

2015



Annual Water Quality Report

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This report is designed to inform you about the quality of the water and services delivered to you in 2015 by Polk County Utilities, Board of County Commissioners. Included are details about where your drinking water comes from, what it contains, and how it compares to standards set by the Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP).

Crystal Acres Estates

If you have any questions about this report, your water utility, or would like to obtain a copy of this report, please contact Mark Lowenstine at (863) 298-4260.

Visit www.polk-county.net/CrystalAcresWQ

2015 Annual Drinking Water Quality Report

Crystal Acres Estates Public Water System #6535716

The service area for the **Crystal Acres Estates Public Water System (PWS)** is a portion of the Central Regional Utility Service Area of Polk County.

The **Crystal Acres Estates** receives all their water from the City of Lakeland Public Water System. Nineteen wells (13 wells at the T.B. Williams WTF and 6 wells at the C.W. Combee WTF) drilled 750 feet into the Floridan Aquifer, cased and grouted 200 feet below the surface provide raw water to the City's two lime softening facilities. Utilizing a variety of treatment processes, the operators control the blending of raw water with softened water to produce water with stability slightly on the scale forming side (utilizing Langlier's Saturation Index as the primary parameter). After blending the water, it is then filtered utilizing dual media filters consisting of anthracite and sand. The finished water is then delivered to the transmission/distribution system using high service pumps to maintain system pressure. Chemical addition includes calcium hydroxide (lime) and polymer in the lime softening process, starch for sludge conditioning, fluoride for dental health, phosphate for calcium sequestration prior to filtration and chlorination to 2.8 ppm free chlorine residual for disinfection.

SOURCE WATER ASSESSMENT AND PROTECTION PROGRAM

Size of Assessment Area: For this community system, a 5-year ground water travel time around each well was used to define the assessment area. The 5-year ground water travel time is defined by the area from which water will drain to a well pumping at the average daily permitted rate for a five year period of time.

Number of Wells: 19

The Department of Environmental Protection has performed a Source Water Assessment on the **T.B. Williams and C.W. Combee Treatment Facilities** in 2015. The assessments were conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are 3 Unique Potential Contaminant Sources identified for this system, all with a moderate range susceptibility level. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

Delivering Safe Drinking Water: The primary law governing drinking water in the United States is the Safe Drinking Water Act (SDWA). The SDWA, originally passed in 1974 and updated several times since, authorizes the EPA to establish comprehensive national standards for protection against both naturally occurring and man-made contaminants that may be found in drinking water. These standards, adopted by the FDEP, govern the quality of the water supplied, requirements for physical and chemical treatment, source water protection, operator training, funding for water system improvements, and public water information. Some of the standards adopted by the FDEP are more stringent than those established by the EPA.

Polk County Utilities works closely with the EPA, FDEP, and the Polk County Health Department to ensure that the water delivered to our customers is in compliance with the applicable standards. In accordance with the SDWA, Polk County Utilities is required to treat the water, test the water on a regulated schedule for specified contaminants, and report the results to the appropriate regulatory agency. If a problem is detected, Polk County Utilities immediately retests and informs its customers about the problems until the system can reliably demonstrate that the situation has been resolved.

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. Polk County 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>.

The sources of drinking water (both tap 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:

- A. **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment facilities, septic systems, agricultural livestock operations, and wildlife.
- B. **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C. **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- D. **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 storm water runoff, and septic systems.
- E. **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

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In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in the 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. The 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.

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 (800) 426-4791.

As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of our data (e.g., for organic contaminants), though representative, is more than one year old.

Polk County 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 of January 1 to December 31, 2015. Data obtained before January 1, 2015, and presented in this report are from the most recent testing done in accordance with the applicable laws, rules, and regulations.

The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the following tables are the only contaminants detected in your drinking water.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During the February 2015 sampling period, we did not monitor or test for bacteriological contaminants and therefore cannot be sure of the quality of your drinking water during that time for the required bacteriological parameters. Monitoring resumed immediately upon notification of the missing analyses. PCU is confident that the level of chlorine in your system during the February 2015 sampling period was consistent with what is normally used to disinfect your potable water, as required by the State of Florida. This minimizes the possibility of bacterial contamination in the drinking water distribution system. As such, it may be concluded that your drinking water met health standards during that time frame.

The following are definitions of some of the terms you may find in our report.

- ✓ **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- ✓ **Centers for Disease Control and Prevention (CDC)**
- ✓ **Food and Drug Administration (FDA)**
- ✓ **Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS)**
- ✓ **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.
- ✓ **Maximum residual disinfectant level (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 (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.
- ✓ **Not Applicable (N/A):** Does not apply
- ✓ **Not Detected (ND):** Indicates that the substance was not found by laboratory analysis.
- ✓ **Parts per billion (ppb) or Micrograms per liter (µg/l):** One part by weight of analyte to 1 billion parts by weight of the water sample.
- ✓ **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.
- ✓ **Picocuries per liter (pCi/L):** Measure of radioactivity in water.

CRYSTAL ACRES ESTATES PUBLIC WATER SYSTEM WATER QUALITY TEST RESULTS

** Results in the Level Detected column for radioactive contaminants and inorganic 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.

Radioactive 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
Alpha emitters (pCi/l)	01/11-12/11	N	1.7	ND-1.7	0	15	Erosion of Natural Deposits
Radium 226 + Radium 228 or Combined Radium (pCi/L)	01/11-12/11	N	3.2	1.3-3.2	0	5	Erosion of Natural Deposits

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
Barium (ppm)	01/14 - 12/14	N	0.007	0.003-0.007	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	01/14 - 12/14	N	1	ND - 1	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (ppm)	01/15 - 12/15	N	0.76	0.59 - 0.76	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Lead (point of entry) (ppb)	01/14 - 12/14	N	0.13	0.087-0.13	0	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder
Sodium (ppm)	01/14 - 12/14	N	7.8	5.6 - 7.8	N/A	160	Salt water intrusion, leaching from soil

Stage 2 Disinfectant/Disinfection By-Products

Chlorine: Level Detected is the 2015 monthly average Chlorine residual of all samples collected.
Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.
Haloacetic acids and TTHMs: Level Detected is the highest level detected.
Range of Results is the range of individual sample results (lowest to highest) of all samples taken.

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
Chlorine (ppm)	01/15-12/15	N	1.52	1.1 - 1.9	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	07/15-09/15	N	19.76	13.90-19.76	N/A	MCL = 60	By-product of drinking water disinfection
TTHM (Total Trihalomethanes) (ppb)	07/15-09/15	N	48.21	29.3-48.21	N/A	MCL = 80	By-product of drinking water disinfection

Copper (Tap Water)

Contaminant and Unit of Measurement	Dates of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	04/15-06/15	N	0.057	0	1.3	1.3	Corrosion of household plumbing systems

Copper tap water results are based on samples collected at selected consumer home taps located throughout the distribution system.
The 90th percentile copper result shows that 90% of the home tap water samples collected were equal to or less than the value indicated.