



More Than 100 Years of Water Stewardship

CITY OF SPOKANE WATER DEPARTMENT



2014 WATER QUALITY REPORT

An Annual Report on the Source and Contents of Spokane's Water



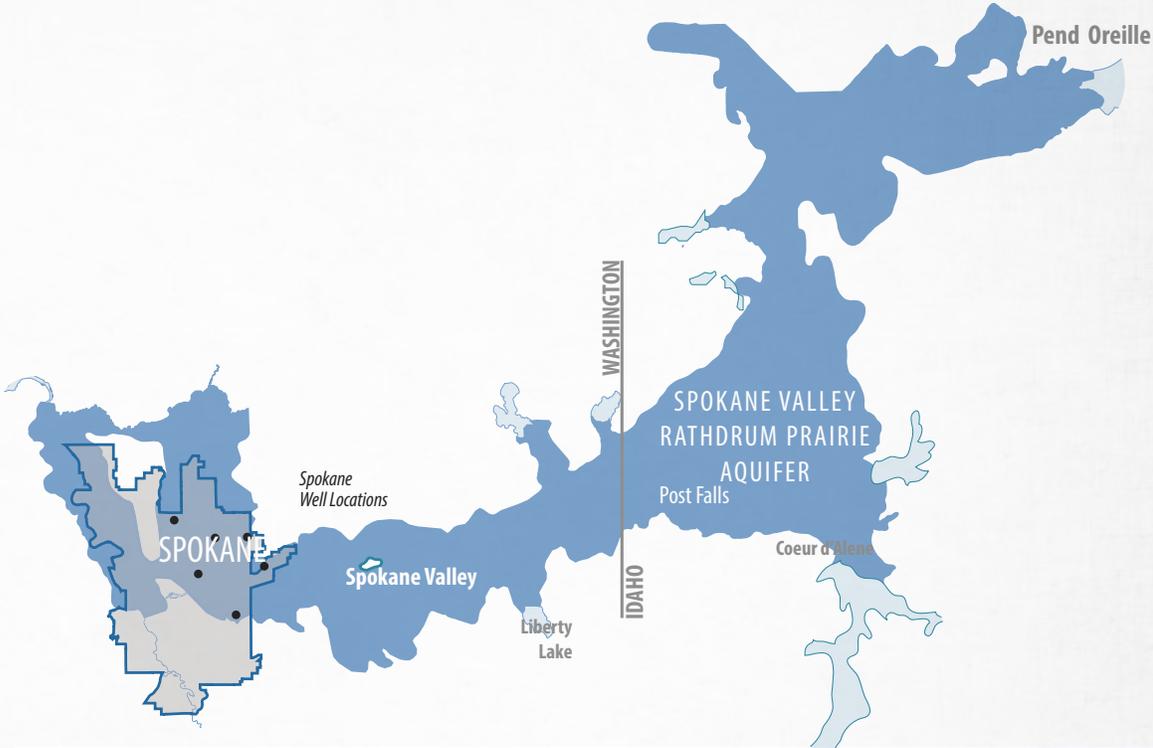
Northwest view of Upriver Dam and Hydroelectric Facility, 1957

Your Water System:

PURE WATER FROM THE GROUND

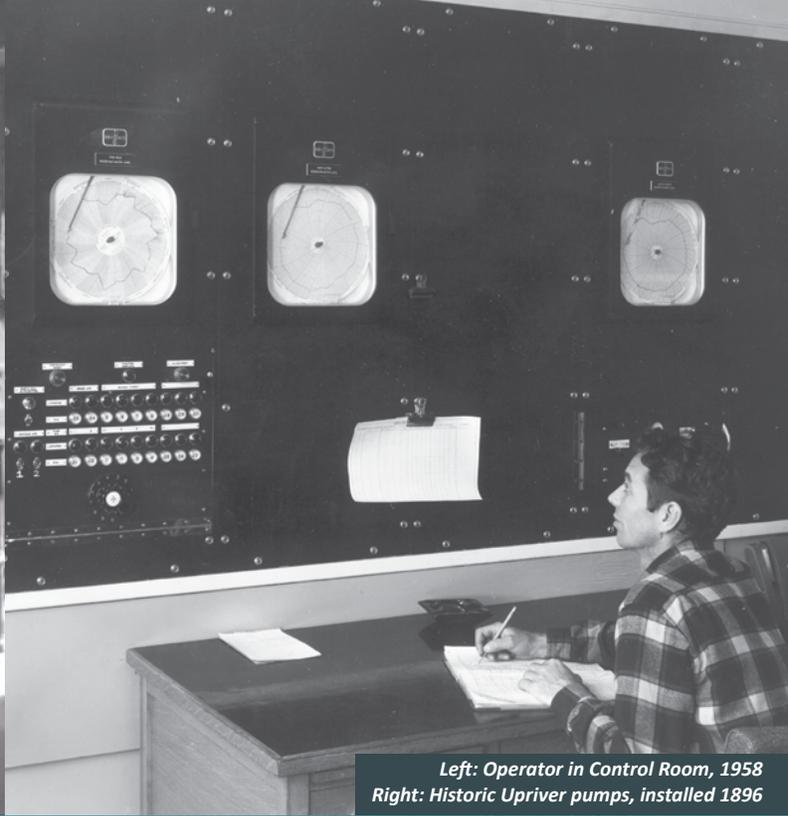
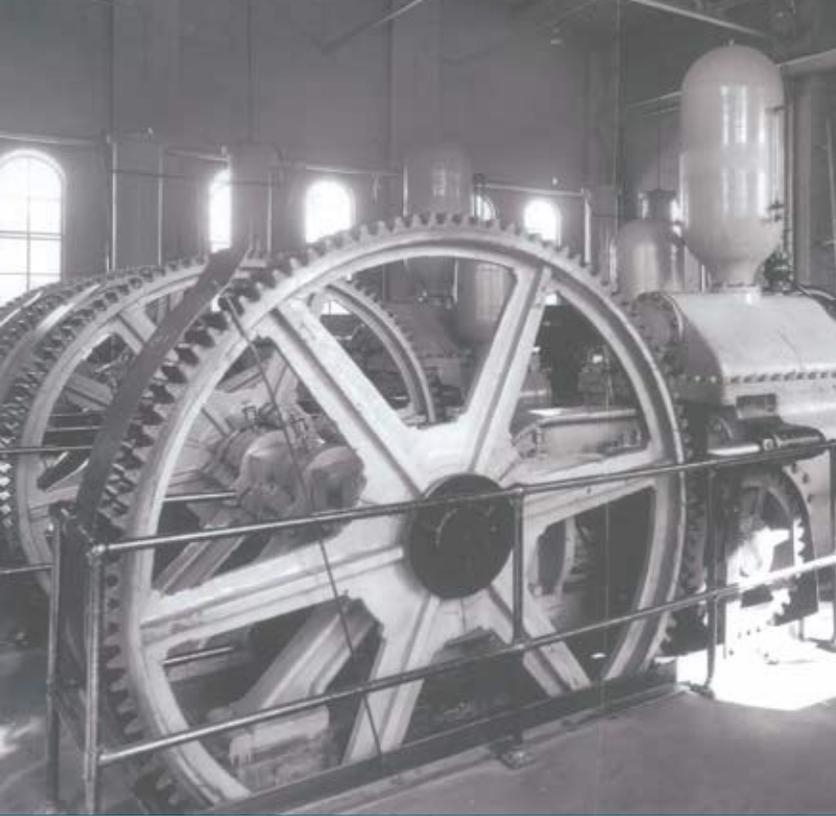
The Spokane Valley Rathdrum Prairie Aquifer was created by ice age floods that deposited a thick layer of boulders and gravel. This rock and gravel layer is now filled with water and extends 135 square miles from Pend Oreille Lake in Idaho to just past the western edge of the City of Spokane. It ranges in surface depth from a few feet in some areas to as much as 500 feet in others.

We are working and living over our drinking water source. Since our water is beneath us, it is important that we follow good stewardship practices and not pour anything on the ground or in storm drains that you would not want to drink.



COME SEE THE UPRIVER DAM AND WELL COMPLEX

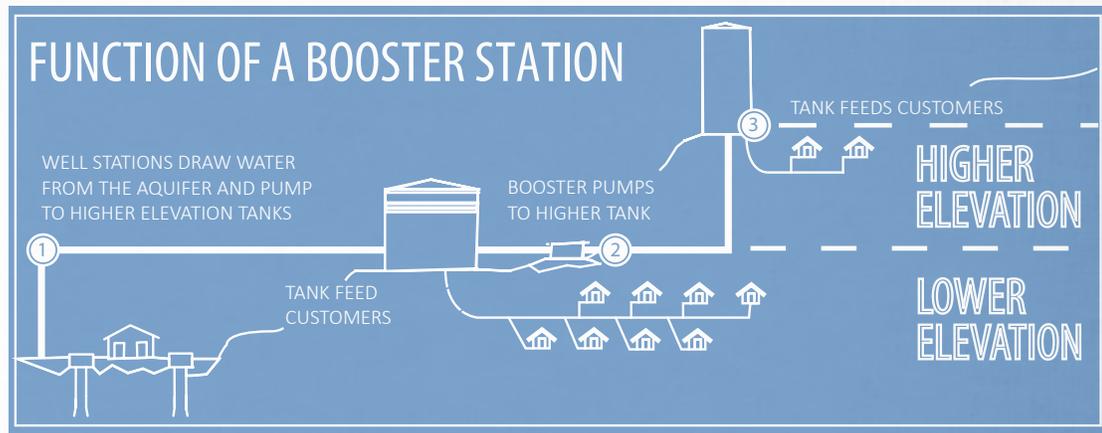
The City of Spokane gives tours to school and civic groups. Areas of interest include: the aquifer, hydroelectric power, the water control center, the water quality lab, and how water gets from the well to your house. If you are interested in a tour, please call the dam at 742-8141 and schedule a time for your visit. All interested groups please call ahead and provide supervision for small children. Give us a call!



Left: Operator in Control Room, 1958
Right: Historic Upriver pumps, installed 1896

From Source to Tap

1 The City of Spokane has seven wells located throughout the City from which it draws water directly from the aquifer. The water from the aquifer is pure enough to be pumped directly from the ground without any treatment. We simply add chlorine to the water to ensure that purity is maintained throughout the distribution system.



2 To pump the water up to storage tanks and reservoirs, booster stations are located throughout the city. These stations contain large pumps and motors to help move the well water from lower elevations to the tanks at higher elevations within the distribution system. Water at a higher elevation in a tank provides water pressure to the homes below it.

3 More than 1,000 miles of water mains are located throughout the City. Water reaches your house directly from service lines running off smaller mains. To meet customers' needs, the City has over 100 million gallons of water stored in reservoirs. The amount of water stored in a given tank depends on both the water demand for that area as well as the fire protection requirements.

4 Throughout the year, hundreds of water quality tests are performed, water mains, valves and meters are repaired and replaced, and water department personnel continually search for leaks and problems to ensure you the best drinking water possible. Highly trained operators monitor the distribution system from a 24-hour control center. Ultimately, the water system is extensive and requires thousands of man-hours to maintain and operate.



WATER EFFICIENCY:

2014 Water Use Goals

The City of Spokane has taken an active role in area-wide partnerships to safeguard the quality and quantity of our water supply and additional steps to conserve water through educational programs, metering water use, repairing leaking pipes, and implementing a conservation-oriented rate structure.

In April 2014 new Water Use Efficiency Goals were adopted to measure metered usage. The new goals are a 0.5% annual residential indoor reduction and a 2% annual reduction in outdoor irrigation for residential, commercial/industrial, and government use.

Water Use Efficiency Goals - adopted April 2014

Metered Consumption: Beginning April 2014		
	Total (gal/day)	Goal (gal/day)
Indoor Residential Use	122	122
Outdoor Residential Use	513	516
Outdoor Commercial/Industrial Use	4,325	3,923
Outdoor Government Use	4,759	4,921

Water Use Efficiency Goals: 2006 - April 2014

2014 Pumpage (x1,000 Gallons)			
Period	Total	Goal	Result
October 2013 - March 2014(winter)	6,397,435	7,080,000	-9.6%
April - June (spring)	6,246,070	6,960,000	-10.3%
July through September (summer)	9,636,735	8,470,000	13.7%

Sum of seasonal totals: 22,275,619



Water Department staff installing a water main, early 1900s

THE KEY TO A SUSTAINABLE FUTURE

2014 Water Use Goal Results

The City achieved its previous conservation goals (effective through April of 2014) for the winter and spring periods, however it did not meet summer timeframe goals. The newly adopted Goals for 2014 were achieved for indoor residential use, outdoor residential use and outdoor government use; but not for outdoor commercial/industrial use. Help us meet this year's goals this summer, and save money on your water bill at the same time, by continuing to find ways to use less.

Conservation Tips

Preventing leaks is one way water is conserved; your efforts are another. As temperatures rise in the summer, so does our outdoor water use, mostly on lawns and landscapes. As much as 50% of the water we use outdoors is wasted from inefficient watering methods and systems. Watering your lawn in the early morning, setting a timer to remind you to turn off sprinklers, and leaving grass longer are a few easy ways to save water this summer.

Distribution System Loss

Designated Water Department personnel identify leaks using state-of-the-art, sonic leak detection equipment. These crews have been instrumental in reducing the amount of unaccounted water throughout the distribution system. An aggressive leak detection program is a key element in the Water Department's conservation efforts.

To comply with the Water Use Efficiency Rule standard for Distribution System Loss, a water system must have a 3-year running average of less than 10%. The DSL for the City of Spokane Water System for 2014 is 17.8% and the three year average is 18.5 %, which means the City has not met the DSL standard.

2014 Distribution System Loss	
Total Water-Produced & Purchased, gallons	22.6 billion
DSL, percent	17.8 %
DSL, volume, gallons	4 billion

The DSL is calculated using the following method:
 $DSL = [(TP - AC) / (TP)] \times 100$
 Where
 Percent of Distribution System Leakage (DSL)
 Total Water Produced and Purchased (TP)
 Authorized Consumption (AC)

POTENTIAL SOURCES OF WATER CONTAMINATION

All Drinking Water May Contain Contaminants

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 land or through the ground, it dissolves naturally occurring minerals and radioactive material, and can pick up substances from the presence of animals or from the presence of human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at **1-800-426-4791**.

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations which limit the amount of certain contaminants in the water provided by public water systems. U.S. Food and Drug Administration regulations establish the limits for contaminants in bottled water, which must provide the same protection for public health.



SPECIAL NOTICE

For the elderly, infants, cancer patients, people with HIV/AIDS, or other immune problems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those with cancer undergoing chemotherapy, transplant recipients, persons with HIV/AIDS or other immune disorders, some elderly and infants can be particularly at risk for infection. These people should seek advice from their health care providers. The US EPA - Center for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline **1-800-426-4791**.

POTENTIAL CONTAMINANTS

CONTAMINANT	TYPE	SOURCES
Microbiological	Viruses and Bacteria	Sewage treatment plants, septic waste, agricultural, and livestock runoff
Inorganic Chemical	Salts and Metals	Naturally-occurring or from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming
Organic Chemical	Pesticides and Herbicides	Residential and agricultural use, urban storm water runoff
	Synthetic and Volatile	Byproducts of industrial processes and petroleum production, gas stations, urban storm water runoff, and septic systems
Radioactive	Natural and Man Made Deposits	Mining, gas, and oil production, naturally occurring

CONTAMINANTS FOUND IN DRINKING WATER TESTING IN 2014

Source Water Testing

Contaminant	Units	MCLG	MCL	Average	Range	Possible Source
Arsenic	mg/L	0	10	(a)	2.6 to 3.0	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Nitrate	mg/L	10	10	(a)	0.68 to 3.23	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Combined Radium - (Radium 226 +228) (b)	pCi/L	0	5	(a)	1.54 to 2.1	Decay of natural and man-made deposits
Gross Alpha emitters	pCi/L	0	15	(a)	< 1.0 to 2.1	Erosion of natural deposits

End of Pipe Testing

Contaminant	Units	MCLG	MCL	90th Percentile	Number of Sites Exceeding AL	Possible Source
Copper (c) - tested Summer 2012	ppm	1.3	TT,AL= 1.3	0.09 (d)	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (c) - tested Summer 2012	ppb	0	TT,AL= 15	3.80 (d)	0	Corrosion of household plumbing systems; Erosion of natural deposits

Contaminant	Units	MCLG	MCL	LRAA	Range	Possible Source
Total Trihalomethanes	ppb	0	80	3.94	2.06-5.02	By-products of drinking water chlorination

A Word about Some Specific Contaminants

Radon

Radon is a naturally occurring radioactive gas that is common in the Spokane area. During 2014, the City conducted tests from two source wells for Radon-222. The single highest result was 443pCi/L and the lowest was 441pCi/L. Exposure to excessive amounts of radon may increase cancer risk. Compared to radon entering the home through soil, radon entering the home through tap water would, in most cases, typically be 1–2 % of the radon in indoor air. For local information concerning radon in your home, see the Washington Dept. of Health Radon Outreach webpage (www.doh.wa.gov/CommunityandEnvironment/Contaminants/Radon.aspx) or call EPA's Radon Hotline (800-SOS-RADON).

Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Spokane is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Definitions

AL: Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

LRAA: Locational Running Annual Average

MCL: Maximum Contaminant Level - The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLG 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.

ppb: same as ug/L, micrograms per liter, and parts per billion

ppm: same as mg/L, milligrams per liter, and parts per million

TT: Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

pCi/L: Picocuries per liter (a measure of radioactivity).

ND: None Detected

Notes

(a) Compliance with MCL is determined by single sample results, so no average is used

(b) Gross Alpha results were used in lieu of Radium 226, one half of the detection limit of 1.0 was used for the ND.

(c) Faucet samples were from 'at risk' homes (those with lead service lines and those with copper pipes with lead solder joints).

(d) 90% of at risk homes had this concentration or less of lead/copper

Save Money on Your Monthly Utility Bill!

The City of Spokane strives to provide excellent utility services at an affordable price. To assist our customers with budgeting, the City Council approved three years of utility rates, limiting annual increases to average inflation of 2.9% for years 2015 through 2017.

Additionally, in November 2014, the City Council adopted a new wastewater bill discount for customers who use less water. Under the credit program, which began in January 2015, the lowest 20 percent of indoor water users receive credits totaling \$60 a year.

The lowest 20 percent of indoor water users is determined annually based on water use during the winter when most water use is for indoor purposes and ultimately reaches the City's Riverside Park Water Reclamation Facility. Credits for 2015 are based on 2014 winter water usage numbers.

Although the credit is designed primarily to introduce equity in the City's wastewater rate system and lower operating costs for the City's wastewater utility, it also helps the City achieve its water use efficiency goals, especially the goal for lower residential indoor water use.

YOUR PARTICIPATION IS WELCOME

The Mayor recommends Water Department policy and rates to the Spokane City Council. The Council meets every Monday, excluding holidays, at 6:00 pm in the Council Chambers at City Hall (808 W Spokane Falls Blvd., Spokane, WA).

City of Spokane Water Department
(509) 625-7800 (24 Hours a Day)
www.spokanewater.org

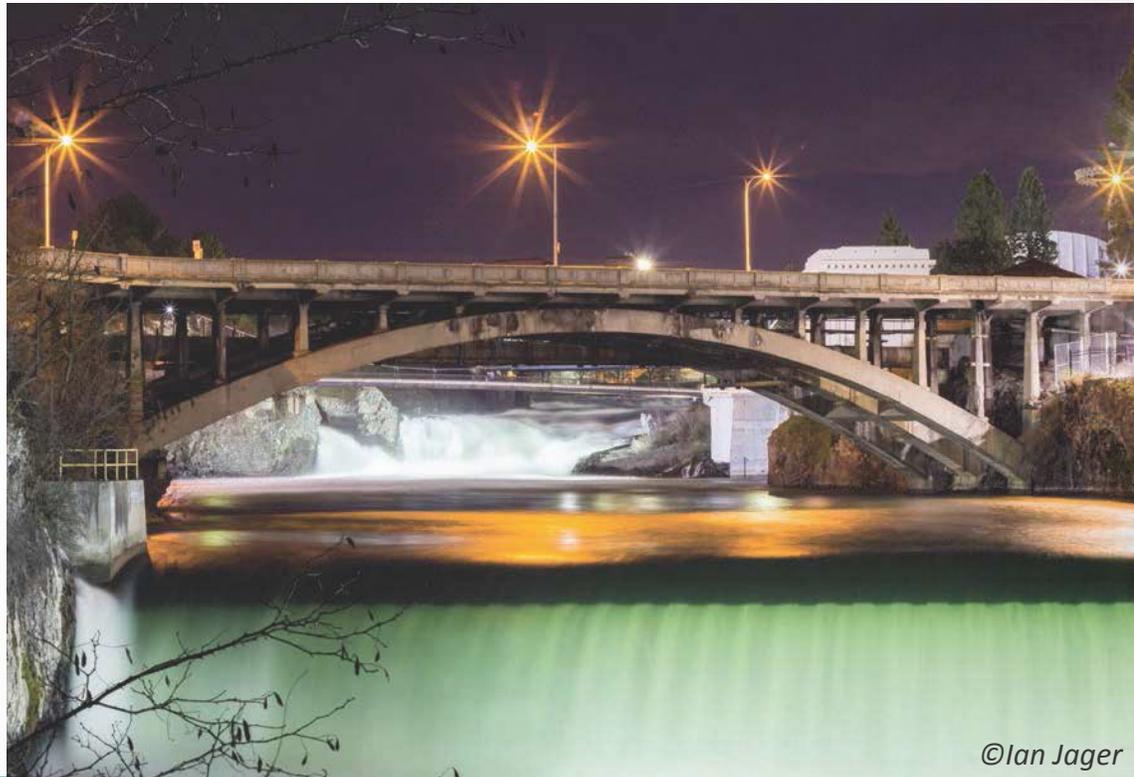
City of Spokane
Environmental Programs
(509) 625-6570

Department of Ecology
Eastern Regional Office
(509) 329-3400

Spokane Regional Health District
(509) 324-1560

Spokane County
Water Resources (Division of Utilities)
(509) 477-3604

Office of Drinking Water
Washington Department of Health
Eastern Regional Office
(509) 329-210



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English:

This report contains important information about the drinking water supplied by the City of Spokane. Translate it, or speak with someone who understands it well.

Russian:

В этом отчете содержится важная информация относительно питьевой воды, поставляемой службой города Спокэн. Переведите этот отчет или поговорите с тем, кто его хорошо понимает.

Spanish:

Este reporte contiene información importante acerca del agua potable suministrada por la Ciudad de Spokane. Tradúzcalo, o hable con alguien que lo entiende bien. Para ver información adicional, visite al; <http://www.epa.gov/safewater/agua.html>.

Vietnamese:

Bản phúc trình này chứa đựng những thông tin quan trọng về nước uống được cung cấp bởi City of Spokane. Hãy phiên dịch, hay hỏi thăm người nào hiểu rõ về tài liệu này.