

**The City of Winnipeg  
Water and Waste Department  
West End Water Pollution Control Center Quarterly Monitoring**

Sample Location:			WEWPCC Raw Sewage Grab	WEWPCC Final Effluent (Lagoon) Grab
Date Sampled:			24-Nov-2004	24-Nov-2004
Parameter	MDL	Units		
<b>Miscellaneous</b>				
Mercury (Hg)-Total	0.5	ng/L	10	3.4
Chromium, Hexavalent	0.001	mg/L	<0.001	<0.001
Toxaphene	0.0005	mg/L	<0.0005	<0.0005
Phenols (4AAP)	0.002	mg/L	0.052	0.003
Tetraethyllead (Pb)	0.0002	mg/L	<0.0002	<0.0002
Tributyl Tin	0.0002	mg/L	<0.0002	<0.0002
Total Oil and Grease	1	mg/L	50	<1
Trout Bioassay	Pass/Fail		NA	Fail
<b>Volatile Organics</b>				
1,1,1,2-Tetrachloroethane	0.5	µg/L	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5	µg/L	<0.5	<0.5
1,1,1-Trichloroethane	0.5	µg/L	<0.5	<0.5
1,1,2-Trichloroethane	0.5	µg/L	<0.5	<0.5
1,2-Dibromoethane	0.5	µg/L	<0.5	<0.5
1,1-Dichloroethane	0.5	µg/L	<0.5	<0.5
1,1-Dichloroethylene	0.5	µg/L	<0.5	<0.5
1,2-Dichlorobenzene	0.5	µg/L	<0.5	<0.5
1,2-Dichloroethane	0.5	µg/L	<0.5	<0.5
1,2-Dichloropropane	0.5	µg/L	<0.5	<0.5
1,3-Dichlorobenzene	0.5	µg/L	<0.5	<0.5
1,4-Dichlorobenzene	0.5	µg/L	0.7	<0.5
2-Chloroethylvinyl Ether	20	µg/L	<20	<20
2-Hexanone	20	µg/L	<20	<20
Acetone	20	µg/L	30	<20
Benzene	0.5	µg/L	<0.5	<0.5
Bromodichloromethane	0.5	µg/L	<0.5	<0.5
Bromoform	0.5	µg/L	<0.5	<0.5
Bromomethane	1	µg/L	<1	<1
Carbon Disulfide	0.5	µg/L	<0.5	<0.5
Carbon tetrachloride	0.5	µg/L	<0.5	<0.5
Chlorobenzene	0.5	µg/L	<0.5	<0.5
Chloroethane	1	µg/L	<1	<1
Chloroform	0.5	µg/L	4.7	0.6
Chloromethane	1	µg/L	<1	<1
cis-1,2-Dichloroethylene	0.5	µg/L	<0.5	<0.5
cis-1,3-Dichloropropene	0.5	µg/L	<0.5	<0.5
Dibromochloromethane	0.5	µg/L	<0.5	<0.5
Dichlorodifluoromethane	1	µg/L	<1	<1
Dichloromethane	0.5	µg/L	<0.5	<0.5
Ethyl Benzene	0.5	µg/L	<0.5	<0.5
m+p-Xylenes	1	µg/L	<1	<1
Methyl Ethyl Ketone	20	µg/L	<20	<20
Methyl Isobutyl Ketone	20	µg/L	<20	<20
MTBE	0.5	µg/L	<0.5	<0.5
o-Xylene	0.5	µg/L	<0.5	<0.5
Styrene	0.5	µg/L	<0.5	<0.5
Tetrachloroethylene	0.5	µg/L	<0.5	<0.5
Toluene	0.5	µg/L	4.9	<0.5
trans-1,2-Dichloroethylene	0.5	µg/L	<0.5	<0.5
trans-1,3-Dichloropropene	0.5	µg/L	<0.5	<0.5
Trichloroethylene	0.5	µg/L	<0.5	<0.5
Trichlorofluoromethane	1	µg/L	<1	<1
Trihalomethanes (total)	2	µg/L	4.7	<2.0
Vinyl chloride	0.5	µg/L	<0.5	<0.5
Xylenes (Total)	1.5	µg/L	<1.5	<1.5

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Parameter	MDL	Units		
<b>Target Compounds by GC/MS</b>				
Octachlorostyrene	0.0005	mg/L	<0.0005	<0.0005
4,4-Methylenebis(2-chloroaniline)	0.0005	mg/L	<0.0005	<0.0005
Dinitropyrene	0.02	mg/L	<0.02	<0.02
<b>Phenoxyacid Herbicides by GC/MS</b>				
2,4,5-TP	0.5	µg/L	<0.5	<0.5
MCPA	0.5	µg/L	<0.5	<0.5
2,4,5-T	0.5	µg/L	<0.5	<0.5
2,4-D	0.5	µg/L	<0.5	<0.5
Bromoxynil	0.5	µg/L	<0.5	<0.5
Dicamba	0.5	µg/L	<0.5	<0.5
Picloram	0.5	µg/L	<0.5	<0.5
<b>Pesticides, Organochlorine</b>				
op-DDT	0.1	µg/L	<0.1	<0.1
pp-DDD	0.1	µg/L	<0.1	<0.1
pp-DDE	0.1	µg/L	<0.1	<0.1
pp-DDT	0.1	µg/L	<0.1	<0.1
Heptachlor	0.1	µg/L	<0.1	<0.1
Heptachlor Epoxide	0.1	µg/L	<0.1	<0.1
a-chlordane	0.1	µg/L	<0.1	<0.1
g-chlordane	0.1	µg/L	<0.1	<0.1
Aldrin	0.02	µg/L	<0.02	<0.02
Dieldrin	0.02	µg/L	<0.02	<0.02
Lindane	0.1	µg/L	<0.1	<0.1
Methoxychlor	0.1	µg/L	<0.1	<0.1
alpha-BHC	0.1	µg/L	<0.1	<0.1
beta-BHC	0.1	µg/L	<0.1	<0.1
delta-BHC	0.1	µg/L	<0.1	<0.1
Oxychlordane	0.1	µg/L	<0.1	<0.1
Endrin	0.1	µg/L	<0.1	<0.1
beta-Endosulfan	0.1	µg/L	<0.1	<0.1
alpha-Endosulfan	0.1	µg/L	<0.1	<0.1
o,p-DDE	0.1	µg/L	<0.1	<0.1
Endrin Aldehyde	0.1	µg/L	<0.1	<0.1
Endosulfan Sulfate	0.1	µg/L	<0.1	<0.1
Mirex	0.1	µg/L	<0.1	<0.1
op-DDD	0.1	µg/L	<0.1	<0.1
<b>PCB</b>				
Aroclor 1016	0.0001	mg/L	<0.0001	<0.0001
Aroclor 1221	0.0001	mg/L	<0.0001	<0.0001
Aroclor 1232	0.0001	mg/L	<0.0001	<0.0001
Aroclor 1242	0.0001	mg/L	<0.0001	<0.0001
Aroclor 1248	0.0001	mg/L	<0.0001	<0.0001
Aroclor 1254	0.0001	mg/L	<0.0001	<0.0001
Aroclor 1260	0.0001	mg/L	<0.0001	<0.0001
Aroclor 1262	0.0001	mg/L	<0.0001	<0.0001
Aroclor 1268	0.0001	mg/L	<0.0001	<0.0001
Total PCBs	0.0001	mg/L	<0.0001	<0.0001

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Parameter	MDL	Units		
<b>Dioxins and Furans</b>				
2378 TeCDD	0.4	pg/L	<0.40	<0.40
12378 PeCDD	0.3/0.2*	pg/L	1.3	1.2
123478 HxCDD	0.4/0.3*	pg/L	<0.40	<0.30
123678 HxCDD	0.4/0.3*	pg/L	3.9	<0.30
123789 HxCDD	0.4/0.3*	pg/L	1.9	1.7
1234678 HpCDD	1/0.7*	pg/L	50	<0.70
OCDD	3.8/2.8*	pg/L	400	<2.8
Total TCDD	0.4	pg/L	<0.4	<0.4
Total PeCDD	0.3/0.2*	pg/L	4.5	<0.2
Total HxCDD	0.4/0.3*	pg/L	22.6	1.7
Total HpCDD	1/0.7*	pg/L	89.6	<0.7
Total PCDDs	3.8/2.8*	pg/L	513	1.7
2378 TeCDF	0.1/0.3*	pg/L	1.4	<0.30
12378 PeCDF	0.2/0.1*	pg/L	1.3	1.8
23478 PeCDF	0.2/0.1*	pg/L	0.8	1.2
123478 HxCDF	0.3/0.2*	pg/L	2.1	2
123678 HxCDF	0.3/0.2*	pg/L	1.6	1.1
123789 HxCDF	0.3/0.2*	pg/L	2.1	1
234678 HxCDF	0.4/0.3*	pg/L	<0.40	1.5
1234678 HpCDF	0.6/0.4*	pg/L	17	1.3
1234789 HpCDF	1.1/0.6*	pg/L	<1.1	<0.60
OCDF	3.1/2.3*	pg/L	38	<2.3
Total TCDF	0.1/0.3*	pg/L	2	<0.3
Total PeCDF	0.2/0.1*	pg/L	3.6	<0.1
Total HxCDF	0.4/0.3*	pg/L	12.1	2.2
Total HpCDF	1.1/0.6*	pg/L	45.7	<0.5
Total PCDFs	3.1/2.3*	pg/L	101.8	2.2
Total TEQ (ND=0)	0.1	pg/L	3.52	2.03
Total TEQ (ND=0.5DL)	0.1	pg/L	3.76	2.29
Total TEQ (ND=DL)	0.1	pg/L	4	2.5
<b>EPA 8270 Extractables</b>				
1,2,4-Trichlorobenzene	0.4	µg/L	<0.4	<0.4
1,2-Dichlorobenzene	0.4	µg/L	<0.4	<0.4
1,3-Dichlorobenzene	0.4	µg/L	<0.4	<0.4
1,4-Dichlorobenzene	0.4	µg/L	0.6	<0.4
1-Chloronaphthalene	4/0.4*	µg/L	<4	<0.4
1-Methylnaphthalene	0.4	µg/L	<0.4	<0.4
2,3,4,5-Tetrachlorophenol	0.5	µg/L	<0.5	<0.5
2,3,4,6-Tetrachlorophenol	0.5	µg/L	<0.5	<0.5
2,3,4-Trichlorophenol	0.5	µg/L	<0.5	<0.5
2,3,5,6-Tetrachlorophenol	0.5	µg/L	<0.5	<0.5
2,3,5-Trichlorophenol	0.5	µg/L	<0.5	<0.5
2,4,5-Trichlorophenol	0.5	µg/L	<0.5	<0.5
2,4,6-Trichlorophenol	0.5	µg/L	<0.5	<0.5
2,4-Dichlorophenol	0.5	µg/L	<0.5	<0.5
2,4-Dimethylphenol	0.5	µg/L	<0.5	<0.5
2,4-Dinitrophenol	0.5	µg/L	<0.5	<0.5
2,4-Dinitrotoluene	0.4	µg/L	<0.4	<0.4
2,6-Dichlorophenol	0.5	µg/L	<0.5	<0.5
2,6-Dinitrotoluene	0.4	µg/L	<0.4	<0.4
2-Chloronaphthalene	4/0.4*	µg/L	<4	<0.4
2-Chlorophenol	0.5	µg/L	<0.5	<0.5
2-Methylnaphthalene	0.4	µg/L	<0.4	<0.4
2-Methylphenol	0.5	µg/L	<0.5	<0.5
2-Nitrophenol	0.5	µg/L	<0.5	<0.5
3,3'-Dichlorobenzidine	0.4	µg/L	<0.4	<0.4
3&4-Methylphenol	0.5	µg/L	66.9	<0.5

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Parameter	MDL	Units		
<b>EPA 8270 Extractables</b>				
4,6-Dinitro-2-methylphenol	2	µg/L	<2	<2
4-Bromophenyl phenyl ether	0.4	µg/L	<0.4	<0.4
4-Chloro-3-methylphenol	0.5	µg/L	<0.5	<0.5
4-Chlorophenyl phenyl ether	0.4	µg/L	<0.4	<0.4
4-Nitrophenol	0.5	µg/L	<0.5	<0.5
5-Nitroacenaphthene	0.4	µg/L	<0.4	<0.4
Acenaphthene	0.2	µg/L	<0.2	<0.2
Acenaphylene	0.2	µg/L	<0.2	<0.2
Anthracene	0.2	µg/L	<0.2	<0.2
Benzo(a)anthracene	0.2	µg/L	<0.2	<0.2
Benzo(a)pyrene	0.01	µg/L	<0.01	<0.01
Benzo(b)fluoranthene	0.2	µg/L	<0.2	<0.2
Benzo(ghi)perylene	0.2	µg/L	<0.2	<0.2
Benzo(k)fluoranthene	0.2	µg/L	<0.2	<0.2
Biphenyl	0.4	µg/L	<0.4	<0.4
Bis(2-chloroethoxy)methane	0.4	µg/L	<0.4	<0.4
Bis(2-chloroethyl)ether	0.4	µg/L	<0.4	<0.4
Bis(2-chloroisopropyl)ether	0.4	µg/L	<0.4	<0.4
Bis(2-ethylhexyl)phthalate	0.4	µg/L	7.7	0.6
Butylbenzyl phthalate	0.4	µg/L	1	<0.4
Camphene	0.4	µg/L	<0.4	<0.4
Chrysene	0.2	µg/L	<0.2	<0.2
Dibenzo(a,h)anthracene	0.2	µg/L	<0.2	<0.2
Diethylphthalate	0.4	µg/L	6.2	<0.4
Dimethylphthalate	0.4	µg/L	<0.4	<0.4
Di-n-butylphthalate	1.1	µg/L	2.1	1.1
Di-n-octylphthalate	0.4	µg/L	1.4	<0.4
Diphenylamine	0.4	µg/L	<0.4	<0.4
Fluoranthene	2/0.2*	µg/L	<2	<0.2
Fluorene	0.2	µg/L	<0.2	<0.2
Hexachlorobenzene	0.4	µg/L	<0.4	<0.4
Hexachlorobutadiene	0.4	µg/L	<0.4	<0.4
Hexachlorocyclopentadiene	0.4	µg/L	<0.4	<0.4
Hexachloroethane	0.4	µg/L	<0.4	<0.4
Indeno(1,2,3-cd)pyrene	0.2	µg/L	<0.2	<0.2
Indole	0.4	µg/L	2.5	<0.4
Isophorone	0.4	µg/L	<0.4	<0.4
Naphthalene	0.2	µg/L	<0.2	<0.2
Nitrobenzene	0.4	µg/L	<0.4	<0.4
N-Nitrosodi-n-propylamine	0.4	µg/L	<0.4	<0.4
Pentachlorophenol	0.5	µg/L	<0.5	<0.5
Perylene	0.2	µg/L	<0.2	<0.2
Phenanthrene	0.2	µg/L	<0.2	<0.2
Phenol	0.5	µg/L	6.5	<0.5
Diphenyl ether	0.4	µg/L	<0.4	<0.4
Pyrene	2/0.2*	µg/L	<2	<0.2
Cresols (total)	1	µg/L	74	<1
<b>Nonylphenols and Nonylphenol Ethoxylates</b>				
Nonylphenols	0.01	mg/L	<0.01	<0.01
Nonylphenol monoethoxylates	0.05	mg/L	<0.05	<0.05
Nonylphenol diethoxylates	0.12	mg/L	<0.12	<0.12
Nonylphenol triethoxylates	0.2	mg/L	<0.20	<0.20

NOTES:

MDL- Method detection limit

mg/L- milligrams/Litre

µg/L- micrograms/Litre

ng/L- nanograms/Litre

pg/L- picograms/Litre

\*- two detection limits, matrix related

<- less than

NA- not analyzed