

2017 Annual Drinking Water Quality Report

Mexico Beach Water System

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. The Mexico Beach report covers the period from January to December 2017. Our constant goal is to provide you with a safe and dependable supply of drinking water. We are committed to ensuring the quality of your water. Bay County is the provider of the City's water supply. The Bay County Annual Water Quality Report is also included in this report. Once the water is received by Mexico Beach, chlorine is reintroduced for disinfectant purposes and Aquamag™ is added for iron sequestration.

Surface Water Source

Bay County Water source is drawn from Deer Point Lake. The Treatment Plant uses a conventional treatment process consisting of coagulation, flocculation, sedimentation, filtration, pH adjustment, disinfection, fluoridation and corrosion control. The treatment process includes adding lime occasionally to provide additional alkalinity to the raw water so that it can react with the primary coagulating chemical - ferric sulfate, which is added to remove particles and organics. Polymer is also added to assist in the coagulation process. Sodium Hypochlorite is added to maintain disinfection in the distribution system. The addition of zinc orthophosphate reduces the corrosiveness of the water. Fluoride, in the form of hydrofluosilicic acid, is added as a supplement to prevent tooth decay. Lime is also added at the end of the process to increase the pH. These processes are needed to meet the drinking water standards as set by the United States Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP).

Source Water Assessment Plan and Water Quality Monitoring

In 2017 the Department of Environmental Protection performed a Source Water Assessment on Bay County's system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of Bay County Surface Water intake. The surface water system is considered to be at high risk because of the many potential sources of contamination present in the assessment area. 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 Bay County Utility Services by calling (850)248-5010.

If you have any questions about this report or concerning your water utility, please contact Mary Leonard at (850)-5273806. We encourage our valued customers to be informed about their water utility. If you want to learn more about our utilities, please contact the Public Works Department at (850) 648-5700 or you may attend one of our regular monthly Council meetings, held the second Tuesday of each month at 6:00pm CST in the Mexico Beach Civic Center.

The City of Mexico Beach routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this Mexico Beach report is based on the results of our monitoring for the period of January 1st to December 31, 2017.

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 though representative, is more than one year old.

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

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.

Non-detect or "ND" means not detected and indicates that the substance was not found by laboratory analysis.

Non applicable (N/A). Does not apply.

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

Parts per million (ppm) or Milligrams per liter (mg/l) – one part per million corresponds to one minute in two years or a single penny in \$10,000.00.

Parts per billion (ppb) or Micrograms per liter (ig/1) – one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.00.

Picocurie per liter (pCi/L) - measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) – The measurement of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

TT (Treatment technique) – Required process intended to reduce the level of a contaminant in drinking water.

MRDL (Maximum Residual Disinfectant Level) – The highest level of 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.

Water Quality Test Results.

2017 MEXICO BEACH TEST RESULTS TABLE

| Contaminant and Unit of Measurement | Dates of sampling (mo./yr.) | AL Exceeded Y/N | 90th Percentile Result | No. of sampling sites exceeding the AL | MCLG | AL (Action Level) | Likely Source of Contamination |
|-------------------------------------|-----------------------------|-----------------|------------------------|--|------|-------------------|--|
| Lead and Copper (Tap Water) | | | | | | | |
| Copper (tap water) (ppm) | Aug & Sept.2017 | N | 0.15 | 0 of 20 | 1.3 | 1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Lead (tap water) (ppb) | Aug & Sept 2017 | N | 1 | 0 of 20 | 0 | 15 | Corrosion of household plumbing systems, erosion of natural deposits |

STAGE 2 DISINFECTANT/DISINFECTION BY-PRODUCT (D/DBP)

| Disinfectant or Contaminant and Unit of Measurement | Dates of Sampling (mo./yr.) | MCL or MRDL Violation Y/N | Level Detected | Range of Results | MCLG or MRDLG | MCL or MRDL | Likely Source of Contamination |
|---|-----------------------------|---------------------------|----------------|------------------|---------------|-------------|---|
| * Haloacetic Acids (HAA5) (ppb) | Jan.-Dec. 2017 | N | 25.03 | 7.3-46.3 | N/A | MCL=60 | By-product of drinking water disinfection |
| *Total Trihalomethane (TTHM) (ppb) | Jan.-Dec. 2017 2016 | N | 52.85 | 29.3-68.2 | N/A | MCL=80 | By-product of drinking water disinfection |
| Chlorine (ppm) | Jan.-Dec. 2017 | N | 0.72 | 0.32-0.90 | MRDLG =4 | MRDL =4.0 | Water additive used to control microbes |

Note: The result in the Level Detected column for TTHMs, HAA5s and Chlorine (Stage 2) are the highest of the four quarterly running annual averages of results from all sampling sites.

** Due to administrative oversight, our system failed to timely submit the Stage 2 Disinfection By-Products (DBP) report to the Florida Department of Environmental Protection (FDEP). The DBP report was due by October 10, 2017 but was not delivered until November 15, 2017. This reporting violation has no impact on the quality of the water our customers received, and it posed no risk to the public health. The DBP samples were collected and analyzed at the correct time but the report was not sent to FDEP on the correct date. We have established a report tracking file to ensure that all reporting requirements are met in the future.*

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. Mexico Beach Services are 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 water and bottle 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.

2017 BAY COUNTY TEST RESULTS TABLE

Microbiological Contaminants

| Contaminant and Unit of Measurement | Dates of sampling (mo./yr.) | MCL Violation Y/N | The Highest Single Measurement | The Lowest Monthly Percentage of Samples Meeting Regulatory Limits | MCLG | MCL | Likely Source of Contamination |
|-------------------------------------|-----------------------------|-------------------|--------------------------------|--|------|-----|--------------------------------|
| Turbidity (NTU) | Jan 17 – Dec 17 | N | 0.69 | 97.2 | N/A | TT | Soil runoff |

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. High turbidity can hinder the effectiveness of disinfectants. The Treatment Technique standard requires that 95% of the turbidity readings be at 0.3 NTU or less.

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 |
|---|------------------------------|-------------------|----------------|------------------|------|-----|--------------------------------|
| Radium 226 + 228 or combined radium (pCi/L) | Apr-17 | N | 1.5 | N/A | 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) | April – 17 | N | 0.0096 | N/A | 2 | 2 | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Fluoride (ppm) | April – 17 | N | 0.046 | N/A | 4 | 4.0 | Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at the optimum level of 0.7 ppm |
| Nickel (ppb) | April – 17 | N | 3.1 | N/A | N/A | 100 | Pollution from mining and refining operations. Natural occurrence in soil. |
| Nitrate (ppm) | April – 17 | N | 0.11 | N/A | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. |
| Sodium (ppm) | April - 17 | N | 4.3 | N/A | N/A | 160 | Salt water intrusion, leaching from soil |

Total Organic Carbon

| Contaminant and Unit of Measurement | Dates of sampling (mo./yr.) | TT Violation Y/N | Lowest Running Annual Average, Computed Quarterly, of Monthly Removal Ratios | Range of Monthly Removal Ratios | MCLG | MCL | Likely Source of Contamination |
|-------------------------------------|-----------------------------|------------------|--|---------------------------------|------|-----|----------------------------------|
| Total Organic Carbon | Jan. – Dec. 2017 | N | 1.54 | 1.0 – 2.0 | N/A | TT | Naturally Present in Environment |

Contaminants that may be present in source water include:

- (A) *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, 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 byproducts of industrial processes and petroleum production, and may 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.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. 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 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. Immune-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).

We at City of Mexico Beach work to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.