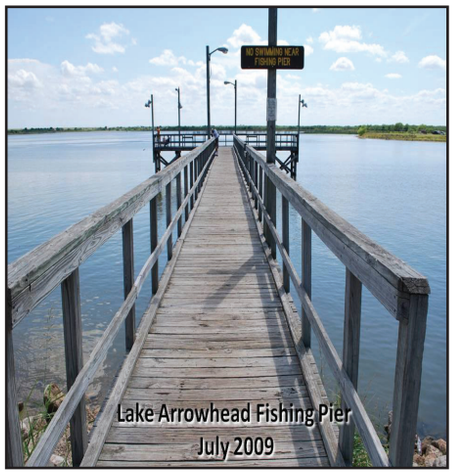
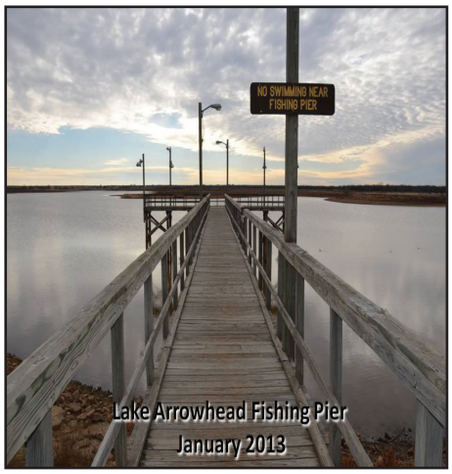
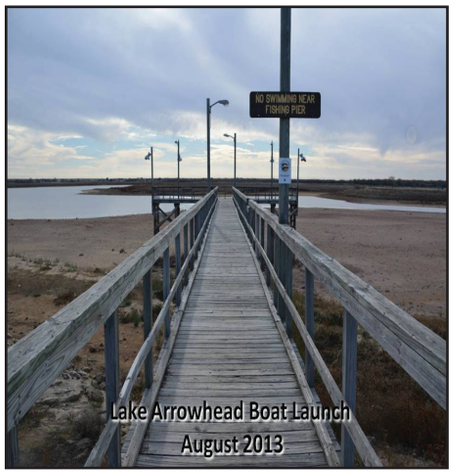
2014 Drinking Water Quality Report



Lake Arrowhead Fishing Pier
July 2009



Lake Arrowhead Fishing Pier
January 2013



Lake Arrowhead Boat Launch
August 2013

City of Wichita Falls

Welcome

The City of Wichita Falls is pleased to present its 2013 Drinking Water Quality Report, in accordance with the United States Environmental Protection Agency (USEPA) requirements. This report provides important information about your water supply system.

There are few things as important to our personal well-being as the water we drink. Our very existence is ultimately connected with the quality of the water that is available to us. So when you drink Wichita Falls water, be assured you are drinking clean, quality water which meets or exceeds all federal and state standards for safe drinking water.

Our staff of highly trained professionals work 24 hours a day, 365 days a year to perform extensive water quality monitoring and testing so that our water meets these strict requirements. We are proud to again report that our water system received the highest possible rating ("Superior Public Water System") by the Texas Commission on Environmental Quality (TCEQ).

This report also includes updates about our direct potable reuse (DPR) and indirect potable reuse projects. In conclusion, we ask that you continue to help conserve water during this critical time of extended drought.

Sincerely,

Darron J. Leiker
City Manager

Superior Quality

Essential to a progressive community is a reliable and safe supply of drinking water. The City of Wichita Falls is committed to providing its citizens with that reliable supply of superior quality drinking water now and in the future. We are pleased to announce, once again, that your drinking water falls safely within all Federal and State drinking water health standards.

The Texas Commission on Environmental Quality (TCEQ) has inspected the City of Wichita Falls Water System and determined it is compliant with guidelines set forth by the TCEQ and the US Environmental Protection Agency. The City of Wichita Falls currently maintains a "SUPERIOR WATER SYSTEM" classification from the TCEQ, its highest classification. Ratings are based on continued compliance with Federal and State regulations governing drinking water and annual sanitary surveys conducted by a TCEQ Registered Sanitarian.

At Risk Populations

You may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hot line at (800) 426-4791.

Augmenting Our Water Supplies

The City of Wichita Falls is in the process of developing two projects that would utilize the highly treated, effluent water from the River Road Wastewater Treatment Plant. Currently, that high quality water is discharged into the Big Wichita River, where it flows down stream for other municipalities to use as a portion of their drinking water supply. The City of Wichita Falls wants to hold on to that resource and keep it available for the citizens of Wichita Falls to utilize.

Temporary Direct Potable Reuse Project

The City of Wichita Falls has been working with the Texas Commission on Environmental Quality to review and approve the final portion of the project that will allow the City to utilize this treated effluent as a source water for further purification.

The Wastewater Treatment Plant treats the water to a level that meets 97% of all the drinking water standards. That high quality water will be transferred down a pipeline to the Cypress Water Treatment Plant, where it will be purified with the latest in technology, the City's Microfiltration Reverse Osmosis Plant. This facility will bring the water to a standard that is higher than the current drinking water standards. At that point, the water will be blended with water from Lakes Arrowhead/Kickapoo and treated a third time through the newly constructed Purification Plant at Cypress.

Taking advantage of this previously wasted resource will offset just under 50% of the water that would normally be withdrawn from the source lakes, thereby helping extend their usefulness until we can come out of this drought.

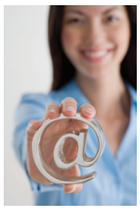
The project is expected to be completed in late June, and with TCEQ approval, water from the direct potable reuse project will be sent to the distribution system by early July.

Permanent Indirect Potable Reuse Project

The City of Wichita Falls is also putting together a long-term, permanent project that would "bank" the high quality effluent, by discharging it into Lake Arrowhead. Doing this will help keep the water in the region for us to use, rather than letting it flow downstream in the Big Wichita River for someone else to use.

This project has been permitted with the Texas Commission on Environmental Quality, but it is still about 2 years from completion, so it would not be able to help us through the current drought. However, it would be available within the next 2 to 3 years to help stave off the affects of future droughts.

To learn more about what's going on elsewhere with similar projects and other information, check out these resources: **Thirst Slide Presentation:** http://www.apolloideas.com/thirst • **It's Perfectly Clear Video**: http://www.youtube.com/watch?v=vdtZz-wWIDo • **Downstream Video:** http://www.youtube.com/watch?v=GVm-d-zOxJs



To learn more about your Water Treatment Process, visit our web site at:

http://www.wichitafallstx.gov/index.aspx?NID=22

or call us at (940) 691-1153.

En Espanol

Esta reporte contiene informacion importante acerca de su agua potable. Procure que alguien le traduzca este reporte, o hable con alguien que lo entienda y se lo explique. Para obtenener una copia de esta informacion en Espanol, por favor marque 761-7401.

The Kids' H2O ZONE

The Water Treatment Process

In this years Drinking Water Quality Report, we are going to discuss the water water treatment process as a whole, and briefly take you through each step of the process.

COAGULATION:

Coagulation removes dirt and other particles suspended in water. Chemicals are added to water to form tiny sticky particles called "floc" which attract the dirt particles. The combined weight of the dirt and the floc become heavy enough to sink to the bottom during sedimentation.

SEDIMENTATION:

The heavy particles settle to the bottom and the clear water moves to filtration.

FILTRATION:

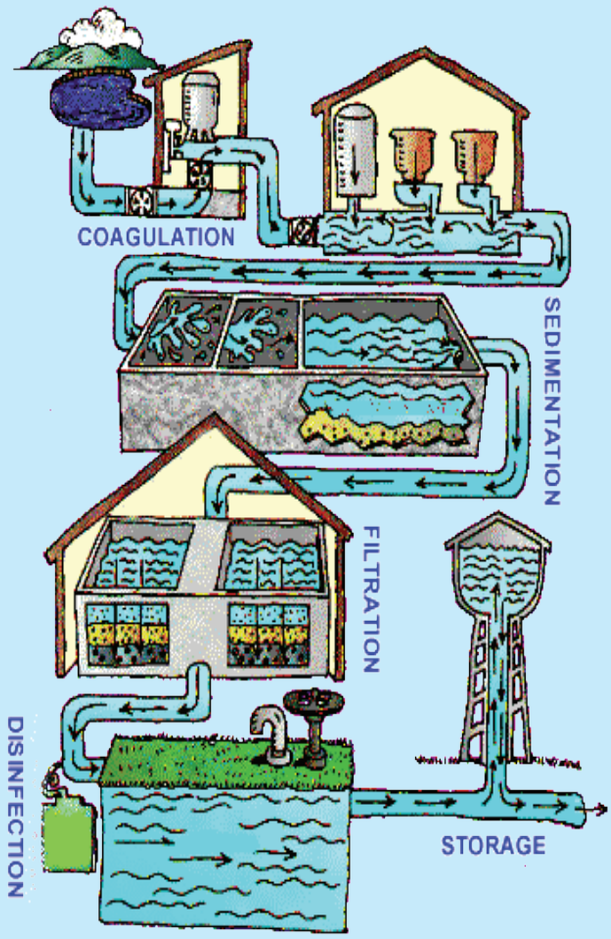
The water passes through filters, some made of layers of sand, gravel, and charcoal that help remove even smaller particles.

DISINFECTION:

A small amount of chlorine is added or some other disinfection method is used to kill any bacteria or microorganisms that may be in the water.

STORAGE:

Water is placed in a closed tank or reservoir in order for disinfection to take place. The water then flows through pipes to homes and businesses in the community.



WATER TRIVIA:
Did you know?

There is the same amount of water on Earth as there was when the Earth was formed. The water from your faucet could contain molecules that dinosaurs drank.

If you want to
LEARN MORE:

Check out the EPA web site. It has lots of fun activities for kids and links to other sites regarding water.

http://www.epa.gov/safewater/kids/index.html

Sources

The City of Wichita Falls has previously only utilized 2 of its surface water reservoirs; Lake Arrowhead and Lake Kickapoo.

While these 2 lakes have provided the citizens of Wichita Falls with a reliable source of drinking water for the last 60 years, it became necessary to evaluate the other reservoirs that were previously considered to be less-desirable, in an effort to extend the City's reliable supply for the next 50 years.

2009 marked the first full year of the City using Lake Kemp as a source of drinking water.

Lake Kickapoo

Lake Kickapoo is the first lake in the Little Wichita River watershed and has a drainage area of 275 square miles.

Kickapoo was constructed in 1945, 18 miles southwest of Wichita Falls in Archer County. At it's maximum capacity, Lake Kickapoo contains 106,000 acre feet (35 billion gallons) of water, which makes it the 56th largest fresh water reservoir (out of 119) in the State of Texas.

It was named for the Kickapoo Indians and for Kickapoo Creek, which empties into the reservoir.

Lake Arrowhead

Lake Arrowhead is the last lake in the Little Wichita River watershed and has a drainage area of 832 square miles.

Construction on Lake Arrowhead began in 1965, 15 miles southeast of Wichita Falls, primarily in Clay County. At its maximum capacity, Lake Arrowhead contains 228,000 acre feet (74 billion gallons) of water, which makes it the 36th largest fresh water reservoir (out of 119) in the State of Texas.

Lake Kemp

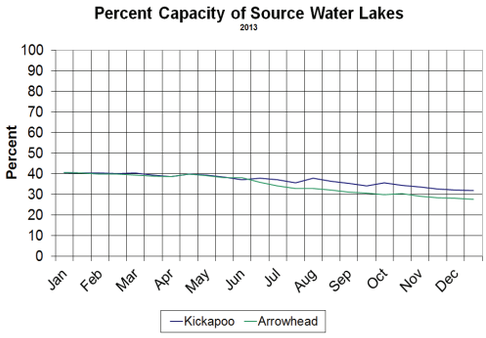
Lake Kemp is the largest lake in the Big Wichita River watershed and has a drainage area of 2,086 square miles.

Construction of Lake Kemp was completed in 1924, 37 miles west of Wichita Falls. At its maximum capacity, Lake Kemp contains 245,308 acre feet (80 billion gallons) of water, which makes it the 35th largest fresh water reservoir (out of 119) in the State of Texas.

It was named for Joseph A. Kemp, who sought its construction to alleviate flooding issues within Wichita Falls.

Lake Levels

"What are the lake levels?", is one of the most frequently asked questions about the City's source waters. Below is a graph of both Lake Kickapoo & Arrowhead levels through the calendar year of 2013. If you would like to know the current lake levels at anytime during the year, the City posts the current weeks lake levels on its web site at *http://www.wichitafallstx.gov/index.aspx?nid=986*



Source Water Monitoring

Constituent	Wichita Falls Water Results: Reportable Value	Wichita Falls Water Results: Range of Detection	EPA Regulations: Maximum Contaminant Level	EPA Regulations: Maximum Contaminant Level Goal	Analysis Year
Giardia; cysts Not Naturally Present in the Environment	**0**	0 - 0	Not Regulated	0	2013
Cryptosporidium; oocysts Not Naturally Present in the Environment	**0**	0 - 0	Not Regulated	0	2013

This table is providing you data on monitoring the City of Wichita Falls has undertaken to keep track of certain protozoans in its source waters. The City has tested its source water and drinking water for these parasites since 1994 and has never detected a single viable organism.

Cryptosporidium

Cryptosporidium is a microscopic parasite that can be found in the digestive tracts of animals. It is shed in the feces and when ingested by humans may result in diarrhea, cramps, fever, and other gastrointestinal symptoms.

People with healthy immune systems usually recover within a couple of weeks. However, individuals with weakened immune systems may be unable to clear the parasite from their intestines and suffer a chronic and debilitating illness known as cryptosporidiosis.

Source Water Susceptibility Assessments

A Source Water Susceptibility Assessment for lakes Arrowhead, Kickapoo & Kemp are currently being updated by the Texas Commission on Environmental Quality. This information describes the susceptibility and types of constituents that may come into contact with our drinking water source based on human activities and natural conditions. The information contained in the assessment allows the City of Wichita Falls to focus its source water protection strategies. Some of this source water assessment information will be available later this year on Texas Drinking Water Watch at http://dww.tceq.state.tx.us/DWW/. For more information on source water assessments and protection efforts at our system, please contact the City of Wichita Falls Public Works Department at 761-7477.

Making a Difference in Your Watershed

Do your part to protect drinking water sources. Individuals, citizen groups, and local communities can participate in many activities that help to protect their drinking water sources. Get information about drinking water and how it can be protected at the EPA Source Water Protection Web site. Find out more about how your drinking water is tested, treated and protected by readings your yearly Consumer Confidence Report. Check out the National Source Water Collaborative, a coalition of 19 national organizations with a shared recognition of the importance of protecting drinking water sources.

The EPA Source Water Protection Web site can be found at:
water.epa.gov/infrastructure/drinkingwater/sourcewater/protection/index.cfm

2013

Water Quality Analysis

The following tables contain all of the chemical and microbiological constituents which have been found in your drinking water for the calendar year 2013.

The U.S. Environmental Protection Agency requires water systems to test up to 97 regulated constituents annually. Only nineteen (19) regulated constituents were detected in your water during 2013 and prior.

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, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities.

Contaminants that may be present in source waters include; microbial contaminants, inorganic contaminants, pesticides & herbicides, organic chemical contaminants and radioactive contaminants.

In order to ensure that tap water is safe to drink, the USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems, like the City of Wichita Falls.

Regulated Compounds

These compounds either occur naturally within the watersheds or are products of human activities.

Turbidity is a measure of the "cloudiness" of the water due to suspended material. The City of Wichita Falls monitors it because it is a good indicator of the effectiveness of our filtration systems. For the year 2013, 100% of the >4300 turbidity samples that were taken for regulatory compliance fell below the Treatment Technique of 0.3 NTU.

Also, you will notice that some of our data, though representative, are more than one year old. The State of Texas allows the City of Wichita Falls to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

	Wichita Falls Water Results		EPA Regulations		
Constituent	Reportable Value	Range of Detection	Maximum Contaminant Level	Maximum Contaminant Level Goal	Analysis Year
Antimony; ppb Petroleum Refineries, Electronics, Solder	**0.369**	ND - 0.369	**6**	6	2013
Arsenic; ppb Natural Geology	**2.2**	2.1-2.2	**10**	N/A	2013
Barium; ppm Natural Geology;Drilling Waste	**0.033**	0.031 - 0.033	**2**	2	2013
Chromium; ppb Natural Geology, Steel & Pulp Mills	**0.91**	0.71 - 0.91	**100**	100	2013
Fluoride; ppm Water Additive; Natural Geology	**0.66**	0.56 - 0.66	**4**	4	2013
Nickel; ppb Metal pipes and fittings in contact with water.	**0.65**	0.51 - 0.65	**100**	100	2013
Nitrate; ppm Fertilizer Runoff; Septic Tanks; Animal Waste	**0.22**	0.06 - 0.22	**10**	10	2013
Nitrite; ppm Fertilizer Runoff; Septic Tanks; Animal Waste	**0.004**	0.004 - 0.004	**1**	1	2013
Selenium; ppb Natural Geology; Petroleum Refineries	**4.9**	4.4 - 4.9	**50**	50	2013
Total Organic Carbon; ppm Naturally Present in the Environment	**9.24**	3.35 - 9.24	**TT**	N/A	2013
Turbidity; NTU Soil Runoff	**0.26**	0.03 - 0.26	**TT = 0.3**	N/A	2013
Gross Beta Emitters; pCi/L Decay of Natural & Man-Made Deposits	**10.2**	5.5- 10.2	**50**	0	2011

Regulated Disinfectants

The City of Wichita Falls utilizes Chloramines (Total Chlorine) and Chlorine Dioxide to inactivate disease causing viruses and bacteria in your drinking water. Disinfectants are monitored to ensure that they adequately applied to the drinking water.

	Wichita Falls Water Results		EPA Regulations		
Constituent	Reportable Value	Range of Detection	MRDL	MRDLG	Analysis Year
Chlorine Dioxide; ppm Disinfectant	**0.69**	<0.01 - 0.69	**0.80**	0	2013
Chlorine (Total); ppm Disinfectant (MRDL for running annual avg.)	**4.2**	1.1 - 4.2	**4.0**	<4.0	2013

Definitions

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

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

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

Units of Measure

Nephelometric Turbidity Unit (NTU): A measure of water's clarity. Turbidity in excess of 5 NTU is just noticeable to the average person.

Parts per Million (ppm): A measure of the concentration of a substance roughly equivalent to one packet of sugar in 250 gallons of Iced Tea.

Parts per Billion (ppb): A measure of the concentration of a substance roughly equivalent to one packet of sugar in an Olympic-size swimming pool.

PicoCuries per Liter (pCi/L): A measure of the radioactivity of the water.

Regulated within the Distribution System

There were 3 regulated Disinfection By-products that were detected in your drinking water in 2013.

Disinfectants are very active compounds that not only inactivate disease causing organisms, but also react with other naturally occurring compounds in the source waters to produce new compounds referred to as Disinfection By-Products, or DBP's.

The City of Wichita Falls takes great care in keeping the concentrations of these by-products below their regulated limits.

	Wichita Falls Water Results		EPA Regulations		
Constituent	Reportable Value	Range of Detection	Maximum Contaminant Level	Maximum Contaminant Level Goal	Analysis Year
Total Trihalomethane; ppb By-Product of Chlorination	**41.85**	19.0 - 41.85	**80**	0	2013
Haloacetic Acid 5; ppb By-Product of Chlorination	**19.35**	8.0 - 21.5	**60**	0	2013
Chlorite; ppm By-Product of Chlorine Dioxide	**0.82**	<0.10 - 0.82	**1.0**	0	2013

Lead and Copper

Lead and Copper are regulated at the consumers tap under the Lead and Copper Rule of 1991. This monitoring is conducted every 3 years, and the City has completed 6 cycles of monitoring.

The City of Wichita Falls has an effective program of corrosion control to keep these two metals from being leached out of your household plumbing.

	Wichita Falls Water Results		EPA Regulations		
Constituent	90th Percentile	Number of Sites exceeding the Action Level	Action Level	Maximum Contaminant Level Goal	Analysis Year
Lead; ppb Corrosion of Household Plumbing	**2.2**	0	**15.0**	0	2012
Copper; ppm Corrosion of Household Plumbing	**0.047**	0	**1.3**	1.3	2013

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. This water supply 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.

Unregulated Substances

Unregulated contaminant monitoring helps the USEPA to determine where certain contaminants occur and whether it needs to regulate those contaminants in the future.

The USEPA and TCEQ monitor an additional 49 substances that are not regulated, and therefore do not have established MCL's or MCLG's.

There were 10 substances, which are by-products of disinfection, that were detected in your drinking water during 2013.

	Wichita Falls Water Results		EPA Regulations		
Constituent	Reportable Value	Range of Detection		Maximum Contaminant Level Goal	Analysis Year
Chloroform; ppb Disinfection By-Product	**25.6**	2.1 - 25.6	Not Regulated	0	2013
Bromodichloromethane; ppb Disinfection By-Product	**9.3**	3.7 - 9.3	Not Regulated	0	2013
Dibromochloromethane; ppb Disinfection By-Product	**15.2**	4.2 - 15.2	Not Regulated	60	2013
Bromoform; ppb Disinfection By-Product	**26.4**	1.6 - 26.4	Not Regulated	0	2013
Dichloroacetic Acid; ppb Disinfection By-Product	**14.0**	<1.0 - 14.0	Not Regulated	0	2013
Trichloroacetic Acid; ppb Disinfection By-Product	**3.1**	<1.0 - 3.1	Not Regulated	300	2013
Dibromoacetic Acid; ppb Disinfection By-Product	**10.5**	<1.0 - 10.5	Not Regulated	0	2013
Bromochloroacetic Acid; ppb Disinfection By-Product	**8.9**	<1.0 - 8.9	Not Regulated	0	2013
Monochloroacetic Acid: ppb Chem. Syn. By-Product, Reducing Bacteria	**2.7**	<2.0 - 2.7	Not Regulated	0	2013
Monobromoacetic Acid: ppb Chem. Syn. By-Product, Reducing Bacteria	**4.8**	<1.0 - 4.8	Not Regulated	0	2013

All Drinking Water May Contain Contaminants

When drinking water meets federal standards, there may not be any health based benefits to purchasing bottled water or point of use devices.

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 and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hot line at (800) 426-4791.

Wichita Falls
TEXAS
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