Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Alfred Hub
2015 Lajoie Street, Box 252
Lefaivre, Ontario K0B 1J0
Tel: (613)679-4631 / Fax: (613) 679-4735

March 24, 2003

Mrs. Mary McCuaig,
Clerk-Treasurer,
The Nation Municipality
958 Route 500 West
Casselman. On
K0A 1M0

Re: St-Isidore Water Treatment Facility
Annual Compliance Report 2002

Dear Mary:

Attached please find the annual compliance report for the St-Isidore Water Treatment Facility for the operating year 2002, prepared by the Ontario Clean Water Agency. This report is submitted in accordance with Condition 4 of Certificate of Approval No. 2052-54FRY9 (CofA).

Conditions 4.1(d) through 4.1(f) state:

4.1(d) "*The Compliance Report shall be signed by a person designated by the Council of the municipality that owns the works or, where there is a Public Utilities Commission responsible for the works, the chief officer of the Public Utilities Commission or person designated by the chief officer of the Public Utilities Commission.*

4.1(e) "*Within three months of completion of the Compliance Report, the Owner shall confirm by a resolution of council that the Compliance Report has been presented to council.*

4.1(f) "*The Owner shall ensure that copies of the Compliance Report are available for inspection by any member of the public during normal business hours without charge and at the same location as that required by s.11 of O. Reg. 459/00 for reports under that regulation*".

The Council members representing the Nation Municipality have designated the Ontario Clean Water Agency as capable of signing the annual performance report on their behalf.

To fulfill condition 4(e) of the CofA, please submit this report to Council for review at their next Council meeting, where it will need to be confirmed by a resolution of council that the Compliance Report has been presented to council. Confirmation must be completed within three months of the date of this report.

Ontario Clean Water Agency
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To fulfill condition 4(f) of the CofA, please make this report available for inspection by any member of the public during normal business hours without charge at the Municipal Office, along with the quarterly water quality reports required by s.11 of O. Reg. 459/00.

I certify that I have reviewed the attached report on behalf of the Nation Municipality .

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Jacques Breen
Operations Manager,
Ontario Clean Water Agency
Alfred Hub

Cc: Cindy Spencer, RCA, Eastern Ontario, OCWA
John Kingsbury, CSR, Alfred Hub

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Annual Compliance Report

for the

St-Isidore Water Treatment Facility

for the year

2002

prepared for the Nation Municipality

by Jacques Breen, Operations Manager
Alfred Hub, Ontario Clean water Agency

Signature: Jacques Breen

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SECTION 1 "Compliance with Terms and Conditions of the Certificate of Approval".

The annual compliance report for the St-Isidore Water Treatment Facility for the operating year 2002, has been prepared by the Ontario Clean Water Agency. This report is submitted to the Owner in accordance with Condition 4 of Certificate of Approval (CofA) No. 2052-54FRY9, to ensure that a written report detailing compliance with all Terms and Conditions of this approval is completed annually. The Terms and Conditions of this approval are defined under Condition 1 - Performance, Condition 2 - Monitoring and Recording, and Condition 3 - Operations and Maintenance.

In accordance with CofA Condition 4(c)(i), under the heading of "Compliance with Terms and Conditions of the Certificate of Approval" the following is a statement as to the compliance of the St-Isidore Water Treatment Facility.

Compliance with Terms and Conditions of the Certificate of Approval

Statement of Compliance:

Terms and Conditions: 1. Performance

1.1 The Ontario Clean Water Agency is proud to report that the St-Isidore Water Treatment Facility was operated and maintained in such a manner, and with such facilities that water supplied to the consumers serviced by the system satisfied CofA No. 2052-54FRY9 Conditions 3.1 through 3.14 , and the requirements of the "Ontario Drinking Water Standards", dated January 2001, as amended from time to time.

1.2 (a) The Owner has a valid Permit To Take Water.

1.3 The water treatment plant is operated to treat water at a rate not exceeding the maximum flow rate of 752 m^3/day.

1.4 The flows into the water treatment plant do not exceed the maximum flow rate(s) set out in Condition 1.3, except:

(a) where necessary to meet an unusual water demand for fighting a large fire, or

(b) where necessary for the purpose of maintenance of the works and essential to its efficient operation, and provided that the treated water quality satisfies the requirements set out in the Ministry Procedure B13-3 entitled "Chlorination of Potable Water Supplies in Ontario", dated January 2001, as amended from time to time.

1.5 The disinfection facilities in the water treatment plant were operated and maintained in such a manner and with such facilities as is necessary to be in accordance with the Ministry Procedure B13-3 entitled "Chlorination of Potable Water Supplies in Ontario", dated January 2001, as amended from time to time.

CofA Compliance Reporting Condition 4(c)(i) - Compliance With Terms and Conditions -

The following is a detailed description of the measures taken to ensure compliance with Conditions 2.1 through 2.2 of the Certificate of Approval, related to flow rate exceedances, and a summary of analytical results of sampling required by the certificate;

St-Isidore WTF - Compliance With Terms and Conditions 2.1 through 2.2
Measures Taken to Ensure Compliance
Condition 2.1(a) Flow rates and daily quantity of water being taken from the raw water source are measured and recorded daily. In addition, flow volumes of treated water supplied by the treatment plant to the distribution are recorded daily.
Condition 2.1(b) Flow measuring devices are calibrated at least annually as specified by the instruments manufacturer's instructions.
Condition 2.1(c) Flow measurement results are recorded daily as both total, and daily peak flows.
Condition 2.1(d) All flows are recorded in an electronic Process Data Collection (PDC) database, including the date, time, duration and cause of each occasion that the flow rate exceeded that specified in Condition 1.3
Condition 2.1(e) The WTF has installed and operates continuous water quality analyzers and indicators with alarm systems to monitor the free chlorine residual and turbidity in treated water at the point(s) of entrance to the distribution system.
Condition 2.1(f) Samples of raw and treated water have been collected and analyzed for parameters at the locations and frequencies in accordance with Regulation 459/00.
Condition 2.1(h) The sampling required by clauses (f) above are performed in a manner that ensures samples have a composition which is representative of the water stream from which they are taken, and also in accordance with the instructions provided by the accredited laboratory engaged to perform the analysis.

CofA Compliance Reporting Condition 4(c)(i) - Compliance With Terms and Conditions -

The following is a detailed description of the measures taken to ensure compliance with Conditions 3.1 through 3.14 of the Certificate of Approval, including any supporting data or other information.

St-Isidore WTF - Compliance With Terms and Conditions 3.1 through 3.14
Measures Taken to Ensure Compliance: Condition 3.1 - the Owner, when making decisions within its authority, shall consider the impact of these decisions on the drinking water source for water works approved by this Certificate. Condition 3.2 - Subsequent to repairs to the water supply or distribution system, or interruptions in the operation of the water supply resulting in negative pressure conditions in the distribution system, and prior to utilization of the affected parts of the works for the supply of potable water, the Ontario Clean Water Agency will ensure that affected parts of the water supply or distribution system have been adequately disinfected in accordance with the Ministry Procedure B13-3 entitled "Chlorination of Potable Water Supplies in Ontario, dated January 2001 as amended from time to time. Condition 3.3 - The OCWA, on behalf of the owner, will ensure that there is an operator who holds a valid license that is applicable to the St-Isidore Water Treatment Facility, and that is of the same class as or higher class than the class determined for the water treatment plant in accordance with O. Reg. 435/93, and who is responsible for the operation of the water treatment plant. Condition 3.4 - The OCWA, on behalf of the owner, will ensure that, at all times, the works and the related equipment and appurtenances used to achieve compliance with this certificate are properly operated and maintained. Condition 3.5 - The OCWA, on behalf of the owner, will ensure that all chemicals used in the treatment process and all materials contacting the water meet both the American Water Works Association (AWWA) quality criteria as set out in AWWA standards and the American National Standards Institute (ANSI) safety criteria as set out in ANSI standard NSF/60 or NSF/61. Condition 3.6 - The OCWA, on behalf of the owner, shall immediately discontinue use of any chemical upon written notice by the Director. Condition 3.7 - The OCWA, on behalf of the owner, has established written procedures for notification of the Medical Officer of Health and the Ministry of the Environment required by O. Reg. 459/00, and will ensure that these procedures are followed. These procedures have been prepared as part of OCWA's Environmental Management System (EMS) and are contained in the site specific Environmental Contingency Plan binder. A copy of these procedures are attached as Appendix I. Condition 3.8 - The OCWA, on behalf of the owner, has established site specific contingency plans and procedures and ensure that adequate equipment and material are available for dealing with emergencies, upset conditions and equipment breakdowns in the works, and that such plans and procedures are implemented. This will be available for inspection by Ministry personnel and/or the public upon request.

CofA Compliance Reporting Condition 4(c)(i) - Compliance With Terms and Conditions -

St-Isidore WTF - Compliance With Terms and Conditions 3.1 through 3.14
Measures Taken to Ensure Compliance: Condition 3.9 - The Owner will provide an operations manual that will incorporate, at a minimum, the requirements of this certificate, and any adopted operation and maintenance recommendations of the Engineer's Report based on which this certificate has been issued. Condition 3.10 - The Owner will ensure that the operations manual will include any monitoring and reporting of necessary raw water and in-process parameters that are essential for control of the treatment process. The manual shall also contain procedures that are required for adequate operation and maintenance of the monitoring equipment. Condition 3.11 - The Owner shall ensure that within one (1) year of substantial completion of construction of new water works required by this Certificate, that drawings accurately showing the works as constructed (record drawings) are prepared and kept up-to-date, including timely incorporation of all modifications made to the works throughout its operations life. A copy of these drawings will be stored either at the facility or at the Municipal Office, and will be made available for inspection by Ministry personnel upon request. Condition 3.12 - The Owner shall ensure that a Process and Instrumentation Diagram (PID) for the entire water treatment plant is prepared and kept-up-to date, including timely incorporation of all modifications made to the works throughout its operations life. A copy of these drawings will be stored either at the facility or at the OCWA Hub Office, and will be made available for inspection by Ministry personnel upon request. Condition 3.13 - The Owner shall keep a complete set of up-to-date drawings and diagrams required to be prepared by Conditions 3.11 and 3.12, and all existing record drawings which are currently in retention throughout the operational life of the water works, and shall make them readily available for inspection by Ministry personnel upon request. Condition 3.14 - The OCWA, on behalf of the owner, has established procedures for receiving, responding to, and recording complaints about any aspects of the works, including recording the steps that were taken, if any, to determine the cause of the complaint and the corrective measures taken to alleviate the cause and prevent its reoccurrence. Attached as Appendix II, please find a blank copy of a Community Complaint Report. OCWA staff record all pertinent information regarding the complaint including the facility name and address, the complainant's name, date of complaint, nature of complaint, complaint description, and action taken in response. Once the compliant has been addressed and remedied, all pertinent information is recorded and stored in an electronic database created by the OCWA. Currently OCWA staff are required to submit all community complaints forms (if any) to the Hub Office.

CofA Compliance Report Condition 4(c)(i) - Compliance With Terms and Conditions -

The following is a detailed description of the measures taken to ensure compliance with the requirements of the "Ontario Drinking Water Standards", dated January 2001, as amended from time to time.

Measures Taken to Ensure Compliance:

The Ontario Drinking Water Standards (ODWS) are established to assist with meeting the legislated requirements governing water works under the Ontario Water Resources Act (OWRA) and should be used in conjunction with the Drinking Water Protection Regulation.

In Section 2.3 of the ODWS, the Municipality ensures responsibility for water quality, even though a third party (OCWA) is contracted for the treatment and/or distribution of water and acts as a statutory agent for the municipality. OCWA has ensured that a protocol has been established for the purpose of notification and corrective action. The protocol is attached as Appendix I.

The Ontario Clean Water Agency ensures compliance is met with the requirements of the ODWS by operating the water treatment facility so that water intended for human consumption does not exceed the standards described in the ODWS. These standards are defined as Maximum Acceptable Concentration (MAC) standards, and Interim Maximum Acceptable Concentration (IMAC) standards. In the event that ODWS standards are exceeded, OCWA will follow the requirements of Sections 8, 9 and 10 of O. Reg. 459/00 - notifying the Medical Officer of Health and the MOE, perform corrective action as required, and if necessary, post a warning notice in a prominent location (Appendix I).

OCWA also operates the water treatment facility so that aesthetic objectives (which are non health related) are controlled to ensure efficient and effective treatment and distribution of water.

A study required as part of O. Reg 459/00 is presently being conducted by Lecompte Engineering Ltd, to determine whether or not the raw water supplied to the St-Isidore WTP by the four wells (4) (i.e. Well No. 1,2,3, and 5) is deemed to be "Groundwater Under the Direct Influence of Surface Water" (GUDI). The preliminary results of the study forwarded by the hydrogeological firm of "Golder & Associates", was incomplete and inconclusive, therefore it was recommended that a complete hydrogeological study be undertaken for the four (4) communal wells in question. Results of the second study received on December 12, 2002, indicated that the bedrock aquifer at communal well No. 3 was not providing effective in-situ filtration. This well was immediately shut down and removed from the production line by the operating authority until a remedial solution is forwarded by the Consulting Engineers. The results also indicated that well No. 5 was moderately under the direct influence of surface water. In order to validate the results of well No. 5 three (3) additional microscopic particle analysis were completed at the end of December 2002 and in early January 2003. The latter test results indicated that the bedrock aquifer at communal well No. 5 was providing effective in -situ filtration. A final report concerning the findings and necessary upgrades to ensure compliance with O. Reg. 459/00 is to be issued by the Consulting Engineer and submitted to the Ministry of the Environment in the very near future.

The Ontario Clean Water Agency also ensures compliance with the ODWS by establishing a sampling schedule based on O. Reg. 459/00, schedule 2, and section 2(1)(e) through 2(1)(h) of the facility CofA. All sampling is performed in accordance with the Ministry of the Environment's "Guide to Collection and Submission of Samples for Laboratory Analysis". Compliance is also ensured by having all laboratory samples analyzed by a laboratory accredited by the Canadian Association for Environmental Analytical Laboratories (C.A.E.A.L.) of Canada.

All water supplied by the St-Isidore, WTF is disinfected to meet those requirements described in Procedure B13-3 Chlorination of Potable Water Supplies in Ontario.

SECTION 2
"Non-Compliance with Terms and Conditions of the Certificate of Approval".

In accordance with CofA Condition 4(c)(ii), in the event of any non-compliance during the reporting period, and under a heading of "Non-Compliance with Terms and Conditions of the Certificate of Approval" provide details of the non-compliance as well as details of how and when any non-compliance was corrected;

On May 29, 2002 Turbidity exceeded the ODWS limit of 1.0 NTU, recording 1.02 NTU on the treated water entering the distribution system. As a result OCWA actively undertook the following remedial actions:
- Immediate notification to the Medical Officer of Health and the Ministry of the Environment.
- Increased the chlorine dosage
- clean the clear well

SECTION 3
"Summary & Discussion of Quantity of Water Supplied etc.

In accordance with CofA Condition 4(c)(iii), find a summary and discussion of the quantity of water supplied during the reporting period compared to the rated capacity specified in this certificate of approval, including monthly average and maximum daily flows;

The rated capacity specified in this CofA for the St-Isidore WTF is 752 m^3/day. The monthly average flow for the reporting period was 233 m^3/day, and the maximum daily flow for the reporting period was 485 m^3/day.

Attached as Appendix III, find a summary of raw water flows including total, average, maximum and minimum day flows during the reporting period.

The quantity of water supplied during the reporting period did not exceed the rated maximum capacity. However the maximum Rate of Taking in Litres/sec. Of 1.8 allowed from well No. 5 under permit to take water No. 95-P-4048 (PTTW) was exceeded at three different occasions in 2002. Further details concerning this exceedence will be provided in section 4.

SECTION 4
Summary of Records Related to Flow Rate Exceedances, and a Summary of Analytical Results of Sampling.

In accordance with CofA Condition 4(c)(iv) find a summary of records made under Condition 2.1 related to flow rate exceedances, and a summary of analytical results of sampling required by the certificate, including raw water and in-process parameters as specified in the operations manual in accordance with Condition 3.10 as follows;

Flow Rate Exceedances:

CofA Condition 2.1(d) All flows are recorded in an electronic Process Data Collection (PDC) database. The PDC database has provisions for recording the date, time, duration and comments by operations staff such as reasons why the rate of flow may be elevated. A customized report showing all exceedances of flow (where applicable) is attached as Appendix IV. Any exceedances of flow have been previously identified and the cause of each occasion that the flow rate exceeded explained in Section 3.

Attached in Appendix IV is a letter from OCWA to MOE dated March 12, 2003 which summrizes Permit to take water No. 95-P-4048 rates of water whitdrawals from wells No. 1,2,3 and 5 during 2002. All wells were within their respective allowable quantities of water taking for the exception of well no.5. As previously outlined in section 3 well No.5 exceeded its maximum rate of taking of 1.8 l/s in April, June and July. Since that time operational adjustments have been performed to the process equipment to prevent this exceedence from reoccuring.

Summary of Analytical Results of Sampling:

Samples of raw and treated water have been collected and analyzed for parameters at locations and frequencies in accordance with Regulation 459/00. A copy of the analyses performed during the reporting period are found in the Annual Summary Report, in Appendix V. This summary report provides microbiological results for Raw, Treated, and Distribution system samples, in-house process parameters such as free and total chlorine residuals, turbidity results, and treated water volatile organics results, inorganic chemical results, and pesticides and polychlorinated biphenyl (PCB) results.

SECTION 5

Summary Listing Treatment Chemicals used, including average dosage rates with special reference to any abnormal usages.

Attached as Appendix VI is a summary listing the treatment chemicals used at the St-Isidore WTF during the reporting period along with the corresponding chemical dosage rates and treated water flows.

Sodium Hypochlorite is the only chemical utilized at the St-Isidore WTF and well No.5. The sodium Hypochlorite is applied to the clear well and at well No.5 in order to comply with the disinfection requirements of Regulation B-13. The Free chlorine residual of the treated water entering the distribution system in 2002 averaged, 1.7mg/l at the WTF and 1.2 mg/l at well No.5. These residuals are necessary to ensuring compliance at all times with respect to the minimum residual requirement of 0.2 mg/l at the furthest point of the distribution system.

Interpretation of Results:

The chemical dosage amounts used during the reporting period were consistent with the water demands of the system (i.e. flow). A review of the results shows that there were no abnormal usage's of treatment chemicals during the reporting period.

END

APPENDIX I

Written Procedures for Notification of the Medical Officer of Health

&

the Ministry of the Environment Spills Action Center

ONTARIO CLEAN WATER AGENCY	ENVIRONMENTAL CONTINGENCY PLAN
Updated by: Jean-Pierre Gelinas	Approved by:Jacques Breen

St-Isidore Water Treatment Facility

ADVERSE WATER QUALITY

Classification: Compliance - Regulatory (O. Reg. 459/00)

Solution: To report indicators of adverse water quality, OCWA as the operating authority will be acting on behalf of the owner (client) to fulfil the obligations on notifications to the proper authority i.e.. Ministry of the Environment Spills Action Centre (SAC), Medical Officer of Health (MOH) and the Owner of the water works (client).

1. Laboratory will notify water works sampler (operating authority, i.e. OCWA) of an adverse water quality sample, verbally by telephone and by faxing the notification form, Notice of Drinking Water Analysis and Remedial Action for Waterworks, Part 1- Notification by Laboratory. To the (operating authority, i.e. OCWA)

1.(a) Laboratory will notify the Ministry of the Environment, Spill Action Centre and the Local Medical Officer of Health or his/her designate.

2. The operating authority will **immediately** notify the Ministry of the Environment, Spills Action Center at 1-800-268-6060 or 1-416-325-3000 and **immediately** notify the area Medical Officer of Health 1-613-933-1375or 1-800-267-7120. The operating authority must record the **name** of the person the notification was reported to, the **time** and **date** of the incident, and record the information in the water works daily plant log at the water works plant for OCWA verification.

3. After receiving Part 1, Notification faxed by Laboratory, the operator must fill out the section labelled - Part 2 (Notification by Waterworks Owner).

4. The filled out form Part 1 and Part 2(**Notice of Drinking Water Analysis and Remedial Actions for Waterworks as Required under Drinking Water Protection Regulation**) is to be faxed to SAC MOE (1-800-268-6061 or 1-416-325-3011) and to the local MOH 1-613-938-9707or 1-613-930-7077.

ONTARIO CLEAN WATER AGENCY	ENVIRONMENTAL CONTINGENCY PLAN
Updated by: Jean-Pierre Gelinas	Approved by:Jacques Breen

St-Isidore Water Treatment Facility

Indicators of Adverse Water Quality:

- E.Coli, fecal coliform, or total coliform detected in any required sample other than a raw water sample.
  Corrective Action: Increase the chlorine dosage and flush the mains to ensure that a total chlorine residual of at least 1.0 mg/L or a free chlorine residual of 0.2 mg/L is achieved at all points in the affected parts of the distribution system. Resample and analyze. Corrective action should begin immediately and continue until bacteria are not detected in two consecutive sets of samples, or as instructed by the local Medical Officer of Health.

- Unchlorinated water is directed to the distribution system, where chlorination is used or required. This includes water in the distribution system which has less than 0.05 mg/L of free chlorine when tested.
  Corrective Action: Restore chlorine immediately and follow instructions as directed by local Medical Officer of Health.

- Samples other than raw water samples contain more than 500 colonies per mL on an HPC plate count or more than 200 background colonies on a total coliform membrane filter analysis.
  Corrective Action: Resample and analyze. On confirmation, call the local Medical Officer of Health again and consult.

- Aeromonas spp., pseudomonas aeruginosa, staphylococcus aureus, clostridium spp., or fecal streptococci (group D) are detected in samples other than raw water.
  Corrective Action: Resample and analyze. On confirmation, call the local Medical Officer of Health again and consult.

- Laboratory results show that a parameter exceeds the MAC or IMAC set out for the parameters in Schedule 4 or 5.
  Corrective Action: Resample and analyze. On confirmation, call the local Medical Officer of Health again and consult.

ONTARIO CLEAN WATER AGENCY	ENVIRONMENTAL CONTINGENCY PLAN
Updated by: Jean-Pierre Gelinas	Approved by:Jacques Breen

St-Isidore Water Treatment Facility

Resampling: should consist of a minimum of 3 samples to be collected for each positive sampling site: one sample should be collected at the affected site; one at an adjacent location on the same distribution line; and a third sample should be collected some distance upstream on a feeder line toward the water source. The chlorine residual and the time of sampling for each site should also be noted at each sampling location. The collection of three samples is considered the minimum number for each positive sampling site. The measurement of the chlorine residual in the vicinity of the positive sampling site may assist in determining the extent of the contamination within the distribution system.

Posting Warning Notice

If resample analysis still shows contamination then a warning notice must be posted. At all effective area of the water system. Section 10 - Positing Warning Notice Reg 495/00.

This statement will change with the level of water contamination. In some cases the water contamination maybe very difficult to correct and pending on the chemical analysis involved this may require some sort of special treatment process to correct the problem. The local medical officer of health may go directly to an MOH order.

Owner/Operator must post a warning notice to the public in the following situation:

(1) non - compliance with sampling and analysis requirements of Section 7(1) for microbiological parameters (set out in Schedule 2 or as an additional requirements of an approval, order or direction) Reg/495/00 ; or

(2) if notice is required to be given to the Local Medical Officer of Health and the Ministry of the Environment because of a microbiological parameter in Schedule 6 and the owner has not taken corrective action for an indicator of adverse water quality set out in Schedule 6. Reg 495/00

Where Should the Notice be posted? (Section 10 (2) and (3)) Reg 495/00

The notice should be posted in such a place where it would be easy for members of the community to see it. If the owner doesn't post the notice, a provincial officer from the Ministry

of the Environment or the public health inspector may post warning and issue a Provincial Officer's Order.

Notifying the Press

All press related issues will be handled by the Client Service Representative (CSR) or the Hub manager.

APPENDIX II

Blank Community Complaints Form

Ontario Clean Water Agency
Community Complaints

Reference
Yes: ☒ No: ☐

Facility ID:

Facility Name:

Name of Person with Complaint:

Address:

City:

Province:

Postal Code:

Date of Complaint:

Time of Complaint:

Nature of Complaint

Noise **Visual** **Odour** **Waste Supply Taste/Colour**

Service Problem **Sludge Related** **Other**

Description:

Action taken in response:

Was the source of the problem identified?:
Was the source an OCWA facility/activity?: **If "yes", describe:**

If any remedial action is required, be sure to add it to the Facility Action Plan

APPENDIX III

Summary of Raw Water Flows

Ontario Clean Water Agency
Monthly Process Data Report

Municipality: St-Isidore de Prescott
Project: [6915] - St. Isidore de Prescott Water Treatment Plant
Project Number: 7153691936
Work Number 220003573
Description: A Five Well Facility System

Year: 2002
Water Source/Receiver: Groundwater
Design Avg Day Flow(m³): 907

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summary
Raw Water/Flows [W1 - WELL 1]													
Raw Flow: Sum (m3/d)													
Avg:	99.774	99.714	100.065	104.3	109.258	97.233	100.613	104.097	99.6	96.065	93.067	107.161	100.912
Sum:	3,093.	2,792.	3,102.	3,129.	3,387.	2,917.	3,119.	3,227.	2,988.	2,978.	2,792.	3,322.	36,846.
Min:	89.	95.	94.	89.	89.	74.	78.	96.	89.	73.	83.	89.	73.
Max:	117.	105.	109.	130.	160.	108.	117.	112.	119.	122.	105.	124.	160.
Raw Water/Flows [W2 - WELL 2]													
Raw Flow: Sum (m3/d)													
Avg:	98.677	99.857	100.613	105.267	111.387	96.867	99.968	104.387	101.1	98.226	96.633	89.613	100.216
Sum:	3,059.	2,796.	3,119.	3,158.	3,453.	2,906.	3,099.	3,236.	3,033.	3,045.	2,899.	2,778.	36,581.
Min:	88.	95.	94.	90.	90.	74.	78.	97.	92.	77.	88.	82.	74.
Max:	116.	106.	109.	131.	160.	107.	114.	110.	120.	128.	108.	98.	160.
Raw Water/Flows [W3 - WELL 3]													
Raw Flow: Sum (m3/d)													
Avg:	41.258	32.5	33.032	34.	35.581	32.	32.742	34.129	33.833	30.548	29.467	10.032	31.594
Sum:	1,279.	910.	1,024.	1,020.	1,103.	960.	1,015.	1,058.	1,015.	947.	884.	311.	11,526.
Min:	29.	31.	31.	29.	29.	25.	26.	32.	31.	24.	27.	.	.
Max:	300.	34.	36.	42.	52.	35.	38.	37.	40.	43.	33.	30.	300.
Raw Water/Flows [W5 - WELL 5]													
Raw Flow: Sum (m3/d)													
Avg:	62.645	65.536	64.29	68.133	68.258	69.6	69.	65.065	58.833	64.871	62.867	68.226	65.61
Sum:	1,942.	1,835.	1,993.	2,044.	2,116.	2,088.	2,139.	2,017.	1,765.	2,011.	1,886.	2,115.	23,951.
Min:	46.	62.	59.	61.	57.	57.	44.	61.	.	51.	57.	53.	.
Max:	71.	69.	67.	83.	83.	154.	129.	69.	90.	84.	70.	98.	154.

Ontario Clean Water Agency
Performance Assessment Report - Ground Water Supply

Municipality: St-Isidore de Prescott
Project: [6915] - St. Isidore de Prescott Water Treatment Plant
Project Number: 7153691936
Works Number: 220003573
Description: A Five Well Facility System

Year: 2002
Water Source: Groundwater
Design Avg Day Flow(m³): 907.0
Effluent Group Selected: WTP

	<<< --- Flows Treated		--- >>> <<< --- Effluent Physical/Chemical Parameters						--- >>> <<< --- Disinfection				< - Bact. (# of Samples) - >			
Month	Total Flow m³	Avg Day m³	Max Day m³	Avg Turb. (NTU)	Avg Colour (TCU)	THM (ug/L)	Avg Iron (ug/L)	Avg Sodium (mg/L)	Avg Nitrate mg/L	Avg Free Cl2 Resid. Treat (mg/L)	Avg Total Cl2 Resid. Treat (mg/L)	Min Free Cl2 Resid. Dist. (mg/L)	Min Total Cl2 Resid. Dist. (mg/L)	<----- Safe -----> Treat	Dist	<---- Adverse ----> Treat	Dist
JAN	7,431	240	485	0.14	1.89					1.89	2.23	0.20	0.50	5	15		
FEB	6,514	233	245	0.10	2.00					1.38	1.60	0.23	0.55	4	12		
MAR	7,245	234	254	0.12	2.00	68.000	-1.00	96.80	0.10	1.32	1.60	0.30	0.50	4	12		
APR	7,307	244	303	0.14	2.00					1.29	1.50	0.30	0.50	5	15		
MAY	7,912	255	372	0.22	1.67	41.000	0.02	102.00	0.10	1.64	1.96	0.35	0.65	4	12		
JUN	6,783	226	250	0.11	1.63					2.00	2.26	0.20	0.50	4	12		
JUL	7,227	233	267	0.11	2.00					1.42	1.72	0.25	0.55	5	15		
AUG	7,521	243	259	0.13	1.50	1.000	50.00	105.00	0.10	1.61	1.67	0.25	0.52	4	12		
SEP	7,036	235	279	0.15	1.75					1.54	1.71	0.20	0.50	4	12		
OCT	6,970	225	293	0.13	1.43					2.17	2.39	0.35	0.50	5	15		
NOV	6,575	219	246	0.11	1.29	102.000				2.07	2.39	0.35	0.55	4	12		
DEC	6,411	207	222	0.10	1.00					1.99	2.31	0.36	0.50	5	15		
Total:	84,932													53	159	0	0
AVG:		233		0.13	1.68	53.000	16.34	101.27	0.10	1.69	1.96	0.28	0.53	4	13		
MAX:			485	0.22	2.00	102.000	50.00	105.00	0.10	2.17	2.39	0.36	0.65	5	15		
Criteria:				1.00	5.00	100.000											

LEGEND:

Effluent Group Selected: WTP - WTP

NOTE: -1 Analysis result less than detectable limit

Ontario Clean Water Agency
Performance Assessment Report - Ground Water Supply

Municipality: St-Isidore de Prescott
Project: [6915] - St. Isidore de Prescott Water Treatment Plant
Project Number: 7153691936
Works Number: 220003573
Description: A Five Well Facility System

Year: 2002
Water Source: Groundwater
Design Avg Day Flow(m³): 907.0
Effluent Group Selected: **W5**

	<<< --- Flows Treated --- >>>		<<< --- Effluent Physical/Chemical Parameters --- >>>						<<< --- Disinfection --- >>>				< - Bact. (# of Samples) - >			
Month	Total Flow m³	Avg Day m³	Max Day m³	Avg Turb. (NTU)	Avg Colour (TCU)	THM (ug/L)	Avg Iron (ug/L)	Avg Sodium (mg/L)	Avg Nitrate mg/L	Avg Free Cl2 Resid. Treat (mg/L)	Avg Total Cl2 Resid. Treat (mg/L)	Min Free Cl2 Resid. Dist. (mg/L)	Min Total Cl2 Resid. Dist. (mg/L)	<----- Safe -----> Treat	Dist	<---- Adverse ----> Treat	Dist
JAN	1,942	63	71	0.17						0.64	1.05	0.20	0.50	5	15		
FEB	1,835	66	69	0.17						0.71	1.07	0.23	0.55	4	12		
MAR	1,993	64	67	0.22						0.87	1.18	0.30	0.50	4	12		
APR	2,044	68	83	0.22						1.19	1.47	0.30	0.50	5	15		
MAY	2,116	68	83	0.23						0.80	1.09	0.35	0.65	4	12		
JUN	2,088	70	154	0.16						1.14	1.57	0.20	0.50	4	12		
JUL	2,139	69	129	0.18						1.43	1.94	0.25	0.55	5	15		
AUG	2,017	65	69	0.13						1.60	2.00	0.25	0.52	4	12		
SEP	1,765	63	90	0.13						1.42	1.78	0.20	0.50	4	12		
OCT	2,011	65	84	0.14						1.47	1.82	0.35	0.50	5	15		
NOV	1,886	63	70	0.15						3.07	1.94	0.35	0.55	4	12		
DEC	2,115	68	98	0.19						1.78	2.07	0.36	0.50	5	15		
Total:	23,951													53	159	0	0
AVG:		66		0.17						1.34	1.58	0.28	0.53	4	13		
MAX:			154	0.23						3.07	2.07	0.36	0.65	5	15		
Criteria:				1.00													

LEGEND:

Effluent Group Selected: W5 - WELL 5

NOTE: -1 Analysis result less than detectable limit

APPENDIX IV

Summary of Flow Rate Exceedances

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Alfred Hub
2015 Lajoie Street, Box 252
Lefaivre, Ontario K0B 1J0
Tel: (613)679-4631 / Fax: (613) 679-4735

March 12, 2003

Mr. Brian R. Ward
Regional Director
Ministry of the Environment
Eastern Region
133 Dalton Avenue, Box 820
Kingston, ON K7L 4X6

RE: St-isidore Water Treatment Plant Well No. 3 "PTTW No. 95-P-4048"
2002 Annual Record of Water Taking

Please find attached to this letter a copy of the Annual Record of Water Taking which summarizes Permit to Take Water No. 95-P-4048 rates of water withdrawals from Well No. 1 through 5 during 2002. All wells were within their respective allowable amount of water taking for the exception of Well No. 5. Although the Daily Maximum rate of taking was never exceeded during the year, the maximum "Rate of Taking" in Litres/sec of 1.8 was slightly exceeded in April, June and July of 2002. Operational adjustments have been performed to the process equipment in an attempt to prevent any further exceedences in respect to the allowable amount of water taking from reoccurring.

Should you have any questions concerning this matter please feel free to contact me at (613) 679-4631.

Sincerely,

Jean-Pierre Gélinas
Process & Compliance Technician, OCWA
Alfred/Lefaivre Hub

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Attachment: Annual Record of Water Taking 2002

cc: Mary McCuaig, The Nation Municipality
Jacques Breen, Operations Manger, OCWA
Cindy Spencer, Compliance Advisor, OCWA

Ministry Of The Environment
Ministére de l'Environnement

Annual Record Of Ground Water Taking
Registre annuel de prélèvement d'eau souterraine

Personal information contained on this form is collected under the authority of the Ontario Water Resources Act, Section 20. The Purpose of the form is to record details and information about the taking of water annually. Questions should be directed to the Ministry of the Environment's Regional office in your area.

Les renseignements personnes qui figurent dans le présent formulaire sont resueillis en vertu de l'article 20 de la Loi sur les ressources en eau de l'Ontario. La présente sert à consigner aux dossiers les détails et les renseignements concernant la prise d'eau annuelle. Priére d'adresser toute Question au bureau régional du ministére de l'Environnement le Plus proche.

Year: 2002 *Année*

Permit No.: 95P4048 *N° de permis*

Source: Groundwater WW #1

Name of Permittee: *Nom du titulaire du permis*

Mailing Address: 209 Limoges Rd , ON K0A2M0 *Adresse postale*

Location Of Taking: *Lieu de la prise d'eau*

Twp. or Municipality: *Canton ou municipalité* St-Isidore de Prescott

Concession: Concession Road 11

Lot: 21

Date Of Taking *Date de la prise d'eau*	Hours Of Taking *Heure*	Rate Of Taking Litres/sec *Débit de prise d'eau*	Amount Of Taking m^3 *Volume des prises*	Maximum Rate of Taking m^3 /day *Taux de prélèvement maximum*	Remarks *Observations*
JAN	283.80	3.03	3,093	117	
FEB	259.61	2.99	2,792	105	
MAR	290.50	2.97	3,102	109	
APR	290.80	2.99	3,129	130	
MAY	312.50	3.01	3,387	160	
JUN	273.90	2.96	2,917	173	
JUL	292.30	2.96	3,119	117	
AUG	308.90	2.90	3,227	112	
SEP	297.70	2.79	2,988	119	
OCT	294.50	2.81	2,978	122	
NOV	278.00	2.79	2,792	100	
DEC	267.10	3.46	3,322	124	

I certify that the above information is true, complete and accurate. *J'atteste que les renseignements ci-dessus sont vrais, complets et exacts.*

Signature

Date

Ministry Of The Environment
Ministére de l'Environnement

Annual Record Of Ground Water Taking
Registre annuel de prélèvement d'eau souterraine

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Year: 2002 *Année*

Permit No.: 95P4048 *N° de permis*

Source: Groundwater W #2

Name of Permittee: *Nom du titulaire du permis*

Mailing Address: 209 Limoges Rd , ON K0A2M0 *Adresse postale*

Location Of Taking: *Lieu de la prise d'eau*

Twp. or Municipality: *Canton ou municipalité* St-Isidore de Prescott

Concession: Concession Road 11

Lot: 21

Date Of Taking *Date de la prise d'eau*	Hours Of Taking *Heure*	Rate Of Taking Litres/sec *Débit de prise d'eau*	Amount Of Taking m^3 *Volume des prises*	Maximum Rate of Taking m^3 /day *Taux de prélèvement maximum*	Remarks *Observations*
JAN	282.50	3.01	3,059	116	
FEB	259.89	2.99	2,796	106	
MAR	290.60	2.98	3,119	109	
APR	283.11	3.20	3,158	131	
MAY	312.30	3.10	3,453	160	
JUN	272.90	2.96	2,906	74	
JUL	292.00	2.95	3,099	114	
AUG	307.90	2.92	3,236	110	
SEP	296.90	2.84	3,033	120	
OCT	293.70	2.88	3,045	128	
NOV	275.38	2.93	2,899	103	
DEC	262.10	2.95	2,778	93	

I certify that the above information is true, complete and accurate. Signature Date

J'atteste que les renseignements ci-dessus sont vrais, complets et exacts.

Ministry Of The Environment
Ministère de l'Environnement

Annual Record Of Ground Water Taking
Registre annuel de prélèvement d'eau souterraine

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Year: 2002 *Année*

Permit No.: 95P4048 *N° de permis*

Source: Groundwater W #3

Name of Permittee: *Nom du titulaire du permis*

Mailing Address: 209 Limoges Rd , ON K0A2M0 *Adresse postale*

Location Of Taking: *Lieu de la prise d'eau* St-Isidore W.T.P

Twp. or Municipality: *Canton ou municipalité* St-Isidore de Prescott

Concession: Concession Road 11

Lot: 21

Date Of Taking *Date de la prise d'eau*	Hours Of Taking *Heure*	Rate Of Taking Litres/sec *Débit de prise d'eau*	Amount Of Taking m^3 *Volume des prises*	Maximum Rate of Taking m^3 /day *Taux de prélèvement maximum*	Remarks *Observations*
JAN	282.79	1.28	1,279	38	
FEB	259.40	0.97	910	34	
MAR	290.50	0.98	1,024	36	
APR	290.80	0.97	1,020	42	
MAY	312.30	0.98	1,103	52	
JUN	272.30	0.98	960	35	
JUL	288.20	0.98	1,015	38	
AUG	304.10	0.97	1,058	37	
SEP	296.60	0.95	1,015	40	
OCT	293.70	0.89	947	43	
NOV	276.20	0.89	884	33	
DEC	95.50	0.90	311	30	

I certify that the above information is true, complete and accurate. Signature Date

J'atteste que les renseignements ci-dessus sont vrais, complets et exacts.

Ministry Of The Environment
Ministére de l'Environnement

Annual Record Of Ground Water Taking
Registre annuel de prélèvement d'eau souterraine

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Year: 2002 *Année*

Permit No.: 95P4048 *N° de permis*

Source: Groundwater WJ #4

Name of Permittee: *Nom du titulaire du permis*

Mailing Address: 209 Limoges Rd , ON K0A2M0 *Adresse postale*

Location Of Taking: *Lieu de la prise d'eau* St-Isidore W.T.P

Twp. or Municipality: *Canton ou municipalité* St-Isidore de Prescott

Concession: Concession Road 11

Lot: 21

Date Of Taking *Date de la prise d'eau*	Hours Of Taking *Heure*	Rate Of Taking Litres/sec *Débit de prise d'eau*	Amount Of Taking m^3 *Volume des prises*	Maximum Rate of Taking m^3 /day *Taux de prélèvement maximum*	Remarks *Observations*
JAN					
FEB					
MAR					
APR					
MAY					
JUN					
JUL					
AUG					
SEP					
OCT					
NOV					
DEC					

I certify that the above information is true, complete and accurate. *J'atteste que les renseignements ci-dessus sont vrais, complets et exacts.*

Signature

Date

Ministry Of The Environment
Ministère de l'Environnement

Annual Record Of Ground Water Taking
Registre annuel de prélèvement d'eau souterraine

Personal information contained on this form is collected under the authority of the Ontario Water Resources Act, Section 20. The Purpose of the form is to record details and information about the taking of water annually. Questions should be directed to the Ministry of the Environment's Regional office in your area.

Les renseignements personnes qui figurent dans le présent formulaire sont resueillis en vertu de l'article 20 de la Loi sur les ressources en eau de l'Ontario. La présente sert à consigner aux dossiers les détails et les renseignements concernant la prise d'eau annuelle. Priére d'adresser toute Question au bureau régional du ministére de l'Environnement le Plus proche.

Year: 2002 *Année*

Permit No.: 95P4048 *N° de permis*

Source: Groundwater W#5

Name of Permittee: *Nom du titulaire du permis*

Mailing Address: 209 Limoges Rd , ON K0A2M0 *Adresse postale*

Location Of Taking: *Lieu de la prise d'eau*

Twp. or Municipality: *Canton ou municipalité* St-Isidore de Prescott

Concession: Concession Road 11

Lot: 21

Date Of Taking *Date de la prise d'eau*	Hours Of Taking *Heure*	Rate Of Taking Litres/sec *Débit de prise d'eau*	Amount Of Taking m^3 *Volume des prises*	Maximum Rate of Taking m^3 /day *Taux de prélèvement maximum*	Remarks *Observations*
JAN	310.90	1.74	1,942	71	
FEB	288.10	1.77	1,835	69	
MAR	309.00	1.79	1,993	67	
APR	311.70	1.82	2,044	70	
MAY	331.80	1.78	2,116	83	
JUN	290.00	2.05	2,088	154	
JUL	319.70	1.88	2,139	102	
AUG	316.10	1.77	2,017	69	
SEP	283.80	1.73	1,765	90	
OCT	315.80	1.77	2,011	84	
NOV	298.40	1.76	1,886	70	
DEC	338.00	1.73	2,115	98	

I certify that the above information is true, complete and accurate. Signature Date

J'atteste que les renseignements ci-dessus sont vrais, complets et exacts.

APPENDIX V

Annual Summary of Raw, Treated, & Distribution Analytical Results

Heterotrophic Plate Count - a method of measuring bacterial content in water samples. Also known as Standard Plate Count.
Background - also used to obtain bacterial content in water samples
Organic Parameter - a group of chemical compounds containing carbon
Inorganic Parameter - a group of chemical compounds not containing carbon
Raw Water - Surface/ground water available as a source that has not received any treatment

Required Testing

The Ontario Drinking Water Regulations and Certificates of Approval No. 2052-54FRY9 establish sampling requirements for the St. Isidore Waterworks.

St. Isidore Water Quality Test Results

Microbiological Parameters	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceedence	Typical Source of Contaminant
Total Coliform, Treated (counts/100ml)	0	26	0	weekly	n/a	no	Indicate possible presence of fecal matter
Fecal Coliform , Treated (counts/100 ml)	0	26	0	weekly	n/a	no	Definite indicator of fecal contamination
HPC, Treated (Hetrotrophic Plate Count) (count/100 ml)	500	26	3	weekly	0 - 2	no	Indicator of adverse water quality
Clostridium Perfringens, Treated (count/Litre)	0	6	0	monthly	0	no	Indicate possible presence of cryptosporidium bacteria
Total Coliform, Dist. (counts/100 ml)	0	39	0	weekly	n/a	no	Indicate possible presence of fecal matter
Fecal Coliform, Dist. (counts/100 ml)	0	39	0	weekly	n/a	no	Definite indicator of fecal contamination
HPC, Dist. (Hetrotrophic Plate Count) (counts/100 ml)	500	39	7	weekly	0 - 20	no	Indicator of adverse water quality
Parameters related to Microbiological Quality	**MAC or IMAC (mg/l)**	**# of Samples**	**# of Detectable Results**	**Sampling Dates**	**Range**	**Exceedence**	**Typical Source of Contaminant**
Turbidity (NTU)	1	Continuous	Continuous	01/01-03/31	0.09 - 0.31	no	Turbidity is a measure of particles in water
Free Chlorine – Treated (mg/l)	-	Continuous	Continuous	01/01-03/31	0.55 - 2.20	no	Chlorine added for disinfection
Total Chlorine - Treated (mg/l)	-	Continuous	Continuous	01/01-03/31	0.90 - 2.60	no	
Free Chlorine- Dist. (min 0.05 mg/l & max. 4.0 mg/l)	-	39	39	01/01-03/31	0.20 - 1.60	no	0.05 mg/l required in the distribution system
Total Chlorine - Dist. (mg/l)	-	39	39	01/01-03/31	0.50 - 1.90	no	
Inorganic Parameters (mg/l)	**MAC or IMAC (mg/l)**	**# of Samples**	**# of Detectable Results**	**Sampling Dates**	**Range**	**Exceedence**	**Typical Source of Contaminant**
Lead - Distribution	0.01	0					Lead may leach from plumbing fixtures
Nitrate	10	2	1	03/04	nd -0.1	no	Natural component of water

QUARTERLY REPORT ON DRINKING WATER QUALITY

January - March 2002, St. Isidore Waterworks (Waterworks No. 220003573)

Nitrite	1	2	0	03/04	nd	no	
Arsenic	0.03	0					
Barium	1	0					
Boron	5	0					
Cadmium	0.005	0					
Chromium (Total)	0.05	0					
Copper	1	0					
Fluoride	1.5	0					
Iron	0.3	0					
Lead	0.01	0					
Manganese	0.05	0					
Mercury	0.001	0					
Selenium	0.01	0					
Uranium	0.1	0					
Sodium	200	0					
Volatile Organics (mg/l)	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceeded	Typical Source of Contaminant
Trihalomethanes - Dist	0.1	1	1	03/04	0.068	no	Running four quarter average: 0.069 mg/l
Trihalomethanes - Treated	0.1	2	1	03/04	nd - 0.057	no	
Benzene	0.005	2	0	03/04	nd	no	
Carbon Tetrachloride	0.005	2	0	03/04	nd	no	
Dichloromethane (Methylene chloride)	0.05	2	0	03/04	nd	no	
1,2 - Dichlorobenzene	0.2	2	0	03/04	nd	no	
1, 4 - Dichlorobenzene	0.005	2	0	03/04	nd	no	
1,2 - Dichloroethane	0.005	2	0	03/04	nd	no	
1,1 - Dichloroethylene	0.014	2	0	03/04	nd	no	
Ethylbenzene	0.0024	2	0	03/04	nd	no	
Monochlorobenzene (Chlorobenzene)	0.08	2	0	03/04	nd	no	
Tetrachloroethylene	0.03	2	0	03/04	nd	no	
Toluene	0.0024	2	0	03/04	nd	no	
Trichloroethlyene	0.05	2	0	03/04	nd	no	
Vinyl chloride	0.002	2	0	03/04	nd	no	
Xylene	0.3	2	0	03/04	nd	no	
Bromodichloromethane	n/a	2	1	03/04	nd-0.0181	n/a	
Bromoform	n/a	2	1	03/04	nd-0.0051	n/a	
Chloroform	n/a	2	1	03/04	nd-0.0151	n/a	
Dibromochloromethane	n/a	2	1	03/04	nd-0.0190	n/a	
Pesticides & PCB (mg/l)	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceeded	Typical Source of Contaminant
Alachlor	0.005	2	0	03/04	nd	no	
Aldicarb	0.009	2	0	03/04	nd	no	
Aldrin+Dieldrin	0.007	2	0	03/04	nd	no	
Atrazine	0.005	2	0	03/04	nd	no	
Azinphos-methyl (Guthion)	0.02	2	0	03/04	nd	no	
Bendiocarb	0.04	2	0	03/04	nd	no	
Bromoxynil	0.005	2	0	03/04	nd	no	
Carbaryl	0.09	2	0	03/04	nd	no	
Carbofuran	0.09	2	0	03/04	nd	no	
Chlordane	0.007	2	0	03/04	nd	no	
Chlorpyrifos	0.09	2	0	03/04	nd	no	
Cyanazine	0.01	2	0	03/04	nd	no	
Diaznon	0.02	2	0	03/04	nd	no	
Dicamba	0.12	2	0	03/04	nd	no	
2,4 Dichlorophenol	0.9	2	0	03/04	nd	no	
DDT + Metapolites	0.03	2	0	03/04	nd	no	

QUARTERLY REPORT ON DRINKING WATER QUALITY

January - March 2002, St. Isidore Waterworks (Waterworks No. 220003573)

2,4 - Dichlorophenexy acid (2,4 -D)	0.1	2	0	03/04	nd	no	
Diclofop-methyl	0.009	2	0	03/04	nd	no	
Dimethoate	0.02	2	0	03/04	nd	no	
Dinoseb	0.01	2	0	03/04	nd	no	
Diquat	0.07	2	0	03/04	nd	no	
Diuron	0.15	2	0	03/04	nd	no	
Glyphosate	0.28	2	0	03/04	nd	no	
Heptachlor + Heptachlor epoxide	0.003	2	0	03/04	nd	no	
Lindane	0.004	2	0	03/04	nd	no	
Malathion	0.19	2	0	03/04	nd	no	
Methoxychlor	0.9	2	0	03/04	nd	no	
Metolachor	0.05	2	0	03/04	nd	no	
Metribuzin (Sencor)	0.08	2	0	03/04	nd	no	
Paraquat	0.01	2	0	03/04	nd	no	
Parathion	0.05	2	0	03/04	nd	no	
Pentachlorophenol	0.06	2	0	03/04	nd	no	
Phorate	0.002	2	0	03/04	nd	no	
Picloram	0.19	2	0	03/04	nd	no	
Polychlorinated Biphenyls (PCB's)	0.003	2	0	03/04	nd	no	
Prometryne	0.001	2	0	03/04	nd	no	
Simazine	0.01	2	0	03/04	nd	no	
Temephos	0.28	2	0	03/04	nd	no	
Terbufos	0.001	2	0	03/04	nd	no	
2,3,4,6 Tetrachlorophenol	0.1	2	0	03/04	nd	no	
Traillate	0.23	2	0	03/04	nd	no	
2,4,5 - trichlorophenoxy acedic acid	0.28	2	0	03/04	nd	no	
Trifurallin	0.045	2	0	03/04	nd	no	
2,4,6-Trichlororphenol	0.002	2	0	03/04	nd	no	

Note: nd is non detectable or less than the detectable limit

Escherichia coli (E coli) - is a more definitive indicator of fecal contamination than other fecal coliforms or total coliforms
Heterotrophic Plate Count - a method of measuring bacterial content in water samples. Also known as Standard Plate Count.
Background - also used to obtain bacterial content in water samples
Organic Parameter - a group of chemical compounds containing carbon
Inorganic Parameter - a group of chemical compounds not containing carbon
Raw Water - Surface/ground water available as a source that has not received any treatment

Required Testing

The Ontario Drinking Water Regulations and Certificates of Approval No. 2052-54FRY9 establish sampling requirements for the St. Isidore Water Works.

St. Isidore Water Quality Test Results

Microbiological Parameters	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceeded	Typical Source of Contaminant
Total Coliform, Treated (counts/100ml)	0	26	0	weekly	n/a	no	Indicate possible presence of fecal matter
Fecal Coliform , Treated (counts/100 ml)	0	26	0	weekly	n/a	no	Definite indicator of fecal contamination
HPC, Treated (Hetrotrophic Plate Count) (count/100 ml)	500	26	5	weekly	0 - 28	no	Indicator of adverse water quality
Clostridium Perfringens, Treated (count/Litre)	0	6	0	monthly	0	no	Indicate possible presence of cryptosporidium bacteria
Total Coliform, Dist. (counts/100 ml)	0	39	0	weekly	n/a	no	Indicate possible presence of fecal matter
Fecal Coliform, Dist. (counts/100 ml)	0	39	0	weekly	n/a	no	Definite indicator of fecal contamination
HPC, Dist. (Hetrotrophic Plate Count) (counts/100 ml)	500	39	21	weekly	0 - 200	no	Indicator of adverse water quality
Parameters related to Microbiological Quality	**MAC or IMAC (mg/l)**	**# of Samples**	**# of Detectable Results**	**Sampling Dates**	**Range**	**Exceeded**	**Typical Source of Contaminant**
Turbidity (NTU)	1	Continuous	Continuous	04/01-06/30	0.04 - 0.46	no	Turbidity is a measure of particles in water
Free Chlorine – Treated (mg/l)	-	Continuous	Continuous	04/01-06/30	1.0 - 2.20	no	Chlorine added for disinfection
Total Chlorine - Treated (mg/l)	-	Continuous	Continuous	04/01-06/30	1.45 - 2.60	no	
Free Chlorine- Dist. (min 0.05 mg/l & max. 4.0 mg/l)	-	39	39	04/01-06/30	0.20 - 1.40	no	0.05 mg/l required in the distribution system
Total Chlorine - Dist. (mg/l)	-	39	39	04/01-06/30	0.50 - 1.55	no	

QUARTERLY REPORT ON DRINKING WATER QUALITY

April - June 2002, St. Isidore Waterworks (Waterworks No. 220003573)

Inorganic Parameters (mg/l)	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceedence?	Typical Source of Contaminant
Lead - Distribution	0.01	1	0	05/15	nd	no	Lead may leach from plumbing fixtures
Nitrate	10	3	2	05/15	nd -0.1	no	Natural component of water
Nitrite	1	3	0	05/15	nd	no	
Arsenic	0.03	2	0	05/15	nd	no	
Barium	1	2	2	05/15	0.155-0.335	no	
Boron	5	2	2	05/15	0.15 - 0.28	no	
Cadmium	0.005	2	0	05/15	nd	no	
Chromium (Total)	0.05	2	0	05/15	nd	no	
Copper	1	2	0	05/15	nd	no	
Fluoride	1.5	3	3	05/15	0.3 - 0.5	no	
Iron	0.3	3	3	05/15	0.02 - 0.19	no	
Lead	0.01	2	0	05/15	nd	no	
Manganese	0.05	3	2	05/15	nd - 0.02	no	
Mercury	0.001	2	0	05/15	nd	no	
Selenium	0.01	2	0	05/15	nd	no	
Uranium	0.1	2	2	05/15	0.002-0.004	no	
Sodium	200	3	3	05/15	74.3 - 102	no	
Volatile Organics (mg/l)	**MAC or IMAC (mg/l)**	**# of Samples**	**# of Detectable Results**	**Sampling Dates**	**Range**	**Exceedence?**	**Typical Source of Contaminant**
Trihalomethanes - Dist	0.1	1	1	05/15	0.041	no	Running four quarter average: 0.063 mg/l
Trihalomethanes - Treated	0.1	2	1	05/15	nd - 0.013	no	
Benzene	0.005	2	0	05/15	nd	no	
Carbon Tetrachloride	0.005	2	0	05/15	nd	no	
Dichloromethane (Methylene chloride)	0.05	2	0	05/15	nd	no	
1,2 - Dichlorobenzene	0.2	2	0	05/15	nd	no	
1, 4 - Dichlorobenzene	0.005	2	0	05/15	nd	no	
1,2 - Dichloroethane	0.005	2	0	05/15	nd	no	
1,1 - Dichloroethylene	0.014	2	0	05/15	nd	no	
Ethylbenzene	0.0024	2	0	05/15	nd	no	
Monochlorobenzene (Chlorobenzene)	0.08	2	0	05/15	nd	no	
Tetrachloroethylene	0.03	2	0	05/15	nd	no	
Toluene	0.0024	2	0	05/15	nd	no	
Trichloroethlyene	0.05	2	0	05/15	nd	no	
Vinyl chloride	0.002	2	0	05/15	nd	no	
Xylene	0.3	2	0	05/15	nd	no	
Bromodichloromethane	n/a	2	1	05/15	nd-0.032	n/a	
Bromoform	n/a	2	1	05/15	nd-0.0009	n/a	
Chloroform	n/a	2	1	05/15	nd-0.0045	n/a	
Dibromochloromethane	n/a	2	1	05/15	nd-0.0047	n/a	
Pesticides & PCB (mg/L)	**MAC or IMAC (mg/l)**	**# of Samples**	**# of Detectable Results**	**Sampling Dates**	**Range**	**Exceedence?**	**Typical Source of Contaminant**
Alachlor	0.005	2	0	05/15	nd	no	
Aldicarb	0.009	2	0	05/15	nd	no	
Aldrin+Dieldrin	0.007	2	0	05/15	nd	no	
Atrazine	0.005	2	0	05/15	nd	no	
Azinphos-methyl (Guthion)	0.02	2	0	05/15	nd	no	
Bendiocarb	0.04	2	0	05/15	nd	no	
Bromoxynil	0.005	2	0	05/15	nd	no	
Carbaryl	0.09	2	0	05/15	nd	no	

QUARTERLY REPORT ON DRINKING WATER QUALITY

April - June 2002, St. Isidore Waterworks (Waterworks No. 220003573)

Carbofuran	0.09	2	0	05/15	nd	no	
Chlordane	0.007	2	0	05/15	nd	no	
Chlorpyrifos	0.09	2	0	05/15	nd	no	
Cyanazine	0.01	2	0	05/15	nd	no	
Diaznon	0.02	2	0	05/15	nd	no	
Dicamba	0.12	2	0	05/15	nd	no	
2,4 Dichlorophenol	0.9	2	0	05/15	nd	no	
DDT + Metapolites	0.03	2	0	05/15	nd	no	
2,4 - Dichlorophenexy acid (2,4 -D)	0.1	2	0	05/15	nd	no	
Diclofop-methyl	0.009	2	0	05/15	nd	no	
Dimethoate	0.02	2	0	05/15	nd	no	
Dinoseb	0.01	2	0	05/15	nd	no	
Diquat	0.07	2	0	05/15	nd	no	
Diuron	0.15	2	0	05/15	nd	no	
Glyphosate	0.28	2	0	05/15	nd	no	
Heptachlor + Heptachlor epoxide	0.003	2	0	05/15	nd	no	
Lindane	0.004	2	0	05/15	nd	no	
Malathion	0.19	2	0	05/15	nd	no	
Methoxychlor	0.9	2	0	05/15	nd	no	
Metolachor	0.05	2	0	05/15	nd	no	
Metribuzin (Sencor)	0.08	2	0	05/15	nd	no	
Paraquat	0.01	2	0	05/15	nd	no	
Parathion	0.05	2	0	05/15	nd	no	
Pentachlorophenol	0.06	2	0	05/15	nd	no	
Phorate	0.002	2	0	05/15	nd	no	
Picloram	0.19	2	0	05/15	nd	no	
Polychlorinated Biphenyls (PCB's)	0.003	2	0	05/15	nd	no	
Prometryne	0.001	2	0	05/15	nd	no	
Simazine	0.01	2	0	05/15	nd	no	
Temephos	0.28	2	0	05/15	nd	no	
Terbufos	0.001	2	0	05/15	nd	no	
2,3,4,6 Tetrachlorophenol	0.1	2	0	05/15	nd	no	
Traillate	0.23	2	0	05/15	nd	no	
2,4,5 - trichlorophenoxy acedic acid	0.28	2	0	05/15	nd	no	
Trifurallin	0.045	2	0	05/15	nd	no	
2,4,6-Trichlororphenol	0.002	2	0	05/15	nd	no	

Note: nd is non detectable or less than the detectable limit

Heterotrophic Plate Count - a method of measuring bacterial content in water samples. Also known as Standard Plate Count.
Background - also used to obtain bacterial content in water samples
Organic Parameter - a group of chemical compounds containing carbon
Inorganic Parameter - a group of chemical compounds not containing carbon
Raw Water - Surface/ground water available as a source that has not received any treatment

Required Testing

The Ontario Drinking Water Regulations and Certificates of Approval No. 2052-54FRY9 establish sampling requirements for the St. Isidore Water Works.

St. Isidore Water Quality Test Results

Microbiological Parameters	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceedence?	Typical Source of Containment
Total Coliform, Treated (counts/100ml)	0	26	0	weekly	n/a	no	Indicate possible presence of fecal matter
Fecal Coliform , Treated (counts/100 ml)	0	26	0	weekly	n/a	no	Definite indicator of fecal contamination
HPC, Treated (Hetrotrophic Plate Count) (count/100 ml)	500	26	2	weekly	0 - 20	no	Indicator of adverse water quality
Clostridium Perfringens, Treated (count/Litre)	0	6	0	monthly	0	no	Indicate possible presence of cryptosporidium bacteria
Total Coliform, Dist. (counts/100 ml)	0	39	0	weekly	n/a	no	Indicate possible presence of fecal matter
Fecal Coliform, Dist. (counts/100 ml)	0	39	0	weekly	n/a	no	Definite indicator of fecal contamination
HPC, Dist. (Hetrotrophic Plate Count) (counts/100 ml)	500	39	10	weekly	0 - 212	no	Indicator of adverse water quality
Parameters related to Microbiological Quality	**MAC or IMAC (mg/l)**	**# of Samples**	**# of Detectable Results**	**Sampling Dates**	**Range**	**Exceedence?**	**Typical Source of Containment**
Turbidity (NTU)	1	Continuous	Continuous	07/01-09/30	0.04 - 0.30	no	Turbidity is a measure of particles in water
Free Chlorine – Treated (mg/l)	-	Continuous	Continuous	07/01-09/30	1.20 - 2.05	no	Chlorine added for disinfection
Total Chlorine - Treated (mg/l)	-	Continuous	Continuous	07/01-09/30	1.50 - 2.30	no	
Free Chlorine- Dist. (min 0.05 mg/l & max. 4.0 mg/l)	-	39	39	07/01-09/30	0.25 - 1.50	no	0.05 mg/l required in the distribution system
Total Chlorine - Dist. (mg/l)	-	39	39	07/01-09/30	0.55 - 1.70	no	
Inorganic Parameters (mg/l)	**MAC or IMAC (mg/l)**	**# of Samples**	**# of Detectable Results**	**Sampling Dates**	**Range**	**Exceedence?**	**Typical Source of Contaminant**
Lead - Distribution	0.01	0					Lead may leach from plumbing fixtures
Nitrate	10	3	1	08/14	nd -0.1	no	Natural component of water

QUARTERLY REPORT ON DRINKING WATER QUALITY

July - September 2002, St. Isidore Waterworks (Waterworks No. 220003573)

Nitrite	1	3	0	08/14	nd	no	
Arsenic	0.03	0					
Barium	1	0					
Boron	5	0					
Cadmium	0.005	0					
Chromium (Total)	0.05	0					
Copper	1	0					
Fluoride	1.5	1	1	08/14	0.6	no	
Iron	0.3	1	1	08/14	0.05	no	
Lead	0.01	0					
Manganese	0.05	1	0	08/14	nd	no	
Mercury	0.001	0					
Selenium	0.01	0					
Uranium	0.1	0					
Sodium	200	1	1	08/14	105	no	
Volatile Organics (mg/l)	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceedence?	Typical Source of Contaminant
Trihalomethanes - Dist	0.1	1	1	08/14	0.001	no	Running four quarter average: 0.063 mg/l
Trihalomethanes - Treated	0.1	2	1	08/14	nd - 0.013	no	
Benzene	0.005	2	0	08/14	nd	no	
Carbon Tetrachloride	0.005	2	0	08/14	nd	no	
Dichloromethane (Methylene chloride)	0.05	2	0	08/14	nd	no	
1,2 - Dichlorobenzene	0.2	2	0	08/14	nd	no	
1, 4 - Dichlorobenzene	0.005	2	0	08/14	nd	no	
1,2 - Dichloroethane	0.005	2	0	08/14	nd	no	
1,1 - Dichloroethylene	0.014	2	0	08/14	nd	no	
Ethylbenzene	0.0024	2	0	08/14	nd	no	
Monochlorobenzene (Chlorobenzene)	0.08	2	0	08/14	nd	no	
Tetrachloroethylene	0.03	2	0	08/14	nd	no	
Toluene	0.0024	2	0	08/14	nd	no	
Trichloroethlyene	0.05	2	0	08/14	nd	no	
Vinyl chloride	0.002	2	0	08/14	nd	no	
Xylene	0.3	2	0	08/14	nd	no	
Bromodichloromethane	n/a	2	1	08/14	nd-0.0263	n/a	
Bromoform	n/a	2	1	08/14	nd-0.0140	n/a	
Chloroform	n/a	2	2	08/14	0.0007 - 0.0161	n/a	
Dibromochloromethane	n/a	2	1	08/14	nd-0.0368	n/a	
Pesticides & PCB (mg/L)	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceedence?	Typical Source of Contaminant
Alachlor	0.005	2	0	08/14	nd	no	
Aldicarb	0.009	2	0	08/14	nd	no	
Aldrin+Dieldrin	0.007	2	0	08/14	nd	no	
Atrazine	0.005	2	0	08/14	nd	no	
Azinphos-methyl (Guthion)	0.02	2	0	08/14	nd	no	
Bendiocarb	0.04	2	0	08/14	nd	no	
Bromoxynil	0.005	2	0	08/14	nd	no	
Carbaryl	0.09	2	0	08/14	nd	no	
Carbofuran	0.09	2	0	08/14	nd	no	
Chlordane	0.007	2	0	08/14	nd	no	
Chlorpyrifos	0.09	2	0	08/14	nd	no	
Cyanazine	0.01	2	0	08/14	nd	no	
Diaznon	0.02	2	0	08/14	nd	no	
Dicamba	0.12	2	0	08/14	nd	no	
2,4 Dichlorophenol	0.9	2	0	08/14	nd	no	

QUARTERLY REPORT ON DRINKING WATER QUALITY

July - September 2002, St. Isidore Waterworks (Waterworks No. 220003573)

DDT + Metapolites	0.03	2	0	08/14	nd	no	
2,4 - Dichlorophenexy acid (2,4 -D)	0.1	2	0	08/14	nd	no	
Diclofop-methyl	0.009	2	0	08/14	nd	no	
Dimethoate	0.02	2	0	08/14	nd	no	
Dinoseb	0.01	2	0	08/14	nd	no	
Diquat	0.07	2	0	08/14	nd	no	
Diuron	0.15	2	0	08/14	nd	no	
Glyphosate	0.28	2	0	08/14	nd	no	
Heptachlor + Heptachlor epoxide	0.003	2	0	08/14	nd	no	
Lindane	0.004	2	0	08/14	nd	no	
Malathion	0.19	2	0	08/14	nd	no	
Methoxychlor	0.9	2	0	08/14	nd	no	
Metolachor	0.05	2	0	08/14	nd	no	
Metribuzin (Sencor)	0.08	2	0	08/14	nd	no	
Paraquat	0.01	2	0	08/14	nd	no	
Parathion	0.05	2	0	08/14	nd	no	
Pentachlorophenol	0.06	2	0	08/14	nd	no	
Phorate	0.002	2	0	08/14	nd	no	
Picloram	0.19	2	0	08/14	nd	no	
Polychlorinated Biphenyls (PCB's)	0.003	2	0	08/14	nd	no	
Prometryne	0.001	2	0	08/14	nd	no	
Simazine	0.01	2	0	08/14	nd	no	
Temephos	0.28	2	0	08/14	nd	no	
Terbufos	0.001	2	0	08/14	nd	no	
2,3,4,6 Tetrachlorophenol	0.1	2	0	08/14	nd	no	
Traillate	0.23	2	0	08/14	nd	no	
2,4,5 - trichlorophenoxy acedic acid	0.28	2	0	08/14	nd	no	
Trifurallin	0.045	2	0	08/14	nd	no	
2,4,6-Trichlororphenol	0.002	2	0	08/14	nd	no	
Additional C of A Requirements	MAC or IMAC	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceedence?	Typical Source of Contaminant
Chloride	250	1	1	08/14	64.9	no	Aesthetic Objective
Hardness	80-100	1	1	08/14	172	yes	Operational Guideline
Total Kjeldahl Nitrogen		1	1	08/14	0.09	n/a	
Total Ammonia Nitrogen	10	1	1	08/14	0.02	no	
pH	6.5-8.5	1	1	08/14	8.21	no	
Dissolved Organic Carbon	5.0	1	1	08/14	2	no	Aesthetic Objective
Total Organic Carbon	n/a	1	1	08/14	2	n/a	
Colour	5 TCU	1	0	08/14	nd	no	
Conductivity		1	1	08/14	806	n/a	

Note: nd is non detectable or less than the detectable limit

Escherichia coli (E coli) - is a more definitive indicator of fecal contamination than other fecal coliforms or total coliforms
Heterotrophic Plate Count - a method of measuring bacterial content in water samples. Also known as Standard Plate Count.
Background - also used to obtain bacterial content in water samples
Organic Parameter - a group of chemical compounds containing carbon
Inorganic Parameter - a group of chemical compounds not containing carbon
Raw Water - Surface/ground water available as a source that has not received any treatment

Annual Compliance Reporting

A requirement of the facility Certificate of Approval No. 2052-54FRY9 is an annual Compliance Report which must be completed and made available not later than the following March 31. This report must include information on compliance with the Certificate of Approval, any non-compliance issues, a summary of the quantity of water supplied including flow rate exceedances, a summary of analytical results and a summary of treatment chemicals used. Upon completion, this report will be located at the Municipal Office where it can be inspected.

Required Testing

The Ontario Drinking Water Regulations and Certificates of Approval No. 2052-54FRY9 establish sampling requirements for the St. Isidore Water Works.

St. Isidore Water Quality Test Results

Microbiological Parameters	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceedance?	Typical Source of Contaminent
Total Coliform, Raw (counts/100ml)	n/a	31	8	weekly	0 -33	n/a	Indicate possible presence of fecal matter
Escherichia Coliform, Raw (counts/100ml)	n/a	31	0	weekly	n/a	n/a	Definite indicator of fecal contamination
HPC - Raw (counts/100ml)	n/a	31	15	weekly	0 - OG	n/a	Indicator of adverse water quality
Total Coliform, Treated (counts/100ml)	0	28	0	weekly	n/a	no	Indicate possible presence of fecal matter
Fecal Coliform , Treated (counts/100 ml)	0	28	0	weekly	n/a	no	Definite indicator of fecal contamination
HPC, Treated (Hetrotrophic Plate Count) (count/100 ml)	500	28	5	weekly	0 - 100	no	Indicator of adverse water quality
Clostridium Perfringens, Treated (count/Litre)	0	6	0	monthly	0	no	Indicate possible presence of cryptosporidium bacteria
Total Coliform, Dist. (counts/100 ml)	0	42	0	weekly	n/a	no	Indicate possible presence of fecal matter
Fecal Coliform, Dist. (counts/100 ml)	0	42	0	weekly	n/a	no	Definite indicator of fecal contamination
HPC, Dist. (Hetrotrophic Plate Count) (counts/100 ml)	500	42	3	weekly	0 - 202	no	Indicator of adverse water quality

QUARTERLY REPORT ON DRINKING WATER QUALITY

October - December 2002, St. Isidore Waterworks (Waterworks No. 220003573)

Parameters related to Microbiological Quality	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceedance?	Typical Source of Contaminant
Turbidity (NTU)	1	Continuous	Continuous	10/01-12/31	0.08 - 0.16	no	Turbidity is a measure of particles in water
Free Chlorine – Treated (mg/l)	-	Continuous	Continuous	10/01-12/31	1.00 - 3.30	no	Chlorine added for disinfection
Total Chlorine - Treated (mg/l)	-	Continuous	Continuous	10/01-12/31	1.15 - 3.60	no	
Free Chlorine- Dist. (min 0.05 mg/l & max. 4.0 mg/l)	-	42	42	10/01-12/31	0.35 - 1.10	no	0.05 mg/l required in the distribution system
Total Chlorine - Dist. (mg/l)	-	42	42	10/01-12/31	0.50 - 2.20	no	
Inorganic Parameters (mg/l)	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceedance?	Typical Source of Contaminant
Lead - Distribution	0.01	0					Lead may leach from plumbing fixtures
Nitrate	10	3	2	11/25	nd -0.1	no	Natural component of water
Nitrite	1	3	0	11/25	nd	no	
Arsenic	0.03	0					
Barium	1	0					
Boron	5	0					
Cadmium	0.005	0					
Chromium (Total)	0.05	0					
Copper	1	0					
Fluoride	1.5	1	1	11/25	0.5	no	
Iron	0.3	1	0	11/25	nd	no	
Lead	0.01	0					
Manganese	0.05	1	0	11/25	nd	no	
Mercury	0.001	0					
Selenium	0.01	0					
Uranium	0.1	0					
Sodium	200	1	1	11/25	107	no	

Volatile Organics (mg/l)	MAC or IMAC (mg/l)	# of Samples	# of Detectable Results	Sampling Dates	Range	Exceedance	Typical Source of Contaminant
Trihalomethanes - Dist	0.1	1	1	11/25	0.102	no	Running four quarter average: 0.053 mg/l
Trihalomethanes - Treated	0.1	2	1	11/25	nd - 0.064	no	
Benzene	0.005	2	0	11/25	nd	no	
Carbon Tetrachloride	0.005	2	0	11/25	nd	no	
Dichloromethane (Methylene chloride)	0.05	2	0	11/25	nd	no	
1,2 - Dichlorobenzene	0.2	2	0	11/25	nd	no	
1, 4 - Dichlorobenzene	0.005	2	0	11/25	nd	no	
1,2 - Dichloroethane	0.005	2	0	11/25	nd	no	
1,1 - Dichloroethylene	0.014	2	0	11/25	nd	no	
Ethylbenzene	0.0024	2	0	11/25	nd	no	
Monochlorobenzene (Chlorobenzene)	0.08	2	0	11/25	nd	no	
Tetrachloroethylene	0.03	2	0	11/25	nd	no	
Toluene	0.0024	2	0	11/25	nd	no	
Trichloroethlyene	0.05	2	0	11/25	nd	no	
Vinyl chloride	0.002	2	0	11/25	nd	no	
Xylene	0.3	2	0	11/25	nd	no	
Bromodichloromethane	n/a	2	1	11/25	nd-0.0205	n/a	

QUARTERLY REPORT ON DRINKING WATER QUALITY

October - December 2002, St. Isidore Waterworks (Waterworks No. 220003573)

Bromoform	n/a	2	1	11/25	nd-0.0044	n/a	
Chloroform	n/a	2	2	11/25	nd - 0.0186	n/a	
Dibromochloromethane	n/a	2	1	11/25	nd-0.0209	n/a	
Pesticides & PCB (mg/L)	**MAC or IMAC (mg/l)**	**# of Samples**	**# of Detectable Results**	**Sampling Dates**	**Range**	**Exceedence?**	**Typical Source of Contaminant**
Alachlor	0.005	2	0	11/25	nd	no	
Aldicarb	0.009	2	0	11/25	nd	no	
Aldrin+Dieldrin	0.007	2	0	11/25	nd	no	
Atrazine	0.005	2	0	11/25	nd	no	
Azinphos-methyl (Guthion)	0.02	2	0	11/25	nd	no	
Bendiocarb	0.04	2	0	11/25	nd	no	
Bromoxynil	0.005	2	0	11/25	nd	no	
Carbaryl	0.09	2	0	11/25	nd	no	
Carbofuran	0.09	2	0	11/25	nd	no	
Chlordane	0.007	2	0	11/25	nd	no	
Chlorpyrifos	0.09	2	0	11/25	nd	no	
Cyanazine	0.01	2	0	11/25	nd	no	
Diaznon	0.02	2	0	11/25	nd	no	
Dicamba	0.12	2	0	11/25	nd	no	
2,4 Dichlorophenol	0.9	2	0	11/25	nd	no	
DDT + Metapolites	0.03	2	0	11/25	nd	no	
2,4 - Dichlorophenexy acid (2,4 -D)	0.1	2	0	11/25	nd	no	
Diclofop-methyl	0.009	2	0	11/25	nd	no	
Dimethoate	0.02	2	0	11/25	nd	no	
Dinoseb	0.01	2	0	11/25	nd	no	
Diquat	0.07	2	0	11/25	nd	no	
Diuron	0.15	2	0	11/25	nd	no	
Glyphosate	0.28	2	0	11/25	nd	no	
Heptachlor + Heptachlor epoxide	0.003	2	0	11/25	nd	no	
Lindane	0.004	2	0	11/25	nd	no	
Malathion	0.19	2	0	11/25	nd	no	
Methoxychlor	0.9	2	0	11/25	nd	no	
Metolachor	0.05	2	0	11/25	nd	no	
Metribuzin (Sencor)	0.08	2	0	11/25	nd	no	
Paraquat	0.01	2	0	11/25	nd	no	
Parathion	0.05	2	0	11/25	nd	no	
Pentachlorophenol	0.06	2	0	11/25	nd	no	
Phorate	0.002	2	0	11/25	nd	no	
Picloram	0.19	2	0	11/25	nd	no	
Polychlorinated Biphenyls (PCB's)	0.003	2	0	11/25	nd	no	
Prometryne	0.001	2	0	11/25	nd	no	
Simazine	0.01	2	0	11/25	nd	no	
Temephos	0.28	2	0	11/25	nd	no	
Terbufos	0.001	2	0	11/25	nd	no	
2,3,4,6 Tetrachlorophenol	0.1	2	0	11/25	nd	no	
Traillate	0.23	2	0	11/25	nd	no	
2,4,5 - trichlorophenoxy acedic acid	0.28	2	0	11/25	nd	no	
Trifurallin	0.045	2	0	11/25	nd	no	
2,4,6-Trichlororphenol	0.002	2	0	11/25	nd	no	
Additional C of A Requirements	**MAC or IMAC (mg/l)**	**# of Samples**	**# of Detectable Results**	**Sampling Dates**	**Range**	**Exceedence?**	**Typical Source of Contaminant**
Chloride	250	1	1	11/25	57.9	no	Aesthetic Objective
Hardness	80-100	1	1	11/25	189	yes	Operational Guideline

QUARTERLY REPORT ON DRINKING WATER QUALITY

October - December 2002, St. Isidore Waterworks (Waterworks No. 220003573)

Total Kjeldahl Nitrogen		1	1	11/25	0.1	n/a	
Total Ammonia Nitrogen	10	1	0	11/25	nd	no	
pH	6.5-8.5	1	1	11/25	8.29	no	
Dissolved Organic Carbon	5.0	1	1	11/25	1.6	no	Aesthetic Objective
Total Organic Carbon	n/a	1	1	11/25	1.6	n/a	
Colour	5 TCU	1	1	11/25	1	no	
Conductivity		1	1	11/25	835	n/a	
Raw Water Sampling	**MAC or IMAC (mg/l)**	**# of Samples**	**# of Detectable Results**	**Sampling Dates**	**Range**	**Exceedence?**	**Typical Source of Contaminant**
Chloride	n/a	4	4	11/25	17.2 - 89.4	n/a	
Fluoride	n/a	4	4	11/25	0.3 - 0.8	n/a	
Nitrite - Nitrogen	n/a	4	0	11/25	nd	n/a	
Nitrate - Nitrogen	n/a	4	0	11/25	nd	n/a	
Hardness	n/a	4	4	11/25	33 - 263	n/a	
Turbidity	n/a	4	4	11/25	1.2 - 13.9	n/a	
Total Kjeldahl Nitrogen	n/a	4	4	11/25	0.55 - 1.31	n/a	
Total Ammonia Nitrogen	n/a	4	4	11/25	0.37 - 1.14	n/a	
Iron	n/a	4	4	11/25	0.07 - 0.55	n/a	
Manganese	n/a	4	3	11/25	nd - 0.05	n/a	
Sodium	n/a	4	4	11/25	32.3 - 173	n/a	
pH	n/a	4	4	11/25	8.12 - 8.58	n/a	
Dissolved Organic Carbon	n/a	4	4	11/25	0.5 - 1.7	n/a	
Total Organic Carbon	n/a	4	4	11/25	0.8 - 1.9	n/a	
Colour	n/a	4	3	11/25	nd - 7	n/a	
Conductivity	n/a	4	4	11/25	766 - 871	n/a	

Notes:

1. nd is non detectable or less than the detectable limit.
2. OG - stands for overgrown. The count is unreadable.
3. MAC/IMAC values do not apply to raw water results.

APPENDIX VI

Summary of Treatment Chemicals Used

Ontario Clean Water Agency
Monthly Process Data Report

Municipality: St-Isidore de Prescott
Project: [6915] - St. Isidore de Prescott Water Treatment Plant
Project Number: 7153691936
Work Number 220003573
Description: A Five Well Facility System

Year: 2002
Water Source/Receiver: Groundwater
Design Avg Day Flow(m³): 907

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summary
Post Disinfection/Disinfection [WTP - WTP]													
Hypochlorite Mass (kg)													
Sum:	67.02	61.8	72.9	74.4	78.92	72.28	77.21	96.4	102.45	94.4	83.42	62.63	943.83
Hypochlorite Dosage (mg/L)													
Avg:	9.193	9.488	10.072	10.161	9.89	10.617	10.68	12.817	14.572	13.631	12.682	9.771	11.131
Cl Residual: Total Avg. (mg/L)													
Avg:	2.232	1.6	1.605	1.5	1.963	2.259	1.722	1.868	1.713	2.386	2.391	2.31	1.962
Cl Residual: Free Avg. (mg/L)													
Avg:	1.889	1.375	1.322	1.292	1.645	1.995	1.419	1.606	1.543	2.173	2.073	1.988	1.693
Post Disinfection/Disinfection [W5 - WELL 5]													
Hypochlorite Mass (kg)													
Sum:	3.78	3.35	2.712	2.17	2.84	7.4	9.81	9.36	8.25	7.83	7.82	8.34	73.662
Hypochlorite Dosage (mg/L)													
Avg:	1.961	1.82	1.353	1.063	1.338	3.447	4.648	4.657	4.673	3.886	4.143	3.919	3.076
Cl Residual: Total Avg. (mg/L)													
Avg:	1.046	1.071	1.175	1.472	1.088	1.565	1.938	2.005	1.78	1.823	1.936	2.073	1.581
Cl Residual: Free Avg. (mg/L)													
Avg:	.636	.713	.87	1.189	.804	1.142	1.425	1.595	1.42	1.468	1.595	1.784	1.22