TOUA

TOHONO O'ODHAM UTILITY AUTHORITY

2013 ANNUAL WATER QUALITY REPORT

"Serving the Tohono O'odham Nation with electricity, telephone, water/wastewater service."

The Water We Drink

The TOUA Water Department professionals within the Tohono O'odham Nation are very proud to provide you with the 2013 Annual Drinking Water Quality Report in order to keep you informed of the water quality and services we delivered to you over the past year. Our primary commitment is, and always will be, to provide you with a safe and dependable supply of drinking water. If you are a non-English speaking resident you may call TOUA at 383-5830 for a Tohono O'odham translation. The Utility Authority has regularly scheduled board meetings. If you have any questions about the meetings, this report, or questions concerning your water quality, please contact the water quality control laboratory at 520- 383-5832. We want our valued customers to be informed about their drinking water quality.

In 2013, TOUA served approximately 3000 water customers on the Tohono O'odham Nation. The water supply came from 62 ground water wells located in and around Tohono O'odham communities. Approximately 1.0 parts per million (ppm) of chlorine (12.5 % sodium hypo- chlorite solution) is added to the drinking water supply at well sites to provide assurance that water delivered to customers will remain free of microbiological contamination. This also ensures that the water meets microbiological drinking water standards from the time it is pumped from the ground until it reaches the customer's tap.

Why do I need to read this?

In 1996, Congress passed amendments that require drinking water systems to give consumers important information about their water, including where it comes from, what is in the water, and how your water quality compares to federal standards. This report is brought to you in accordance with EPA's 40 Code of Federal Regulations NPDWR Parts 141 and 142. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. It is recommended that you keep this report as a reference source, as it provides useful information, as well as contacts and phone numbers you may need from time to time.

What Are Drinking Water Standards?

Under the authority of the Safe Drinking Water Act (SDWA), EPA sets standards for approximately 90 contaminants in drinking water. For each of these contaminants, EPA sets a legal limit, called a maximum contaminant level, or requires a certain treatment. Water suppliers may not provide water that doesn't meet these standards. Water that meets EPA standards is safe to drink. Under SDWA, EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The SDWA covers all public water systems with piped water for human consumption with at least 15 service connections or a system that regularly serves at least 25 individuals. 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 or visit the USEPA website at www.epa.gov/safewater/contaminants/index.html.

Notice: Important Information

Some people may be more vulnerable to drinking water contaminants than the general population. Immune-compromised persons, such as people 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.

During 2013, TOUA substantially complied with all monitoring and reporting requirements as specified by the current Federal regulations. This information was reported to EPA Region IX in San Francisco.

DEFINITIONS OF TECHNICAL AND REGULATORY TERMS

ACTION LEVEL (AL)- The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
MAXIMUM CONTAMINANT LEVEL (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology. MCLs are based on the recommendations of the scientific and public health community.
MAXIMUM CONTAMINANT LEVEL GOAL (MCLG)-The level of a contaminant in drinking water below which there is no known or expected risk to health.
N/A - Not Applicable
ND - Not detected
NON-DETECT (ND)-laboratory analysis indicates that the constituent is not present.
PARTS PER MILLION (PPM)=Milligrams per Liter (mg/L)-one part per million corresponds to one minute in two years.
PARTS PER BILLION (PPB)=Micrograms per liter (mcg/L)-one part per billion corresponds to one minute in 2,000 years.
PICOCURIE PER LITER (pCi/L) The quantity of radioactive material in one liter which produces 2.22 nuclear disintegrations per minute.
SDWA- Safe Drinking Water Act

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, agriculture 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, 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 can also, come from gas stations, urban storm water runoff, and septic systems.

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

Fluoride- People that drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth. Possible sources are erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories. **We do not add fluoride to any of our groundwater wells.**

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. Possible sources include runoff from fertilizer use; leaching from septic tanks, sewage; and erosion of natural deposits. If you are caring for an infant you should ask for advice from your health care provider.

Arsenic- EPA recently finalized a reduction in the arsenic drinking water standard from 50 ppb down to 10 ppb. All water utilities must meet this future standard beginning January 2006. While your drinking water meets EPA standard for arsenic, it may contain low levels of arsenic. The new standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effect 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 damages and circulatory problems. 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.

Lead and Copper- These are naturally occurring metals, which are generally found at very low levels in source waters. However, these levels can increase when water contacts plumbing materials that contain lead, copper, or brass. Infants and young children are more vulnerable to lead in drinking water then the general population. While TOUA's water is within standards, concerned customers can take extra precaution to protect children from lead leaching by running the water for a few seconds. This is especially important if the water has been sitting in the pipes for a few hours or more. These same precautions may also help to give you the best tasting water.

Disinfection By-Products- Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5) are chemicals that are formed along with other disinfection by products when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water.

Adjusted Gross Alpha – is a measure of radioactivity due to naturally occurring minerals in groundwater. This excludes the radioactivity contributed by either radon or uranium.

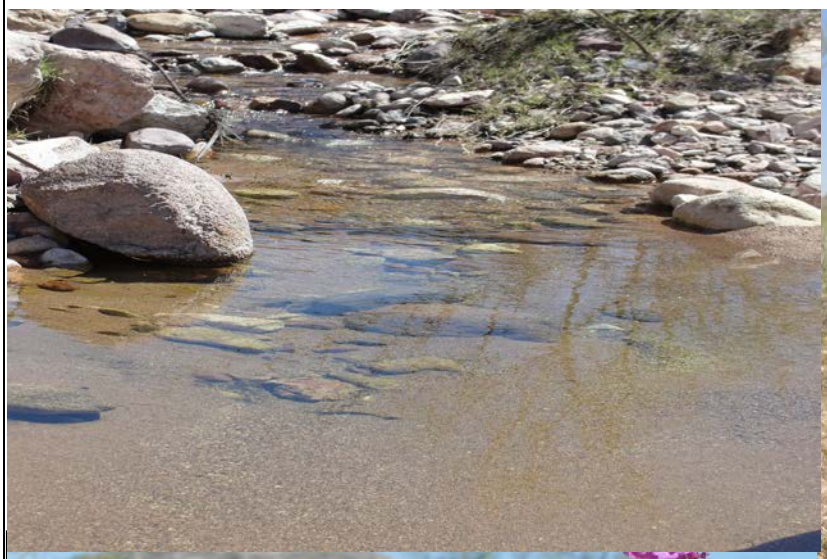
Radium 226 and 228 – are two of the most common radium isotopes. Radium is a naturally occurring radionuclide, formed by the decay of uranium or thorium in the environment. It occurs at low concentrations in virtually all rock, soil, water, plants, and animals.

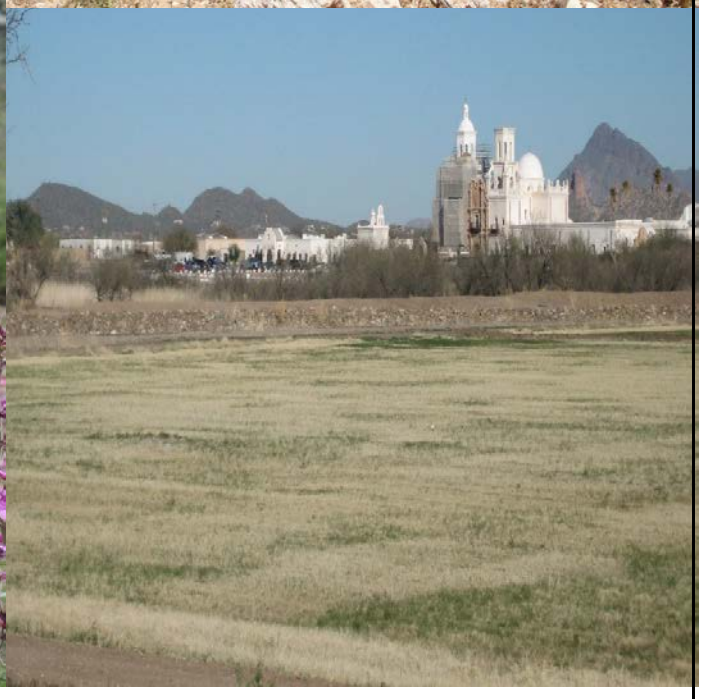
Uranium – is a metallic element, which is highly toxic and radioactive.

MICROBIAL CONTAMINANTS

There were no positive samples detected in 2013 for total or fecal coliforms. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. The Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public.

Fecal coliforms and E.coli are bacteria whose presence indicates that the water maybe contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.





2013 For Samples taken earlier- date will be noted		INORGANIC CONTAMINANTS				OTHER	DISINFECTION BY-PRODUCTS		MICROBIAL CONTAMINANTS		LEAD & COPPER		RADIOLOGICAL CONTAMINANTES		
VILLAGE	PWSID#	ARSENIC	FLUORIDE	NITRATE	SODIUM	VARIOUS	TTHM'S	HAA5'S	Total Coliforms	Fecal Coliforms/ E. Coli	Copper 90th %	Lead 90th %	Adjusted Alpha	Uranium	Total Radium 226/228
Maximum Contaminant Level Goal (MCLG)		N/A	4 PPM	10 PPM	None	CONTAMINANTS	None	None	Zero	Zero	1.3 ppm	0 ppb	0 pCi/L	0 ppb	0 pCi/L
Maximum Contaminant Level (MCL)		10 PPB	4 PPM	10 PPM	No PPM	See Note #	80 PPB	60 ppb	2 or more positive samples/month		Action Level 1.3 ppm	Action Level 15 ppb	15 pCi/L	30 ppb	5 pCi/L
Major Source of Contaminant		Erosion of natural deposits; runoff of orchards; glass & electronics production wastes	Erosion of natural deposits; dental water additive; discharge from factories	Runoff & leaching from fertilizer use and/or septic tanks, sewage; erosion of natural deposits	Erosion of natural deposits; salt water intrusion		By-product of drinking water chlorination	By-product of drinking water chlorination	Naturally present in the environment	Human and animal waste	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives; discharges from industrial manufacturers		Erosion of natural deposits	Erosion of natural deposits	Erosion of natural deposits
Topawa Intertie/ Choulic/South Komelic/ Coldfields	040-0001	8 Sample range 8 - 9	1	1	44 [2012]	#1 [2012] 0.062 ppm	ND [2012]	ND [2012]	All Results Negative	All Results Negative	0.2 [2011]	1 [2011]	<1.0	4	[2007] <0.4
Nolic Intertie/Cababi/San Lu	040-0002	8 Sample range ND - 10	1 [2009]	2	62 [2012]	[2009] # 2 42 ppb # 3 2 ppb	12 [2011]	ND [2012]	All Results Negative	All Results Negative	<0.1	1	<1.0	3	[2007] <0.3
Chui Chu	040-0003	8 Sample range 5 - 10	1 [2009]	5 Sample range 3 - 6	82 [2005] Range 80-84	#1 [2009] 0.092 ppm	ND [2012]	ND [2012]	All Results Negative	All Results Negative	0.1 [2005]	<.002 [2005]	1 Range .4 - 1	7 Range 5 - 9	[2007] 0.9
Fresnal	040-0004	3	<1 [2011]	2	47 [2011] Range 46 - 48	None	ND [2012]	ND [2012]	All Results Negative	All Results Negative	0.1 [2012]	1 [2012]	<1.0	9	[2007] <0.4
Queen's Well	040-0005	2 Sample range <1 - 3	<1 [2011]	3	47 [2011] Range 41 - 53	#1 [2011] 0.125 ppm	12 [2011]	ND [2011]	All Results Negative	All Results Negative	[2012] 0.03	<.5 [2012]	1	5	[2007] 0.7
Covered Wells Regional Intertie/ Sikul Himatk	040-0006	3 Sample range ND - 9	1 [2010]	1	86 [2010]	#1 [2010] 0.071 ppm	8 [2011]	ND [2011]	All Results Negative	All Results Negative	0.2	2	<1.0	4	[2007] <0.4
Charco 27	040-0008	6	1 [2010]	9	210 [2010]	#4 [2010] 4.4 ppb	9 [2011]	ND [2011]	All Results Negative	All Results Negative	0.1	1	<1.0 [2007]	18 [2011]	[2007] <0.4
Kohatk	040-0016	12* Sample range 1 - 17	1 [2009]	8	114 [2005]	#1 [2009] 0.0825 ppm	1 [2011]	3 [2011]	All Results Negative	All Results Negative	<0.1	3	<1.0	3	[2007] <0.5
Santa Rosa Ranch Intertie/ Sil Nakya	040-0018	5 Sample range 5 - 5	<1 [2011]	2 Sample range 2 - 2	37 [2011] Range 34 - 39	#1 [2011] 0.067 ppm	13 [2011]	ND [2011]	All Results Negative	All Results Negative	[2012] 0.2	[2012] 1	2 Range <1.0 - 3	6 Range 5 - 7	[2007] <0.4
New Fields	040-0019	9* Sample range 2 - 11	2 [2012]	2	55 Range 54 - 56	None	1 [2011]	ND [2011]	All Results Negative	All Results Negative	0.1	1	1	11	[2007] <0.4
Vaya Chin Intertie/ Hickiwan / San Simon	040-0020	3 Sample range 3 - 3	1 [2010]	7 Sample range 6 - 7	82 [2010]	#4 [2010] 2.7 ppb	4 [2011]	ND [2011]	All Results Negative	All Results Negative	.1 [2005]	<.002 [2005]	<1.0	9 Range 5 - 12	[2007] <0.4
Ak Chin	040-0022	17* Sample range ND - 24	1 [2009]	2	86 [2005]	None	1 [2011]	ND [2011]	All Results Negative	All Results Negative	0.1	1	<1.0	10	[2007] <0.4
San Miguel	040-0026	8 Sample range ND - 13	2	ND	47 Range 46-48	#6 [2013] 0.0085 ppm	2 [2011]	ND [2011]	All Results Negative	All Results Negative	0.2	1	<1.0	9	[2007] <0.3
Ventana	040-0027	2	1 [2010]	5 Sample range 4 - 5	97 [2010] Range 93-100	None	2 [2011]	ND [2011]	All Results Negative	All Results Negative	.1 [2005]	<1 [2005]	1	8 Range 7 - 10	[2007] 0.4
Cowlic	040-0029	7	1 [2012]	1	68 Range 67-68	#1 [2012] .0685 #6 [2009] .0032 ppm	1 [2011]	ND [2011]	All Results Negative	All Results Negative	0.1 [2011]	1 [2011]	2 [2008]	9 [2008]	[2008] <0.4
Pisinemo Intertie / Santa Cru	040-0030	9 Sample range ND - 10	2 [2010]	2	90 [2010]	None	3 [2011]	ND [2011]	All Results Negative	All Results Negative	<0.1	ND	<1	26	[2013] <0.4
Gunsight	040-0032	1	<1 [2010]	6	42 [2010]	#1 [2010] 0.24 ppm	ND [2011]	ND [2011]	All Results Negative	All Results Negative	0.1	2	2	4	[2007] <0.4
Cockleburr	040-0034	17* Sample range 1 - 22	2 [2012]	10 Sample range 2 - 14	234 [2005]	None	1 [2011]	ND [2011]	All Results Negative	All Results Negative	<.1	<1	<1	<1	[2007] <0.6

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VILLAGE	PWSID#	ARSENIC	FLUORIDE	NITRATE	SODIUM	VARIOUS	TTHM'S	HAA5'S	Total Coliforms	Fecal Coliforms/ E. Coli	Copper 90th %	Lead 90th %	Adjusted Alpha	Uranium	Total Radium 226/228
Maximum Contaminant Level Goal (MCLG)		N/A	4 PPM	10 PPM	None	CONTAMINANTS	None	None	Zero	Zero	1.3 ppm	0 ppb	0 pCi/L	0 ppb	0 pCi/L
Maximum Contaminant Level (MCL)		10 PPB	4 PPM	10 PPM	No PPM	See Note #	80 PPB	60 ppb	2 or more positive samples/month		Action Level 1.3 ppm	Action Level 15 ppb	15 pCi/L	30 ppb	5 pCi/L
Major Source of Contaminant		Erosion of natural deposits; runoff of orchards; glass & electronics production wastes	Erosion of natural deposits; dental water additive; discharge from factories	Runoff & leaching from fertilizer use and/or septic tanks, sewage; erosion of natural deposits	Erosion of natural deposits; salt water intrusion		By-product of drinking water chlorination	By-product of drinking water chlorination	Naturally present in the environment	Human and animal waste	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives; discharges from industrial manufacturers		Erosion of natural deposits	Erosion of natural deposits	Erosion of natural deposits
San Xavier West	040-0035	3	<1 [2011]	6	90 [2011] Range 85 - 94	#1 .0885 ppm [2011] #4 10 ppb	10 [2011]	ND [2011]	All Results Negative	All Results Negative	0.2 [2012]	2 [2012]	<1.0	46	[2007] <0.4
San Pedro	040-0036	4 Sample range 3 - 5	1 [2011]	3 Sample range 3 - 4	79 [2011] Range 74 - 84	#4 [2011] 3.6 ppb	3 [2011]	ND [2011]	All Results Negative	All Results Negative	0.2 [2012]	2 [2012]	1 Range .2 - 1	5 Range 4 -5	[2007] <0.4
Kaka	040-0037	2	1 [2010]	5	58 [2010] Range 57 - 58	#4 [2010] 2.5 ppb	1 [2011]	ND [2011]	All Results Negative	All Results Negative	<.1	1	<1.0 [2008]	3 [2008]	[2008] <0.4
Vamori	040-0038	7 Sample range 7 - 8	1 [2012]	1	53 [2012] Range 52 - 54	#1 0.076 ppm	ND [2011]	ND [2011]	All Results Negative	All Results Negative	0.1 [2011]	1 [2011]	<1.0	10 Range 6 -13	[2007] <0.4
Little Tucson	040-0040	6 Sample range 5 - 7	<1 [2011]	2	57 [2011] Range 53 - 60	#1 [2011] .077 ppm	2 [2011]	ND [2011]	All Results Negative	All Results Negative	0.1 [2012]	2 [2012]	4.0 [2007]	10 Range 8 -12	[2007] <0.4
Kerwo Intertie/ Pia Oik/ Menagers Dam	040-0041	2 Sample range ND - 2	1	2	55	#8 0.1 ppb	4 [2011]	ND [2011]	All Results Negative	All Results Negative	0.1	ND	<1.0	4 Range 3 - 5	<0.4
Sells Intertie/ Big Fields/ Pan Tak	040-0042	8 Sample range 8 - 9	1 [2012]	3	63 [2012]	#1 [2012] .064 ppm	2 [2011]	ND [2011]	All Results Negative	All Results Negative	0.13 [2011]	3 [2011]	<1.0	7	[2007] 0.3
Comobabi Intertie/ Crowhang	040-0220	3 Sample range 2 - 3	<1 [2011]	2 Sample range 1 - 2	40 [2011] Range 39 - 40	#4 [2011] 2.9 ppb	3 [2011]	ND [2011]	All Results Negative	All Results Negative	0.2	1	<1.0	6 Range 3 - 9	[2007] <0.4
Tohono O'odham Community College (TOCC)	040-0215	2	ND	1	46	#1 .074 ppm #8 0.7 ppb	33	2	All Results Negative	All Results Negative	1.1	5	3 Range ND - 3	4 Range 3 - 5	4 Range 3 - 5
Greater Santa Rosa Regional Intertie/ Santa Rosa Brd. School/ Anegam/ Palo Verde Stand/ Santa Rosa Subdivision/ Santa Rosa Village/North Komelic	040-0226	16* Sample range ND - 21	1	5 Range 4-6	87 Range 84-90	#1 .1 ppm	4 [2011]	ND [2011]	All Results Negative	All Results Negative	0.2	1	<1 Range ND - 1	15 Range 10-18	[2007] <0.4
San Xavier ORD (East)	040-0227	10 Sample range ND - 17	1 [2011]	4 Sample range 3 - 6	49 [2011] Range 43 - 59	#1 [2011] 0.069 ppm #8 [2013] 1 ppb	8 [2011]	ND [2011]	All Results Negative	All Results Negative	0.2	2	1	4	[2007] <0.4
Mission View	040-0228	See Tucson Water CCR	See Tucson Water CCR	See Tucson Water CCR	See Tucson Water CCR	See Tucson Water CCR	[2011] Stage 1 7.28 [2013] Stage 2 2	ND	All Results Negative	All Results Negative	<0.1 [2012]	1 [2012]	See Tucson Water CCR	See Tucson Water CCR	See Tucson Water CCR
Jackrabbit	040-0231	10 Sample range 1 - 13	2 [2009]	4	190 [2005]	None	2 [2011]	ND [2011]	All Results Negative	All Results Negative	0.1	1	<1.0	13	[2007] 0.3
Ak Chin Nursing Home	040-0232	1 Sample range ND - 3	1 [2009]	2	86 [2005] Range 85-86	#1 [2009] .2 ppm	4 [2011]	ND	All Results Negative	All Results Negative	0.4	1.5	1	<1	[2007] <0.4

NOTE: *Individual Arsenic results were below the MCL but compliance is determined on a running

Color coded villages signify that the distribution system of more than one village has been intertied.

VARIOUS OTHER CONTAMINANANTS:

#1 BARIUM	MCL - 2 ppm	deposits
#2 CHROMIUM	MCL - 100 ppb	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
#3 THALLIUM	MCL - 2 ppb	factories
#4 SELENIUM	MCL - 50 ppb	Discharge from petroleum, glass and metal refineries, mines & chemical manufactures; erosion of natural deposits; runoff
#5 MERCURY	MCL - 2 ppb	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and/or cropland
#6 TOLUENE - VOC	MCL - 1 ppm	Discharge from petroleum and chemical factories; underground gas tank leaks
#7 ANTIMONY	MCL - 6 ppb	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
#8 Di(2-ethythexyl) phthalate	MCL - 6 ppb	SOC - Discharge from rubber and chemical factories; inert ingredient in pesticides

Violations:
Several water systems now have arsenic treatment. They were installed throughout 2012 and early 2013. Compliance for the arsenic MCL is determined by a running annual average, where the last four quarterly results are averaged. The running annual average is then reported as the result instead of the actual result for any one quarter. There were several communities that had arsenic treatment where their quarterly result was below the MCL but TOUA received violations because the RAA exceeded the arsenic MCL. Those communities were Kohatk, Ak Chin, & Cockleburr. The community of the Greater Santa Rosa Regional had increased monitoring for Radionuclides because they added arsenic treatment and TOUA missed the third quarter monitoring period that was due between 7-1-13 and 9-30-13 but did monitor and was returned to compliance 10-22-13. The community of San Xavier West exceeded the MCL for uranium the 4th quarter of 2013 and was put on quarterly monitoring to determine the running annual average. TOUA immediately began searching for a temporary alternative water source and uranium treatment techniques for this community.

WHO CAN YOU CONTACT FOR MORE INFORMATION?

For more information on this TOUA Water report contact Vernetto Ramon with the Water Quality Control Laboratory at 520-383-5832 or e-mail your questions to Vernetto.ramon@hq.toua.net.

Telephone Numbers:
TOUA Main Line 520-383-2236
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Trouble Line 611
Myrt I. McIntyre, Manager Water/Wastewater Department 520-383-5830
Cauy Washburn, Superintendent Water/Wastewater Department 520-383-5835
Water Quality Control Laboratory 520-383-5832
USEPA Water Hotline 1-800-426-4791

In 2013, TOUA collected additional monitoring data for contaminants that were not detected. The results are available at TOUA Water Laboratory. This report is also available on the TOUA web page, www.toua.net/water.

TOUA Water Department Professionals