

# PINELLAS COUNTY UTILITIES WATER QUALITY ANALYSIS TABLES FOR 1999

The following tables show the results of our monitoring as reported to the FDEP and the USEPA for monitoring year 1999\*

As you can see by the tables below, the PCU system had NO VIOLATIONS. The PCU team of water quality experts has tested for over 550 contaminants, of which over 520 were NOT DETECTED at any level in the water supply. Pinellas County Utilities routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 1999. As water travels over the land or underground it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

Pinellas County Utilities (PCU) customers receive groundwater out of the Floridan Aquifer from two locations: the Eldridge-Wilde wellfield and the Cypress Creek wellfield. The Eldridge-Wilde wellfield is managed by PCU and values for this water's quality are depicted in the "PCU" column. The Cypress Creek wellfield is managed by Tampa Bay Water (TBW). This water's quality values are depicted in the "TBW" column.

**Primary (Health Related) Contaminants** are health-related standards established by federal and state agencies.

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

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation		Highest monthly number of positive samples		MCLG	MCL	Likely Source of Contamination
		PCU	TBW	PCU	TBW			
Total Coliform Bacteria	1/99-12/99*	NO	NA	>0.3% of positive samples	NA	0	For systems collecting at least 40 samples per month: presence of coliform bacteria in more than 5% of monthly samples For systems collecting fewer than 40 samples per month: presence of coliform bacteria in more than 1 sample collected during a month.	Naturally present in the environment.
Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation		Total number of positive samples for the year		MCLG	MCL	Likely Source of Contamination
Fecal Coliform and E. Coli	1/99-12/99*	NO	NA	0 positive samples	NA	0	Any fecal coliform positive repeat sample, or e. coli positive repeat sample, or any total coliform positive repeat sample following a fecal coliform positive or e. coli positive routine sample is an MCL violation	Human and animal fecal waste.

**RADIOLOGICAL CONTAMINANTS** can be naturally-occurring or be the result of oil and gas production and mining activities.

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation		Level Detected		Range of results		MCLG	MCL	Likely Source of Contamination
		PCU	TBW	PCU	TBW	PCU	TBW			
Alpha (pCi/l)	1/99-12/99*	NO	NO	2.7	1.7	1.1-2.7	0-1.7	0	15	Erosion of natural deposits.
Gross Beta/Photon Emitters (mrem/yr)	3/97**	NA	NO	NA	1.1	NA	0-1.1	0	4	Decay of natural and man-made deposits.

**INORGANIC CONTAMINANTS** such as salts and metals, can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation		Level Detected		Range of results		MCLG	MCL	Likely Source of Contamination
		PCU	TBW	PCU	TBW	PCU	TBW			
Barium (ppm)	1/99-12/99* 3/97**	NO	NO	0.019	.029	0.017 - 0.019	U-0.29	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium (ppb)	1/99-12/99*	NO	NA	0.5	NA	U - 0.5	NA	100	100	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride (ppm)	1/99-12/99* 3/97**	NO	NO	0.21	0.11	0.11 - 0.21	0-0.11	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Lead (point of entry) (ppb)	1/99-12/99*	NO	NO	4	NA	U - 4	NA	NA	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder.
Sodium (ppm)	1/99-12/99* 3/97**	NO	NO	32	12	15 - 32	0-12	NA	160	Saltwater intrusion, leaching from soil, erosion of natural deposits.

**VOLATILE ORGANIC CONTAMINANTS** are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation		Level Detected		Range of results		MCLG	MCL	Likely Source of Contamination
		PCU	TBW	PCU	TBW	PCU	TBW			
Carbon Tetrachloride (ppb)	1/99-12/99*	NO	NA	0.07	NA	U - 0.7	NA	0	3	Discharge from chemical plants and other industrial activities.
Xylenes† (ppm)	01/98**	NA	NO	NA	0.0006	NA	0-0.0006	10	10	Discharge from petroleum factories; discharge from chemical factories.

† Due to contamination by sample tap. Although we [TBW] run many tests, only the listed substances were found. They are all below the MCL required.

**Secondary (Non-Health Related) Contaminants** aesthetic parameters which can effect taste, color and odor.

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation		Highest Result		Range of results		MCLG	MCL	Likely Source of Contamination
		PCU	TBW	PCU	TBW	PCU	TBW			
Aluminum (ppm)	1/99-12/99*	NO	NA	0.009	NA	U - 0.009	NA	NGE	0.2	Natural occurrence from soil leaching.
Chloride (ppm)	1/99-12/99* 3/97**	NO	NO	40	11.7	10 - 40	0-11.7	NGE	250	Natural occurrence from soil leaching.
Color (color units)	1/99-12/99* 3/97**	NO	NO	5	7	U-5	0-7	NGE	15	Natural occurrence from soil leaching, naturally occurring organics.
Copper (ppm)	1/99-12/99*	NO	NA	0.019	NA	U-0.019	NA	NGE	1	Natural occurrence from soil leaching.
Iron (ppm)	1/99-12/99*	NO	NA	0.297	NA	0.009-0.297	NA	NGE	0.3	Natural occurrence from soil leaching.
Manganese (ppm)	1/99-12/99* 3/97**	NO	NO	0.05	0.006	U-0.05	0-0.006	NGE	0.05	Natural occurrence from soil leaching.
Odor (threshold odor number)	1/99-12/99*	NO	NA	2	NA	U-2	NA	NGE	3	Natural occurrence from soil leaching.
Silver (ppm)	3/97**	NA	NO	NA	0.0003	NA	0-0.0003	NGE	0.1	Natural occurrence from soil leaching.
Zinc (ppm)	1/99-12/99*	NO	NA	0.050	NA	0.004-0.050	NA	NGE	5	Natural occurrence from soil leaching.
Sulfate (ppm)	1/99-12/99* 3/97**	NO	NO	18	21.3	U-18	0-21.3	NGE	250	Natural occurrence from soil leaching.
Total Dissolved Solids (ppm)	1/99-12/99* 3/97**	NO	NO	358	252	198-358	0-252	NGE	500***	Natural occurrence from soil leaching.

**Unregulated Organic Contaminants** are monitored per EPA guidelines, however there are currently no regulated maximum contaminant levels.

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation		Average Result	Range of results at or above detection		Likely Source of Contamination
		PCU	TBW		PCU	TBW	
1,1,1,2-Tetrachloroethane (ppb)	1/99-12/99*	NA	NA	0.05	NA	U - 0.60	By-product of drinking water chlorination
1,3-Dichloropropane (ppb)	1/99-12/99*	NA	NA	0.12	NA	NA	By-product of drinking water chlorination
Bromodichloromethane (ppb)	1/99-12/99*	NA	NO	9.7	NA	2.1 - 17.7	By-product of drinking water chlorination
Chloroform (ppb)	1/99-12/99* 6/99**	NA	NA	61.9	6.52	28.8 - 109	By-product of drinking water chlorination
Chloromethane (ppb)	1/99-12/99*	NA	NA	0.19	NA	U - 1.44	By-product of drinking water chlorination
Dibromochloromethane (ppb)	1/99-12/99* 6/99**	NA	NA	1.83	0.93	0.46 - 4.41	By-product of drinking water chlorination

**Total Trihalomethanes** are by-products of drinking water chlorination.

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation		Level Detected		Range of results		MCLG	MCL	Likely Source of Contamination
		PCU	TBW	PCU	TBW	PCU	TBW			
TTHMs [Total Trihalomethanes] (ppb)	1/99-12/99* 12/99**	NO	NO	72	29.0	69 - 77	15.6-41.0	NA	100	By-product of drinking water chlorination

**Lead and Copper** result from the corrosion of household plumbing systems and/or the erosion of natural deposits.

Contaminant and Unit of Measurement	Dates of Sampling (Mo./Yr.)	MCL Violation		90th percentile result	Number of sampling sites exceeding the AL	MCLG	AL (action level)	Likely Source of Contamination	
		PCU	TBW						PCU
Copper (ppm)	1/97-12/97* 6/97**	NO	NO	0.83	0.67	0 sites above action level	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	1/97-12/97* 6/97**	NO	NO	3	6	2 sites above action level	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits.

## Studies to Reduce Disinfection By-Products (DBPs)

In 1995, the USEPA promulgated the Information Collection Rule (ICR) which requires large community systems to collect data on DBPs in drinking water and requires certain systems to study ways to reduce DBPs. A provision of the ICR is that DBP reduction studies completed before the ICR could be grandfathered in lieu of a new study provided the rigorous requirements of the ICR were met. As an example of Pinellas County continuing to set the standard in America, Pinellas County submitted two studies from the S.K. Keller Plants I and II for consideration by the USEPA, both of which met ICR requirements and were accepted. Nationally, Pinellas County's studies from S.K. Keller Plants I & II were two of the eight studies under the ICR's grandfathering provision accepted, and were the only studies accepted relating to groundwater sources.

## TERMS TO KNOW

In these tables you may find many terms and abbreviations that you might not be familiar with. To help you better understand these terms we've provided the following definitions:

- Action Level, (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Chlorine Residual, (Cl<sub>2</sub>R):** The amount of chlorine in water that is available for disinfection.
- Chlorine, (Cl):** An element used in gaseous form that readily combines with other elements in water.
- Degrees Celsius, (°C):** The metric scale used to measure temperature.
- Maximum Contaminant Level, (MCL):** 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.
- 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.
- Micro mhos per centimeter, (umhos/cm):** A measure of the ionic conductivity of the water.
- Millirem per year, (mrem/yr):** Measure of radiation absorbed by body.
- Nephelometric Turbidity Unit, (NTU):** Measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- No Goal Established, (NGE):** No maximum contaminant level goal (MCLG) established for this contaminant.
- Not Applicable, (NA):** Not applicable to this contaminant.
- Not Detected, (ND):** Means not detected and indicates that the substance was not found by laboratory analysis.
- Parts per Million, (ppm), or Milligrams per Liter, (mg/L):** One part by weight of analyte to 1 million parts by weight of the water sample.
- Parts per Billion, (ppb), or Micrograms per Liter, (ug/L):** One part by weight of analyte to 1 billion parts by weight of the water sample.
- PCU:** Pinellas County Utilities
- pH:** A measure of the hydrogen ion concentration in water which determines whether it is acidic or basic (alkaline).
- Picocurie per liter, (pCi/L):** Measure of the radioactivity in water.
- Primary Contaminants:** Health-related standards established by federal and state agencies.
- Secondary Contaminants:** Constituents which affect taste, odor, and appearance (color). These are not considered a health concern.
- TBW:** Tampa Bay Water
- Total Dissolved Solids, (TDS):** An overall indicator of the amount of minerals in water.
- Total Trihalomethanes, (TTHMs):** A group of disinfection by-products formed as a result of the chlorination of water.
- Undetected, (U):** Specific component analyzed for but not detected.

**Information Collection Rule (ICR)††** were collected to contribute to a national data gathering effort undertaken USEPA to determine the occurrence of the selected contaminants in drinking water.

Inorganic Contaminants				Organic Contaminants (Haloacetic Acids) (ppb)			
Contaminant and Unit of Measurement 1998	MCL Violation	Level Detected	Range	Contaminant and Unit of Measurement 1998	MCL Violation	Level Detected	Range
Alkalinity (ppm)	NA	207	91-227	Bromochloroacetic Acid (ppb)	NA	2.88	0.75-6.00
Bromine (ppm)	NA	0.040	0.029-0.075	Bromodichloroacetic Acid (ppb)	NA	5.74	0.66-12.3
Ammonia (ppm)	NA	0.46	0.02-0.61	Chlorodibromoacetic Acid (ppb)	NA	3.19	0.36-11.0
Total Organic Carbon (TOC) (ppm)	NA	4.1	3.1-6.0	Dalapon (ppb)	NA	1.39	0.42-2.72
Total Hardness (ppm)	NA	217	190-306	Dibromoacetic Acid (ppb)	NA	0.34	0-1.00
Total Organic Halogen (TOX) (ppb)	NA	152	0.10-465	Dichloroacetic Acid (ppb)	NA	18.7	5.86-40.6
Turbidity (NTU)	NA	0.412	0.09-0.785	Monobromoacetic Acid (ppb)	NA	0.12	0-0.92
UV-254 (cm <sup>-1</sup> )	NA	0.126	0.078-0.770	Monochloroacetic Acid (ppb)	NA	2.26	0.38-5.87
				Trichloroacetic Acid (ppb)	NA	31.5	7.41-65.8

  

Organic Contaminants (Disinfection by-products) (ppm)				Metal Contaminants			
Contaminant and Unit of Measurement 1998	MCL Violation	Level Detected	Range	Contaminant and Unit of Measurement 1998	MCL Violation	Level Detected	Range
1,1-Dichloropropanone (ppb)	NA	0.572	0.062-1.78	Calcium (ppm)	NA	77.3	68.3-85.7
Bromochloroacetonitrile (ppb)	NA	2.21	0-3.84	Magnesium (ppm)	NA	4.86	4.38-5.45
Bromodichloromethane (ppb)	NA	10.8	3.82-19.1				
Bromoform (ppb)	NA	0.208	0.023-0.732				
Chloral Hydrate (ppb)	NA	6.95	0.632-17.7				
Chloroform (ppb)	NA	54.2	16.1-163				
Chloropicrin (ppb)	NA	0.126	0-0.298				
Dibromoacetonitrile (ppb)	NA	0.454	0-1.01				
Dibromochloromethane (ppb)	NA	1.61	0.154-3.24				
Dichloroacetonitrile (ppb)	NA	9.20	1.92-19.7				
Trichloroethene (ppb)	NA	0	0				
Trichloroacetonitrile (ppb)	NA	0.069	0-0.254				
Trichloropropanone (ppb)	NA	2.70	0.082-2.61				
Total Trihalomethanes (TTHMs) (ppb)	NA	66.8	21.0-184				

††ICR results collected from 07/97 to 12/98



At Pinellas County Utilities, we value our customers and work hard to ensure your satisfaction. If you have questions or comments about this report or other issues, please call us:

Utilities Laboratory ..... 727/582-2302  
 Customer Service ..... 727/464-4714  
 Water Conservation ..... 727/464-3896  
 Emergencies ..... 727/582-7020

The PCU Water System is staffed 24 hours a day, 7 days a week.

You can also visit us on our website at <http://utility.co.pinellas.fl.us>.

\*PCU is required to report the results of water quality testing to the DEP and the USEPA less frequently for certain contaminants. The dates of the last reported sample appear in this report.

\*\*TBW is required to report the results of water quality testing to the DEP and the USEPA less frequently for certain contaminants. The dates of the last reported sample appear in this report.

\*\*\* TDS may be greater than 500 ppm if no other MCL is exceeded.

Customers interested in receiving more recent data should contact the PCU Customer Service Division at 727/464-4714.