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CITY OF VERNONIA  
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## **THE CITY OF VERNONIA ANNUAL DRINKING WATER QUALITY REPORT FOR 2010**

Vernonia's Public Works Department is very pleased to provide you with this year's Annual Water Quality Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been to provide you a safe and dependable supply of drinking water. Our water source is Rock Creek near "E" Street. We send the water through a filtration process that removes dirt, sediment, and other materials. We chlorinate the water for disinfection, which is required to keep the water safe as it travels to your tap.

These steps are important in order to remove any material that may have been picked up by the water in its journey. Because water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and radioactive material (1) and can pick up substances resulting from the presence of animals or human activity.

Recognizing the importance of identifying any unsafe material or compounds in the water, the City of Vernonia conducts more than 50 water quality tests each year. We check the characteristics of both the untreated river water and the treated drinking water. Among other things, we test for organic (2) and inorganic compounds (3), herbicides, pesticides and PCBs (4), nitrates, lead, copper and turbidity.

1. Radioactive material occurs naturally or can result from oil and gas production and mining activities.
2. Organic compounds, including synthetic and volatile organic chemicals are by-products of gas stations, urban storm water runoff and septic systems.
3. Inorganic compounds, such as salts and metals, occur naturally or are caused by urban storm runoff, mining or farming.
4. Herbicides and pesticides can come from a variety of sources such as agriculture, storm water runoff and residential uses. PCBs \, polychlorinated biphenyl, are chemical compounds that can be found in environmental pollution.

We also test for microbial forms, which are small living organisms such as bacteria and viruses that may come from septic systems, agriculture livestock operations or wildlife.

We are pleased to report that our drinking water is safe and meets federal and state requirements.

The Public Works Department routinely monitors for contaminants in your drinking water according to federal and state laws. This table shows the results of our monitoring for the period of January 1 through December 31, 2010 and the past five (5) years.

**The following have been detected in Vernonia's treated water within the last five years and fall within recommendations prescribed by the EPA:**

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	N	ND		0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
Fecal coliform & E.coli	N	ND		0	Routine sample & repeated sample are total coliform positive, and one is also fecal coliform or E.coli positive	Human & animal fecal waste

The following has been detected in Vernonia's treated water within the last five years:

Item	Highest Detection	Detection Range	MCL	Sample Date	Probable Source
Total Organic Carbon (ppm)	1.9	0.01		11/03	Erosion from natural deposits
Haloscetic Acid Compounds (ppm)	0.0654		0.0600	09/08	By product of drinking water chlorination
Trihalomethanes (ppm)	0.00701		0.0800	05/05	By product of drinking water chlorination
Turbidity (naphelometric turbidity units)	0.60	Meets EP requirements of 95% < 0.3 < ONE NTU 100% of this time	TT < 9.5	12/07	Soil runoff

Substance	Units mg/L	Goal	Highest Detection	Sample Date	Action Level	Complies	Contaminate Source
Copper		1.3	0.0600	08-08	01.35	Yes	Corrosion of household plumbing
Lead		0	0.0270	07-07	0.0155	90%	Corrosion of household plumbing

**DEFINITION OF TERMS USED IN THIS REPORT**

90<sup>th</sup> Percentile. This means 90% of the samples collected were equal to or less than the value reported.

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

Copper. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

Highest Detection. The highest single measurement detected for data collected.

Lead. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Maximum Residual Disinfectant 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 “Maximum Allowed” (MCL) is 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 (MCL). The highest level of a contaminant, that is allowed, in drinking water. MCL’s are set as close to the MCLG’s as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG). The “Goal” (MCLG) is 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 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.

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

Non-Detects (ND). Laboratory analysis indicates that the constituent is not present.

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

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.

Total Trihalomethanes (TTHMs). 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 systems, and may have an increased risk of getting cancer.

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

Turbidity. 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.

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All drinking water, including bottled water may reasonably be expected to contain at least small amounts of some 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. 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, come 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 have a source water protection plan available from our office that provides more information such as potential sources of contamination. If you have any questions about this report or concerning your water quality and if you would like to schedule a tour of our facility, please contact Jeff Burch, Foreman Vernonia Public Works at (503) 429-6921 M-F 7:30 a.m. to 4:00 p.m.

The City of Vernonia is an Equal Opportunity Provider