"The Water We Drink"

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The United States Congress has directed the Environmental Protection Agency (EPA) to require public water systems to report annually on the quality of drinking water they provide. The City of Fort Smith Utilities supports this regulation and is providing this report to all customers in our service area.

This report is about your drinking water sources and quality; regulations that protect your health; programs that protect the high quality of our supply sources; and the treatment processes that assure our drinking water meets or surpasses all federal and state standards.

Congress passed the Safe Drinking Water Act in 1974, delegating to the U.S. Environmental Protection Agency (EPA) the authority to regulate public water systems to protect public health.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations established limits for contaminants in bottled water.

Water Supply Expansion Underway

Water is one of Earth's most valuable resources. To ensure that you and future generations have adequate water, the city is constructing the Lake Fort Smith water supply project. Estimated to cost $160 million, the project is expected to meet the region's water needs through 2050.

The expansion project will combine the existing Lake Fort Smith and Shepherd Springs into one lake. The dam at Lake Fort Smith will be raised 101 feet, creating a lake with a surface area of 1,398 acres capable of reliably providing up to 50 million gallons of water a day. The dam at Shepherd Springs will be removed.

The Lake Fort Smith state park will be relocated to the west shore just above the existing Lake Shepherd Springs dam. The new state park is expected to be ready for opening in spring 2006. Construction on the expansion project began in June 2002, and is scheduled to be completed by spring 2006.

Lake Fort Smith has been supplying water to the region since 1936. Currently, more than 130,000 people receive water daily from Fort Smith's supplies. Population estimates project that the area will grow to more than 300,000 by the year 2040.

A dependable, safe and high-quality water supply is essential for Fort Smith's and the region's continued prosperity. Lake Fort Smith will continue to meet the area's growing water demand well into the 21st Century.

Visit us on the Internet!

For more information regarding your drinking water, visit our web site at **www.fortsmithwater.org.**

This site contains additional information regarding your drinking water such as: up-to-date water quality information, water conservation status, updates on water supply projects and other utility related information.

You can also ask questions via E-mail, and there is an updated section for kids to help them learn more about their drinking water.

Fresh clean drinking water is yours to use whenever you need it. But not to waste. It's too valuable. Remember that a little effort and a little common sense will make a big difference. **Use Water . . . And Use it Wisely**

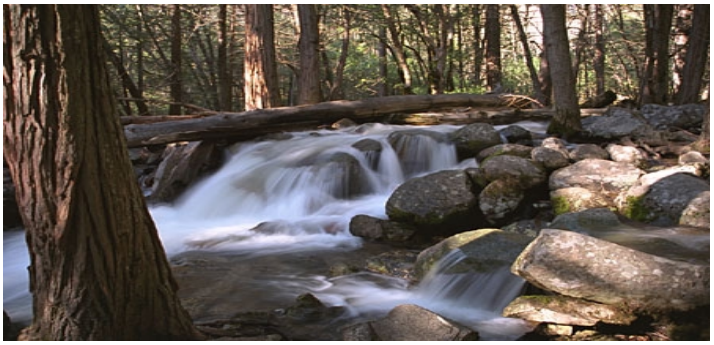
Fort Smith's Water Sources

Fort Smith has two independent water sources. Our primary water source is the Frog Bayou watershed, a 74 square mile forested valley located in the Boston Mountains, 2 miles north of Mountainburg, AR. The Frog Bayou supply comes from rain (43-56" of rain per year), and stream runoff flowing down the slopes of the watershed. The water is stored in two large lakes, **Lake Shepherd Springs** (approximately 500 surface acres) and **Lake Fort Smith** (approximately 400 surface acres).

Fort Smith's other water supply is the Lee Creek watershed, a 439 square mile area located in both the States of Arkansas and Oklahoma. The Lee Creek supply also comes from rain (43-56" of rain per year), and stream runoff flowing down the slopes of the watershed. The water is stored in the **Lee Creek Reservoir** (approximately 634 surface acres).

"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 dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity."

Protecting the Source



In 2002, the Watershed Management Team continued its efforts to preserve water quality by protecting the land around Fort Smith's source water lakes. Employees monitor the source water supplies as well as the surrounding watersheds in a continuing effort to provide high quality drinking water for the City's water customers.

Partnerships were continued with the University of Arkansas, U.S. Forest Service, and U.S. Geological Survey (USGS). These partnerships focused on improving the monitoring efforts in both the Frog Bayou and Lee Creek watersheds.

We would like to encourage all water customers to get involved in protecting their water sources by attending public meetings, learning more about their watersheds and watershed management, and becoming educated on the drinking water process.

Source Water Assessment and Protection Program

The Source Water Assessment and Protection (SWAP) Program is a preventative approach to protecting public drinking water supplies. Source water assessment has four key components: public participation, delineation of source water protection areas, inventory of potential sources of contamination, and rating the susceptibility of the source water to contamination. Source water assessments must be completed by August 2003.

The Arkansas Department of Health completed a Source Water Vulnerability Assessment for Fort Smith Waterworks (PWS ID 507) on June 15, 2000. This assessment summarizes the potential for contamination of our source(s) of drinking water and can be used as a basis for developing a source water protection plan. A report explaining the assessment process and results can be obtained from the Fort Smith Water Utility office, or accessed through the Arkansas Department of Health's website at: www.healthyarkansas.com/eng/swp.htm

To learn more about source water quality and watershed protection, visit the following U.S. Geological Survey and Environmental Protection Agency websites; http://ar.water.usgs.gov/ and http://www.epa.gov/owow/watershed/.

Water Conservation tips:

Water conservation measures not only save the supply of our water source, but can also cut the cost of water treatment by saving energy. Here are some conservation measures you can take:

At Home:
1. Fix leaking faucets, pipes, toilets, etc.
2. Install water-saving devices
3. Wash only full loads of laundry
4. Don't let the water run while shaving, washing, or brushing teeth
5. Run the dishwasher only when full.

Outdoors:
1. Water the lawn and garden as little as possible
2. Choose plants that don't need much water
3. Repair leaks in faucets and hoses
4. Use water from a bucket to wash your car, and save the hose for rinsing.
5. Obey any and all water bans or regulations.

Contaminants that may be present in source water include:

* *Biological contaminants,* such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

* *Inorganic contaminants,* such as salts and metals, which can be naturally occurring or result from urban storm 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 chemicals,* including synthetic and volatile organics, 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 materials,* which can be naturally occurring or be the result of oil and gas production and mining activities.

About Cryptosporidium...

Cryptosporidium parvum caused intestinal illness in thousands of people in Milwaukee, Wisconsin in 1993. This organism can be transmitted several ways, including drinking water. People may also be exposed to Cryptosporidium by person-to-person exposure (handling diapers from an infected child) or animal-to-person (such as fecal contamination from an infected pet).

Growing scientific knowledge about this organism suggests it is naturally present in bodies of water throughout the world. Surface water supplies are particularly vulnerable if they receive runoff or pollution from human or animal wastes. (Surface water supplies, such as rivers and lakes rely on water that flows across the surface of the land.)

Both the Frog Bayou and Lee Creek watersheds receive water that comes into contact with agricultural practices such as cattle farming and people living in these watersheds. Additionally, wild animals have been known to harbor Cryptosporidium.

The Fort Smith Utility Environmental Services staff regularly monitors for Cryptosporidium in both water sources. The Environmental Services staff samples the source water for Cryptosporidium using the most current testing methods, and routinely finds very low levels. There have been no reported cases of cryptosporidiosis (the illness caused by Cryptosporidium) linked to the City of Fort Smith's drinking water.

Terms and abbreviations used in this report

Finished water: Water leaving the treatment plant and entering the distribution system.

Unregulated contaminants: The EPA has not established a maximum contaminant level for every contaminant that might be found in drinking water. If no value is entered for the maximum contaminant level goal, the contaminant is not currently regulated or is not considered to pose a health risk.

Minimum detection limits: Many contaminants cannot be detected by current testing procedures. That can mean either there is no contaminant present, or that it is present at levels too low for modern laboratory equipment to detect.

Concentration Levels: Most measurements are reported in concentrations of milligrams (1/1000 of a gram) per liter of water (mg/L). This is the same as one part per million. If a different measurement is used, the table will note that.

Maximum Contaminant Level Goal - (mandatory language) 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.

Maximum Contaminant Level - (mandatory language) 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.

Secondary Maximum Contaminant Level (SMCL) - These are non-mandatory water quality standards established as aesthetic guidelines.

Treatment technique (TT)-(mandatory language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Action level (AL)-"The concentration of a contaminant which triggers a treatment or other requirement which a water system must follow."

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

Key to Water Quality Tables

AL	Action Level
TT	Treatment Technique
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
mg/L	milligrams per liter, or parts per million (equivalent to 1 cent in $10,000 or 1 minute in 2 years)
ug/L	micrograms per liter, or parts per billion (equivalent to 1 cent in $10,000,000 or 1 second in 32 years)
mrem/yr	millirems per year (a measure of radiation absorbed by the body)
pCi/L	picocuries per liter (a measure of radioactivity)
MFL	million fibers per liter

The data represented in the following tables are from the monitoring period of January 1, 2002 through December 31, 2002 unless otherwise noted.

Water Quality Data Tables

Regulated Microbiological Contaminants							
Contaminant/(Site)	**Units:**	**MCLG**	**MCL**	**Highest Daily Value**	**Lowest % of samples meeting the Turbidity Limit**	**Violation (Y/N)**	**Likely Source of Contamination**
Turbidity* (Lake Fort Smith/ Lake Shepherd Springs)	NTU	NA	TT(filtered systems must be = or <0.3 NTU at least 95% of the samples taken	0.72[a]	93.5	Y	Soil runoff
Turbidity* (Lee Creek Reservoir)	NTU	NA	TT(filtered systems must be = or <0.3 NTU at least 95% of the samples taken	0.66[b]	99.4	N	Soil runoff
Note: * Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration systems; **a** - 2002 Annual average was 0.06 NTU; **b**. 2002 Annual average was 0.02 NTU.							

Regulated Microbiological Contaminants						
Contaminant/(Site)	**Units:**	**MCLG**	**MCL**	**Highest monthly # of positive samples**	**Violation (Y/N)**	**Likely Source of Contamination**
Total Coliform Bacteria	Presence/ Absence	0	Presence of coliform Bacteria in 5% of monthly samples	1	N	Naturally present in the environment

Regulated Inorganic Contaminants							
Contaminant/(Site)	**Units**	**MCLG**	**MCL**	**Highest Daily Value**	**Range of Samples Taken**	**Violation (Y/N)**	**Likely Source of Contamination**
Nitrates, (Lake Fort Smith/ Shepherd Springs)	mg/L	10	10	0.58	0.58	N	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrates, (Lee Creek Reservoir)	mg/L	10	10	0.15	0.15	N	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Regulated Volatile Organic Contaminants							
Contaminant/(Site)	**Units**	**MCLG**	**MCL**	**Highest Annual Average of Quarterly Samples**	**Range of Quarterly Samples**	**Violation (Y/N)**	**Likely Source of Contamination**
TTHM [Total Trihalomethanes] (Distribution system)	ug/L	NA	80	38.9	8.9-65.6	N	By-product of water chlorination
HAA5 [Haloacetic Acids] (Distribution system)	ug/L	0	60	20.4	4.7-40.8	N	By-product of water chlorination
Note: On January 1st, 2002 monitoring for Haloacetic Acids (HAA5) changed from investigative status to compliance status. The average stated above reflects monitoring results from quarterly HAA5 sampling in 2002 only, and is not a running annual average. Next year our water quality report will indicate a running annual average for HAA5.							

The City of Fort Smith's Environmental Services Analytical Laboratory (ESAL) is one of only a few laboratories in the state certified by the Arkansas Department of Health (ADH) for drinking water analyses. The laboratory serves as a back up to ADH's laboratory in the event of emergency. ESAL also provides support to other local water utilities with analyses for Boil Orders. Due to the decreased turn around time provided, ESAL can help a water utility overcome the restraints a "Boil Order" can place on a utility and it's customers. ESAL processed 1,001 bacteriological samples for routine compliance monitoring and response to "Boil Order" issuance in 2002.

Water Quality Data Tables

Lead & Copper Tap Monitoring						
Contaminant	**Number of sites over Action Level**	**90% percentile result**	**95% percentile result**	**Units**	**Action Level**	**Likely Source of Contamination**
Lead(Pb)	0	0.005	0.008	mg/L	0.015	Corrosion of household plumbing systems; erosion of natural deposits
Copper(Cu)	0	0.05	0.05	mg/L	1.3	Corrosion of household plumbing systems; erosion of natural deposits
Fort Smith Utilities is on a reduced monitoring schedule and required to sample once every three years for lead & copper at the customer's tap. Our last monitoring period was June 13, 2001. Our next required monitoring period is in the year 2004.						

Total Organic Carbon (TOC) Monitoring				
Contaminant/(Site)	**Units**	**Lowest Percentage of TOC Removal**	**Required Percentage of TOC Removal**	**Likely Source of Contamination**
TOC (Lake Fort Smith/Shepherd Springs)	mg/L	45%	0	Naturally present; decay of organic substances
TOC (Lee Creek)	mg/L	34%	0	Naturally present; decay of organic substances
Note: The Total Organic Carbon (TOC) was measured each month, and because the source water TOC level was low, there was no requirement for TOC removal.				

Unregulated Contaminants* - Monitored by ADH/City of Fort Smith			
Contaminant/(Site)	**Level of Detect**	**Unit of measurement**	**Likely Source of Contamination**
Bromodichloromethane (Lee Creek Reservoir)[a]	7.72	ug/L	By-product of disinfection
Bromoform (Lee Creek Reservoir)[a]	0.29	ug/L	By-product of disinfection
Chloroform (Lee Creek Reservoir)[a]	14.5	ug/L	By-product of disinfection
Dibromochloromethane (Lee Creek Reservoir)[a]	3.69	ug/L	By-product of disinfection
Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. **a** - Denotes contaminant is an unregulated component of TTHM.			

Contaminant/(Site)	**Units**	**Range of Quarterly Samples**	**Likely Source of Contamination**
Bromochloroacetic Acid*[a]	ug/L	<1.0 - 3.8	By-product of water chlorination
Dibromoacetic Acid*[a]	ug/L	<1.0 - 1.2	By-product of water chlorination
Dichloroacetic Acid*[a]	ug/L	2.8 - 21.4	By-product of water chlorination
Monochloroacetic Acid*[a]	ug/L	<2.0 - 4.9	By-product of water chlorination
Trichloroacetic Acid*[a]	ug/L	1.9 - 15.8	By-product of water chlorination
* - Results are from Distribution System Sites. **a** - Denotes contaminant is an unregulated component of HAA5.			

Secondary Standards - Standards Recommended by U.S. EPA and ADH				
Physical Analytes	**Units:**	**Secondary MCL:**	**Level Detected in Lake Fort Smith/Shepherd Springs Finished Water:**	**Level Detected in Lee Creek Finished Water:**
Apparent Color	Color Units	15	1	8
Reaction pH	Standard Units	6.5 - 8.5	5.74	6.55
Odor	Qualitative	3	0	0

"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."

Water Quality Data Tables

Inorganic Chemicals	Units:	Secondary MCL	Level Detected in Lake Fort Smith/Shepherd Springs Finished Water:	Level Detected in Lee Creek Finished Water:
Aluminum	mg/L	0.05 - 0.2	0.0099	0.00744
Chloride	mg/L	250	3.1	7.2
Iron	mg/L	0.3	<0.03	<0.03
Manganese	mg/L	0.05	<0.001	0.0028
Sulfate	mg/L	250	27.4	4.2
Zinc	mg/L	NA	0.0064	<0.006

Additional Water Quality Parameters Monitored by ADH/City of Fort Smith			
Analytes	**Units:**	**Level Detected in Lake Fort Smith/ Shepherd Springs Finished Water:**	**Level Detected in Lee Creek Finished Water:**
Alkalinity	mg/L as CaCO3	11	37
Calcium	mg/L as CaCO3	14.0	13.2
Carbonate	mg/L as CaCO3	11	37
Fluoride	mg/L	<0.2	<0.2
Hardness (Total)	mg/L as CaCO3	41	41
Magnesium	mg/L	1.45	2.00
Potassium	mg/L	<2.0	<2.0
Sodium	mg/L	2.28	3.67
Sediment	mg/L	<0.5	<0.5

Important Health Information for Immuno-compromised persons.

"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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791)."

Regulations for Public Water Systems

The federal Safe Drinking Water Act required that water quality standards be developed and enforced. The Environmental Protection Agency (EPA) developed standards for public drinking water systems when Congress passed the law in 1974.

Congress delegated enforcement of these drinking water standards to the EPA. The EPA develops rules that govern how the provisions of the Act will be carried out. The Arkansas Department of Health is the primacy agency that enforces drinking water regulations in Arkansas.

"The Safe Drinking Water Act regulates public drinking water supplies."

In 1986 Congress reauthorized the Act and amended it. The 1986 amendments to the Safe Drinking Water Act and the Rules devleoped to implement it have influenced the operation of Fort Smith's water system. Among the changes were the initial regulation of 83 drinking water contaminants, and a requirement to regulate an additional 25 contaminants every three years.

We make every effort to assure that the water supplied by Fort Smith's public water system complies with federal and state drinking water standards.

Primary standards protect public health.

Primary standards include maximum contaminant levels, maximum contaminant level goals, action levels and treatment techniques. These standards are established by the EPA to protect human health.

Secondary standards relate to aesthetics.

These guidelines designed to assure good aesthetic quality of water. Secondary standards apply to contaminants that affect the taste, odor or color of water, stain sinks or bathtubs, or interfere with treatment processes. Secondary contaminants are not considered to present a risk to human health at the SMCL.

Is our water system meeting the rules that govern our operations?

The table shows that we experienced a problem with turbidity at our Mountainburg Water Treatment facility during 2002. During a period beginning on March 19, 2002 through March 22, 2002 and during a period beginning on April 11, 2002 through April 18, 2002 violations of a treatment technique (TT) occurred. A treatment technique is a required process intended to reduce the level of a contaminant in drinking water. Specifically, the water system exceeded the monthly maximum allowable turbidity level of 0.3 turbidity units in greater than 5 % of readings taken. The maximum value of 0.72 NTUs occurred between the hours of 4:00 am and 8:00 am on March 24, 2002 and again between the hours of 4:00 pm and 8:00 pm on April 18, 2002. However, the maximum of 1 turbidity units was not exceeded during either March or April.

The March violation was due to a failure of a flow control device and concurrent loss of a chemical feed pipe in one treating unit at the facility. The problems were corrected immediately and the system returned to compliance on March 25, 2002. The April violation was due to the high raw water turbidity experienced during the month of April. The system returned to compliance on April 19, 2002. In both cases, routine plant and distribution samples collected and analyzed during this period document that no microbiological contamination was detected. Further, chlorine residual concentrations in the drinking water were within levels specified by the Safe Drinking Water Act for inactivation or destruction of any microbiological contaminants that may have been present.

Public notices were issued in both instances as required by the Safe Drinking Water Act. However, the notices were not issued in response as a result of public health concerns or reported illnesses.

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Turbidity, or cloudiness, of drinking water is a measure of the minute particles suspended in the water that can interfere with disinfection and with the testing of bacteria. Turbidity is required to be tested at least one or more times each day for water systems utilizing a surface water source or groundwater that is directly influenced by surface water. Excessive turbidity may allow disease causing microorganisms, if present, to enter the water system. The U.S. Environmental Protection Agency has set the enforceable drinking water standard for turbidity at a maximum of 0.3 turbidity units can be exceeded in only 5% of the total turbidity measurements taken in a month, and not to exceed 1 turbidity units at any one time. EPA sets national drinking water standards and has determined that the presence of microbiological contaminants are a health concern at certain levels of exposure. If water is inadequately treated, microbiological contaminants in that water may cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however are not just associate with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set enforceable requirements for treating drinking water to reduce the risk of these adverse health effects. Treatment such as proper filtering and disinfecting of the water removes or destroys microbiological contaminants. Drinking water that is treated to meet EPA requirements is associated with little to none of this risk and should be considered safe. Failure to meet the turbidity standard does not mean that the water is unsafe or that alternate sources of water should be used.

We want our valued customers to be informed about their water utility.

If you have any questions about this report or to learn more about your water utility, contact the Fort Smith Utility Department at 479-784-2231 or visit our web site at **www.fortsmithwater.org**.

You can attend meetings of the City's Board of Directors held on the first and third Tuesday of each month (contact the City Clerk's office at 479-784-2208 for meeting times and locations). Agendas and meeting minutes may also be viewed on the city's web site at www.fsark.com. Click on "board of directors.

If you have additional questions regarding the quality of drinking water, you can contact someone on the following list.

Agency	Telephone Number
Environmental Protection Agency (EPA) Safe Drinking Water Hotline	(800) 426-4791
Arkansas Department of Health Div. of Engineering	(501) 661-2623

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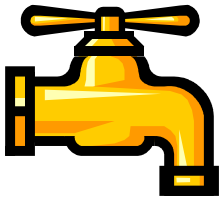

Fort Smith Utility 2002 Annual Water Quality Report

Fort Smith Utility Department
3900 Kelley Highway - Fort Smith, AR 72904
Phone: 479-784-2231

Director of Utilities - Steve Parke
Superintendent of Water Operations - Steve Floyd
Environmental Manager - Randy Easley

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 your water, what it means 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.

"This report contains important information about your drinking water. Translate it, or speak with someone who understands it."

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

Vietnamese: Chi tiết này thật quan trọng.
Xin nhờ người dịch cho quý vị.

Laotian:

ລາຍງານນີ້ມີຂໍ້ມູນສຳຄັນກ່ຽວກັບນ້ຳປະປາຂອງທ່ານ. ຈົ່ງໃຫ້ຄົນແປຄວາມໃຫ້ທ່ານ, ຫລືໃຫ້ປຶກສາກັບຄົນໃດຄົນໜຶ່ງທີ່ເຂົ້າໃຈເລື່ອງ.