City of Houston

Department of Public Works and Engineering

WATER QUALITY REPORT 2003

The City of Houston's drinking water meets or exceeds all Texas Commission on Environmental Quality (TCEQ) and Environmental Protection Agency (EPA) requirements.

Safe Drinking Water Act Amendments

The following information has always been available to City of Houston customers. Since October 1999, all community water systems have been required to distribute to their customers an annual report on the quality of their drinking water.

Sources of Drinking Water

The sources of 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 human activity. Contaminants that may be present in source water include: microbial, such as viruses and bacteria, inorganic, such as salts and metals, pesticides and herbicides, organic chemicals, including synthetic and volatile organic chemicals, and radioactive constituents.

City of Houston Water Sources

The total production from all sources averaged 363 million gallons per day (MGD) in 2003. The City currently draws 70% of its treated drinking water from its four surface water treatment plants. Surface water comes from the San Jacinto River, through Lakes Conroe and Houston, and the Trinity River through Lake Livingston. The remaining 30% comes from 202 permitted wells at 99 separate groundwater plants. These are very deep wells, producing water from the Evangeline and Chicot Aquifers, and are not vulnerable to any surface contamination. The TCEQ has currently prepared a Source Water Assessment for the City of Houston, which is available for review by calling 713/330-2512.

Water Standards Governed by Federal Agencies

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Contaminants may be found in drinking water that may cause taste, color, or odor problems. 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 Environmental Protection Agency's **Safe Drinking Water Hotline 800/426-4791**.

What about arsenic levels?

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's 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 effects 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 damage 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.

Is there Giardia or Cryptosporidium in our water supply?

Giardia or Cryptosporidium is not found in deep wells, such as the City's, which are protected from surface water contamination. Since 1993, we have been routinely monitoring our rivers and treated water leaving our filtration plants for these two organisms. To date, we have detected no confirmed occurrences of either of these in any of our drinking water.

SPECIAL NOTICE FOR THE ELDERLY, INFANTS, CANCER PATIENTS, PEOPLE WITH HIV/AIDS OR OTHER IMMUNE PROBLEMS:

You may be more vulnerable to certain microbial contaminants in drinking water than the general population. In particular, infection by Cryptosporidium is of concern. Infants, some elderly or IMMUNO-COMPROMISED PERSONS such as those who have undergone 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 healthcare provider. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from:

Safe Drinking Water Hotline 800/426-4791 or your local Health Department or District 713/794-9181.

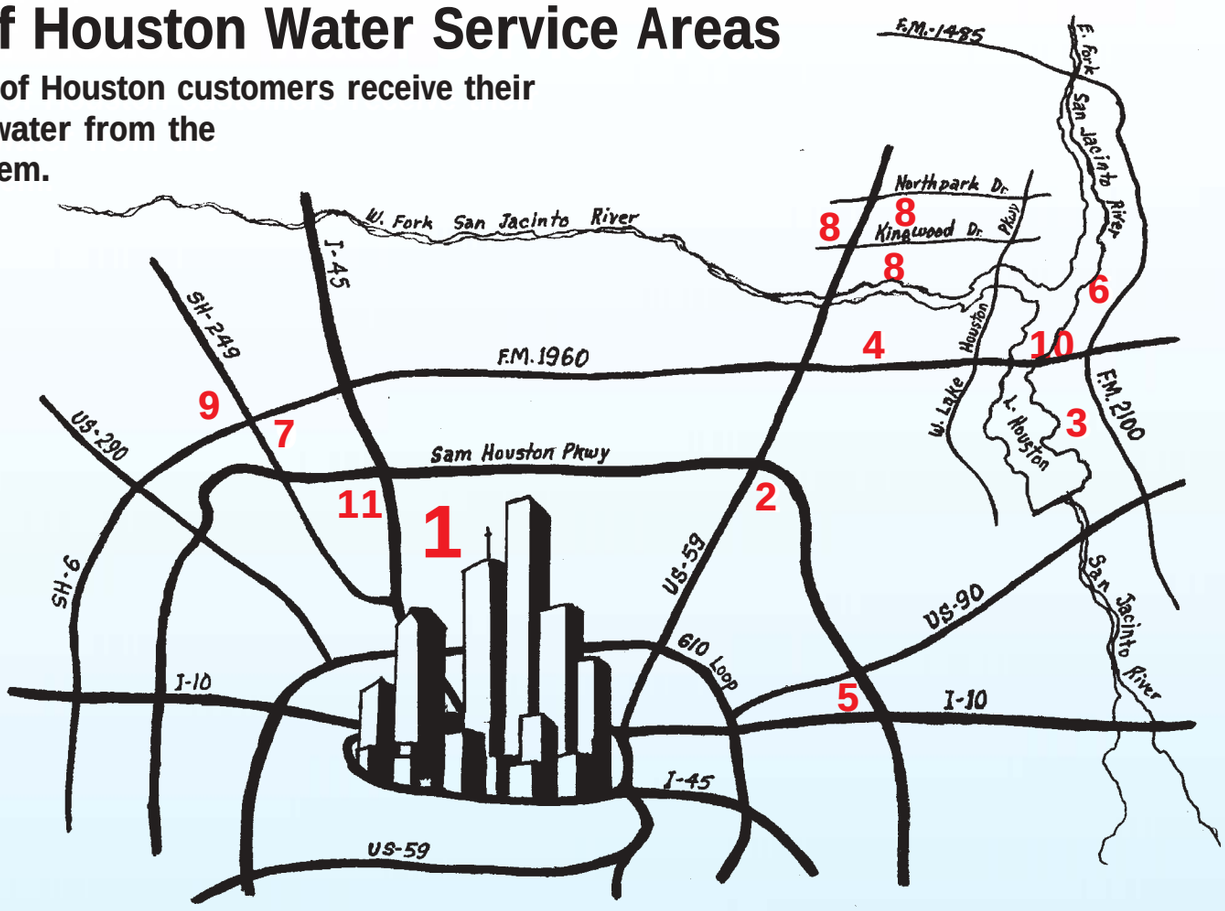
En Español

Este informe contiene información muy importante sobre de su aqua que bebe. Tradúzcalo, ó hable con alguien que lo entiende. Para mas información por favor llame Linea de Ayuda de Houston marcando 311.

PARTNERSHIP FOR SAFE WATER

City of Houston Water Service Areas

Most City of Houston customers receive their drinking water from the Main System.



2003* CONTAMINANTS DETECTED IN YOUR DRINKING WATER; NONE WERE ABOVE THE MCL

1. Main System 1010013

(Most City of Houston customers receive their drinking water from the Main System.)

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	SURFACE WATER	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	<2.0 Average Range = <2.0 - <2.0 (2002)	8.2 Average Range = <2.0-24.6 (43 EPS 2002-2003)	Erosion of natural deposits
Arsenic (ppb)	N/A	50	<2.0 Average Range = <2.0-<2.0	6.4 Average Range = <2.6-35 (61 EPS -COH data)	Erosion of natural deposits
Atrazine (ppb)	3	3	<0.2 Averge Range = <0.20-0.38	<0.2 Average Range = <0.2-<0.2	Runoff from herbicide used on row crops; commonly found in surface water at low levels
Barium (ppm)	2	2	0.048 Average Range = 0.041-0.058	0.230 Average Range = 0.053-0.419 (64 EPS 2001-2003)	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	0	50***	<4.0 average Range = <4.0-5.0	5.3 Average Range = <4.0-13.6 (40 EPS 2002)	Decay of natural and man made deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.216 at customer tap - none exceeded AL** (2002)	90% below 0.216 at customer tap - none exceeded AL** (2002)	Erosion of natural deposits; corrosion of household plumbing
Ethylbenzene (ppb)	700	700	<0.5 Average Range = <0.5-<0.5	<0.5 average Range = <0.5 - 3.5 (Detected in 1 of 51 samples)	Discharge from petroleum refineries
Fluoride (ppm)	4	4	0.50 Average Range = <0.1 - 0.8	0.34 Average Range = <0.1-1.0 (69 EPS 2001-2003)	Water additive which promotes strong teeth; erosion of natural deposits
Lead (ppb)	0	90% below AL=15	90% below 4.1 at customer tap - none exceeded AL** (2002)	90% below 4.1 at customer tap - none exceeded AL** (2002)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm)	10	10	0.80 Average Range = 0.75-0.86	0.09 Average Range = <0.01 - 0.36 (59 EPS 2001-2003)	Runoff from fertilizer use; erosion of natural deposits
Nitrite (ppm)	1	1	N/A 2003 Average = <0.01 1999-2001	N/A 2003 0.015 Average Range = <0.01-0.12 (29 EPS 1999-2001)	Runoff from fertilizer use; erosion of natural deposits
Selenium (ppb)	50	50	<3 Average Range = <3 - <3	<3 Average Range = <3.0- 10.9 (64 EPS 2001-2003)	Erosion of natural deposits
Toluene (ppm)	1	1	<0.0005 Average Range = <0.0005-<0.0005	<0.0005 Average Range = <0.0005-0.0120 (Found in 1 of 54 EPS)	Discharge from petroleum factories
Combined Radium (pCi/l)	0	5	<1.0 Average Range = <1.0-1.0	1.1 Average Range = <1.0-2.5 (42 EPS 2001-2003)	Erosion of natural deposits
Xylenes (ppm)	10	10	<0.001 Average Range = <0.001-<0.001	<0.001 Average Range = <0.001 - 0.012 (Found in 2 of 54 EPS)	Discharge from petroleum factories; discharge from chemical factories

MEASUREMENT DEFINITIONS

pCi/l picocuries per liter (a measure of radioactivity)
N/A not applicable
ND not detected
NTU nephelometric turbidity units
ppm parts per million
ppb parts per billion
EPS entry points sampled

TERMINOLOGY

Maximum Contaminant Level (MCL): The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available 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. MCLGs allow for a margin of safety.

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

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

Unregulated Contaminants: Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

* ***Calendar year 2003 data unless otherwise specified***
** ***Includes groundwater and surface water sites***
*** ***EPA considers 50 pCi/l to be the level of concern for beta particles.***

These Tables Show What Contaminants Were Detected In Your Drinking Water In 2003.* None Were Above the MCL.

UNREGULATED CONTAMINANTS

CONTAMINANT (units)	Main System Surface (2003)	Main System Ground (2003)	Belleau Woods Ground (2001)	Willowchase Ground (2002)	UD 5 Kingwood (+ Forest Cove, HCMUD 48 & 58) Ground	District 73 Ground (2002)	Spanish Cove Ground (2001)	Harris County MUD 159 Ground (2001-2003)
Chloroform (ppb)	13 Average Range = 8.0-16	2.6 Average Range = <0.5-28	4.6	6.5 Average Range = <0.5-13	2.2 Average Range = <0.5-4.8 (Forest Cove, MUD 48 & 58 2002)	2.5 Average Range = <1.5 - 3.5	4.9	<0.5 Average Range = <0.5-0.7
Bromodichloromethane (ppb)	4.5 Average Range = 1.8-12.0	2.3 Average Range = <0.5-22	8.1	11 Average Range = <0.5-22	5.4 Average Range = 1.4-17 (Forest Cove, MUD 48 & 58 2002)	5.7 Average Range = <1.4 - 10	ND	ND
Dibromochloromethane (ppb)	0.5 Average Range = <0.5-0.9	2.4 Average Range = <0.5-34	11	5.5 Average Range = <0.5-11	13.6 Average Range = <0.5-50 (Forest Cove, MUD 48 & 58 2002)	7.1 Average Range = <1.1-13	ND	ND
Bromoform (ppb)	ND	0.9 Average Range = <0.5-19	7.1	1.3 Average Range = <0.5-2.5	15.3 Average Range = <0.5-60 (Forest Cove, MUD 48 & 58 2002)	2.8 Average Range = <0.5 - 5.5	ND	ND
Dibromomethane (ppb)	ND	ND	ND	ND	<1 Average Range = <1 - 1.6 (MUD 48 & 58 2002)	ND	ND	ND
Acetone (ppb)	ND	ND	11 (2001) 1 plant	ND	ND	ND	ND	<10 Average Range = <10-16
4-methyl-2-pentanone (MIBK) (ppb)	ND	ND	ND	ND	<2.0 Average Range = <2.0-3.8 (MUD 48 & 58 2002)	1.6 Average Range = <2-3.1	ND	ND
Chloromethane (ppb)	ND	ND	ND	ND	ND	ND	ND	<2.0 Average Range = <2.0-2.1

2. Harris County WCID 76

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	11.9 (2000)	Erosion of natural deposits
Barium (ppm)	2	2	0.305 (2000)	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	0	50***	7.3 (2000)	Decay of natural and man-made deposits
Copper (ppm)	1.3	90 % below AL=1.3	90 % below 0.445 at customer tap-none exceeded AL (2002)	Erosion of natural deposits; corrosion of household plumbing
Fluoride (ppm)	4	4	0.3 (2000)	Erosion of natural deposits;
Lead (ppb)	0	90% below AL=15	90 % below 1.5 at customer tap-none exceeded AL (2002)	Erosion of natural deposits; corrosion of household plumbing
Combined Radium (pCi/l)	0	5	1.6 (2000)	Erosion of natural deposits

3. Spanish Cove

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Arsenic (ppb)	N/A	50	3.6 (2001)	Erosion of natural deposits
Barium (ppm)	2	2	0.337 (2001)	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	0	50***	5.8 (2001)	Decay of natural and man made deposits
Copper (ppm)	AL = 1.3	90% below AL=1.3	90% below 0.18 at customer tap - none exceeded AL (2001)	Erosion of natural deposits; corrosion of household plumbing
Fluoride (ppm)	4	4	0.1 (2001)	Erosion of natural deposits
Lead (ppb)	0	90% below AL=15	90% below 1.2 at customer tap - none exceeded AL (2001)	Erosion of natural deposits; corrosion of household plumbing

DISINFECTANT/DISINFECTION BYPRODUCTS
Main System Surface Water

	Haloacetic Acids - HAAS (ppb)	Total Trihalomethanes TTHM (ppb)	Chloramines/Free Chlorine (ppm)	Total Organic Carbon (TOC) (ppm)
MCL	60 as Running Annual Average (RAA) of quarterly samples in distribution system	80 as Running Annual Average (RAA) of quarterly samples in distribution system	4 as Running Annual Average (RAA) of daily diatribution system samples	TT
MCLG	N/A	N/A	4	N/A
Last RAA of 2002	24.4	27.2	Average Free Chlorine = 1.1	N/A
Highest Quarterly RAA(HAA5 and TTHM)	35.7	31.7	Average Chloramine = 1.9	N/A
Range of detected levels	7.5-67.8	<2.0-55.6	<0.2 - 5.0 entire system	N/A
Lowest TOC Removal Range raw water TOC Range treated water TOC	ND	ND	ND	9.37% 6.4 - 11.8 3.5 - 6.9
Source of Constituent	By-product of disinfection	By-product of disinfection	Disinfectant used to control microbes	Naturally present in environment

4. Belleau Woods

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Barium (ppm)	2	2	0.292 (2001)	Discharge of drilling wastes; erosion of natural deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.081 at customer tap - none exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Ethylbenzene (ppb)	700	700	0.6 (2001)	Discharge from petroleum refineries
Lead (ppb)	0	90% below AL=15	90% below 2.1 at customer tap - none exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Total Trihalomethanes (TTHMs) (ppb)	N/A	80	30.8 at entry point (2001)	By product of drinking water disinfection.
Toluene (ppm)	1	1	0.0006 (2001)	Discharge from petroleum factories
Xylenes (ppm)	10	10	0.0038 (2001)	Discharge from petroleum factories; discharge from chemical factories

MICROBIOLOGICAL AND PHYSICAL QUALITY

CONTAMINANTS (units)	MCLG	MCL (max. level allowed)	MAIN SYSTEM	BELLEAU WOODS	KINGWOOD	HARRIS COUNTY WCID 76	SOURCES OF CONTAMINANTS
Total Coliforms	N/A	Less than 5%of all monthly samples tested positive	1.4% Average Range = 0.2-3.3%	2.6% Average Range = 0.0-4.0%	0.01% Average Range = 0-1.2%	1.64% Average Range = 0.0-17% (1 Sample)	Naturally present in the environment
E. Coli	N/A	ND	ND	ND	ND	ND	Human and animal fecal waste
Viruses, Giardia, Legionella	N/A	TT	ND	N/A	N/A	N/A	Naturally present in the environment
Turbidity (clarity) (NTU) Main System - Surface Water	N/A	95% less than or equal to 0.5	0.07 Average <0.01 - 0.50 Range	N/A	N/A	N/A	Soil runoff

5. Hunterwood

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Arsenic (ppb)	N/A	50	7.4	Erosion of natural deposits
Barium (ppm)	2	2	0.276	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	N/A	50***	2.5	Decay of natural and man made deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.150 at customer tap - none exceeded AL (2000)	Erosion of natural deposits; corrosion of household plumbing
Fluoride (ppm)	4	4	0.5 (2000)	Erosion of natural deposits;
Lead (ppb)	0	90% below AL=15	90% below 4.0 at customer tap - one tap exceeded AL (2000)	Erosion of natural deposits; corrosion of household plumbing

Customer Service is our **#1** priority.

We take pride in the water which is provided to our customers and are continually striving to improve. To accomplish this goal. . . we need your help. Any time you find your water's quality below your expectations, please contact us through "Houston Help Line" by dialing **311**. We'll respond promptly and professionally.

**** Calendar Year 2003 data unless otherwise specified***

***** Latest year for which data was collected***

****** EPA considers 50 pCi/l to be the level of concern for beta particles.***

These Tables Show What Contaminants Were Detected In Your Drinking Water In 2003.* None Were Above the MCL.

6. District 82

Calvin Village, Hidden Echo, Magnolia Point, Paradise Oaks, and Plantation Hill Subdivisions

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	2.9 Average Range = 2.5-3.2 (2001)	Erosion of natural deposits
Barium (ppm)	2	2	0.160 (2001)	Discharge of drilling wastes; erosion of natural deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.043 at customer tap - none exceeded AL (2000)	Erosion of natural deposits; corrosion of household plumbing
Lead (ppb)	0	90% below AL=15	90% below 1.4 at customer tap - none exceeded AL (2000)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm)	10	10	0.15 (2001)	Runoff from fertilizer use, erosion of natural deposits
Combined Radium (pCi/l)	0	5	<1.0 Average Range = <1.0-1.2 (2002)	Erosion of natural deposits

7. Harris County MUD 159

Willowbrook Mall, The Commons at Willowbrook

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	6.2	Erosion of natural deposits
Arsenic	0	50	2.2	Erosion of natural deposits
Barium (ppm)	2	2	0.257	Discharge of drilling wastes; erosion of natural deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.257 at customer tap-none exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Lead (ppb)	0	90% below AL=15	90% below 3.8 at customer tap-none exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm)	10	10	0.22	Runoff from fertilizer use; erosion of natural deposits
Combined Radium (pCi/l)	0	5	0.4	Erosion of natural deposits
Selenium (ppb)	50	50	3.9	Erosion of natural deposits

8. Utility District 5 (Kingwood)

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	<2.0	Erosion of natural deposits
Arsenic (ppb)	N/A	50	<2.0 Average Range=<2.0 - 3.0	Erosion of natural deposits
Barium (ppm)	2	2	0.240 Average Range = 0.201-0.266	Discharge of drilling wastes; erosion of natural deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.128 at customer tap - none exceeded AL	Erosion of natural deposits; corrosion of household plumbing
Ethylbenzene (ppb)	700	700	0.7 Average MUD 48 & 58 (2002)	Discharge from petroleum refineries
Fluoride (ppm)	4	4	0.7 (2002)	Water additive which promotes strong teeth
Lead (ppb)	0	90% below AL=15	90% below 3.3 at customer tap - none exceeded AL	Erosion of natural deposits; corrosion of household plumbing
Combined Radium (pCi/l)	0	5	<1.0 (2002)	Erosion of natural deposits
Toluene (ppm)_	1	1	0.008 Average MUD 48 & 58 (2002)	Dishcharge from petroleum factories
Total Trihalomethanes (TTHMs) (ppb)	0	Running Annual Average = 80	3.6 Running Annual Average Range = <2 - 9.5 in distribution system	By-product of drinking water disinfection
Total Xylenes (ppm)	10	10	0.0017 Average MUD 48 & 58, Forest Cove (2002)	Discharge from petroleum factories; discharge from chemical factories

9. Willowchase

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	4.3 Average Range = <2.0-8.6 (2002)	Erosion of natural deposits
Arsenic (ppb)	N/A	50	2.2	Erosion of natural deposits
Barium (ppm)	2	2	0.246 (2002)	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	0	50***	<4.0 Average Range = <4.0-4.3 (2000-2002)	Decay of natural and man made deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.069 at customer tap-none exceeded AL (2002)	Erosion of natural deposits; corrosion of household plumbing
Fluoride (ppm)	4	4	0.1 (2002)	Erosion of natural deposits
Lead (ppb)	0	90% below AL=15	90% below 5.2 at customer tap-none exceeded AL (2002)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm)	10	10	0.19 (2002)	Runoff from fertilizer use; erosion of natural deposits
Combined Radium (pCi/l)	0	5	0.4 (2002)	Erosion of natural deposits
Selenium (ppb)	50	50	3.8 (2002)	Erosion of natural deposits
Total Trihalomethanes (TTHM) (ppb)	N/A	80	24.3 Average Range = <0.5-48.5 at entry point (2002)	By-product of drinking water disinfection

10. District 73

Covecrest, Lakewood Heights, Lakeside Manor, Lakewood Village, Scotts Point, Shorewood, and Trott Subdivisions

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	5.2 Average Range = 4.2-6.2 (2002)	Erosion of natural deposits
Arsenic	N/A	50	<0.0020 Average Range = <0.0020-0.0022	Erosion of natural deposits
Barium (ppm)	2	2	0.28 (2002)	Discharge of drilling wastes; erosion of natural deposits
Beta/Photon Emitters (pCi/l)	0	50***	4.6 Average Range = 4.5-4.7 (2002)	Decay of natural and man made deposits
Copper (ppm)	1.3	90% below AL=1.3 (1999)	90% below 0.119 at customer tap - none exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Ethylbenzene (ppb)	700	700	0.5 Average Range = <0.5-0.9 (2002)	Dishcarge from petroleum refineries
Fluoride (ppm)	4	4	0.2 (2002)	Erosion of natural deposits
Lead (ppb)	0	90% below AL=15	90% below 2.2 at customer tap - one tap exceeded AL (1999)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm)	10	10	0.03 (2002)	Runoff from fertilizer use; erosion of natural deposits
Combined Radium (pCi/l)	0	5	0.6 Average Range = 0.5-0.7 (2002)	Erosion of natural deposits
Selenium (ppb)	50	50	3.2 (2002)	Erosion of natural deposits
Total Trihalomethanes (TTHMs (ppb)	N/A	80	18.0 Average Range = 4.0-32.0 at entry point (2002)	By-product of drinking water disinfection
Xylenes (ppm)	10	10	0.0036 Average Range = 0.002-0.0052 (2002)	Discharge from petroleum factories; discharge from chemical factories

11. Willow Run

CONTAMINANT (units)	MCLG	MCL (max. level allowed)	GROUNDWATER	SOURCES OF CONTAMINANTS
Alpha Emitters (pCi/l)	0	15	Average = 10.5 Range = 10.4-10.5 (2002)	Erosion of natural deposits
Barium (ppm)	2	2	0.297 (2002)	Discharge of drilling wastes; erosion of natural deposits
Beta Emitters (pCi/l)	0	50***	Average = 8.8 Range = 7.4-10.2 (2002)	Decay of natural and man made deposits
Copper (ppm)	1.3	90% below AL=1.3	90% below 0.18 at customer tap-none exceeded AL (2001)	Erosion of natural deposits; corrosion of household plumbing
Fluoride (ppm)	4	4	0.1 (2002)	Erosion of natural deposits
Lead (ppb)	0	90% below AL=15	90% below 1.2 at customer tap-none exceeded AL (2001)	Erosion of natural deposits; corrosion of household plumbing
Nitrate (ppm)	10	10	0.23 (2002)	Runoff from fertilizer use; erosion of natural deposits
Combined Radium (pCi/l)	0	5	Average = 1.1 Range = 0.6-1.5 (2002)	Erosion of natural deposits

**** Calendar Year 2003 data unless otherwise specified***

***** Latest year for which data was collected***

****** EPA considers 50 pCi/l to be the level of concern for beta particles.***