Town of Florence Arizona

Water Quality Report 2013

What is a water quality report?

The Environmental Protection Agency (EPA) created the Safe Drinking Water Act (SDWA) in 1974 as a set of regulations to ensure water quality across the country. The SDWA requires an annual water quality report, or Consumer Confidence Report, be created and distributed to all water customers to provide them with details about where their water comes from, what it contains, and how it compares to the nation-wide standards created by regulatory agencies. This report will act as a snapshot for water quality in the Town of Florence from January through December 2013.

Where does my water come from?

Sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells, depending on the location. 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 source of drinking water for Florence is groundwater. This water is pumped from the Town's three drinking water wells (Well No. 1, No. 4, and No. 5) directly into the distribution system.

Why are there contaminants in my drinking water?

Contamination can come from many sources. Microbial contaminants, such as viruses and bacteria may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. Inorganic contaminants, such as salts and metals, 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 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, are byproducts of industrial processes and petroleum production, and may come from gas stations, urban stormwater runoff, and/or septic systems. Radioactive contaminants, can be naturally occurring or be the result of oil and gas production and mining activities.

Are some people more vulnerable to water quality contamination?

Some people may be more vulnerable to contaminants in drinking water than the general population. 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. 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 of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants, call the EPA Safe Drinking Water Hotline at 1-800-426-4791.

Additional Information about Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods-of-time because of rainfall or agricultural activity. If you are caring for an infant, and detected nitrate levels are above 5 ppm, you should ask advice from your health care provider.

Additional Information about Arsenic

If arsenic is less than or equal to the Maximum Contaminant Level (MCL), your drinking water meets EPA's standards. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA 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.

Additional Information 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. The Town of Florence 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 www.epa.gov/safewater/lead.

How to Read the Water Quality Data Table

The Town of Florence conducts extensive monitoring to protect your water against containments. The results of monitoring for 2013 (or the last sampling period) are summarized in the table on the next page. Samples of the substances listed in the table are taken by trained Town staff members and sent to a laboratory certified in drinking water testing by the Arizona Department of Health Services.

To interpret the results shown on this table, start with the column on the far left. This column "*Microbiological"* lists substances that are monitored. The next column "*Violation"* will let you know if there was a violation and if that particular substance was determined to be above the allowable limit in the last sample taken. The remaining columns tell you the results of the samples taken for the substance. The column labeled MCL, or the maximum contaminant level, shows the highest level of contaminant for the substance allowed. Additionally, the column to the far right explains the likely causes of contamination in your water.

As you can tell from the *"Sample Month & Year"* column, many contaminants were not monitored in 2013 and instead show 2012 results. This is because the Town of Florence compliance schedule for sampling is based on historical records of sampling results. If levels of alpha emitters, for example, have been consistently well below the MCL, then the time period between required samples may be longer. Florence has met these requirements for many contaminants listed on the water quality table and therefore only needs to sample every 3, 6, or 9 years depending on the substance.

Discussion About Violations

2013 sampling resulted in a violation for total coliform bacteria because in three months of sampling (June, July & August) one or more samples returned a positive result for total coliform bacteria (though all samples showed that E. Coli was absent). If a monthly sample is found to be positive for total coliform bacteria, the certified laboratory notifies the Town staff and within 24 hours the location of the positive sample is resampled along with locations both directly upstream and down stream of the location and the nearest groundwater well to ensure that there is no contamination within the water supply. If one of the resamples is determined to be positive for total coliform, then another round of resampling occurs and customers within the water distribution system are notified via public postings. Resampling and public postings were completed as a result of the positive samples found in June, July, and August 2013.

In June 2013, a positive sample returned from 480 N. Church St. Upon resampling, zero E. Coli was detected at the original location, however, E. Coli was detected at several of the wells. The wells were therefore resampled and the result was no E. Coli present. In July 2013, two sites during routine sampling were found to test positive for E. Coli, these were the Rodeo Well and 425 Ruggles St. These sites and locations directly upstream and downstream and therefore the wells were resampled.

All positive samples in August were found at the Rodeo Well, located at the Charlie Whitlow Rodeo Grounds. After discussions between ADEQ and the Town of Florence, it was determined that since this well is not connected to the drinking water distribution system, the samples taken from the well do not accurately reflect on the quality of the drinking water supplied to the Town. As a result, the Rodeo Well was reclassified as a *Special Events Well* in January 2014. This classification requires that samples for quality will be taken prior to events at the site location to ensure public safety but the well is no longer considered to be part of the potable water system for the Town of Florence.

Though these positive samples resulted in a violation, the Town of Florence drinking water is safe and meeting all regulatory requirements. We at the Town continuously strive to provide a safe, high quality water supply.

Water Quality Data							
Microbiological	Violation Y or N	Number of Samples Present	E. Coli Absent (A) or Present (P)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Total Coliform Bacteria (System takes ≤ 40 monthly samples) 1 positive monthly sample	Y	2 (June 2013) 3 (July 2013) 7 (August 2013)	A	0	0	June 2013 July 2013 August 2013	Naturally Present in Environment
Disinfectants	Violation Y or N	Running Annual Average (RAA)	Range of All Samples (L-H)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Chlorine (ppm)	N	1.04	0.81-1.42	MRDL=4	MRDLG=4	2012	Water additive used to control microbes
Disinfection By-Products	Violation Y or N	Running Annual Average (RAA)	Range of All Samples (L-H)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Haloacetic Acids (HAA5) (ppb)	N	2.55	1.6-3.9	60	N/A	November 2013	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM), ppb	N	6.45	2-9.8	80	N/A	November 2013	Byproduct of drinking water disinfection
Lead & Copper	Violation Y or N	90th Percentile AND Number of Samples Over the AL	Range of All Samples (L-H)	AL	ALG	Sample Month & Year	Likely Source of Contamination
Copper, ppm	N	90th Percentile = 0.33 No. Samples Over AL = 0	0.009-0.39	1.3	1.3	August 2012	Corrosion of household plumbing systems; erosion of natural deposits
Lead, ppb	N	90th Percentile = 14.7 No. Samples Over AL = 3	0.90-82.8	15	0	August 2012	Corrosion of household plumbing systems; erosion of natural deposits
Radionuclides	Violation Y or N	Highest Level Detected	Range of All Samples (L-H)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Alpha emitters (pCi/L)	N	3.6	3.6	15	0	2012	Erosion of natural deposits
Inorganic Chemicals (IOC)	Violation Y or N	Highest Level Detected	Range of All Samples (L-H)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Arsenic, ppb	N	3.6	2.2-3.6	10	0	2012	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Barium, ppb	N	4.8	2.6-4.8	2	2	February 2012	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium, ppb	N	3.6	1.5-3.6	100	100	February 2012	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride, ppm	N	1	0.67-1.0	4	4	February 2012	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate, ppm	N	8.57	<0.10 - 8.57	10	10	November 2013	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Unit Descriptions

Term:	Definition:
ug/L	Number of micrograms of substance in one liter of water
ppm	Parts per million, or milligrams per liter (mg/L)
ppb	Parts per billion, or micrograms per liter (ug/L)
pCi/L	picocuries per liter (a measure of radioactivity)
NTU	Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness of water.
NA	Not Applicable
ND	Not detected
NR	Monitoring not required, but recommended.
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 allow for a
MCL	Maximum Contaminant Level: 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
TT	Treatment Technique: A required process intended to reduce the level of a con-
AL	Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and	State or EPA permission not to meet an MCL or a treatment technique under cer-
MRDLG	Maximum Residual Disinfection 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 contami-
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.
MNR	Monitored Not Regulated
MPL	State Assigned Maximum Permissible Level

For questions about your water quality, please contact:
John Mitchell, Town of Florence Utility Director at
(520) 868-7695 or by email at John.Mitchell@florenceaz.gov.