# 2007 Water Source Samples

**Microscopic Particulate Analysis** **Sampled Spring and Fall** **For GROUNDWATER SOURCES less than 100 feet from surface water**

| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Marshall Well** | Algae | | | | | ND | | | | | | ND | |
| | Crustaceans | | | | | ND | | | | | | ND | |
| | Diatoms | | | | | ND | | | | | | ND | |
| | Insect/Parts | | | | | ND | | | | | | ND | |
| | Invertebrates/Eggs | | | | | ND | | | | | | ND | |
| | Nematodes/Eggs | | | | | ND | | | | | | 4.00E+00 | |
| | Pollen | | | | | 1.00E+00 | | | | | | 1.00E+00 | |
| | Protozoa (Free Living) | | | | | ND | | | | | | 3.60E+03 | |
| | Rotifers/Eggs | | | | | ND | | | | | | 3.00E+00 | |
| | Spores | | | | | ND | | | | | | ND | |
| | Vegetatie Debris | | | | | ND | | | | | | ND | |
| | Observations | | | | | Iron bacteria present in high Concentration | | | | | | | |

| | RANGE/RISK FACTOR | | RANGE/RISK FACTOR | |
|---|---|---|---|---|
| Giardia | Not Significant / 0 | | Not Significant / 0 | |
| Coccidia | Not Significant / 0 | | Not Significant / 0 | |
| Diatoms | Not Significant / 0 | | Not Significant / 0 | |
| Other Algae | Not Significant / 0 | | Not Significant / 0 | |
| Insects/Larva | Not Significant / 0 | | Not Significant / 0 | |
| Rotifers | Not Significant / 0 | | Rare / 1 | |
| Plant Debris | Not Significant / 0 | | Not Significant / 0 | |
| **TOTAL** | 0 | Low | 1 | Low |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Duffy's Well** | Algae | | | | | ND | | | | | | ND | |
| | Crustaceans | | | | | ND | | | | | | ND | |
| | Diatoms | | | | | ND | | | | | | ND | |
| | Insect/Parts | | | | | ND | | | | | | ND | |
| | Invertebrates/Eggs | | | | | ND | | | | | | ND | |
| | Nematodes/Eggs | | | | | ND | | | | | | ND | |
| | Pollen | | | | | ND | | | | | | ND | |
| | Protozoa (Free Living) | | | | | ND | | | | | | ND | |
| | Rotifers/Eggs | | | | | ND | | | | | | ND | |
| | Spores | | | | | ND | | | | | | ND | |
| | Vegetatie Debris | | | | | ND | | | | | | ND | |
| | Observations | | | | | Iron bacteria present in high Concentration | | | | | | | |

| | RANGE/RISK FACTOR | | RANGE/RISK FACTOR | |
|---|---|---|---|---|
| Giardia | Not Significant / 0 | | Not Significant / 0 | |
| Coccidia | Not Significant / 0 | | Not Significant / 0 | |
| Diatoms | Not Significant / 0 | | Not Significant / 0 | |
| Other Algae | Not Significant / 0 | | Not Significant / 0 | |
| Insects/Larva | Not Significant / 0 | | Not Significant / 0 | |
| Rotifers | Not Significant / 0 | | Not Significant / 0 | |
| Plant Debris | Not Significant / 0 | | Not Significant / 0 | |
| **TOTAL** | 0 | Low | 0 | Low |

# 2007 Water Source Samples

(Continued)

| Secondary Contaminants | Recommenc | MCL | Well-3G | Well-4G | Well-5G |
|---|---|---|---|---|---|
| | | | October 16th | | |
| Aluminum | | None | ND | ND | ND |
| Calcium | | None | 14.8 | 33.8 | 20.3 |
| Copper | | 1.3 | 0.05 | 0.06 | 0.28 |
| Iron | | 0.3 | 1.5 | 1.4 | 2.9 |
| Magnesium | | None | 3.2 | 5.6 | 3.3 |
| Manganese | | 0.05 | 0.55 | 0.84 | 0.83 |
| Sodium | | None | 19.1 | 5.6 | 20.2 |
| Potassium | | None | 1.4 | 1.5 | 1.5 |
| Silver | | 0.1 | ND | ND | ND |
| Zinc | | 5 | ND | 0.03 | ND |
| Alkalinity | | None | 45.5 | 35.5 | 64.5 |
| Chloride | | 250 | 31.5 | 7 | 35.7 |
| Color | | 15 | 0 | 0 | 40 |
| Hardness (mg/L) | | None | 50 | 107 | 64 |
| Hardness (Grains/Gal) | | None | 2.92 | 6.26 | 3.74 |
| pH | | 6.5-8.5 | 5.7 | 5.9 | 6.3 |
| Odor | | 3 | 1 | 0 | 2 |
| Sulfates | | 250 | 11.9 | 94.1 | 8.2 |
| Turbidity | | 1 to 5 | 0.7 | 0.6 | 1.6 |
| Total Disolved Solids | | 500 | 153 | 525 | 185 |

# 2007 Required Treated Water Samples

## SOURCE SAMPLES

**West Street Water Treatment Plant** **Sampled Annually** **June** **July** **October 16th**

**Measuerd as mg/L** **miligrams / Liter (Parts Per Million)**

| **Secondary Contaminants** | Recommended | **MCL** | **Treatment Plant** | **Well-3G** | **Well-4G** | **Well-5G** |
|---|---|---|---|---|---|---|
| Aluminum | | None | 0.01 | ND | ND | ND |
| Calcium | | None | 29.2 | 14.8 | 33.8 | 20.3 |
| Copper | | 1.3 | 0.2 | 0.05 | 0.06 | 0.28 |
| Iron | | 0.3 | 0.3 | 1.5 | 1.4 | 2.9 |
| Magnesium | | None | 3.5 | 3.2 | 5.6 | 3.3 |
| Manganese | | 0.05 | 0.04 | 0.55 | 0.84 | 0.83 |
| Sodium | | None | 18.2 | 19.1 | 5.6 | 20.2 |
| Potassium | | None | 3.2 | 1.4 | 1.5 | 1.5 |
| Silver | | 0.1 | ND | ND | ND | ND |
| Zinc | | 5 | 0.01 | ND | 0.03 | ND |
| Alkalinity | | None | 67.5 | 45.5 | 35.5 | 64.5 |
| Chloride | | 250 | 30 | 31.5 | 7 | 35.7 |
| Color | | 15 | 10 | 0 | 0 | 40 |
| Hardness (mg/L) | | None | 87 | 50 | 107 | 64 |
| Hardness (Grains/Gal) | | None | 5.09 | 2.92 | 6.26 | 3.74 |
| pH | | 6.5-8.5 | 6.5 | 5.7 | 5.9 | 6.3 |
| Odor | | 3 | 0 | 1 | 0 | 2 |
| Sulfates | | 250 | 22.1 | 11.9 | 94.1 | 8.2 |
| Turbidity | | 1 to 5 | 0.4 | 0.7 | 0.6 | 1.6 |
| Total Disolved Solids | | 500 | 23.3 | 153 | 525 | 185 |
| **Nitrogen Compounds** | | | | | | |
| Nitrate | | 1 | 0.08 | | | |

# 2007 Required Treated Water Samples
(Continued)

**Volital Organic Compounds (VOCs)** **57 Compounds** **Measuerd as ug/L** **micrograms / Liter (Parts Per Billion)**

**micrograms / Liter (Parts Per Billion)**

**Sampled at the West StreetTreatment Plant** **8/21/2008** **8/21/2008**

| Regulated | VOC Contaminants NOT DETECTED | MDL | MCL | Result | | MDL | MCL | Result |
|---|---|---|---|---|---|---|---|---|
| | Benzene | 0.05 | 5 | ND | CIS-1,2-Dichloroethyler | 0.05 | 70 | ND |
| | Carbon Tetrachloride | 0.05 | 5 | ND | 1,2-Dichloropropane | 0.05 | 5 | ND |
| | 1,2-Dichloroethylene | 0.05 | 7 | ND | Ethylbenzene | 0.05 | 700 | ND |
| | 1,2-Dichloroethane | 0.05 | 5 | ND | Styrene | 0.05 | 100 | ND |
| | Para-Dichlorobenzene | 0.05 | 5 | ND | Tetrachloroethylene (P( | 0.05 | 5 | ND |
| | Trichloroethane (TCE) | 0.05 | 5 | ND | Toluene | 0.05 | 1000 | ND |
| | 1,1,1-Trichloroethane | 0.05 | 200 | ND | Xylenes (TOTAL) | 0.05 | 10000 | ND |
| | Vynal Chloride | 0.05 | 2 | ND | Dichloromethane | 0.05 | 5 | ND |
| | Monochlorobenzene | 0.05 | 100 | ND | 1,2,4-Trichlorobenzene | 0.05 | 70 | ND |
| | O-Dichlorobenzene | 0.05 | 600 | ND | 1,1,2-Trichloroethane | 0.05 | 5 | ND |
| | Trans -1,2,Dichloroethylene | 0.05 | 100 | ND | | | | |

| Unregulate | VOC Contaminants | DETECTED | MDL | Result |
|---|---|---|---|---|
| | Chloroform | | 0.05 | 20 |
| | Bromodichloromethane | | 0.05 | 5 |
| | Chlorodibromomethane | | 0.05 | 0.7 |

**Unregulate VOC Contaminants** **NOT DETECTED**

| | MDL | Result | | MDL | Result |
|---|---|---|---|---|---|
| Bromoform | 0.05 | ND | 1,3-Dichloropropene | 0.05 | ND |
| M-Dichlorobenzene | 0.05 | ND | 1,2,4-Trimethylbenzene | 0.05 | ND |
| Dibromomethane | 0.05 | ND | 1,2,3-Trichlorobenzene | 0.05 | ND |
| 1,1-Dichloropropene | 0.05 | ND | N-Propylbenzene | 0.05 | ND |
| 1,1-Dichloromethane | 0.05 | ND | N-Butylbenzene | 0.05 | ND |
| 1,1,2,2-Tetrachloroethane | 0.05 | ND | Napthalene | 0.05 | ND |
| 1,3-Dichlopropane | 0.05 | ND | Hexachlorobutadiene | 0.05 | ND |
| Chloromethane | 0.05 | ND | 1,3,5-Trimethylbenzene | 0.05 | ND |
| Bromomethane | 0.05 | ND | P-Isopropyltoluene | 0.05 | ND |
| 1,2,3-Trichloropropane | 0.05 | ND | Isopropylbenzene | 0.05 | ND |
| 1,1,1,2-Tetrachloroethane | 0.05 | ND | Tert-Butylbenzene | 0.05 | ND |
| Chloroethane | 0.05 | ND | Sec-Butylbenzene | 0.05 | ND |
| 2,2-Dichloropropane | 0.05 | ND | Fluorotrichloromethane | 0.05 | ND |
| 0-Chlorotoluene | 0.05 | ND | Dichlorodifluoromethane | 0.05 | ND |
| P-Chlorotoluene | 0.05 | ND | Bromochloromethane | 0.05 | ND |
| Bromobenzene | 0.05 | ND | Mehtyl Tertiary Butyl Ether (MTBE) | 0.05 | ND |

**Unregulated and/or NON-TARGET VOC Contaminants NOT DETECTED**

| | MDL | Result |
|---|---|---|
| Acetone | 0.05 | ND |

# 2007 Required Treated Water Samples
(Continued)

**Synthetic Organic Contaminants (SOCs)** **Measuerd as ug/L** **micrograms / Liter (Parts Per Billion)**
**46 Compounds** **Sampled at the West StreetTreatment Plant**

**Regulated SOC Contaminants** **NOT DETECTED** **Sampled for on: 5/9/2008 and 11/15/2008**

| | MDL | MCL | Result | | | MDL | MCL | Result |
|---|---|---|---|---|---|---|---|---|
| Carbofuran | 0.9 | 40 | ND | Hexachlorocyclopentadiene | | 1.2 | 50 | ND |
| Oxamyl (Vydate) | 2 | 200 | ND | Simazine | | 2 | 4 | ND |
| 2,4-D | 0.1 | 70 | ND | Benzo (A) Pyrene | | 0.1 | 0.2 | ND |
| 2,4,5-TP | 0.1 | 50 | ND | Di (2-ethylhexyl) Adipate | | 0.6 | 400 | ND |
| Dalapon | 1 | 200 | ND | Di (2-ethylhexyl) Phthalates | | 3 | 6 | ND |
| Dinoses | 0.1 | 7 | ND | Chlorodane | | 0.2 | 2 | ND |
| Picloram | 0.1 | 500 | ND | Toxaphene | | 1 | 3 | ND |
| Pentachlorophenol | 0.04 | 1 | ND | PCB Arochlor | 1016 | 0.08 | | ND |
| Alachlor | 0.7 | 2 | ND | PCB Arochlor | 1221 | 20 | | ND |
| Atrazine | 0.3 | 3 | ND | PCB Arochlor | 1223 | 0.23 | | ND |
| Endrin | 0.28 | 2 | ND | PCB Arochlor | 1242 | 0.26 | | ND |
| Heptachlor | 0.04 | 0.4 | ND | PCB Arochlor | 1246 | 0.1 | | ND |
| Heptachlor Epoxide | 0.06 | 0.2 | ND | PCB Arochlor | 1254 | 0.1 | | ND |
| Lindane | 0.07 | 0.2 | ND | PCB Arochlor | 1260 | 0.2 | | ND |
| Methoxychlor | 0.8 | 40 | ND | PCBS (Decachlorobiphenyl) | | | 0.5 | ND |
| Hexachlorobenzene | 0.1 | 1 | ND | | | | | |

**Required SOC Compound Monitoring for Groundwater Systems** **NOT DETECTED**

| | MDL | MCL | Result |
|---|---|---|---|
| Dibromochloropropane (DBCP) | 0.02 | 0.2 | ND |
| Ethylenedibromide | 0.02 | 0.02 | ND |

**Unregulated SOC Compounds** **NOT DETECTED**

| | MDL | MCL | Result |
|---|---|---|---|
| Aldicarb | 2.2 | | ND |
| Aldicarb Sulfone | 4.4 | | ND |
| Aldicarb Sulfoxide | 4.4 | | ND |
| Carbaryl | 0.5 | | ND |
| 3-Hydroxycarbofuran | 0.5 | | ND |
| Methomyl | 0.1 | | ND |
| Aldrin | 0.18 | | ND |
| Butachlor | 0.84 | | ND |
| Dieldrin | 0.04 | | ND |
| Metolachlor | 1.65 | | ND |
| Metribuzin | 0.33 | | ND |
| Propachlor | 1.1 | | ND |

# 2007 Required Water Distribution Samples

| Coliform Bacteria | Sampled Monthly | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Colonies/100ml | | | | | | | | | | | | |
| 001 - Water Office | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 002 - Penn Brook School | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 003 - Erie Fire Station | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 004 - High School | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 005 - Baldpate Hospital | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 006 - Hi -Tech Hose | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 007 - Elderly Housing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 008 - Marshall GP Well | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 009 - West Street Garage | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 010 - Commissioner's GP Well | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 011 - Duffy's GP Well | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 012 - Farm Lane Realty Trust | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 013 - Treatment Plant Finish | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Chlorine Residual | Sampled Monthly | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Milligrams/Liter | | | | | | | | | | | | |
| 001 - Water Office | | 0.2 | 0.5 | 0.6 | 0.3 | 0.7 | 0.4 | 0.3 | 0.6 | 0.5 | 1.0 | 0.2 | 0.3 |
| 002 - Penn Brook School | | 0.0 | 0.2 | 0.4 | 0.0 | 0.5 | 0.2 | 0.1 | 0.2 | 0.1 | 0.3 | 0.3 | 0.2 |
| 003 - Erie Fire Station | | 0.1 | 0.3 | 0.6 | 0.1 | 0.3 | 0.2 | 0.2 | 0.3 | 0.0 | 0.2 | 0.1 | 0.3 |
| 004 - High School | | 0.1 | 0.3 | 0.4 | 0.2 | 0.6 | 0.4 | 0.3 | 0.4 | 0.2 | 0.6 | 0.2 | 0.3 |
| 005 - Baldpate Hospital | | 0.2 | 0.3 | 0.5 | 0.1 | 0.4 | 0.2 | 0.1 | 0.4 | 1.0 | 0.1 | 0.2 | 0.1 |
| 006 - Hi -Tech Hose | | 0.0 | 0.2 | 0.4 | 0.0 | 0.4 | 0.1 | 0.1 | 0.2 | 0.0 | 0.2 | 0.0 | 0.1 |
| 007 - Elderly Housing | | 0.3 | 0.6 | 1.1 | 0.4 | 0.4 | 0.4 | 0.2 | 0.7 | 0.3 | 1.0 | 0.3 | 0.4 |
| 009 - West Street Garage | | 0.1 | 0.3 | 0.2 | 0.1 | 0.3 | 0.3 | 0.2 | 0.4 | 0.3 | 0.1 | 0.1 | 0.1 |
| 012 - Farm Lane Realty Trust | | 0.1 | 0.5 | 0.2 | 0.0 | 0.0 | 0.2 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 |
| 013 - Treatment Plant Finish | | 2.2 | 1.8 | 1.2 | 1.0 | 2.0 | 1.8 | 1.4 | 2.4 | 1.7 | 1.9 | 2.5 | 1.8 |

# 2007 Required Water Distribution Samples
(Continued)

**Lead & Copper** **Sampled Annually in AUGUST** **form at least 20 homes plus the three schools**

**90th Percentile** **milligrams / Liter**

21 Households throughout Georgetown are sampled every August along with all three schools. 90% of the households had lead and copper levels at or below this.

| | | | Lead | Copper |
|---|---|---|---|---|
| | | | Action Levels mg/L | |
| | | | 0.015 | 1.3 |
| | | 90th Percentile | 0.011 | 0.17 |
| Penn Brook Elementary | Kitchen | Results mg/L | 0.01 | 0.09 |
| | Bubbler | Results mg/L | 0.007 | 0.34 |
| * Perley Elementary School | Kitchen | Results mg/L | 0.025 | 0.15 |
| | Bubbler | Results mg/L | 0.003 | 0.08 |
| Georgetown Middle / High | Kitchen | Results mg/L | 0.01 | 0.04 |
| | Bubbler | Results mg/L | 0.003 | 0.05 |

* Older School buildings often test high in their OFF season. Regular use returns these results to normal.

**CHLORINATED HYDROCARBONS Sampled ANNUALLY at Erie 4 Fire Station**

**Total Trihalomethane** **AUGUST**

**micrograms / Liter (Parts Per Billion)**

| | | |
|---|---|---|
| Bromoform | | ND |
| Chloroform | | 28.2 |
| Bromodichlorommethane | | 5.5 |
| Dibromochloromethane | | 0.7 |
| **TOTAL TRIHALOMETHANES** | **(MCL -80ug/L)** | **34.4** |

**Haloacetic Acids 5**

**micrograms / Liter (Parts Per Billion)**

| | | |
|---|---|---|
| Monochloroacetic Acid | | ND |
| Dichloroacetic Acid | | 2.9 |
| Trichloroacetic Acid | | 14.2 |
| Momobromoacetic Acid | | ND |
| Dibromoacetic Acid | | ND |
| **TOTAL HALOACETIC ACIDS** | **(MCL-60ug/L)** | **17.1** |

**Perchlorate** **Sampled Annually** **May**

| | | MCL | |
|---|---|---|---|
| Perchlorate | at Erie 4 | 2.0 ug/L | BDL |
| Conductivity | at Erie 4 | umhos/cm | 318 |