2011

DRINKING WATER QUALITY REPORT

For Time Period January through December 2011

CITY OF STOCKTON

Stockton All-America City 2004 1999

In 2011, your Water Utility delivered 11.6 billion gallons of water to over 47,400 individual service connections serving an estimated population of 171,500 in North and South Stockton.

The City of Stockton is proud to present our annual Drinking Water Quality Report and inform you about the quality of the water we deliver to you each and every day. We are dedicated to providing you with the highest quality water available while meeting all State and Federal drinking water standards. This 2011 report includes a detailed summary of our water quality, including the composition of your water and the steps we take to protect your health and safety, as well as our water quality monitoring and testing.

We are required by law to supply this information; however, the City of Stockton Municipal Utilities Department has also included information we think you will find useful and informative. If you have any questions or concerns about the 2011 Water Quality Report, or would like additional copies, please contact Robert Granberg, Deputy Director, Municipal Utilities Department via email at Robert.Granberg@stocktongov.com or call 209-937-8779.

The people who operate your City of Stockton Water System are committed to providing you with the highest quality water available, with the most effective customer service, at the lowest possible cost, consistent with all applicable State and Federal regulations and requirements.

The Stockton City Council serves as the governing board for the City of Stockton Water System

They meet twice per month on Tuesday night at 5:30 p.m. at 425 N. El Dorado Street

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

Daimntawv tshaj tawm no muaj lus tseemceeb txog koj cov dej haus. Tshab txhais nws, los yog tham nrog tej tug neeg uas totaub txog nws.

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

Chi tiết này thật quan trọng.
Xin nhờ người dịch cho quý vị.

ລາຍງານນີ້ມີຂໍ້ມູນສຳຄັນກ່ຽວກັບນ້ຳປະປາຂອງທ່ານ. ຈົ່ງໃຫ້ຄົນອື່ນແປຄວາມໃຫ້ທ່ານ, ຫລືໃຫ້ປຶກສາກັບຄົນໃດຄົນໜຶ່ງທີ່ເຂົ້າໃຈເລື່ອງ.

Do you know where your water comes from?

In 2011, approximately 17 percent of the water supplied to the system originated from groundwater wells owned by the City, with the remainder being treated surface water supplied by the Stockton East Water District (SEWD). Three water reservoir sites provide for temporary storage of up to 21 million gallons of drinking water.

SEWD receives the surface water it supplies to the Stockton area from two separate sources. The first source of surface water comes from the Calaveras River system which includes the New Hogan Reservoir. The second source of surface water comes from the Stanislaus River system which includes the New Melones Reservoir.

The use of surface water has enabled the City to reduce its dependence on groundwater to meet the needs of our customers. Eastern San Joaquin County has a problem with declining groundwater levels and use of surface water has generally improved the groundwater levels under the City's water service areas helping to conserve this valuable resource. The blending of treated surface water with our groundwater supply varies from point to point throughout our system due to seasonal demands and customer location relative to City wells. Treated surface water and groundwater have different aesthetic characteristics. Color, taste and odor are some of these characteristics that you may notice over the course of the year.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline (1-800-426-4791) or by reading our 2010 Public Health Goals Report, located on the City's Website at www.stocktongov.com/mud.

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 microbiological contaminants are also available from the Safe Drinking Water Hotline (1-800-426-4791).

While your drinking water meets federal and state standards 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 USEPA 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.

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

The City's Water Conservation Program assists residential and business customers by offering incentives on water efficient devices. Residential customers may be eligible for free water use surveys. The program has also developed a no-cost direct install program for high efficiency toilets for Commercial, Industrial and Institutional customers.

For more information on the City's Water Conservation Program,
call the Water Conservation Hotline: 1.866.STOKWTR (1.866.786.5987) or visit: www.stocktongov.com/mud.

WATER DELIVERED BY THE CITY OF STOCKTON MEETS ALL STATE AND FEDERAL DRINKING WATER STANDARDS

The following general information is provided in order to comply with California Code of Regulations [Title 22, Chapter 15, Article 20], California Health and Safety Code [Section 116470] and the Federal Consumer Confidence Rule [40 CFR Part 141 Subpart O]. The sources of drinking water (both tap water and bottled) 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. In order to ensure that tap water is safe to drink, the USEPA and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Some 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.
- ⇒ 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 application, and septic systems.
- ⇒ Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

LEAD IN WATER

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes primarily from materials and components associated with service lines and home plumbing. The water delivered by the City of Stockton to your meter meets all water quality standards, but your home plumbing can affect water quality. 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 two minutes before using water for drinking and 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, 1.800.426.4791 or at www.epa.gov/safewater/lead.

Test Results

The following constituents were detected in the most recent sampling of one or more of the 12 wells in service during 2011 or of the surface water which was used as a source of drinking water for the system in 2011. Regulations allow for a representative number of the wells to be sampled each year, on a rotating basis. Data in this report represent sampling from 2009 through 2011, unless otherwise noted. Regulations also allow for monitoring of some constituents less frequently than once a year. Ranges included in the tables are based on individual results whether or not compliance is determined by individual results or by averages. Analyses were performed for many other constituents that were not detected and are not included in this report. Feel free to contact the City of Stockton for a complete list of analyses and results.

Table 1a: Detected Constituents with Primary Drinking Water Standards – *regulated to protect your health*

Constituent	units	Primary MCL	PHG (MCLG)	Ground Sources Range	Ground Sources Average	Surface Source Range	Surface Source Average	Did we meet the regulation?	Typical Source of Constituent
Arsenic	µg/L	10	0.004	2.9 – 6.1	4.6		< 2.0	Yes	Erosion of natural deposits; runoff from orchards, and electronics production wastes
Barium	mg/L	1	2	< 0.10 – 0.21	0.16		< 0.10	Yes	Erosion of natural deposits
Chromium, Total	µg/L	50	(100)	<10 – 14	<10		<10	Yes	Discharge from chrome plating; erosion of natural deposits
Fluoride	mg/L	2.0	1	< 0.10 – 0.17	< 0.10		< 0.10	Yes	Erosion of natural deposits
Nickel	µg/L	100	12	< 10 – 22	< 10		< 10	Yes	Erosion of natural deposits; discharge from metal factories
Nitrate (as NO_3)	mg/L	45	45	3.5 – 27	16		<2.0	Yes	Runoff/leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Alpha Activity, Gross (1)	pCi/L	15 (2)	(0)	< 3.0 – 7.33	3.87		< 3.0	Yes	Erosion of natural deposits
Radium 228 (3)	pCi/L	(4)	0.019	< 1.0 – 1.71	< 1.0		NR	N/A	Erosion of natural deposits
Uranium (1)	pCi/L	20 (2)	0.43	2.26 – 7.58	5.42		NR	Yes	Erosion of natural deposits

	units	MCL	PHG (MCLG)	Surface Source	Did we meet the regulation?	Typical Source of Constituent
Turbidity	NTU	TT (5)	N/A	Percentage of samples less than 0.3 = 100% Highest single turbidity measurement = 0.23	Yes	Soil runoff

Constituent	units	Primary MCL (MRDL)	MCLG (MRDLG)	Distribution System Range	Distribution System Average	Did we meet the regulation?	Typical Source of Constituent
Total Coliform Bacteria	% positive samples	5% (6)	0	0 – 0.68	0.16	Yes	Naturally present in the environment
Chlorine as Cl_2	mg/L	(4.0)	(4.0)	0.05 – 1.46	0.54	Yes	Drinking water disinfectant added for treatment
Total Trihalomethanes (TTHM)	µg/L	80	N/A	3.0 – 100 (7)	42	Yes	By-product of drinking water disinfection
Haloacetic Acids 5 (HAA5)	µg/L	60	N/A	< 2.0 – 64.7 (7)	16.5	Yes	By-product of drinking water disinfection

Constituent	units	Action Level (AL)	PHG	Level Detected at the 90th percentile	Number of Samples exceeding the AL	Did we meet the regulation?	Typical Source of Constituent
Copper (8)	mg/L	1.3	0.3	0.11	0 of 52	Yes	Internal corrosion of household plumbing systems
Lead (8)	µg/L	15	0.2	< 5	0 of 52	Yes	Internal corrosion of household plumbing systems

(1) The compliance cycle for monitoring this constituent can vary from three to nine years; some data may be from before 2009.
(2) Compliance may be based on average values for four quarters.
(3) Radium 228 testing was conducted for initial monitoring required by new regulations.
(4) The MCL is based on Combined Radium (Radium 226 + Radium 228). Radium 226 and Radium 228 do not have individual MCLs. The MCL for Combined Radium is 5 pCi/L. Radium 226 was not detected.
(5) For surface water systems, the Treatment Technique requires that each month the turbidity level of the filtered water is less than or equal to 0.3 NTU in 95% of the measurements and shall not exceed 1.0 NTU at any time. Turbidity is a measure of the cloudiness of the water. It is monitored as a good indicator of the effectiveness of the filtration system.
(6) Presence of coliform bacteria in no more than 5% of monthly samples.
(7) Compliance is based on the quarterly Running Annual Average. The highest level reported in the range is the result of an individual sample.
(8) Lead and Copper are required to be monitored every three years. This data is from 2010.

Key:

< – Less than
mg/L – Milligrams per Liter
µg/L – Micrograms per Liter
µS/cm – Micro-siemens per centimeter
ng/L - Nanograms per Liter
pCi/L – Picocuries per Liter
NTU – Nephelometric Turbidity Unit
N/A – Not Applicable
NR – Testing not required

Table 1b: Detected Constituents with Secondary Drinking Water Standards – *regulated for aesthetic qualities*

Constituent	units	Secondary MCL	Ground Sources Range	Ground Sources Average	Surface Source Range	Surface Source Average	Typical Source of Constituent
Chloride	mg/L	500	6.5 – 90	25		3	Runoff/leaching from natural deposits; seawater influence
Color	units	15	< 1	< 1		6	Naturally-occurring organic materials
Manganese	µg/L	50	< 20 – 31	< 20		< 20	Leaching from natural deposits
Specific Conductance	µS/cm	1,600	260 – 780	493	70 – 230	108	Substances that form ions when in water; seawater influence
Sulfate	mg/L	500	13 – 44	29		8	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	mg/L	1,000	200 – 600	334	40 – 132	65	Runoff/leaching from natural deposits

Table 1c: Detected Regulated Constituents with no MCLs – *Unregulated monitoring helps EPA and the California Department of Public Health to determine where certain contaminants occur and whether the contaminants need to be regulated.*

Constituent	units	Ground Sources Range	Ground Sources Average	Surface Source Average
Total Hardness (as $CaCO_3$) (1)	mg/L	120 – 260	199	23.2
Boron	µg/L	< 100 – 170	< 100	< 100
Sodium	mg/L	15 – 32	19	6
Vanadium	µg/L	< 3.0 – 30	24	< 3.0
N-Nitrosodimethylamine (NDMA) (2)	ng/L	< 2.0 – 5.1	< 2.0	NR

(1) Conversion: Hardness (grains per gallon) = Hardness as $CaCO_3$ (mg/L) multiplied by 0.0584
(2) This data is from 2008.

Table 2: Other Constituents Measured

Constituent	units	Ground Sources Range	Ground Sources Average	Surface Source Average
Total Alkalinity	mg/L	120 – 230	176	20
Calcium	mg/L	25 – 57	45	6
Magnesium	mg/L	11 – 29	21	2
Potassium	mg/L	4.0 – 6.9	5.0	< 1

Definitions

(AL) – Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

(MCL) – Maximum Contaminant Level: 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.

(MCLG) – Maximum Contaminant Level Goal: 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.

(MRDL) – Maximum Residual Disinfectant Level: 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.

(MRDLG) – Maximum Residual Disinfectant Level Goal: 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.

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

(PHG) – Public Health Goal: 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.

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

In 2001, the City of Stockton, in cooperation with the CDPH, completed the Drinking Water Source Assessment and Protection Assessment for the City well system. The following information is presented as a result of this assessment. The source is considered most vulnerable to the following activities not associated with any detected contaminants:

* Automobile - gas stations
* Plastics/synthetics producers
* Automobile - repair shops
* Fleet/truck/bus terminals
* Airports - maintenance/fueling areas
* Underground storage tanks - confirmed leaking tanks
* Chemical/petroleum processing/ storage
* NPDES/WDR permitted discharges
* Photo processing/printing
* Housing - high density
* Agricultural drainage

THE SOURCE IS CONSIDERED MOST VULNERABLE TO THE FOLLOWING ACTIVITIES ASSOCIATED WITH CONTAMINANT DETECTED IN THE WATER SUPPLY:

⇒ Metal plating/finishing/fabricating activities can be associated with the detected aluminum and tetrachloroethylene.
⇒ Aluminum can occur naturally in the environment as well.
⇒ Sewer collection systems, septic systems (high density) and animal operations can be associated with nitrates detected.
⇒ Electrical/electronic manufacturing activities can be associated with aluminum contaminants detected in the water supply.

You may request a summary assessment by contacting Bhupinder Sahota, Sanitary Engineer, at the address or telephone number listed below: You may also view a copy of the complete assessment at:

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