

## Shamokin Dam Borough - Contaminant Information and Test Results - 2017

### Inorganic Chemicals

Contaminant	MCL	MCLG	Borough (Avg)	Range of Detects	Violation Yes/No	Likely Source of Contaminant	Health Effects
Arsenic (Mg/L)	0.01	0.01	ND	ND	No	Natural deposits. Runoff from orchards, glass & electronics production.	Some people that drink water containing arsenic in excess of the MCL, over an extended period of time, could develop cardiovascular problems and a higher risk of cancer.
Barium (Mg/L)	2	2	0.0537	0.0537	No	Discharges of drilling wastes, metal refineries and erosion of natural deposits	Some people that drink water containing barium in excess of the MCL, over an extended period of time, could experience an increase in their blood pressure.
Chromium (Mg/L)	0.1	0.1	0.00148	0.00148	No	Chemical manufacturing and combustion of natural gas, oil coal	Some people that consume chromium in drinking water in excess of the MCL, over a long period of time, could be more susceptible to allergic dermatitis.
Fluoride (Mg/L)	2	2	0.54	0.41 - 0.68	No	Water additive, promotes strong teeth.	Some people that drink water containing fluoride in excess of the MCL over an extended period of time, could develop bone disease, including pain and tenderness. Children may develop mottled teeth.
Nickel (Mg/L)	N/A	N/A	0.00284	0.00284	No	Releases by power plants, metal factories and waste incinerators	Some people that consume nickel in drinking water in excess of the MCL, over a long period of time, could be more susceptible to cancer.
Nitrate (ppm)	10	10	0.420	0.420	No	Runoff from fertilizer use	Some infants that consume nitrate in drinking water in excess of the MCL could experience Methemoglobinemia (blue baby syndrome).
Nitrite (ppm)	1	1	ND	ND	No	Runoff from fertilizer use	Some infants that consume nitrite in drinking water in excess of the MCL could experience Methemoglobinemia (blue baby syndrome).

### Disinfection ByProducts

Contaminant	MCL	MCLG	Borough (Avg)	Range of Detects	Violation Yes/No	Likely Source of Contaminant	Health Effects
Trihalomethanes (TTHM)(Mg/L)	0.080	0.080	0.0495	0.0117 - 0.0875	No	Chlorine Byproduct	Some people that drink water containing these contaminants in excess of the MCL, over an extended period of time, may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Haloacetic Acids (HAA5)(Mg/L)	0.060	0.060	0.0373	0.0193 - 0.0560	No	Chlorine Byproduct	
Combined Filter Effluent (CFE) Turbidity (NTU)	*TT	0	0.04	0.01 - 0.08	No	Soil run-off	Turbidity has no direct health effect in drinking water. Turbidity can interfere with the disinfection, which can provide a medium for microbial growth. Turbidity may also indicate the presence of disease causing organisms.
	**TT		100%				

\*TT - Treatment Technique = 1.0 NTU for a single measurement.

\*\*TT - Treatment Technique = at least 95% of monthly samples less than or equal to 0.3 NTU.

Total Organic Carbons (TOC's) (See Note #1 Below)	(Raw) >2.0 to 4.0	0	Raw Avg.= 1.61	N/A	No	Naturally present in the environment.	TOC's have no known health effects. However, TOC in drinking water provides a medium for the formation of disinfection byproducts. These byproducts include THM's and HAA's. Drinking water containing these byproducts in excess of the MCL, over an extended period of time, may lead to adverse health effects such as liver and kidney problems or nervous system effects, and may lead to an increase of getting cancer.
			Fin. Avg.= 1.19				

#1. Total Organic Carbon (TOC) - In 2017 DEP required the Borough to monitor TOC removal on a quarterly basis. Readings are based on ppm of both the raw & finished water in combination with the raw water Alkalinity. A copy of each quarters removal data is on file in our office. All readings were well within the safe reporting limits.

Contaminant	MDR	LLD	Borough (Avg)	Range of Detects	Violation Yes/No	Likely Source of Contaminant	Health Effects
Sodium Hypochlorite (ppm) Entry Point	4	4	1.19	0.75 - 1.56	No	Water additive used to control microbes.	When used in excess of the maximum residual disinfectant level, some people could experience irritating effects to their eyes and nose, and some could experience stomach discomfort.

\*See additional testing information and definitions on Page 5.

### Previous Detects

Contaminant	MCL	Result Range	Sample Date	Latest Sample Period Start Date	Latest Sample Period End Date	90th Percentile Result	Action Level	90% Action Level Exceeded	Health Effects
Copper (ppm)	N/A	0.00472 - 0.07930	8/11/2016	6/1/2016	9/30/2016	0.079100	1.3	No	Copper is an essential nutrient, but some people that 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 copper in excess of the action level, over many years, could suffer liver or kidney damage.
Lead (ppb)	N/A	0.00 - 0.00372	8/11/2016	6/1/2016	9/30/2016	0.002100	15	No	See information about lead in drinking water on page (2) of this report.

\* No Lead or Copper sample in the twelve that were tested exceeded the action level.

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### In 2017 PA DEP required the Borough to test for a series of additional Organic Chemicals.

**20 Regulated Volatile Organic Compounds (VOC's).** The testing was done one time, in the first quarter of 2017. **VOC's** pose certain health risks, from cancer, liver / kidney, reproductive and stomach to nervous & immune system effects. Likely sources are discharges from industrial, chemical and petroleum factories and metal degreasing sites, leaching from gas storage tanks and landfills, and various other industrial activities. A complete list of the required **VOC's** that were tested, and results, are available at the Borough office. **VOC** levels are measured in mg/l's (ppm). The level of detection for each individual test was well below the minimum allowed and in most cases, less than the reportable limit as required by the EPA.

**28 Regulated Synthetic Organic Compounds (SOC's).** This testing was done in the **2nd Quarter in 2017**. **SOC's** pose certain health risks, from cancer, liver/kidney, reproductive and stomach to nervous system effects. Likely sources are discharges from chemical factories, runoff from insecticides & herbicides, discharge from wood preserving factories as well as leaching of soil fumigation used in alfalfa. A complete list of the required **SOC's** that were tested, and the results, are available at the Borough office. **SOC** levels are measured in mg/l's(ppm). There was no detection for all that were tested.

**12 Regulated Inorganic Compounds (IOC's).** This testing was done one time, in July of 2017. **IOC's** pose certain health risks, from increased blood pressure, sugar and cholesterol, liver and kidney damage. Likely sources are discharges from petroleum refineries, fire retardants, erosion from natural deposits and industrial type discharges. A complete list of the required **IOC's**, and the results, that were tested is available at the Borough Office. **IOC** levels are measured in mg/l's(ppm). There was very minimal or no detection for all that were tested.

### Definitions

\* **Maximum Contaminant Level Goal (MCLG):** is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

\* **Maximum Contaminant Level (MCL):** is 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 Disinfectant Residual (MDR):** The (max) level of a disinfectant allowed in drinking water. The addition of a disinfectant is necessary for control of microbial contaminants.

\* **Lowest Level Detected (LLD):** is the lowest disinfection value allowed to ensure control of microbial contamination.

\* **Action Level (AL):** is the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

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

\* **(ppm) or (mg/L)** – Parts per million or milligrams per liter – One ounce to 7,812.5 gallons.

\* **(ppb) or (ug/L)** - Parts Per Billion or Micrograms per Liter – one (1) ounce to 7,812,500 gallons.

\* **(pCi/l)** – Picocuries/Liter – A unit of concentration for radioactive contaminants.

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

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