

2011 Consumer Confidence Report

Once again, the City of Patterson proudly presents its Annual Water Quality Report. We test the drinking water quality for many constituents as required by State and Federal Regulations.

This year's Annual Water Quality Report covers all testing completed January 1 thru December 31, 2011. We want to keep you informed about the water quality we have delivered to you over the past year. Our goal is to provide you with a safe and dependable supply of drinking water.



We are pleased to report that our drinking water is safe and meets all Federal and State requirements.

Water Highlights

- *The water supplied to the City of Patterson comes solely from groundwater wells.*
- *In 2011, the city's seven active wells pumped a total of 1.26 billion gallons of water.*
- *The city's water distribution lines total 64 miles of pipeline.*
- *The Old Town Utility Replacement Project was completed in 2011. Water lines were replaced in the northern old town district.*
- *During the Old Town Utility Replacement Project, all substandard fire hydrants were upgraded to reflect city standards.*
- *Phase I and Phase II of the Non-Potable Water System (purple pipe distribution lines) is complete. This will allow parks and schools to be irrigated using non-potable water (water that does not meet drinking water standards). With implementation of this system, we are able to conserve the water that is eligible for human consumption while irrigating the landscaping of our parks and schools with water that may not meet water drinking standards.*
- *Water meters are equipped with a profiler function that enables operators to download water flow data from each meter. The feature allows staff to diagnose or verify unseen or undetected water leaks.*
- *The Cross Connection Control Program protects the city's drinking water from potential hazards posed by certain types of industries.*

CITY OF PATTERSON

Department of Public Works
1 Plaza
Patterson, CA 95363

Phone: 209-895-8060

Fax: 209-895-8069

E-mail: publicworks@ci.patterson.ca.us



CITY OF PATTERSON

2011 Consumer Confidence Report



This brochure contains details of where your water comes from, what it contains, and how it compares to State and Federal standards. The City of Patterson is committed to providing you with the best and most accurate information regarding the quality of our water. For more information regarding water quality, call the Water Information Hotline at (209) 895-8070.

Council meetings are held the 1st and 3rd Tuesday of each month at 7:00 pm in the Council Chambers located at City Hall.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien. Para información llame al (209) 895-8060 y pregunte por Mónica Sandoval.

Public Works
Department
Ph (209) 895-8060
Fax (209) 895-8069
www.ci.patterson.ca.us

Continuing our Commitment

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 protections for public health. All six tables on the inside of this brochure list all the water contaminants that were detected during the most recent water sampling. The presence of these contaminants do not necessarily indicate that the water poses a health risk. CDPH allows us to monitor for certain contaminants less than once a year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

Contaminants that may be present in source water include:

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



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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

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 by *Cryptosporidium* and other microbial contaminants.

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 Patterson is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing. 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>.

For systems that detect nitrate (NO₃) above 23 mg/L, but below 45 mg/L, 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 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 specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

The sources of drinking water (both tap water and bottled water) includes 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.

The City of Patterson draws all of its water from seven groundwater wells located throughout the City to serve the current population of 20,560. Our distribution system is looped and interconnected and operates in three pressure zones: Zone 2 includes the West Patterson Business Park and the Patterson Gardens subdivision, Zone 3 services the Patterson Gateway area, also known as Villa del Lago, and Zone 1 services the remainder of the city.



A source water assessment was completed in October 2000 for Wells 2, 5, 6, and 7, in August 2002 for Well 8, in May 2007 for Well 11, in April 2008 for Well 9. The sources are considered most vulnerable to the following activities not associated with any detected contaminants: gas stations, confirmed leaking tanks, dry cleaners, body/repair shops, chemical /petroleum/pipelines, sewer lines, utility stations/maintenance areas, known contaminant plumes, and agricultural/irrigations wells/drainage, and pesticide/fertilizer/petroleum storage.

To view a copy of the complete assessments, contact the Department of Public Works at (209) 895-8060 or by contacting the California Department of Public Health (CDPH), Drinking Field Operations Branch, 31 E. Channel, Room 270, Stockton, CA or by calling (209) 948-7696.

What’s in my water?

In the past year, the water used at your home or business met all state and federal drinking water requirements. We have compiled a list displaying the substances detected in 2011. Although all the substances listed below are under the Maximum Contaminant Level (MCL) set by the USEPA, we feel it is important that you know exactly what was detected and how much of the substances were present in the water. The Department requires us to monitor for certain substances less than once per year because the concentrations of these substances are less than likely to be present. The most recent data is included along with the year the sample was taken.

PRIMARY DRINKING WATER STANDARDS (PDWS) (Regulated in order to protect against possible adverse health effects)						
Detected Contaminants (and reporting units)	Sample Date	MCL [MRDL]	PHG (MCLG) [MRDLG]	Result		Typical Sources of Contaminant
				Level Detected	Range	
Arsenic (As) (ppb)	2010/2011	10	0.004	2.7	0 – 5	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes.
Total Chromium (Total Cr) (ppb)	2010/2011	50	(100)	17.9	16 – 22	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits.
Flouride (F) ppm	2010/2011	2	1	0.1	ND – 0.3	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (NO3) (ppm)	2010/2011	45	45	13.2	0.5 – 32	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Nitrate + Nitrate as N (ppm)	2010/2011	10	n/a	2.8	0 – 69	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Selenium (Se) (ppb)	2010/2011	50	30	5.7	0 – 9	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive).
Gross Alpha pCi/L	2010/2011	15	(0)	3.0	1.8 – 4.8	Erosion of natural deposits.
TTHM (Total Trihalomethane) ppb	2011	80	n/a	1.1	n/a	By-product of drinking water disinfection.
Chlorine (Cl) ppm	20111	[4]	[4]	0.52	0.42–0.59	Drinking ater disinfectant added for treatment.
Uranium pCi/L	2010/2011	20	0.43	2.5	0.8 – 6.9	Erosion of natural deposits.
Aluminum (Al) ppm	2010/2011	1	0.6	0.0	ND – 0.12	Erosion of natural deposits; residue from some surface water treatment processes.
Barium (Ba) ppm	2010/2011	1	2	0.03	0.02 - 0.03	Discharge from oil drilling wastes and metal refineries; erosion of natural deposits.
Radium 228 pCi/L	2010/2011	2	0.19	0.1	ND – 0.45	Erosion of natural deposits.
Nickel ppb	2010/2011	100	12	2.6	ND – 17	Erosion of natural deposits; discharge from metal factories.

SECONDARY DRINKING WATER STANDARDS (Regulated in order to protect the odor, taste and appearance of drinking water)

Chemical or Constituent (and reporting units)	Sample Date	MCL	PHG (MCLG)	Result		Result
				Level Detected	Level Detected	
Chloride (ppm)	2010/2011	500	n/a	122	34 – 248	Runoff/leaching from natural deposits; seawater influence
Iron (Fe) (ppb)	2010/2011	300	n/a	74	0 – 160	Leaching from natural deposits; Industrial wastes
Color (Unfiltered) Units	2010/2011	15	n/a	4.8	0 – 7	Naturally-occurring organic materials.
Specific Conductance Umhos/cm	2010/2011	1600	n/a	1169	809 - 1460	Substances that form ions when in water; seawater influence
Sulfate (SO4) (ppm)	2010/2011	500	n/a	263	163 – 380	Runoff/leaching from natural deposits; industrial wastes
Manganese (Mn) ppb	2010/2011	50	n/a	1.4	0 – 10	Leaching from natural deposits.
Zinc (Zn) ppm	2010/2011	5	n/a	0.01	0 – 0.05	Runoff/leaching from natural deposits.
Total Dissolved Solids (TDS) (ppm)	2010/2011	1000	n/a	733	520 - 840	Runoff/leaching from natural deposits

SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	Sample Date	MCL (MRDL)	PHG (MCLG)	Result		Typical Sources of Contaminants
				Level Detected	Range	
Sodium (Na) (ppm)	2010/2011	None	None	108	67-158	Salt present in the water and is generally naturally occurring.
Total Hardness (ppm)	2010/2011	None	None	366	265 -437	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring.

UNREGULATED CONTAMINANTS

Chemical or Constituent (and reporting units)	Sample Date	Notification Level	Result		Health Effects Language
			Level Detected	Range	
Boron (ppm)	2010/2011	1	0.4	0.3 – 0.6	The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.
Vanadium (ppb)	2010/2011	50	7.7	6 -10	The babies of some pregnant women who drink water containing vanadium in excess of the action level may have increased risk of developmental effects, based on studies in laboratory animals.

COLIFORM BACTERIA

Detected Contaminants	Highest Number of Detections	Number of Months in Violation	MCL	MCLG	Typical Source of Contaminant
Total Coliform Bacteria	0/mo. (2011)	0	No more than 1 positive monthly sample	0	Naturally present in the environment

LEAD and COPPER TESTING

Lead and Copper	No. of Samples Collected	90 th Percentile Level Detected	No. Sites exceeding AL	AL	PHG	Typical Source of Contaminants
Lead (Pb) (ppb)	30 (2009)	1.8	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits.
Copper (ppm)	30 (2009)	0.115	0	1.3	.17	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits; and leaching from wood preservatives.

TABLE 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 (USEPA).

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

Maximum 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 known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.
Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

ND: not detectable at testing limit
ppm: parts per million or milligrams per liter (mg/L)
ppb: parts per billion or micrograms per liter (ug/L)
ppt: parts per quadrillion or picograms per liter (pg/L)
pCi/L: picocuries per liter (a measure of radiation)

*Any violation of MCL, AL or MRDL is asterisked.