City of Surprise
Desert Oasis

PWS ID: 04-07-523

2013 Annual Water Quality Report

SURPRISE
ARIZONA

For more information about this report, or for any questions relating to your drinking water, please call the city of Surprise Public Works Department at 623.222.6000.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. 623.222.6000

Dear City of Surprise Water Customer,

The city of Surprise is pleased to present to you the 2013 water quality report.

Each year, the city of Surprise publishes reports on the quality of your drinking water. This report is a snapshot of last year's water quality. Included in this report are details about where your water comes from, what it contains, and how it compares to EPA and state standards. Last year, we conducted more than 1,000 tests for over 80 contaminants. The city works closely with federal agencies to anticipate future water quality treatment requirements and regulations.

We encourage you to review this report either in this printed form or on our website at www.surpriseaz.gov. If you have any questions, please contact our call center at 623.222.6000.

What is a Water Quality Report?

To comply with state and U.S. Environmental Protection Agency (EPA) regulations, city of Surprise issues an annual water quality report which describes the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and your awareness of the need to protect your drinking water sources. This report includes details about where your water comes from and what it contains. The data presented in this report analyzed by a state of Arizona Department of Health Services (ADHS) certified drinking water quality laboratory. If you have any questions about this report or your drinking water, please call the city of Surprise Public Works Department at 623.222.6000.

Share this Report

Landlords, businesses, schools, hospitals and other groups are encouraged to share this important water quality information with water users at their location who are not billed customers of city of Surprise and therefore do not receive this report directly.

Where Does My Water Come From?

All of the water provided by the city of Surprise comes from groundwater pumped from the West Salt River Valley (WSRV) Sub-Basin. The WSRV Sub-Basin is a broad, gently sloping alluvial plain that is bounded on the north by the Hieroglyphic Mountains and Hedgpeth Hills, on the west by the White Tank Mountains, on the east by the Union Hills, Phoenix Mountains, and Papago Buttes and to the south by South Mountains, Estrella Mountains, and Buckeye Hills. Depth to groundwater in this area is typically between 350 to 500 feet below the land surface.

Sources of groundwater include natural recharge from flood flows in streams and along mountain fronts, and incidental recharge from agricultural and urban irrigation, canals, effluent, and artificial lakes.

Notice of Source Water Assessment

Although the Arizona Department of Environmental Quality (ADEQ) has not performed a Source Water Assessment for this system, we are in the process of working with ADEQ on Wellhead Protection for all of our systems, which would include the initial assessment of the Desert Oasis system. Once an assessment is completed by ADEQ, we will include a summary of the report in our CCR. If you have questions regarding the Source Water Assessments, please contact ADEQ at 602-771-4641.

Source water assessments are available for inspection at the Arizona Department of Environmental Quality (ADEQ), 1110 W. Washington Street, Phoenix, Arizona 85007, between the hours of 8:00am and 5:00 pm. Electronic copies are available from ADEQ at dml@azdeq.gov. For more information, call ADEQ's Source Water Assessment and Protection Unit at 602-771-4641 or visit their website at: www.azdeq.gov/environ/water/dw/swap/html.

What we do to protect groundwater:

The city protects the water sources by ensuring proper well construction and system operations and management. ADEQ prescribes regulations to limit the amount of certain contaminants in water provided by public water systems.

What you can do to protect groundwater:

Residents can help by taking household hazardous chemicals to household hazardous waste collection events held by the city twice a year and ensuring appropriate use of pesticides and fertilizers. For information on household hazardous waste events in Surprise, please contact the city of Surprise at (623) 222-6000 or visit our website at surpriseaz.gov and search "Household Hazardous Waste".

How Did We Do?

Our water quality report also called the Consumer Confidence Report (CCR) is intended to provide you with valuable information on your water. Call the city of Surprise Public Works Department 623.222.6000 for any comments or suggestions on this report. You can also fill out an online service request at www.surpriseaz.gov. Just click on "Connect/Contact" link on the home page, and then click on 222-CARE icon to create a service request online. This is a three step process of selecting the category "Public Works Water Service", completing the form, and identifying your questions or concerns in the description.

Home Water Treatment Units

If you install a home treatment system such as a water softener or reverse osmosis system to improve taste or odor, always follow the manufacturer's instructions for operation and maintenance. Failure to perform maintenance can result in poor water quality in your home. We recommend contacting the manufacturer of your treatment system for maintenance instructions or assistance. Additional information about home treatment systems is available from the Arizona Water Quality Association at 480-947-9850 or by writing to 6819 W. Diamond St., Scottsdale, AZ 85257 or at www.azqa.org.

Water Conservation Tips

Water conservation measures are an important step in protecting our water supply. Such measures not only save water but can also save you money by reducing your water bill.

Conservation measures you can use inside your home include:

- Fix leaking faucets, pipes, toilets, and other plumbing fixtures in need of maintenance.
- Replace old fixtures with high-efficiency faucets, toilets and other plumbing appliances.
- Wash only full loads of laundry.
- Do not use the toilet for trash disposal.
- Take shorter showers, 5 minutes or less.
- Turn the water off while lathering and only turn on the water for rinsing in the shower.
- Do not let the water run while shaving or brushing teeth.
- Soak dishes before washing.
- Run the dishwasher only when full.

You can conserve outdoors as well:

- Water the lawn and garden in the early morning or evening.
- Use mulch around plants and shrubs.
- Adjust your irrigation timer every three months with the change of seasons.
- Repair leaks in faucets, irrigation systems and hoses.
- Use water-saving nozzles.
- Use water from a bucket to wash your car, and save the hose for rinsing or instead of washing your vehicle at home take it to a local car wash.

For more information on high efficiency plumbing fixtures and conservation visit Surprise's water conservation webpage www.surpriseaz.gov/index.aspx?nid=134.

Substances Expected to be in Drinking Water

To ensure that water is safe to drink, the EPA prescribes regulations limiting the amount of certain contaminants in water provided to customers by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain small amounts of some contaminants that do not necessarily pose a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it can acquire naturally occurring minerals and other naturally occurring chemicals and, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity.

Substances 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, or wildlife.

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 by-products of industrial processes and petroleum production, and may also come from gas stations, urban storm water runoff, and septic systems.

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at 1-800-426-4791 or visit http://water.epa.gov/drink/hotline/index.cfm.

Special Health Information

Drinking water, including bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. 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. 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 other microbial contaminants call the *Safe Drinking Water Hotline* at 1-800-426-4791 or visit http://water.epa.gov/drink/hotline/index.cfm.

Arsenic

Your drinking water meets EPA's standard for arsenic, however it does contain low levels of arsenic. EPA's standard considers 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.

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 methemoglobinemia or 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, you should seek advice about drinking water from your health care provider.

Lead & Copper

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 city of Surprise is responsible for providing high quality drinking water, but cannot control the variety of materials used in your home's 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 1-800-426-4791 or at www.epa.gov/safewater/lead.

City of Surprise monitored the water for lead and copper in 2011 at 30 residences throughout the community and met the federal lead and copper standards. These samples will also be collected third quarter of 2014 (July – September) by the City of Surprise for the three-year compliance cycle. The 30 houses sampled were representative of the types of houses throughout the system. If your house was sampled you would have received the analysis results. If you weren't part of the representative sampling in 2011 and are concerned about elevated lead levels in your home's water, you may wish to flush your tap for 30 seconds to 2 minutes before using the water. Please call the Public Works Department, Drinking Water Program if you would like to take part in the Lead and Copper sampling at 623.222.7030.

How to Read This Table

The city of Surprise conducts extensive monitoring to guard against contaminants in your water. The results of our monitoring are reported in the adjacent tables. For help with interpreting this table, see the definitions section.

Starting with a **Substance**, read across. **Year Sampled** which is usually in 2013 or prior. **MCLG** is the goal level for that substance (this may be lower than what is allowed). **MCL** shows the highest level of substance (contaminant) allowed. **Highest Amount Detected** represents the highest result that was found. **Range of Detections** tells the highest and lowest amounts found. A **Yes** under **Compliance Achieved** means the amount of the substance is below regulatory requirements. **Typical Source** tells where the substance usually originates.

Unregulated substances are measured, but maximum contaminant levels have not been established by the government.

Definitions of Terms Used in This Report

- **AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **gpg (grains per gallon):** Used to describe the dissolved hardness minerals contained in water and is a unit of weight that equals 1/7000 of a pound.
- **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 available treatment technology.
- **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 margin of safety.
- **MFL (Million fibers per liter):** A measure of the presence of fibers that are longer than 10 micrometers.
- **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.
- **MREM (Millirems per year):** A measure of radiation absorbed by the body.
- **NA (Not Applicable):** Sampling was not completed by regulation or was not required.
- **ND:** None detected.
- **NTU (Nephelometric Turbidity Units):** A measure of water clarity.
- **pCi/L (Picocuries per liter):** Measurement of the natural rate of disintegration.
- **ppm (parts per million):** One part substance per million parts water [or milligrams per liter (mg/L)].
- **ppb (parts per billion):** One part substance per billion parts water [or micrograms per liter (µg/L)].
- **ppt (parts per trillion):** One part substance per trillion parts water [or nanograms per liter (ng/L)].
- **ppq (parts per quadrillion):** One part substance per quadrillion parts water [(or picograms per liter) pg/L].
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water

What's In My Water?

The data presented in this report is results from our nationally recognized water quality laboratories and commercial laboratories certified in drinking water testing by the state of Arizona Department of Health Services. For your information, we have compiled a list in the table below showing substances detected in our drinking water during 2013 or the last sampling period. If you have any questions about this report or your drinking water, please call the city of Surprise at 623.222.6000.

Water Quality Results

The city of Surprise conducts extensive monitoring to guard against contaminants I your drinking water according to federal and state laws. The state of Arizona requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination.

Regulated Substances Measured on the Water Leaving the Treatment Facilities

Substance	Year Sampled	MCLG	MCL	Highest Amount Detected	Range of Detections	Compliance Achieved	Typical Source
Arsenic (ppb)[1]	2013	NA	10	5.10	3.7–5.1	Yes	Erosion of natural deposits
Barium (ppb)	2013	2	2	0.24	0.22–0.24	Yes	Erosion of natural deposits
*Chromium (ppb)	2013	100	100	24	18–24	Yes	Erosion of natural deposits
**Fluoride (ppm)	2013	4	4	0.80	0.69–0.80	Yes	Erosion of natural deposits
Nitrate (ppm)[2]	2013	10	10	0.67	0.58–0.67	Yes	Runoff from fertilizer; Leaching from septic tanks or sewage; Erosion of natural deposits
Selenium (ppb)	2013	50	50	2.1	2–2.1	Yes	Erosion of natural deposits
Styrene (ppb)	2013	100	100	ND	ND	Yes	Erosion of natural deposits
Alpha Emitters (pCi/L)	2013	0	15	1.93	1.4–1.93	Yes	Erosion of natural deposits
Combined Radium 226 & 228 (pCi/L)	2013	0	5	0.8	ND–0.8	Yes	Erosion of natural deposits
Uranium (µg/L)	2013	0	30	1.95	ND–1.95	Yes	Erosion of natural deposits
Ethylbenzene (ppb)	2013	700	700	<0.0005	ND	Yes	Industrial or agricultural sources
Xylenes (ppm)	2013	10	10	0.0015-0.0022	ND	Yes	Discharge from petroleum refineries; Discharge from chemical factories

Other Compounds Measured in the Distribution System

Substance	Year Sampled	MCLG/MRDLG	MCL/MRDL	Average Amount Detected	Range of Detections	Compliance Achieved	Typical Source
TTHMs (ppb)[3]	2013	NA	80	4.1	0.6–7.3	Yes	By-product of drinking water disinfection
HAA5 (ppb)[3]	2013	NA	60	ND	ND	Yes	By-product of drinking water disinfection
Chlorine residual (ppm)	2013	4.00	4	1.1	0.4–1.5	Yes	Water additive used to control microbes

Tap Water Samples: Lead and Copper Results

Substance	Year Sampled	MCLG	Action Level	90th Percentile	Number of Samples	Number of Samples Above Action Level	Compliance Achieved	Typical Source
Copper (ppm)	2012[4]	1.30	1.3	0.07	25	0	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2012[4]	15.00	15	0.01	25	0	Yes	Corrosion of household plumbing systems; Erosion of natural deposits

Unregulated Substances Measured on the Water leaving the Treatment Facility

Substance	Year Sampled	Range of Detections	Typical Source
Alkalinity (ppm)	2013	114–120	Erosion of natural deposits
Calcium (ppm)	2013	13–14	Erosion of natural deposits
Calcium Hardness (ppm)	2013	32–35	Erosion of natural deposits
Magnesium (ppm)	2013	2–3	Erosion of natural deposits
Magnesium Hardness (ppm)	2013	9–10	Erosion of natural deposits
Total Dissolved Solids (ppm)	2013	217-243	Erosion of natural deposits
Total Sodium (ppm)	2013	68–78	Erosion of natural deposits
Total Hardness (ppm) (mg/L)	2013	41–46	Natural calcium/magnesium content
Total Hardness (grains/gallon)	2013	2.39–2.69	Natural calcium/magnesium content
pH (standard units)	2013	7.7–8.1	pH is a measure of acid/base properties

* The Chromium that is detected in the City of Surprise is the Total Chromium number. The City of Surprise currently meets the National Drinking Water Standard for Chromium. For more information about Chromium, call Safe Drinking Water Hotline 1-800-426-4791 or visit EPA's webpage. http://www.epa.gov/ttnatw01/hlthef/chromium.html.

** The Fluoride that is detected in the City of Surprise is naturally occurring in our well water. The City of Surprise does not dose any additional fluoride into your drinking water.

[1] Arsenic – The City is committed to meeting all Safe Drinking Water Act Requirements (SDWAR). There are arsenic treatment facilities that are in place to meet the state and federal standards. The City's treatment facilities meet compliance standards with the SDWAR. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

[2] Nitrate – Nitrate in drinking water at levels above the 10ppm us a health risk for infants of less than 6 months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short levels of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

[3] TTHM/HAA5 – Although there is no collective MCLG for this contaminant group, there are individual MCLGs form some of the individual contaminants: Trihalomethanes: bromodichloromethane (zero); bromoform (zero); chloroform (zero) dibromochloromethane (0.06mg/L) Haloacetic acids: dichloroacetic acid (zero); trichloroacetic acid (0.3mg/L). Monochloroacetic acid, bromoacetic acide and dibromoacetic acide are regulated with this group but have no MCLGs. Running annual average is used to calculate the results for TTHMs, HAA5 and Chlorine Residuals.

[4] The state of Arizona requires monitoring for certain contaminants less than once per year because the concentrations in our system have not been vulnerable to this type of contamination. Therefore, some water quality data in this table may be older than one year since the City follows the State and Federal required compliance sample cycles.