

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



2014 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.
BARIUM *	0.041	mg/L.	0.023	mg/L.	2	mg/L.
BROMIDE *	NT	"	ND	"	NS	- - -
BERYLLIUM	ND	mg/L.	ND	"	0.004	mg/L.
CADMIUM	ND	"	ND	"	0.005	"
CHROMIUM	0.00025	"	ND	"	0.1	"
COPPER	0.05	"	0.04	"	1.3	"
CYANIDE, Free	ND	"	ND	"	0.2	"
FLUORIDE	0.6	"	0.7	"	2.0	"
LEAD	0.005 ***	"	0.005 ***	"	0.015	"
MAGNESIUM, Total	17.8		7.8		NS	"
MERCURY	ND	"	ND	"	0.002	"
NICKEL	0.0013	"	0.0022	"	0.1	"
NITRATE	5.4	"	1.6	"	10	"
ORTHOPHOSPHATE	0.21	"	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	0 / milliliter	0 / milliliter	<500 / milliliter
GIARDIA LAMBLIA	ND	ND	TT

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

** Copper Action Level, High Risk Homes: 90th Percentile = 0.15 mg/l. Tested in 2013.

*** Lead Action Level, High Risk Homes: 90th Percentile = 0.005 mg/L. Tested in 2013.

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CHLORINE

<u>ANALYSIS</u>	<u>CONESTOGA PLANT</u>		<u>OYSTER POINT RESERVOIR</u>		<u>DEP MCL</u>	
CHLORINE, Free Residual	1.2	mg/L.	1.3	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 *	3.8	"	ND	"	50	"
Radium-226 *	ND	"	ND	"	Combined	"
Radium-228 *	ND	"	ND	"	Ra-226/228=5	"
Strontium-90 *	NT	"	NT	"	8	"

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

TRIHALOMETHANES

TRIHALOMETHANES, TOTAL (12 Month Running Annual Average)	43	micro-grams/L.	80	micro-grams/L.
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HALOACETIC ACIDS

HALOACETIC ACIDS, TOTAL (12 Month Running Annual Average)	33	micro-grams/L.	60	micro-grams/L.
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TURBIDITY

<u>ANALYSIS</u>	<u>CONESTOGA PLANT</u>		<u>SUSQUEHANNA PLANT</u>		<u>PA DEP MCL</u>	
TURBIDITY, Combined Effluent	0.02	NTU	0.02	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	0.01	mg/L.	0.02	mg/l.	0.05	mg/L.
CHLORIDE	30.7	"	22.9	"	250	"
COLOR	0.2	CU	0.3	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	7.4	"	7.4		7.2 - 7.8	
SILVER	ND	mg/L.	ND	mg/L.	0.05	mg/L.
SULFATE	48	"	30	"	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	144	"	60	"	NS	"
AMMONIA	----	"	----	"	NS	"
CALCIUM	155	"	75	"	NS	"
HARDNESS, milligrams/liter	230	"	112	"	NS	"
HARDNESS, grains/gallon	13		7		NS	
ORGANIC CARBON, Total	2.0	"	2.7	"	NS	"
PHOSPHATE, Ortho	0.2	"	0.2	"	0.13 - 0.33	"
SODIUM	19.5	"	11.8	"	NS	"
SPECIFIC CONDUCTANCE	585	micromoh/cm ²	324	micromoh/cm ²	NS	micromoh/cm ²

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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>	
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	7
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>	
	ND	mg/L.	ND	mg/L.	0.002	mg/L.
ALACHLOR	ND	"	ND	"	0.003	"
ALDICARB	ND	"	ND	"	0.004	"
ALDICARB SULFOXIDE	ND	"	ND	"	0.002	"
ALDICARB SULFONE	ND	"	ND	"	0.003	"
ATRAZINE	ND	"	ND	"	0.0002	"
BENZO(a)PYRENE	ND	"	ND	"	NS	"
CARBARYL	ND	"	ND	"	0.04	"
CARBOFURAN	ND	"	ND	"	0.002	"
CHLORDANE	ND	"	ND	"	0.2	"
DALAPON	ND	"	ND	"	0.0002	"
DIBROMOCHLOROPROPANE	ND	"	ND	"	0.4	"
BIS(2-ETHYLHEXYL)ADIPHATE	ND	"	ND	"	0.006	"
BIS(2-ETHYLHEXYL)PHTHALATE	ND	"	ND	"	0.2	"
DICAMBA	ND	"	ND	"	0.007	"
DINOSEB	ND	"	ND	"	0.02	"
DIQUAT	ND	"	ND	"	0.1	"
ENDOTHALL	ND	"	ND	"	0.0002	"
ENDRIN	ND	"	ND	"	0.00005	"
ETHYLENE DIBROMIDE (EDB)	ND	"	ND	"	0.7	7
GLYCOPHOSPHATE	ND	"	ND	"	0.0004	"
HEPTACHLOR	ND	"	ND	"	0.0002	"
HEPTACHLOR EPOXIDE	ND	"	ND	"	0.05	"
HEXACHLOROCYCLOPENTADIENE	ND	"	ND	"	NS	"
3-HYDROXYCARBOFURAN	ND	"	ND	"	0.0002	"
LINDANE	ND	"	ND	"	NS	"
METHOMYL	ND	"	ND	"	0.04	"
METHOXYCHLOR	ND	"	ND	"	0.2	"
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	ND	"	ND	"	0.004	"
2,4-D	ND	"	ND	"	0.07	"
2,4,5-TP (SILVEX)	ND	"	ND	"	0.05	"
2,3,7,8-TCDD (DIOXIN)	ND	"	ND	"	3x10 ⁻⁸	"

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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