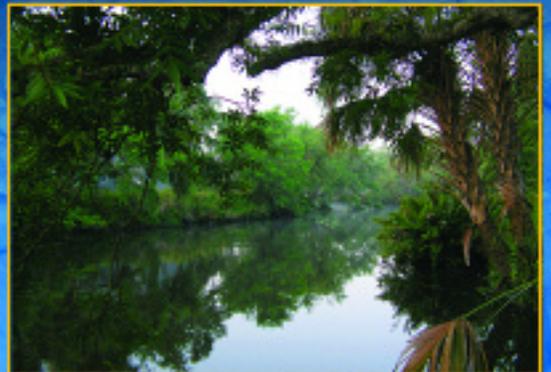


City of Port St. Lucie • Utility Systems Department

# 2005 Water Quality Report





Dear Customers,

We are pleased to provide you this copy of our 2005 Annual Water Quality Report. The report briefly describes our water treatment process, outlines the results of the numerous water quality tests we routinely perform, and it explains what those test results mean to you as the consumer.



The record growth this community experienced again last year placed enormous demands for service on this Utility. Please be assured that we clearly understand our obligation to meet those demands and we are dedicated to meeting both the present and the future water and wastewater needs of this community in a timely and cost-effective manner.

Jesus A. Merejo  
Utility Systems Director



### **The mission of Port St. Lucie's Utility Systems Department is to:**

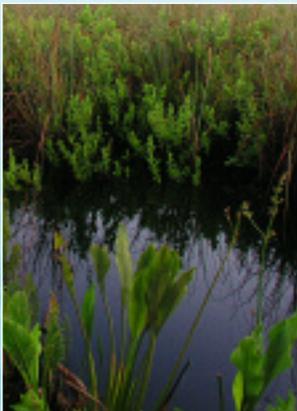
- Lead the water and wastewater utility industry by relying on innovative operating and maintenance processes, effective management and strategic planning;
- Protect our natural water resources and enhance the public's awareness of the need to conserve those resources;
- Provide exceptional customer support and service;
- Insure the health, safety and welfare of this community by providing a safe and dependable supply of drinking water.



## Where does our water come from?

Our water supply comes from two independent sources, the shallow aquifer and the deeper Floridan aquifer. Raw water from the shallow aquifer, which is about 100 feet deep, is treated by our 8.0 million gallon per day lime softening facility. This process is a combination of pH adjustments with lime, coagulation with a polymer, multi-media filtration, and disinfection with chloramines. The deeper Floridan aquifer, which is about 1350 feet deep, is treated by our 11.15 million gallon per day and our 6.0 million gallon per day reverse osmosis facilities. Both finished waters are blended, pH adjusted, and fluoride is added.

The source of drinking water (both tap water and bottled water) includes 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:

**Microbiological 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 storm runoff and industrial or domestic wastewater discharges.

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

**Organic Chemicals**, which are by-products from 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 in some groundwater.

## How safe is our water?

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 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. The presence of contaminants does not necessarily indicate that water poses a health risk. Some people may be more vulnerable to contaminants in drinking water than the general population, such as Immuno-compromised individuals, which may include cancer patients undergoing chemotherapy, organ transplant recipients, HIV/AIDS or other immune system disorders. These people should seek advice about drinking water from their healthcare providers. EPA guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*, other microbial contaminants, and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.



In addition, the Florida Department of Environmental Protection has implemented a Source Water Assessment and Protection program in order to assess and report potential source water contaminants and threats to public water systems. Potential sources of contamination are those facilities, sites, and activities that have the capacity to affect the underlying ground water or nearby surface waters used for public drinking water. A source water assessment that was conducted on our system in 2004 found that some of our wells are susceptible to contamination from petroleum storage tanks. For additional information, visit [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp).

## TEST RESULTS TABLE For Prineville Water Treatment Plant

| CONTAMINANT AND UNIT OF MEASUREMENT | DATES OF SAMPLING (MO./YR) | MCL VIOLATION YES/NO | LEVEL DETECTED | RANGE OF RESULTS | MCLG | MCL | LIKELY SOURCE OF CONTAMINATION |
|-------------------------------------|----------------------------|----------------------|----------------|------------------|------|-----|--------------------------------|
|-------------------------------------|----------------------------|----------------------|----------------|------------------|------|-----|--------------------------------|

### INORGANIC CONTAMINANTS

|                |      |    |        |     |     |     |  |
|----------------|------|----|--------|-----|-----|-----|--|
| ANTIMONY (ppb) | 3/05 | NO | 0.084  | N/A | 6   | 6   | Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder                    |
| ARSENIC (ppb)  | 3/05 | NO | 0.62   | N/A | N/A | 50  | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes |
| BARIUM (ppm)   | 3/05 | NO | 0.0035 | N/A | 2   | 2   | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits             |
| SELENIUM (ppb) | 3/05 | NO | 1.5    | N/A | 50  | 50  | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines       |
| SODIUM (ppm)   | 3/05 | NO | 100    | N/A | N/A | 160 | Salt water intrusion, leaching from soil   |
| THALLIUM (ppb) | 3/05 | NO | 0.69   | N/A | 0.5 | 2   | Leaching from ore-processing sites; drug factories   |

### VOLATILE ORGANIC CONTAMINANTS

|                       |             |    |     |          |   |   |  |
|-----------------------|-------------|----|-----|----------|---|---|--|
| DICHLOROMETHANE (ppb) | 3/05, 10/05 | NO | 2.9 | ND - 2.9 | 0 | 5 | Discharge from pharmaceutical and chemical factories |
|-----------------------|-------------|----|-----|----------|---|---|--|

| CONTAMINANT AND UNIT OF MEASUREMENT | DATES OF SAMPLING (MO./YR) | AL VIOLATION YES/NO | 90TH PERCENTILE RESULT | # OF SITES EXCEEDING THE AL | MCLG | AL (ACTION LEVEL) | LIKELY SOURCE OF CONTAMINATION |
|-------------------------------------|----------------------------|---------------------|------------------------|-----------------------------|------|-------------------|--------------------------------|
|-------------------------------------|----------------------------|---------------------|------------------------|-----------------------------|------|-------------------|--------------------------------|

### LEAD AND COPPER RESULTS (These results apply to the entire distribution system)

|                          |      |    |      |   |     |     |  |
|--------------------------|------|----|------|---|-----|-----|--|
| COPPER (ppm) (Tap Water) | 9/05 | NO | 0.13 | 0 | 1.3 | 1.3 | Corrosion of household plumbing systems, erosion of natural deposits; leaching from wood preservatives |
| LEAD (ppb) (Tap Water)   | 9/05 | NO | 6.3  | 5 | 0   | 15  | Corrosion of household plumbing systems, erosion of natural deposits;                                  |

| CONTAMINANT AND UNIT OF MEASUREMENT | DATES OF SAMPLING (MO./YR) | MCL VIOLATION YES/NO | LEVEL DETECTED | RANGE OF RESULTS | MCLG or MRDLG | MCL or MRDL | LIKELY SOURCE OF CONTAMINATION |
|-------------------------------------|----------------------------|----------------------|----------------|------------------|---------------|-------------|--------------------------------|
|-------------------------------------|----------------------------|----------------------|----------------|------------------|---------------|-------------|--------------------------------|

### Stage 1 Disinfectant / Disinfection By-Product (D/DBP) Parameter (These results apply to the entire distribution system)

|                                   |                  |    |      |             |           |            |   |
|-----------------------------------|------------------|----|------|-------------|-----------|------------|---|
| CHLORAMINES (ppm)                 | 1-12, 2005       | NO | 3.3  | 2.62-3.86   | MRDLG = 4 | MRDL = 4.0 | Water additive used to control microbes   |
| HALOACETIC ACID (HAA5) (ppb)      | 2, 5, 8, 10 2005 | NO | 16.3 | ND - 24.2   | N/A       | MCL =60    | By product of drinking water disinfection |
| TTHM (Total trihalomethanes)(ppb) | 2, 5, 8, 10 2005 | NO | 45.9 | 15.9 - 63.7 | N/A       | MCL =80    | By product of drinking water disinfection |

| CONTAMINANT AND UNIT OF MEASUREMENT | DATES OF SAMPLING (MO./YR) | MCL VIOLATION YES/NO | HIGHEST MONTHLY PERCENTAGE/ NUMBER | MCLG | MCL | LIKELY SOURCE OF CONTAMINATION |
|-------------------------------------|----------------------------|----------------------|------------------------------------|------|-----|--------------------------------|
|-------------------------------------|----------------------------|----------------------|------------------------------------|------|-----|--------------------------------|

### Microbiological Contaminants (These results apply to the entire distribution system)

|                         |            |    |     |   |    |                                      |
|-------------------------|------------|----|-----|---|----|--------------------------------------|
| Total Coliform Bacteria | 1-12, 2005 | NO | 1 % | 0 | 5% | Naturally present in the environment |
|-------------------------|------------|----|-----|---|----|--------------------------------------|

\*\* Results in the Level Detected column for radiological contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency. For contaminants such as dichloromethane that were sampled more than once in 2005, the "level detected" will be the average of those results.

# TEST RESULTS TABLE For James E. Anderson Water Treatment Plant

| CONTAMINANT AND UNIT OF MEASUREMENT  | DATES OF SAMPLING (MO./YR) | MCL VIOLATION YES/NO | LEVEL DETECTED | RANGE OF RESULTS | MCLG | MCL | LIKELY SOURCE OF CONTAMINATION  |
|--------------------------------------|----------------------------|----------------------|----------------|------------------|------|-----|---|
| <b>INORGANIC CONTAMINANTS</b>        |                            |                      |                |                  |      |     |   |
| ANTIMONY (ppb)                       | 12/05                      | NO                   | 0.25           | N/A              | 6    | 6   | Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder                                       |
| ARSENIC (ppb)                        | 12/05                      | NO                   | 0.59           | N/A              | N/A  | 50  | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes                    |
| BARIUM (ppm)                         | 12/05                      | NO                   | 0.0024         | N/A              | 2    | 2   | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits                                |
| FLUORIDE (ppm)                       | 12/05                      | NO                   | 0.89           | N/A              | 4    | 4   | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| SELENIUM (ppb)                       | 12/05                      | NO                   | 1              | N/A              | 50   | 50  | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines                          |
| SODIUM (ppm)                         | 12/05                      | NO                   | 82             | N/A              | N/A  | 160 | Salt water intrusion, leaching from soil  |
| NICKEL (ppb)                         | 12/05                      | NO                   | 0.26           | N/A              | N/A  | 100 | Polluting from mining and refining operations; natural occurrence in soil   |
| <b>VOLATILE ORGANIC CONTAMINANTS</b> |                            |                      |                |                  |      |     |   |
| DICHLOROMETHANE (ppb)                | 6/05, 11/05                | NO                   | 1.14           | ND - 2.8         | 0    | 5   | Discharge from pharmaceutical and chemical factories  |
| XYLENES (ppm)                        | 6, 9, 11/05                | NO                   | 0.00021        | ND - 0.00062     | 10   | 10  | Discharge from petroleum factories; discharge from chemical factories   |
| <b>RADIOLOGICAL CONTAMINANTS</b>     |                            |                      |                |                  |      |     |   |
| Radium 226+228(pCi/L)                | 3,9,12/05                  | NO                   | 0.5            | 0.3 - 0.5        | 0    | 5   | Erosion of natural deposits   |

\*\* Results in the Level Detected column for radiological contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency. For contaminants such as dichloromethane that were sampled more than once in 2005, the "level detected" will be the average of those results.

## IMPORTANT DEFINITIONS

**AL- Action Level:** The concentration of a contaminant which, if exceeded, triggers requirements that a water system must follow.

**MCL - Maximum Contaminant Level:** 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.

**MCLG - Maximum Contaminant Level Goal:** 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.

**MRDL - Maximum Residual Disinfectant Level:** 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.

**MRDLG - Maximum Residual Disinfectant Level Goal:** 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.

**PPB - Parts Per Billion:** Approximately one part by weight of analyte to 1 billion parts by weight of the water sample.

**PPM - Parts Per Million:** Approximately one part by weight of analyte to 1 million parts by weight of the water sample.

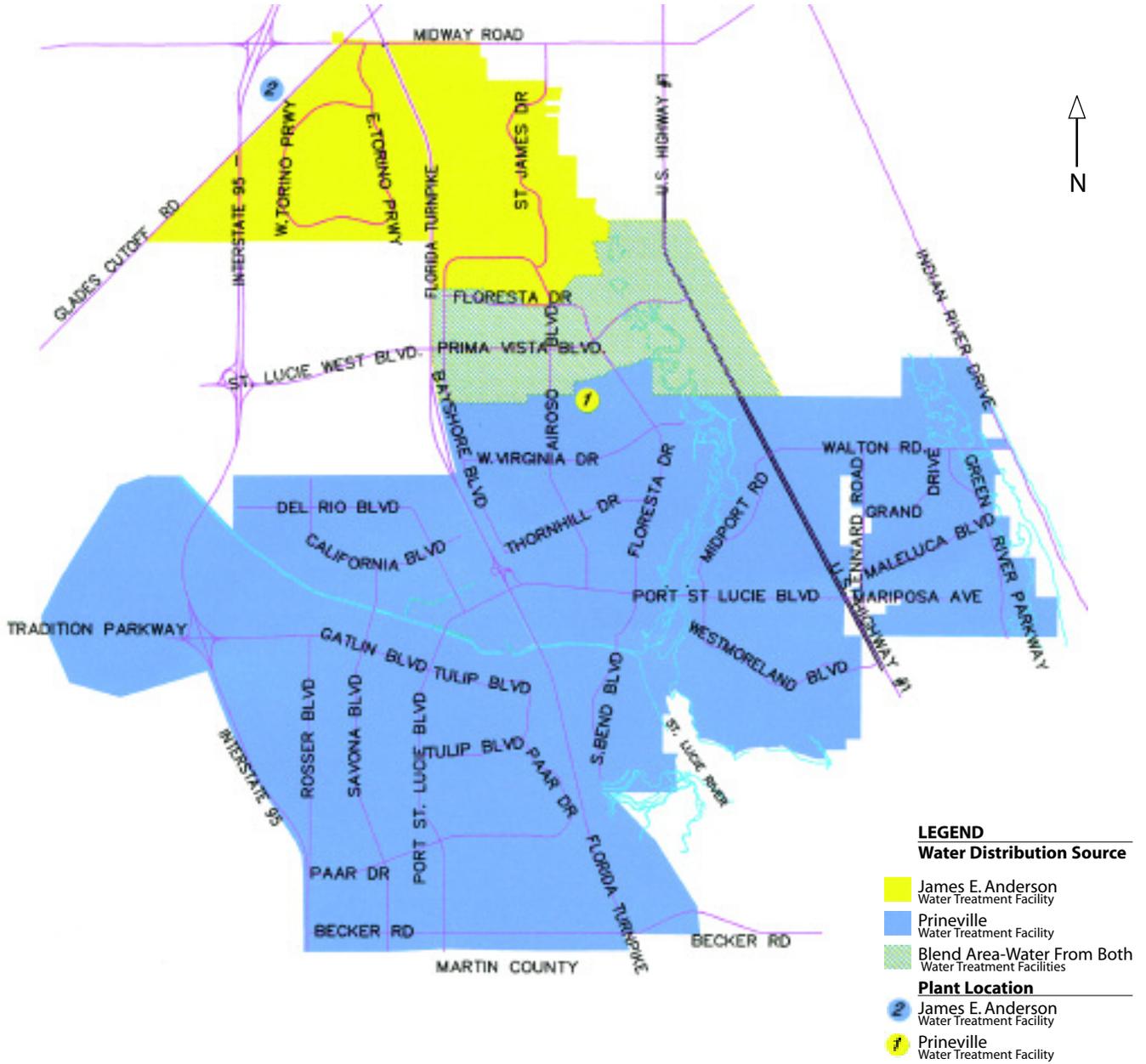
**ND - Not Detected:** The concentration of the parameter is too low to be detected by EPA approved laboratory method.

**pCi/L ( Pico Curies per Liter):** Measure of the radioactivity in water.

**NA:** Not applicable, does not apply.



## City of Port St. Lucie Utilities System Water Distribution Map



Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1st to December 31st, 2005. Data obtained before January 1st, 2005, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations. If you have any questions about this report or concerning your water utility, please contact us at (772) 873-6400. We want our valued customers to be informed about their water utility.



City of Port St. Lucie Leadership

Robert E. Minsky  
**Mayor**

Patricia Christensen  
**Vice Mayor District 1**

Michelle Berger  
**Councilwoman District 2**

Christopher Cooper  
**Councilman District 3**

Jack Kelly  
**Councilman District 4**

Donald B. Cooper  
**City Manager**

Jesus A. Merejo  
**Utility Systems Director**



City of Port St. Lucie  
Utility Systems Department  
900 S.E. Ogden Ln  
Port St. Lucie, Fl. 34983

PRESORTED  
STANDARD  
U.S. POSTAGE  
PAID  
TITUSVILLE, FL  
PERMIT #678