



**CITY OF LANCASTER  
BUREAU OF WATER  
CHEMICAL & MICROBIOLOGY LABORATORIES**

**2008 DRINKING WATER ANALYSIS REPORT**

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PA DEPARTMENT OF ENVIRONMENTAL PROTECTION PRIMARY CONTAMINANT LIST

**INORGANIC**

| <u>ANALYSIS</u>  | <u>CONESTOGA PLANT</u> |       | <u>SUSQUEHANNA PLANT</u> |       | <u>PA DEP MCL</u> |       |
|------------------|------------------------|-------|--------------------------|-------|-------------------|-------|
| ANTIMONY         | ND                     | mg/L. | ND                       | mg/L. | 0.006             | mg/L. |
| ARSENIC          | ND                     | "     | ND                       | "     | 0.01              | "     |
| ASBESTOS         | ND                     | mf/L. | ND                       | mf/L. | 7                 | mf/L. |
| BERYLLIUM        | ND                     | mg/L. | ND                       | mg/L. | 0.004             | mg/L. |
| CADMIUM          | ND                     | "     | ND                       | "     | 0.005             | "     |
| CHROMIUM         | ND                     | "     | ND                       | "     | 0.1               | "     |
| COPPER           | 0.13 *                 | "     | 0.13 *                   | "     | 1.3               | "     |
| CYANIDE, Free    | ND                     | "     | ND                       | "     | 0.2               | "     |
| FLUORIDE         | 0.92                   | "     | 0.87                     | "     | 2.0               | "     |
| LEAD             | 0.0035 **              | "     | 0.0035 **                | "     | 0.015             | "     |
| MAGNESIUM, Total | 17.8                   |       | 7.8                      |       | ns                | "     |
| MERCURY          | ND                     | "     | ND                       | "     | 0.002             | "     |
| NICKEL           | ND                     | "     | ND                       | "     | 0.1               | "     |
| NITRATE          | 6                      | "     | 1.6                      | "     | 10                | "     |
| ORTHOPHOSPHATE   | 0.24                   | "     | 0.20                     | "     | 0.05              | "     |
| SELENIUM         | ND                     | "     | ND                       | "     | 0.05              | "     |
| THALLIUM         | ND                     | "     | ND                       | "     | 0.002             | "     |

**MICROBIOLOGIC**

|                  |                        |                        |                    |
|------------------|------------------------|------------------------|--------------------|
| TOTAL COLIFORM   | <1.1 / 100 milliliters | <1.1 / 100 milliliters | 95% Negative Tests |
| ESCHERICHIA COLI | <1.1 / 100 milliliters | <1.1 / 100 milliliters | TT                 |
| TOTAL HPC        | <1 / milliliter        | 1 / milliliter         | <500 / milliliter  |
| GIARDIA LAMBLIA  | ND                     | ND                     | TT                 |

\* Copper Action Level, High Risk Homes: 90th Percentile = 0.13 mg/l.

\*\* Lead Action Level, High Risk Homes: 90th Percentile = 0.0035 mg/L.



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PA DEPARTMENT OF ENVIRONMENTAL PROTECTION CONTAMINANT LIST

## CHLORINE

| <u>ANALYSIS</u>         | <u>CONESTOGA PLANT</u> |       | <u>OYSTER POINT RESERVOIR</u> |       | <u>DEP MCL</u> |       |
|-------------------------|------------------------|-------|-------------------------------|-------|----------------|-------|
| CHLORINE, Free Residual | 0.81                   | mg/L. | 0.79                          | mg/L. | 0.2            | mg/L. |

## RADIOLOGIC

| <u>ANALYSIS</u>               | <u>CONESTOGA PLANT</u> |        | <u>SUSQUEHANNA PLANT</u> |        | <u>DEP MCL</u> |        |
|-------------------------------|------------------------|--------|--------------------------|--------|----------------|--------|
| Alpha / excl. radon & uranium | ND                     | pCi/L. | ND                       | pCi/L. | 15             | pCi/L. |
| Gross Beta Particle Activity  | 5.5                    | "      | ND                       | "      | 50             | "      |
| Radium-226                    | 0.1                    | "      | ND                       | "      | --             | "      |
| Radium-228                    | ND                     | "      | ND                       | "      | --             | "      |

## TRIHALOMETHANES

|                                                             |    |                |    |                |
|-------------------------------------------------------------|----|----------------|----|----------------|
| TRIHALOMETHANES, TOTAL<br>(12 Month Running Annual Average) | 59 | micro-grams/L. | 80 | micro-grams/L. |
|-------------------------------------------------------------|----|----------------|----|----------------|

## HALOACETIC ACIDS

|                                                              |    |                |    |                |
|--------------------------------------------------------------|----|----------------|----|----------------|
| HALOACETIC ACIDS, TOTAL<br>(12 Month Running Annual Average) | 44 | micro-grams/L. | 60 | micro-grams/L. |
|--------------------------------------------------------------|----|----------------|----|----------------|

## TURBIDITY

| <u>ANALYSIS</u>              | <u>CONESTOGA PLANT</u> |     | <u>SUSQUEHANNA PLANT</u> |     | <u>PA DEP MCL</u> |     |
|------------------------------|------------------------|-----|--------------------------|-----|-------------------|-----|
| TURBIDITY, Combined Effluent | 0.07                   | NTU | 0.11                     | NTU | 0.3               | NTU |



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PA DEPARTMENT OF ENVIRONMENTAL PROTECTION SECONDARY CONTAMINANT LIST

## SECONDARY

| <u>ANALYSIS</u>        | <u>CONESTOGA PLANT</u> |       | <u>SUSQUEHANNA PLANT</u> |       | <u>PA DEP SMCL</u> |       |
|------------------------|------------------------|-------|--------------------------|-------|--------------------|-------|
| ALUMINUM, Total        | 0.07                   | mg/L. | 0.24                     | mg/l. | 0.2                | mg/L. |
| CHLORIDE               | 34                     | "     | 26                       | "     | 250                | "     |
| COLOR                  | 0                      | CU    | 1                        | CU    | 15                 | CU    |
| IRON, Total            | 0.01                   | mg/L. | 0.01                     | mg/L. | 0.3                | mg/L. |
| MANGANESE, Total       | 0.02                   | "     | 0.01                     | "     | 0.05               | "     |
| pH                     | 7.42                   | "     | 7.43                     | "     | 7.2 - 7.8          | "     |
| SILVER                 | ND                     | mg/L. | ND                       | mg/L. | 0.05               | mg/L. |
| SULFATE                | 79                     | "     | 72                       | "     | 250                | "     |
| TOTAL DISSOLVED SOLIDS | 280                    | "     | 210                      | "     | 500                | "     |
| ZINC, Total            | 0.04                   | "     | 0.04                     | "     | 5                  | "     |

## OTHER TESTS

|                            |      |                          |      |                          |             |                          |
|----------------------------|------|--------------------------|------|--------------------------|-------------|--------------------------|
| ACIDITY                    | < 5  | mg/L.                    | < 5  | mg/L.                    | NS          | mg/L.                    |
| ALKALINITY                 | 154  | "                        | 70   | "                        | NS          | "                        |
| AMMONIA                    | 0.02 | "                        | 0.02 | "                        | NS          | "                        |
| CALCIUM                    | 161  | "                        | 98   | "                        | NS          | "                        |
| HARDNESS, milligrams/liter | 245  | "                        | 132  | "                        | NS          | "                        |
| HARDNESS, grains/gallon    | 14.3 | "                        | 7.7  | "                        | NS          | "                        |
| ORGANIC CARBON, Total      | 2    | "                        | 2.0  | "                        | NS          | "                        |
| ORGANIC CARBON, Dissolved  | 1.9  | "                        | 1.8  | "                        | NS          | "                        |
| PHOSPHATE, Ortho           | 0.24 | "                        | 0.21 | "                        | 0.13 - 0.33 | "                        |
| SODIUM                     | 19.5 | "                        | 11.8 | "                        | NS          | "                        |
| SPECIFIC CONDUCTANCE       | 580  | micromoh/cm <sup>2</sup> | 351  | micromoh/cm <sup>2</sup> | NS          | micromoh/cm <sup>2</sup> |



## CITY OF LANCASTER

## 2008 DRINKING WATER ANALYSIS REPORT

PA DEPARTMENT OF ENVIRONMENTAL PROTECTION VOLATILE ORGANIC CHEMICAL LIST

## VOLATILE ORGANIC CHEMICALS

| <u>ANALYSIS</u>           | <u>CONESTOGA PLANT</u> |       | <u>SUSQUEHANNA PLANT</u> |       | <u>PA DEP PMCL</u> |       |
|---------------------------|------------------------|-------|--------------------------|-------|--------------------|-------|
|                           | ND                     | mg/L. | ND                       | mg/L. |                    | mg/L. |
| BENZENE                   | ND                     | mg/L. | ND                       | mg/L. | 0.005              | mg/L. |
| CARBON TETRACHLORIDE      | ND                     | "     | ND                       | "     | 0.005              | "     |
| CHLOROBENZENE             | ND                     | "     | ND                       | "     | 0.1                | "     |
| 1,2-DICHLOROBENZENE       | ND                     | "     | ND                       | "     | 0.6                | "     |
| 1,4 - DICHLOROBENZENE     | ND                     | "     | ND                       | "     | 0.075              | "     |
| 1,2-DICHLOROETHANE        | ND                     | "     | ND                       | "     | 0.005              | "     |
| 1,1-DICHLOROETHENE        | ND                     | "     | ND                       | "     | 0.007              | "     |
| cis-1,2,-DICHLOROETHYLENE | ND                     | "     | ND                       | "     | 0.07               | "     |
| trans-1,2,-DICHLOROETHENE | ND                     | "     | ND                       | "     | 0.1                | "     |
| 1,2-DICHLOROPROPANE       | ND                     | "     | ND                       | "     | 0.005              | "     |
| ETHYLBENZENE              | ND                     | "     | ND                       | "     | 0.7                | "     |
| METHYLENE CHLORIDE        | ND                     | "     | ND                       | "     | 0.005              | "     |
| STYRENE                   | ND                     | "     | ND                       | "     | 0.1                | "     |
| TETRACHLOROETHENE         | ND                     | "     | ND                       | "     | 0.005              | "     |
| TOLUENE                   | ND                     | "     | ND                       | "     | 1                  | "     |
| 1,2,4-TRICHLOROBENZENE    | ND                     | "     | ND                       | "     | 0.07               | "     |
| 1,1,1-TRICHLOROETHANE     | ND                     | "     | ND                       | "     | 0.2                | "     |
| 1,1,2-TRICHLOROETHANE     | ND                     | "     | ND                       | "     | 0.005              | "     |
| TRICHLOROETHENE           | ND                     | "     | ND                       | "     | 0.005              | "     |
| VINYL CHLORIDE            | ND                     | "     | ND                       | "     | 0.002              | "     |
| XYLENES (total)           | ND                     | "     | ND                       | "     | 10                 | "     |



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PA DEPARTMENT OF ENVIRONMENTAL PROTECTION SYNTHETIC ORGANIC CHEMICAL LIST

**SYNTHETIC ORGANIC CHEMICALS**

| <u>ANALYSIS</u>            | <u>CONESTOGA PLANT</u> |       | <u>SUSQUEHANNA PLANT</u> |       | <u>DEP PMCL</u> |       |
|----------------------------|------------------------|-------|--------------------------|-------|-----------------|-------|
| ALACHLOR                   | ND                     | mg/L. | ND                       | mg/L. | 0.002           | mg/L. |
| ALDICARB                   | ND                     | "     | ND                       | "     | 0.003           | "     |
| ALDICARB SULFOXIDE         | ND                     | "     | ND                       | "     | 0.004           | "     |
| ALDICARB SULFONE           | ND                     | "     | ND                       | "     | 0.002           | "     |
| ATRAZINE                   | 0.0005 *               | "     | ND                       | "     | 0.003           | "     |
| BENZO(a)PYRENE             | ND                     | "     | ND                       | "     | 0.0002          | "     |
| CARBARYL                   | ND                     | "     | ND                       | "     | NS              | "     |
| CARBOFURAN                 | ND                     | "     | ND                       | "     | 0.04            | "     |
| CHLORDANE                  | ND                     | "     | ND                       | "     | 0.002           | "     |
| DIBROMOCHLOROPROPANE       | ND                     | "     | ND                       | "     | 0.0002          | "     |
| DI (2-ETHYLHEXYL)ADIPHATE  | ND                     | "     | ND **                    | "     | 0.4             | "     |
| DI (2-ETHYLHEXYL)PHTHALATE | ND                     | "     | ND                       | "     | 0.006           | "     |
| DICAMBA                    | ND                     | "     | ND                       | "     | 0.2             | "     |
| ENDOTHALL                  | ND                     | "     | ND                       | "     | 0.1             | "     |
| ETHYLENE DIBROMIDE (EDB)   | ND                     | "     | ND                       | "     | 0.00005         | "     |
| HEXACHLOROCYCLOPENTADIENE  | ND                     | "     | ND                       | "     | 0.05            | "     |
| 3-HYDROXYCARBOFURAN        | ND                     | "     | ND                       | "     | NS              | "     |
| LINDANE                    | ND                     | "     | ND                       | "     | 0.0002          | "     |
| METHOMYL                   | ND                     | "     | ND                       | "     | NS              | "     |
| METHOXYCHLOR               | ND                     | "     | ND                       | "     | 0.04            | "     |
| METOLACHLOR                | ND                     | "     | ND                       | "     | 0.2             | "     |
| METRIBUXIN                 | ND                     | "     | ND                       | "     | 0.2             | "     |
| OXAMYL (Vydate)            | ND                     | "     | ND                       | "     | 0.2             | "     |
| PENTACHLOROPHENOL          | ND                     | "     | ND                       | "     | 0.001           | "     |
| PICLORAM                   | ND                     | "     | ND                       | "     | 0.5             | "     |
| PROPACHLOR                 | ND                     | "     | ND                       | "     | NS              | "     |
| SIMAZINE                   | 0.0002 **              | "     | ND                       | "     | 0.004           | "     |

\* Detected below maximum contaminant level 2006-8.

\*\* Detected below maximum contaminant level in 2008.



CITY OF LANCASTER

2008 DRINKING WATER ANALYSES

ABBREVIATIONS

|                                 |                                    |
|---------------------------------|------------------------------------|
| C - CENTIGRADE DEGREE           | ND - NOT DETECTED                  |
| CM. - CENTIMETER                | NS - NO STANDARD                   |
| CU - COLOR UNIT                 | NT - NO TEST                       |
| HPC - HETEROTROPHIC PLATE COUNT | NTU - NEPHELOMETRIC TURBIDITY UNIT |
| MG/L. - MILLIGRAMS/LITER        | TT - TREATMENT TECHNIQUE *         |
| ML. - MILLILITER                | WL - WORKING LEVEL                 |
| pCi/L. - PICOCURIES/LITER       | < - LESS THAN                      |

MF/L - MILLION FIBERS PER LITER, LESS THAN 10 MICROMETERS LONG (ASBESTOS)

MICROMHO/CM. - MICROMOH PER CENTIMETER

95% NEGATIVE - TOTAL COLIFORM ABSENT IN 95% OF SAMPLES

PA DEP - PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

MCL - MAXIMUM CONTAMINANT LEVEL

SMCL - MAXIMUM CONTAMINANT LEVEL, Not Legally Enforceable

\* Coagulation, filtration & chlorination treatment.