



Grand Water & Sewer
Service Agency



Annual Report 2013



Grand Water & Sewer Service Agency Annual Report 2013

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President's Message

Grand Water & Sewer Service Agency is pleased to present its Annual Report for the year 2013. It is hoped that this synopsis of the Agency's activities in 2013 will give all those interested a better understanding of the functions the Agency performs and the issues it faces.

The Board and Staff of the Agency appreciate the opportunity to serve the citizens of Spanish Valley.

Dan Pyatt

President

Board Members

GWSSA

Dan Pyatt, President

Gary Wilson, V. President

Brian Backus, Operating Comm.

Mike Holyoak, Operating Comm.

Pat Holyoak, Operating Comm.

Rex Tanner, Operating Comm.

Dale Weiss, Operating Comm.

Kyle Bailey

Leon Behunin

Jerry McNeely

Preston Paxman

Tom Stengel

SVWSID

Gary Wilson, Chairman

Tom Stengel, Vice Chair

Leon Behunin, Treasurer

Mike Holyoak, Clerk

Dale Weiss

GCSSWD

Gary Wilson, Chairman

Mike Holyoak, Vice Chair

Kyle Bailey

Pat Holyoak

Tom Stengel

GCWCD

Dan Pyatt, Chairman

Jerry McNeely, Vice Chair

Brian Backus

Preston Paxman

Rex Tanner

Project and Program Report

Interconnect Power Management

Staff continues to define a pumping plan that incorporates the interconnect pump and generator to minimize electrical demand charges.

Major Leak Repair

Water system losses increased monthly during the first half of 2013. The source of the water loss was determined to be a broken valve connecting Moab City's distribution system and GWSSA's distribution system. Staff removed the valve in August of 2013 and isolated the two water systems. The peak flow of the leaky valve was nearly 150 gallons per minute. The system repair reduced monthly water losses by 75%.

SCADA Upgrades

In 2013 extensive work was completed on the SCADA controls for the water system. The monitoring wells were connected and the George White and Chapman well controls were upgraded to new and more systems. The upgrades increased reliability of the automated processes, decreasing staff time and ensuring consistent conditions in the system.

Equipment Program

A total of 1266 hours of equipment time was used in 2012. Average vehicle mileage was 10,350.

Project and Program Report (cont'd)

Operator Hours Tracking by Service

Total Hours: 5750

Water: 4138 Hours or 72%

Sewer: 85 Hours or 1%

Irrigation: 839 Hours or 15%

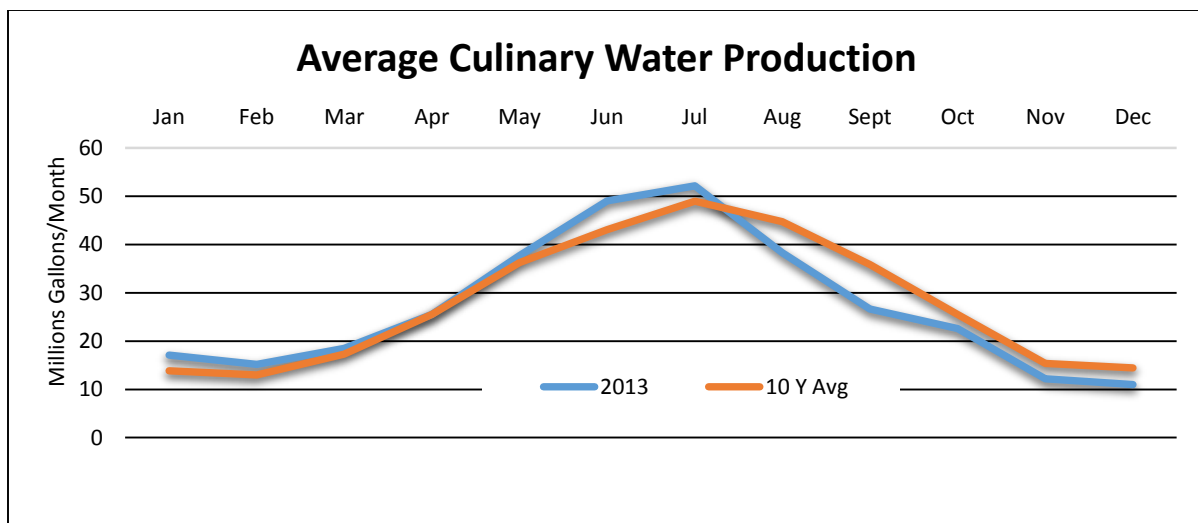
Other: 688 Hours or 12%

Operators completed 1100 customer service orders

Culinary Water System

2013 Culinary Water Production

	Production 2012	Production 2013
January	14,039,000	17,085,000
February	13,995,000	15,196,000
March	19,115,000	18,487,000
April	31,290,000	25,521,000
May	41,367,000	37,679,000
June	48,807,000	49,056,000
July	48,961,000	52,129,000
August	44,779,000	38,312,000
September	37,979,000	26,620,000
October	29,563,000	22,594,000
November	16,369,000	12,194,000
December	14,909,000	10,968,000
TOTALS	361,173,000	325,841,000
Monthly Average	30,097,750	27,153,417



Culinary Water Power Cost

Water Produced 325,841,000 gal. or 999.82 AF

Power Costs \$0.23 per 1000 gal. or \$75.80 per AF

Historical Power costs per 1,000 gallons

<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
\$0.24	\$0.21	\$0.20	\$0.23

Culinary Water System (Cont'd)

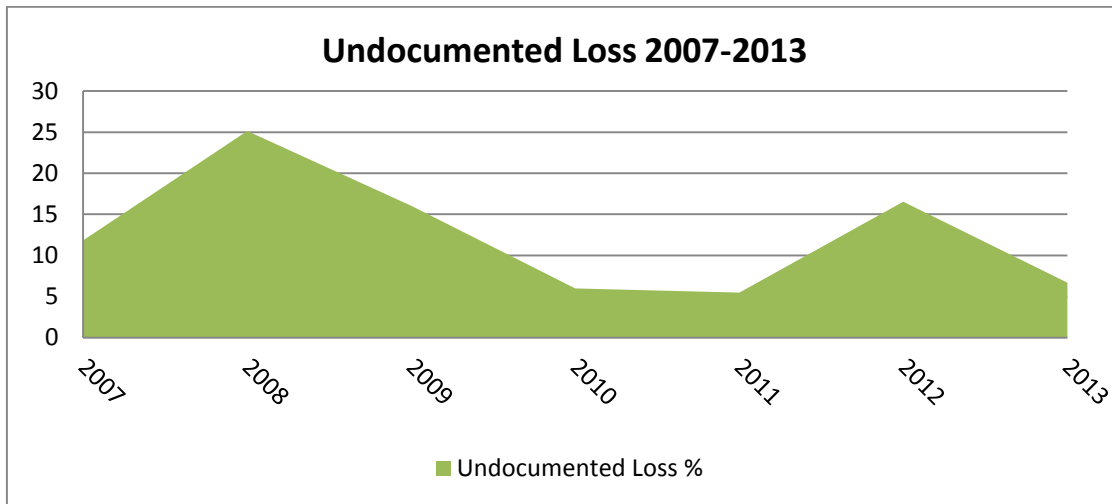
2013 Culinary Water Metered Use

Month	Gallons 2012	Gallons 2013
January	9,041,000	11,289,000
February	8,887,000	9,370,000
March	9,314,000	9,081,000
April	22,020,000	17,481,000
May	34,738,000	25,528,000
June	40,667,000	38,873,000
July	44,168,000	42,527,000
August	42,735,000	41,475,000
September	34,995,000	29,869,000
October	28,394,000	22,935,000
November	12,371,000	12,925,000
December	8,616,000	9,029,000
Total	295,946,000	270,382,000
Monthly Average	24,662,167	22,531,833

Water Audit

2013 Metered Use	270,382,000	gallons
Water in Storage	4,000,000	gallons
2013 Production	325,841,000	gallons
2013 Lost water	51,459,000	gallons
Documented Loss	29,630,000	gallons
Undocumented Loss	21,829,000	gallons
% of Water Lost	6.70%	

Lost water due to leakage, fire flows, un-metered use and meter malfunction.



Compliance with Safe Drinking Water Act

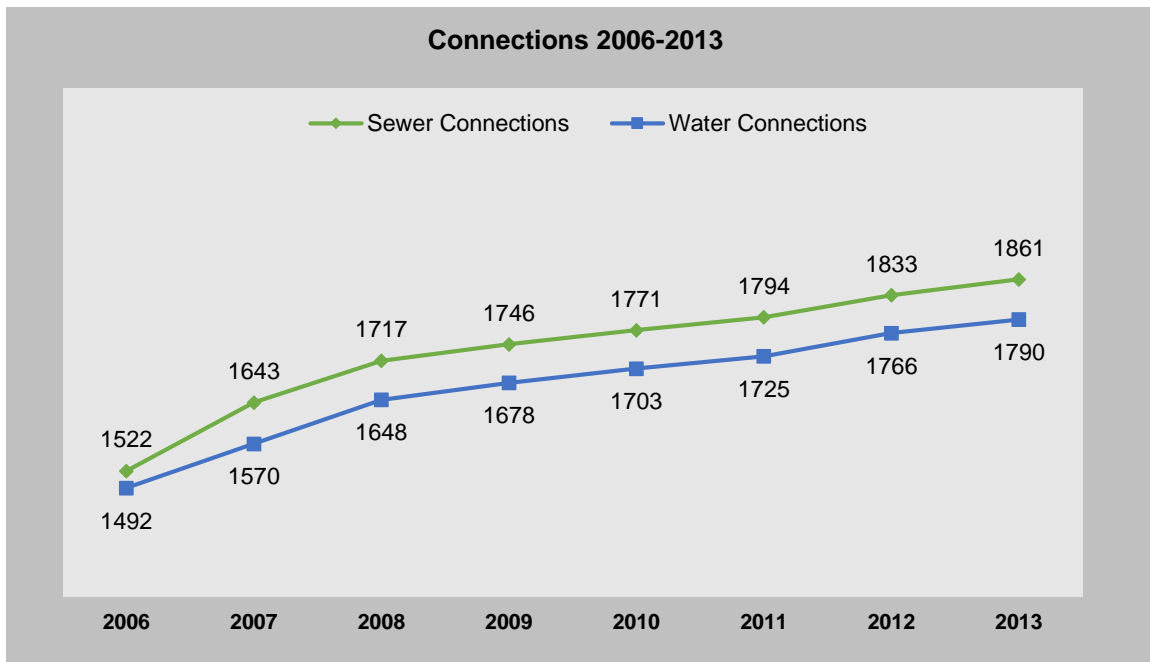
2013 saw no violations of the Safe Drinking Water Act.

Consumer Confidence Report

The 2013 Consumer Confidence Report is included in *Appendix A*.

System Growth

	Water	Sewer
New Residential Connections	23	26
New Commercial Connections	1	2
New MDU Connections	0	0
Total Residential Connections	1663	1727
Total Commercial Connections	118	125
Total MDU Connections	12	12
Total 2013 Connections	1790	1861
Average Active Connections/Month	1717	1763
Average % of Connections Active	96%	95%
2013 System Percent Growth	1.36%	1.52%



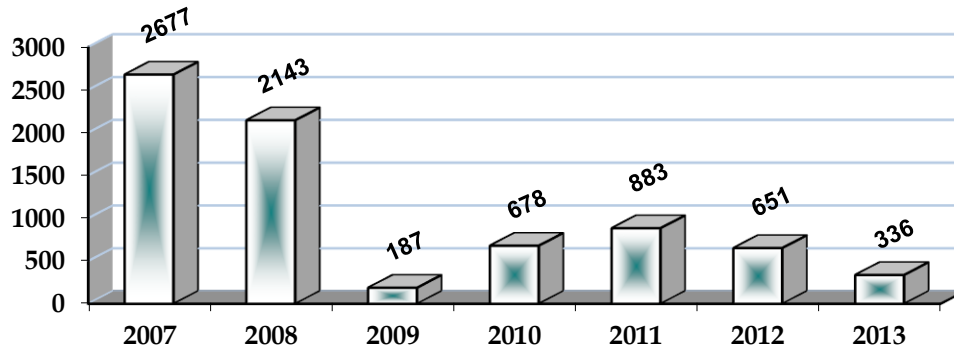
Ken's Lake Irrigation System

Estimate of 2013 Ken's Lake Seepage

Amount in storage at end of 2012	218 AF
Amount diverted to Ken's Lake	2180 AF
Amount delivered to Irrigation pipeline	880 AF
Evaporation Estimate	200 AF
Amount in storage at end of 2013	982 AF
Estimated seepage	336 AF

Ken's Lake Irrigation System (Cont'd)

Estimated Seepage in AF 2007-2013



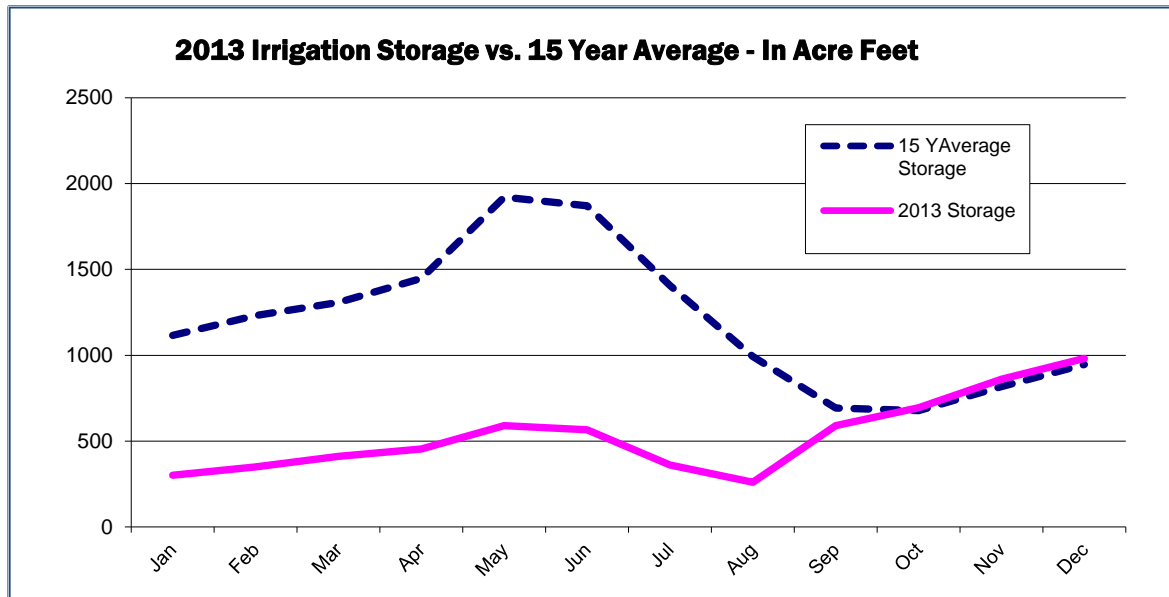
Ken's Lake Water Diverted

2013 Water Diverted Through Sheley Tunnel			
Month	15 Year Average	Diverted 2013	% of Average
	AF	AF	
January	179	101	56%
February	132	64	48%
March	172	51	30%
April	393	93	24%
May	1078	398	37%
June	741	229	31%
July	289	78	27%
August	238	104	44%
September	180	499	277%
October	208	195	94%
November	183	215	118%
December	161	153	95%
Total	3955	2180	55%

Ken's Lake Storage

Ken's Lake Storage Vs. Average				
Month	Average	2013 Storage	% of Average	% of Capacity
	AF	AF		
January	1115	301	27%	12%
February	1230	349	28%	13%
March	1308	411	31%	16%
April	1448	454	31%	17%
May	1921	590	31%	23%
June	1871	565	30%	22%
July	1406	361	26%	14%
August	992	259	26%	10%
September	692	590	85%	23%
October	678	694	102%	27%
November	817	861	105%	33%
December	945	982	104%	38%
Total Capacity is 2610 AF				

Ken's Lake Irrigation System (Cont'd)



Review of Water Management and Conservation Plan

An updated Conservation Plan was submitted in 2009. The primary goal of the Plan is to reduce the 19 year average use per connection per month of 18,762 gallons by 25% or 5% below the state average of 183 gpcd or 174 gpcd.

Conservation Oriented Water Rate

0-8,000 gallons = \$0.60/1 kgal

8,001-15,000 gallons = \$1.40/1 kgal

15,001 and up = \$2.00/1 kgal

Use per Connection Calculation

The average use per month per connection from 1985 - 2004 was 17,953 gallons.

Year	Average Active Connections	Average Monthly Use Per Connection
2005	1370	15,350
2006	1464	15,011
2007	1516	16,715
2008	1602	14,655
2009	1645	13,617
2010	1666	13,055
2011	1690	12,698
2012	1686	14,627
2013	1717	13,123

Use per connection goal = 14,072

Review of Water Management and Conservation Plan (Cont'd)

Per Capita Use Calculation

Population est. = 3750

GPD use = 740,773 gallons

198 Gallons per capita per day use

Conclusion

Due to the number of vacation homes and condominiums compared to year-round resident occupied housing units the data is skewed for both “per connection” and “per capita” use calculations. The use per connection method includes many connections that are not occupied by residents. This causes the use to appear less per connection. Conversely, the use per capita calculation includes use by seasonal residents who are not counted in the population estimate. This causes the use per capita to increase.

Water use during the hottest months (Jun-Aug) was above average. 2013 was a drought year for the Ken’s Lake irrigation system. Water users were restricted to 40% of their allotment. Use in late summer and early fall was curtailed due to heavy precipitation. Over five inches of rain fell in the La Sal Mountains during August and September.

Education

Educational flyers, previously mailed to all GWSSA customers, are available at the Agency office. These flyers, suggesting practices for indoor and outdoor water conservation, are given to all new customers at time of application for water service.

The Agency’s website – www.grandwater.org is an excellent source of conservation information and provides links to water professionals statewide. The conservation education information is updated seasonally. The Agency directs customers to the website via messages on the monthly billings.

Water Audit

The water audit is located in the **Culinary Water System** portion of this report. The audit indicates undocumented lost water on the system of 6.70%.

Outdoor Watering Restrictions

Watering during the heat of the day between 10:00 a.m. and 6:00 p.m. is recognized as inefficient use of outside water. The Agency shall ask all users of water to restrict outside watering during that time period. Water users shall be informed periodically by use of mailings, billing messages, brochures, and/or news media.



Appendix A

2013 Annual Drinking Water Quality Report

Grand Water & Sewer Service Agency

We're pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water sources have been determined to be from groundwater. Our water sources are George White Well #4, George White Well #5, Chapman Well and the Spanish Valley Well. The wells draw water from the Glen Canyon Aquifer.

The Drinking Water Source Protection Plan for Grand Water & Sewer Service Agency (GWSSA) is available for your review. It contains information about source protection zones, potential contamination sources and management strategies to protect our drinking water. Our sources have been determined to have a low level of susceptibility from potential contamination from sources such as septic tanks, roads, residential or industrial development. We have also developed management strategies to further protect our sources from contamination. Please contact us if you have questions or concerns about our source protection plan.

There are many connections to our water distribution system. When connections are properly installed and maintained, the concerns are very minimal. However, unapproved and improper piping changes or connections can adversely affect not only the availability, but also the quality of the water. A cross connection may let polluted water or even chemicals mingle into the water supply system when not properly protected. This not only compromises the water quality but can also affect your health. So, what can you do? Do not make or allow improper connections at your homes. Even that unprotected garden hose lying in the puddle next to the driveway is a cross connection. The unprotected lawn sprinkler system after you have fertilized or sprayed is also a cross connection. When the cross connection is allowed to exist at your home, it will affect you and your family first. If you'd like to learn more about helping to protect the quality of our water, call us for further information about ways you can help.

This report shows our water quality and what it means to you our customer. If you have any questions about this report or concerning your water utility, please contact Mark Sovine at 435-259-8121. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the first and third Thursday of each month at 7:00 p.m. at the GWSSA office. Copies of this report are available at the GWSSA office or at www.grandwater.org. Copies will be mailed to customers upon request.

GWSSA routinely monitors for constituents in our drinking water in accordance with the Federal and Utah State laws. The following table shows the results of our monitoring for the period of January 1st to December 31st,

2013. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

ND/Low - High - For water systems that have multiple sources of water, the Utah Division of Drinking Water has given water systems the option of listing the test results of the constituents in one table, instead of multiple tables. To accomplish this, the lowest and highest values detected in the multiple sources are recorded in the same space in the report table.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (ug/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Maximum Contaminant Level (MCL) - The “Maximum Allowed” (MCL) is 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.

Maximum Contaminant Level Goal (MCLG) - The “Goal” (MCLG) is 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.

Date- Because of required sampling time frames i.e. yearly, 3 years, 4 years and 6 years, sampling dates may seem outdated.

TEST RESULTS

Contaminant	Violation Y/N	Level Detected ND/Low- High	Unit Measurement	MCLG	MCL	Date Sampled	Likely Source of Contamination
Microbiological Contaminants							
Turbidity for Ground Water	N	< 1	NTU	N/A	5	2012	Soil runoff
Inorganic Contaminants							
Arsenic	N	ND-2	ppb	0	10	2012	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	N	ND-43	ppb	2000	2000	2012	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	N	ND-4	ppb	100	100	2012	Discharge from steel and pulp mills; erosion of natural deposits
Copper a. 90% results b. # of sites that exceed the AL	N	a. 88 b.0	ppb	1300	AL=1300	2011	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	N	186-300	ppb	4000	4000	2012	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead a. 90% results b. # of sites that exceed the AL	N	a. 1 b.0	ppb	0	AL=15	2011	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	N	300-500	ppb	10000	10000	2013	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	N	1-5	ppb	50	50	2012	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

Sodium	N	13-18	ppm	None set by EPA	None set by EPA	2012	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills
Sulfate	N	57-87	ppm	1000	1000	2012	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland
TDS (Total Dissolved solids)	N	200-252	ppm	2000	2000	2012	Erosion of natural deposits
Chlorine	N	73	ppb	4000	4000	2013	Water additive used to control microbes
Radioactive Contaminants							
Alpha emitters	N	ND	pCi/l	0	15	2012	Erosion of natural deposits
Radium 228	N	ND	pCi/l	0	5	2012	Erosion of natural deposits

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. GWSSA 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 <http://www.epa.gov/safewater/lead>.

As you can see by the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS Safe at these levels.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or man-made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All 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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 from their health care providers about drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We at GWSSA work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.