

Annual Drinking Water Quality Report

TX1780017

CORPUS CHRISTI NAVAL AIR STATION

Annual Water Quality Report for the period of January 1 to December 31, 2015

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

CORPUS CHRISTI NAVAL AIR STATION is Purchased Surface Water From the City of Corpus Christi. The City of Corpus Christi's 2015 CCR data is also included.

PUBLIC PARTICIPATION OPPORTUNITIES

City of Corpus Christi (Annual Public Meeting):
July 11, 2016 at 6:00pm at the Water Utilities Bldg.
2726 Holly Road, Corpus Christi, TX

NASCC: None scheduled. Call 361-961-5357 for comments/questions.

For more information regarding this report contact:

Name RONI MILLER

Phone 361-961-5357

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (361) 961-5357.

Sources of Drinking Water

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 pickup substances resulting from the presence of animals or from human activity.

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 EPAs Safe Drinking Water Hotline at (800) 426-4791.

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 storm water 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 storm water 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 storm water runoff, and septic systems.

- 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.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please contact the system's business office.

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; persons who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders, can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care providers. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

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. We are responsible for providing high quality drinking water, but we 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>.

Information about Source Water Assessments

NAS CORPUS CHRISTI

The TCEQ has completed a Source Water Assessment for all drinking water systems that own their sources. The report describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The City of Corpus Christi, from which we purchase our water received the assessment report. For more information on source water assessments and protection efforts at our system, contact Nikki Gordon at 361-826-1234.

For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL: <http://www.tceq.texas.gov/gis/swaview>

Further details about sources and source-water assessments are available in the Drinking Water Watch at the following URL: <http://dww2/tceq.texas.gov/DWW/>

Source Water Name	Type of Water	Report Status	Location
SWP I/C FROM CORPUS CHRISTI -	CC FROM TX1780003 CITY OF	SW	<u> A </u> NUECES RIVER

2015 Regulated Contaminants Detected

NAS CORPUS CHRISTI

Lead and Copper

Definitions:

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

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

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2014	1.3	1.3	0.43	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2014	0	15	.0053	0	mpl	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Water Quality Test Results

Definitions:

The following tables contain scientific terms and measures, some of which may require explanation.

Avg:

Regulatory compliance with some MCLs are based on running annual average of monthly samples.

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.

MFL

million fibers per liter (a measure of asbestos)

na:

not applicable.

NTU

nephelometric turbidity units (a measure of turbidity)

pCi/L

picocuries per liter (a measure of radioactivity)

Water Quality Test Results

ppb:	micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
ppm:	milligrams per liter (mpl) or parts per million - or one ounce in 7,350 gallons of water.
ppt	parts per trillion, or nanograms per liter (ng/L)
ppq	parts per quadrillion, or picograms per liter (pg/L)

**Regulated Contaminants
NAS CORPUS CHRISTI**

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Haloacetic Acids (HAA5)*	2015	35	17.2 -54.4	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2015	84	67.5-108	No goal for the total	80	ppb	Y	By-product of drinking water disinfection. Violaton closed on 02/09/16
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Nitrate [measured as Nitrogen]	2015	0.49	0.49 - 0.49	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

DISINFECTANT RESIDUAL TABLE
NAS CORPUS CHRISTI

Disinfectant	Year	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Likely Source of Contamination
Chloramine Residuals	2015	2.19	0.50	4.40	4	4	ppm	N	Water additive used to control microbes.

UNREGULATED CONTAMINANTS
 NAS CORPUS CHRISTI

Bromoform, chloroform, bromodichloromethane, and dibromochloromethane are disinfection byproducts. There is no maximum contaminant level for these chemicals at the entry point to distribution.

YEAR OR RANGE	CONTAMINANT	AVERAGE LEVEL	MINIMUM LEVEL	MAXIMUM LEVEL	UNIT OF MEASURE	SOURCE OF CONTAMINANT
2015	Chloroform	13.9	5.2	22.6	ppb	Byproduct of drinking water disinfection
2015	Bromoform	19.8	17.8	24.7	ppb	Byproduct of drinking water disinfection.
2015	Bromodichloromethane	24.2	15.6	33.5	ppb	Byproduct of drinking water disinfection
2015	Dibromochloromethane	26	20.2	31.5	ppb	Byproduct of drinking water disinfection

**TOTAL COLIFORM
NAS CORPUS CHRISTI**

Total coliform bacteria are used as indicators of microbial contamination of drinking water because testing for them is easy. While not disease-causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are hardier than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.

YEAR	CONTAMINANT	HIGHEST MONTHLY % OF POSITIVE SAMPLES	MCL	UNIT OF MEASURE	SOURCE OF CONTAMINANT
2015	Total Coliform Bacteria	0.0		No presence	

VIOLATIONS TABLE NAS CORPUS CHRISTI

VIOLATION TYPE	VIOLATION BEGAN	VIOLATION ENDED	VIOLATION EXPLANATION
<p>CONSUMER CONFIDENCE RULE: CCR adequacy/availability/content The Consumer Confidence Rule requires community water systems to prepare and provide to their customers annual consumer confidence reports (CCR) on the quality of the water delivered by the systems.</p>	07/01/2014	02/10/2015	<p>NAS Corpus Christi sent out the FY2013 CCR to our customers in a timely manner, but the content failed to provide to you, our drinking water customers, adequate information about the quality of our drinking water and the risks from exposure to contaminants detected in our drinking water. Corrections were done and the corrected CCR was distributed.</p>
<p>CHLORINE: Disinfectant Level Quarterly Operating Report (DLQOR) Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose and could experience stomach discomfort.</p>	01/01/2015	03/31/2015	<p>DLQOR was not submitted in a timely manner to Texas Commission on Environmental Quality. Proper procedures were put in place to insure that timely submission will be done. Public notices were posted in public places on board NASCC to notify the public of the Notice of Violation.</p>
<p>TOTAL TRIHALOMETHANES (TTHM): MCL, LRAA Some people who drink water containing Trihalomethanes 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.</p>	10/01/2015	02/09/2016	<p>Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated. Flushing has been increased to increase the turnover rate of water in the distribution system. Also public notices were posted in public places for viewing. Also was posted in the installation newspaper dated February 11, 2016.</p>

City of Corpus Christi 2015 CCR Data

Inorganic Contaminants

Year/Constituent	Mean	Range	MCL	MCLG	Likely Source of Contaminant
2015 Barium (ppm)	0.12	NA	2	2	Discharge of drilling waste, erosion of natural deposits
2015 Fluoride (ppm)	0.13	NA	4	4	Erosion of natural deposits, water additive
2015 Nitrate (ppm)	0.25	NA	10	10	Petroleum/ metal discharge, erosion of natural deposits
2011 Gross Beta Particle Activity (pCi/L)	5.4	NA	50	0	Decay of natural/man-made deposits
2015 Cyanide (total) (ppb)	190	180-210	NA	NA	Discharge from plastic and fertilizer factories

Organic Contaminants

Year/Constituent	Average	MCL	MCLG	Like Source of Contaminant
2015 Atrazine (ppb)	0.31	3.0	3.0	Runoff from herbicide use on row crops

Turbidity

Year/Constituent	Highest Single Measurement	Lowest % of Samples Meeting Limits	Entry Point MCL	Single Measurement MCL	Likely Source of Contaminant
2015 Plant 1 (NTU)	0.4	99.5	≤0.3	1.0	Soil runoff
2015 Plant 2 (NTU)	0.33	100	≤0.3	1.0	Soil runoff

Turbidity has no health effects; however, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Unregulated Contaminant Monitoring Rule 3 (UCMR3)

Year/Screening Survey List	Average	Range	MRL (Minimum Reporting Level)
2014 Molybdenum (ppb)	1.2	1.2-1.3	1
2014 Strontium (ppb)	339	280-390	0.3
2014 Vanadium (ppb)	6.3	5.5-7.0	0.2
2014 Chromium-Hexavalent (ppb)	0.05	0.03-0.08	0.03
2014 Chlorate (ppb)	124	20-210	20

Secondary and Other Constituents - Not Associated with Adverse Health Effects

Many constituents, such as calcium, sodium, or iron, which are often found in drinking water, can cause taste, color and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the USEPA. These constituents are not causes for health concern. Therefore, secondaries are not required to be reported in this document, but they may greatly affect the appearance and taste of your water.

Year/Constituent	Average	Range	MCL	Likely Source of Contaminant
2015 Aluminum (ppm)	0.027	NA	0.2	Abundant naturally occurring element
2015 Bicarbonate (ppm)	155	NA	NA	Corrosion of carbonate rocks such as limestone
2015 Calcium (ppm)	58.5	NA	NA	Abundant naturally occurring element
2015 Chloride (ppm)	133	NA	300	Abundant naturally occurring element; used in water purification
2015 Hardness as CaCO ₃ (ppm)	185	NA	NA	Naturally occurring calcium and magnesium
2015 Magnesium (ppm)	9.46	NA	NA	Abundant naturally occurring element
2015 Manganese (ppm)	0.0067	NA	0.05	Abundant naturally occurring element
2015 Nickel (ppm)	0.0016	NA	0.1	Erosion of natural deposits
2015 Potassium (ppm)	8.76	NA	NA	Abundant naturally occurring element
2015 Sodium (ppm)	82.2	NA	NA	Erosion of natural deposits; oil field by-product
2015 Sulfate (ppm)	75	NA	300	Naturally occurring; oil field by-product
2015 Total Alkalinity (ppm)	123	84-154	NA	Naturally occurring soluble mineral salts
2015 Total Dissolved Solids (ppm)	467	NA	1000	Total dissolved mineral constituents in water