

1. INTRODUCTION

The Municipality of Brighton is pleased to present the Annual Compliance Report for the period of January 1st to December 31st, 2002. This report summarizes compliance with the terms and conditions of the Certificate of Approval and Ontario Reg. 459/00, the Ontario Drinking Water Protection Regulation. Under the new Drinking Water Protection Regulation, the Ministry of Environment requires that all owners of municipal waterworks system produce a free, quarterly report for the people to whom they supply drinking water and an annual compliance report detailing compliance with all terms and conditions of the Certificate of Approval. Both Annual and Quarterly reports are available at the municipal offices listed below.

2. CONTACT INFORMATION

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3. CLASSIFICATION

The Ontario Environmental Training Consortium classifies the Brighton Water Supply Works as a Class II Water Distribution system.

4. CONTROL DOCUMENT INFORMATION

During the first six weeks of 2002, the Brighton Water Supply Works operated under Certificate of Approval number 7-0020-92-006 (1992). A new Certificate of Approval Number 1196-547JC7 dated February 7, 2002 was issued to the Brighton Waterworks by the Ministry of Environment. Brighton's new Certificate of Approval stated that at least three raw water samples per source be taken on separate days per week for Total and Faecal Coliforms; O. Reg. 459/00 requires weekly raw water samples be analyzed. The Municipality of Brighton requested an amendment to the new Certificate of Approval to correspond with requirements of O. Reg. 459/00, Schedule 2, requiring weekly microbiological tests for each raw water source be analyzed. Approval regarding this request was received with the amended Certificate of Approval No. 0378-5AFGCS, dated May 28, 2002; it revokes and replaces C of A 1196-547JC7. The new C of A stipulates upgrading requirements which must be implemented by June 30, 2003.

Brighton Water Supply Works identification number is W220000807.

Permit to Take Water No. 92-P-3067 authorizes the municipality to withdraw water from the wells and reservoirs. An application to renew this permit was forwarded to the MOE in February and on December 31, 2002, the new Permit was received at the Municipal Office. The new permit is valid until June 30, 2003. Another application will be submitted prior to completion of the upgrades and implementation of the wells as the water source supply.

5. BACKGROUND

The Municipality of Brighton attained the ownership and responsibility of the waterworks from the former Brighton Public Utilities as of January 1, 2001. Hydro One purchased the utility and took over the ownership of the hydroelectric power. The Public Works Department of the Municipality moved into the former PUC building at 67 Sharp Road in November 2001.

6. REGULATIONS/UPGRADES

The Drinking Water Protection Regulation contains comprehensive requirements for the sampling and testing of drinking water. Waterworks must take regular and frequent samples of their treated water and have the samples tested for microbiological parameters (e.g. total coliforms, fecal coliform/E.coli), chlorine residuals, turbidity, volatile organics (e.g. benzene, carbon tetrachloride) and other health-related parameters (e.g. lead, arsenic).

Regulation 459/00 under the Ontario Water Resources Act, introduced in August 2000, requires all municipal water systems be reviewed and assessed by an independent engineer. An Engineer's Report was submitted to the Ministry of Environment (MOE) in November of 2000. The report identified Brighton's reservoir supply as a surface water source. O.Reg 459/00 stipulates that owners of a water treatment or distribution system that obtains water from a surface water source shall ensure provision of a minimum level of treatment consisting of *chemically assisted filtration and disinfection* or other treatment capable of producing water of equal or better quality. As a result, Brighton's water source supply will be shifted from surface water source to groundwater source, not under the influence of surface water. Hydrogeological Evaluation and Reports were submitted to the MOE in December 2001, evaluating the geology surrounding the wells and providing aquifer hydraulic response studies in order to determine whether the groundwater is under the direct influence of surface water. A Supplementary Report regarding Surface Water Influence/Hydrogeologic Evaluation was submitted in December 2002.

Upgrading Summary:

1. Well No. 3 constructed and developed in summer and fall of 2002. Well No. 2 tested and developed.
2. Approval of wells under the GUDI Terms of Reference; a supplementary hydrogeological report was sent to the M.O.E. regarding surface water influence. Brighton is presently awaiting response to this report before continuing further with the project.
3. If wells are approved by the M.O.E., then construction of a new storage reservoir and treatment facility will commence.
4. An extension of the deadline of June 30th, 2003 has been requested to the M.O.E. for implementation of the physical improvements to the water system.

Funding for a portion of project costs has been confirmed under the Canada-Ontario Infrastructure Program.

7. DEFINITIONS

Accredited Lab, all laboratories that test drinking water must be accredited for the tests they perform by the Standards Council of Canada or its equivalent. Accreditation involves performance testing and auditing to ensure that laboratories follow appropriate procedures using acceptable methods.

AO Aesthetic Objective are established for parameters that may impair the taste, odour or colour of water or which may interfere with good water quality control practices. For certain parameters, both aesthetic objective and health-related MAC's have been derived.

GUDI Groundwater Under Direct Influence of Surface Water – in some groundwater supplies, situations may exist where contaminants typically found on the ground or in surface water, such as a lake or river, find their way into the groundwater and can be pumped from the well into the water distribution system. Such a system is referred to as Groundwater Under Direct Influence of Surface Water or GUDI. This can be caused by a number of different factors including the geology surrounding a well, insufficient travel time between the well intake and a surface water or a defect in the well. A true groundwater supply would normally be free of harmful microbiological contaminants and reflect only disinfection be provided as a minimum level of treatment along with a minimum chlorine residual after 15 minutes contact time.

MAC Maximum Acceptable Concentration – This is a health-related Ontario drinking water standard established for contaminants that have known or suspected adverse health effects when above a certain concentration. The length of time the MAC can be exceeded without injury to health will depend of the nature and concentration of the parameter.

IMAC Interim Maximum Acceptable Concentration – This is a health related Ontario drinking water standard established for contaminants when there are insufficient toxicological data to establish a MAC with reasonable certainty, or when it is not practical to establish a MAC at the desired level.

OG Operational Guidelines are established for parameters that need to be controlled to ensure efficient and effective treatment and distribution of water.

mg/L milligrams per litre is a measure of concentration of a parameter in water, sometimes called parts per million (ppm).

µg/L micrograms per litre is a measure of concentration of a parameter in water, sometimes called parts per billion (ppb).

Parameter is a substance that is sampled and analyzed in the water.

Raw Water – water entering the treatment plant prior to any chemical addition. Raw water sampling and analysis provides a measure of source water quality which allows assessment and adjustment of treatment process; information on the source of any contaminants; and long term trends in source water quality.

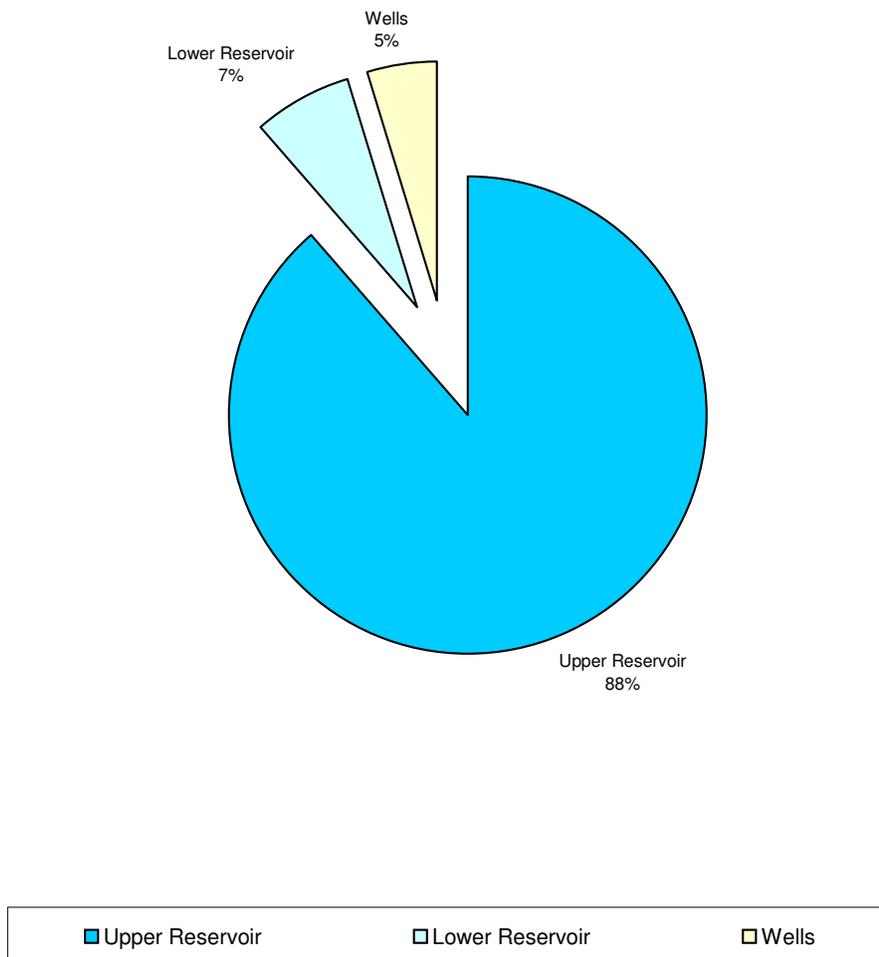
Treated Water is source water that has been altered in order to disinfect and ensure treatment has producing water of equal or better quality.

8. PLANT DESCRIPTION & TREATMENT PROCESS

8.1 Raw Water Source

The surface water source consists of spring flows from a shallow aquifer which enter the two reservoirs. The reservoirs serve as collection galleries and settling basins for the springs. The second source of raw water is ground water which is captured from a deep aquifer by two drilled wells located adjacent to the Upper Reservoir site. Two wells draw water from the aquifer under the reservoir area, Well No. 1 is a duty well, and Well No. 2 is operated as a stand-by well.

Brighton Waterworks Source Supply 2002



8.2 Treatment Process

Disinfection of water to eliminate disease-causing organisms is the most important step in the drinking water treatment process. Chlorine gas is added to the water as it enters the distribution system. Chlorine residuals are measured daily at the point of entry to the distribution system and weekly throughout the distribution system; this ensures protection to the customers' location.

8.3 Stand-by-Equipment

Stand-by chlorinator and generator are in place to provide back-up service in case of power or equipment failure. An alarm system notifies operators of any failure with the chlorination system. A licensed operator is on-call 24 hours/day, seven days/week.

8.4 Distribution System

The Municipality of Brighton's distribution system provides drinking water to approximately 4,700 residents through a network of approximately 50 km. of piping and 2,300 service connections.

Fire hydrants are maintained by the Water Department and includes a flushing program to clear out dead-ends to maintain the water quality in the distribution system and to keep hydrants in good repair.

Chlorine residuals in the distribution system are checked on a weekly basis at five separate sites to maintain appropriate levels of disinfection throughout the system. These five test sample sites are locations representative of the water throughout the entire distribution system. The following locations provide representative water samples:

1. Chalmer's Esso Service Centre, 6 Elizabeth St., Brighton;
2. East Northumberland Secondary School, 71 Dundas St. E., Brighton;
3. Johnson Motors, 253 Main St., Brighton (alternate-Rundle's Market);
4. Presqu'ile Café, 101 Harbour St., Brighton; (alternate-195 Ontario St.)
5. Cooper's General Store, 180 Baldwin St., Brighton. (most remote point)

Total Chlorine levels at the chlorine station ranged from 0.58 mg/L to 1.41 mg/L; a minimum of 0.5 mg/L in the treated water is to be maintained at all times prior to the first point of usage.

9. COMPLIANCE WITH TERMS AND CONDITIONS OF THE CERTIFICATE OF APPROVAL

9.1 Flow Rates/Quantity of Water Supplied

A Permit to Take Water No. 92-P-3067 authorizes the municipality to withdraw water from the wells and reservoirs. The groundwater wells and reservoirs have been approved to supply water at the following maximum flow rates:

Well No 1	1,591 L/min. or 829,000 L/day
Well No. 2	1,591 L/min. or 829,000 L/day
Upper Reservoir	2,100 L/min. or 3,024,000 L/day
Lower Reservoir	1,800 L/min. or 2,592,000 L/day

The water treatment plant is operated to treat water at a rate not exceeding the maximum flow rate of 6,445 m³ /day. The total maximum flow rate is based on a combined flow rate of 5,615 m³ /day from the Upper Reservoir and the Lower Reservoir. In addition, the total maximum flow rate of 6,445 m³ /day is to be made up employing either Well #1 or Well #2 as an additional production and/or standby groundwater supply.

The maximum flow rate in 2002 occurred on Thursday, July 18th with 4,598 m³ of water being drawn from a combination of the upper and lower reservoirs; this represents 77% of the maximum day rated capacity of 6,445 m³ /day. Brighton Waterworks supplied a total of 964,620 m³ of treated water in 2002, with an average daily flow of 2,640 m³/day. TABLE 1 summarizes the quantity and source of Brighton's water supply during the period of this report.

TABLE 1

Source	Quantity	Percentage
Upper Reservoir	853,972 m ³	88%
Lower Reservoir	65,296 m ³	7%
Wells 1 and 2	45,352 m ³	5%
Total	964,620 m ³	100%

The Upper Reservoir supplied 88% of the water supply with supplementary supplies utilized mainly from the Lower Reservoir during July to September. The wells were mainly used for testing and developing in the fall where the flow was diverted directly to the Upper Reservoir, then to the distribution system. The Upper Reservoir did exceed flow rate limits in July and August, see Section 10.0 Non Compliance with C. of A.

See TABLE 2 for Brighton Water Supply Monthly Values including flow rate and water quality summary.

9.2 Sampling & Analysis Requirements

Raw Water – water entering the treatment plant prior to any chemical addition. Raw water sampling and analysis provides a measure of source water quality which allows assessment and adjustment of treatment process; information on the source of any contaminants; and long term trends in source water quality.

The following parameters were tested on February 19, 2002 on all raw water sources:

Parameter	ODWS		SOURCE			
	Obj.	Type	Upper Reservoir	Lower Reservoir	Well #1	Well #2
Alkalinity (mg/L)	30-500	OG	204	212	212	208
Aluminum (mg/L)	0-10	OG	<0.05	<0.05	<0.5	<0.05
Ammonia(N) (mg/L)	-	-	<0.05	<0.05	<0.5	<0.05
Chloride (mg/L)	250	AO	32.5	20.6	5.6	5.0
Arsenic (ug/L)	0.025	IMAC	<0.001	<0.001	<0.001	<0.001
Conductivity (mg/L)	-	-	493	466	407	409
Copper (mg/L)	1.0	AO	<0.01	<0.01	<0.01	<0.01
Calcium (mg/L)	-	-	80.2	76.7	74.5	74.9
DOC (mg/L)	5	AO	<1	1	2	<1
Hardness (mg/L)	80-100	AO	252	247	241	246
Iron (mg/L)	0.3	AO	0.02	0.03	0.02	<0.01
Lead (mg/L)	0.01	MAC	<0.001	<0.001	0.001	0.001
Manganese (mg/L)	0.05	AO	<0.005	<0.005	<0.005	<0.005
Nitrite(N) (mg/L)	1.0	MAC	<0.05	<0.05	<0.05	<0.05
Nitrate(N) (mg/L)	10.0	MAC	2.48	2.44	2.99	3.08
Silica (mg/L)	-	-	11.9	12.3	12.4	12.8
Sodium (mg/L)	200,20	AO	21.1	14.7	<0.2	3.6
Sulfate (mg/L)	500	AO	16.0	16.1	16.4	16.8
TKN (mg/L)	-	-	0.1	0.2	0.1	<0.1
Zinc (mg/L)	5.0	AO	<0.02	<0.02	<0.02	<0.02

- Aesthetic objectives for hardness were exceeded with concentrations from 241-252 mg/L hardness; elevated Hardness is typical for groundwater quality in the area.
- Sodium concentration over 20 mg/L were reported to the Public Health Unit in order for it to be communicated to local physicians for their use with patients on sodium restricted diets.

Sampling and analyses are performed as required by the Ontario Drinking Water Protection Regulation, Reg.459/00, Schedule 2, Sampling and Analysis Requirements for a Surface Water Source without filtration, and by Certificate of Approval provided by the Ministry of Environment.

9.2.1 O.Reg 459/00, Schedule 2, Table A – Microbiological

Microbiological testing was sampled and analyzed weekly on:

1. the raw water source(s) prior to treatment,
2. the Chlorine Station - point of entry (where the treated water leaves the facility), and
3. at five locations in the distribution system where a free flowing sample is taken at the consumer's tap.

Raw water sampling was performed three times/week throughout the period that Certificate of Approval Number 1196-547JC7 dated February 7, 2002 was valid. All samples are tested for Total Coliform as well as Escherichia coli. In addition, 104 of the treated samples were analyzed for Heterotrophic Plate Count (HPC) by Membrane Filtration; there was no exceedance of HPC on treated water samples.

TABLE 3 - Total Microbiological Samples Tested for Total Coliform and *E.coli*:

Site	Number of Samples	Raw or Treated Water
Upper Reservoir	71 annually	Raw
Lower Reservoir	52 annually	Raw
Well No. 1	6 annually	Raw
Well No. 2	15 annually	Raw
Cl Pump Station	54 annually	Treated
Distribution System ¹	270 annually	Treated
Total	468 samples annually	

Continuous monitoring of turbidity is conducted on water entering the distribution system as per Table 5 – Sampling and Analysis Requirements of the Ontario Drinking Water Standards and O.Reg. 459/00, Schedule 2, for Surface Water Sources without Filtration. The maximum acceptable concentration for turbidity in drinking water is 1.0 Nephelometric Turbidity Unit (NTU) for water entering the distribution system. Turbidity or cloudiness in water is caused by the presence of tiny particles from matter such as clay, silt, spores, plankton or other microorganisms. Particles can often protect bacteria from being killed by disinfection chemicals such as chlorine. On Monday, July 22, 2002 Turbidity levels reached 2.327 for a short period (<1 hour) due to a heavy rainfall event. The lower reservoir was being used as the water source at the time; the lower reservoir is more susceptible to runoff due to its lower elevation. Operators responded by switching the water source to the upper reservoir, which has minimal catchment from run-off and maintains lower turbidity levels during rainfall events.

Continuous on-line monitoring of free chlorine residuals at the point of entrance to the distribution system is maintained at the plant as per Table 5 - Sampling and Analysis Requirements of the Ontario Drinking Water Standards and O.Reg. 459/00, Schedule 2, for Surface Water Sources without Filtration.

Fluoridation is not provided in Brighton's water treatment process.

9.2.2 O.Reg 459/00, Schedule 2, Table B – Volatile Organics

Volatile Organics are tested quarterly, including trihalomethanes in the distribution system at a point reflecting the maximum residence time in the distribution system.

Total Trihalomethane – The maximum acceptable concentration for Trihalomethane (THM) in drinking water is 100 µg/L (0.10 mg/L) based on four quarter moving annual average test results. THM was tested each quarter at the Chlorine Station as well as at a remote point in the distribution system. Annual average THM concentration was 3.125 µg/L at the Chlorine Station and 10.00 µg/L at the remote point site in the distribution system, both well below the MAC of 100 µg/L. Trihalomethanes are the most widely occurring synthetic organics found in chlorinated drinking water. The principal source of Trihalomethanes in drinking water is the action of chlorine with naturally occurring organics.

	Total THM 1 st qtr.	Total THM 2 nd qtr.	Total THM 3 rd qtr.	Total THM 4 th qtr.	Annual Avg. 2002
Cl Station (POE)	<1.0 ug/L	1.9 ug/L	5.6 ug/L	4.0 ug/L	3.125 ug/L
Remote Point	3.0 ug/L	9.1 ug/L	16.1 ug/L	11.8 ug/L	10.00 ug/L
ODWS MAC					100.00 µg/L

Remaining parameters in TABLE B, Schedule 2 were tested quarterly and were below ODWS MAC, IMAC and/or AO.

9.2.3 O.Reg. 459/00, Schedule 2, Table C – Inorganics (and Sodium)

Inorganics are tested annually, in addition, lead shall be sampled annually in the distribution system at a point reflecting the maximum residence time in the distribution system. Lead is listed under Table 1 – Metals of the ODWS. The maximum acceptable concentration for Lead in drinking water is 0.01 mg/L. This applies to water at the point of consumption since lead is only present as a result of corrosion of lead solder, lead containing brass fittings or lead pipes which are found close to or in domestic plumbing and the service connection to buildings. Lead ingestion should be avoided particularly by pregnant women and young children, who are most susceptible. There was no exceedance of Lead concentrations; all samples were well below the MAC of 0.01 mg/L.

Arsenic – The interim maximum acceptable concentration for arsenic in drinking water is 0.025 mg/L; it is listed under Table C, Schedule 2 and Table 1 – Metals of the ODWS. Arsenic is a known carcinogen and must therefore be removed by treatment where present at levels over this concentration. Arsenic is sometimes found at higher levels in ground water in hard rock areas such as the Canadian Shield through the natural dissolution of arsenic containing minerals. Arsenic is present at very low concentrations in most surface waters. All samples analyzed for Arsenic were well below the IMAC limit of 0.025 mg/L.

ODWS Table C – Inorganic Metals

Parameter	Units	ODWS Obj.	ODWS type	Dates	Results
Arsenic	mg/L	0.025	IMAC	Feb. 19, Nov.12	<0.001
Barium	mg/L	1.0	MAC	Nov.12	0.80
Boron	mg/L	5.0	MAC	Nov.12	0.01
Cadmium	mg/L	0.005	MAC	Nov.12	<0.0001
Chromium (Total)	mg/L	0.05	MAC	Nov.12	<0.01
Copper	mg/L	1.0	AO	Feb.19, Nov.12	0.02
Iron	mg/L	0.3	AO	Feb. 19, Nov.12	<0.03
Lead (POE)	mg/L	0.01	MAC	Feb. 19 Nov.12	0.0096 0.0096
Lead (Dist.Sys.)	mg/L	0.01	MAC	Feb. 19 Nov.12	0.0002 0.0002
Manganese	mg/L	0.05	AO	Feb. 19, Nov.12	<0.01
Mercury	mg/L	0.001	MAC	Nov.12	<0.0001
Selenium	mg/L	0.01	MAC	Nov.12	<0.0001
Uranium	mg/L	0.02	MAC	Nov.12	0.002
Nitrate	mg/L	10.0	MAC	Feb. 19, May 3 Sep.4, Nov.12	Range 2.4 - 2.6
Nitrite	mg/L	1.0	MAC	Feb. 19, May 3, Sep.4, Nov.12	All <0.1

Nitrates/Nitrites are a quarterly parameter as per Schedule 2. The maximum acceptable concentration of nitrite in drinking water is 1.0 mg/L as Nitrogen. It is listed in Table 1 – Inorganic and Physical Parameters of the ODWS. Nitrite may occur in ground water sources, however, post-chlorination, the nitrite will usually be oxidized to nitrate. Nitrite concentrations in the quarterly sampling were all less than 0.1 mg/L. The maximum acceptable concentration of nitrates in drinking water is 10 mg/L as Nitrogen. The concentration range for nitrates in the quarterly samples was 2.4-2.6 mg/L. It is listed in Table 1 – Inorganic and Physical Parameters of the ODWS. Nitrates are present in water as a result of decay of plant or animal material, the use of agricultural fertilizers, or geological formations containing soluble nitrogen compounds.

Sodium - The aesthetic objective for sodium in drinking water is 200 mg/L. When sodium concentration exceeds 20 mg/L, this information may be communicated to local physicians for their use with patients on sodium restricted diets. Samples were taken from each raw water source and analyzed for sodium in February. The upper reservoir contained 21.1 mg/L Sodium when tested, the local Medical Officer of Health was notified. Sodium levels over ODWS limits are reportable to the Ministry of Environment once every five years.

9.2.4 O.Reg. 459/00, Schedule 2, Table D – Pesticides and PCB’s

TABLE D - Pesticides and PCB’s – Table D contains numerous parameters that are tested quarterly at the Chlorine Station (POE) as per Table 5, Sampling and Analysis Requirements of the ODWS. All quarterly samples submitted were below ODWS MAC, IMAC and AO.

9.2.5 DWSP

Drinking Water Surveillance Program (DWSP) samples were also submitted in August and December; lab results are available at the Public Works Municipal Office. Participation of operating authorities in DWSP is voluntary. The DWSP samples are analyzed at the Ministry of Environment Central Lab.

9.3 Monitoring and Reporting

9.3.1 Daily On-Site Monitoring

Certified operators make daily checks on the system and perform daily tests for the following operational parameters: free and total chlorine residuals, pH, colour, and temperature.

- pH - daily testing of pH is performed on water entering the distribution system by licensed operators as part of the daily monitoring program. The pH range of raw water entering the distribution system in 2002 was between 7.00 and 8.00, with an average pH of 7.72. The operational guideline recommended in drinking water by the ODWS is between 6.5 and 8.5.
- Colour – The aesthetic objective for colour in drinking water is 5 TCU (True Colour Units). The colour is tested daily on-site by a licensed operator. The range for colour entering the distribution system in 2002 was 2.0 to 3.0 TCU.
- Temperature – It is desirable that the temperature of drinking water should not exceed 15° C because the palatability of water is enhanced by its coolness. Low water temperatures offer a number of other benefits. A temperature below 15° C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and corrosion problems. Brighton's Spring Supply maintained water temperatures between 4° and 13° C during 2002. These temperatures are taken at the Chlorine Station prior to entering the distribution system.
- Free and Total Chlorine Residuals are performed daily by staff. There is also a continuous on-line Chlorine analyzer which is attached to an alarm. If the residuals drop below 0.5 mg/L free chlorine, an on-call operator is immediately notified.
- Turbidity – Turbidity is measured on the water entering the distribution system on a continuous basis by the on-line analyzer. The maximum acceptable concentration for turbidity in drinking water is 1.0 NTU for water entering the distribution system. Brighton's water supply averages 0.257 NTU.
- Conductivity – Conductivity is measured on a continuous basis by on-line analyzers at the treatment plant. The annual average for conductivity is 364 µΩ. Conductivity limitations or objectives are not listed in the ODWS; however it was required to be monitored daily as per C of A # 7-0020-92-006 (1992).

9.3.2 Reporting

Quarterly Reports are prepared and submitted to the Ministry of Environment, not later than 30 days after the end of each quarter. Each report describes the water system, the operation of the system and the sources of the water collected, produced, treated, stored, supplied or distributed by the system. It describes the measures taken to comply with the Ontario Drinking Water Standards and summarizes analytical results obtained.

An Annual Compliance must be prepared and made available not later than March 31 following the end of each calendar year. The Compliance Report shall be signed by a person designated by the Council of the municipality and confirm by a resolution of council that the Compliance Report has been presented to council.

Copies of Quarterly and Compliance Reports are available for inspection by any member of the public. Availability of these reports is advertised in local newspapers when completed.

9.4 Operations and Maintenance

Operators make daily inspections at the Water Treatment Plant including visual inspection of the grounds, equipment and on-site water quality testing and monitoring. The Contingency Plan and Operating and Maintenance Manuals are in place at the reservoirs as well as the Public Works office.

Instrument calibration as per the manufacturer's instructions, including four flow meters, turbidity and chlorine analyzers, pen recorder, and chlorine controller, was completed in May 2002.

There were a total of 25 water leaks, consisting of 5 watermain breaks and 20 service repairs, in the distribution system in 2002, down from a total of 59 leaks in 2001. Municipal staff conducted the majority of the repairs. All repairs to the distribution system were carried out under the direction of Mike Ryckman, Operator-in-Charge.

Watermain and service replacement projects took place on Cedar Street and a portion of Ontario Street during this reporting period.

The Municipality of Brighton encourages and supports safety and continuing education at the workplace. Staff are involved with on-site and off-site training programs in regards to health and safety and water distribution and treatment courses.

As part of the Municipality of Brighton's water conservation policy, the Water Conservation By-law No. 029-2001, is enforced annually from June 1st to September 15th. This by-law is maintained to regulate and restrict the unnecessary use of water for outdoor purposes within the serviced area. Staff monitor and enforce compliance to this by-law during the period that it is in effect.

10. NON-COMPLIANCE WITH TERMS AND CONDITIONS OF THE CERTIFICATE OF APPROVAL

- During the months of July and August, there were a total of 21 days where flow limits slightly exceeded the maximum rate of taking from the Upper Reservoir. Certificate of Approval 1.2(b), Pg. 3 maximum flow rate exceedance refers to the wells in Permit to Take Water 92-P-3067. However, exceedance to the amount of water taken, as noted in the Permit to Take Water, has occurred, *“The maximum rate of taking from the upper reservoir during any 24-hour period is authorized not to exceed 2,100 L/min. also, the maximum amount of taking from the upper reservoir during any 24-hour period is authorized not to exceed 3,024,000 liters/day.* There has been no reports regarding the amount of water drawn from the upper reservoir interfering with other water supplies. Operator-in-charge, Mike Ryckman, monitored and recorded reservoir levels daily and the springs were recharging the reservoirs at a good rate all summer, therefore exceedances were not immediately realized. Also, the upper reservoir is our most efficient use of supplying water to our customers. In the future, operators will monitor the amount of flow from each source and utilize additional supplementary sources during peak demands so that limits are not exceeded. See Appendix I Noncompliance of Flow Limits – Upper Reservoir.
- Caduceon Lab reported a Positive Total Coliform result to the Municipality on October 9, 2002 from the Chlorine Station (Point of Entry). Appropriate authorities were notified and resamples were taken on October 10th at the site as well as the next consumer along the distribution line. The resamples were reported as negative.

11. CONCLUSION

The Brighton Water Supply Plant is fortunate in having an excellent source of natural spring water as it's main source of water supply. However, the reservoirs are regarded as a surface water source and new regulations require the water be treated utilizing methods of filtration. The option of drilling an additional well and utilizing a groundwater source is a viable alternative. There are presently 2 wells available and providing an additional well and a contained storage reservoir would provide the protection and water quality that would meet the new M.O.E. standards and regulations and meet the future demands of the Municipality. The third well was constructed and developed in October/November by International Water Supply Ltd. The next phase includes approval of wells under the GUDI Terms of reference, installing a storage reservoir and treatment facility. An extension of the deadline of June 30th, 2003 has been requested to the M.O.E. for implementation of the physical improvement to the water system. As this project progresses, reporting will be provided to the public through newspaper notices, advertisements and quarterly reports.

The Brighton Water Department is proud of its water quality and is committed to providing the safest and most reliable water supply. Continuous effort will be made to promote the highest possible quality in drinking water.

DATE: _____

PREPARED BY: _____
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