE CITY'S DRINKING WATER. THE CITY ADJUSTS THE NATURAL LEVELS OF FLUORIDE IN OUR WATER SUPPLIES TO THE CALIFORNIA DPH RECOMMENDED OPTIMAL LEVEL.
- (b) ONLY SURFACE WATER SOURCES MUST MONITOR FOR DBP PRECURSORS IN RAW WATER.
- (c) ONLY SURFACE WATER SOURCES MUST COMPLY WITH PDWS FOR TURBIDITY.
- (d) TURBIDITY IS A MEASURE OF THE CLOUDINESS OF THE WATER. WE MONITOR IT BECAUSE IT IS A GOOD INDICATOR OF THE EFFECTIVENESS OF OUR FILTRATION SYSTEM.
- (e) THE RANGE AND AVERAGE FOR GROUNDWATER INCLUDES RESULTS FOR OUT OF SERVICE WELLS THAT WERE NOT SERVING WATER TO CUSTOMERS. GROUNDWATER SERVED TO THE CONSUMER WAS BELOW THE SECONDARY STANDARDS FOR AESTHETICS, INCLUDING IRON, MANGANESE, AND TURBIDITY.
- (f) UNREGULATED CONTAMINANT MONITORING HELPS DETERMINE WHERE CERTAIN CONTAMINANTS OCCUR AND WHETHER THEY NEED TO BE REGULATED.
- THE STATE ALLOWS US TO MONITOR FOR SOME CONTAMINANTS LESS THAN ONCE PER YEAR BECAUSE THE CONCENTRATIONS OF THESE CONTAMINANTS DO NOT CHANGE FREQUENTLY. SOME OF OUR DATA, THOUGH REPRESENTATIVE, ARE MORE THAN A YEAR OLD.

## WATER QUALITY TABLE ABBREVIATIONS

- AL: Action Level
- DLR: Detection Limits for purposes of Reporting
- DPH: Department of Public Health
- MCL: Maximum Contaminant Level
- MCLG: Maximum Contaminant Level Goal
- ND: Not Detected
- NTU: Nephelometric Turbidity Units
- PHG: Public Health Goal
- PPB: Parts per billion or micrograms per liter (µg/L)
- PPM: Parts per million or milligrams per liter (mg/L)
- TOC: Total Organic Carbon
- TT: Treatment Technique
- µS/CM: microSiemen per centimeter; or micromho per centimeter (µmho/cm)

## IMPORTANT DEFINITIONS

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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

**Maximum Residual Disinfectant Level (MRDL):** The 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.

**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.

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

## WHAT YOU SHOULD KNOW ABOUT...

**Lead:** If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. City of Sacramento Department of Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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 or at <http://www.epa.gov/safewater/lead>.

**Chromium VI**  
Chromium VI is a drinking water contaminant that occurs primarily in ground water. It is important to note that about 85-percent of the City's drinking water comes from local rivers, not ground water, where chromium VI is typically found.

On July 27, 2011, the California Office of Environmental Health Hazard Assessment (OEHHA) established a public health goal of 0.02 micrograms per liter. This public health goal is a goal that the City will strive to meet. The public health goal also will contribute to the California Department of Public Health's (CDPH) development of a maximum contaminant level for chromium VI. Once that level is established, the City will work to maintain chromium VI levels to meet or be below the mandated level.

**Tradition of Excellence**

Since its founding in 1849, the City of Sacramento has considered water quality of utmost importance. This Consumer Confidence Report is presented to enhance your understanding of where your water comes from and what it contains and to confirm that your drinking water continues to meet or exceed all state and federal drinking water standards.

The City of Sacramento Department of Utilities is committed to providing high quality, reliable, and environmentally sensitive water services to the residents of Sacramento. In doing so, we work to conserve and preserve our water sources.

**California Source Water Quality**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, 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.

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, 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.  
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An assessment of the City's groundwater wells was completed in December 2002. More recently, three wells considered vulnerable to known contaminant plumes and dry cleaning activity have had detections of trichloroethylene (TCE) or tetrachloroethylene (PCE). The well that had TCE detection was immediately removed from service while the City investigates possible wellhead treatment or decommissioning of the well. The two wells with detection of PCE were immediately removed from service; the City is investigating possible wellhead treatment or decommissioning one of these wells. The second well is currently out of service for mechanical equipment repair. After it is repaired, if a resample confirms the initial result, the City will conduct further evaluation for possible wellhead treatment or decommissioning of the well. Any out of service wells are thoroughly tested before returning to service to ensure that all regulatory requirements are met. In addition, due to the proximity to potential contaminant sources, the wells north of the American River are considered most vulnerable to sewage collection systems, leaking underground storage tanks, known contaminant plumes, agricultural drainage, gas stations, dry cleaners, metal plating and chemical processing storage facilities, electrical/electronic manufacturing, and automobile repair and body shops. Wells south of the American River are considered vulnerable to leaking underground storage tanks and sewage collection systems. Copies of the complete assessments are available for review at the City of Sacramento, Department of Utilities, 1395 35th Avenue, or call 808-5454 to request a summary of the assessments.

**Teamwork : Together We Can Protect Our Water Resources**

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**Here are some ways that you can help preserve and conserve our water resources.**

- Fill It Up.** Use your dishwasher and washing machine only for full loads.
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- Slow the Flow.** Use a low-flow hose nozzle when landscaping and only water on your assigned day. Also use a low-flow showerhead and take showers instead of baths.
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*Your water meets or exceeds all federal and state drinking water standards.*

**Special Information Available**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

**Helpful Phone Numbers and Information**

The City of Sacramento Department of Utilities is dedicated to providing safe, reliable and environmentally sensitive water, drainage, sewer and flood control to our customers.

City of Sacramento Department of Utilities  
 (24 hours a day, 7 days a week)  
 311 or 264-5011  
[www.cityofsacramento.org/utilities](http://www.cityofsacramento.org/utilities)

USEPA Safe Drinking Water Hotline  
 (800) 426-4791  
<http://water.epa.gov/drink/index.cfm>

The City Council holds public meetings most Tuesdays at 6 p.m. in the City Council Chambers at 915 I Street, Sacramento. You can access Council agendas at [www.cityofsacramento.org/clerk](http://www.cityofsacramento.org/clerk).

本報告有關於您的飲用水的重要資料。請找人為您翻譯，或與能明白該報告的人交談。

Phúc trình này có các chi tiết quan trọng về nước uống của quý vị. Hãy nhờ người dịch cho quý vị, hoặc hỏi người nào hiểu rõ các chi tiết này.

Este informe contiene información importante sobre el agua que usted bebe. Pida a alguien que se lo traduzca o hable con alguien que lo entienda.

ລາຍງານນີ້ມີຂໍ້ມູນສໍາຄັນກ່ຽວກັບນໍ້າປະປາຂອງທ່ານ. ຈົ່ງໃຫ້ຄົນອື່ນແປຄວາມໃຫ້ທ່ານ, ຫລືໃຫ້ຄົນສາກົນຄົນໃດຄົນໜຶ່ງທີ່ເຂົາເຈົ້າເຂົ້າໃຈລໍ້ອງ.

この報告書には私達の飲料水に関する重要な情報が記載されています。貴方のために翻訳してくれる人、あるいは内容を理解し説明してくれる人を見つけてください。

Tsab ntawv (report) no muaj cov kev qhia tseemceeb txog koj cov dej haus. Thov ib tus tibneeg pab txhais rau koj lossis nrog tej tus tibneeg uas totaub txog tsab ntawv no tham.

Ang report na ito ay naglalaman ng mahalagang impormasyon tungkol sa tubig na inyong iniinum. Magpatulong sa taong maaring magsalin, o makipag-usap sa taong nakakaunawa nito.

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

The City of Sacramento Department of Utilities is dedicated to providing safe, reliable and environmentally sensitive water, drainage, sewer and flood control to our customers.

**2012 WATER QUALITY REPORT**

A Consumer Confidence Report for the Citizens of Sacramento

**Congratulations! Your water meets or exceeds all federal and state drinking water standards**

[www.cityofsacramento.org/utilities](http://www.cityofsacramento.org/utilities)



916 688-5454 |

# WATER QUALITY ANALYSIS RESULTS FOR 2012

The following table shows the detected contaminants in your drinking water and compares them with drinking water standards set by the United States Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH). To request a complete report, including non-detected items, please call 311 or (916) 264-5011.

**Your water meets or exceeds all current federal and state requirements.**

## DETECTED PRIMARY DRINKING WATER CONSTITUENTS regulated to protect your health

CONSTITUENT	UNITS	PHG or (MCLG) or [MRDLG]	MCL or [MRDL]	SURFACE WATER			GROUND WATER			MAJOR SOURCES
				RANGE	AVERAGE	YEAR OF SAMPLING	RANGE	AVERAGE	YEAR OF SAMPLING	
ALUMINUM	PPM	0.6	1	ND-ND	ND	2012	ND-0.19	ND	2011	Erosion or leaching of natural deposits and water treatment chemicals added to water
ARSENIC	PPB	0.004	10	ND-ND	ND	2012	ND-4.7	3.3	2011	Erosion or leaching of natural deposits
BARIUM	PPM	2	1	ND-ND	ND	2012	ND-0.26	ND	2011	Erosion or leaching of natural deposits
CHROMIUM (TOTAL)	PPB	(100)	50	ND-ND	ND	2012	ND-19	ND	2011	Erosion or leaching of natural deposits
FLUORIDE (A)	PPM	1	2	0.75-0.82	0.79	2012	0.6-1.2	0.9	2012	Water additive that promotes strong teeth
NITRATE (AS NITRATE)	PPM	45	45	ND-ND	ND	2012	3.0-21	7.9	2012	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
SELENIUM	PPB	30	50	ND-ND	ND	2012	ND-8.6	ND	2011	Erosion or leaching of natural deposits
TETRACHLOROETHYLENE (B)	PPB	0.06	5	ND-ND	ND	2012	ND-0.79	ND	2012	A man-made contaminant associated with dry cleaning, textile operations, and metal degreasing activities.
TRICHLOROETHYLENE (C)	PPB	1.7	5	ND-ND	ND	2012	ND-8.1	ND	2012	A man-made contaminant used to remove grease from fabricated metal parts and in the production of some textiles.
CONTROL OF DISINFECTION BY-PRODUCT PRECURSORS (TOC) (RAW) (D)	PPM	N/A	TREATMENT REQUIREMENT IF AVERAGE TOC>2.0	1.1-6.1	1.9	2012	N/A	N/A	N/A	Various natural and man-made sources
GROSS ALPHA	pCi/L	(0)	15	ND-ND	ND	2012	ND-8.2	ND	2012	Erosion of natural deposits
DISTRIBUTION SYSTEM				RANGE			AVERAGE		YEAR OF SAMPLING	MAJOR SOURCES
CHLORINE	PPM	[4]	[4.0]	0.03-1.3			0.53		2012	Drinking water disinfectant added for treatment
TOTAL TRIHALOMETHANES	PPB	N/A	80	17-77			57		2012	By-product of drinking water disinfection
HALOACETIC ACIDS	PPB	N/A	60	12-38			26		2012	By-product of drinking water disinfection
UNITS PHG OR (MCLG) MCL OR (MRDL)				LEVEL FOUND						MAJOR SOURCES
TOTAL COLIFORM BACTERIA (TOTAL COLIFORM RULE)	% SAMPLES POSITIVE	(0)	5.0%	1.2%					2012	Naturally present in the environment
TURBIDITY (E), (F)	NTU	N/A	TT= 1 NTU	0.40					2012	Soil runoff
		N/A	TT=95% OF SAMPLES ≤0.3 NTU	99.7%						

## DETECTED SECONDARY DRINKING WATER CONSTITUENTS regulated for aesthetic qualities

CONSTITUENT	UNITS	PHG or (MCLG)	MCL	SURFACE WATER			GROUND WATER			MAJOR SOURCES
				RANGE	AVERAGE	YEAR OF SAMPLING	RANGE	AVERAGE	YEAR OF SAMPLING	
CHLORIDE	PPM	N/A	500	ND-ND	ND	2012	15-86	42	2011	Erosion or leaching of natural deposits
COLOR	COLOR UNIT	N/A	15	1-1	1	2012	ND-10	2.7	2011	Naturally occurring organic materials
COPPER	PPM	N/A	1	ND-ND	ND	2012	ND-0.067	ND	2011	Naturally occurring organic materials
IRON (G)	PPM	N/A	0.3	ND-ND	ND	2012	ND-4.7	0.58	2011	Erosion or leaching of natural deposits
MANGANESE (G)	PPB	N/A	50	ND-ND	ND	2012	ND-320	19	2011	Erosion or leaching of natural deposits
ODOR	ODOR UNIT	N/A	3	ND-ND	ND	2012	ND-1	ND	2011	Naturally occurring organic substances in water. Disinfectants added to water.
SPECIFIC CONDUCTANCE	µS/CM	N/A	1600	84-146	115	2012	238-873	465	2011	Substances that form ions when in water
SULFATE	PPM	N/A	500	6.6-13	9.8	2012	3.7-56	14	2011	Erosion or leaching of natural deposits
TOTAL DISSOLVED SOLIDS (TDS)	PPM	N/A	1000	50-90	70	2012	100-473	219	2011	Erosion or leaching of natural deposits
TURBIDITY (G)	NTU	N/A	5	0.03-0.60	0.07	2012	0.04-14	1.5	2011	Soil runoff

## DETECTED DRINKING WATER CONSTITUENTS

CONSTITUENT	UNITS	PHG or (MCLG)	MCL	SURFACE WATER			GROUND WATER			MAJOR SOURCES
				RANGE	AVERAGE	YEAR OF SAMPLING	RANGE	AVERAGE	YEAR OF SAMPLING	
HARDNESS	PPM	N/A	N/A	33-57	45	2012	65-370	170	2011	Hardness is the sum of polyvalent cations present in the water, generally naturally occurring magnesium and calcium.
SODIUM	PPM	N/A	N/A	2.0-5.3	3.6	2012	13-31	21	2011	Naturally occurring salt in the water
CALCIUM	PPM	N/A	N/A	9.4-13	11	2012	10-46	22	2011	Erosion or leaching of natural deposits
MAGNESIUM	PPM	N/A	N/A	1.7-4.0	2.9	2012	6.8-30	15	2011	Erosion or leaching of natural deposits

## DETECTED UNREGULATED DRINKING WATER CONSTITUENTS (H)

CHROMIUM VI (HEXAVALENT CHROMIUM)	PPB	0.02	N/A	0.07-0.16	0.11	2012	3.2-8.3	5.3	2012	Erosion or leaching of natural deposits
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## LEAD AND COPPER

CONSTITUENT	UNITS	PHG or (MCLG)	AL	# OF SAMPLES COLLECTED	90TH PERCENTILE LEVEL DETECTED	# OF SITES EXCEEDING AL	YEAR OF SAMPLING	MAJOR SOURCES
LEAD	PPB	0.2	15	53	ND	0	2011	Internal corrosion of household water plumbing systems; discharge from industrial manufacturing; erosion of natural deposits.
COPPER	PPM	0.30	1.3	53	0.07	0	2011	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives.

(A) -- The City's fluoridation program provides the addition of fluoride to all the City's drinking water. The City adjusts the natural levels of fluoride in our water supplies to the CDPH recommended optimal level.  
 (B) -- The groundwater results include two wells that indicated the presence of tetrachloroethylene below the MCL. Both wells have been taken out of service.  
 (C) -- The groundwater results include a well that indicated the presence of trichloroethylene above the MCL. A confirmation sample was collected and the well was immediately taken out of service. Since the well was immediately removed from service, this does not constitute a violation per CDPH.  
 (D) -- Only surface water sources must monitor for Disinfection By-Product Precursors in raw water.  
 (E) -- Only surface water sources must comply with PDWS for turbidity.  
 (F) -- Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.  
 (G) -- The range and average for groundwater includes results for out-of-service wells that were not serving water to customers. Groundwater served to the consumer was below the secondary standards for aesthetics including iron, manganese and turbidity.  
 (H) -- Unregulated contaminant monitoring helps determine where certain water constituents occur and whether they need to be regulated.

The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

## Water Quality Table Abbreviations

**AL:** Action Level  
**CDPH:** California Department of Public Health  
**MCL:** Maximum Contaminant Level  
**MCLG:** Maximum Contaminant Level Goal  
**MRDL:** Maximum Residual Disinfectant Level  
**MRDLG:** Maximum Residual Disinfectant Level Goal  
**N/A:** Not Applicable  
**ND:** Not Detected  
**NTU:** Nephelometric Turbidity Units  
**pCi/L:** Picocuries Per Liter  
**PHG:** Public Health Goal  
**PPB:** Parts Per Billion or Micrograms Per Liter (Ug/l)  
**PPM:** Parts Per Million or Milligrams Per Liter (mg/L)  
**TOC:** Total Organic Carbon  
**TT:** Treatment Technique  
**µS/CM:** MicroSiemen Per Centimeter; or Micromho Per Centimeter (umho/cm)

## Important Definitions

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHG (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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

**Maximum Residual Disinfectant Level (MRDL):** The 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 and reporting requirements, and water treatment requirements.

**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.

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

## What you should know about...

### Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. City of Sacramento Department of Utilities is responsible for providing high quality drinking water; but cannot control the variety of materials used in plumbing components. 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 cooking or drinking. 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 or at <http://www.epa.gov/safewater/lead>.

### Chromium VI

Chromium VI is a drinking water contaminant that occurs primarily in ground water. It is important to note that about 85-percent of the City's drinking water comes from local rivers, not ground water, where chromium VI is typically found.

On July 27, 2011, the California Office of Environmental Health Hazard Assessment (OEHHA) established a public health goal of 0.02 micrograms per liter. This public health goal is a goal that the City will strive to meet. The public health goal also will contribute to the California Department of Public Health's (CDPH) development of a maximum contaminant level for chromium VI. Once that level is established, the City will work to maintain chromium VI levels to meet or be below the mandated level.