2015 Annual Drinking Water Quality Report
Town of Liberty

PWS ID# "02-76-025"

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.

What the Environmental Protection Agency (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).

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. Town of Liberty 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 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.

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 groundwater/wells. The Town of Liberty is currently using seven (7) wells to supply the town with adequate water and pressure.

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 the Town of Liberty 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)

The complete SWAP Assessment report for the Town of Liberty may be viewed on the Web at: http://www.deh.enr.state.nc.us/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. To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or email request to swap@ncmail.net. 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 919-715-2633.

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

Help Protect Your Source Water

Protection of drinking water is everyone's responsibility. We have implemented the following source water protection actions: In collaboration with Randolph County, hosted local electrical appliance recycling events to prevent items being placed in ditches and eliminate possible ground water contaminations. You can help protect your community's drinking water source(s) in several ways: (examples: dispose of chemicals properly; take used motor oil to a recycling center, volunteer in your community to participate in group efforts to protect your source, etc.).

Violations that Your Water System Received for the Report Year

- **During 2015, or during any compliance period that ended in 2015, we received zero (0) violations that covered the time period of January 1, 2015 through December 31, 2015.**

What If I Have Any Questions Or Would Like to Become More Involved?

If you have any questions about this report or concerning your water, please contact **Roy Lynch, Town Manager** at **(336)622-4276.** We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held at Town Hall on the third and fourth Monday of every month.

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 each 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, 2015.** 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.

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.

Locational Running Annual Average (LRAA) – The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.

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 any health effect.

Tables of Detected Contaminants

Microbiological Contaminants

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	No	Absent			
Fecal Coliform or E. coli (presence or absence)	No	Absent			

Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
Antimony (ppb)	2/12/14	No	Absent			6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder

Nitrates

Contaminant (units)	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
Nitrate (as Nitrogen) (ppm)	NO	Absent	1.18	1.57	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	NO	Absent	N/A		1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

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)	6/25/15	NO	Absent			0	5	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride (ppb)	6/25/15	NO	Absent			0	5	Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)	6/25/15	NO	Absent			100	100	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene (ppb)	6/25/15	NO	Absent			600	600	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	6/25/15	NO	Absent			75	75	Discharge from industrial chemical factories
1,2 – Dichloroethane (ppb)	6/25/15	NO	Absent			0	5	Discharge from industrial chemical factories
1,1 – Dichloroethylene (ppb)	6/25/15	NO	Absent			7	7	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	6/25/15	NO	Absent			70	70	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene (ppb)	6/25/15	NO	Absent			100	100	Discharge from industrial chemical factories
Dichloromethane (ppb)	6/25/15	NO	Absent			0	5	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane (ppb)	6/25/15	NO	Absent			0	5	Discharge from industrial chemical factories
Ethylbenzene (ppb)	6/25/15	NO	Absent			700	700	Discharge from petroleum refineries
Styrene (ppb)	6/25/15	NO	Absent			100	100	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene (ppb)	6/25/15	NO	Absent			0	5	Discharge from factories and dry cleaners
1,2,4 –Trichlorobenzene (ppb)	6/25/15	NO	Absent			70	70	Discharge from textile-finishing factories
1,1,1 – Trichloroethane (ppb)	6/25/15	NO	Absent			200	200	Discharge from metal degreasing sites and other factories
1,1,2 –Trichloroethane (ppb)	6/25/15	NO	Absent			3	5	Discharge from industrial chemical factories
Trichloroethylene (ppb)	6/25/15	NO	Present	.001	.0009	0	5	Discharge from metal degreasing sites and other factories
Toluene (ppm)	6/25/15	NO	Absent			1	1	Discharge from petroleum factories
Vinyl Chloride (ppb)	6/25/15	NO	Absent			0	2	Leaching from PVC piping; discharge from plastics factories
Xylenes (Total) (ppm)	6/25/15	NO	Absent			10	10	Discharge from petroleum factories; discharge from chemical factories

Synthetic Organic Chemical (SOC) Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
2,4-D (ppb)	1/02/15	NO	Absent			70	70	Runoff from herbicide used on row crops
2,4,5-TP (Silvex) (ppb)	1/02/15	NO	Absent			50	50	Residue of banned herbicide
Alachlor (ppb)	1/02/15	NO	Absent			0	2	Runoff from herbicide used on row crops
Atrazine (ppb)	1/02/15	NO	Absent			3	3	Runoff from herbicide used on row crops
Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
Benzo(a)pyrene (PAH) (nanograms/l)	1/02/15	NO	Absent			0	200	Leaching from linings of water storage tanks and distribution lines
Carbofuran (ppb)	1/02/15	NO	Absent			40	40	Leaching of soil fumigant used on rice and alfalfa
Chlordane (ppb)	1/02/15	NO	Absent			0	2	Residue of banned termiticide

Disinfection By-Products Contaminants

Contaminant (units)	MCL/MRDL Violation Y/N	Your Water (AVG)	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes]	NO	<.001	.001	.080	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	NO	0	.002	.060	N/A	60	By-product of drinking water disinfection

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)	9/25/14	0.313	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) (90^{th} percentile)	9/25/14	0.011	0	0	AL=.015	Corrosion of household plumbing systems, erosion of natural deposits