2001
ANNUAL DRINKING WATER QUALITY REPORT

The Pittsburgh Water & Sewer Authority (PWSA)

Pure Water for Pittsburgh and the Western Pennsylvania Region

Prepared by the Pittsburgh Water and Sewer Authority, in keeping with its commitment to provide a safe, dependable and ample supply of water to its customers.

2001 ANNUAL DRINKING WATER QUALITY REPORT

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe, dependable and ample 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.

WE ARE PLEASED TO REPORT THAT OUR DRINKING WATER MEETS OR EXCEEDS ALL FEDERAL AND STATE REQUIREMENTS.

Special Information for Immuno-compromised individuals

Some people may be more vulnerable to cryptosporidium and other contaminants in drinking water than the general population. Immuno-compromised persons such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers. Environmental Protection Agency (EPA) and Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Where does your water come from and how is it treated?

The Pittsburgh Water and Sewer Authority draws its water from the Allegheny River. No ground or well water is used. Approximately 65 million gallons of water are treated each day at our water treatment plant. The plant is capable of producing over 100 million gallons per day. The treatment process takes 3 full days and consists of 3 separate stages:

Stage I - Clarification

River water passes through a process called "clarification", in which silts and clays are removed. This stage involves chemical formation of clumped particles called "floc" which are then physically removed by gravity sedimentation.

Stage 2 - Filtration

The clarified water next passes slowly through sand and gravel filters in order to remove fine particles and microorganisms.

Stage 3 - Disinfection

The filtered water is finally treated with chlorine (over an 8 hour period) in order to ensure removal of any remaining harmful microorganisms.

During the process several chemicals are added to complete treatment. These include activated carbon, which sweetens the taste of the water, and fluoride to prevent cavities in children's teeth.

Source Water Improvements

The federal Safe Drinking Water Act requires each state to prepare a comprehensive Source Water Protection Plan to identify potential sources of contaminants for drinking waters. PWSA is cooperating with the Pennsylvania Department of Environmental Protection in preparing the plan for the Allegheny River. Citizen involvement in this process is welcome.

Recent System Improvements

Construction is currently underway to further upgrade the treatment process by adding "advanced" treatment techniques - such as the new membrane filtration plant being constructed in Highland Park. This will be the first large-scale installation of this innovative technology in the United States. This plant will begin operations during the summer of 2002.

A three million-dollar program is in progress to upgrade the chemical treatment system at the plant. This will improve addition of treatment chemicals and ensure compliance with recently developed environmental regulations. A major aspect of this upgrade is conversion of the chlorination system from one based on gaseous chlorine to one based on liquid chlorine. Chlorine in liquid form is much safer to handle and store.

Who Monitors and Ensures the Quality of Water?

The Pittsburgh Water and Sewer Authority monitors for constituents in your drinking water (on a continuous basis - 365 days per year) according to the Federal and State laws. Table #1 (which appears on pages 6 & 7) shows the results of our monitoring for the period of January 1, 2001 to December 31, 2001.

While we have conducted more than 100,000 analyses, for approximately 100 different chemical and microbial constituents last year, we only found detectable levels of the contaminants listed in the water quality table. It should be noted that none of the test results exceeded federal or state maximum contaminant levels (MCLs).

What does the Pittsburgh Water and Sewer Authority Test For?

In general, the sources of all 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-occuring minerals and, in some cases, radioactive material; water can also absorb or dissolve substances resulting from the presence of animal or human activity.

Contaminants that may be present in source or raw water include:

Microbial contaminants, such as disease-causing viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic chemical contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, and mining or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes, petroleum production, and mining activity, and can also come from gas stations, urban stormwater runoff, and septic systems.

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

In order to ensure the tap water is safe to drink, the United States Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminents in bottled water. The Pittsburgh Water and Sewer Authority tests for contaminants that may be present in the source water prior to treatment. Results of the tests enable us to adjust the treatment process in order to maximize the reduction and removal of contaminants. Tests are also conducted during the treatment process and on

the finished or treated water. Additional samples for testing are collected from our treatment plant, storage facilities, various points in the distribution network, and customer's taps.

Abbreviations and Definitions

In the Water Quality Tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we have provided the following definitions:

ND: *Non-Detect* - laboratory analysis indicates that the contaminant is not present at a detectable level.

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

ppb or µg/l: *Parts per billion or Micrograms per liter* - one part per billion corresponds to one minute in 2000 years, or a single penny in $10,000,000.

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

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

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

MCLG: *Maximum Contaminant Level Goal* - 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.

MCL: *Maximum Contaminant Level* - 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.

NA: *Non-Applicable* - does not apply.

pCi/L: *Picocuries per liter* - a measure of radioactivity in water.

mrem/yr: *Millirems per year* - a measure of radiation absorbed by the body.

Table #1: Test results for regulated contaminants

	Contaminant (Unit of measurement)	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants	TURBIDITY	N	0.17 NTU (a) 100%	N/A N/A	NA	TT=5NTU TT=% of samples <0.5 NTU	Soil Runoff
	TOTAL COLIFORM BACTERIA	N	<1%	ND to <1%	0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in environment
	FOOTNOTE: (a) all turbidity samples met the turbidity limit of 0.5 NTU						
Organic Chemical Contaminants	TOTAL TRIHALOMETHANES (ppb)	N	68	23 to 104	NA	100	By-product of drinking water chlorination
	TOTAL HALOACETIC ACIDS (ppb)(a)	N	7	3 to 9	0	60	By product of drinking water disinfection
	FOOTNOTE: (a) Data from year 2000						
Radioactive Contaminants (c)	BETA PHOTON EMITTERS (pCi/L)	N	2.48	(a)	0	(b) 50	Decay of natural and manmade products
	ALPHA EMITTERS (pCi/L)	N	0.85	(a)	0	15	Erosion of natural deposits
	FOOTNOTE: (a) only one sample required (b) the MCL for beta particles is 4 mrem/yr. USEPA considers 50 pCi/L to be the level of concern for beta particles. (c) Data from year 1999						
Inorganic Chemical Contaminants	ARSENIC (ppb)	N	<1	<1 to 3	N/A	50	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
	BARIUM (ppm)	N	0.048	<0.002 to 0.083	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
	CHROMIUM (ppb)	N	2	<1 to 3	100	100	Discharge from steel and pulp mills; erosion of natural deposits
	COPPER (ppm)	N	90th percentile = 0.052	No sites above AL out of 50 sites sampled	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
	FLUORIDE (ppm)	N	1.00	0.35 to 1.61	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
	LEAD (ppb)	N	90th percentile =6	1 site above AL out of 50 sites sampled	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
	NICKEL (ppb)	N	<1	<1 to 5	100	100	Metal alloys, electroplating batteries, and chemical production
	NITRATE (ppm)	N	0.72	(a)	10	10	Runoff from fertilizer use, leaching from sewage, septic tanks, erosion of natural deposits
	SELENIUM (ppb)	N	<1	<1 to 2	50	50	Discharges from petroleum and metal refineries; erosion of natural deposits; discharge from mines
	FOOTNOTE: (a) only one sample required						

2001 WATER QUALITY TABLES

Table #1: Test results for regulated contaminants

What does the test result information mean?

As you can see in Table 1, our system had no violations. We are proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected.

ICR Monitoring Resukts (July 1997 - December 1998)

NOTE: The United States Environmental Protection Agency recently required all large water companies to conduct a special monitoring program. This program entitled the **Information Collection Rule** (ICR), involved analysis of additional samples over the 18 month period (July 1997 - December 1998). The purpose of the survey was to provide more information for use in writing future drinking water regulations.

The contaminants detected in Pittsburgh's drinking water during the ICR are listed below:

Table #2 TEST RESULTS FROM ICR MONITORING (JULY 1997 - DECEMBER 1998)

Contaminants (Unit of measurement)	Average Level Detected	Range
TTHM (Total Trihalomethanes) (ppb)	60.0	25.9 to 101.3
HAA (Total Haloacetic Acids) (ppb)	20.1	8.2 to 39.3
CH (Chloral Hydrate) (ppb)	7.6	ND to 21.4
TOX (Total Organic Halides) (ppb)	178.3	104 to 308
Total Chlorine (ppb) (Leaving Treatment Plant)	1.36	0.90 to 1.70
Total Chlorine (ppb) (In Distribution System)	0.52	0.10 to 1.30

Should you be concerned about Lead?

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. If you would like to have your water tested for lead, **free of charge**, please phone the PWSA Laboratory at (412) 782-7553. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791.

Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the house should be removed, replaced, or reduced.

It is important to point out that the use of lead solders or pipes in drinking water plumbing systems is illegal. **Never** use lead solder when repairing drinking water lines.

What about Cryptosporidium?

We constantly monitor the water supply for a large number of constituents. We have detected cryptosporidium (a microorganism) in untreated river water during the year 2001. We detected no confirmed cryptosporidium, and presumed cryptosporidium in only 1 sample, out of 12 monthly river samples tested. We believe it is important for you to know that cryptosporidium may cause serious illness in immuno-compromised individuals such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, and people with HIV/AIDS or other immune system disorders. These people should seek advice from their health care providers

In General

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or man made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. 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 (www.epa.gov).**

If You Have Questions or Want Additional Information

If you have any questions about this report please contact **Dr. Stanley States**, Manager of the **PWSA Water Quality Section at (412) 782-7553**. We want our valued customers to be informed about their water.

This water quality report and additional information are available on the PWSA web site: **www.pgh2o.com.** Additional copies can be obtained by calling (412) 255-8935.

To learn more about the Pittsburgh Water and Sewer Authority please attend any of our regularly scheduled Board meetings. **They are held on the second Friday of every month (9:00 a.m.) at:**

441 Smithfield Street
Pittsburgh, PA 15222

Finally

Thank you for allowing us to continue providing you with clean, quality drinking water. In order to maintain a safe and dependable water supply we need to make improvements, over time, that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

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

Important Information and Phone Numbers

MAILING ADDRESS:	Pittsburgh Water and Sewer Authority 441 Smithfield Street Pittsburgh, PA 15222
ADMINISTRATIVE OFFICES:	Weekdays - 8:00 AM to 4:30 PM Phone: (412) 255-8935 Fax: (412) 255-2304
CUSTOMER SERVICE:	For bill inquiries, name and address changes, final bills and meter repairs Weekdays - 8:00 AM to 4:30 PM Phone: (412) 255-2423 Fax: (412) 255-2304
EMERGENCY DISPATCH CENTER:	Answers 24 hours a day For reporting water main breaks, service outages and sewer emergencies Phone: (412) 255-2409 (412) 255-2429 Fax: (412) 255-2997
PERMIT COUNTER:	For applications for new service, water meter purchase and applications for water and sewer taps Weekdays - 8:00 AM to 4:30 PM Phone: (412) 255-2443 Fax: (412) 393-0520

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