

2013 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, 2013. 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 System Facts

- The water supplied to the City of Patterson comes solely from groundwater wells.
- In 2013, the city's seven active wells pumped a total of 1.37 billion gallons of water.
- The city's water distribution lines total 64 miles of pipeline.
- All water operators are certified by the department of public health in the distribution and treatment of drinking water.
- The Non-Potable Water System (purple pipe distribution lines) allows 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

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CITY OF PATTERSON

2013 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.

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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 (NO_3) 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 6 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 advise 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 for all 7 wells was completed in April 2013. These 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, 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 2013. 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)						
Constituent (Unit of Measure)	Year Sampled	Level Detected	Range	MCL (MRDL)	PHG (MCLG) [MRDLG]	Typical sources of contaminant
Aluminum (Al) (ppm)	2011 - 2013	0.017	ND - 0.12	1	0.6	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (As) (ppb)	2007 - 2013	2.9	ND - 5	10	n/a	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes
Total Chromium (Total Cr) (ppb)	2011 - 2013	19	20 - 20	50	n/a	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Flouride (F) (ppm)	2007 - 2013	0.1	ND - 0.3	2	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum
Nickel (ppb)	2011 - 2013	2	ND - 20	100	12	Erosion of natural deposits; discharge from metal factories
Nitrate (NO3) (ppm)	2005 - 2013	16.9	ND - 36	45	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate+Nitrate as N (ppm)	2009 - 2013	2.87	0.7 - 7.6	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (Se) (ppb)	2011 - 2013	4.3	ND - 9	50	30	Discharge from petroleum, glass, and metal refineries, mines and chemical manufacturers; erosion of natural deposits; runoff from livestock lots (feed additive)
Gross Alpha pCi/L	2005 - 2013	3.1	ND - 5	15	0	Erosion of natural deposits
Uranium pCi/L	2010 - 2013	2.1	ND - 7	20	0.5	Erosion of natural deposits

SECONDARY DRINKING WATER STANDARDS (PDWS) (REGULATED IN ORDER TO PROTECT AGAINST POSSIBLE ADVERSE HEALTH EFFECTS)						
Constituent (Unit of Measure)	Year Sampled	Level Detected	Range	MCL (MRDL)	PHG (MCLG) [MRDLG]	Typical sources of contaminant
Chloride (ppm)	2007 - 2013	113	32 - 251	500	n/a	Runoff and leaching from natural deposits; seawater influence
Iron (Fe) (ppb)	2011 - 2013	70	ND - 300	300	n/a	Leaching from natural deposits; industrial wastes
Color (Unfiltered) Units	2010 - 2013	3	ND - 9	15	n/a	Naturally-occurring organic materials
Specific Conductance	2011 - 2013	1150	709 - 1460	1600	n/a	Substances that form ions when inwater; seawater influence
Sulfate (SO4) (ppm)	2007 - 2013	259	162 - 390	500	n/a	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	2006 - 2013	752	460 - 980	1000	n/a	Runoff/leaching from natural deposits

SAMPLING RESULTS FOR SODIUM AND HARDNESS						
Constituent (Unit of Measure)	Year Sampled	Level Detected	Range	MCL (MRDL)	PHG (MCLG) [MRDLG]	Typical sources of contaminant
Sodium (NA) (ppm)	2011 - 2013	107	59 - 155	none	none	Salt present in the water and is generally naturally occurring
Total Hardness (ppm)	2006 - 2013	374	237 - 446	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

UNREGULATED CONTAMINANTS						
Constituent (Unit of Measure)	Year Sampled	Level Detected	Range of Detections	Notification Level	Health Effects Language	
Boron (ppm)	2011 - 2013	0.4	0.3 - 0.6 ((2011-2013))	1	The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increasded risk of developmental effects, based on studies in laboratory animals	
Vanadium (ppm)	2011 - 2013	0.008	0.006 - 0.01 ((2011-2013))	0.05	The babies of some pregnant women who drink water containing vanadium in excess of the action level may have an increasded risk of developmental effects, based on studies in laboratory animals	
Chromium (Total) (ppb)	2011 - 2013	19	20 - 20 ((2011-2013))	n/a	n/a	

FEDERAL DISINFECTANT/DISINFECTANT BYPRODUCT RULE						
Constituent (Unit of Measure)	Year Sampled	Level Detected	Range	MCL (MRDL)	Notification (MCLG) [MRDLG]	Typical sources of contaminant
Total Trihalomethanes (TTHMs) (ppb)	2013	0	ND-0.7	80	n/a	By-product of drinking water disinfection.

SAMPLING RESULTS FOR LEAD AND COPPER						
Constituent (Unit of Measure)	No. of Samples Collected	90th Percentile Level	No. Site Exceeding AL	AL	PHG	Typical Sources of Contaminant
Lead (ppb)	30 (2012)	0.6	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers, erosion of natural deposits
Copper (ppm)	30 (2012)	0.07	0	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; 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 HealthGoal (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)

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ALL FEDERAL AND STATE REQUIREMENTS.