Volume 13

Summer 2013

2012 Water Quality Report

SAN PATRICIO MUNICIPAL WATER DISTRICT

An Informational Newsletter For Our Customers

Consumer Confidence Report

Inside This Issue:

En Español

Este informe incluye información importante sobre el agua potable. Si tiene preguntas o' comentarios sobre este informe en español, favor de llamar al Tel. (361) 643-6521 para hablar con una persona bilingüe en español.

Our Drinking Water Meets or Exceeds All Federal Drinking Water Requirements

This report is a summary of the quality of the water we provide our customers. The analysis was made by using the data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the following pages. The U.S. EPA requires water systems to test up to 97 contaminants. We hope this information helps you become more knowledgeable about what's in your drinking water.

Sources of Drinking Water: Surface Water

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. It can also pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water prior to treatment include:

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

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.

Inorganic contaminants, such as salts and

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.

Secondary Constituents

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 EPA. These constituents are not causes for health concerns. Therefore, secondary constituents are not required to be reported in this document but they may greatly affect the appearance and taste of your water.

Source Water Susceptibility Assessment

A Source Water Susceptibility Assessment for your drinking water sources is currently being updated by the Texas Commission of Environmental Quality (TCEQ). This information describes the susceptibility of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information contained in the assessment allows us to focus source water protection strategies.

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

SPECIAL NOTICE

Some people may be more vulnerable to microbial contaminants (such as Cryptosporidium) in their drinking water than the general population. Immuno-compromised persons, such as those undergoing chemotherapy for cancer, those who have received organ transplants, those undergoing treatment with steroids; and, people with other immune disorders along with infants and some elderly can be at risk from infection. These people should seek advice about drinking water from their physician or health-care provider. Guidelines and means to lessen the risk of infection by Cryptosporidium and other contaminants is available from the Safe Drinking Water Hotline at 1-800-426-4791.

(Required notice for all Community Public Water Supplies)

Annual Water Quality Report for January 1 to December 31, 2012

The San Patricio Municipal Water District is providing this annual Drinking Water Quality Report to tell you about our water and how its quality compares to the guidelines set by the United States Environmental Protection Agency (USEPA). All drinking water providers are required by federal law to issue annual quality reports to their customers.

Most importantly, the Water District Board of Directors wants you to know that when you drink tap water from our system you are drinking clean, high quality water that meets strict government standards. This report will help you understand the steps taken every day by our experienced staff to deliver the safe drinking water that is essential to human survival.

When drinking water meets federal standards there may not be any health based benefits to purchasing bottled water or point of use devices. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of 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 EPA's Safe Drinking Water Hotline at 1-800-426-4791.

For more Information regarding this report, the District's contact person is Jake Krumnow at (361) 643-6521, extension 4015.

Where Does Our Water Come From?

All of the drinking water supplied by the San Patricio Municipal Water District comes from **SURFACE** water impoundment systems consisting of: **LAKE CORPUS CHRISTI, CHOKE CANYON RESERVOIR** and **LAKE TEXANA**. Water stored in Choke Canyon and Lake Corpus Christi makes its way down the Nueces River to intake pumps at Calallen.

The untreated river water is moved by pipeline either to the City of Corpus Christi's O.N. Stevens Water Treatment Plant near Calallen or to the San Patricio MWD treatment plant near Ingleside. Lake Texana water is pumped through the 101-mile Mary Rhodes Pipeline directly to the O.N. Stevens treatment plant where it is blended with water from the Nueces River. SPMWD also blends water from Lake Texana with water received from the Nueces River.

Both treatment plants purify water through a process of chemical treatment, settling, filtration and disinfection. Water treatment chemicals are added to remove impurities, kill harmful bacteria, eliminate tastes and odors and help prevent tooth decay. The same quality drinking water is then delivered to all residential, commercial and industrial customers.

Edition Inserts Explanation

Customers served by Seaboard Water Supply Corporation **(Seaboard WSC Edition Insert)** receive water treated at the City of Corpus Christi's O.N. Stevens plant.

For the first three months of 2012, customers served by systems in Odem, Taft, Rincon WSC, Portland, Gregory, and Sherwin Alumina **(Central Edition Insert)** may have received a blend of Corpus Christi's Stevens Plant water along with water treated at the SPMWD treatment complex near Ingleside. Since April 2012, upon the completion of SPMWD's treatment plant expansion and transmission projects, those customers have been receiving only SPMWD treated water.

Ingleside, Aransas Pass, Port Aransas, Rockport and Fulton **(East Edition Insert.)** receive water treated at SPMWD's plant.

Definitions

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

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

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.

Average (Avg) Regulatory compliance with some MCLs are based on running annual average of monthly samples.

Coliforms Total coliform bacteria are used as indicators of microbial contamination because they are easily detected. While not themselves disease producers, they are often found in association with other microbes capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore, their absence from water is a good indication that the water is safe for human consumption. Fecal coliform (mostly E-coli) is part of the coliform bacteria group originating in the intestinal tract of warm-blooded animals that pass into the environment as feces. Fecal coliform is used as an indicator of fecal contamination of a drinking water supply.

Contaminant Drinking water, even bottled water, may contain at least small amounts of contaminants. Presence of contaminants does not indicate a health risk.

Maximum Contaminant Level (MCL) The highest level of contaminant allowed in drinking water. MCLs are set as close to 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 health risk. MCLGs allow for a margin of safety.

Maximum Residual Disinfection Level (MRDL) 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.

Maximum Residual Disinfection 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 contamination.

Micromho per centimeter (umho/cm) A unit of measurement to quantify Specific Conductance (SC). Specific Conductance measures how well water can conduct an electrical current for a unit length and unit cross-section at a certain temperature. Generally, there aren't regulatory levels for SC. Instead, the concentration of total dissolved solids (TDS) is often regulated. However, SC is an easily-obtained parameter that is an good indicator of the amount of dissolved solids in a water, and thus can be used to detect contaminants in water.

Nephelometric Turbidity Unit (NTU) A measure of water clarity.

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

Parts Per Million (ppm) Equivalent to milligrams per liter—or, one once in 7,350 gallons of water.

Parts Per Billion (ppb) Equivalent to micrograms per liter-or, one once in 7,350,000 gallons of water.

Pico Curies Per Liter (pCi/L) A measure of radioactivity.

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

Turbidity The clarity of water. Turbidity has no health effect but can interfere with disinfection and provide a medium for microbial growth. It may indicate the presence of disease-causing organisms which may include bacteria, viruses and parasites that can cause symptoms such as cramps, diarrhea and associated headaches. Turbidity must be less than 0.3 NTU in 95% of monthly samples.

Abbreviations

(*All abbreviations listed may not appear in this report.*)

NTU	Nephelometric Turbidity Units
MFL	million fibers per liter (a measure of asbestos)
pCi/L	Pico curies per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/L)
ppb	parts per billion, or micrograms per liter (g/L)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
N/A	Not applicable
ND	Not detected in sample, or at reporting limit

Cryptosporidium Information

Cryptosporidium is a microbial pathogen that may be found in water contaminated by feces. Although filtration (one of the steps we take in the treatment of drinking water) removes Cryptosporidium, it cannot guarantee 100 percent removal nor can testing methods determine if the organisms are alive and capable of causing cryptosporidiosis, an abdominal infection with nausea, diarrhea and abdominal cramps that may occur after ingestion of contaminated water.

With this in mind, you should never drink water straight from lakes, streams or rivers—no matter how "clean and clear" the water may appear.

Important Health Information Regarding Lead Exposure

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 San Patricio Municipal Water District 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.

(Required notice for all Community Public Water Supplies)

Nitrate Advisory

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Serving
South Texas
Since 1951

AN INFORMATIONAL
NEWSLETTER FOR OUR
CUSTOMERS

San Patricio Municipal Water District

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Ingleside, Texas 78362

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We Welcome Your Comments & Questions

Public Participation Opportunities

You can learn more about your water system, offer your comments and present questions at the monthly meetings of the San Patricio Municipal Water District Board of Directors. Meetings are held at **2:00 PM on the second Tuesday of each month** at the District offices on Highway 361 between Gregory and Ingleside.

You can also get answers to your questions by calling Jake Krumnow, the District's contact person, at (361) 643-6521, extension 4015.

The District was created by the Texas Legislature in 1951 to provide water to San Patricio, Aransas and potentially Refugio county. Prior to that date, residents of the county were forced to depend on limited groundwater supplies.

An eight-member board of directors governs the Water District. Seven directors are elected from member communities (Odem, Taft, Gregory, Portland, Aransas Pass, Ingleside and Rockport) and the eighth director is appointed by the other seven. The District has taxing authority within the limits of the member cities but has not elected to collect a property tax.

Office Hours

Monday — Friday

8:00 AM — 5:00 PM

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Holiday Closings

Independence Day

Thursday, July 4, 2013

Labor Day

Monday, September 2, 2013

Annual Drinking Water Quality Report for 2012

The following table contains the chemical constituents found in drinking water coming from the San Patricio Municipal Water District treatment plant near Ingleside. The listed constituents were detected in our water but each was within permissible levels. The EPA requires all water systems to test for up to 97 constituents.

		SPMWD Water Results		USEPA Regulations		
Year	Constituent	Avg / Detect	Range[1]	Maximum Contaminant Level	Maximum Contaminant Level Goal	Possible Source of Constituent
REGULATED CONSTITUENTS — INORGANIC						
2008	Barium (ppm)	0.108	0.108—0.108	2	2	Discharge of drilling wastes or metal refineries; erosion of natural deposits.
2008	Chromium (ppm)	0.00193	0.00193—0.00193	0.1	0.1	Erosion of natural deposits.
2012	Fluoride (ppm)	0.498	0.225—0.76	4	4	Water additive which promotes strong teeth.
2012	Nitrogen, Nitrate As N (ppm)	1.70	0—2.20	10	10	Fertilizer, sewage, feedlot runoff, natural deposits
2012	Nitrite (ppm)	0.004	0—0.008	1	1	Fertilizer, sewage, feedlot runoff, natural deposits
2012	Gross alpha particle (pCi/L)	<2.0	<2.0—<2.0	15	0	Decay of natural and man-made deposits.
2012	Gross beta emitters (pCi/L)	7.6	7.6—7.6	50	0	Decay of natural and man-made deposits.
2012	Radium 228 (pCi/L)	<1.0	<1.0—<1.0	5	0	Decay of natural and man-made deposits.
DISINFECTION BY-PRODUCTS				**(sampled at SPMWD's ENTRY POINT, and/or EAST-END of distribution system)**		
2012	Total Trihalomethanes (ppb)	42.88	42.88—42.88	80	0	By-product of drinking water chlorination.
2012	Total Haloacetic Acids (ppb)	29.38	9.5—140	60	0	By-product of drinking water chlorination.
SYNETHIC ORGANIC COMPOUND						
2010	Atrazine (ppb)	<0.11		3	3	Runoff from herbicides used on row crops.
2010	Metolachlor (ppb)	<0.11		N/A	*(Monitored, not regulated)*	Herbicide used on row crops.
UNREGULATED CONTAMINANTS				**(sampled at SPMWD's ENTRY POINT, and/or EAST-END of distribution system)**		
2012	Bromoform (ppb)	20.40	20.40—20.40	N/A	N/A	By-product of chlorination.
2012	Bromodichloromethane (ppb)	6.35	6.35—6.35	N/A	N/A	By-product of chlorination.
2012	Chloroform (ppb)	1.60	1.60—1.60	N/A	N/A	By-product of chlorination.
2012	Dibromochloromethane (ppb)	14.30	14.30—14.30	N/A	N/A	By-product of chlorination.
TOTAL ORGANIC CARBON		**Avg**	**Range**			
2012	Raw / Source Water (ppm)	7.90	5.38—13.41	N/A	N/A	Naturally present in the environment.
DISINFECTANT RESIDUAL						**(analysis at SPMWD's ENTRY POINT to distribution system)**
2012	Chlorine (ppm) - SPMWD	4.120	3.7—4.8	MRDL = 4	MRDLG = <4	Disinfectant, used to control microbes.
LEAD & COPPER		**90th Percentile**		**Action Level**		**(analysis at WEST-END of distribution system)**
2009	Lead (ppb) - SPMWD, west	ND		15		Corrosion of household plumbing systems.
2009	Copper (ppm) - SPMWD, west	0.00569	0[2]	1.3		Corrosion of household plumbing systems.

TURBIDITY		Avg	Highest Single Measurement	Monthly Results	Turbidity MCL	
2012	Turbidity (NTU) - SPMWD	0.094	0.13 [4]	99.45%[3]	0.3	Soil runoff.

COLIFORMS		Highest Monthly % of Positive Samples	MCL	MCLG	
2012	Total Coliform Bacteria	1 Pos. out of 7 Samples[5]	Presence of coliform bacteria in ≥ 5% of monthly samples	0	Naturally present in the environment
2012	Fecal Coliform & E-coli	Not Detected	A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E-coli positive	0	Naturally present in the environment.

1. Range of detected levels, indicated for one or more samples collected.
2. Number of sites exceeding action level.
3. Lowest monthly % of samples meeting limits.
4. Highest single measurement of plant in active production.
5. No violation — follow-up samples did not test positive.

—Supplemental Data to the Annual Drinking Water Quality Report for 2012

The following table contains the secondary chemical constituents found in drinking water coming from the San Patricio Municipal Water District treatment plant near Ingleside. The EPA requires all water systems to test for up to 97 constituents.

Secondary and Other Constituents Not Regulated by EPA

(No associated adverse health effects)

Year	Constituent	SPMWD Water Results Avg / Detect	Range	Secondary Limit	Possible Source of Constituent
2009	Aluminum (ppm)	0.0370	0.0370—0.0370	50	Abundant naturally occurring element.
2011	Alkalinity, Bicarbonate (ppm)	127	127—127	N/A	Corrosion of carbonate rocks such as limestone.
2011	Alkalinity, Carbonate (ppm)	<2	<2—<2	N/A	Corrosion of carbonate rocks such as limestone.
2011	Alkalinity, Phenolphthalein (ppm)	<2	<2—<2	N/A	Naturally occurring soluble mineral salts.
2011	Alkalinity, Hydroxide (ppm)	<2	<2—<2	N/A	Naturally occurring soluble mineral salts.
2009	Calcium (ppm)	68.2	68.2—68.2	N/A	Abundant naturally occurring element.
2012	Chloride (ppm)	190	170—210	300	Abundant naturally occurring element; used in water purification; byproduct of oilfield activity.
2009	Copper (ppm)	0.00569	0.00569—0.00569	1	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
2012	Iron (ppm)	0.01	0—0.5	N/A	Abundant naturally occurring element.
2009	Magnesium (ppm)	10.9	10.9—10.9	N/A	Abundant naturally occurring element.
2009	Manganese (ppm)	0.00103	0.00103—0.00103	.05	Abundant naturally occurring element.
2009	Nickel (ppm)	0.00280	0.00280—0.00280	N/A	Erosion of natural deposits.
2012	pH (units)	7.63	7.35—8.00	7	Measure of corrosivity of water.
2011	Sodium (ppm)	90.6	90.6—90.6	20000	Erosion of natural deposits; byproduct of oilfield activity.
2012	Specific Conductance (umho/cm)	972	486—1152	N/A	A measure of how well water can conduct an electrical current.
2012	Sulfate (ppm)	72	32—86	300	Naturally occurring; common industrial byproduct; byproduct of oilfield activity.
2012	Total Alkalinity as CaCO3 (ppm)	126	112—164	N/A	Naturally occurring soluble mineral salts.
2012	Total Dissolved Solids (ppm)	573	407—819	1000	Total dissolved mineral constituents in water.
2012	Total Hardness as Ca/Mg (ppm)	202	154—360	N/A	Naturally occurring calcium and magnesium.
2009	Zinc (ppm)	0.0603	0.0603—0.0603	5	Moderately abundant naturally occurring element; used in the metal industry.

UNREGULATED CONTAMINANT MONITORING RULE 2 (UCMR2) **(sampled at SPMWD's assigned sampling points)**

During 2009, the San Patricio Municipal Water District conducted analysis including Volatiles, Semivolatiles, and Pesticides. All results were less than the reportable requirement. For further review of these analyses please contact SPMWD.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected would be reported in this table. For additional information and data visit http://www.epa.gov/safewater/ucmr/ucmr2/index.html, or call the Safe Drinking Water Hotline at (800) 426-4791.

Annual Drinking Water Quality Report for 2012

The following table lists chemical constituents found in drinking water from the O.N. Stevens Treatment Plant operated by the City of Corpus Christi and/or the San Patricio Municipal Water District Treatment Plant near Ingleside. Up until April 2012, Stevens Plant treated water was delivered through SPMWD's distribution line to systems west of Ingleside. EPA requires all water systems to test for up to 97 constituents.

		SPMWD / City of C.C. Water Results		USEPA Regulations		
Year	Constituent	Avg / Detect	Range[1]	Maximum Contaminant Level	Maximum Contaminant Level Goal	Possible Source of Constituent
REGULATED CONSTITUENTS — INORGANIC						
2008,11	Barium (ppm)	0.125	0.108—0.125	2	2	Discharge of drilling wastes or metal refineries; erosion of natural deposits.
2008	Chromium (ppm)	0.00193	0.00193—0.00193	100	100	Erosion of natural deposits.
2012	Fluoride (ppm)	0.498	0.225—0.76	4	4	Water additive which promotes strong teeth.
2012	Nitrogen, Nitrate As N (ppm)	1.70	0—2.20	10	10	Fertilizer, sewage, feedlot runoff or natural deposits.
2012	Nitrite (ppm)	0.004	0—0.008	1	1	Fertilizer, sewage, feedlot runoff or natural deposits.
2011	Selenium (ppb)	0.67	0.67—0.67	50	50	Petroleum/metal refinery discharge; natural deposits.
2012	Gross alpha particle (pCi/L)	<2.0	<2.0—<2.0	15	0	Decay of natural and man-made deposits.
2011,12	Gross beta emitters (pCi/L)	7.6	5.4—7.6	50	0	Decay of natural and man-made deposits.
2012	Radium 228 (pCi/L)	<1.0	<1.0—<1.0	5	0	Decay of natural and man-made deposits.
DISINFECTION BY-PRODUCTS				**(sampled at WEST-END, EAST-END and/or SPMWD's ENTRY POINT to distribution system)**		
2012	Total Trihalomethanes (ppb)	42.88	42.88—58.63	80	0	By-product of drinking water chlorination.
2012	Total Haloacetic Acids (ppb)	29.38	9.5—140	60	0	By-product of drinking water chlorination.
SYNETHIC ORGANIC COMPOUND						
2010,12	Atrazine (ppb)	0.10	0.10—<0.11	3	3	Runoff from herbicides used on row crops.
2010	Metolachlor (ppb)	<0.11	<0.11—<0.11	N/A	*(Monitored, not regulated)*	Herbicide used on row crops.
UNREGULATED CONTAMINANTS				**(sampled at CC's assigned points, and/or WEST-END, EAST-END or SPMWD's ENTRY POINT to dist. system)**		
2012	Bromoform (ppb)	20.40	9.5—115.6	N/A	N/A	By-product of chlorination.
2012	Bromodichloromethane (ppb)	6.35	6.35—32.9	N/A	N/A	By-product of chlorination.
2012	Chloroform (ppb)	1.60	1.60—16.6	N/A	N/A	By-product of chlorination.
2012	Dibromochloromethane (ppb)	14.30	12.3—68.9	N/A	N/A	By-product of chlorination.
TOTAL ORGANIC CARBON, *Source Water*		**Detect**	**Range**	**(source water sampled at CC's & SPMWD's treatment plants)**		
2012	Raw Water (ppm)	7.90	5.38—13.41	N/A	N/A	Naturally present in the environment.
DISINFECTANT RESIDUAL				**(leaving Stevens Plant or at WEST-END of SPMWD's distribution system; also at SPMWD's ENTRY POINT to system)**		
2012	Chloramines (ppm) - City of CC	2.35	2.2—2.6	MRDL = 4	N/A	Disinfectant, used to control microbes.
2012	Chlorine (ppm) - SPMWD	4.12	3.7—4.8	MRDL = 4	N/A	Disinfectant, used to control microbes.
LEAD & COPPER		**90th Percentile**		**Action Level**		**(Max results five Westside SITES; also, WEST DIST. SYS.)**
2009	Lead (ppb) - westside 5 sites	0.0108	0[2]	15		Corrosion of household plumbing systems.
2009	Copper (ppm) - westside 5 sites	0.0584	0[2]	1.3		Corrosion of household plumbing systems.
2009	Lead (ppb) - SPMWD-West dist.	ND	0[2]	15		Corrosion of household plumbing systems.
2009	Copper (ppm) - SPMWD-West dist.	0.00569	0[2]	1.3		Corrosion of household plumbing systems.
TURBIDITY		**Highest Single Measurement**	**Monthly Results**	**Turbidity MCL**		**(analysis of treated water leaving CC's O.N. Stevens Plants I & II before delivery into SPMWD's dist. sys.)**
2012	Turbidity (NTU) - CC-Plant I	0.28	100%[3]	0.3		Soil runoff.
2012	Turbidity (NTU) - CC-Plant II	0.21	100%[3]	0.3		Soil runoff.
2012	Turbidity (NTU) - SPMWD	0.13	99.45%[3]	0.3		Soil runoff.
COLIFORMS		**Highest Monthly % of Positive Samples**		**MCL**	**MCLG**	**(CC Sampling; West & East SPMWD system)**
2012	Total Coliform	1 of 7 samples (SPMWD) — 0.5 (CC)		Presence of coliform bacteria in ≥ 5% of monthly samples.	0	Naturally present in the environment.
2012	Fecal Coliform/E-coli	Not Detected		A routine sample & repeat sample	0	Naturally present in the environment.

1. Range of detected levels, indicated for one or more samples collected.
2. Number of sites exceeding action level.
3. Lowest monthly % of samples meeting limits.

—Supplemental Data to the Annual Drinking Water Quality Report for 2012

The following table lists chemical constituents found in drinking water from the O.N. Stevens Treatment Plant operated by the City of Corpus Christi and/or the San Patricio Municipal Water District Treatment Plant near Ingleside. Stevens Plant treated water was delivered through SPMWD's distribution line to systems west of Ingleside. EPA requires all water systems to test for up to 97 constituents.

Secondary and Other Constituents Not Regulated by EPA

Year	Constituent	SPMWD / City of C.C. Water Results Avg / Detect	Range	Secondary Limit	Possible Source of Constituent
2009,12	Aluminum (ppm)	0.166	0.037—0.868	50	Abundant naturally occurring element.
2011	Alkalinity, Bicarbonate (ppm)	122	122—127	N/A	Corrosion of carbonate rocks such as limestone.
2011	Alkalinity, Carbonate (ppm)	<2	<2—<2	N/A	Corrosion of carbonate rocks such as limestone.
2011	Alkalinity, Phenolphthalein (ppm)	<2	<2—<2	N/A	Naturally occurring soluble mineral salts.
2009,12	Calcium (ppm)	68.2	13—136	N/A	Abundant naturally occurring element.
2012	Chloride (ppm)	190	170—248	300	Abundant naturally occurring element; used in water purification; byproduct of oilfield activity.
2009,12	Copper (ppm)	0.00569	0.002—0.006	1	Corrosion of household plumbing systems; natural deposit erosion; leaching from wood preservatives.
2012	Iron (ppm)	0.01	0—0.5	N/A	Abundant naturally occurring element.
2009,11	Magnesium (ppm)	11.8	10.9—11.8	N/A	Abundant naturally occurring element.
2009,12	Manganese (ppm)	0.0034	0.00103—0.255	.05	Abundant naturally occurring element.
2009,11	Nickel (ppm)	0.001	0.001—0.0028	N/A	Erosion of natural deposits.
2012	pH (units)	7.63	7.35—8.00	7	Measure of corrosivity of water.
2011,12	Sodium (ppm)	90.6	90.6—135	N/A	Natural deposit erosion; oilfield activity byproduct.
2007,12	Specific Conductance (umho/cm)	972	486—1410	N/A	A measure of how well water can conduct an electrical current.
2012	Sulfate (ppm)	72	32—97.2	300	Naturally occurring; common industrial byproduct; byproduct of oilfield activity.
2012	Total Alkalinity as CaCO3 (ppm)	126	85—168	N/A	Naturally occurring soluble mineral salts.
2012	Total Dissolved Solids (ppm)	573	168—819	1000	Total dissolved mineral constituents in water.
2012	Total Hardness as Ca/Mg (ppm)	202	128—360	N/A	Naturally occurring calcium and magnesium.
2009	Zinc (ppm)	0.0603	0.0603—0.0603	5	Moderately abundant naturally occurring element; used in the metal industry.

UNREGULATED INITIAL DISTRIBUTION SYSTEM EVALUATION (IDSE) FOR DISINFECTION BY-PRODUCTS (sampled at CC's assigned sampling points)

2007	Total Trihalomethanes (ppb)	85.8	16.8—508.5	N/A	0	By-product of drinking water chlorination.
2007	Total Haloacetic Acids (ppb)	41.4	0—178	N/A	0	By-product of drinking water chlorination.

This evaluation is sampling required by EPA to determine the range of total trihalomethane and haloacetic acid in the system for future regulations. The samples are not used for compliance, and may have been collected under non-standard conditions. EPA also requires the data to be reported here. Monitoring requirement was waived for SPMWD.

UNREGULATED CONTAMINANT MONITORING RULE 2 (UCMR2)

2009	Nitrosamines — CC results (ppm) N-Nitrosodimethylamine (NDMA)	0.0069	0.0023—0.0147	N/A	Naturally found in water or from when disinfectant is added for treatment.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any regulated contaminants detected would be reported in this table. For additional information and data visit http://www.epa.gov/safewater/ucmr/ucmr2/index.html, or call the Safe Drinking Water Hotline at (800) 426-4791.

During 2009, the San Patricio Municipal Water District conducted analysis including Volatiles, Semivolatiles, and Pesticides.

Annual Drinking Water Quality Report for 2012

The following table contains the chemical constituents found in drinking water coming from the O.N. Stevens Treatment Plant operated by the City of Corpus Christi; this treated water is then delivered through San Patricio Municipal Water District's distribution system. The EPA requires all water systems to test for up to 97 constituents.

Year	Constituent	City of C.C. Water Results: Avg / Detect	City of C.C. Water Results: Range[1]	USEPA Regulations: Maximum Contaminant Level	USEPA Regulations: Maximum Contaminant Level Goal	Possible Source of Constituent
REGULATED CONSTITUENTS — INORGANIC						
2011	Barium (ppm)	0.125	0.125—0.125	2	2	Discharge of drilling wastes or metal refineries; erosion of natural deposits.
2012	Fluoride (ppm)	0.24	0.24—0.24	4	4	Water additive which promotes strong teeth.
2012	Nitrate (ppm)	0.43	0.43—0.43	10	10	Fertilizer, sewage, feedlot runoff or natural occurring deposits.
2011	Selenium (ppb)	0.67	N/A	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits.
2011	Gross beta emitters (pCi/L)	5.4	5.4—5.4	50	0	Decay of natural and man-made deposits.
DISINFECTION BY-PRODUCTS						**(sampled on WEST SIDE of SPMWD's distribution system)**
2012	Total Trihalomethanes (ppb)	58.63	58.63—58.63	80	0	By-product of drinking water chlorination.
2012	Total Haloacetic Acids (ppb)	25.90	25.90—25.90	60	0	By-product of drinking water chlorination.
UNREGULATED INITIAL DISTRIBUTION SYSTEM EVALUATION (IDSE) FOR DISINFECTION BY-PRODUCTS [2]						**(sampled at CC's assigned sampling points)**
2007	Total Trihalomethanes (ppb)	85.8	16.8—508.5	N/A	0	By-product of drinking water chlorination.
2007	Total Haloacetic Acids (ppb)	42.0	0—178	N/A	0	By-product of drinking water chlorination.
SYNETHIC ORGANIC COMPOUND						
2012	Atrazine (ppb)	0.10		3	3	Runoff from herbicides used on row crops.
UNREGULATED CONTAMINANTS						**(sampled at CC's assigned points, and/or WEST SIDE of SPMWD distribution system)**
2012	Bromoform (ppb)	36.7	9.5—115.6	N/A	N/A	By-product of chlorination.
2012	Bromodichloromethane (ppb)	12.4	6.8—32.9	N/A	N/A	By-product of chlorination.
2012	Chloroform (ppb)	6.7	2.4—16.6	N/A	N/A	By-product of chlorination.
2012	Dibromochloromethane (ppb)	21.6	12.3—68.9	N/A	N/A	By-product of chlorination.
TOTAL ORGANIC CARBON		**Avg**	**Range**			
2012	Raw / Source Water (ppm)	7.33	6.81—7.84	N/A	N/A	Naturally present in the environment.
DISINFECTANT RESIDUAL			**min—max**			**(analysis—leaving O.N. Stevens Plant)**
2012	Chloramines (ppm)	2.35	2.2—2.6	MRDL = 4	N/A	Disinfectant, used to control microbes.
LEAD & COPPER		**90th Percentile**		**Action Level**		**(max. results from FIVE sites on WEST SIDE of SPMWD's dist. sys.)**
2009	Lead (ppb)	0.0108	0[3]	15		Corrosion of household plumbing systems.
2009	Copper (ppm)	0.0584	0[3]	1.3		Corrosion of household plumbing systems.
TURBIDITY		**Highest Single Measurement**	**Monthly Results**	**Turbidity MCL**		**(analysis of treated water leaving Corpus Christi's O.N. Stevens Plant before delivery into SPMWD's distribution system.)**
2012	Turbidity (NTU) - CC-Plant I	0.28	100.0%[4]	0.3		Soil runoff.
2012	Turbidity (NTU) - CC-Plant II	0.21	100.0%[4]	0.3		Soil runoff.
TOTAL COLIFORMS		**Highest Monthly % of Positive Samples**		**MCL**	**MCLG**	**(CC Sampling / WEST-END SPMWD's dist sys)**
2012	Total Coliform Bacteria	0.5		Presence of coliform bacteria in ≥ 5% of monthly samples	0	Naturally present in the environment
2012	Fecal Coliform & E-coli	0		A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E-coli positive	0	Naturally present in the environment.

1. Range of detected levels, indicated for one or more samples collected.
2. This evaluation is sampling required by EPA to determine the range of total trihalomethane and haloacetic acid in the system for future regulations. The samples are not used for compliance, and may have been collected under non-standard conditions. EPA also requires the data to be reported here.
3. Number of sites exceeding action level.
4. Lowest monthly % of samples meeting limits.

—Supplemental Data to the Annual Drinking Water Quality Report for 2012

The following table contains the secondary chemical constituents found in drinking water coming from the O.N. Stevens Treatment Plant operated by the City of Corpus Christi. The EPA requires all water systems to test for up to 97 constituents.

Secondary and Other Constituents Not Regulated by EPA

(No associated adverse health effects)

Year	Constituent	City of C.C. Water Results Avg / Detect	Range	Secondary Limit	Possible Source of Constituent
2012	Aluminum (ppm)	0.166	0.065—0.868	50	Abundant naturally occurring element.
2011	Alkalinity, Bicarbonate (ppm)	122	122—122	N/A	Corrosion of carbonate rocks such as limestone.
2012	Calcium (ppm)	70.81	13—136	N/A	Abundant naturally occurring element.
2012	Chloride (ppm)	248	248—248	300	Abundant naturally occurring element; used in water purification; byproduct of oilfield activity.
2012	Copper (ppm)	0.004	0.002—0.006	1	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
2011	Magnesium (ppm)	11.8	11.8—11.8	N/A	Abundant naturally occurring element.
2012	Manganese (ppm)	0.034	0.002—0.255	.05	Abundant naturally occurring element.
2011	Nickel (ppm)	0.001	0.001-0.001	N/A	Erosion of natural deposits.
2012	pH (units)	7.7	7.5—7.9	7	Measure of corrosivity of water.
2012	Sodium (ppm)	135	135—135	N/A	Erosion of natural deposits; byproduct of oilfield activity.
2007	Specific Conductance (umho/cm)	1410	1410—1410	N/A	A measure of how well water can conduct an electrical current.
2012	Sulfate (ppm)	97.2	97.2—97.2	300	Naturally occurring; common industrial byproduct; byproduct of oilfield activity.
2012	Total Alkalinity as CaCO3 (ppm)	130	85-168	N/A	Naturally occurring soluble mineral salts.
2012	Total Hardness as Ca/Mg (ppm)	203	128—268	N/A	Naturally occurring calcium and magnesium.
2012	Total Dissolved Solids (ppm)	589	168—807	1000	Total dissolved mineral constituents in water.
UNREGULATED CONTAMINANT MONITORING RULE 2 (UCMR2)					
2009	Nitrosamines (ppm) N-Nitrosodimethylamine (NDMA)	0.0069	0.0023—0.0147	N/A	Naturally found in water or from when disinfectant is added for treatment.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected would be reported in this table. For additional information and data visit http://www.epa.gov/safewater/ucmr/ucmr2/index.html, or call the Safe Drinking Water Hotline at (800) 426-4791.

During 2009, the San Patricio Municipal Water District conducted analysis including Volatiles, Semivolatiles, and Pesticides. All results were less than the reportable requirement. For further review of these analyses please contact SPMWD.