



WATER QUALITY REPORT 2007

TOWN OF JUPITER UTILITIES

In 1978, the Town of Jupiter purchased its water system from Tri-Southern Utilities. At the time, the system's average daily flow was only 2.5 million gallons per day and served a population of approximately 15,000 people.

Today, your utility is capable of producing nearly 30 million gallons a day of drinking water accommodating more than 80,000 people living in Jupiter, Juno Beach and unincorporated areas of Palm Beach and Martin Counties.

Jupiter's drinking water system presently blends three treatment methods: lime softening, ion exchange, and reverse osmosis. The conventional lime softening treatment and the ion exchange plants use fresh water from wells that access the 150 to 200 foot deep Surficial Aquifer. The softening process includes the use of lime and polymers to remove hardness, turbidity and iron. The ion exchange process uses resins to remove color. Our reverse osmosis [RO] desalination system takes brackish water from wells drilled into the 1500 to 2000 foot deep Floridan Aquifer and uses high pressure to force it through a membrane that removes the salt and other impurities. The result of the RO treatment process is extremely pure water, which is then blended with waters from the lime softening and the ion exchange plants to produce drinking water that surpasses all United States EPA drinking water standards.



FLORIDA SECTION American Water Works Association

In April, 2008 Jupiter Utilities was named a Class A Outstanding Water Treatment Plant by the Florida Section of the American Water Works Association. The honor is awarded to utilities that meet exceptionally high standards in maintenance and record keeping in water quality, operations, maintenance, professionalism, safety, emergency preparedness and public relations.

OUR VISION

The Town of Jupiter's water utility is an established industry leader committed to maintaining its standard of excellence in concert with the environment.

By mid 2010, Jupiter's water treatment facility will only include the most advanced membrane treatment technologies with the completion of its new nanofiltration treatment system. Jupiter Utilities is committed to providing you unsurpassed drinking water quality while reducing demand on our local fresh water resources.

Jupiter's utility has taken a leadership role in the restoration of local water resources by administering the Loxahatchee River Preservation Initiative (LRPI). LRPI has obtained over \$13 million in funding from the state legislature for water quality enhancement projects over the last 5 years, leading to over \$26 million in improvements when combined with local funding. The community of Jupiter is proud that this partnership between its water utility and LRPI strengthens its commitment to appreciate, preserve and protect the region's environmental assets. For more information, please visit www.lrpi.org.



DRINKING WATER QUALITY

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 activity.

Contaminants that may be present in source water include:

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

Inorganic 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, mining or farming.

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

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

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

Trihalomethanes (TTHMS), which are compounds that can be created by chlorinating water. (Some people who drink water containing tri-halomethanes in excess of the MCL over many years may experience problems with their liver, kidneys or central nervous system, and may have an increased risk of getting cancer.)

Cryptosporidium is a microscopic organism that when ingested can result in diarrhea, fever and other gastrointestinal symptoms.

The Jupiter Water Utilities has never detected the presence of this organism in either the raw or finished water. Cryptosporidium comes from the waste material of warm-blooded animals and is found in surface waters. Since the Jupiter Water System utilizes local aquifers as the sole source of raw water, the presence of Cryptosporidium is not expected to occur.

In order to ensure that tap water is safe to drink, the 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 be reasonably 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.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons 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 about drinking water from their health care providers. EPA/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).

Membrane water treatment processes like the one used by Jupiter are widely considered the most effective means of contaminant removal and achieving compliance with present and future drinking water quality standards.

DEFINITIONS

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

Contaminant: Any physical, chemical, biological or radiological substance or matter in water.

Maximum Contaminant Level or 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 or 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.

Maximum Residual Disinfectant Level or MRDL: The highest level of a 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 or MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

N/A: not applicable

ND: means not detected and indicates that the substance was not found by laboratory analysis.

pCi/L: Picocuries per liter is a measure of the radioactivity in water

Parts per million (PPM): one part by weight of analyte to one million parts by weight of the water sample.

Parts per billion (PPB): one part by weight of analyte to one billion parts by weight of the water sample.

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

SOURCE WATER ASSESSMENT & PROTECTION PROGRAM (SWAPP)

In 2004 the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are three potential sources of contamination identified for this system with High to Low susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp or they can be obtained from our website at www.jupiter.fl.us/Water/Drinking-Water-Quality.cfm.

JUPITER'S TREATED WATER QUALITY RESULTS

The following tables list substances that may be found in your tap water, as well as the EPA's established acceptable levels of these contaminants. Jupiter's system again rates with excellence, has no violations, and meets or exceeds all federal and state requirements. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline, (800) 426-4791.

The Town of Jupiter Utilities routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period January 1 to December 31, 2007. Data obtained before January 1, 2007 presented in this report is from the most recent testing done in accordance with current regulations. Tests for sodium, synthetic organic contaminants, and radiological contaminants are only required to be tested every 3 years per state regulation.

In addition to the items listed in the left column, we test for the

presence of more than 100 other contaminants which do not appear in any detectable amounts. These contaminants include 14 inorganic compounds such as arsenic and cyanide; 21 volatile organic compounds such as trichloroethylene; 30 pesticides and PCBs such as chlordane; and 47 unregulated organic contaminants.

Although we are not currently required to test for Radon, we strive to go beyond state and federal standards. During 2007 we found only trace amounts of Radon in the finished water supply, far below the proposed federal standards, an average of 27 pCi/L. To put this in perspective, the proposed federal standard is 200 pCi/L. Radon is a radioactive gas that you can't see, taste or smell, and is a known human carcinogen. It can move up through the ground and into a home through cracks and holes in the foundation, and to a lesser extent, it can permeate indoor air when released from tap water during household activities such as showering and washing dishes. If you are concerned about Radon in your home, contact the EPA's Radon Hotline, (800)SOS-RADON, for more information.

LEAD AND COPPER (TAP WATER)

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO/YR)	AL VIOLATION Y/N	90 TH PERCENTILE RESULTS	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL ACTION LEVEL	LIKELY SOURCE OF CONTAMINATION
COPPER TAP WATER PPM	09/07	N	0.08 PPM	0	1.3	1.3	Corrosion of household plumbing system, erosion of natural deposits, leaching from wood preservatives
LEAD TAP WATER PPB	09/07	N	3.5 PPB	0	0	15	Corrosion of household plumbing system, erosion of natural deposits

THM AND STAGE 1 DISINFECTANT BY-PRODUCT (D/DPB) PARAMETERS

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO/YR)	MCL VIOLATION Y/N	LEVEL DETECTED	RANGE OF RESULTS	MCLG OR MRDLG	MCL OR MRDL	LIKELY SOURCE OF CONTAMINATION
CHLORAMINES (PPM)	1/07 – 12/07	N	2.5 PPM	0.6 – 5.2	MRDLG = 4.0	MRDL = 4.0	Water additive used to control microbes
HALOACETIC ACID (FIVE) (HAA5) (PPB)	1/07 – 12/07	N	33 PPB	22 - 46	N/A	MCL = 60	By-product of drinking water disinfection
THM [TOTAL TRIHALOMETHANES] (PPB)	1/07 – 12/07	N	61 PPB	38 – 73	N/A	MCL = 80	By-product of drinking water disinfection

INORGANIC CONTAMINANTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO/YR)	MCL VIOLATION Y/N	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
NITRITE AS NITROGEN (PPM)	1/07 – 12/07	N	0.37 PPM	NA	1	1	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits
NITRATE AS NITROGEN (PPM)	1/07 – 12/07	N	0.93 PPM	N/A	10	10	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits
SODIUM (PPM)	06/05	N	59 PPM	N/A	N/A	160	Salt water intrusion, leaching from soil

SYNTHETIC ORGANIC CONTAMINANTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO/YR)	MCL VIOLATION Y/N	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Di (2-ETHYLHEXYL) PHTHALATE (PPB)	11/05	N	1 PPB	ND - 1	0	6	Discharge from rubber and chemical factories

RADIOLOGICAL CONTAMINANTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO/YR)	MCL VIOLATION Y/N	LEVEL DETECTED	RANGE OF RESULTS	MCLG OR MRDLG	MCL OR MRDL	LIKELY SOURCE OF CONTAMINATION
ALPHA EMITTER [pCi/L]	06/05	N	1.2	N/A	0	15	Erosion of natural deposits
URANIUM [pCi/L]	06/05	N	0.5	N/A	0	30	Erosion of natural deposits

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 Town of Jupiter Utilities 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>.



GIVING YOU OUR BEST

Did you know that residents of Jupiter have the best drinking water in the Southeast United States? Jupiter Utilities was awarded the Safe Drinking Water Act Excellence Award by the United States Environmental Protection Agency (EPA) in 1999 and 2001. This award proclaimed Jupiter as the top drinking water plant in the entire southeast portion of the United States. In fact, over the past two decades, your water utility has been honored by more than 36 awards for excellence in operations, treatment and drinking water.

What sets Jupiter apart is its planning. In 1990, Jupiter Utilities looked into the future. We studied anticipated growth, reviewed the impact of that growth on natural resources, and researched the most advanced water systems in the country to formulate a safer, more environmentally friendly water utility. The result was the creation of a reverse osmosis (RO) program, which stands as one of the largest brackish water desalination programs in the United States today.

By providing an alternative water supply through RO, we not only supply our community with premium drinking water, we also limit our demand on fresh water resources. Presently, our utility is capable of producing over 70% of our average daily supply by desalination. This allows us to maximize the preservation of fresh water in our local environment in times of prolonged drought.

Now nearing the end of its service life, the lime softening plant often struggles to produce water meeting our customer's quality goals. The lime process is less effective in eliminating the light yellow color that results from natural organics in the local water supply aquifers. Currently about half of our daily water production is derived through the conventional lime softening treatment process. The balance of our finished water product is treated by reverse osmosis desalination of

the brackish Floridan Aquifer supply so that we may limit our impacts on our fresh water supply and the local environment. Presently, our total treatment capacity is 29 million gallons per day.

To further the development of alternative water supplies and to enhance the quality of finished water, the Town of Jupiter is in the process of implementing numerous projects through the use of membrane treatment processes. A major component of the Jupiter Utilities' Community Investment Program is the implementation of nanofiltration treatment to replace the older, conventional lime softening water treatment facility in 2010. Nanofiltration, like reverse osmosis, utilizes advanced membrane treatment technology to remove undesirable dissolved constituents from the groundwater. It is considered the ultimate barrier against virus and bacteria that can be found in raw water. The nanofiltration process uses the fresh shallow aquifer as its supply where the reverse osmosis process uses brackish water from the deep Floridan Aquifer. Both RO and nanofiltration processes operate by forcing raw water under pressure through a semipermeable membrane that is capable of separating contaminants from the flow stream as a function of the membrane's chemical and physical properties.

The new nanofiltration system will utilize state-of-the-art membrane treatment technology similar to the Town's reverse osmosis desalination facility to separate contaminants from the raw water to yield a product which will greatly exceed all drinking water standards and will be very aesthetically pleasing with little to no color.

The nanofiltration plant construction began in early 2008 and will be commissioned into service in late 2010. When the nanofiltration facility is in service, Jupiter will become one of the first utilities in the country to fully employ these best available treatment technologies to achieve all of its water supply and quality needs.

Jupiter is proud of its water utility and wants customers to be informed. For more information on this report or on the water utility:

- Contact Carl Anderson or Paul Jurczak, Jupiter Water Utilities, 561-741-2601
- Visit www.jupiter.fl.us/water
- Attend Jupiter Town Council meetings when Utilities business is on the agenda. Meetings are held on the first and third Tuesday of each month at 7:00 p.m. at Town Hall, 210 Military Trail, Jupiter. Agenda information can be viewed at www.jupiter.fl.us or by calling Town Hall at 561-746-5134.