

# 2012

Annual Water Quality Report  
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IT'S ALL ABOUT THE

## What Is The Source Of My Water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and groundwater 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 pickup substances resulting from the presence of animals or from human activity. Our drinking water is also supplied from another water system through a Consecutive Connection (CC). To find out more about our drinking water sources and additional chemical sampling results, please contact our office.

## Our Water Comes From The Following Sources

Source Name	Type
Well #5	Ground Water
Well #6	Ground Water
Well #7	Ground Water
Well #8	Ground Water
Well #9	Ground Water
CC 1 St. Louis City M06010715	Surface Water

## Source Water Assessment

The Department of Natural Resources conducted a source water assessment to determine the susceptibility of our water source to potential contaminants. The process involved the establishment of source water area delineations for each well or surface water intake and then a contaminant inventory was performed within those delineated areas to assess potential threats to each source. Assessment maps & summary information sheets are available on the internet at <http://maproom.missouri.edu/swipmaps/pwssid.htm>. To access the maps for your water system you will need the State assigned identification code, which is printed at the top of this report. The Source Water Inventory Project maps and information sheets provide a foundation upon which a more comprehensive source water protection plan can be developed.

## Important Health Information

Do I need to take any special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general public. 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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

## Why Are There Contaminants In My Water?

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 & potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791). Contaminants that may be present in source water include:

- A. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B. 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.
- C. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- D. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- E. Radioactive contaminants, which 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, the Department of Natural Resources prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. Department of Health regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

## Community Involvement

The Board of Public Works is comprised of six (6) City residents and one (1) City Councilmember that meet regularly on the 1<sup>st</sup> Monday of the month, following the 1<sup>st</sup> Tuesday of the month with the Public Works Department staff for review, discussion, and recommendations regarding waterworks operations, contractual agreements and expenditures of waterworks funds. The St. Charles City Council receives recommendations from staff and the Board of Public Works regarding contractual agreements and expenditures of waterworks funds. The City Council's regularly scheduled meetings are held on the first and third Tuesday of each month. The meeting schedules for the City Council and the Board of Public Works can be found by visiting the City's website, which is [www.stcharlescacitymo.gov](http://www.stcharlescacitymo.gov).

## Special Lead & Copper Notice

If present, elevated levels of lead can cause serious health problems, especially for pregnant women & young children. Lead in drinking water is primarily from materials & components associated with service lines & home plumbing. St. Charles is responsible for providing high quality drinking water, but cannot control the variety of material 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 water for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in drinking water, testing methods & steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at <http://water.epa.gov/drink/info/lead/index.cfm>.



# REGULATED CONTAMINANTS

Regulated Contaminants	Collection Dates	Highest Value	Range	Unit	MCL	MCLG	Typical Source
BARIUM	08/16/2011	0.0717	0.0717	ppm	2	2	Discharge Of Drilling Wastes; Discharge From Metal Refineries, Erosion Of Natural Deposits
CHROMIUM	08/16/2011	2.4	2.4	ppb	100	100	Discharge from steel and pulp mills
FLUORIDE	08/16/2011	0.91	0.91	ppm	4	4	Natural deposits; Water additive which promotes strong teeth
Disinfection By Products	Monitoring Period	RAA	Range	Unit	MCL	MCLG	Typical Source
(HAA5)	2012	2	11.3-13.6	ppb	60	0	By-product of drinking water disinfection
TTHM	2012	10	4.14-17.1	ppb	80	0	By-product of drinking water disinfection
LEAD & COPPER	Date	90 <sup>th</sup> Percentile	Range	Unit	AL	Sites Over AL	Typical Source
COPPER	2010-2012	0.0151	0.001-0.0219	ppm	1.3	0	Corrosion of household plumbing systems
Microbiological	Result	MCL	MCLG	Typical Source			
<b>NO DETECTED RESULTS WERE FOUND IN THE CALENDAR YEAR OF 2012</b>							
Secondary Contaminants	Collection Date	Highest Value	Range	Unit	SMCL		
ALKALINITY, CaCO3 STABILITY	08/16/2011	95.4	95.4	MG/L			
CALCIUM	08/16/2011	29.3	29.3	MG/L			
CHLORIDE	08/16/2011	17.8	17.8	MG/L	250		
HARDNESS, CARBONATE	08/16/2011	142	142	MG/L			
IRON	08/16/2011	0.067	0.067	MG/L	0.3		
MAGNESIUM	08/16/2011	16.7	16.7	MG/L			
MANGANESE	08/16/2011	0.0101	0.0101	MG/L	0.05		
NICKEL	08/16/2011	0.00142	0.00142	MG/L	0.1		
pH	08/16/2011	9.43	9.43	pH	8.5		
POTASSIUM	08/16/2011	1.74	1.74	MG/L			
SODIUM	08/16/2011	13.7	13.7	MG/L			
SULFATE	08/16/2011	45.9	45.9	MG/L	250		
SOLIDS, TOTAL DISSOLVED (TDS)	08/16/2011	198	198	MG/L	500		
ZINC	08/16/2011	0.00818	0.00818	MG/L	5		

## Violations & Health Effect Information

During the 2012 calendar year, we had the below noted violation(s) of drinking water regulations:

*No Violations Occurred in the Calendar Year of 2012*

During the 2012 calendar year, the water system that we purchase water from had the below noted violation(s) of drinking water regulations:

*No Violations Occurred in the Calendar Year of 2012*



# RESELLER CONTAMINANTS

Regulated Contaminants	Collection Date	Water System	Highest Value	Range	Unit	MCL	MCLG	Typical Source
ARSENIC	11/14/2012	St. Louis City	1.12	0 - 1.12	ppb	10	0	Erosion of natural deposits
ATRAZINE	05/21/2012	St. Louis City	1.56	0 - 1.56	ppb	3	3	Runoff from herbicide used on row crops
BARIUM	11/14/2012	St. Louis City	0.013	0.00994 - 0.013	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries, Erosion of natural deposits
CHROMIUM	11/14/2012	St. Louis City	1.82	1.68 - 1.82	ppb	100	100	Discharge from steel and pulp mills
FLUORIDE	11/14/2012	St. Louis City	0.62	0.5 - 0.62	ppm	4	4	Natural deposits; Water additive which promotes strong teeth
NITRATE-NITRITE	05/09/2012	St. Louis City	1.42	1.3 - 1.42	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Disinfection By Products	Monitoring Period	Water System	Highest RAA	Range	Unit	MCL	MCLG	Typical Source
(HAA5)	2012	St. Louis City	17	7.6 - 23.2	ppb	60	0	By-product of drinking water disinfection
TTHM	2012	St. Louis City	14	6.4 - 23	ppb	80	0	By-product of drinking water disinfection

## Definitions

MCLG: Maximum Contaminant Level Goal, or the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. MCL: Maximum Contaminant Level, or the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. SMCL: Secondary Maximum Contaminant Level, or the secondary standards that are non-enforceable guidelines for contaminants and may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor or color) in drinking water. EPA recommends these standards but does not require water systems to comply. AL: Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. TT: Treatment technique, a required process intended to reduce the level of a contaminant in drinking water. 90 percentile: For lead and copper testing. 10% of test results are above this level and 90% are below this level. - Level Found: is the average of all test results for a particular contaminant. - Range of Detections: Shows the lowest and highest levels found during a testing period, if only one sample was taken, then this number equals the Level Found. RAA: Running Annual Average, or the average of sample analytical results for samples taken during the previous four calendar quarters. LRAA: Locational Running Annual Average, or the locational average of sample analytical results for samples taken during the previous four calendar quarters.

## Abbreviations:

PPB: parts per billion or micrograms per liter · ppm: parts per million or milligrams per liter · n/a: not applicable · NTU: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water · MFL: million fibers per liter, used to measure asbestos concentration. · nd: not detectable at testing limits. TTHM: Total Trihalomethanes (chloroform, bromodichloromethane, dibromochloromethane and bromoform) as a group. HAA5: Halocetic Acids (mono-, di- and tri-chloroacetic acid, and mono- and di-boroacetic acid) as a group. *The state has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Records with a sample year more than one year old are still considered representative.*

