City of Ottawa

2012 Drinking Water Quality Test Results SUMMARY TABLE

Munster Hamlet Communal Well System

Physical, Microbiological, Chemical, & Radiological test results

2012 Water Production = 283 m^3/d

Notes:

* Guidelines for Canadian Drinking Water Quality (Health Canada) & Ontario Drinking Water Standards (Ministry of Environment)

** Calculated parameter based on individual analytes

mg/L = milligram per Litre = part per million (ppm)

µg/L = microgram per Litre = part per billion (ppb)

'nd' or '0' indicates that the substance was non-detectable (ie. below detection limit); detection limits are available upon request

-- Parameter not tested for

[1] reported value is an average of the maximum result observed in each quarter

[2] Health Canada Drinking Water Guideline only

[3] Ontario Drinking Water Quality Standard only

[4] results based on distribution system only

[5] Radiological screening level only - compliance with health standard is based on individual radionuclide concentrations

Physical Tests

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
Colour	TCU	nd	--	5.0
Turbidity	NTU	0.37	--	5.0
Temperature	degree C	10.3	--	15.0
Conductivity	m-mhos/cm	853	--	--

Microbiological Tests

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
Total Coliforms	cfu/100mL	0	0	--
E.coli	cfu/100mL	0	0	--
Heterotrophic Plate Count (HPC)	cfu/mL	nd	--	500

Chemical - General

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
pH	log_{10}	7.59	--	6.5 - 8.5
Alkalinity	mg/L $CaCO_3$	272	--	30 - 500
Total chlorine (free)[4]	mg/L	0.78	0.25 - 3.00	--
Bromide	mg/L	0.034	--	--
Bromate	mg/L	nd	0.01	--
Chlorite	mg/L	nd	--	--
Chlorate	mg/L	0.17	--	--
Chloride	mg/L	76.8	--	250
Fluoride	mg/L	0.64	1.5	--
Calcium	mg/L	57.8	--	--
Magnesium	mg/L	30.3	--	--
Potassium	mg/L	4.90	--	--
Sodium	mg/L	76.7	20	200
Sulphate	mg/L	74.0	--	500
Phosphates	mg/L	nd	--	--
Total Phosphorous	mg/L	nd	--	--
Cyanide	mg/L	nd	0.2	
Total Hardness**	mg/L $CaCO_3$	220.0	--	80 - 100
Calcium Hardness**	mg/L $CaCO_3$	144.3	--	--

City of Ottawa

2012 Drinking Water Quality Test Results SUMMARY TABLE

Munster Hamlet Communal Well System

Physical, Microbiological, Chemical, & Radiological test results

2012 Water Production = 283 m^3/d

Notes:

* Guidelines for Canadian Drinking Water Quality (Health Canada) & Ontario Drinking Water Standards (Ministry of Environment)

** Calculated parameter based on individual analytes

mg/L = milligram per Litre = part per million (ppm)

µg/L = microgram per Litre = part per billion (ppb)

'nd' or '0' indicates that the substance was non-detectable (ie. below detection limit); detection limits are available upon request

-- Parameter not tested for

[1] reported value is an average of the maximum result observed in each quarter

[2] Health Canada Drinking Water Guideline only

[3] Ontario Drinking Water Quality Standard only

[4] results based on distribution system only

[5] Radiological screening level only - compliance with health standard is based on individual radionuclide concentrations

Physical Tests

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
Magnesium Hardness**	mg/L $CaCO_3$	75.6	--	--
Ammonia	mg/L N	0.02	--	--
Total Kjeldahl Nitrogen	mg/L N	0.09	--	--
Organic Nitrogen**	mg/L N	0.07	--	0.15
UV254 Absorbace	Absorbance/cm	0.023	--	--
Nitrate	mg/L N	0.01	10.0	--
Nitrite	mg/L N	nd	1.0	--
Dissolved Organic Carbon	mg/L	1.4	--	5.0

Chemical - Inorganic Metals

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
Aluminum	mg/L	0.0009	--	0.100
Antimony	mg/L	nd	0.006	--
Arsenic	mg/L	0.0003	0.010[2]/ 0.025[3]	--
Barium	mg/L	0.0658	1.0	--
Beryllium	mg/L	nd	--	--
Bismuth	mg/L	nd	--	--
Boron	mg/L	0.3484	5.000	--
Cadmium	mg/L	nd	0.01	--
Chromium	mg/L	0.0003	0.05	--
Chromium VI	mg/L	0.00003	--	--
Cobalt	mg/L	0.0001	--	--
Copper	mg/L	0.0042	--	1.00
Iron	mg/L	0.3030	--	0.30
Lead	mg/L	0.0002	0.010	--
Manganese	mg/L	0.0071	--	0.05
Mercury	mg/L	nd	0.001	--
Molybdenum	mg/L	0.0009	--	--
Nickel	mg/L	0.0010	--	--
Selenium	mg/L	0.0002	0.010	--
Silver	mg/L	nd	--	--
Strontium	mg/L	3.370	--	--
Thallium	mg/L	nd	--	--
Tin	mg/L	0.0002	--	--
Titanium	mg/L	0.0006	--	--

City of Ottawa

2012 Drinking Water Quality Test Results SUMMARY TABLE

Munster Hamlet Communal Well System

Physical, Microbiological, Chemical, & Radiological test results

2012 Water Production = 283 m^3/d

Notes:

* Guidelines for Canadian Drinking Water Quality (Health Canada) & Ontario Drinking Water Standards (Ministry of Environment)

** Calculated parameter based on individual analytes

mg/L = milligram per Litre = part per million (ppm)

µg/L = microgram per Litre = part per billion (ppb)

'nd' or '0' indicates that the substance was non-detectable (ie. below detection limit); detection limits are available upon request

-- Parameter not tested for

[1] reported value is an average of the maximum result observed in each quarter

[2] Health Canada Drinking Water Guideline only

[3] Ontario Drinking Water Quality Standard only

[4] results based on distribution system only

[5] Radiological screening level only - compliance with health standard is based on individual radionuclide concentrations

Physical Tests

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
Tungsten	mg/L	nd	--	--
Uranium	mg/L	0.0003	0.02	--
Vanadium	mg/L	nd	--	--
Zinc	mg/L	0.0004	--	5.0
Zirconium	mg/L	0.0002	--	--

Radiological Parameters

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
Gross-Alpha Radioactivity	Bq/L	0.1	0.010[5]	--
Gross-Beta Radioactivity	Bq/L	0.2000	1.00[5]	--
Radon	Bq/L	nd	--	--
Tritium	Bq/L	nd	7000	--

Chemical - Disinfection By-Products

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
Chloroform	µg/L	1.8	--	--
Bromodichloromethane	µg/L	4.8	--	--
Dibromochloromethane	µg/L	10.9	--	--
Bromoform	µg/L	7.3	--	--
Total Trihalomethanes (TTHMs)[1]	µg/L	25.7	100.0	--
Monochloroacetic Acid	µg/L	nd	--	--
Monobromoacetic Acid	µg/L	1.6	--	--
Dichloroacetic Acid	µg/L	nd	--	--
Dibromoacetic Acid	µg/L	4.7	--	--
Trichloroacetic Acid	µg/L	nd	--	--
Bromochloroacetic Acid	µg/L	3.0	--	--
Bromodichloroacetic Acid	µg/L	2.4	--	--
Chlorodibromoacetic Acid	µg/L	nd	--	--
Tribromoacetic Acid	µg/L	nd	--	--
Total Haloacetic Acids (HAA5)	µg/L	6.7	80.0[2]	--
Total Haloacetic Acids (HAA9)	µg/L	13.0		

Chemical - Trace Organic Parameters

City of Ottawa

2012 Drinking Water Quality Test Results SUMMARY TABLE

Munster Hamlet Communal Well System

Physical, Microbiological, Chemical, & Radiological test results

2012 Water Production = 283 m^3/d

Notes:

* Guidelines for Canadian Drinking Water Quality (Health Canada) & Ontario Drinking Water Standards (Ministry of Environment)

** Calculated parameter based on individual analytes

mg/L = milligram per Litre = part per million (ppm)

µg/L = microgram per Litre = part per billion (ppb)

'nd' or '0' indicates that the substance was non-detectable (ie. below detection limit); detection limits are available upon request

-- Parameter not tested for

[1] reported value is an average of the maximum result observed in each quarter

[2] Health Canada Drinking Water Guideline only

[3] Ontario Drinking Water Quality Standard only

[4] results based on distribution system only

[5] Radiological screening level only - compliance with health standard is based on individual radionuclide concentrations

Physical Tests

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
1,1-Dichloroethylene	µg/L	nd	14	--
1,2-Dichlorobenzene	µg/L	nd	200	3
1,2-Dichloroethane	µg/L	nd	5	--
1,4-Dichlorobenzene	µg/L	nd	5	1
2,3,4,6-Tetrachlorophenol	µg/L	nd	100	1
2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T)	µg/L	nd	280	20
2,4,6-Trichlorophenol	µg/L	nd	5	2
2,4-Dichlorophenol	µg/L	nd	900	0.3
2,4-Dichlorophenoxyacetic Acid (2,4-D)	µg/L	nd	100	--
Alachlor	µg/L	nd	5	--
Aldicarb	µg/L	nd	9	--
Aldrin	µg/L	nd	--	--
Aldrin + Dieldrin	µg/L	nd	0.7	--
Atrazine	µg/L	nd	--	--
Atrazine + N-dealkylated metabolites	µg/L	nd	5	--
De-ethylated Atrazine	µg/L	nd	--	--
Azinphos-methyl	µg/L	nd	20	--
Beniocarb	µg/L	nd	40	--
Benzene	µg/L	nd	5	--
Benzo(a)pyrene	µg/L	nd	0.01	--
Bromoxynil	µg/L	nd	5	--
Carbaryl	µg/L	nd	90	--
Carbofuran	µg/L	nd	90	--
Carbon tetrachloride	µg/L	nd	5	--
Chlordane - alpha	µg/L	nd	--	--
Chlordane - gamma	µg/L	nd	--	--
Chlordane total	µg/L	nd	7	--
Chlorpyrifos	µg/L	nd	90	--
Cyanazine	µg/L	nd	10	--
DDD - para, para	µg/L	nd	--	--
DDE - para, para	µg/L	nd	--	--
DDT - ortho, para	µg/L	nd	--	--
DDT - para, para	µg/L	nd	--	--
DDT + metabolites	µg/L	nd	30	--

City of Ottawa

2012 Drinking Water Quality Test Results SUMMARY TABLE

Munster Hamlet Communal Well System

Physical, Microbiological, Chemical, & Radiological test results

2012 Water Production = 283 m^3/d

Notes:

* Guidelines for Canadian Drinking Water Quality (Health Canada) & Ontario Drinking Water Standards (Ministry of Environment)

** Calculated parameter based on individual analytes

mg/L = milligram per Litre = part per million (ppm)

µg/L = microgram per Litre = part per billion (ppb)

'nd' or '0' indicates that the substance was non-detectable (ie. below detection limit); detection limits are available upon request

-- Parameter not tested for

[1] reported value is an average of the maximum result observed in each quarter

[2] Health Canada Drinking Water Guideline only

[3] Ontario Drinking Water Quality Standard only

[4] results based on distribution system only

[5] Radiological screening level only - compliance with health standard is based on individual radionuclide concentrations

Physical Tests

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
Diazinon	µg/L	nd	20	--
Dicamba	µg/L	nd	120	--
Dichloromethane	µg/L	nd	50	--
Diclofop - methyl	µg/L	nd	9	--
Dieldrin	µg/L	nd	--	--
Dimethoate	µg/L	nd	20	--
Dinoseb	µg/L	nd	10	--
Diquat	µg/L	nd	70	--
Diuron	µg/L	nd	150	--
Ethylbenzene	µg/L	nd	--	2.4
Glyphosate	µg/L	nd	280	--
Heptachlor	µg/L	nd	--	--
Heptachlor + Heptachlor Epoxide	µg/L	nd	3	--
Heptachlor Epoxide	µg/L	nd	--	--
Hexachlorocyclohexane - gamma (Lindane)	µg/L	nd	4	--
Malathion	µg/L	nd	190	--
MCPA	µg/L	nd	100	--
Methoxychlor	µg/L	nd	900	--
Metalochlor	µg/L	nd	50	--
Metribuzin	µg/L	nd	80	--
Monochlorobenzene	µg/L	nd	80	30
Methyl-tert -Butyl Ether (MTBE)	µg/L	nd	--	15
Nitrilotriacetic Acid	µg/L	nd	400	--
N-Nitrosodimethylamine (NDMA)	µg/L	nd	0.040[2] / 0.009[3]	--
Oxychlordane	µg/L	nd	--	--
Paraquat	µg/L	nd	10	--
Parathion	µg/L	nd	50	--
Pentachlorophenol	µg/L	nd	60	30
Phorate	µg/L	nd	2	--
Picloram	µg/L	nd	190	--
Polychlorinated Biphenyls (PCBs)	µg/L	nd	3	--
Prometryne	µg/L	nd	1	--
Simazine	µg/L	nd	10	--
Temephos	µg/L	nd	280	--
Terbufos	µg/L	nd	1	--
Tetrachloroethylene	µg/L	nd	30	--

City of Ottawa

2012 Drinking Water Quality Test Results SUMMARY TABLE

Munster Hamlet Communal Well System

Physical, Microbiological, Chemical, & Radiological test results

2012 Water Production = 283 m^3/d

Notes:

* Guidelines for Canadian Drinking Water Quality (Health Canada) & Ontario Drinking Water Standards (Ministry of Environment)

** Calculated parameter based on individual analytes

mg/L = milligram per Litre = part per million (ppm)

µg/L = microgram per Litre = part per billion (ppb)

'nd' or '0' indicates that the substance was non-detectable (ie. below detection limit); detection limits are available upon request

-- Parameter not tested for

[1] reported value is an average of the maximum result observed in each quarter

[2] Health Canada Drinking Water Guideline only

[3] Ontario Drinking Water Quality Standard only

[4] results based on distribution system only

[5] Radiological screening level only - compliance with health standard is based on individual radionuclide concentrations

Physical Tests

Parameter	Unit of measure	Munster Treated Water (average)	Health-based Drinking Water Guideline*	Aesthetic or Operational Guideline*
Toluene	µg/L	nd	--	24
Triallate	µg/L	nd	230	--
Trichloroethylene	µg/L	nd	5	--
Trifluralin	µg/L	nd	45	--
Vinyl Chloride	µg/L	nd	2	--
Xylene - meta & para	µg/L	nd	--	--
Xylene - ortho	µg/L	nd	--	--
Xylene - total	µg/L	nd		300