2014 Annual Drinking Water Quality Report
Duxford S/D

PWS ID# 43 92 116

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about from where your water comes, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information, because informed customers are our best allies. **If you have any questions about this report or concerning your water, please contact Crosby Water and Sewer Inc. at (919) 404-1668. We want our valued customers to be informed about their water utility.**

What EPA Wants You to Know

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).

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 pick up substances resulting from the presence of animals or from human activity. 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; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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. Crosby Water and Sewer 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 the tap for 30 seconds to 2 minutes before using the 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

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.

When You Turn on Your Tap, Consider the Source

The water that is used by this system is from one well located at Duxford S/D.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for Duxford S/D was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Well #1	Moderate	March 2010

The complete SWAP Assessment report for Duxford S/D may be viewed on the Web at: http://www.ncwaterorg/pws/swap Please note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, PWSID, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the systems' potential to become contaminated by PCS's in the assessment area.

Violations that Your Water System Received for the Report Year

During 2014 or for any compliance period that ended in 2014, we received no violations.

Water Quality Data Table of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that we detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2014.** The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

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.

Important Drinking Water Definitions:

Not-Applicable (N/A) – Information not applicable/not required for that particular water system or for that particular rule.

Non-Detects (ND) - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

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.

Parts per billion (ppb) or Micrograms per liter (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/L) - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/L) - One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.

Picocuries per liter (pCi/L) - Picocuries per liter is a measure of the radioactivity in water.

Million Fibers per Liter (MFL) - Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

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

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 contaminants.

Maximum Residual Disinfection 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 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.
Extra Note: MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Microbiological Contaminants

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	0	0	one positive monthly sample	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	N	0	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive)	Human and animal fecal waste

Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
Antimony (ppb)	2013	N	2.1			6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb)	2013	N	ND			0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	2013	N	0.035			2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb)	2013	N	ND			4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium (ppb)	2013	N	ND			5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (ppb)	2013	N	ND			100	100	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide (ppb)	2013	N	ND			200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	2013	N	0.19			4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (inorganic) (ppb)	2013	N	N D			2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Selenium (ppb)	2013	N	ND			50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium (ppb)	2013	N	ND			0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

Nitrate/Nitrite Contaminants 2014

Contaminant (units)	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
Nitrate (as Nitrogen) (ppm)	N	ND			10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)			N/A		1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Unregulated Inorganic Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low	Range High	Secondary MCL
Sulfate (ppm)	2013	17.4			250

Synthetic Organic Chemical (SOC) Contaminants Including Pesticides and Herbicides

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
2,4-D (ppb)	2013	N	ND			70	70	Runoff from herbicide used on row crops
2,4,5-TP (Silvex) (ppb)	2013	N	ND			50	50	Residue of banned herbicide
Alachlor (ppb)	2013	N	ND			0	2	Runoff from herbicide used on row crops
Atrazine (ppb)	2013	N	ND			3	3	Runoff from herbicide used on row crops
Benzo(a)pyrene (PAH) (ppt)	2013	N	ND			0	200	Leaching from linings of water storage tanks and distribution lines
Carbofuran (ppb)	2013	N	ND			40	40	Leaching of soil fumigant used on rice and alfalfa

Chlordane (ppb)	2013	N	ND		0	2	Residue of banned termiticide
Dalapon (ppb)	2013	N	ND		200	200	Runoff from herbicide used on rights of way
Di(2-ethylhexyl) adipate (ppb)	2013	N	ND		400	400	Discharge from chemical factories
Di(2-ethylhexyl) phthalate (ppb)	2013	N	ND		0	6	Discharge from rubber and chemical factories
DBCP [Dibromochloropropane] (ppt)	2013	N	ND		0	200	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb (ppb)	2013	N	ND		7	7	Runoff from herbicide used on soybeans and vegetables
Endrin (ppb)	2013	N	ND		2	2	Residue of banned insecticide
EDB [Ethylene dibromide] (ppt)	2013	N	ND		0	50	Discharge from petroleum refineries
Heptachlor (ppt)	2013	N	ND		0	400	Residue of banned pesticide
Heptachlor epoxide (ppt)	2013	N	ND		0	200	Breakdown of heptachlor
Hexachlorobenzene (ppb)	2013	N	ND		0	1	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclo-pentadiene (ppb)	2013	N	ND		50	50	Discharge from chemical factories
Lindane (ppt)	2013	N	ND		200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor (ppb)	2013	N	ND		40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate] (ppb)	2013	N	ND		200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
PCBs [Polychlorinated biphenyls] (ppt)	2013	N	ND		0	500	Runoff from landfills; discharge of waste chemicals
Pentachlorophenol (ppb)	2013	N	ND		0	1	Discharge from wood preserving factories
Picloram (ppb)	2013	N	ND		500	500	Herbicide runoff
Simazine (ppb)	2013	N	ND		4	4	Herbicide runoff
Toxaphene (ppb)	2013	N	ND		0	3	Runoff/leaching from insecticide used on cotton and cattle

Volatile Organic Chemical (VOC) Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
Benzene (ppb)	2012	N	ND			0	5	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride (ppb)	2012	N	ND			0	5	Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)	2012	N	ND			100	100	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene (ppb)	2012	N	ND			600	600	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	2012	N	ND			75	75	Discharge from industrial chemical factories
1,2 – Dichloroethane (ppb)	2012	N	ND			0	5	Discharge from industrial chemical factories
1,1 – Dichloroethylene (ppb)	2012	N	ND			7	7	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	2012	N	ND			70	70	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene (ppb)	2012	N	ND			100	100	Discharge from industrial chemical factories
Dichloromethane (ppb)	2012	N	ND			0	5	Discharge from pharmaceutical and chemical factories

1,2-Dichloropropane (ppb)	2012	N	ND		0	5	Discharge from industrial chemical factories
Ethylbenzene (ppb)	2012	N	ND		700	700	Discharge from petroleum refineries
Styrene (ppb)	2012	N	ND		100	100	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene (ppb)	2012	N	ND		0	5	Discharge from factories and dry cleaners
1,2,4 –Trichlorobenzene (ppb)	2012	N	ND		70	70	Discharge from textile-finishing factories
1,1,1 – Trichloroethane (ppb)	2012	N	ND		200	200	Discharge from metal degreasing sites and other factories
1,1,2 –Trichloroethane (ppb)	2012	N	ND		3	5	Discharge from industrial chemical factories
Trichloroethylene (ppb)	2012	N	ND		0	5	Discharge from metal degreasing sites and other factories
Toluene (ppm)	2012	N	ND		1	1	Discharge from petroleum factories
Vinyl Chloride (ppb)	2012	N	ND		0	2	Leaching from PVC piping; discharge from plastics factories
Xylenes (Total) (ppm)	2012	N	ND		10	10	Discharge from petroleum factories; discharge from chemical factories

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90^{th} percentile)	2012	ND	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) (90^{th} percentile)	2012	0.478	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

Radioactive Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L)	2007	N	ND	0	15	Erosion of natural deposits
Beta/photon emitters (pCi/L)				0	50 *	Decay of natural and man-made deposits
Combined radium (pCi/L)	2013	N	ND	0	5	Erosion of natural deposits
Uranium (pCi/L)	2013	N	1.14	0	20.1	Erosion of natural deposits

* Note: The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

Disinfectants and Disinfection Byproducts Contaminants

Contaminant (units)	MCL/MRDL Violation Y/N	Your Water (AVG)	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) 2014 [Total Trihalomethanes]	N	ND		N/A	80	By-product of drinking water chlorination
HAA5 (ppb) 2014 [Total Haloacetic Acids]	N	ND		N/A	60	By-product of drinking water disinfection
Bromate (ppb)				0	10	By-product of drinking water disinfection
Chlorite (ppm)				0.8	1	By-product of drinking water chlorination
Chlorine dioxide (ppb)				MRDLG = 800	MRDL = 800	Water additive used to control microbes
Chloramines (ppm)				MRDLG = 4	MRDL = 4	Water additive used to control microbes
Chlorine (ppm) 2014	N	0.38	0.3 0.5	MRDLG = 4	MRDL = 4	Water additive used to control microbes

Secondary Contaminants, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic contaminants normally do not have any health effects and normally do not affect the safety of your water**.**

Water Characteristics Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low/High	Secondary MCL
Iron (ppm)	2013	ND	N/A	0.3
Manganese (ppm)	2013	ND	N/A	0.05
Nickel (ppm)	2013	ND	N/A	N/A
Sodium (ppm)	2013	11.4	N/A	N/A
pH	2013	7.3	N/A	6.5 to 8.5