

CITY OF LANCASTER
BUREAU OF WATER
CHEMISTRY & MICROBIOLOGY LABORATORIES



2016 DRINKING WATER ANALYSIS REPORT

TABLE OF CONTENTS

ANALYSIS	PAGE
INORGANIC	2
CHLORINE, TURBIDITY, MICROBIOLOGICAL TRIHALOMETHANES, HALOACETIC ACIDS	3
SECONDARY CONTAMINANTS, OTHER TESTS	4
VOLATILE ORGANIC CHEMICALS	5
SYNTHETIC ORGANIC CHEMICALS	6
ABBREVIATIONS	7

CITY OF LANCASTER 2016 DRINKING WATER ANALYSIS REPORT

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	"
BARIUM	ND	mg/L	ND	mg/L	2	mg/L
BROMIDE *	NT	"	ND	"	NS	- - -
BERYLLIUM	ND	"	ND	"	0.004	mg/L
CADMIUM	ND	"	ND	"	0.005	"
CHROMIUM	ND	"	ND	"	0.1	"
COPPER	0.03	"	0.02	"	1.3	"
CYANIDE, Free	ND	"	ND	"	0.2	"
FLUORIDE	0.80	"	0.70	"	2.0	"
LEAD **	0.006	"	0.006	"	0.015	"
MERCURY	ND	"	ND	"	0.002	"
NICKEL	ND	"	ND	"	0.1	"
NITRATE	4.5	"	1.4	"	10	"
SELENIUM	ND	"	ND	"	0.05	"
THALLIUM	ND	"	ND	"	0.002	"

* Testing for presence of Marcellus shale "frack" water in Susquehanna Treatment Plant raw water.

** Lead Levels from High Risk Homes in the Distribution System: 90th Percentile = 0.006 mg/L. Tested in 2016.

CITY OF LANCASTER 2016 DRINKING WATER ANALYSIS REPORT

PA DEPARTMENT OF ENVIRONMENTAL PROTECTION - PRIMARY CONTAMINANT LIST

CHLORINE

<u>ANALYSIS</u>	<u>CONESTOGA PLANT</u>		<u>OYSTER POINT RESERVOIR</u>		<u>DEP MCL</u>	
CHLORINE, Free Residual	1.1	mg/L	1.1	mg/L	4.0	mg/L

TURBIDITY

<u>ANALYSIS</u>	<u>CONESTOGA PLANT</u>		<u>SUSQUEHANNA PLANT</u>		<u>PA DEP MCL</u>	
TURBIDITY, Combined Effluent	0.01	NTU	0.01	NTU	0.3	NTU

MICROBIOLOGICAL

	<u>RESULT</u>	<u>DEP TT</u>
TOTAL COLIFORM*	2.8% POSITIVE**	<5% POSITIVES/MONTH

**September 2016, had 2.8% Positive Total Coliform samples, the rest of the year had 0%.

	<u>RESULT</u>	<u>PA DEP MCL</u>
ESCHERICHIA COLI*	0 POSITIVE	0 POSITIVES/MONTH

DISINFECTION BYPRODUCTS

	<u>RESULT</u>	<u>PA DEP MCL</u>
HALOACETIC ACIDS, TOTAL * (Highest 12 Month Locational Running Annual Average)	64 µg/L	60 µg/L
TRIHALOMETHANES, TOTAL * (Highest 12 Month Locational Running Annual Average)	79 µg/L	80 µg/L

* Results are from the distribution system

**CITY OF LANCASTER
2016 DRINKING WATER ANALYSIS REPORT**

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	0.05	mg/L	0.04	mg/L	0.05	mg/L
CHLORIDE	36.8	"	23.5	"	250	"
COLOR	1.1	CU	1.4	CU	15	CU
IRON, Total	0.01	mg/L	0.01	mg/L	0.3	mg/L
MANGANESE, Total	0.03	"	0.02	"	0.05	"
pH	7.5	SU	7.5	SU	6.5 - 8.5	SU
SULFATE	46	mg/L	40	mg/L	250	mg/L

OTHER TESTS

	<u>CONESTOGA PLANT</u>		<u>SUSQUEHANNA PLANT</u>		<u>PA DEP Range</u>	
ALKALINITY	153	mg/L	63	mg/L	NS	mg/L
HARDNESS, milligrams/liter	221	"	103	"	NS	"
HARDNESS, grains/gallon	13	GPG	6	GPG	NS	GPG
ORGANIC CARBON, Total	2.0	mg/L	1.6	mg/L	NS	mg/L
PHOSPHATE, Ortho	0.23	mg/L	0.21	mg/L	0.13 - 0.33	"
SPECIFIC CONDUCTANCE	621	µS/cm	351	µS/cm	NS	µS/cm

**CITY OF LANCASTER
2016 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 MCL</u>	
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	"

**CITY OF LANCASTER
2016 DRINKING WATER ANALYSIS REPORT**

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 MCL</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	ND	"	ND	"	0.003	"
BENZO(a)PYRENE	ND	"	ND	"	0.0002	"
CARBARYL	ND	"	ND	"	NS	"
CARBOFURAN	ND	"	ND	"	0.04	"
CHLORDANE	ND	"	ND	"	0.002	"
DALAPON	ND	"	ND	"	0.2	"
DIBROMOCHLOROPROPANE	ND	"	ND	"	0.0002	"
BIS(2-ETHYLHEXYL)ADIPHATE	ND	"	ND	"	0.4	"
BIS(2-ETHYLHEXYL)PHTHALATE	ND	"	ND	"	0.006	"
DICAMBA	ND	"	ND	"	0.2	"
DINOSEB	ND	"	ND	"	0.007	"
DIQUAT	ND	"	ND	"	0.02	"
ENDOTHALL	ND	"	ND	"	0.1	"
ENDRIN	ND	"	ND	"	0.0002	"
ETHYLENE DIBROMIDE (EDB)	ND	"	ND	"	0.00005	"
GLYCOPHOSPHATE	ND	"	ND	"	0.7	"
HEPTACHLOR	ND	"	ND	"	0.0004	"
HEPTACHLOR EPOXIDE	ND	"	ND	"	0.0002	"
HEXACHLOROCYCLOPENTADIENE	ND	"	ND	"	0.05	"
3-HYDROXYCARBOFURAN	ND	"	ND	"	NS	"

**CITY OF LANCASTER
2016 DRINKING WATER ANALYSIS REPORT**

ABBREVIATIONS

°C - DEGREES CENTIGRADE

cm - CENTIMETER

CU - COLOR UNIT

HPC - HETEROTROPHIC PLATE COUNT

mg/L - MILLIGRAMS/LITER

mL - MILLILITER

pCi/L - PICOCURIES/LITER

µg/L - MICROGRAMS/LITER

µS/cm - MICRO SEIMENS PER CENTIMETER

ND - NOT DETECTED

NS - NO STANDARD

NT - NO TEST

NTU - NEPHELOMETRIC TURBIDITY UNIT

TT - TREATMENT TECHNIQUE REQUIRMENT

WL - WORKING LEVEL

< - LESS THAN

PA DEP - PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

MCL - MAXIMUM CONTAMINANT LEVEL

SMCL - SECONDARY MAXIMUM CONTAMINANT LEVEL, Not Legally Enforceable