EXECUTIVE SUMMARIES

REPORT FOR 1993, 1994 AND 1995

DRINKING WATER SURVEILLANCE PROGRAM

ONTARIO MINISTRY OF ENVIRONMENT

AND ENERGY

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EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

AJAX WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Ajax water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. Sulphur dioxide is added for dechlorination. This plant has a design capacity of 55 x 1000 m^3/day. The Ajax water treatment plant serves a population of approximately 105,500.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

From 1993 to 1995, a total of 4,878 tests were performed in 12 sample events from the Ajax water treatment plant.

No known health related guidelines were exceeded.

The Ajax water treatment plant, for the sample years 1993, 1994 and 1995 generally produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ALEXANDRIA WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Alexandria water treatment plant is a conventional treatment plant which treats water from Mill lake, part of the Gary Lake system. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Powder activated carbon is added for taste and odour control. This plant has a design capacity of 8.1 x 1000 m^3/day. The Alexandria water treatment plant serves a population of approximately 3,600.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,422 tests were performed in 17 sample events from the Alexandria water treatment plant.

No known health related guidelines were exceeded.

The persistent finding of aluminum levels above the ODWO operational guideline of 100 ug/L in the treated and distributed water would indicate that the treatment process should be optimized.

The Alexandria water treatment plant, for the sample years 1993, 1994 and 1995 produced water of acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ALVINSTON WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on

municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Alvinston water treatment plant is a conventional treatment plant which treats water from the Sydenham River. The process consists of coagulation, flocculation, clarification (upflow solids contact clarifier), filtration, post pH adjustment and disinfection. This plant has a design capacity of 0.755 x 1000 m^3/day. The Alvinston water treatment plant serves a population of approximately 700.

Raw and treated water at the plant and at one location in the distribution system was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,515 tests were performed in 21 sample events from the Alvinston water treatment plant.

Total nitrate levels were found above the ODWO Maximum Acceptable Concentration of 10.0 mg/L in 2 treated and distributed water samples. The District Officer was notified.

No other known health related guidelines were exceeded.

The detection of positive levels of atrazine, dicamba and traces of other pesticides at the Alvinston water treatment plant indicates that the raw water source is influenced by agricultural activity.

These results are similar to those found in previous years.

The Alvinston water treatment plant, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

AMHERSTBURG WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Amherstburg water treatment plant is a conventional treatment plant which treats water from the Detroit river. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 9.0 x 1000 m^3/day. The Amherstburg water treatment plant serves a population of approximately 16,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for

the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,629 tests were performed in 22 sample events from the Amherstburg water treatment plant.

No known health related guidelines were exceeded.

The Amherstburg water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ATIKOKAN WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Atikokan water treatment plant, a direct filtration plant with ozone added to the raw water, treats water from the Atikokan River. The process consists of ozonation, coagulation, flocculation, filtration, pH adjustment, fluoridation and disinfection. This plant has a design capacity of 6.0 x 1000 m^3/day. The Atikokan water treatment plant serves a population of approximately 4,000.

With the addition of sedimentation (settling) tanks in the summer of 1995, the Atikokan water treatment plant is now operating as a conventional treatment plant.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 9,525 tests were performed in 25 sample events from the Atikokan water treatment plant.

Total trihalomethanes were detected above the ODWO Maximum Acceptable Concentration of 350 ug/L in 2 treated and distributed water samples. The District Officer was notified.

No other known health related guidelines were exceeded.

The change to conventional treatment, in the summer of 1995, allowed for more efficient removal of natural organics from the water and substantially decreased the levels of trihalomethanes and other disinfection by-products.

The Atikokan water treatment plant, for the sample years 1993, 1994 and 1995, produced water of adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

AURORA WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

Aurora is located in the Regional Municipality of York and has a groundwater source for its drinking water supply. Four wells serve the town of Aurora and pump water from the Holland River aquifer at a depth of 30 meters. Two wells, and a stand-by well for summer use, pump water to a reservoir where it is treated with sodium silicate and chlorine for iron sequestering and disinfection. Another well feeds directly into the distribution after similar treatment. The capacity of the system is 19.0 x 1000 m3/day and serves a population of 27,000.

Water at three wells and at one location in the distribution system was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,566 tests were performed in 13 sample events from the Aurora well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Aurora well supply, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BARRIE WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Barrie well supply is a groundwater source containing 15 wells in several aquifers. The only treatment provided is the addition of sodium silicate for iron sequestering and chlorine for disinfection. The combined system has a maximum pumping capacity of 67.5 x 1000 m^3/day. The Barrie well supply serves a population of approximately 55,000.

Raw water from 15 wells, treated water from 4 reservoirs and elevated tanks, and one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 14,395 tests were performed in 20 sample events from the Barrie well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The detection of specific volatile organic contaminants at one well should be noted. The concentrations are increasing each year indicating that this well should be monitored carefully.

The Barrie well supply, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BEARDMORE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Beardmore water treatment plant is a package plant which uses conventional treatment and treats water from the Blackwater River. The process consists of coagulation, flocculation, sedimentation with the aid of tube settlers, filtration, alkalinity adjustment, corrosion control and disinfection. This plant has a design capacity of 1.3 x 1000 m^3/day. The Beardmore water treatment plant serves a population of approximately 500.

Raw and treated water at the plant and at one location in the distribution system was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,753 tests were performed in 22 sample events from the Beardmore water treatment plant.

No known health related guidelines were exceeded.

The Beardmore water treatment plant, for the sample years 1993, 1994 and 1995, generally produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BEAVERTON WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Beaverton water treatment plant is a direct filtration plant which treats water from Lake Simcoe. The process consists of coagulation, flocculation, filtration, and disinfection. This plant has a rated capacity of 7.3 x 1000 m^3/day. The Beaverton water treatment plant serves a population of approximately 3,300.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,462 tests were performed in 13 sample events from the Beaverton water treatment plant.

Lead exceeded the ODWO maximum acceptable concentration of 10 ug/L in one treated water sample. The District Officer was notified. Inadequate flushing may have contributed to the elevated lead level. Subsequent samples showed the lead level to be well below the guideline.

No other known health related guidelines were exceeded.

The Beaverton water treatment plant, for the sample years 1993, 1994 and 1995 generally produced water of an adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BELLE RIVER WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Belle River water treatment plant is a conventional treatment plant which treats water from Lake St. Clair. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. Powder activated carbon is added for taste and odour control when required. This plant has a design capacity of 18.0 x 1000 m^3/day. The Belle River water treatment plant serves a population of approximately 13,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for

the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,408 tests were performed in 24 sample events from the Belle River water treatment plant.

N-Nitrosodimethylamine (NDMA) exceeded the Ontario Drinking Water Objective (ODWO) Interim Maximum Acceptable Concentration (IMAC) of 0.009 ug/L in 4 treated and distributed water samples. The District Officer was notified. The use of a particular blend of coagulant and polymer is suspected to have formed NDMA in the treatment process. It is recommended that this product no longer be used.[(1)]

No other known health related guidelines were exceeded.

The Belle River water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BELLEVILLE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Belleville water treatment plant is a conventional treatment plant which treats water from the Bay of Quinte. The process consists of microstrainers, coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12^{o}C. This plant has a rated capacity of 54.6 x 1000 m^3/day. The Belleville water treatment plant serves a population of approximately 36,800.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,700 tests were performed in 17 sample events from the Belleville water treatment plant.

No known health related guidelines were exceeded.

The Belleville water treatment plant, for the sample years 1993, 1994 and 1995 generally produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BLEZARD VALLEY WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Blezard Valley well supply is a groundwater with 9 wells serving a large area outside of Sudbury. The communities include Hanmer, Chelmsford, Val Caron, Azilda, Blezard Valley and Val Therese. Chlorine is added at each well for disinfection and the water is fluoridated. The Blezard Valley system serves a population of 20,000.

Pretreated water at nine wells and treated water at one location in the distribution system were sampled, at least once each year, for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,276 tests were performed in 11 sample events from the Blezard Valley well supply.

Fluoride levels were above the ODWO Maximum Acceptable Concentration of 1.5 mg/L in 2 distributed water samples. The District Officer was notified. The treatment process for fluoride addition should be reviewed.

No other known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Blezard Valley well supply, for the sample years 1993, 1994 and 1995, produced water of a good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BOWMANVILLE WATER TREATMENT PLANT

1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Bowmanville water treatment plant, located in the Regional Municipality of Durham, is a direct filtration plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, filtration, disinfection and fluoridation. This plant has a design capacity of 36.4 x 1000 m^3/day. The Bowmanville water treatment plant serves a population of approximately

21,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

In 1995, a total of 1,469 tests were performed in 5 sample events from the Bowmanville water treatment plant.

No known health related guidelines were exceeded.

The Bowmanville water treatment plant, for the sample year 1995 generally produced water of good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BRACEBRIDGE WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Bracebridge water supply system had two sources, a water treatment plant which partially treated water from Lake Muskoka and a spring supply. At the plant, the treatment process consisted only of pH adjustment and disinfection. This plant has a design capacity of 8.4 x 1000 m^3/day. Disinfection and pH adjustment are also practised at the spring which supplies 10% of the water used in the system. The Bracebridge water supply system serves a population of approximately 7,000.

In the summer of 1995, a new water treatment plant, designed for full treatment and located at Kirby Beach on Lake Muskoka, was commissioned. The process consists of pretreatment tanks for chemical addition, coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon can be added for taste and odour control and both pre- and post- alkalinity adjustment are used. The Bracebridge (Kirby Beach) water treatment plant has a design capacity of 59.0 x 1000 m^3/day and serves a population of approximately 7,000.

The old plant and the spring supply were taken out of service when the new facility started production in the summer of 1995.

Raw and treated water at the old plant, the spring, the new Kirby Beach facility and two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,758 tests were performed in 17 sample events from the old Bracebridge water treatment plant and from the Bracebridge Leader Spring. In 1995, a total of 1,588 tests were performed in 5 sample events from the Bracebridge (Kirby Beach) water treatment plant.

No known health related guidelines were exceeded.

The old Bracebridge water treatment plant and Bracebridge Leader Spring, for the sample years 1993, 1994 and part of 1995, produced good quality water and this was maintained in the distribution system. The new Bracebridge (Kirby Beach) water treatment plant, for the limited sampling in 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BRANTFORD WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Brantford water treatment plant is a conventional treatment plant which treats water from the Grand River via the Homedale Canal. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Ammonia is added to the disinfection process to convert the free chlorine into a combined (chloramine) residual. Sulphur dioxide is used to dechlorinate. Powder activated carbon is added for taste and odour control when required. This plant has a rated capacity of 104 x 1000 m^3/day. The Brantford water treatment plant serves a population of approximately 75,000.

Raw and treated water at the plant and at six locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,417 tests were performed in 21 sample events from the Brantford water treatment plant.

No known health related guidelines were exceeded.

The detection of atrazine and traces of other pesticides at the Brantford water treatment plant indicates that the raw water source is influenced by agricultural activity.

The results were similar to those reported in previous years.

The Brantford water treatment plant, for the sample years 1993, 1994 and 1995, produced water of acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BROCKVILLE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Brockville water treatment plant is a direct filtration plant which treats water from the St. Lawrence River. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. This plant has a design capacity of 40.7 x 1000 m^3/day. The Brockville water treatment plant serves a population of approximately 21,200.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,388 tests were performed in 13 sample events from the Brockville water treatment plant.

Fluoride exceeded the ODWO Maximum Acceptable Concentration of 1.5 mg/L in 2 of 23 treated and distributed water samples. The District Officer was notified. The treatment process for fluoride addition should be reviewed.

No other known health related guidelines were exceeded.

The Brockville water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

BURLINGTON WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Burlington water treatment plant is a direct filtration plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra control when the raw water temperature is above 12°C. This plant has a design capacity of 181.6 x 1000 m^3/day. The Burlington water treatment plant serves a population of approximately 130,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,302 tests were performed in 13 sample events from the Burlington water treatment plant.

Lead exceeded the ODWO Maximum Acceptable Concentration of 10 ug/L in 1 of 24 treated and distributed water samples. The District Officer was notified. Inadequate flushing may have contributed to the elevated lead level. Subsequent samples showed lead levels to be well below the guideline.

No other known health related guidelines were exceeded.

The Burlington water treatment plant, for the sample years 1993, 1994 and 1995 generally produced water of adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

CAMBRIDGE WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Cambridge well supply is groundwater containing at least 26 wells, in numerous aquifers, servicing a large geographical area. DWSP samples 12 wells and 3 reservoirs from Middleton St, the Turnbull system, St Andrews system, the Preston well field, the Rahman system, the Shantz system and other individual system wells. The treatment process includes iron sequestering, used at 2 wells, and disinfection at all entry points to the distribution. The combined system has a maximum pumping capacity of 63 x 1000 m^3/day and is operated by the Regional Municipality of Kitchener Waterloo. The Cambridge well supply serves a population of approximately 77,800.

Raw water from Middleton Street G1, G2; the Turnbull system G8, G9, G17; the St. Andrews system G3; the Preston well field P9, P10, P11; the Rahman well system p15; the Shantz system P6; a system well H4; treated water from 3 reservoirs and 1 treated well were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,357 tests were performed in 16 sample events from the Cambridge well supply.

Field turbidity was above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 1 treated water sample. The District Officer was notified.

No other known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The detection of some volatile organic compounds at positive and trace levels in specific wells and reservoirs is consistent with results reported in previous years.

Due to the many wells supplying this water system and the number of locations sampled by DWSP, this report does not provide a complete picture of the drinking water quality.

The Cambridge well supply, for the sample years 1993, 1994 and 1995 produced water of acceptable quality. No samples were taken in the distribution system for this sampling period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

CAPREOL WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Capreol well supply is a groundwater source consisting of two wells which pump into the distribution and to a storage tower. The only treatment is disinfection. One well from the Blezard Valley system provides additional capacity in the summer months. The Capreol well supply serves a population of approximately 3,600.

Pretreated water from two wells and one location in the distribution system was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 2,498 tests were performed in 10 sample events from the Capreol well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Capreol well supply, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

CASSELMAN WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Casselman water treatment plant is a conventional treatment plant which treats water from the South Nation River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment, taste and odour control and disinfection. This plant has a rated capacity of 0.69 x 1000 m^3/day. The Casselman water treatment plant serves a population of approximately 2,200.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,594 tests were performed in 29 sample events from the Casselman water treatment plant.

No known health related guidelines were exceeded.

The presence of atrazine, dicamba and other pesticides at the Casselman water treatment plant indicates that this raw water source is influenced by agricultural activity.

The results were similar to those reported in previous years.

The Casselman water treatment plant, for the sample years 1993, 1994 and 1995 produced water of acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

CAYUGA WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Cayuga water treatment plant is a conventional treatment plant which treats water from the Grand River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration (using pressure filters) and disinfection. This plant has a rated capacity of 1.1 x 1000 m^3/day. The Cayuga water treatment plant serves a population of approximately 1,520.

The Cayuga water treatment plant was taken out of service in February 1995. The Regional Municipality of Hamilton-Wentworth now supplies Cayuga.

Raw and treated water at the plant were sampled for the presence of approximately 190

bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 3,957 tests were performed in 14 sample events from the Cayuga water treatment plant.

Field turbidity levels were above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 1 treated water sample. The District Officer was notified.

No other known health related guidelines were exceeded in the samples taken by DWSP.

The detection of atrazine and traces of other pesticides at the Cayuga water treatment plant indicates that the raw water source is influenced by agricultural activity.

The Cayuga water treatment plant, for the sample years 1993, 1994 and 1995, produced water of adequate quality. No samples were taken in the distribution system for this sampling period.

The Cayuga water treatment plant was taken out of service in February 1995 and Cayuga is now served by the Regional Municipality of Hamilton-Wentworth.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

CHAPLEAU WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Chapleau water treatment plant is a conventional treatment plant which treats water from the Chapleau River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment and disinfection. Ammonia was used in the disinfection process to convert free chlorine to a combined (chloramine) residual. This plant has a design capacity of 5.4 x 1000 m^3/day. The Chapleau water treatment plant serves a population of approximately 2,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,833 tests were performed in 15 sample events from the Chapleau water treatment plant.

No known health related guidelines were exceeded.

The Chapleau water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water but this quality deteriorated in the distribution system. This is evidenced by the high colour, turbidity and iron levels found in the free-flowing samples taken in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

CHARLOTTENBURGH WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Charlottenburgh water treatment plant is a conventional treatment plant which treats water from the St. Lawrence River. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection and also includes filtration through granular activated carbon (GAC) contactors. This plant has a rated capacity of 0.995 x 1000 m^3/day. The Charlottenburgh water treatment plant serves a population of approximately 500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,278 tests were performed in 16 sample events from the Charlottenburgh water treatment plant.

No known health related guidelines were exceeded.

The Charlottenburgh water treatment plant, for the sample years 1993, 1994 and 1995 produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

CHATHAM WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Chatham water treatment plant is a conventional treatment plant which treats water from Lake Erie. Raw water is chlorinated at the lowlift pumping station, located at the lakeshore, and is then pumped 9 kilometres to the water treatment plant in Chatham. The plant process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. This plant has a design capacity of 91.0 x 1000 m^3/day. The Chatham water treatment plant serves a population of approximately 42,000.

Chlorinated raw and treated water at the plant and at two locations in the distribution system

were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,659 tests were performed in 15 sample events from the Chatham water treatment plant.

Lead levels were found above the ODWO Maximum Acceptable Concentration of 10 ug/L in 1 treated water sample. The District Officer was notified. Inadequate flushing may have contributed to the elevated lead level. Subsequent samples showed lead levels to be well below the guideline.

No other known health related guidelines were exceeded.

The Chatham water treatment plant, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

COBOURG WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Cobourg water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. This plant has a design capacity of 36.3 x 1000 m^3/day. The Cobourg water treatment plant serves a population of approximately 15,000.

Water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,430 tests were performed in 13 sample events from the Cobourg water treatment plant.

No known health related guidelines were exceeded.

The Cobourg water treatment plant, for the sample years 1993, 1994 and 1995 produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

COCHENOUR WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Cochenour water treatment plant is a pumping station which pumps water from the Bruce Channel in Red Lake. It consists of a five chamber storage reservoir and four highlift pumps. Chlorine is added at the first chamber of the clear well for disinfection and treated water is pumped to the distribution. The plant has a design capacity of 1.06 x 1000 m^3/day. The Cochenour water treatment plant serves a population of approximately 530.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,725 tests were performed in 15 sample events from the Cochenour water treatment plant.

Laboratory turbidity levels were found above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 1 treated water sample. The District Officer was notified.

No other known health related guidelines were exceeded.

Elevated levels of organic carbon and colour and the resulting trihalomethanes in the treated water are due to the lack of physical-chemical treatment at this facility.

The Cochenour water treatment plant, for the sample years 1993, 1994 and 1995, produced water of adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

COLLINGWOOD WATER TREATMENT PLANT

1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Collingwood water treatment plant is a surface water plant which draws water from Georgian Bay. The only treatment process is the addition of chlorine for disinfection. The design capacity of the pumps is 45.0 x 1000 m^3/day. Collingwood water treatment plant serves a population of approximately 12,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1994 to 1995, a total of 3,545 tests were performed in 9 sample events from the Collingwood water treatment plant.

Field turbidity exceeded The ODWO Maximum Acceptable Concentration of 1 FTU in 3 treated water samples. The District Officer was notified.

No other known health related guidelines were exceeded.

The Collingwood water treatment plant, for the sample years 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

(**Note:** This report contains the water quality data for Collingwood from 1994 to 1995. It does not reflect the period in March 1996 when there was a reported outbreak of Cryptosporidiosis which was thought to be caused by the municipal water supply. A temporary membrane filtration system has been installed until a permanent treatment facility is constructed.)

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

CORNWALL WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Cornwall water treatment plant is a conventional treatment plant which treats water from the St. Lawrence River. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. This plant has a design capacity of 100 x 1000 m^3/day. The Cornwall water treatment plant serves a population of approximately 46,000.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,425 tests were performed in 13 sample events from the Cornwall water treatment plant.

Fluoride exceeded the ODWO Maximum Acceptable Concentration of 1.5 mg/L in 3 of 23 treated and distributed water samples. The treatment process for fluoride addition should be reviewed.

No other known health related guidelines were exceeded.

The Cornwall water treatment plant, for the sample years 1993, 1994 and 1995 generally

produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

DELHI WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Delhi water supply system includes two raw water sources. A conventional water treatment plant which treats water from the North Creek/Lehman Dam and a supplementary spring source. The plant uses a conventional treatment process consisting of coagulation, flocculation, sedimentation, filtration with pressure filters, fluoridation and disinfection. This plant has a rated capacity of 4.54 x 1000 m^3/day. The spring source is an artesian spring which feeds a pond and flows into two open air concrete settling tanks. The water is disinfected, fluoridated and is pumped directly into the distribution system. The Delhi spring facility supplies about 25% of the total demand of the system and has a maximum pumping capacity of 0.84 x 1000 m^3/day. Treated water from the two sources mix in the distribution. The Delhi water supply system serves a population of approximately 4,100.

The Delhi spring supply was taken out of service in October 1993 at the request of the local Medical Officer of Health. Subsequently, a groundwater source was developed 5 kilometers east of the town to replace the spring supply and a new well was brought into service in the summer of 1995. Treatment at this well consists of disinfection and fluoridation.

Raw and treated water at the plant, the spring, the well and two locations in the distribution system was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,271 tests were performed in 17 sample events from the Delhi water treatment plant, 973 tests were performed in 3 sample events from the Delhi spring supply and 729 tests were performed in 3 sample events from the Delhi well supply in 1995.

Fluoride exceeded the ODWO Maximum Acceptable Concentration of 1.5 mg/L in 1 treated water sample. The District Officer was notified. The treatment process for fluoride addition should be reviewed.

No other known health related guidelines were exceeded.

The persistent finding of aluminum levels above the ODWO operational guideline of 100 ug/L in the plant treated water would indicate that the treatment process should be optimized.

The detection of specific volatile organic compounds at positive levels in the spring supply is consistent with results reported in previous years.

The Delhi spring supply was taken out of service in October 1993.

The Delhi water treatment plant, for the sample years 1993, 1994 and 1995, produced water of an acceptable quality and this was maintained in the distribution system during the sampling period of 1993. No distribution samples were taken after 1993.

The Delhi well supply, for the limited sampling period in 1995 produced good quality water.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

DESERONTO WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Deseronto water treatment plant is a conventional treatment plant which treats water from the Bay of Quinte. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH control and disinfection. The process also contains granular activated carbon (GAC) contactors for taste and odour control. This plant has a rated capacity of 2.9 x 1000 m^3/day. The Deseronto water treatment plant serves a population of approximately 2,300.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,588 tests were performed in 17 sample events from the Deseronto water treatment plant.

No known health related guidelines were exceeded.

The Deseronto water treatment plant, for the sample years 1993, 1994 and 1995 produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

DORCHESTER WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Dorchester well supply is a groundwater source consisting of 5 wells. The Szucs well field, which contains 4 wells adjacent to a class one wetland, pumps water into a reservoir. The water is treated with sodium silicate for iron sequestering, disinfected and pumped into the distribution. There is also one well which is disinfected and pumped directly into the distribution. The maximum pumping capacity of the system is 3.023 x 1,000 m^3/day. The Dorchester well supply serves a population of 3,800.

Pretreated water from highlift well 1, raw water from wells 1, 2, 3, 4, in the Szucs well field, treated water from the well field reservoir and at two locations in the distribution system was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,848 tests were performed in 14 sample events from the Dorchester well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Dorchester well supply, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

DOWLING WELL SUPPLY

1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Dowling well supply is a groundwater source. The facility consists of two wells which pump into the distribution. Chlorine is added for disinfection. the Dowling well supply serves a population of approximately 3,000.

Pretreated water from two wells was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1994 to 1995, a total of 1,371 tests were performed in 6 sample events from the Dowling well supply.

No known health related guidelines were exceeded.

The Dowling well supply, for the sample years 1994 and 1995, generally produced water of good quality. No samples were taken in the distribution system during this monitoring period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

DRESDEN WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Dresden water treatment plant is a conventional treatment plant which treats water from the Sydenham River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. Powder activated carbon is applied for taste and odour control and pesticide reduction. This plant has a rated capacity of 2.3 x 1000 m^3/day. The Dresden water treatment plant serves a population of approximately 2,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 9,482 tests were performed in 31 sample events from the Dresden water treatment plant.

Nitrate exceeded the ODWO Maximum Acceptable Concentration of 10 mg/L in 1 treated and distributed water sample. The District Officer was notified.

N-Nitrosodimethylamine (NDMA) exceeded the ODWO Interim Maximum Acceptable Concentration of 0.009 ug/L in 1 treated water sample. The District Officer was notified.

No other known health related guidelines were exceeded.

The detection of atrazine and other pesticides at positive levels at the Dresden water treatment plant indicates that the raw water source is influenced by agricultural activity.

The results are similar to those reported in previous years.

The Dresden water treatment plant, for the sample years 1993, 1994 and 1995, produced water of acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

DRYDEN WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on

municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Dryden water treatment plant is a conventional treatment plant which treats water from Lake Wabigoon. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment, fluoridation and disinfection. This plant has a design capacity of 7.8 x 1000 m^3/day. The Dryden water treatment plant serves a population of approximately 6,500.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,108 tests were performed in 13 sample events from the Dryden water treatment plant.

No known health related guidelines were exceeded.

The Dryden water treatment plant, for the sample years 1993, 1994 and 1995 produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

DUNNVILLE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Dunnville industrial lowlift pumping station is situated on the shore of Lake Erie at the mouth of the Grand River. Raw water from Lake Erie is pumped through microstrainers, is disinfected and delivers water to industries in Port Maitland and the Dunnville water treatment plant. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. This pumping station has a design capacity of 26.4 x 1000 m^3/day.

The Dunnville water treatment plant is a conventional treatment plant which treats chlorinated raw water pumped 7 Km from the Dunnville industrial lowlift pumping station to the town of Dunnville. The treatment process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. This plant has a design capacity of 14.5 x 1000 m^3/day. The Dunnville water treatment plant serves a population of approximately 11,300.

Raw water from the industrial lowlift pumping station, chlorinated raw water entering the plant and treated water were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 1,646 tests were performed in 12 sample events from the Dunnville industrial lowlift pumping station and a total of 3,316 tests were performed in 12 sample events from the Dunnville water treatment plant.

No known health related guidelines were exceeded.

The Dunnville water treatment plant, for the sample years 1993, 1994 and 1995, generally produced good quality. No samples were taken in the distribution system for this sampling period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

EAR FALLS WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Ear Falls water treatment plant is a conventional treatment plant which treats water from the English River. The process consists of coagulation, flocculation, clarification (upflow clarifiers), filtration, pH adjustment, fluoridation and disinfection. This plant has a design capacity of 2.727 x 1000 m^3/day. The Ear Falls water treatment plant serves a population of approximately 1,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,981 tests were performed in 19 sample events from the Ear Falls water treatment plant.

Lead exceeded the ODWO Maximum Acceptable Concentration of 10 ug/L in 1 distributed water sample. The District Officer was notified. Inadequate flushing may have contributed to the elevated lead level. Household taps should be flushed, until the coolest water temperature is obtained, before water is used for consumption.

Fluoride exceeded the ODWO Maximum Acceptable Concentration of 1.5 mg/L in 1 treated water sample. The treatment process for fluoride addition should be reviewed.

No other known health related guidelines were exceeded.

The persistent finding of aluminum levels above the ODWO operational guideline of 100 ug/L in the treated and distributed water suggest that the treatment process should be optimized.

The Ear Falls water treatment plant, for the sample years 1993, 1994 and 1995, produced water of adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ELMIRA WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Elmira well supply is a groundwater source with wells E5A and E6 in the North Aquifer being sampled on DWSP. Wells in the South aquifer were taken out of service in 1989 and water is piped from St. Jacobs to supplement the demand. The treatment processes provided are fluoridation and disinfection. This system has a maximum pumping capacity of 21.4 x 1000 m^3/day. The Elmira well supply (North Aquifer) and piped water from St. Jacobs serves a population of approximately 7,100.

In the summer of 1994, the wells in the North Aquifer were taken out of service and Elmira is supplied by the Region of Kitchener-Waterloo Mannheim system.

Raw water from wells E5A, E6 and the treated reservoir, treated water from the water tower which is supplied by the Kitchener

Mannheim system and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,472 tests were performed in 12 sample events from the Elmira well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

In the summer of 1994, the wells in the North Aquifer were taken out of service and all of the demand is now supplied by the Regional Municipality of Kitchener-Waterloo's Mannheim system.

The Elmira well supply and piped water from the Kitchener Mannheim system, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

EMO WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Emo water treatment plant is a Degremont package plant which treats water from Rainy River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment and disinfection. This plant has a design capacity of 0.83 x 1000 m^3/day. The Emo water treatment plant serves a population of approximately 900.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,293 tests were performed in 25 sample events from the Emo water treatment plant.

Field turbidity was found above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 1 treated water sample. The District Officer was notified.

No other known health related guidelines were exceeded.

The persistent finding of aluminum levels above the ODWO operational guideline of 100 ug/L in the treated and distributed water would suggest that the treatment process should be optimized.

The detection of specific organic parameters at trace levels in many raw water samples is consistent with results reported in previous years and may be an indicator of pulp mill discharges.

The Emo water treatment plant, for the sample years 1993, 1994 and 1995, produced water of adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ERIN WELL SUPPLY

1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Erin well supply is a ground water source and consists of two wells approximately three kilometers apart. A third well was taken out of service in 1994 because of ground water contamination by a volatile organic compound from an industrial source. Each well pumps into its own reservoir where the water is disinfected with chlorine and pumps into the distribution and

to the water tower. The maximum pumping capacity is 2.40 x 1,000 m^3/day. The Erin well supply serves a population of 2,500

Raw and treated water from wells 7 and 8 and one location in the distribution were sampled for the presence of approximately 190 bacteriological, inorganic, and organic parameters.

In 1995, a total of 1,444 tests were performed in 3 sample events from the Erin well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many ground water supplies.

The Erin well supply, for the limited sampling period of 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

FORT ERIE (ROSEHILL) WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Fort Erie (Rosehill) water treatment plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Powder activated carbon is added for taste and odour control when required. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12^{o}C. This plant has a rated capacity of 50.0 x 1000 m^3/day. The Fort Erie (Rosehill) water treatment plant serves a population of approximately 21,700.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,326 tests were performed in 13 sample events from the Fort Erie (Rosehill) water treatment plant.

No known health related guidelines were exceeded.

The Fort Erie (Rosehill) water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality but deteriorated at one location in the distribution system by the elevated colour and iron levels detected in the flowing samples.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

FORT FRANCES WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Fort Frances water treatment plant is a conventional treatment plant which treats water from the Rainy River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment, fluoridation and disinfection. This plant has a design capacity of 16.9 x 1000 m^3/day. The Fort Frances water treatment plant serves a population of approximately 9,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,469 tests were performed in 15 sample events from the Fort Frances water treatment plant.

No known health related guidelines were exceeded.

The Fort Frances water treatment plant, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was

maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

GARSON WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Garson well supply is a groundwater source. The facility consists of three wells. Wells 1 and 3 are located in Garson and are adjacent to each other. Inco well 1 is located at the edge of town and is owned by Inco. All wells pump directly into the distribution. There is no treatment or disinfection. The Garson well supply serves a population of approximately 5,300.

Raw water at the three wells was sampled for the presence of approximately 190 bacteriological, inorganic, and organic parameters.

From 1993 to 1995, a total of 2,779 tests were performed in 10 sample events from the Garson well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Garson well supply, for the sample years 1993, 1994 and 1995, produced acceptable quality water. No distribution samples were taken during this monitoring period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

GODERICH WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Goderich water treatment plant is a conventional treatment plant which treats water from Lake Huron. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12^{o}C. Powder activated carbon is added for taste and odour control when required. This plant has a rated capacity of 12.0 x 1000 m^3/day. The Goderich water treatment plant serves a population of approximately 7,500.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,497 tests were performed in 15 sample events from the Goderich water treatment plant.

No known health related guidelines were exceeded.

The Goderich water treatment plant, for the sample years 1993, 1994 and 1995, generally produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

GRAVENHURST WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Gravenhurst water treatment plant is a direct filtration plant which treats water from Lake Muskoka. The process consists of coagulation, flocculation, filtration, both pre and post pH adjustment and disinfection. This plant has a rated capacity of 15.0 x 1000 m^3/day. The Gravenhurst water treatment plant serves a population of approximately 8,000.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,409 tests were performed in 13 sample events from the Gravenhurst water treatment plant.

No known health related guidelines were exceeded.

The persistent finding of aluminum levels above the ODWO operational guideline of 100 ug/L in the treated and distributed water would suggest that the treatment process should be optimized.

The Gravenhurst water treatment plant, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

GRIMSBY WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

For the period between 1993 and 1995, Grimsby was serviced by two water treatment facilities. The old treatment plant was in operation until July 1994 when a new treatment facility was commissioned. This report combines the results for the old and the new treatment facilities.

The old Grimsby water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12^{o}C. This plant had a rated capacity of 19.3 x 1000 m^3/day and was taken out of service in July 1994.

The new Grimsby water treatment plant is located several kilometers from the old plant and takes water from lake Ontario through a new intake structure. The treatment process consists of pretreatment tanks for chemical addition then conventional treatment including coagulation,

flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control when required. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°c. This plant has a rated capacity of 41.0 x 1000 m^3/day. The Grimsby water treatment plant serves a population of approximately 18,000 in Grimsby and 5,000 in Beamsville.

Raw and treated water at the old and the new plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,975 tests were performed in 15 sample events from the Grimsby water treatment plant.

No known health related guidelines were exceeded.

The Grimsby water treatment plants, both the old and the new facilities, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

GUELPH WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Guelph well supply is a groundwater source consisting of many wells in several aquifers. Raw water is disinfected before distribution. Iron sequestering is practised at some wells as necessary. Polyphosphate is added for corrosion control. This supply has a maximum pumping capacity of 90.4 x 1000 m^3/day. The Guelph well supply serves a population of approximately 90,000.

Raw water from 22 wells, treated water from 3 reservoirs (Woods pumping station, Paisley Well, and University of Guelph Well) and 2 locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 18,602 tests were performed in 21 sample events from the Guelph well supply.

No known health related guidelines were exceeded in the treated or distributed water samples.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

A number of volatile organic compounds were detected at positive levels in 5 wells. These

results are consistent with results from previous years.

The Guelph well supply for the sample years 1993, 1994 and 1995, produced water of acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

HALDIMAND/NORFOLK WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Haldimand/Norfolk water supply system is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12^{o}C. This plant has a rated capacity of 4.2 x 1000 m^3/day. The Haldimand/Norfolk water supply system serves a population of approximately 4,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,329 tests were performed in 13 sample events from the Haldimand/Norfolk water treatment plant.

No known health related guidelines were exceeded.

The Haldimand/Norfolk water supply system, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

HAMILTON WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Hamilton water supply system is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration,

fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine to a combined chlorine residual (chloramine). Sulphur dioxide is used for dechlorination. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. This plant has a design capacity of 909 x 1000 m^3/day. The Hamilton water supply system serves a population of approximately 411,500.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,359 tests were performed in 13 sample events from the Hamilton water treatment plant.

Lead exceeded the ODWO Maximum Acceptable Concentration of 10 ug/L in 2 distribution water samples at one location. The District Officer was notified. Inadequate flushing may have contributed to the elevated lead levels. Household taps should be flushed, until the coolest water temperature is obtained, before water is used for consumption.

No other known health related guidelines were exceeded.

The Hamilton water supply system, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

HARROW-COLCHESTER WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Harrow-Colchester water treatment plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, taste and odour control and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. This plant has a rated capacity of 10.2 x 1000 m^3/day. The Harrow-Colchester water supply system serves a population of approximately 5,900.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,376 tests were performed in 13 sample events from the Harrow-Colchester water treatment plant.

No known health related guidelines were exceeded.

The Harrow-Colchester water supply system, for the sample years 1993, 1994 and 1995, generally produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

HAWKESBURY WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Hawkesbury water treatment plant is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment, fluoridation and disinfection. This plant has a rated capacity of 12.3 x 1000 m^3/day. The Hawkesbury water treatment plant serves a population of approximately 9,700.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,175 tests were performed in 12 sample events from the Hawkesbury water treatment plant.

No known health related guidelines were exceeded.

The Hawkesbury water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

HUNTSVILLE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Huntsville water treatment plant is a conventional treatment plant which treats water from Fairy Lake. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Sodium carbonate is used to adjust the alkalinity and for pH

adjustment. This plant has a rated capacity of 9.0 x 1000 m^3/day. The Huntsville water treatment plant serves a population of approximately 6,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,751 tests were performed in 23 sample events from the Huntsville water treatment plant.

N-Nitrosodimethylamine (NDMA) exceeded the Ontario Drinking Water Objective (ODWO) Interim Maximum Acceptable Concentration (IMAC) of 0.009 ug/L in 2 treated water samples. The District Officer was notified. The use of a particular blend of coagulant and polymer is suspected to have formed NDMA in the treatment process. It is recommended that this product no longer be used.[(2)]

No other known health related guidelines were exceeded.

The Huntsville water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water but the quality deteriorated in the distribution system. This is evidenced by the high colour, turbidity and iron levels found in the free-flowing samples taken in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

INGERSOLL WELL SUPPLY

1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Ingersoll well supply is a groundwater source which consists of 7 bedrock wells drilled into the limestone strata that underlies the area. At each well, water is pumped through an aeration system to remove hydrogen sulphide then flows into individual reservoirs which provide contact time for the chlorine disinfection. Highlift pumps then pump the treated water into the distribution system and to the water tower. The maximum pumping capacity of the system is 25.000 x 1000 m^3/day. The Ingersoll well supply serves a population of approximately 10,000.

Raw and treated water from wells 2, 3, 5, 7, 8, 10, 11 and from one location in the distribution were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

In 1995, a total of 4,156 tests were performed in 4 sample events from the Ingersoll well supply.

Lab turbidity was detected above the ODWO Maximum Acceptable Concentration of 1.0 FTU in

8 of 14 treated water samples. The District Officer was notified.

No other known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Ingersoll well supply, for the sample year 1995, generally produced water of a good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

KENORA WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Kenora water treatment plant is a conventional treatment plant which treats water from Lake of the Woods. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, fluoridation, pH adjustment and disinfection. This plant has a rated capacity of 22.0 x 1000 m^3/day. The Kenora water treatment plant serves a population of approximately 16,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,222 tests were performed in 15 sample events from the Kenora water treatment plant.

No known health related guidelines were exceeded.

The Kenora water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

KINGSTON WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Kingston water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Sulphur dioxide is added to remove the excess chlorine from the disinfection process. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. This plant has a rated capacity of 118 x 1000 m^3/day. The Kingston water treatment plant serves a population of approximately 80,500.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,391 tests were performed in 13 sample events from the Kingston water treatment plant.

No known health related guidelines were exceeded.

The Kingston water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

KITCHENER (MANNHEIM) WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Kitchener (Mannheim) water treatment plant is a conventional treatment plant which treats water from the Grand River. Raw water is pumped 10 kilometres from the Grand River to the Mannheim treatment facility. The process consists of pre-ozonation, coagulation, flocculation, sedimentation, filtration (choice of dual media filters or granular activated carbon (GAC) filters) and disinfection. This is a newly constructed plant which commenced operation in the spring of 1992 and has a design capacity of 72 x 1000 m^3/day. The Kitchener (Mannheim) water treatment plant, together with the many wells in the Kitchener groundwater supply, serve a population of approximately 147,100.

Plant raw and treated water, the Mannheim reservoir, which contains a mixture of plant treated and groundwater from a nearby well field, and one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 13,216 tests were performed in 26 sample events from the Kitchener (Mannheim) water treatment plant.

No known health related guidelines were exceeded in the DWSP sapmles.

The presence of atrazine, dicamba and other pesticides detected in the raw water indicates that this raw water source is influenced by agricultural activity.

The Kitchener (Mannheim) water treatment plant, for the sample years 1993, 1994 and 1995, produced water of an acceptable quality and this was maintained in the distribution system.

(**Note:** This report does not address an outbreak of cryptosporidiosis which occurred in Kitchener during the spring of 1993 and was attributed to the drinking water supply. This disease is caused by a protozoan parasite Cryptosporidium and the symptoms include gastrointestinal cramps, diarrhea, vomiting and fever. As a precautionary measure, infiltration wells influenced by the Grand River were taken out of service. The outbreak was investigated by the Regional Municipality of Waterloo, the Medical Officer of Health and Regional staff of the Ministry of Environment and Energy.)

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

KITCHENER WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Kitchener well supply is a ground water source containing at least 30 wells in numerous aquifers serving a large geographical area. The system is operated by the Regional Municipality of Waterloo. The treatment process includes iron/manganese removal when required and disinfection provided at all entry points to the distribution. The Kitchener well supply has a maximum pumping capacity of 80.0 x 1000 m^3/day and together with the Mannheim water treatment plant serves a population of approximately 147,400.

Included in this report are the results of samples taken from 5 wells in rural areas of Wellesley and Woolwich Townships which surround the city of Kitchener.

The infiltration well system adjacent to the Grand River was taken out of service in May 1993.

Raw water at Greenbrook K2, K8; the Mannheim well system K50, K51; the Strange Street well system K10, K11, K12, K13, K17; the Parkway system K32, K30; the Grand River infiltration system K70, K71; a system well K18; rural wells at Wellesley EM2, WB1, WY5 and Woolwich C1, C2, treated water at 1 reservoir and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,450 tests were performed in 24 sample events from the Kitchener well supply.

No known health related guidelines were exceeded in the treated and distributed water samples.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many ground water sources.

The detection of some volatile organic compounds at positive and trace levels in specific wells and reservoirs is consistent with results reported in previous years.

Due to the many wells supplying this water system and the number of locations sampled by DWSP, this report does not provide a complete picture of the drinking water quality.

For the limited sampling of the rural wells in the townships of Wellesley and Woolwich, surrounding Kitchener, the water quality is acceptable.

The Kitchener well supply, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

(**Note:** This report does not address an outbreak of cryptosporidiosis which occurred in Kitchener during the spring of 1993 and was attributed to the drinking water supply. This disease is caused by a protozoan parasite Cryptosporidium and the symptoms include gastrointestinal cramps, diarrhea, vomiting and fever. As a precautionary measure, infiltration wells influenced by the Grand River were taken out of service. The outbreak was investigated by the Regional Municipality of Waterloo, the Medical Officer of Health and Regional staff of the Ministry of Environment and Energy.)

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

LINDSAY WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Lindsay water treatment plant is a conventional treatment plant which treats water from the Scugog River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment and disinfection. Chlorine dioxide is generated on site when required and activated silica is used as a coagulant aid. This plant has a design capacity of 22.7 x 1000 m^3/day. The Lindsay water treatment plant serves a population of approximately 15,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,636 tests were performed in 28 sample events from the Lindsay water treatment plant.

No known health related guidelines were exceeded.

The finding of positive levels of specific volatile organics in the summer months is consistent with previous years and may be attributed to recreational activity in the river.

The persistent finding of aluminum levels above the ODWO operational guideline of 100 ug/L in the treated and distributed water would suggest that the treatment process should be optimized.

The Lindsay water treatment plant, for the sample years 1993, 1994 and 1995, produced water of an adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

LONDON (LAKE HURON) WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The London (Lake Huron) water treatment plant located at Grand Bend, is a conventional treatment plant which treats water from Lake Huron. The process consists of coagulation, flocculation, sedimentation, filtration and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12ºC. Treated water from this plant is pumped to the city of London where it is fluoridated at the Arva reservoir prior to distribution. This plant has a design capacity of 145 x 1000 m^3/day. The London (Lake Huron) water supply system serves a population of approximately 303,000.

Raw and treated water at the plant, and treated water at the Arva reservoir were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,028 tests were performed in 13 sample events from the London (Lake Huron) water treatment plant.

No known health related guidelines were exceeded.

The London (Lake Huron) water supply system, for the sample years 1993, 1994 and 1995, produced good quality water. No samples were taken in the distribution system during this sampling period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

MADSEN WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on

municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Madsen water treatment plant is a pumping station which pumps water from Russet Lake. The only treatment provided is disinfection. It consists of a lowlift building at the lake where raw water is pumped up to a storage reservoir located on higher ground. Sodium hypochlorite is added at the inlet of the reservoir for disinfection and the treated water is pumped to the distribution. The plant has a design capacity of 0.87 x 1000 m^3/day. The Madsen water treatment plant serves a population of approximately 300.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,669 tests were performed in 15 sample events from the Madsen water treatment plant.

No known health related guidelines were exceeded.

High levels of organic carbon and colour and the resulting Trihalomethanes in the treated water are due to the lack of physical-chemical treatment at this facility.

The Madsen water treatment plant, for the sample years 1993, 1994 and 1995, produced water of an adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

MANITOUWADGE WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Manitouwadge well supply is a ground water source. Wells 1 and 2 are located at the reservoir. Wells 3, 4 and 5 are approximately one kilometre from the reservoir. Water from the these wells is pumped through a 250 mm diameter ductile iron main directly to the reservoir. The raw water from all wells is pumped through two parallel aeration towers in which the water cascades down the baffled towers to remove hydrogen sulphide gas. The water mixes in the reservoir and is disinfected with chlorine. This supply has a maximum pumping capacity of 13.2 x 1000 m^3/day. The Manitouwadge well supply serves a population of approximately 4,500.

Raw water from wells 1, 2, 3, 4, and 5, treated water from the reservoir and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,216 tests were performed in 14 sample events from the Manitouwadge well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many ground water sources.

The Manitouwadge well supply, for the sample years 1993, 1994 and 1995, produced water of a good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

MARATHON WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Marathon well supply is a ground water source consisting of 6 wells in several aquifers. Raw water from these wells is pumped directly into the distribution and a reservoir without treatment or disinfection. This plant has a maximum pumping capacity of 9.8 x 1000 m^3/day. The Marathon well supply serves a population of approximately 5,100.

Water from wells 3, 4, 5 and 6, the reservoir and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,883 tests were performed in 17 sample events from the Marathon well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Marathon well supply, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

MIDLAND WELL SUPPLY

1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Midland well supply consists of four groundwater systems which discharge separately into the distribution. The largest system has a network of 7 active wells which pump water into a long narrow reservoir called a flume. The other three systems, each containing one or two wells, are controlled by the level in the water tower and stand pipe in the distribution. All water entering the distribution is disinfected. The maximum pumping capacity is 23.1 x 1000 m^3/day. The Midland well supply serves a population of approximately 12,000.

Raw water from 12 wells, treated water from the flume reservoir and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

In 1995, a total of 4,072 tests were performed in 5 sample events from the Midland well supply.

No known health related guidelines were exceeded.

The presence of minerals and salts above aesthetic guidelines is characteristic of many groundwater sources.

The Midland well supply, for the sample year 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

MILTON WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Milton well supply consists of two ground water sources in separate aquifers. Three wells in the Kelso aquifer well field pump into a clear well and the mixed water, without disinfection, is pumped into the distribution. There are two wells in the Walkers Line aquifer well field. Raw water from these wells is pumped directly into the distribution system without treatment or disinfection. The combined system has a maximum pumping capacity of 28.2 x 1000 m^3/day. The Milton well supply serves a population of approximately 23,500.

Water at one well in Walkers Line aquifer, mixed water from the Kelso aquifer and two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 3,562 tests were performed in 12 sample events from the Milton

well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Milton well supply, for the sample years 1993, 1994 and 1995, produced adequate quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

MITCHELL'S BAY WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Mitchell's Bay water treatment plant is a package plant which uses conventional treatment and treats water from Lake St. Clair. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control. This plant has a design capacity of 1.09 x 1000 m^3/day. The Mitchell's Bay water treatment plant serves a population of approximately 400.

Raw and treated water at the plant were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 3,996 tests were performed in 15 sample events from the Mitchell's Bay water treatment plant.

Turbidity levels were found above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 2 treated water samples. These results were confirmed by the corresponding and more reliable field turbidity results. The District Officer was notified.

No other known health related guidelines were exceeded.

The Mitchell's Bay water treatment plant, for the sample years 1993 1994 and 1995, produced acceptable quality water. No samples were taken in the distribution system during this sample period.

The Mitchell's Bay water treatment plant was taken out of service in the summer of 1996. Municipal drinking water is now supplied by the City of Chatham.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

NAPANEE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Napanee water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12^{o}C. This plant has a design capacity of 12.7 x 1000 m^{3}/day. The Napanee water treatment plant serves a population of approximately 5,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,603 tests were performed in 13 sample events from the Napanee water treatment plant.

No known health related guidelines were exceeded.

The Napanee water treatment plant, for the sample years 1993, 1994 and 1995, generally produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

NEWMARKET WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

Newmarket is located in the Regional Municipality of York and has a ground water source. Water is taken from a major geological formation in Southern Ontario called the Oak Ridges Moraine. 6 wells are located throughout the town of Newmarket with an additional 2 wells each in the adjacent communities of Holland Landing and Queensville. Most wells are treated with sodium silicate for iron sequestering and chlorine for disinfection. They feed directly into the distribution or to an elevated storage tank. The capacity of the Newmarket system is 45.6 * 1000m3/day and serves a population of 51,000.

Water at the following wells: Holland Landing #1 and 2, Queensville #3 and 4, and Newmarket #1, 2, 13, 14, 15, and 16 and at one location in the distribution system were sampled for the

presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 9,570 tests were performed in 13 sample events from the Newmarket well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many ground water sources.

The Newmarket well supply, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

NIAGARA FALLS WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Niagara Falls water treatment plant is a conventional treatment plant which treats water from the Niagara River at the junction of the Welland River. The process consists of coagulation, flocculation, sedimentation, filtration and disinfection. Powder activated carbon is added for taste and odour control when required. The dual media (anthracite/sand) filters were replaced with granular activated carbon (GAC) in the summer of 1995.

Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12^{o}C. This plant has a rated capacity of 145 x 1000 m^3/day. The Niagara Falls water treatment plant serves a population of approximately 69,000.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic and organic parameters.

From 1993 to 1995, a total of 5,478 tests were performed in 13 sample events from the Niagara Falls water treatment plant.

No known health related guidelines were exceeded.

The Niagara Falls water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

NIPIGON WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Nipigon water treatment plant partially treats water from the Nipigon River. Raw water is pumped through sand filters and is then disinfected. No chemical coagulant is added. This plant has a design capacity of 3.7 x 1000 m^3/day. The Nipigon water treatment plant serves a population of approximately 2,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,522 tests were performed in 13 sample events from the Nipigon water treatment plant.

Field turbidity and lab turbidity exceeded the ODWO Maximum Acceptable Concentration of 1.0 FTU in 7 treated water samples. The District Officer was notified.

No other known health related guidelines were exceeded.

The Nipigon water treatment plant, for the sample years 1993, 1994 and 1995, produced water of an adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

NORTH BAY WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The North Bay water treatment plant is a pumping station which partially treats water from Trout Lake. The process consists of pH adjustment, fluoridation and disinfection. This plant has a rated capacity of 22.5 x 1000 m^3/day. The North Bay water treatment plant serves a population of approximately 50,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,163 tests were performed in 13 sample events from the North Bay water treatment plant.

No known health related guidelines were exceeded.

The North Bay water treatment plant, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

NORWICH WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The community of Norwich is in an agricultural area located in the Township of Norwich South in Oxford County in Southwest Ontario. The Norwich well supply is a groundwater system consisting of three wells. Two wells are adjacent to each other and pump into a clearwell where the water is disinfected, sodium silicate is added for iron removal and the water then feeds into the distribution. The third well is located at the base of the water tower and is also disinfected before it feeds into the distribution and the water tower. The maximum pumping capacity of the system is 2.533 x 1,000 m^3/day. The Norwich well supply serves a population of approximately 1,200.

Water at the 3 wells and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,238 tests were performed in 14 sample events from the Norwich well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Norwich well supply, for the sample years 1993, 1994 and 1995, produced water of an acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

OAKVILLE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities,

which supplied 73% of the population in Ontario.

The Oakville water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. Ammonia is added to the disinfection process to convert free chlorine to a combined (chloramine) residual and sulphur dioxide is added to remove the excess chlorine. This plant has a design capacity of 109 x 1000 m^3/day. The Oakville water treatment plant serves a population of approximately 83,200.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,344 tests were performed in 13 sample events from the Oakville water treatment plant.

No known health related guidelines were exceeded.

The Oakville water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ODESSA WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Odessa water treatment plant is a conventional treatment plant which treats water from Millhaven Creek. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. Granular activated carbon (GAC) contactors are part of the treatment process. This plant has a design capacity of 0.81 x 1000 m^3/day.The Odessa water treatment plant serves a population of approximately 900.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,667 tests were performed in 15 sample events from the Odessa water treatment plant.

Field turbidity exceeded the health related ODWO Maximum Acceptable Concentration of 1.0 FTU in one treated water sample. The District Officer was notified.

No other known health related guidelines were exceeded.

The Odessa water treatment plant, for the sample years 1993, 1994 and 1995, produced water of an acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

OHSWEKEN WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Ohsweken water treatment plant is a package plant which uses conventional treatment and treats water from the Grand River and is operated by the First Nations community of Ohsweken. The process consists of coagulation, flocculation, sedimentation, filtration and disinfection. An Ultra Violet (UV) irradiation unit was installed in December 1993 to prevent the formation of a compound N-Nitrosodimethylamine (NDMA) in the treated water during the winter months (see report ISBN 0 77778-3439-1). This plant has a design capacity of 1.04 x 1000 m^3/day. The Ohsweken water treatment plant serves a population of approximately 2,000.

Raw and treated water at the plant were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7140 tests were performed in 32 sample events from the Ohsweken water treatment plant.

N-Nitrosodimethylamine (NDMA) exceeded the Ontario Drinking Water Objective (ODWO) Interim Maximum Acceptable Concentration (IMAC) in 1 treated water sample. The District Officer was notified.

No other known health related guidelines were exceeded.

The presence of atrazine, dicamba and other pesticides at the Ohsweken water treatment plant indicates that this raw water source is affected by agricultural activity. These results were similar to those found in previous years.

The persistent finding of aluminum levels above the ODWO operational guideline of 100ug/L in the treated water would indicate that the treatment process should be optimized.

The Ohsweken water treatment plant, for the sample years 1993, 1994 and 1995, produced water of an acceptable quality. No samples were taken in the distribution system during this sampling period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ORANGEVILLE WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Orangeville well supply is a ground water source containing at least 10 wells which collect and pump water from several aquifers. DWSP samples 7 individual wells and a well field of 3 wells which feed into a reservoir. The treatment processes include iron and manganese removal, where required, polyphosphate addition for corrosion control and disinfection provided at all entry points to the distribution. The maximum pumping capacity of the system is 15.3 x 1000 m^3/day. The Orangeville well supply serves a population of approximately 19,000.

Raw water from wells 2, 3, 4, 5, 5A, 6, 7, 8A, 8B, 8C, treated water from the reservoir and one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 9,962 tests were performed in 13 sample events from the Orangeville well supply.

No known health related guidelines were exceeded.

The numerous mineral salts detected above aesthetic guidelines is characteristic of many ground water sources.

The detection of a volatile organic compound at positive levels in a specific well is consistent with results reported in previous years.

The Orangeville well supply, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

OSHAWA WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Oshawa water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control

when the raw water temperature is above 12°C. This plant has a rated capacity of 136 x 1000 m^3/day. The Oshawa water supply system serves a population of approximately 173,229.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

From 1993 to 1995, a total of 5,515 tests were performed in 13 sample events from the Oshawa water treatment plant.

No known health related guidelines were exceeded.

The Oshawa water supply system, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

OTTAWA (BRITANNIA) WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Ottawa (Britannia) water treatment plant is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine to a combined (chloramine) residual. This plant has a rated capacity of 350 x 1000 m^3/day. The Ottawa (Britannia) water supply system, together with the Ottawa (Lemieux Island) plant, serve a population of approximately 515,500.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,192 tests were performed in 10 sample events from the Ottawa (Britannia) water treatment plant.

No known health related guidelines were exceeded.

The Ottawa (Britannia) water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

OTTAWA (LEMIEUX ISLAND) WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Ottawa (Lemieux Island) water treatment plant is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine to a combined (chloramine) residual. This plant has a design capacity of 298 x 1000 m^3/day. The Ottawa (Lemieux Island) water supply system together with the Ottawa (Britannia) plant serve a population of approximately 523,800.

Raw and treated water at the plant and at four locations in the distribution system was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,254 tests were performed in 10 sample events from the Ottawa (Lemieux Island) water treatment plant.

No known health related guidelines were exceeded.

The Ottawa (Lemieux Island) water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

OTTERVILLE WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The village of Otterville is located in the Township of Norwich South in Oxford County in Southwestern Ontario. The Otterville well supply is a groundwater source consisting of three wells. Two wells, drilled close together in the same aquifer, are pumped through a common discharge header where the water is disinfected and feeds the distribution. The third well is located at the base of the water tower and is also disinfected before it feeds the distribution and water tower. The maximum pumping capacity of the system is 1.833 x 1,000 m^3/day. The Otterville well supply serves a population of approximately 900.

Water from wells 2, 3, and 4 and at one location in the distribution system was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,415 tests were performed in 14 sample events from the Otterville well supply.

No known health related guidelines were exceeded.

The minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Otterville well supply, for the sample years 1993, 1994 and 1995, generally produced water of a good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

OWEN SOUND WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Owen Sound water supply system receives water from two sources. The primary source is the Owen Sound water treatment plant, with direct filtration, which treats water from Georgian Bay. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. This plant has a rated capacity of 36.4 x 1000 m^3/day. The secondary source is the Owen Sound Spring supply which collects water from high ground surrounding the town. This system has disinfection and fluoridation and supplies an area of town by gravity. The spring supply has a maximum pumping capacity of 4.5 x 1000 m^3/day. The Owen Sound water supply system serves a population of approximately 20,000.

Raw water from the spring source along with water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 3,948 tests were performed in 11 sample events from the Owen Sound water treatment plant 1,899 tests were performed in 7 sample events from the Owen Sound spring supply.

No known health related guidelines were exceeded.

The Owen Sound water treatment plant together with the Owen Sound spring system, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PEMBROKE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Pembroke water treatment plant is a conventional treatment plant which treats water from the Ottawa River. The process consists of alkalinity adjustment, coagulation, flocculation, sedimentation, filtration, pH adjustment and disinfection. This plant has a rated capacity of 25.5 x 1000 m^3/day. The Pembroke water treatment plant serves a population of approximately 20,500.

Raw and treated water at the plant and at two locations in the distribution system wre sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,060 tests were performed in 14 sample events from the Pembroke water treatment plant.

No known health related guidelines were exceeded.

The Pembroke water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PENETANGUISHENE WELL SUPPLY

1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Penetanguishene well supply is a groundwater system consisting of a network of three wells called the Payette well field with a reservoir located on high ground overlooking the town. There are two pressure zones in this system. Water feeds the lower pressure zone in town by gravity. A second pressure zone exists on the high ground and water is pumped from the reservoir to a water tower by a booster pump. The water is disinfected at the reservoir. The maximum pumping capacity of the system is 11.6 x 1000 m^3/day. The Penetanguishene well supply serves a population of approximately 6,400.

Two wells, located in the lower pressure zone, were taken out of service in 1992 because of volatile organic contamination in the aquifer.

Raw water from 3 wells, treated water from the reservoir and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1994 to 1995, a total of 2,687 tests were performed in 6 sample events from the Penetanguishene well supply.

No known health related guidelines were exceeded.

The Penetanguishene well supply, for the sample years 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PERTH WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Perth water treatment plant is a conventional treatment plant which treats water from the Tay River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment, taste and odour control and disinfection. Powder activated carbon is added for taste and odour control when required and chlorine dioxide is generated on site to provide the initial disinfection. This plant has a design capacity of 9.1 x 1000 m^3/day. The Perth water treatment plant serves a population of approximately 6,100.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,985 tests were performed in 16 sample events from the Perth water treatment plant.

No known health related guidelines were exceeded.

The Perth water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PETERBOROUGH WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Peterborough water treatment plant is a conventional treatment plant which treats water from the Otonabee River. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. Sulphur dioxide is added to remove excess chlorine from the disinfection process and potassium hydroxide is added for pH adjustment. Sodium silicate replaced potassium hydroxide for pH adjustment in February of 1994 This plant has a rated capacity of 104 x 1000 m^3/day. The Peterborough water supply system serves a population of approximately 68,371.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,171 tests were performed in 17 sample events from the Peterborough water treatment plant.

Lead exceeded the ODWO Maximum Acceptable Concentration of 10 ug/L

in one treated water sample. The District Officer was notified.

Inadequate flushing may have contributed to the elevated lead level. Subsequent samples showed lead levels to be well below the guideline.

No other known health related guidelines were exceeded.

The Peterborough water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PICTON WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Picton water treatment plant is a conventional treatment plant which treats water from the Bay of Quinte. The process consists of coagulation, flocculation, sedimentation, filtration,

fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. Powder activated carbon is added for taste and odour control. This plant has a design capacity of 10.9 x 1000 m^3/day. The Picton water treatment plant serves a population of approximately 6,000. A major upgrade of the plant was started in 1995.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,200 tests were performed in 12 sample events from the Picton water treatment plant.

Fluoride levels were found above the ODWO Maximum Acceptable Concentration of 1.5 mg/L in 2 treated and distributed water samples. The District Officer was notified. The treatment process for fluoride addition should be reviewed.

No other known health related guidelines were exceeded.

The persistent finding of aluminum levels above the ODWO operational guideline of 100 ug/L in the treated and distributed water would indicate that the treatment process should be optimized.

A major upgrade of the water plant was started in 1995.

The Picton water treatment plant, for the sample years 1993, 1994 and 1995, produced water of adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PLANTAGENET WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Plantagenet water treatment plant is a conventional treatment plant which treats water from the South Nation River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment and disinfection. Powder activated carbon is added for taste and odour control. This plant has a design capacity of 1.7 x 1000 m^3/day. The Plantagenet water treatment plant serves a population of approximately 850.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 9,319 tests were performed in 30 sample events from the

Plantagenet water treatment plant.

N-nitrosodimethylamine (NDMA) exceeded the Ontario Drinking Water Objective (ODWO) Interim Maximum Acceptable Concentration (IMAC) of 0.009 ug/L in 1 treated water sample. The District Officer was notified.

No other known health related guidelines were exceeded.

The presence of atrazine, dicamba and traces of other pesticides at the Plantagenet water treatment plant indicates that this raw water source is influenced by agricultural activity.

The results were similar to those found in previous years.

The Plantagenet water treatment plant, for the sample years 1993, 1994 and 1995, produced water of an acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PORT COLBORNE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Port Colborne water treatment plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. This plant has a rated capacity of 27.270 x 1000 m^3/day. The Port Colborne water treatment plant serves a population of approximately 15,092.

Raw and treated water at the plant and at one location in the distribution system was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,400 tests were performed in 13 sample events from the Port Colborne water treatment plant.

No known health related guidelines were exceeded.

The Port Colborne water treatment plant, for the sample years 1993, 1994 and 1995, generally produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PORT DOVER WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Port Dover water supply system has two sources. The primary source is a conventional water treatment plant which treats water from Lake Erie. The treatment process consists of coagulation, flocculation, sedimentation, filtration and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. This plant has a design capacity of 12.8 x 1000 m^3/day. The secondary source is the Doans Hollow spring supply which uses an infiltration and collection system with disinfection and provides approximately 25% of the current demand. The Port Dover water supply system serves a population of approximately 5,400.

The Doans Hollow spring supply was taken out of service in January 1994.

Raw and treated water at the plant and the spring supply were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 3,330 tests were performed in 13 sample events from the Port Dover water treatment plant and 1,077 tests were performed in 4 sample events from the Port Dover, Doans hollow, spring supply.

No known health related guidelines were exceeded.

The Doans Hollow spring supply was taken out of service in January 1994.

The Port Dover water supply system, for the sample years 1993, 1994 and 1995, produced good quality water. No samples were taken in the distribution system during this sampling period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PORT ELGIN WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Port Elgin water treatment plant is a conventional treatment plant which treats water from Lake Huron. The process consists of coagulation, flocculation, clarification (upflow clarifier), fluoridation, and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. This plant has a rated capacity of 8.7 x 1000 m^3/day. The Port Elgin water treatment plant serves a population of approximately 6,800.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

From 1993 to 1995, a total of 6,129 tests were performed in 15 sample events from the Port Elgin water treatment plant.

No known health related guidelines were exceeded.

The Port Elgin water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PORT HOPE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Port Hope water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. This plant has a design capacity of 29.1 x 1000 m^3/day. The Port Hope water treatment plant serves a population of approximately 11,600.

Raw and treated water at the plant and at three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,374 tests were performed in 13 sample events from the Port Hope water treatment plant.

No known health related guidelines were exceeded.

The Port Hope water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PORT ROWAN WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Port Rowan water treatment plant is a package plant which uses conventional treatment and treats water from Lake Erie. This is a new plant commissioned in the summer of 1992. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Granular activated carbon (GAC) contactors are used in the addition to the filters during the summer months. This plant has a design capacity of 3.0 x 1000 m^3/day. The Port Rowan water treatment plant serves a population of approximately 1,280.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,749 tests were performed in 21 sample events from the Port Rowan water treatment plant.

No known health related guidelines were exceeded.

The persistent finding of aluminum levels above the ODWO operational guideline of 100 ug/L in the treated and distributed water would indicate that the treatment process should be optimized. It should be noted that the raw water chemistry changes significantly during the summer months and this may account for the difficulty in maintaining the plant at an optimum level of process efficiency.

The Port Rowan water treatment plant, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PORT STANLEY WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Port Stanley water treatment plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration (using pressure filters), disinfection and fluoridation. This plant has a design capacity of 3.2 x 1000 m^3/day. The Port Stanley water treatment plant serves a population of approximately 2,100.

Raw and treated water at the plant and at one location in the distribution system were sampled for

the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,482 tests were performed in 13 sample events from the Port Stanley water treatment plant.

No known health related guidelines were exceeded.

The Port Stanley water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

PRESCOTT WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Prescott water treatment plant is a direct filtration plant which treats water from the St. Lawrence River. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. Chlorine dioxide is generated on site to provide the initial disinfectant. This plant has a design capacity of 11.1 x 1000 m^3/day. The Prescott water treatment plant serves a population of approximately 4,600.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,358 tests were performed in 13 sample events from the Prescott water treatment plant.

Fluoride exceeded the ODWO Maximum Acceptable Concentration of 1.5 mg/L in 1 treated water sample. The District Officer was notified. The treatment process for fluoride addition should be reviewed.

No other known health related guidelines were exceeded.

The Prescott water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

RAINY RIVER WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Rainy River water treatment plant is a Degremont package plant which treats water from Rainy River. The process consists of coagulation, flocculation, sedimentation, filtration, Ph adjustment and disinfection. This plant has a rated capacity of 2.4 x 1000 m^3/day. The Rainy River water treatment plant serves a population of approximately 1,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,469 tests were performed in 25 sample events from the Rainy River water treatment plant.

No known health related guidelines were exceeded.

The detection of specific organic parameters at positive and trace levels in many raw water samples is consistent with results reported in previous years and may be an indicator of pulp mill discharges.

The persistent finding of aluminum levels above the ODWO operational guideline of 100 ug/L in the treated and distributed water would suggest that the treatment process should be optimized.

The Rainy River water treatment plant, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

RED LAKE WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Red Lake water treatment plant is a pumping station which pumps water from Skookum Bay in Red Lake. The only treatment provided is disinfection. It consists of a storage reservoir with three highlift pumps. Chlorine is injected into the raw well for disinfection and treated water is pumped to the water tower and the distribution system. The plant has a design capacity of 4.36 x1000 m^3/day. The Red Lake water treatment plant serves a population of approximately 2,060.

Raw and treated water at the plant and at one location in the distribution system were sampled for

the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,759 tests were performed in 16 sample events from the Red Lake water treatment plant.

Field turbidity levels were above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 1 treated water sample. The District Officer was notified.

No other known health related guidelines were exceeded.

The elevated levels of organic carbon, colour and the resulting trihalomethans in the treated water are due to the lack of physical-chemical treatment at this facility.

The Red Lake water treatment plant, for the sample years 1993, 1994 and 1995, produced water of an adequate quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

RED ROCK WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Red Rock water treatment plant is a conventional treatment plant which treats water from Lake Superior. The process consists of coagulation, flocculation, clarification (upflow solids contact clarifier), filtration, post pH adjustment, fluoridation and disinfection. This plant has a design capacity of 3.0 x 1000 m^3/day. The Red Rock water treatment plant serves a population of approximately 1,400.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,683 tests were performed in 15 sample events from the Red Rock water treatment plant.

Field turbidity and lab turbidity were above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 1 treated water sample. The District Officer was notified. The elevated turbidity occurred when the up-flow solids contact clarifier was out of service for maintenance.

No other known health related guidelines were exceeded.

The Red Rock water treatment plant, for the sample years 1993, 1994 and 1995, generally produced water of an acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

RENFREW WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Renfrew water treatment plant is a conventional treatment plant which treats water from the Bonnechere River. The process consists of coagulation, flocculation, sedimentation, filtration, pH adjustment, fluoridation and disinfection. This plant has a rated capacity of 7.0 x 1000 m^3/day. The Renfrew water treatment plant serves a population of approximately 7,900.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,500 tests were performed in 15 sample events from the Renfrew water treatment plant.

No known health related guidelines were exceeded.

The Renfrew water treatment plant, for the sample years 1993, 1994 and 1995, generally produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ROCKLAND WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Rockland water treatment plant is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, pH adjustment and disinfection. This plant has a design capacity of 7.3 x 1000 m^3/day. The Rockland water treatment plant serves a population of approximately 7,000.

Raw and treated water at the plant and at four locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,389 tests were performed in 14 sample events from the Rockland water treatment plant.

No known health related guidelines were exceeded.

The Rockland water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

SARNIA (LAMBTON AREA) WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Sarnia (Lambton Area) water treatment plant is a direct filtration plant which treats water from the St. Clair River. The process consists of coagulation, flocculation, filtration, disinfection and fluoridation. This plant has a rated capacity of 188 x 1000 m^3/day. The Sarnia (Lambton Area) water treatment plant serves a population of approximately 95,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,345 tests were performed in 15 sample events from the Sarnia (Lambton Area) water treatment plant.

No known health related guidelines were exceeded.

The Sarnia (Lambton Area) water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

SAULT STE. MARIE WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Sault Ste. Marie water supply system treats surface water from Lake Superior and

groundwater from four well sources. The water treatment plant is a direct filtration plant. The process consists of coagulation, flocculation, filtration, and disinfection. Ammonia was used in the disinfection process to convert free chlorine to a combined (chloramine) residual. This plant has a rated capacity of 20.8 x 1000 m^3/day. Ground water, from four wells in two aquifers, is disinfected and pumped into the distribution. The groundwater source provides up to 50% of the total water demand. The Sault Ste. Marie water supply system serves a population of approximately 85,000.

Raw and treated water at the plant, from four wells and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,312 tests were performed in 14 sample events from the Sault Ste. Marie water treatment plant and

5,452 tests were performed in 23 sample events from the Sault Ste. Marie well supply.

No known health related guidelines were exceeded.

The Sault Ste. Marie well supply, together with the water treatment plant, for the sample years 1993, 1994 and 1995, produced water of a good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

SIMCOE WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Simcoe well supply is a groundwater source consisting of a well field of 5 wells feeding into a reservoir and 3 single wells which pump directly into the distribution. The water is pumped from several aquifers. Treatment of raw water includes sodium silicate addition for iron/manganese removal where required, fluoridation and disinfection. This system has a maximum pumping capacity of 12.5 x 1000 m^3/day. The Simcoe well supply serves a population of approximately 13,860. The First Avenue well was taken out of service after October 1994.

Raw water from 3 wells which feed directly into the distribution, 5 wells in a well field which feed into a reservoir, treated water from the reservoir and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,822 tests were performed in 21 sample events from the Simcoe well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many ground water sources.

The detection of some volatile organic compounds at positive and trace levels in specific wells and the reservoir is consistent with results reported in previous years.

The First Avenue well was taken out of service in 1994.

The Simcoe well supply, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

SMITHS FALLS WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Smiths Falls water treatment plant is a conventional treatment plant which treats water from the Rideau River. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine dioxide is generated on site and is used when required for taste and odour control. This plant has a rated capacity of 18.1 x 1000 m^3/day. The Smiths Falls water treatment plant serves a population of approximately 10,700.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,461 tests were performed in 15 sample events from the Smiths Falls water treatment plant.

Turbidity was detected above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 1 treated water sample. This was an unusual situation caused by many water main breaks and a subsequent loss of pressure in the distribution system. The treatment plant was operated at maximum capacity during this time and the disinfection process was increased to ensure no adverse microbiological activity. The District Officer was notified.

No other known health related guidelines were exceeded.

The Smith Falls water treatment plant, for the sample years 1993, 1994 and 1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

SOUTHAMPTON WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Southampton water treatment plant is a conventional treatment plant which treats water from Lake Huron. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration, and disinfection. This plant has a design capacity of 6.3 x 1000 m^3/day. The Southampton water treatment plant serves a population of approximately 4,800.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,348 tests were performed in 16 sample events from the Southampton water treatment plant.

No known health related guidelines were exceeded.

The Southampton water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

SOUTH PEEL (LAKEVIEW) WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The South Peel (Lakeview) water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. Ammonia is added to convert the disinfectant to a combined chlorine residual and sulphur dioxide is used to remove excess chlorine. This plant has a rated capacity of 437 x 1000 m^3/day. The South Peel (Lakeview) water treatment plant, together with the Lorne Park water treatment plant serves a population of approximately 700,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled

for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,784 tests were performed in 13 sample events from the South Peel (Lakeview) water treatment plant.

No known health related guidelines were exceeded.

The South Peel (Lakeview) water supply system, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

SOUTH PEEL (LORNE PARK) WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The South Peel (Lorne Park) water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12^{o}C. This plant has a design capacity of 210 x 1000 m^{3}/day. The South Peel (Lorne Park) water supply system, together with the Lakeview water treatment plant, serve a population of approximately 700,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,972 tests were performed in 13 sample events from the South Peel (Lorne Park) water treatment plant.

No known health related guidelines were exceeded.

The South Peel (Lorne Park) water supply system, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ST. CATHARINES (DE CEW) WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on

municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The St. Catharines (De Cew) water treatment plant is a conventional treatment plant which treats water from the Welland Canal. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. A facility for adding powder activated carbon for taste and odour control was installed in 1992. The dual media (anthracite/sand) filters were replaced with granular activated carbon (GAC) in the spring of 1995. This plant has a rated capacity of 190 x 1000 m^3/day. The St. Catharines (De Cew) water supply system serves a population of approximately 150,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,368 tests were performed in 13 sample events from the St. Catharines (De Cew) water treatment plant.

No known health related guidelines were exceeded.

The St. Catharines (De Cew) water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ST. THOMAS (ELGIN) WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The St. Thomas (Elgin) water supply system is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 45.4 x 1000 m^3/day. The St. Thomas (Elgin) water supply system serves a population of approximately 54,200.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,026 tests were performed in 13 sample events from the St. Thomas (Elgin) water supply system.

No known health related guidelines were exceeded.

The St. Thomas (Elgin) water supply system, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

STONEY POINT (TILBURY NORTH) WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Stoney Point (Tilbury North) water treatment plant is a conventional treatment plant which treats water from Lake St. Clair. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration (using pressure filters), fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12°C. This plant has a rated capacity of 3.1 x 1000 m^3/day. The Stoney Point (Tilbury North) water supply system serves a population of approximately 3,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,383 tests were performed in 15 sample events from the Stoney Point (Tilbury North) water treatment plant.

Lead exceeded the ODWO Maximum Acceptable Concentration of 10 ug/L in 1 treated water sample. Inadequate flushing likely contributed to the elevated lead level. Subsequent samples showed lead levels to be well below the guideline.

No other known health related guidelines were exceeded.

The Stoney Point (Tilbury North) water supply system, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

STOUFFVILLE WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities,

which supplied 73% of the population in Ontario.

The Stouffville well supply is a groundwater system consisting of 3 wells designated as well 3, 5 and 6. Well 3 is located at the water tower in Stouffville and is treated for iron removal using sodium silicate and chlorinated for disinfection. Wells 5 and 6 are located approximately six kilometers northwest of Stouffville and feed two interconnected reservoirs from which water is pumped to the distribution system and the water tower. The only treatment provided at well 5 and 6 is disinfection. This supply has a maximum pumping capacity of 5.4 x 1000 m^3/day. The Stouffville well supply serves a population of approximately 6,700.

Raw water from wells 3, 5, 6 and mixed treated water from the reservoir were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,263 tests were performed in 14 sample events from the Stouffville well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines in one well is characteristic of many ground water sources.

The Stouffville well supply, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

STRATFORD WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Stratford well supply has a groundwater source consisting of 12 wells in several aquifers. The treatment process includes disinfection, iron sequestering with sodium silicate and aeration for hydrogen sulphide removal where necessary. This system has a maximum pumping capacity of 37.7 x 1000 m^3/day. The Stratford well supply serves a population of approximately 28,000.

Raw water from wells located at Chesnut St, Cooper St, Dunn Rd, Lorne Ave, Mornington St, O'Loane Ave, along with treated water from reservoirs at Chesnut and Mornington St, raw water from a network of six wells 1, 2, 3, 4, 6, and 7 which pump into a reservoir, treated water from the reservoir and three locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 12,331 tests were performed in 13 sample events from the Stratford well supply.

Field turbidity exceeded the ODWO Maximum Acceptable Concentration of 1.0 FTU in 3 treated water samples. The District Officer was notified.

Natural fluoride levels ranged to a high of 2.4 mg/L in the treated and distributed water samples. This is above the ODWO Maximum Acceptable Concentration for fluoride in drinking water set at 1.5 mg/L.

No other known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many ground water sources.

The Stratford well supply, for the sample years 1993, 1994 and 1995, produced water of an acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

SUDBURY (DAVID ST.) WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Sudbury (David St.) water treatment plant is a pumping station with microstrainers. Water from Ramsey Lake is partially treated and pumped to the distribution. The process consists of pH adjustment, fluoridation and disinfection. This plant has a design capacity of 34.0 x 1000 m^3/day. The Sudbury (David St.) water treatment plant together with the Sudbury (Wanapitei) water treatment plant serve a population of approximately 95,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,376 tests were performed in 13 sample events from the Sudbury (David St.) water treatment plant.

Field turbidity levels were above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 1 treated water sample. The District Officer was notified.

Lead exceeded the ODWO Maximum Acceptable Concentration of 10 ug/L in 1 treated water sample. The District Officer was notified. Inadequate flushing may have contributed to the elevated lead level. Subsequent samples showed lead levels to be well below the guideline.

No other ODWO health related guidelines were exceeded.

The Sudbury (David St.) water treatment plant, for the sample years 1993, 1994 and 1995,

produced water of acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

SUDBURY (WANAPITEI) WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Sudbury (Wanapitei) water treatment plant is a direct filtration plant which treats water from the Wanapitei River. The process consists of coagulation, flocculation, filtration, post pH adjustment and disinfection. Chlorine dioxide is generated on site and is used in the summer for taste and odour control. This plant has a rated capacity of 54.0 x 1000 m^3/day. The Sudbury (Wanapitei) water treatment plant together with the Ramsey Lake (David Street pumping Station) serves a population of approximately 95,500.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,841 tests were performed in 13 sample events from the Sudbury (Wanapitei) water treatment plant.

No known health related guidelines were exceeded.

The Sudbury (Wanapitei) water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

THUNDER BAY (BARE POINT) WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Thunder Bay (Bare Point) water treatment plant is a direct filtration plant which treats water from Lake Superior. The process consists of coagulation, flocculation, filtration and disinfection. This plant has a design capacity of 91.0 x 1000 m^3/day. The Thunder Bay (Bare Point) water treatment plant serves a population of approximately 64,500 in the North zone of Thunder Bay. The Thunder Bay (Bare Point) water treatment plant together with The Thunder Bay (Loch

Lomond) facility serve a population of 112,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,770 tests were performed in 16 sample events from the Thunder Bay (Bare Point) water treatment plant.

Lead exceeded the ODWO Maximum Acceptable Concentration of 10 ug/L in 7 distributed water samples at two houses in the distribution. The District Officer was notified. Household taps should be flushed, until the coolest water temperature is obtained, before water is used for consumption. The problem with elevated lead levels, at some sites in the distribution, is being addressed by the City of Thunder Bay.

No other known health related guidelines were exceeded.

The Thunder Bay (Bare Point) water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water. The water quality deteriorated at some locations in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

THUNDER BAY (LOCH LOMOND) WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Thunder Bay (Loch Lomond) water treatment plant is a treatment facility which partially treats water from Loch Lomond. The process consists of the addition of sodium silicate for corrosion control and disinfection. This plant has a design capacity of 77.2 x 1000 m^3/day. The Thunder Bay (Loch Lomond) water treatment plant serves a population of approximately 47,500 in the South zone of Thunder Bay. The Thunder Bay (Loch Lomond) water treatment plant together with the (Bare Point) facility serve a population of 112,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 4,448 tests were performed in 16 sample events from the Thunder Bay (Loch Lomond) water treatment plant.

No known health related guidelines were exceeded.

The Thunder Bay (Loch Lomond) water treatment plant, for the sample years 1993, 1994 and

1995, produced acceptable quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

TECUMSEH WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Tecumseh water treatment plant is a conventional treatment plant which treats water from Lake St. Clair. The process consists of coagulation, flocculation, clarification (upflow solids contact clarifier), filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 15.0 x 1000 m^3/day. The Tecumseh water treatment plant serves a population of approximately 17,800.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 6,283 tests were performed in 15 sample events from the Tecumseh water treatment plant.

No known health related guidelines were exceeded.

The Tecumseh water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

TERRACE BAY WATER TREATMENT PLANT

1993 AND 1994 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Terrace Bay water treatment plant is a privately owned facility which supplies water to the Kimberly Clark pulp mill on the north shore of Lake Superior at Terrace Bay. The plant consists of a lowlift pumping station where water from Lake Superior is chlorinated and pumped through a 1.3 m diameter transmission line to the pulp mill. The only treatment provided is disinfection. A distribution main connected to the transmission line supplies water to the town of Terrace Bay. There is no information on the design capacity of the system. The Terrace Bay water treatment

plant serves a population of approximately 2,600.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1994, a total of 2,255 tests were performed in 5 sample events from the Terrace Bay water treatment plant.

No known health related guidelines were exceeded.

The Terrace Bay water treatment plant, for the sample years 1993 and 1994, generally produced water of an acceptable quality and this was maintained in the distribution system. No samples were taken in 1995.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

THAMESVILLE WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The village of Thamesville is situated in Kent County, in South West Ontario, on the banks of the Thames River. The Thamesville well supply is a groundwater source consisting of 2 wells located adjacent to the Thames River. Water is pumped from the wells through a manganese green sand pressure filter with the addition of potassium permanganate for iron and manganese removal and chlorine is added for disinfection. This plant has a design capacity of 1.4 x 1000 m^3/day. The Thamesville well supply serves a population of approximately 900.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 2,270 tests were performed in 7 sample events from the Thamesville well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Thamesville well supply, for the sample years 1993, 1994 and 1995, produced water of an acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

TILBURY WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Tilbury water treatment plant is a conventional treatment plant which treats water from Lake St. Clair. The process consists of coagulation, flocculation, clarification (upflow clarifier), filtration (pressure filters), powder activated carbon for taste and odour control, fluoridation and disinfection. Polyphosphate is added for corrosion control. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12^{o}C. This plant has a rated capacity of 6.5 x 1000 m^3/day. The Tilbury water treatment plant serves a population of approximately 6,000.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,923 tests were performed in 23 sample events from the Tilbury water treatment plant.

No known health related guidelines were exceeded.

Elevated ammonium levels in the raw water, which occurred in the spring time during the snow melt and runoff period, may be attributed to agricultural activity.

The detection of atrazine and traces of other pesticides in the raw water at the Tilbury water treatment plant indicates that the raw water source is influenced by agricultural activity.

The results were similar to those found in previous years.

The Tilbury water treatment plant, for the sample years 1993, 1994 and 1995, produced water of an acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

TILLSONBURG WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The town of Tillsonburg is in an agricultural area located in the County of Oxford in Southwest Ontario. The Tillsonburg well supply is a groundwater source consisting of 10 wells in several aquifers. The majority of the wells use storage before distribution to allow for treatment and contact time for the disinfection process. All of the water is disinfected and some wells are treated for iron removal when required. Two wells are aerated for removal of hydrogen sulphide. The treated water feeds the distribution and a large reservoir in the system. The maximum pumping capacity of the system is 12.1 x 1,000 m^3/day. The Tillsonburg well supply serves a population of approximately 11,700.

Raw water from wells 1A, 2, 4, 5, 6, 7, 9, 10, 11, 12, treated water from wells 2, 4-5, 9-10-11 and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 9,200 tests were performed in 11 sample events from the Tillsonburg well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Tillsonburg well supply, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

METRO TORONTO (F. J. HORGAN) WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Metro Toronto (F. J. Horgan) water treatment plant is a direct filtration treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. Ammonia is added to the disinfection process to convert the free chlorine into a combined (chloramine) residual and sulphur dioxide is added to remove excess chlorine. This plant has a rated capacity of 550 x 1,000 m^3/day. The Metro Toronto (F. J. Horgan) water treatment plant, together with the other Metro plants (R.L. Clark, R.C. Harris and the Island Plant) serve a population of approximately 2,333,300.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour,

Radiation Protection Laboratory, is presented in this report.

From 1993 to 1995, a total of 4,163 tests were performed in 10 sample events from the Metro Toronto (F. J. Horgan) water treatment plant.

No known health related guidelines were exceeded.

The Metro Toronto (F. J. Horgan) water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

METRO TORONTO (R. C. HARRIS) WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Metro Toronto (R. C. Harris) water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine to a combined (chloramine) residual and sulphur dioxide is used to remove the excess chlorine. This plant has a design capacity of 1,000 x 1000 m^3/day. The Metro Toronto (R. C. Harris) water treatment plant together with the other Metro plants serves a population of approximately 2,333,300.

Raw and treated water at the plant was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

From 1993 to 1995, a total of 2,557 tests were performed in 10 sample events from the Metro Toronto (R. C. Harris) water treatment plant.

No known health related guidelines were exceeded.

The Metro Toronto (R. C. Harris) water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water. No samples were taken in the distribution system for this time period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

METRO TORONTO (R. L. CLARK) WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Metro Toronto (R. L. Clark) water treatment plant is a conventional treatment plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine into a combined (chloramine) residual and sulphur dioxide is used to remove the excess chlorine. This plant has a rated capacity of 659 x 1000 m^3/day. The Metro Toronto (R. L. Clark) water treatment plant together with the other Metro plants, serves a population of approximately 2,333,300.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

From 1993 to 1995, a total of 3,738 tests were performed in 11 sample events from the Metro Toronto (R. L. Clark) water treatment plant.

No known health related guidelines were exceeded.

The Metro Toronto (R. L. Clark) water treatment plant, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

METRO TORONTO (TORONTO ISLAND) WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Metro Toronto (Island) water treatment plant usually operates for five months in the summer. It is a direct filtration plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. Ammonia is used in the disinfection process to convert free chlorine into a combined (chloramine) residual and sulphur dioxide is used to remove excess chlorine. This plant has a design capacity of 409 x 1000 m^3/day. For the sample period from 1993 to 1995, the Toronto Island treatment facility did not operate continuously during the summer months. The Metro Toronto (Island) water treatment plant together with the other Metro plants, serves a population of approximately 2,333,300.

Raw and treated water at the plant was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 1,642 tests were performed in 6 sample events from the Metro Toronto (Island) water treatment plant.

No known health related guidelines were exceeded.

The Metro Toronto (Island) water treatment plant, for the sample years 1993, 1994 and 1995, produced water of a good quality. No samples were taken in the distribution system for this sampling period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

TRENTON WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Trenton water supply system receives water from both surface and groundwater sources. The primary source is the Trent River. The Chester Road water treatment plant is a conventional treatment plant which treats water from the Trent River. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. This plant has a design capacity of 45.5 x 1000 m^3/day. The groundwater source, which supplies up to 25% of the demand, has two wells and a recharge system which supplements the natural water table and is supplied by water from Tremur Lake. The maximum pumping capacity of the well supply is 9.1 x 1000 m^3/day. The Trenton water supply system serves a population of approximately 20,000.

Raw and treated water at Victoria Street well, treated water from Sidney Street well, raw water from Tremur Lake along with raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 3,313 tests were performed in 10 sample events from the Trenton well supply and 4,869 tests were performed in 13 sample events from the Trenton water treatment plant.

For the Trenton well supply, field turbidity levels were above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 1 treated water sample from onw well. The District Officer was notified.

Nitrate exceeded the ODWO Maximum Acceptable Concentration of 10.0 mg/L in 2 treated water samples from one well. Water from this well was mixed with water from other sources prior to distribution and the resulting nitrate levels were lower than the guideline.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

No other known health related guidelines were exceeded.

The Trenton well supply, for the sample years 1993, 1994 and 1995, produced water of an adequate quality and this was maintained in the distribution system.

For the Trenton water treatment plant, no known health related guidelines were exceeded.

The Trenton water treatment plant, for the sample years 1993, 1994 and 1995, produced good quality water and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

UNION (ESSEX COUNTY) WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Union water treatment plant is a conventional treatment plant which treats water from Lake Erie. The process consists of coagulation, flocculation, clarification (solids contact upflow clarifier), filtration, and disinfection. Powder activated carbon is added for taste and odour control. This plant has a rated capacity of 65.9 x 1000 m^3/day. The Union (Essex county) water supply system serves a population of approximately 39,700.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,336 tests were performed in 13 sample events from the Union (Essex County) water supply system.

No known health related guidelines were exceeded.

The Union water supply system, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

WALLACEBURG WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Wallaceburg water treatment plant is a conventional treatment plant which treats water from the St. Clair River via the Chenal Escarte. The process consists of coagulation, flocculation, sedimentation, filtration, taste and odour control and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12^{o}C. Chlorine dioxide is generated as part of the disinfection process and powder activated carbon is added on a continuous basis. This plant has a rated capacity of 11.8 x 1000 m^3/day. The Wallaceburg water treatment plant serves a population of approximately 11,300.

Raw and treated water at the plant and at one location in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 8,067 tests were performed in 19 sample events from the Wallaceburg water treatment plant.

No known health related guidelines were exceeded.

The Wallaceburg water treatment plant, for the sample years 1993 1994 and 1995, produced good quality water but the quality deteriorated slightly in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

WALPOLE ISLAND WATER TREATMENT PLANT

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Walpole Island water treatment plant is a package plant which uses conventional treatment and treats water from St. Clair River and is operated by the First Nations community of Walpole Island. The process consists of coagulation, flocculation, sedimentation, filtration, and disinfection. Powder activated carbon is added on a continuous basis for taste and odour control and for removal of organics. This plant has a rated capacity of 0.87 x 1000 m^3/day. The Walpole water treatment plant serves a population of approximately 1,900.

Raw and treated water at the plant was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,322 tests were performed in 19 sample events from the Walpole Island water treatment plant.

No known health related guidelines were exceeded.

The Walpole water treatment plant, for the sample years 1993, 1994 and 1995, produced water of a good quality. No samples were taken in the distribution system during this sampling period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

WATERLOO WELL SUPPLY

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Waterloo well supply is a groundwater source containing at least 13 wells in several aquifers, servicing a large geographical area. DWSP samples 8 wells and 2 reservoirs from the William Street wells, the Erb Street system and one other system well. The only treatment provided is fluoridation and disinfection. The system has a maximum pumping capacity of 38.6 x 1000 m^3/day. The Waterloo well supply serves a population of approximately 63,300.

Raw water from the William Street wells 1B, 1C, W2, W3; the Erb Street system W6A, W7, W8; one other system well W10; and treated water from two reservoirs were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 5,936 tests were performed in 16 sample events from the Waterloo well supply.

Field turbidity was above the ODWO Maximum Acceptable Concentration of 1.0 FTU in 3 treated water samples. The District Officer was notified.

No other known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The detection of some volatile organic compounds at positive and trace levels in specific wells and reservoirs is consistent with results reported in previous years.

Due to the many wells supplying this water system and the number of locations sampled by DWSP, this report does not provide a complete picture of the drinking water quality.

The Waterloo well supply, for the sample years 1993, 1994 and 1995, produced water of an acceptable quality. No samples were taken in the distribution system for this sampling period.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

WAWA WATER TREATMENT PLANT

1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The community of Wawa is situated on the north shore of Lake Superior in the District of Algoma. The Wawa water treatment plant is a pumping station which partially treats water from Lake Wawa. The only treatment provided is fluoridation and disinfection. The facility consists of a storage reservoir with three highlift pumps. Chlorine is injected into the raw well for disinfection and treated water is pumped to the water tower and the distribution system. The plant has a design capacity of 8.11 x1000 m^3/day. The Wawa water treatment plant serves a population of approximately 4,500.

A raw water sample was not taken since chlorine is added at the intake to the raw well. Treated water at the plant and one location in the distribution was sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1994 to 1995, a total of 856 tests were performed in 3 sample events from the Wawa water treatment plant.

No known health related guidelines were exceeded.

Based on the limited number of samples taken, the Wawa water treatment plant, for the sample years 1994 and 1995, produced water of an acceptable quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

WELLAND WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Welland water supply system has a conventional treatment plant which treats water from Lake Erie via the Welland Recreational Canal. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. A facility for adding powder activated carbon for taste and odour control was installed in 1992. This plant has a rated capacity of 86.0 x 1000 m^3/day. The Welland water supply system serves a population of approximately 50,600.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological

parameters.

From 1993 to 1995, a total of 5,353 tests were performed in 13 sample events from the Welland water supply system.

No known health related guidelines were exceeded.

The Welland water supply system, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

WHITBY WATER TREATMENT PLANT

1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Whitby water treatment plant is a direct filtration plant which treats water from Lake Ontario. The process consists of coagulation, flocculation, filtration, fluoridation and disinfection. Chlorine is added at the mouth of the intake structure for zebra mussel control when the raw water temperature is above 12ºC. This plant has a design capacity of 109 x 1000 m^3/day. The Whitby water supply system serves a population of approximately 60,000.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

A summary of supplementary radiological data, provided by the Ontario Ministry of Labour, Radiation Protection Laboratory, is presented in this report.

From 1994 to 1995, a total of 2,654 tests were performed in 8 sample events from the Whitby water treatment plant.

No known health related guidelines were exceeded.

The Whitby water treatment plant, for the sample years 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

WINDSOR WATER SUPPLY SYSTEM

1993, 1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The Windsor water treatment plant is a conventional treatment plant which treats water from the Detroit River. The process consists of coagulation, flocculation, sedimentation, filtration, fluoridation and disinfection. Powder activated carbon is added for taste and odour control when required. This plant has a rated capacity of 295 x 1000 m^3/day. The Windsor water supply system serves a population of approximately 215,300.

An expansion and upgrade of the Windsor water treatment plant was completed in 1994. The new facility has the same capacity and processes as the old facility which was taken out of service and will be rehabilitated for future use.

Raw and treated water at the plant and at two locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1993 to 1995, a total of 7,392 tests were performed in 18 sample events from the Windsor water treatment plant.

No known health related guidelines were exceeded.

The Windsor water supply system, for the sample years 1993, 1994 and 1995, produced water of good quality and this was maintained in the distribution system.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

WOODSTOCK WELL SUPPLY

1994 AND 1995 REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario provides information on municipal drinking water quality. In 1995, the DWSP monitored 132 water treatment facilities, which supplied 73% of the population in Ontario.

The city of Woodstock is located in Oxford County in South West Ontario. The Woodstock well supply consists of 7 wells in a well field and 4 city wells. The main source of water is the Sweaburg well field, a group of 7 wells, located south of the City in a 260 hectare forested area which provides a buffer zone for source protection of the water quality. Water is pumped from the well field and flows by pressure and gravity through four pipelines into Woodstock to a highlift pumping station and reservoir. Two city wells also pump to this station where the water is mixed, disinfected and pumped into the distribution. Water from 2 other city wells is aerated for hydrogen sulphide removal, disinfected, pumped through pressure filters and feeds directly into the distribution. The maximum pumping capacity of the system is 53.6 x 1,000 m^3/day. The Woodstock well supply serves a population of approximately 30,000.

Raw water from 11 wells, treated water from 2 highlift pumping stations and at 3 locations in the distribution system were sampled for the presence of approximately 190 bacteriological, inorganic, organic and radiological parameters.

From 1994 to 1995, a total of 7,202 tests were performed in 8 sample events from the Woodstock well supply.

No known health related guidelines were exceeded.

The numerous minerals and salts detected above aesthetic guidelines is characteristic of many groundwater sources.

The Woodstock well supply, for the sample years 1994 and 1995, produced an acceptable quality water and this was maintained in the distribution system.

1. [1]Notification letter: Science and Technology Branch

4E040002.LTR

2. [2]Notification letter: Science and Technology Branch

4E040002.LTR