ARCHIVED

MUNICIPAL WATER QUALITY REPORTS

MOOSE CREEK WATER



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Chesterville Hub

5 Industrial Drive, P.O. Box 460

Chesterville, Ontario K0C 1H0

Tel: (613) 448-3098 Fax: (613) 448-1616 www.ocwa.com

Fax HOM To Company 268-6061 Fax Number From Date (including this page) **Number of Pages** Subject

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Ministry Ministère de Environment l'Environment

Notice of Drinking Water Analysis and Remedial Actions for Waterworks as Required under Drinking Water Protection Regulation

In accordance with the Drinking Water Protection Regulation, Laboratories and Water Works Owners must immediately provide and motification in the MOE Spills Action Centre (SAC) at 1-808-268-6660 or 1-416-325-3660 and the local Medical Officer of Health (MOH) of indicators of advance drinking water quality and exceedences of standards as outlined in the Regulation and remedial actions taken. Further, within 24 hours of the oral notification, the party shall provide written notification on this completed form by Fex to the Spills Action Centre at 1-808-268-6061 or 1-416-325-3011 and the local Medical Officer of Health. Failure to notify these parties in accordance with the Regulation constitutes an affence under the Act. A copy of this form may be acquired through the Ministry of the Environment (MOE) public web site (www.ene.gov.on.ca) or by contacting any MOE office.

PART 1 - NOTIFICATION BY LABORATORY	
Indicators of Adverse Phys/Chem Exceeds MA	
Water Quality Exceeds IM	
ORAL NOTIFICATION to SPILLS ACTION CENTRE by LABOR	ATORY
Date: OCT 9/02 Time: 2:15 S.M.	By KRYSTYNA PIPIN
Laboratory Name: CADUCEON ENV. CMS.	Laboratory Emergency Contact Name KRY5.4NA PIPIN
Address 2378 HOLLY LANE OFFAUA	Position SUPERVISOR
Email address	Phone# 613 516-0125 Fax# 613 516-1244
Waterworks Name MOOSE CREEK WELL SUPPLY	Waterworks Emergency Contact
Works# 210005033	Nume DAVE HARKELL
LOCATION 16950 MCNeil Ed MOOSE CRETE	Position PROCESS TECHNICIAN
Email Address	Phone # 448-3098 Fax # 613 448-1616
NOTIFICATION OF WATER WORKS OWNER	NOTIFICATION OF LOCAL MEDICAL OFFICER OF HEALTH
Person Committed DAVE HARKELL	Person Contacted DALIA
Position PROCESS TECHNICIA.	Position SPEC. PROJECTS
Date OCT 9102 Time USS fin	Date 605 9 102 Time 2 10 P.A.
Laboratory Written Notification Prepared by: (Lab Results must be attached using Part 3 of form) KEYSTYNI	
Signature	Date
	८८१ १।३१
PART 2 - NOTIFICATION BY WATER WORKS OWNER Indicators of Adverse Phys/Chem Exceeds MAC	Radiological Exceeds IMAC
Water Quality Physician Exceeds MAC	<u> </u>
This notification is for operational problems identified at the waterworks; the	
SPILLS ACTION CENTRE ORAL NOTIFICATION BY OWNER	WATERWORKS EMERGENCY CONTACT
Date Det 9/02 Time 2:50	Name Dave Markell
Waterwarks Nume Moose Creek Well's	Printion Rocess Tech.
Works# 220008033	Phone # 613-448-3098 Fax # 613-445-1616
Works Person Providing Oral Notification	
MEDICAL OFFICER OF HEALTH ORAL NOTIFICATION BY OWNER	REMEDIAL ACTIONS TAKEN BY OWNER:
Dute BCT+ 9/02 Time 2:50	Resampling Initiated Yes No
Person Contacted Adala	Increase Chlorine Dose Yes No Flushing Mains Yes No
Position SpeciAL	Other Actions Taken Yes No
Phone # 500 767 4120 Fex# 933-7930	Describe:
Works Person Providing Oral Notification	Other information attached
Water Works Written Notification Prepared by: Name (please print)	lave Markell
Signature Swellan Cul	Date Det 7/02
For Ministry Use Only: Occ	urrence Report #:

(F) Ontario Ministry Ministere of the of the Ministere of the of

ADVERSE ANALYTICAL RESULTS - For Indicators Listed in SCHEDULE 6 -Drinking Water Protection Regulation

Microbiological Testing

 Date/Time Collected (M/D/Y)	Sample Type / Location	Membi Co	Membrane Filtration Count/100ml		P-A/100mi Presumptive/ Confirmed	HPC/ 1ml	Date of Analysis (M/D/Y)
•		Total Coliforms	Back-	E.coli/	(a apparant)		
310010590 MC-04 10/07/02	TREATED UATER			ABJENT			70/80/01
			_				

ADVERSE ANALYTICAL RESULTS - For Parameters Listed in SCHEDULE 4 and 5 or in a C of A or Order Drinking Water Protection Regulation

Physical/Chemical/Radiological Testing

	Unit MAC/ Date of Analysis IMAC (M/D/Y)			
	Date of			
	MAC/ IMAC			
	Unit	+	 L	
	Result			
	Parameter			
	Sample Type/ Location			
0	Date/Time Collected (M/D/Y) _m (: p.m.)			
	Sample Field ID No.			
	Laboratory Sample ID No.			

1402-047 (07/00)

Caduceon Environmental Laboratories

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Report:

Project: Date Sampled: Date Received:

Date Printed:

220010890

Moose Creek WTP October 7, 2002

October 8, 2002 October 09, 2002

Matrix:

Drinking Water

-deficion.	MEIRCH				Marie 1969		ig water
	Parameter	Background	E. coli	Free CI2	HPC	TC	Total Cl2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MDL	1	1	0.05	2	1	0.05
Sample ID							
Well #2 Raw		absent	absent			absent	
Well #3 Raw		2	absent			absent	
Treated Water			absent	1.86		2	2.18
M.C. Hall			absent	1.12		absent	1.52
Paul Adams Cons.			absent	0.96		absent	1.16

Caduceon Environmental Laboratories 2378 Holly Lane, Ottawa, Ontario, K1V 7P1, Canada Tel: (813)526-0123, Fax: (613)526-1244

For Michael Ziebell, General Manager

I.q

HP OfficeJet K Series K80 Personal Printer/Fax/Copier/Scanner Log for OCWA 613 448-1616 Oct 09 2002 3:29pm

Last Transaction

<u>Date Time Type Identification</u> <u>Duration Pages Result</u>

Oct 9 3:26pm Fax Sent 16139337930 2:54 4 OK

HP OfficeJet K Series K80 Personal Printer/Fax/Copier/Scanner

Log for OCWA 613 448-1616 Oct 09 2002 3:25pm

Last Transaction

<u>Date Time Type Identification</u> <u>Duration Pages Result</u>

Oct 9 3:24pm Fax Sent 18002686061 0:56 4 OK



Chesterville Hub

5 Industrial Drive, P.O. Box 460 Chesterville, Ontario K0C 1H0

Tel: (613) 448-3098 Fax: (613) 448-1616 www.ocwa.com

Fax

То	MOH. MOE
Company	
Fax Number	613-933-7930 1-800-267-6061
From	DCWA. D. Markell
Date	June 19/02
Number of Pages	(including this page)
Subject	Adverse Water.
Moose	Creek. Treated Water @ Plant.
- T- col	i plate Over GROWN.
	absent.
- Resamp	water Tooli , Ecoli , Background ABSENT ling Initiated.
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Ontario

Notice of Drinking Water Analysis and Remedial Actions for Waterworks as Required under Drinking Water Protection Regulation

In accordance with the Drinking Water Protection Regulation, Laboratories and Water Works Owners must immobility provide again neighbories to the MOE Spills Action Course (EAC) or 1-396-369-4840 or 1-416-325-3900 and the local Medical Officer of Hooks (MOE) of indicators of aboves to building vater quality and exceedances of standards defined from by Fast to the Spills Action Course at uniformatical actions before. Further, within 12 hours, of the arms and flowing, the provide against accordance with the Regulations amountaines on offices under the Act. A copy of 1-000-368-4041 or 1-416-325-3011 and the local Medical Officer of Bloods. Publics to early dean parties in accordance with the Regulation constitutes on offices under the Act. A copy of 1-000-368-4041 or 1-416-325-3011 and the local Medical Officer of Bloods. Public web the (*vorones general for contacting any MOE office.)

ators of Adverse E	TION BY LABO	ys/Chess	AC LAC	CofA/Order	Exceeds IMAC Exceeds Limit
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noc:	SE CLEEK	UELL SUPPLY	Waterwarks Emergent	Contact Of 1	AVEN
works Name			}		
,22000 8	8035		Pushion		
100SE	CREEK			8-3098	Pag (613) 448-1616
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MARCATION OF WA	ATER WORKS OW!	NER		LINE	HARCHAND
CAL.	E MARK	ELL	Person Conducted	SM. ASSES	
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RT 2 - NOTIFIC. licators of Adverse ster Quality This resification to fe LLS ACTION CEN	or operational problem TIRE ORAL NOT SET	TER WORKS OWNER Typi Chess Exceeds in	MAC Share is no Laboratory WATER WORKS Name Day	CotA/Order sorification essection EMERICANICY CO	Exceeds Limit
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RT 2 - NOTEPIC. Hicharts of Adverse her Quality This molification is for ELS ACTION CEN LOW 19 Manual Name 20 Manual Name 7 molding One IEDICAL OFFICER Manual Name 1 molding One Manual Name 1 molding One Manual Name 1 molding One M	responsibility of the company of the	TER WORKS OWNER Typi Chess Exceeds In Ruscods I Substitution BY OWNER 15 25 Water Ve Market NOTIFICATION BY OWN 15 25	MAC In shore to no Laboratory WATER WORKE Name Parker Petter P	COCADORES	Pass 448-16/6 Pass 448-16/6 OWNER: Yes No Yes No Yes No Yes No
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PART 3:

ADVERSE ANALYTICAL RESULTS - For Indicators Listed in SCHEDULE 6 -Drinking Water Protection Regulation

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in Fi	Laboratory Sample Sample Field		Date/Time Collected	Sample Type / Location	Membra Cou	Membrane Filtration Count/100ml			更是	Analysis OMDAY)
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			···		Total	Back	Med 3			٠
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ADVERSE ANALYTICAL RESULTS - For Parameters Listed in SCHEDULE 4 and 5 or in a C of A or Order Drinking Water Protection Regulation

VChemical/Radiological Testing

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			Occurrence Report #:	Occu			Use Only:	For Minbury Use Only:
06/19/06	90			PIPIN	FEYSTYNA PIL	l	Laboratory Results Authorized by:	Laboratory
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DMAC (M/D/Y)	DMAC			· All allignment	mple Typer eation	Collected L	Sample Field ID No.	Laboratory Sample ID No.
Date of Assaysas	MAC		Result					3

1402-047 (07/00)

Caduceon Environmental Laboratories

Division of Caduceon Enterprises inc.

Certificate of Analysis

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON **KOC 1HO**

PARTIAL

Report:

220006128

Project:

Moose Creek WTP June 17, 2002

Date Sampled: Date Received: Date Printed:

June 18, 2002 June 19, 2002

Matrix:

Attention:	Dave Markeil			Ma	trix:	Drinking Water	
	Parameter	Background	E. coli	Free CI2	НРС	TC	
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	
	MDL.	1	1	0.05	2	1	
Sample ID							-
Well #2 Ra	w	absent	absent			absent	
Well #3 Ra	w	absent	absent			absent	
Treated Wa	ater		absent	1.60		OG	
Dist. Sewa	ge Pumping Station		absent	0.70		absent	
Dist. Moose	e Creek Mall		absent	0.90		absent	

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0G-OVERGROWN

Caduceon Environmental Laboratories 2378 Holly Lane, Ottawa, Ontario, K1V 7P1, Canada Tel: (613)526-0123, Fax: (613)526-1244

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HP OfficeJet K Series K80 Personal Printer/Fax/Copier/Scanner

Log for OCWA 613 448-1616 Jun 19 2002 3:51pm

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<u>Date Time Type Identification</u> <u>Duration Pages Result</u>

Jun 19 3:47pm Fax Sent 16139337930 3:03 4 OK

HP OfficeJet K Series K80 Personal Printer/Fax/Copier/Scanner

Log for OCWA 613 448-1616 Jun 19 2002 3:47pm

Last Transaction

<u>Date Time Type Identification</u> <u>Duration Pages Result</u>

Jun 19 3:46pm Fax Sent 18002686061 1:00 4 OK

ETRL Division of Caduceon Enterprises Inc.

133 Delton Ave. Kingston, ON K7K 6C2 Tel: (813) 544-2001 Fax; (813) 544-2770 email: otio kingston nel

05 March 2002

re: HPC reporting

To all drinking water clients:

You have probably already noticed the recent change we have made in reporting HPC results. Samples with no detection of HPC will now be reported as <10 cfu/mL. We recently changed our analysis protocol to incorporate 100 uL of sample instead of 1000 uL. This will allow us to more clearly identify and count plates at and above the objective of 500 cfu/mL. The ODWS objective for HPC is 500 cfu/mL so a results reported as <10 cfu/mL will be acceptable by the Ministry of the Environment.

I hope we have not caused any confusion with this recent change.

If you have any questions please do not hesitate to contact me at (613)544-2001.

Regard's

Steve Garrett Lab Manger

Attn: Bloir H. Dave M.



Chesterville Hub

5 Industrial Drive, P.O. Box 460 Chesterville, Ontario K0C 1H0

Tel: (613) 448-3098 Fax: (613) 448-1616 www.ocwa.com

Fax

То	IRENE
Company	MOH
Fax Number	1-613-262220 7930 933-7930
From	Dave
Date	FEB 21
Number of Pages	(including this page)
Subject	Please find attached
lab A	heets from Moose Creek,
Finch,	Chesterville and Winchester
Wells =	± 1,5 86.
These o	are as a required follow-up
	fications of adverse water
	over 20 ms/c) FEB 7/02.
any qu	vestions please call Save



Chesterville Hub
5 Industrial Drive,
Chesterville Ontorio V

Chesterville, Ontario K0C 1H0 Tel: (613) 448-3098

Fax: (613) 448-1616 bhenderson@ocwa.com

Fax

To

Rheal Delaquis

Company

Ministry of Environment

Fax Number

(613) 933-6402

From

Blair Henderson

Date

February 21, 2002

Number of Pages

1 (including this page)

Subject

Finch Water and Moose Creek Water - Sodium Exceedance

As a follow up to notification of sodium exceedance dated February 7, 2002, as per ODWR, all sites have been resampled and the results are as follows.

Finch Treated Water - 77.0 mg/Litre Moose Creek Treated Water - 27 mg/Litre

These results have been forwarded to the Ministry of Health.

These results are consistent with historic sodium results.

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ACCUTEST LABORATORIES LTD.

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2201834

Date: Date Submitted:

2002-02-20 2002-02-14

ATT: Mr. Blair Henderson

Project:

Moose Creek Wells

P.O. Numbe

				P.O. Number:		
		LADIB	100015	Matrix:	Supply Water	•
	6	LAB ID:	169945			
	Samp	le Date:	2002-02-13			
	Sar	nple ID:	MCW-04			
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PARAMETER	DAUTE					1
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8-146 Colonnade Road, Ottawa, ON, K2E 7Y1

INC = Incomplete

Comment:

APPROVAL:

608 Norris Court, Kingston, ON, K7P 2R9

TRANSMISSION VERIFICATION REPORT

TIME: 02/21/2002 13:47

DATE, TIME FAX NO./NAME DURATION PAGE(S) RESULT MODE 02/21 13:45 16139337930 00:02:05 05 OK STANDARD Accutest Laboratories Ltd.

146 Colonnade Rd., Unit 8, Nepean, Ontario, K2E 7Y1

www.accutestlabs.com



To:	
	Blair Henderson
1	OCWA Chesterville
Phone:	613-448-3098
Fax phone:	613-448-1616
CC:	

Date:	February 7, 2002	
Number	of pages including cover sheet:	15

From:	16.1.1.1.1
	Kristina Hay
(QA/QC Coordinator
Phone:	613-727-5692
ax phone:	613-727-5222
e-mail:	khay@accutestlabs.com

REMARKS Originals to follow:		Urgent YEŞ		For your r	eview VIA:		Reply ASAP Mail	Please comment Courier
Originals to follow.								
Your Reference: Na	ODW	S Exceed	iance	: \$	Our R	efere	nce:	
Mr. Henderson,	<u>-</u>							
This is a notice of adverse have attached a preliminal Analysis form.								
Please contact me if you h	ave a	any questi	ons.					
Best regards,								
Bristne Ho Kristina Hay	g	Z.						



Ministry of the Environment Ministère de l'Environne

Notice of Drinking Water Analysis and Remedial Actions for Waterworks as Required under Drinking Water Protection Regulation

In accordance with the Drinking Water Protection Regulation, Laboratories and Water Works Owners must be to the Configuration to the MOE Spills Action Centre (SAC) at 1-20-268-4000 or \$-416-323-3000 and the local Medical Officer of Hamith (MOE) of Indicates of adverse drinking water quality and expendence of standards as auditated in the Regulation and remailed estimate Parties. Parties, within 26 hours of the and medication, the personal artists need to the Complaint form by Fax to the Spills Action Course at 1-400-268-666 or 4-416-325-3011 and the local Medical Officer of Health. Fediens as easy stand purely the Empirical University of the One-to-the Course as a standard through the Mistory of the One-to-the Course and the formation of the Conference (MOE) public web size (were asset) or by connecting any MOE office.

RT 1 - NOTIFICATION BY LABORATORY Leauns of Adverse Phys/Chem Laboration M.	AC Rudiological L Exceeds IMAC
Car Quality	FAC CofA/Order Exceeds Limit
Leh 7 2002	
te: PCO 1, 200 2— Time:	m Kristina Hay
Accutest Laboratories Ltd.	Laboratory Emergency Contact Name Pater Heulens
146 Colonnade Rd., Unit 8, Nepean, ON K2E 7Y1	Analytical Services Manager
min address info@accusestlabs.com	(613) 727-5692 (613) 727-5222
Mos Cuek Well Sigole	Weterworks Emergeory Contract
oder 22000 8033. " (- Blair Henderson
cains .	- Operator
mad Address	613)448-3098 (613)448-1616
OTHICATION OF WATER WORKS OWNER	NOTIFICATION OF LOCAL MEDICAL OFFICER OF HEALTH
Blair Henderson	remember Irene Warchand.
consistent Uperator.	Position Harris
500 7 2002. Time 315pm.	- Feb 7,2002 - 40b pm.
Laboratory Writtels Notification Prepared by: Name (please Lab Results must be attached using Part 3 of form)	Kristina Hay
Signature	Dete To/ 7 3000
dristine Hay.	Feb 7,2002.
ART 2 - NOTIFICATION BY WATER WORKS OWNE	
Indicators of Adverse Phys/Chem Exceeds Water Quality	
This nonficultion is for operational problems identified at the waterwork	ks; there is no Laboratory natification associated with this report
SPILLS ACTION CENTRE ORAL NOTIFICATION BY OWNER	WATERWORKS EMERGENCY CONTACT
Date FEB +/02 Three 16:16	Blain Herderson.
Wastrong Name 220008033	Pois Dos Monager.
worse Moose Creek wells	448309B 1013-448-1616
World Regas Providing Oral Nocification BLAIR HE NO DESCO	
MEDICAL OFFICER OF HEALTH ORAL NOTIFICATION BY OW	
One FEB 7/02 16:25	Increase Chiorine Doss Yes No
Person Contacted , , , , , , , ,	
Porma Cartagodi Claudette	Phosping Mains Yes No
Position Receptionist	Other Actions Taken Yes No
ClaudeTle	Other Actions Taken Yes No Describe:
Production Receptionist 613-933-1375 Fax # 933-793 Works Person Providing Oral Nonficence Dave Marke [1	Other Actions Taken Yes No Describe: Other information attached
Position Receptionist 613-933-1375 Fax # 933-793	Other Actions Taken Yes No Describe: Other information attached Describe: Other Marke (
Production Receptionist 613-933-1375 Fax # 933-793 Works Person Providing Oral Nonficence Dave Marke [1	Other Actions Taken Yes No Describe: Other information attached

402-047 (07,00)

Report of Analysis

Client:

MOOSE CREEK WELL SUPPLY

5 Industrial Drive Chesterville, ON

K0C 1H0

Report Number:

2201009

Date Reported:

Date Submitted:

2002-01-29

Date Collected

2002-01-28

Project:

Moose Creek Wells

Quarterly Chemicals

Attention: Mr. Blair Henderson

P.O. Number:

Matrix

Supply Water

PARAMETER	UNITS	MDL	167759
		W.J.L	MCW-04
Ai	mg/L	0.05	<0.05
Alkalinity as CaCO3	mg/L.	5	205
Ca	rng/L	1 -	86
CI	mg/L	1	29
Colour	TCU	2	2
Conductivity	uS/cm	5	707
Cu	mg/L	0.001	<0.001
DOC	mg/L	0.5	1.9
	rng/L	0.10	0.23
Fe	mg/L	0.01	0.45
Hardness as CaCO3	mg/L	1	326
Mg	mg/L	· · · · · · · · · · · · · · · · · · ·	27
Via	mg/L	0.01	0.04
N-NH3	mg/L.	0.02	₹0.02
N-NH3 (unionized)	mg/L	0.02	<0.02
Na -	mg/L	2	26
pH			7.84
SO4	mg/L		137
roc	mg/L	0.5	2.1
otal Kjeldahl Nitrogen	mg/L	0.05	0.10

MDL = METHOD DETECTION LIMIT

Comment:

APPROVAL:

146 Colonnade Road Unit 8, Nepean Ontario, K2E 7Y1 Tel: 1-888-271-8378 (513)727-5692 Fax:(613)727-5222 www.accutestlabs.com

PART 3:

Ministry of the Environment Ministère de l'Environnement

ADVERSE ANALYTICAL RESULTS - For Indicators Listed in SCHEDULE 6 -Drinking Water Protection Regulation

Alicrobiological Testing

Laboratory Sample Sample Field 1D No. 1D No.			
Collected (M/D/Y)			
Sample Type / Lecation			
Membr Co	Tetal Califorms		
Membrane Filtration Count/10bml	Back- ground		
_	E.coll/ Fecal C.		
P-A/100ml Presumptive/ Confirmed (if applicable)			
IIPC/			
Date of Analysis (M/D/Y)			

ADVERSE ANALYTICAL RESULTS - For Parameters Listed in SCHEDULE 4 and 5 or in a C of A or Order **Drinking Water Protection Regulation**

Physical/Chemical/Radiological Testing

Laboratory Sample ID No.	Sample Field ID No.	Date/Time Collected (M/D/Y)	Sample Type/ Location	Parameter	Result	Unit	MAC!	IMAC/ Date of Analysis IMAC (M/D/Y) (Fig. 1)
		(: pa.)					Court of	
1677591		01/28/02	01/28/02 Treated MCN-O4	Z	26	ma I	20	02/07/02
		a so				(
	-	_						
					,			
	<u></u>							

Occurrence Report #:	ior Ministry Use Only:
FED T, AWIL	Knothra Hay
Authorization Date:	Laboratory Results Authorized by:

1402-047 (07/00)

Page

#

600 🛂

TRANSMISSION VERIFICATION REPORT

TIME: 02/07/2002 17:24

DATE,TIME FAX NO./NAME DURATION PAGE(S) RESULT MODE 02/07 17:21 15139337930 00:02:27 04 OK STANDARD TRANSMISSION VERIFICATION REPORT

TIME: 02/07/2002 17:30

DATE, TIME FAX NO./NAME DURATION PAGE(S) RESULT MODE 02/07 17:25 1800258E061 00:04:48 09 OK STANDARD ECM

January - March 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Moose Creek Drinking Water Quality

Ontario Drinking Water Protection Regulations

The Ontario Clean Water Agency, as the contract operator of the Moose Creek Water Treatment Facility on behalf of the Township of North Stormont, is pleased to present the 2002 First Quarter Report on drinking water quality. This report has been prepared in response to legislative changes brought about by "Operation Clean Water", an initiative of Ontario's Ministry of the Environment to ensure high quality drinking water for the residents of Ontario. The new regulations put into law what was formerly the Ontario Drinking Water Objectives (ODWO), and sets requirements for public waterworks with regard to sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

Further information on the Ontario Drinking Water Regulations can be found on the Ministry of the Environment web site at www.ene.gov.on.ca

Where to contact us for information



Web site at www.ocwa.com

Client Services Representative: John Kingsbury Operations Manager: Blair Henderson

Phone: (613) 774-3663 Phone: (613) 448-3098

E-mail Address: jkingsbury@ocwa.com E-mail Address: bhenderson@ocwa.com

You may also contact the Township of North Stormont directly by contacting Rheal Charbonneau,

Clerk-Treasurer, Tel. (613) 984-2821 or e-mail address:

norstor@cnwl.igs.net

Free copies of this report are available at the Township office or their website @ www.cnwl.igs.net/~northstormont

INSIDE THIS REPORT

Drinking Water Regulations	1
Where To Contact Us	1
Plant Description & Treatment Processes	2
Quality Control and Compliance with Provincial Regulations	3

January - March 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Definitions & Terms		4
Required Testing		4
Water Quality Test Results	The second secon	5
Questions & Answers		7

Introduction

We are proud to report that for the period January to March 2002, your water conformed to the Ontario Drinking Water Standards as set out in Ontario Regulation 459/00. The Ontario Clean Water Agency (OCWA) is dedicated to maximizing public health and safety through efficient and reliable operation of your water facility and distribution system.

Plant Description and Treatment Processes

	Facility Name:	Moose Creek WTP & Distribution System
	Total Design Capacity	896 cubic meters/day
	Raw Water Source	Groundwater
	Disinfection Method	Sodium Hypochlorite
	Municipal Location	Municipal Office, 2 Victoria Street, Berwick, Ontario
	Service Area	Village of Moose Creek
İ	Service Population	400

Operational Description:

Raw water source: Three drilled wells located southwest of the water pumping station.

Low Lift Pumps: Three low lift pumps lift the water from the wells to the main pumping station. There is one header that directs the water to the Chlorine Contact Chamber. At this point, Sodium Hypochlorite is added to the raw water for disinfection.

Reservoir: From the Chlorine Contact Chamber the treated water enters a 75 cubic meter underground reservoir.

High Lift Pumps: Two high lift pumps, one duty and one standby, move the treated water from the reservoir into the distribution system and elevated tank.

Elevated Tank: There is approximately 622 cubic meters of water in the elevated water tower located on County Road 15.

<u>Distribution System</u>: There are approximately 400 persons supplied with water from the Moose Creek Water Treatment System.

January - March 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Quality Control & Compliance With Provincial Regulations

This plant provides multiple barriers against bacteriological contamination. Bacteriological testing is carried out on raw water, treated water and distribution samples on a regular frequency. On-line analysers for chlorine residuals and turbidity ensures daily monitoring of water leaving the plant. Chlorine levels in the distribution system are also checked on a regular basis. More specialized testing occurs monthly and quarterly and includes Volatile Organics, Inorganics, Pesticides and PCB's.

OCWA uses internal compliance auditing techniques by teams from within the organization. OCWA operates the Moose Creek Water Treatment Facility in accordance with provincial regulations. Here is how we do it:

- Use of Accredited Labs. Analytical tests to monitor your water quality are conducted by a
 laboratory audited by the Canadian Association for Environmental Analytical Laboratories
 (CAEAL) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that
 the laboratory has acceptable laboratory protocols and test methods in place. It also requires the
 laboratory to provide evidence and assurances of the proficiency of the analysts performing the test
 methods.
- Operation by Licensed Operators. Your water treatment plant is operated and maintained by the
 Ontario Clean Water Agency's competent and licensed staff. The mandatory licensing program for
 operators of drinking water facilities is regulated under the Ontario Water Resources Act (OWRA)
 Regulation 435/93. Licensing means that an individual meets the education and experience
 requirements and has successfully passed the certificate exam.
- Sampling and Analytical requirements. OCWA follows a sampling and analysis schedule required by OWRA Regulation 459/00, the Ontario Drinking Water Standards. More information on sampling and analysis including results are available in this report and from your municipal office.
- Adherence to Ministry Guidelines and Procedures. To ensure the protection of the health and
 operational excellence, the OCWA adheres to the guidelines and procedures developed by the
 Ministry of the Environment and the Ministry of Health.

Did We Exceed the Standards?

During this quarter, there were no micro biological parameters that exceeded the MAC/IMAC limits. In respect to Operational Parameters, 16 turbidity exceedences were reported as per Regulation 459/00. These samples are taken continuously in-house by online equipment and these spikes are believed to be caused from the starting and stopping of pumps, equipment maintenance/calibration and/or air and a buildup of iron sediment in the sample lines. During these spikes, the system was being adequately disinfected; therefore, reducing any risks that may be associated with the high turbidity.

January - March 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

During the First Quarter, Sodium was found to exceed the Ontario Drinking Water Standards concentration of 20 mg/L as set out in Ontario Regulation 459/00. The sodium concentrations of the treated water at Moose Creek Well Water System in the first quarter were 26 mg/L and 27 mg/L. The local Medical Officer of Health must be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to the local physicians for their use with patients on sodium restricted diets. The aesthetic objective for sodium in drinking water is 200 mg/L at which it can be detected by a salty taste.

As a result we actively undertook the following remedial actions:

Immediately notified the Ministry of Environment and the Ministry of Health as per the Ontario Drinking Water Standards. The result of the first sample was 26 mg/L and as per Reg. 459 re-sampling was initiated and the results were 27 mg/L.

Definitions & Terms

 m^3 - Cubic Meter, $1m^3 = 1000$ litres

TCU - True Colour Units

CaCO₃ - Calcium Carbonate

mg - milligram

mg/L - milligrams per litre

ug/L - micrograms per litre

ng/L - nanograms per litre

NTU - Nephelometric Turbidity Units

MAC - Maximum Acceptable Concentration

IMAC - Interim Maximum Acceptable Concentration

Coliform Bacteria - a group of commonly occurring rod shaped bacteria. Their presence in a water sample is indicative of inadequate filtration and/or disinfection.

Fecal Coliform Bacteria - refers to a subgroup of coliform bacteria present in the digestive system of warm blooded animals and humans.

Heterotrophic Plate Count - a method of measuring bacterial content in water samples. Also known as Standard Plate Count.

Organic Parameter - a group of chemical compounds containing carbon.

Inorganic Parameter - a group of chemical compounds not containing carbon.

Raw Water - Surface or ground water available as a source of drinking water that has not received any treatment.

Required Testing

The Ontario Drinking Water Regulations and Certificates of Approval (C of A) set sampling requirements for the plant. All other sampling conforms to the Drinking Water Protection Regulation schedule for sampling and analysis. As water travels over the surface of the land or through the ground,

January - March 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

it dissolves naturally occurring minerals and, in some cases can pick up substances resulting from the presence of animals or from human activity. Your water is extensively tested for the presence of dozens of compounds. The results of all analytical tests are available at your municipal office. The following table lists all compounds analyzed.

Moose Creek Water Quality Test Results

viouse Creek water Quality		1 621 1/62					
Microbiological Parameters	MAC or IMAC	# of Samples	# of Detectable Results	Sampling Dates (m/d)	Range	Exceedence?	Typical Source of Contaminant
Total Coliform (counts/100ml)	0	39	0	01/01-03/31	n/a	no	Indicate possible presence of coliform
Escherichia Coliform (counts/100ml)	0	39	0	01/01-03/31	n/a	no	Definite indicator of fecal contamination
Fecal Coliform (counts/100ml)	0	39	0	01/01-03/31	n/a	no	Indicator of sewage contamination
Heterotrophic Plate Count (counts/100ml)	500	39	2	01/01-03/31	4-40	no	Indicator of deteriorating water quality if greater than 500
Parameters related to Microbiological Quality	MAC or IMAC	# of Samples	# of Detectable Results	Sampling Dates (m/d)	Range	Exceedence?	Contaminant
Turbidity (NTU)	1	Continuous	Continuous	01/01-03/31	0.40->5.0	yes	Turbidity is a measure of particles in water
Free Chlorine - Plant Effluent (mg/l)	-	Continuous	Continuous	01/01-03/31	1.67-2.80	no	Chlorine added for Disinfection
Free Chlorine- Distribution (mg/l min 0.05 & max. 4.0)		Grab samples weekly	Weekly	01/01-03/31	0.70-2.20	no	Objective is 0.20 mg/l in the Distribution System (min. 0.05 mg/l required)
Inorganic Parameters (mg/l)	MAC or IMAC	# of Samples	# of Detectable Results	Sampling Dates (m/d/y)	Range	Exceedence?	Typical Source of Contaminant
Lead - Distribution	0.01	1	1	01/21/02	<0.001	no	Leached from lead solder or brass plumbing fixtures
Nitrate	10	1	1	01/21/02	<0.1	no	Natural component of water
Nitrite	1	1	1	01/21/02	<0.1	no	
Arsenic	IMAC= 0.025	1	1	09/19/00	<0.001	no	
Barium	1	1	1	09/19/00	0.24	no	
Boron	1MAC= 5.0	1	1	09/19/00	0.06	no	
Cadmium	0.005	1	1	09/19/00	<0.0001	no	
Chromium (Total)	0.05	1	1	09/19/00	< 0.01	no	
Copper	1	1	1	01/21/02	<0.001	no	
Iron	0.3	1	1	01/21/02	0.45	yes	Comments below
Lead	0.01	1	1	09/19/00	<0.001	no	
Manganese	0.05	1	1	01/21/02	0.04	no	
Mercury	0.001	1	1	09/19/00	<0.0001	no	· · · · · · · · · · · · · · · · · · ·
Selenium	0.01	1	1	09/19/00	<0.001	no	
Uranium	0.1	1	1	09/19/00	<0.001	no	
Sodium	200	1	1	01/28/02- 02/13/02	26-27	no	

January - March 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Fluoride	2.4	3	3	01/28/02	0.23	no	

Comment: Iron may be present in groundwater as a result of mineral deposits and chemically reducing underground conditions. The aesthetic objective for Iron, set by appearance effects in drinking water is 0.3 mg/L. Excessive Iron levels in drinking water supplies may impart a brownish color to laundered goods, plumbing fixtures and the water itself; it may produce a bitter, astringent taste in water and beverages; the precipitation of iron can also promote growth of iron bacteria in water mains and service pipes. The Moose Creek Water Pumping Station has no design features for the removal of Iron.

Volatile Organics (ug/l)	MAC or IMAC	# of Samples	# of Detectable Results	Sampling Dates (m/d)	Rang	e	Exceedence?	Typical Source of Contaminant
Trihalomethanes - Plant	100	2	2	01/21	74.7		no	
Trihalomethanes - Dist.	100	2	2	01/21	52.1		no	
Benzene	5	1	1	01/21	<0.5		no	
Carbon Tetrachloride	5	1	1	01/21	<0.9		no	
Dichloromethane	50	1	1	01/21	<4		no	*
1,2 - Dichlorobenzene	200	1	1	01/21	<0.4		no	
1, 4 - Dichlorobenzene	5	1	1	01/21	<0.4		no	
1,2 - Dichloroethane	IMAC= 5	1	1	01/21	<0.7		no	
1,1 - Dichloroethylene	14	1	1	01/21	<0.5		no	
Ethylbenzene	24	1	1	01/21	<0.5		no	
Monochlorobenzene	80	1	1	01/21	<0.2		no	
Tetrachloroethylene	30	1	1	01/21	< 0.3		no	
Toluene	24	1	1	01/21	<0.5		no	
Trichloroethlyene	50	1	1	01/21	<0.3		no	
Vinyl chloride	2	1	1	01/21	<0.5		no	
Xylene	300	2	2	01/21	<2.0		no	
Bromodichloromethane	n/a	1	1	01/21	17.5		no	
Bromoform	n/a	1	1	01/21	<0.4		no	
Chloroform	n/a	1	1	01/21	47.6		no	
Dibromochloromethane	n/a	1	1	01/21	9.6		no	
Pesticides & PCB (ug/L)	MAC or IMAC	# of Samples	# of Detectable Results	Sampling Dates (m/d)	Range	Exceedeace	⁷ Typical Contan	Source of ainant
Alachlor	IMAC=5	1	1	01/21	<0.5	no		
Aldicarb	9	1	1	01/21	<5.0	no		
Aldrin+Dieldrin	0.7	1	1	01/21	<0.7	no		
Atrazine	IMAC=5	1	1	01/21	<1.0	no		
Azinphos-methyl	20	1	1	01/21	<2.0	no		
Bendiocarb	40	1	1	01/21	<2.0	no		
Bromoxynil	IMAC=5	1	1	01/21	<0.5	no		
Carbaryl	90	1	1	01/21	<5.0	no		
Carbofuran	90	1	1	01/21	<5.0	no		
Chlordane	7	1	1	01/21	<0.7	no		
Chorpyrifus	90	1	1	01/21	<1.0	no		
Cyanazine	IMAC=10	1	1	01/21	<1.0	no		
Diaznon	20	1	1	01/21	<1.0	no		
Dicamba	120	1	1	01/21	<1.0	no		
2,4 Dichlorophenol	900	1	1	01/21	<0.5	no		
		1						

January - March 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

2,4 - Dichlorophenexy	IMAC=10	1 1	1 1	01/21	<1.0	no	I
acid (2,4 -D)	0 0	'	1	01/21	1.0	110	
Diclofop-methyl	9	1	1	01/21	<0.9	no	
Dimethoate	IMAC=20	I	1	01/21	<2.5	no	
Dinoseb	10	1	1	01/21	<1.0	no	
Diquat	70	1	1	01/21	<7.0	no	
Diuron	150	1	1	01/21	<10.0	no	
Glyphosate	IMAC=28	1	1	01/21	<10.0	no	
	0	ļ					
Heprachlor + Heptachlor epoxide	3	1	1	01/21	<0.3	no	
Lindane	4	11	1	01/21	<0.4	no	
Malathion	190	1	1	01/21	<5.0	no	
Pesticides & PCB (ug/L)	MAC or IMAC	# of Samples	# of Detectable	Sampling Dates	Range	Exceedence?	Typical Source of Contaminant
	第 步 4.00		Results	(m/d)			
Methoxychlor	900	1	1	01/21	<90.0	no	
Metolachlor	IMAC=50	1	1	01/21	<0.5	no	
Metribuzin	80	1	1	01/21	<5.0	no	
Paraquat	IMAC=10	1	1	01/21	<1.0	no	
Parathion	50	1	1	01/21	<1.0	no	
Pentachlorophenol	60	1	ı	01/21	<0.5	no	
Phorate	IMAC=2	1	1	01/21	<0.5	no	
Picloram	IMAC=19	1	1	01/21	<5.0	no	
Polychlorinated Biphenyls	IMAC=3	1	1	01/21	<0.3	no	
Prometryne	IMAC=1	1	1	01/21	<0.25	no	
Simazine	IMAC=10	1	1	01/21	<1.0	no	
Temephos	IMAC=28	1	1	01/21	<10	no	
Terbufos	IMAC=1	1	1	01/21	<0.7	no	
2,3,4,6 Tetrachlorophenol	100	i	1	01/21	<0.5	no	
Triallate	230	l	1	01/21	<1.0	no	
2,4,6-Trichlorophenol	5	1	1	01/21	<0.5	no	
2,4,5 - trichlorophenoxy acedic acid	IMAC=28	1	1	01/21	<1.0	no	
Trifluralin	45	1	1	01/21	<1.0	no	
Additional Parameters Non-Health Related	AO or OG	# of Samples	# of Detectable Results	Sampling Dates (m/d)	Range	Exceedence?	Typical Source of Contaminant
(mg/L) Colour	5	1	1	01/28	2	no	
рН	6.8-8.5	1	1	01/28	7.84	no	
Alkalinity	30-500	!	11	01/28	205	no	
Total Hardness	80-100	1	1	01/28	326	yes	Limits are set as an operational guideline
Sulphate	500	1	1	01/28	137	no	
Conductivity		1	11	01/28	707	no	
Chloride Eras Ammania	250	1		01/28	29	no	
Free Ammonia		1	1	01/28	<0.02	no	
Total Kjeldahl Nitrogen		1	1	01/28	0.1	no	
Dissolved Organic Carbon Sodium	5 200	1	1	01/28 01/28	1.9	no	
DOMINI				01/20	20	no	

January - March 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Iron	0.3	1	1	01/28	045	yes	
Aluminium	0.1	1	1	01/28	< 0.05	no	
Manganese	0.05	1	1	01/28	0.04	no	
Ammonia + Ammonium N		1	1	01/28	<0.02	no	
Total Organic Carbon		1	1	01/28	2.1	no	
Copper	1	1	1	01/28	< 0.001	no	-
Calcium		1	1	01/28	86	no	
Magnesium		1	1	01/28	27	no	

Questions & Answers

- Q. What is an Accredited Laboratory?
- A. Accredited labs must have undergone an on-site assessment and performance review of their methods by the Canadian Association of Environmental and Analytical Laboratories. The Standards Council of Canada grants accreditation to the lab based on the recommendation of the CAEAL. The accreditation requirements are repeated every two years.
- Q. What had to be done to meet the new regulations?
- A. The Moose Creek Water Treatment Plant was following the Ontario Drinking Water Objectives (ODWO) before they became law, so little change was required to meet the new regulations. Our chlorine residual in the water leaving the plant was raised to slightly to achieve the (0.20 mg/L free chlorine) required level in the distribution system, and some changes were required in the way results are reported. This report to the public is also the result of the new regulations.
- O. What parameters did you test for?
- A. Microbiological parameters, volatile organic, inorganic and pesticides & PCBs have been tested. The results are included in this report.
- Q. Sometimes my water looks rusty or coloured. Why is that, and what should I do about it?
- A. This is quite often caused when the tanks in older water heaters start to decay. If the colour is seen only in your hot water, this may be the problem. If the colour is also noticed in your cold water it could be coming from the water main. Various maintenance procedures in the distribution system such as fire hydrant and valve maintenance, or main break repairs require flushing of the water mains. Flushing can cause small particles of sediment to break off adding colour to the water. Please note that there is no health risk associated with this problem. This is usually only temporary, and opening your taps for a while to flush out your service line (the pipe from the water main to your house) should take care of the problem. Let the water run until the colour disappears.

Cadu on Enterprises Inc.

Environmental Laboratory

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analys

Report:

220000057

Project:

Date Sampled:

Date Received: **Date Printed:**

Matrix:

Moose Creek WTP January 2, 2002 January 3, 2002 January 07, 2002

Drinking Water

Parameter Un	it MDL		Sample Ide	entification				
			Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. Paul Adams	Dist. SPS
Total Chlorine	mg/L	0.05				2.50	0.80	0.90
Free Chlorine	mg/L	0.05				2.30	0.70	0.80
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
нрс	/mL	2	absent	absent	absent	absent	4	absent
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent

Cadulinon Enterprises Inc. **Environmental Laboratory**

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analy

Report:

220000172

Project:

Date Sampled:

Date Received:

January 7, 2002 January 8, 2002 January 10, 2002

Moose Creek WTP

Date Printed: Matrix:

Drinking Water

Parameter	Unit	MDL	Sample Identification					
			Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. Tower	Dist. Mall
Total Chlorine	mg/L	0.05				2.50	1.30	1.40
Free Chlorine	mg/L	0.05				2.30	1.20	1.30
E. coli	/100mL	. 1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	. 1	absent	absent	absent	absent	absent	absent
HPC	/mL	2	absent	4	absent	absent	absent	absent
Total Coliforms	/100mL	. 1	absent	absent	absent	absent	absent	absent

Cadu on Enterprises Inc.

Environmental Laboratory

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analys

Report:

220000388

Project:

Matrix:

Project.

Date Sampled:

Date Received:

Date Printed:

Moose creek WTP January 14, 2002

January 15, 2002

January 17, 2002 Drinking Water

Parameter	Unit MDL		Sample Identification					
			Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. Blair Const.	Dist. 2041 Valley
Total Chlorine	mg/L	0.05				2.50	2.00	1.00
Free Chlorine	mg/L	0.05				2.30	1.80	0.90
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
HPC	/mL	2	20	absent	2	absent	absent	absent
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent

Caduon Enterprises Inc.

Environmental Laboratory

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention: Dav

Total Coliforms

Dave Markeli

/100mL

Certificate of Analys

Report:

Project:

Date Sampled: Date Received:

Date Printed: Matrix: 220000613

Moose Creek WTP

January 21, 2002 January 22, 2002

January 25, 2002 Drinking Water

Parameter	Unit MDL		Sample	Identification		. <u></u>			
			Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. SPS	Dist. Mall	
Total Chlorine	mg/L	0.05				2.20	1.60	2.10	
Free Chlorine	mg/L	0.05				2.00	1.40	2.00	
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent	
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent	
HPC	/mL	2	absent	absent	2	absent	absent	absent	

absent

absent

absent

absent

absent

absent

Caduton Enterprises Inc. **Environmental Laboratory**

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON **K0C 1H0**

Attention:

Dave Markell

Certificate of Analy

Report:

220000787

Project:

Moose Creek WTP January 28, 2002

Date Sampled: Date Received:

January 29, 2002

Date Printed:

January 31, 2002

Matrix:

<u>Parameter</u>	Unit	MDL	Sample					
			Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. Paul Adam	Dist. 2041 Valley
Total Chlorine	mg/L	0.05				2.50	1.80	1.20
Free Chlorine	mg/L	0.05				2.30	1.70	1.20
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
HPC	/mL	2	absent	absent	10	absent	absent	absent
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2200719

Date:

2002-01-25

Date Submitted:

2002-01-22

ATT: Mr. Blair Henderson

Project:

Moose Creek Wells

Quarterly Chemicals

P.O. Number:

Matrix:

Supply Water

				Matrix.	Supply water	
		LAB ID:	167007			
	Sam	ple Date:	2002-01-21			
	Sa	ample ID:	Treated MCW			
			04			
ı <u></u>						
PARAMETER	UNITS	MDL				
BTEX / 624 / PURGEABLE HYD	ROCARBO	ONS				
Benzene	ug/L	0.5	<0.5			
Toluene	ug/L	0.5	<0.5 🗸			
Ethylbenzene	ug/L	0.5	<0.5 🗸			
m/p-xylene	ug/L	1.0	<1.0			
o-xylene	ug/L	0.5	<0.5√			
Bromodichloromethane	ug/L	0.3	17.5			
Bromoform	ug/L	0.4	<0.4			
bon Tetrachloride	ug/L	0.9	<0.9 V			
nochlorobenzene	ug/L	0.2	<0.2 🗸			
Chloroform	ug/L	0.5	47.6	./		
Dibromochloromethane	ug/L	0.3	9.6	Ch		
1,2-dichlorobenzene	ug/L	0.4	<0.4	/ , b ,		
1,4-dichlorobenzene	ug/L	0.4	<0.4	3	ĺ	
1,2-dichloroethane	ug/L	0.7	<0.7 V			
1,1-dichloroethylene	ug/L	0.5	<0.5			
Dichloromethane	ug/L	4.0	<4.0			
Tetrachloroethylene	ug/L	0.3	<0.3			
Trichloroethylene	ug/L	0.3	<0.3 🗸			
Vinyl Chloride	ug/L	0.5	<0.5 ✓			
TOTALS			ام			
Trihalomethanes (total)	ug/L	2.0	74.7			
Xylene; total	ug/L	2.0	<2.0			
BTEX / 624 Surrogate Recover						
Toluene-d8	%		96			
1,2-dichloroethane-d4	%		106			
4-bromofluorobenzene	%		110			

MDL = Method Detection Limit

INC = Incomplete

Comment:

APPROVAL:

608 Norris Court, Kingston, ON, K7P 2R9

REPORT OF ANALYSIS

lient: MOOSE CREEK WELL SUPPLY

ATT: Mr. Blair Henderson

Report Number:

2200719

Date:

2002-01-29

Date Submitted:

2002-01-22

Project:

Moose Creek Wells - Qrtly

P.O. Number:

Matrix: Supply Water

.				Matrix:		Supply Water	
		LAB ID:	167007				
	Samp	le Date:	2002-01-21				
	San	nple ID:	Treated MCW-				<u> </u>
		•	04				
PARAMETER	UNITS	MDL	TREATEDWATER				
N-NO2	mg/L	0.10	TREATEDWATER				
N-NO3	mg/L	0.10	<0.10	Jave			
	,g/ L	0.10	1	I ()AV			
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MDL = Method Detection Limit

INC = Incomplete

Comment:

608 Norris Court, Kingston, ON, K7P 2R9

REPORT OF ANALYSIS

Client: Moose Creek Well Supply

Report Number:

2200719

bilotti iliooos etesk treil supply

Date:

2002-03-12

Date Submitted:

2002-01-22

ATT: Mr. Blair Henderson

Project:

Moose Creek Wells

Quarterly Chemicals

Sample Matrix: Supply Water

LAB ID:			167007			
	Sam	ple Date:	2002-01-21	-		
	Sa	ample ID:	Treated MCW			
			04			
PARAMETER	UNITS	MDL				
PESTICIDES & PCB's						
Alachlor	mg/L	0.0005	<0.0005			
Aldicarb	mg/L	0.0050	<0.0050			
Aldrin + Dieldrin	mg/L	0.00007	<0.00007			
Atrazine	mg/L	0.001	<0.001			
Azinphos-methyl	mg/L	0.002	<0.002			
Bendiocarb	mg/L	0.0020	<0.0020			
Bromoxynil	mg/L	0.0005	<0.0005			
Carbaryl	mg/L	0.0050	<0.0050			
Par bofuran	mg/L	0.0050	<0.0050			
ordane (Total)	mg/L	0.0007	<0.0007			
Chloropyrifos	mg/L	0.0010	<0.0010			
Cyanazine	mg/L	0.0010	<0.0010			
Diazinon	mg/L	0.0010	<0.0010			
Dicamba	mg/L	0.0010	<0.0010			
Diquat	mg/L	0.0070	<0.0070			
2,4-Dichlorophenol	mg/L	0.0005	<0.0005			:
DDT	mg/L	0.0030	<0.0030			
2,4-D	mg/L	0.0010	<0.0010			
Diclofop-methyl	mg/L	0.0009	<0.0009			
Dimethoate	mg/L	0.0025	<0.0025			
Dinoseb	mg/L	0.0010	<0.0010			
Diuron	mg/L	0.010	<0.010			
Glyphosate	mg/L	0.010	<0.010			
Heptachlor + Hept. Epoxide	mg/L	0.0003	<0.0003			
Lindane (Total)	mg/L	0.0004	<0.0004			
Malathion	mg/L	0.0050	<0.0050			
Methoxychlor	mg/L	0.0900	<0.0900			
Metolachlor	mg/L	0.0005	<0.0005			

ND = Not Detected (< MDL)

MDL = Method Detection Limit

Comment:

REPORT OF ANALYSIS

Client: Moose Creek Well Supply

Report Number:

2200719

Date:

2002-03-12 2002-01-22

ATT: Mr. Blair Henderson

Date Submitted:

Moose Creek Wells **Quarterly Chemicals**

Project:

				Sample Matri	x:	Supply Water	
		LAB ID:					
	Sample Date:						
	Sample ID:						
			04				
						}	
PARAMETER	UNITS	MDL					
Metribuzin	mg/L	0.005	< 0.005				
Paraquat	mg/L	0.0010	<0.0010				
Parathion	mg/L	0.0010	<0.0010				ľ
Pentachlorophenol	mg/L	0.0005	<0.0005				
Phorate	mg/L	0.0005	<0.0005				
Picloram	mg/L	0.0050	<0.0050				
PCB's (total)	mg/L	0.0003	<0.0003			1	
Prometryne	mg/L	0.00025	<0.00025				
Simazine	mg/L	0.0010	<0.0010				
nephos	mg/L	0.010	<0.010			1	
bufos	mg/L	0.0007	<0.0007			!	
2,3,4,6-Tetrachlorophenol	mg/L	0.0005	<0.0005				
Triallate	mg/L	0.0010	<0.0010				
2,4,6-Trichlorophenol	mg/L	0.0005	<0.0005				
Trifluralin	mg/L	0.0010	<0.0010		1		
2,4,5-T	mg/L	0.0010	<0.0010				
					•		
		[1

ND = Not Detected (< MDL)

MDL = Method Detection Limit

Comment:

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

ATT: Mr. Blair Henderson

Report Number:

2201011

Date:

2002-02-07

Date Submitted:

2002-01-29

Project:

Moose Creek Wells Qtly

P.O. Number:

Matrix:

Supply Water

				Matrix:		Supply water	
		LAB ID:	167761	167762	167763		
	Samp	le Date:	2002-01-28	2002-01-28	2002-01-28		1
	San	nple ID:	Raw MCW-01	Raw MCW-02	Raw MCW-03		
		•	}				
PARAMETER	UNITS	MDL	RAW WATER	RAW WATER	RAW WATER		
Alkalinity as CaCO3	mg/L	5	226	212	201		
Al	mg/L	0.05	0.06	<0.05	<0.05		
Ca	mg/L	1	109	98	83		
CI	mg/L	1	23	14	32		
Conductivity	uS/cm	5	721	672	724		
Colour	TCU	2	6	4	4		
Cu	mg/L	0.001	<0.001	<0.001	<0.001	ļ	
DOC	mg/L	0.5	2.6	1.7	1.4		
Fe	mg/L	0.01	0.49	0.26	0.27		
Handness as CaCO3	mg/L	1	367	352	347		
	mg/L	1	23	26	34		
Mn	mg/L	0.01	0.09	0.04	0.03		
N-NH3	mg/L	0.02	0.10	0.27	0.38		
N-NH3 (unionized)	mg/L	0.02	<0.02	<0.02	<0.02		
N-NO2	mg/L	0.10	<0.10	<0.10	<0.10		
N-NO3	mg/L	0.10	<0.10	<0.10	<0.10		
pΗ			7.88	8.08	7.98		
Na	mg/L	2	16	14	25		
SO4	mg/L	1	133	141	148		
Total Kjeldahl Nitrogen	mg/L	0.05	0.36	0.53	0.65		
TOC	mg/L	0.5	3.6	2.0	1.8		ļ

MDL = Method Detection Limit

INC = Incomplete

Comment:

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

ATT: Mr. Blair Henderson

Report Number:

2201009

Date:

2002-02-08

Date Submitted:

2002-01-29

Project:

Moose Creek Wells Qtly

P.O. Number:

Matrix: Supply Water

		matrix:		Supply Water			
		LAB ID:	167759				
	Samp	le Date:	2002-01-28				
	San	nple ID:	Treated MCW-04	-			
PARAMETER	UNITS	MDL	TREATEDWATER				
Alkalinity as CaCO3	mg/L	5	205				
AI	mg/L	0.05	<0.05			<u> </u>	
Ca	mg/L	1	86		1		
CI	mg/L	1	29 🗸				
Conductivity	uS/cm	5	707 V		Į.		
Colour	TCU	2	2 V				
Cu	mg/L	0.001	<0.001		Ī		
DOC	mg/L	0.5	1.9 V				İ
F	mg/L	0.10	0.23	\wedge $\boldsymbol{\mathcal{L}}$			
Fa Heress as CaCO3	mg/L	0.01	0.45	(()			
Heess as CaCO3	mg/L	1	326 V	1 1/0		}	1
Mg	mg/L	1	27 🗸	V			
Mn	mg/L	0.01	0.04]
N-NH3	mg/L	0.02	<0.02 🗸				
N-NH3 (unionized)	mg/L	0.02	<0.02 🗸				
pH			7.84				
Na	mg/L	2	26			<u> </u>	1
SO4	mg/L	1	137				
Total Kjeldahl Nitrogen	mg/L	0.05	0.10 🗸]
тос	mg/L	0.5	2.1 🗸				1
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MDL = Method Detection Limit

INC = Incomplete

Comment:

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

ATT: Mr. Blair Henderson

Report Number:

2200721

Date:

2002-01-25

Date Submitted:

2002-01-22

Project:

Moose Creek System

P.O. Number:

Matrix: Supply Water

		_		matrix:		Supply water	
		LAB ID:	167009				
,	Sam	ple Date:	2002-01-21				
<u> </u>			MCW-System				
		•	SPS#1				
PARAMETER	UNITS	MDL					
BTEX / 624 / PURGEABLE HYD	ROCARBO	ONS					
Bromodichloromethane	ug/L	0.3	13.7				
Bromoform	ug/L	0.4	<0.4				
Chloroform	ug/L	0.5	33.9				
Dibromochloromethane	ug/L	0.3	4.5	•		'	
TOTALS				Sur		!	
Trihalomethanes (total)	ug/L	2.0	52.1				•
BTEX / 624 Surrogate Recoveri						,	
Toluene-d8	%	İ	101				
				1			
		1	Ì				
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MDL = Method Detection Limit

INC = Incomplete

Comment:

APPROVAL:

608 Norris Court, Kingston, ON, K7P 2R9

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

ATT: Mr. Blair Henderson

Report Number:

2200721

Date:

2002-01-29

Date Submitted:

2002-01-22

Project:

Moose Creek System

P.O. Number: Supply Water Matrix: 167009 LAB ID: Sample Date: 2002-01-21 MCW-System Sample ID: SPS#1 **PARAMETER** UNITS MDL TREATEDWATER 0.001 <0.001 mg/L

MDL = Method Detection Limit

INC = Incomplete

Comment:

Caduson Enterprises Inc. Environmental Laboratory

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analy

Report:

Project:

Date Sampled: Date Received:

Date Printed:

Matrix:

220000966

.20000300

Mosse Creek WTP

February 4, 2002 February 5, 2002

February 07, 2002

Parameter	Unit	MDL	Sample	e Identification	· · · · · · · · · · · · · · · · · · ·			
			Well #1 Raw	Weli #2 Raw	Well #3 Raw	Treated Water	Dist. SPS	Dist. Mall
Total Chlorine	mg/L	0.05				2.30	1.60	2.00
Free Chlorine	mg/L	0.05				2.00	1.50	1.80
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
нрс	/mL	2	absent	absent	absent	absent	absent	absent
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent

Caduceon Enterprises Inc. Environmental Laboratory

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220001204

Project:

Moose Creek WTP

Date Sampled:

February 11, 2002

Date Received:

Date Printed:

February 12, 2002 February 14, 2002

Matrix:

Parameter	Unit	MDL		Samp	ole Identification				
				Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. Blair Const.	Dist. 2041 Valley
Total Chlorine		mg/L	0.05				2.50	2.30	1.30
Free Chlorine		mg/L	0.05				2.20	2.20	1.20
E. coli		/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms		/100mL	1	absent	absent	absent	absent	absent	absent
HPC		/mL	2	absent	absent	absent	absent	absent	absent
Total Coliforms		/100mL	1	absent	absent	absent	absent	absent	absent

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Parameter

Dave Markell

Unit MDL

Certificate of Analysis

Report:

Project:

Date Sampled: Date Received:

Date Printed:

Matrix:

220001421

Moose Creek WTP February 18, 2002

February 19, 2002 February 21, 2002

Drinking Water

	• "							
			Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. Water Tower	Dist. Paul Adam
Total Chlorine	mg/L	0.05				2.30	1.80	1.50
Free Chlorine	mg/L	0.05				1.90	1.70	1.20
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
HPC	/mL	2	absent	absent	2	absent	absent	absent
Total Coliforms	/100mL	1	absent.	absent.	absent	absent	absent	absent

Sample Identification

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr.

Chesterville, ON

K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220001626

Project:

Moose Creek WTP

Date Sampled: Date Received:

February 25, 2002

Date Printed:

February 26, 2002 February 28, 2002

Matrix:

Parameter	Unit	MDL	Sample Identification
			

			Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. Post Office	Dist. 35 Sineor Lane
Total Chlorine	mg/L	0.05				2.50	1.70	1.10
Free Chlorine	mg/L	0.05				2.30	1.40	1.00
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
нрс	/mL	2	absent	absent	absent	absent	absent	absent
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

TT: Mr. Blair Henderson

Report Number:

2201834

Date:

2002-02-20

Date Submitted:

2002-02-14

Project:

Moose Creek Wells

P.O. Number:

Matrix: Supply Water

				Matrix:		Supply Water	
	L	AB ID:	169945				
	Sample	e Date:	2002-02-13				
	Sam	ple ID:	MCW-04				
		•					
PARAMETER	UNITS	MDL	TREATEDWATER				
Na	mg/L	2	27				
	i l						
	<u> </u>						
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	1						

MDL = Method Detection Limit

INC = Incomplete

Comment:

MDI

Division of Caduceon Enterprises inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysi

Report:

220001903

Project:

Moose Creek WTP

Date Sampled:

March 4, 2002

Date Received: Date Printed:

March 5, 2002

Matrix:

March 07, 2002

Michael Ziebell, General Manager

trix:

Drinking Water

Parameter	OTIK WIDE		Sample iu	entinication				
			Well #1 Raw	Weil #2 Raw	Well #3 Raw	Treated Water	Dist. 2041 Valley	Dist. Mall
Total Chlorine	mg/L	0.05				2.50	1.50	1.30
Free Chlorine	mg/L	0.05				1.80	1.50	1.20
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
HPC	/mL	2	absent	absent	absent	absent	absent	absent
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent

Sample Identification

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON **K0C 1H0**

Attention: **Parameter**

HPC

Total Coliforms

Dave Markell

Unit

MDL.

/mL

/100mL

2

absent

absent

absent

absent

absent

absent

Certificate of Analysis

Report:

220002209

Project:

Moose Creek WTP

Date Sampled:

March 11, 2002

Date Received:

March 12, 2002

Date Printed:

Dist. Water Tower

1.60

1.40

absent

absent

absent

absent

March 14, 2002

Matrix:

Drinking Water

			Well #1 Raw	Weil #2 Raw	Well #3 Raw	Treated Water	Dist. SPS
Total Chlorine	mg/L	0.05				2.30	1.60
Free Chlorine	mg/L	0.05				2.00	1.50
E. coli	/100mL	1	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent

absent

absent

Sample Identification

absent

absent

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr.

Chesterville, ON K0C 1H0 Dave Markeli Attention:

Sample Identification

MDL

Ę

Parameter

Report: 22000	220002451
Project: Moose (Moose Creek WTP
Date Sampled: March 1	March 18, 2002
Date Received: March 1	March 19, 2002
Date Printed: March 2	March 21, 2002
Matrix: Drinking	Drinking Water

220002451

Certificate of Analysis

			Well #1 Raw	Well #2 Raw	Weil #3 Raw	Treated Water	Dist. Mall	Dist. 10241 Valley N
Total Chlorine	mg/L	0.05				2.60	1.60	1.50
Free Chlorine	mg/L	0.05				2.30	1.40	1.20
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
нРС	/mr	81	absent	absent	absent	absent	absent	absent
Total Coliforms	/100mL	н	absent	absent	absent	absent	absent	absent

Michael Ziebell, General Manager

Division of Caduceon Enterprises inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220002712

Project:

Moose Creek WTP

Date Sampled:

March 25, 2002

Date Received: Date Printed: March 26, 2002 April 01, 2002

Matrix:

Drinking Water

Parameter	Unit	MDL	Sample	Identification
			Well #1	Well #2

			Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. Tower	Dist. 2041 Valley
Total Chlorine	mg/L	0.05				2.20	1.50	1.30
Free Chlorine	mg/L	0.05				1.90	1.30	1.10
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
нрс	/mL	2	absent	absent	absent	40	absent	absent
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent

Caduceon Environmental Laboratories 2378 Holly Lane, Ottawa, Ontario, K1V 7P1, Canada Tel: (613)526-0123, Fax: (613)526-1244 Michael Ziebell, General Manager

April - June 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Moose Creek Drinking Water Quality

Ontario Drinking Water Protection Regulations

The Ontario Clean Water Agency, as the contract operator of the Moose Creek Water Treatment Facility on behalf of the Township of North Stormont, is pleased to present the 2002 Second Quarter Report on drinking water quality. This report has been prepared in response to legislative changes brought about by "Operation Clean Water", an initiative of Ontario's Ministry of the Environment to ensure high quality drinking water for the residents of Ontario. The new regulations put into law what was formerly the Ontario Drinking Water Objectives (ODWO), and sets requirements for public waterworks with regard to sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

Further information on the Ontario Drinking Water Regulations can be found on the Ministry of the Environment web site at www.ene.gov.on.ca

Where to contact us for information



Web site at www.ocwa.com

Client Services Representative: John Kingsbury Operations Manager: Blair Henderson

Phone: (613) 774-3663 Phone: (613) 448-3098

You may also contact the Township of North Stormont directly by contacting Rheal Charbonneau,

Clerk-Treasurer, Tel. (613) 984-2821 or e-mail address:

admin@northstormont.on.ca

Free copies of this report are available at the Township office or their website @ www.townshipofnorthstormont.on.ca

INSIDE THIS REPORT

Drinking Water Regulations	1
Where To Contact Us	1
Plant Description & Treatment Processes	2
Quality Control and Compliance with Provincial Regulations	3
Definitions & Terms	4
Required Testing	4
Water Quality Test Results	5
Questions & Answers	8

April - June 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Introduction

We are proud to report that for the period April to June 2002, your water conformed to the Ontario Drinking Water Standards as set out in Ontario Regulation 459/00. The Ontario Clean Water Agency (OCWA) is dedicated to maximizing public health and safety through efficient and reliable operation of your water facility and distribution system.

Plant Description and Treatment Processes

Facility Name: Moose Creek WTP & Distribution System

Total Design Capacity 896 cubic meters/day

Raw Water Source Groundwater

Disinfection Method Sodium Hypochlorite

Municipal Location Municipal Office, 2 Victoria Street, Berwick, Ontario

Service Area Village of Moose Creek

Service Population 400

Operational Description:

Raw water source: Three drilled wells located southwest of the water pumping station.

<u>Low Lift Pumps</u>: Three low lift pumps lift the water from the wells to the main pumping station. There is one header that directs the water to the Chlorine Contact Chamber. At this point, Sodium Hypochlorite is added to the raw water for disinfection.

Reservoir: From the Chlorine Contact Chamber the treated water enters a 75 cubic meter underground reservoir.

High Lift Pumps: Two high lift pumps, one duty and one standby, move the treated water from the reservoir into the distribution system and elevated tank.

Elevated Tank: There is approximately 622 cubic meters of water in the elevated water tower located on County Road 15.

<u>Distribution System</u>: There are approximately 400 persons supplied with water from the Moose Creek Water Treatment System.

April - June 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Quality Control & Compliance With Provincial Regulations

This plant provides multiple barriers against bacteriological contamination. Bacteriological testing is carried out on raw water, treated water and distribution samples on a regular frequency. On-line analysers for chlorine residuals and turbidity ensures daily monitoring of water leaving the plant. Chlorine levels in the distribution system are also checked on a regular basis. More specialized testing occurs monthly and quarterly and includes Volatile Organics, Inorganics, Pesticides and PCB's.

OCWA uses internal compliance auditing techniques by teams from within the organization. OCWA operates the Moose Creek Water Treatment Facility in accordance with provincial regulations. Here is how we do it:

- Use of Accredited Labs. Analytical tests to monitor your water quality are conducted by a
 laboratory audited by the Canadian Association for Environmental Analytical Laboratories
 (CAEAL) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that
 the laboratory has acceptable laboratory protocols and test methods in place. It also requires the
 laboratory to provide evidence and assurances of the proficiency of the analysts performing the test
 methods.
- Operation by Licensed Operators. Your water treatment plant is operated and maintained by the
 Ontario Clean Water Agency's competent and licensed staff. The mandatory licensing program for
 operators of drinking water facilities is regulated under the Ontario Water Resources Act (OWRA)
 Regulation 435/93. Licensing means that an individual meets the education and experience
 requirements and has successfully passed the certificate exam.
- Sampling and Analytical requirements. OCWA follows a sampling and analysis schedule required by OWRA Regulation 459/00, the Ontario Drinking Water Standards. More information on sampling and analysis including results are available in this report and from your municipal office.
- Adherence to Ministry Guidelines and Procedures. To ensure the protection of the health and
 operational excellence, the OCWA adheres to the guidelines and procedures developed by the
 Ministry of the Environment and the Ministry of Health.

Did We Exceed the Standards?

During the second quarter, 1 sample from the plant treated water was found to exceed the Ontario Drinking Water Standards as set out in Ontario Regulation 459/00. On June 17, 2002 the plant treated water Total Coliform result was overgrown. As a result we actively undertook the following remedial actions:

Immediately notified the Ministry of Environment and the Ministry of Health as per the Ontario Drinking Water Standards. Ensured a minimum chlorine residual in the distribution of greater then 0.2 mg/L. Subsequent re-sampling indicated no adverse results.

April - June 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

With respect to Operational Parameters, turbidity exceedances were reported as per Regulation 459/00 on 45 separate occasions. These samples are taken continuously in-house by online equipment and the turbidity exceedance spikes are believed to be caused primarily by air entrained in the water during start-up of vertical turbine hi-lift pumps, and/or a buildup of iron sediment in the sample lines. During these spikes, the system was being adequately disinfected; therefore, reducing any risks that may be associated with the high turbidity.

Definitions & Terms

 m^3 - Cubic Meter, $1m^3 = 1000$ litres

TCU - True Colour Units

CaCO₃ - Calcium Carbonate

mg - milligram

mg/L - milligrams per litre

ug/L - micrograms per litre

ng/L - nanograms per litre

NTU - Nephelometric Turbidity Units

MAC - Maximum Acceptable Concentration

IMAC - Interim Maximum Acceptable Concentration

Coliform Bacteria - a group of commonly occurring rod shaped bacteria. Their presence in a water sample is indicative of inadequate filtration and/or disinfection.

Fecal Coliform Bacteria - refers to a subgroup of coliform bacteria present in the digestive system of warm blooded animals and humans.

Heterotrophic Plate Count - a method of measuring bacterial content in water samples. Also known as Standard Plate Count.

Organic Parameter - a group of chemical compounds containing carbon.

Inorganic Parameter - a group of chemical compounds not containing carbon.

Raw Water - Surface or ground water available as a source of drinking water that has not received any treatment.

Required Testing

The Ontario Drinking Water Regulations and Certificates of Approval (C of A) set sampling requirements for the plant. All other sampling conforms to the Drinking Water Protection Regulation schedule for sampling and analysis. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases can pick up substances resulting from the presence of animals or from human activity. Your water is extensively tested for the presence of dozens of compounds. The results of all analytical tests are available at your municipal office. The following table lists all compounds analyzed.

April - June 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Moose Creek Water Quality Test Results

Microbiological	MAC	# of	# of	Sampling	Range	Exceedence?	Typical Source of
Parameters	or IMAC	Samples	Detectable Results	Dates (m/d)		Ar Ar Section	Contaminant
Total Coliform (counts/100ml)	0	45	l	04/01-06/30	overgrown	yes	Indicate possible presence of coliform
Escherichia Coliform	0	45	0	04/01-06/30	n/a	no	Definite indicator of
(counts/100ml)					1		fecal contamination
Fecal Coliform	0	45	0	04/01-06/30	n/a	no	Indicator of sewage
(counts/100ml)	500	24		04/01-06/30	2-80		Indicator of
Heterotrophic Plate Count (counts/100ml)	500	34	6	04/01-00/30	2-80	no	deteriorating water
(counts room)	1	}	l	ļ	}		quality if greater than
							500
Parameters related to Microbiological Quality	MAC or IMAC	# of Samples	# of Detectable Results	Sampling Dates (m/d)	Range	Exceedence?	Typical Source of Contaminant
Turbidity (NTU)	1	Continuous	Continuous	04/01-06/30	0.44->5.0	yes	Turbidity is a measure of particles in water
Free Chlorine – Plant Effluent (mg/l)	-	Continuous	Continuous	04/01-06/30	0.7-2.65	no	Chlorine added for Disinfection
Free Chlorine-	-	Grab	Weekly	04/01-06/30	0.8-2.2	no	Objective is 0.20 mg/l
Distribution (mg/l min	1	samples	}			ł	in the Distribution
0.05 & max. 4.0)		weekly					System (min. 0.05 mg/l required)
Inorganic Parameters (mg/l)	MAC or IMAC	# of Samples	# of Detectable Results	Sampling Dates (m/d/y)	Range	Exceedence?	Typical Source of Contaminant
Lead - Distribution	0.01	1	1	01/21/02	< 0.001	no	Leached from lead
							solder or brass plumbing fixtures
Nitrate	10	1	1	04/11/02	<0.1	no	Natural component of water
Nitrite	1	1	1	04/11/02	<0.1	no	
Arsenic	IMAC≈ 0.025	1	1	09/19/00	<0.001	no	
Barium	1	ı	1	09/19/00	0.24	no	
Boron	IMAC≃ 5.0	1	1	09/19/00	0.06	no	
Cadmium	0.005	1	1	09/19/00	< 0.0001	no	
Chromium (Total)	0.05	1	1	09/19/00	<0.01	no	
Соррег	1	1	1	01/21/02	<0.001	no	
Iron	0.3	1	1	01/21/02	0.45	yes	Comments below
Lead	0.01	1	1	09/19/00	<0.001	no	
Manganese	0.05	1	1	01/21/02	0.04	no	
Mercury	100.0	1	1	09/19/00	< 0.0001	no	
Selenium	0.01	1	1	09/19/00	< 0.001	no	
Uranium	0.1	1	1	09/19/00	< 0.001	no	
Sodium	200	1	1	01/28/02- 02/13/02	26-27	no	
Fluoride	2.4	3	3	01/28/02	0.23	no	

Comment: Iron may be present in groundwater as a result of mineral deposits and chemically reducing underground conditions. The aesthetic objective for Iron, set by appearance effects in drinking water is 0.3 mg/L. Excessive Iron levels in drinking water supplies may impart a brownish color to laundered goods, plumbing fixtures and the water

April - June 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

itself; it may produce a bitter, astringent taste in water and beverages; the precipitation of iron can also promote growth of iron bacteria in water mains and service pipes. The Moose Creek Water Pumping Station has no design features for the removal of Iron.

Volatile Organics (ug/l)	MAC or IMAC	# of Samples	# of Detectable Results	Sampling Dates (m/d/y)	Range		Exceedance?	Typical Source of Contaminant
Trihalomethanes - Plant	100	2	2	04/11/02	53.6		no	
Trihalomethanes - Dist.	100	2	2	04/11/02	62.7		no	
Benzene	5	l	1	04/11/02	<0.5		no	
Carbon Tetrachloride	5	l	1	04/11/02	<0.9		no	
Dichloromethane	50	1	1	04/11/02	<4		no	
1,2 - Dichlorobenzene	200	i	1	04/11/02	<0.4		no	
1, 4 - Dichlorobenzene	5	1	1	04/11/02	<0.4		no	
1,2 - Dichloroethane	IMAC≈ 5	1	1	04/11/02	<0.7		no	
1,1 - Dichloroethylene	14	1	1	04/11/02	<0.5		no	
Ethylbenzene	24	1	1	04/11/02	<0.5		no	
Monochlorobenzene	80	1	1	04/11/02	<0.2		no	
Tetrachloroethylene	30	1	1	04/11/02	< 0.3		no	
Toluene	24	1	1	04/11/02	<0.5		no	
Trichloroethlyene	50	1	1	04/11/02	<0.3		no	
Vinyl chloride	2	1	1	04/11/02	<0.5		no	
Xylene	300	2	2	04/11/02	<2.0		no	
Bromodichloromethane	n/a	1	1	04/11/02	15.2		no	
Bromoform	n/a	1	1	04/11/02	<0.4		no	
Chloroform	n/a	1	i	04/11/02	34.3		no	
Dibromochloromethane	n/a	1	1	04/11/02	4.1		no	
Pesticides & PCB (ug/L)	MAC or IMAC	# of Samples	# of Detectable Results	Sampling Dates (m/d/y)	Range	Exceedence	Typical Contan	Source of ninant
Alachlor	IMAC=5	1	1	04/11/02	<0.5	no		
Aldicarb	9	1	1	04/11/02	<5.0	no		
Aldrin+Dieldrin	0.7	1	1	04/11/02	<0.7	no		
Atrazine	IMAC=5	1	1	04/11/02	<1.0	no		
Azinphos-methyl	20	1	1	04/11/02	<2.0	no		
Bendiocarb	40	1	1	04/11/02	<2.0	no		
Bromoxynil	IMAC=5	1	1	04/11/02	<0.5	no		
0 1 1	00	1	1	04/11/02	-5 O			

April - June 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

April - June 200					04/11/02	<10.	<u> </u>	no		
iuron	150				04/11/02	<10.	.0	no		
lyphosate	IMAC=28	1		'						
-51	0			1	04/11/02	<0.	3	no		1
leprachlor + Heptachlor	3	1		1						
poxide				- 6	ampling	Range	Ex	ceedencs?	Typical	Source of
esticides & PCB (ug/L)	MACor	# of	# of)ates				Contam	inant
Cationers —	IMAC	Samples	Resu	·	m/d/y)					
		1	reas	1	04/11/02	<0	.4	no		
indane	4	1	+	<u>-</u>	04/11/02	<5	.0	no		
Malathion	190	1	┼─	$\frac{1}{1}$	04/11/02	<90	0.0	no		
Methoxychlor	900	11	├		04/11/02	<0).5	no		
Metolachlor	IMAC=50	1	┼	1	04/11/02	<5	5.0	no		
Metribuzin	80	1	↓	1	04/11/02	<	1.0	no		
Paraquat	IMAC=10	1	1_		04/11/02		1.0	no	Ţ	
Parathion	50	1		1			0.5	no		
Pentachlorophenol	60	1			04/11/02		0.5	no		
	IMAC=2	1			04/11/02		5.0	no	1	
Phorate	IMAC=19	1	T	1	04/11/02	\ `	.5.0		<u> </u>	
Picloram	0				04/11/02	+-	<0.3	no		
Polychlorinated Biphenyls	IMAC=3	1		_1			0.25	no		
	IMAC=1	1		1	04/11/02		<1.0	no	1	
Prometryne	IMAC=10	1		11	04/11/02			no	 	
Simazine	IMAC=28			1	04/11/02		<10	110		
Temephos	0				04/11/02		<0.7	no		
T 1 600	IMAC=1	1		1			<0.5	no		
Terbufos 2,3,4,6 Tetrachloropheno	100	1		1	04/11/02		<1.0	no		
	230	1		1	04/11/02			no		
Triallate	5	1		1	04/11/02		<0.5			
2,4,6-Trichlorophenol		8 1		1	04/11/02		<1.0	no	1	
2,4,5 - trichlorophenoxy	IMAC=2	8		•	l					
acedic acid	45	+		1	04/11/02		<1.0	no Exceedence	0 7	ical Source of
Trifluralin		G # of	-	f of	Sampling	R	ange	Exception	Con	itaminant
Additional Parameters	AO or O	Samp		Detectable	Dates				1 00	
Non-Health Related		, , , , , , , , , , , , , , , , , , ,		Results	(m/d/y)	_	2	no		
(mg/L)	5	1		1	01/28/0		7.84	no		
Colour	6.8-8.	5 1			01/28/0		205	no		
pH A Naclinity	30-50	0 1		!	01/28/0		326	yes		nits are set as
Alkalinity Total Hardness	80-10	0 1		1	01/26/0	-				operational
10tal Haraness		1	- \						gui	ideline
				1	01/28/		137	no		
Sulphate	500			1	01/28/		707	no		
Conductivity	250		i	1	01/28/		29	no no		
Chloride	230	'	i	1	01/28/	02	<0.02			
Free Ammonia			1-1	1	01/28/	02	0.1	no		
Total Kjeldahl Nitroge	n		1	1	01/28/		1.9	no		
Dissolved Organic Car	bon 5		 	1	01/28		26	ye:		
Sodium	0.5		1	1	01/28		0.45 <0.05			
Iron	0.		1	1	01/28		<0.05 0.04	no		
Aluminium	0.0		1	11_	01/28		<0.04			
Manganese Ammonia + Ammoni			1	11_	01/28		2.1	n		
Total Organic Carbon			1	 	01/28		<0.00	1 n	0	
Copper		1	1	1 1	01/2		86	n	0	
Calcium	- 1 -	\	1	<u>-</u>		8/02	27	l n	0	

April - June 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Questions & Answers

- Q. What is an Accredited Laboratory?
- A. Accredited labs must have undergone an on-site assessment and performance review of their methods by the Canadian Association of Environmental and Analytical Laboratories. The Standards Council of Canada grants accreditation to the lab based on the recommendation of the CAEAL. The accreditation requirements are repeated every two years.
- Q. What had to be done to meet the new regulations?
- A. The Moose Creek Water Treatment Plant was following the Ontario Drinking Water Objectives (ODWO) before they became law, so little change was required to meet the new regulations. Our chlorine residual in the water leaving the plant was raised to slightly to achieve the (0.20 mg/L free chlorine) required level in the distribution system, and some changes were required in the way results are reported. This report to the public is also the result of the new regulations.
- O. What parameters did you test for?
- A. Microbiological parameters, volatile organic, inorganic and pesticides & PCBs have been tested. The results are included in this report.
- Q. Sometimes my water looks rusty or coloured. Why is that, and what should I do about it?
- A. This is quite often caused when the tanks in older water heaters start to decay. If the colour is seen only in your hot water, this may be the problem. If the colour is also noticed in your cold water it could be coming from the water main. Various maintenance procedures in the distribution system such as fire hydrant and valve maintenance, or main break repairs require flushing of the water mains. Flushing can cause small particles of sediment to break off adding colour to the water. Please note that there is no health risk associated with this problem. This is usually only temporary, and opening your taps for a while to flush out your service line (the pipe from the water main to your house) should take care of the problem. Let the water run until the colour disappears.

n Environmental Laboratories

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON **K0C 1H0**

Attention: **Parameter** Dave Markell

Unit

MDL

Certificate of Analys

Report:

220002970

Project:

Moose Creek WTP

Date Sampled:

April 2, 2002

Date Received: Date Printed:

April 3, 2002

April 05, 2002

Matrix:

Drinking Water

									-
				Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. Paul Adam	Dist. Water Tower
•	Total Chlorine	mg/L	0.05				2.30	1.00	1.40
	Free Chlorine	mg/L	0.05				2.10	0.80	1.30
•	E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
	Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
	HPC	/mL	2	absent	4	absent	absent	absent	absent
	Total Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent

Sample Identification

Division of Caduceon Enterprises inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON **K0C 1H0**

Dave Markell Attention:

Certificate of Analysis

Report:

220003202

Project:

Moose Creek WTP

Date Sampled:

April 8, 2002

Date Received: **Date Printed:**

April 9, 2002

April 11, 2002

Parameter	Unit MDL		Sample Identification					
			Well #1 Raw	Well #2 Raw	Well #3 Raw	Treated Water	Dist. Simeon Lane	Dist. Post Office
Total Chlorine	mg/L	0.05				1.90	1.20	1.00
Free Chlorine	mg/L	0.05				1.60	1.00	0.80
E. coli	/100mL	1	absent	absent	absent	absent	absent	absent
Fecal Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent
HPC	/mL	2	absent	absent	2	absent	absent	absent
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent	absent

Division of Caduceon Enterprises Inc.

Client:

ntario Clean Water Agency

ndustrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220003481

Project:

Date Sampled: Date Received:

Date Printed:

Moose Creek WTP April 15, 2002 April 16, 2002

April 18, 2002

Matrix:

	Parameter Unit	E. coli /100mL	Free CI2 mg/L 0.05	HPC /mL 2	TC /100mL	Total CI2 mg/L 0.05
Sample ID	MDL	1	0.05	2		0.03
Well #1 Raw		absent		absent	absent	
Well #2 Raw		absent		absent	absent	
Well #3 Raw		absent		absent	absent	
Treated Water		absent	1.80	10	absent	2.00
Dist. 2041 Valley		absent	0.80	absent	absent	0.90
Dist. Fire Hall		absent	1.40	8	absent	1.70

Division of Caduceon Enterprises Inc.

Client:

ario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220003771

Project:

Moose Creek WTP

Date Sampled:

April 22, 2002

Date Received:

April 23, 2002

Date Printed:

April 25, 2002

Matrix:

	Parameter	E. coli	Free CI2	НРС	тс	Total Cl2
	Unit	/100mL	mg/L	/mL	/100mL	mg/L
	MDL	1	0.05	2	1	0.05
Sample ID						
Well #1 Raw		absent		absent	absent	
Well #2 Raw		absent		absent	absent	
Well #3 Raw		absent		absent	absent	
Treated Water		absent	1.90	absent	absent	2.20
ist. Water Tower		absent	0.90	80	absent	1.10
Dist. SPS		absent	0.90	absent	absent	1.10

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

tario Clean Water Agency

ত Industrial Dr. Chesterville, ON

K0C 1H0

Attention: Dave Markell

Report:

220004026

Project:

Date Sampled: Date Received: April 29, 2002 April 30, 2002

Moose Creek WTP

Date Received Date Printed:

May 02, 2002

Matrix:

-							
		Parameter Unit	E. coli /100mL	Free CI2	HPC /mL	TC /100mL	Total Cl2 mg/L
	Samula ID	MDL	1	0.05	2	1	0.05
	Sample ID Well #1 Raw		absent			absent	
	Well #2 Raw		absent			absent	
	Well #3 Raw		absent			absent	
	Treated Water		absent	1.60	absent	absent	1.90
	Dist. Sewage Plant		absent	0.80	absent	absent	1.00
	Dist. Post Office		absent	1.10		absent	1.40

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2204305

Date:

2002-04-17

Date Submitted:

2002-04-12

ATT: Mr. Blair Henderson

Project:

Moose Creek - Quarterly

Chem

P.O. Number:

Matrix: Supply Water

LAB ID:		176594					
	Sample Date:						
		mple ID:	2002-04-11 MCW-04				
		•		1			
.							
PARAMETER	UNITS	MDL					
BTEX / 624 / PURGEABLE HYD	ROCARBO	ONS		į	l		
Bromodichloromethane	ug/L	0.3	16.7				
Bromoform	ug/L	0.4	<0.4				
Chloroform	ug/L	0.5	40.8		1		
Dibromochloromethane	ug/L	0.3	5.2		j		
TOTALS				Ì			
Trihalomethanes (total)	ug/L	2.0	62,7				
BTEX / 624 Surrogate Recover	<u>es</u>			į			
iene-d8	%		98				
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MDL = Method Detection Limit

INC = Incomplete

Comment:

APPROVAL:

608 Norris Court, Kingston, ON, K7P 2R9

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2204292

Date:

2002-04-19

Date Submitted:

2002-04-12

Supply Water

ATT: Mr. Blair Henderson

Project:

Moose Creek-Quarterly

P.O. Number:

Matrix:

LAB ID:			176577				
1	Sample	e Date:	2002-04-11				
	Sam	ple ID:	MCW-04				
		-	Treated			1	Ì
				ŀ			
PARAMETER	UNITS	MDL	TREATEDWATER				
N-NO2	mg/L	0.10	<0.10				
N-NO3	mg/L	0.10	<0.10				
N-NO3	1119/2	0	1			l	ļ
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MDL = Method Detection Limit

INC = Incomplete

Comment:

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2204292

Date:

2002-04-17

Date Submitted:

2002-04-12

ATT: Mr. Blair Henderson

Project:

Moose Creek - Quarterly

Chem

P.O. Number:

Matrix:

Supply Water

LAB ID:			176577			
	Sample Date:					
	Sample ID:			,		
			Treated			
I						
PARAMETER	UNITS	MDL			_	
BTEX / 624 / PURGEABLE HYD						
Benzene	ug/L	0.5	<0.5			
Toluene	ug/L	0.5	<0.5			ļ
Ethylbenzene	ug/L	0.5	<0.5			
m/p-xylene	ug/L	1.0	<1.0			
o-xylene	ug/L	0.5	<0.5			
Bromodichloromethane	ug/L	0.3	15.2			
Bromoform	ug/L	0.4	<0.4			
bon Tetrachloride	ug/L	0.9	<0.9			
nochlorobenzene	ug/L	0.2	<0.2			
Chloroform	ug/L	0.5	34.3			
Dibromochloromethane	ug/L	0.3	4.1			
1,2-dichlorobenzene	ug/L	0.4	<0.4			
1,4-dichlorobenzene	ug/L	0.4	<0.4			
1,2-dichloroethane	ug/L	0.7	<0.7			
1,1-dichloroethylene	ug/L	0.5	<0.5			
Dichloromethane	ug/L	4.0	<4.0			
Tetrachloroethylene	ug/L	0.3	<0.3			
Trichloroethylene	ug/L	0.3	<0.3			
Vinyl Chloride	ug/L	0.5	<0.5			
TOTALS	!					
Trihalomethanes (total)	ug/L	2.0	53.6			
Xylene; total	ug/L	2.0	<2.0			
BTEX / 624 Surrogate Recover						
Toluene-d8	%		98			
1,2-dichloroethane-d4	%		85			
4-bromofluorobenzene	%		102			
	1	1				

MDL = Method Detection Limit

INC = incomplete

Comment:

APPROVAL:

608 Norris Court, Kingston, ON, K7P 2R9

REPORT OF ANALYSIS

Client: Moose Creek Well Supply

Report Number:

2204292

.....

Date:

2002-06-10

Date Submitted:

2002-04-12

ATT: Mr. Blair Henderson

Project:

Moose Creek - Quarterly

				Sample Matrix	c:	Supply Water	
		LAB ID:	176577				
{	Sam	ple Date:	2002-04-11				
		mple ID:	MCW-04				
			Treated				
							1
PARAMETER	UNITS	MDL					
PESTICIDES & PCB's						-	
Alachlor	mg/L	0.0005	<0.0005	ĺ			ł
Aldicarb	mg/L	0.0050	<0.0050	ì			}
Aldrin + Dieldrin	mg/L	0.00007	<0.00007	}			
Atrazine	mg/L	0.001	<0.001				}
Azinphos-methyl	mg/L	0.002	<0.002				
Bendiocarb	mg/L	0.0020	<0.0020	}]
Bromoxynil	mg/L	0.0005	<0.0005]
Carbaryl	mg/L	0.0050	<0.0050	1			
rbofuran	mg/L	0.0050	<0.0050	,			
ordane (Total)	mg/L	0.0007	<0.0007	}			:
Chloropyrifos	mg/L	0.0010	<0.0010	}			
Cyanazine	mg/L	0.0010	<0.0010	}			
Diazinon	mg/L	0.0010	<0.0010				
Dicamba	mg/L	0.0010	<0.0010	[
Diquat	mg/L	0.0070	<0.0070	(1
2,4-Dichlorophenol	mg/L	0.0005	<0.0005			}	ĺ
DDT	mg/L	0.0030	<0.0030				}
2,4-D	mg/L	0.0010	<0.0010	ł l			}
Diclofop-methyl	mg/L	0.0009	<0.0009	}]
Dimethoate	mg/L	0.0025	<0.0025	}]
Dinoseb	mg/L	0.0010	<0.0010				
Diuron	mg/L	0.010	<0.010				
Glyphosate	mg/L	0.010	<0.010]			
Heptachlor + Hept. Epoxide	mg/L	0.0003	<0.0003	!			
Lindane (Total)	mg/L	0.0004	<0.0004				
Malathion	mg/L	0.0050	<0.0050	[
Methoxychlor	mg/L	0.0900	<0.0900				
Metolachior	mg/L	0.0005	<0.0005				

ND = Not Detected (< MDL)

MDL = Method Detection Limit

Comment:

REPORT OF ANALYSIS

Client: Moose Creek Well Supply

Report Number:

2204292

Date:

2002-06-10

Date Submitted:

2002-04-12

ATT: Mr. Blair Henderson

Project:

Moose Creek - Quarterly

				Sample Matrix	: <u> </u>	Supply Water	
		LAB ID:	176577				
	Sam	ple Date:	2002-04-11				
		mple ID:	MCW-04				
			Treated	1			
				1			
PARAMETER	UNITS	MDL					
Metribuzin	mg/L	0.005	<0.005				
Paraquat	mg/L	0.0010	<0.0010				
Parathion	mg/L	0.0010	<0.0010	1	}		į
Pentachlorophenol	mg/L	0.0005	<0.0005				
Phorate	mg/L	0.0005	<0.0005		Ì		
Picloram	mg/L	0.0050	<0.0050	1			i
PCB's (total)	mg/L	0.0003	<0.0003				
Prometryne	mg/L	0.00025		1	i		
Simazine	mg/L	0.0010	<0.0010		ì		
mephos	mg/L	0.010	<0.010				
· rbufos	mg/L	0.0007	<0.0007				
2,3,4,6-Tetrachlorophenol	mg/L	0.0005	<0.0005	1			
Triallate	mg/L	0.0010	<0.0010		'		
2,4,6-Trichlorophenol	mg/L	0.0005	<0.0005				
Trifluralin	mg/L	0.0010	<0.0010				
2,4,5-T	mg/L	0.0010	<0.0010				
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ND = Not Detected (< MDL)

MDL = Method Detection Limit

Comment:

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

tario Clean Water Agency

industrial Dr. Chesterville, ON **K0C 1H0**

Report:

220004301

Project:

Date Sampled:

Date Received: **Date Printed:**

May 6, 2002 May 7, 2002 May 09, 2002

Moose Creek WTP

Attention:	Dave Markell			M	atrix:	Drinking Water	
	Parameter	E. coli	Free Cl2	НРС	тс	Total Cl2	
	Unit	/100mL	mg/L	/mL	/100mL	mg/L	
Sample ID	MDL	1	0.05	2	1	0.05	
Well #1 Ra	aw	absent			absent		
Well #2 Ra	aw	absent			absent		
Well #3 R	aw	absent			absent		
Treated W	/ater	absent	2.00	absent	absent	2.30	
Dist. Sewa	age Pumping Station	absent	1.20	absent	absent	1.50	
Dist. Moos	se Creek Mall	absent	1.60		absent	2.10	

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

tario Clean Water Agency

Industrial Dr.

Chesterville, ON

K0C 1H0

Report: Project:

Date Sampled:

Date Received:

Date Printed:

220004587

Moose Creek WTP

May 13, 2002

May 13, 2002

May 15, 2002

Matrix:

Attention:	Dave Markell			M	atrix:	Drinking Water	
	Parameter	E. coli	Free CI2	HPC	тс	Total Cl2	
	Unit	/100mL	mg/L	/mL	/100mL	mg/L	
	MDL	1	0.05	2	1	0.05	
Sample ID							
Well #1 Ra	w	absent			absent		
Well #2 Ra	w	absent			absent		
Well #3 Ra	w	absent			absent		
Treated Wa	ater	absent	2.00	absent	absent	2.30	
)ist. Post 0	Office	absent	1.20	absent	absent	1.60	
Dist. 2041	Valley	absent	1.10		absent	1.40	

Division of Caduceon Enterprises Inc.

Client:

lario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220004902

Project:

Moose Creek WTP May 21, 2002

Date Sampled: Date Received: Date Printed:

May 22, 2002 July 11, 2002

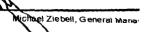
Matrix:

Drinking Water

- 1	Attention:	Dave Markell					
		Parameter	E. coli	Free Cl2	HPC	тс	
		Unit	/100mL	mg/L	/mL	/100mL	
		MDL	1	0.05	2	1	
:	Sample ID						
	Well #2 Ra	ıw	absent			absent	
	Weil #3 Ra	aw	absent			absent	
	Treated W	ater	absent	2.20	2	absent	
	Dist. SPS		absent	1.00		absent	
)	Dist. Moos	se Creek Mall	absent	2.00	absent	absent	

This is a correction certificate and superceds all previous reports of this number.

Caduceon Environmental Laboratories 2378 Holly Lane, Ottawa, Ontario, K1V 7P1, Canada Tel: (613)526-0123, Fax: (613)526-1244



Thousin, General Manager

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

ntario Clean Water Agency

o Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Report:

220005178

Project:

Moose Creek WTP

Date Sampled:

May 27, 2002

Date Received:

May 28, 2002

Date Printed:

May 30, 2002

Matrix:

	Parameter Unit	E. coli /100mL	Free Cl2 mg/L 0.05	HPC /mL 2	TC /100mL 1	Total Cl2 mg/L 0.05
Sample ID						
Well #2 Raw		absent			absent	
Well #3 Raw		absent			absent	
Treated Water		absent	2.10	2	absent	2.40
Dist. Medical Co	enter	absent	1.20	absent	absent	1.50
Dist. Post Office	e	absent	1.80		absent	2.20

Division of Caduceon Enterprises inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220005454

Project:

Moose Creek WTP

Date Sampled:

June 3, 2002

Date Received:

June 4, 2002

Date Printed:

June 06, 2002

Matrix:

_								
-		Parameter	Background	E. coli	Free Cl2	НРС	тс	Total CI2
		Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	Samp ie ID	MDL	1	1	0.05	2	1	0.05
	Sample ID							
	Well #2 Raw		1	absent			absent	
	Well #3 Raw		1	absent			1	
	Treated Water			absent	1.90	absent	absent	2.30
	Dist. Water Tower	r		absent	1.00	absent	absent	1.40
	Dist. 2041 Valley S	St. (N)		absent	1.20		absent	1.50

Division of Caduceon Enterprises inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON

K0C 1H0

Attention:

Dave Markell

Unit

MDL

Certificate of Analysis

Report:

220005915

Project:

Moose Creek WTP

Date Sampled:

June 11, 2002

Date Received:

June 12, 2002

Date Printed:

June 14, 2002

Matrix:

Drinking Water

			Well #2 Raw	Well #3 Raw	Treated Water	Dist. Medical Center	Dist. Post Office
Total Chlorine	mg/L	0.05			2.00	1.10	1.60
Free Chlorine	mg/L	0.05			1.60	0.90	1.30
E. coli	/100mL	1	absent	absent	absent	absent	absent
HPC	/mL	2			absent	absent	
Background bacteria	/100mL	1	absent	absent			
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent

Sample Identification

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220006128

Project:

Moose Creek WTP

Date Sampled:

June 17, 2002

Date Received: Date Printed:

June 18, 2002

Matrix:

June 20, 2002 **Drinking Water**

Parameter	Unit	MDL	Sample Identification

			Well #2 Raw	Well #3 Raw	Treated Water	Dist. Sewage Pumping Station	Dist. Moose Creek Mall
Total Chlorine	mg/L	0.05			2.00	0.90	1.10
Free Chlorine	mg/L	0.05			1.60	0.70	0.90
E. coli	/100mL	1	absent	absent	absent	absent	absent
HPC	/mL	2			absent	absent	
Background bacteria	/100mL	1	absent	absent			
Total Coliforms	/100mL	1	absent	absent	OG	absent	absent

OG - Overgrown

Division of Caduceon Enterprises Inc.

Client:

tario Clean Water Agency

Industrial Dr. Chesterville, ON

K0C 1H0

Attention: Dave Markell

Certificate of Analysis

Report:

220006292

Project:

Moose Creek WTP

Date Sampled:

June 19, 2002

Date Received:

June 20, 2002

Date Printed:

June 24, 2002

|--|

Parameter	Unit	MDL	Sample Identification				
			Treated Water Special	Post Office Special	M C Mall Special		
Total Chlorine	mg/L	0.05	2.30	1.90	1.40		
Free Chlorine	mg/L	0.05	2.00	1.70	1.10		
E. coli	/100mL	1	absent	absent	absent		
Heterotrophic Plate Count	/mL	2	absent	absent			
Total Coliforms	/100mL	1	absent	absent	absent		

Division of Caduceon Enterprises Inc.

Client:

ntario Clean Water Agency

Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Parameter

Dave Markell

Certificate of Analysis

Report:

220006349

Project:

Moose Creek WTP

Date Sampled:

June 20, 2002

Date Received: Date Printed: June 21, 2002 June 24, 2002

Matrix:

Drinking Water

			Treated Water Special	Post Office Special	M C Mail Special
Total Chlorine	mg/L	0.05	2.10	1.60	1.40
Free Chlorine	mg/L	0.05	1.80	1.30	1.10
E. coli	/100mL	1	absent	absent	absent
Heterotrophic Plate Count	/mL	2	absent	absent	
Total Coliforms	/100mL	1	absent	absent	absent

MDL

Unit

Sample Identification

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON **K0C 1H0**

Attention:

Dave Markell

Certificate of Analys

Report:

220006429

Project:

Date Sampled: Date Received:

Date Printed:

June 24, 2002 June 25, 2002 June 27, 2002

Moose Creek WTP

Matrix:

	Parameter	Background	E. coli	Free Cl2	НРС	тс	Total Cl2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MDL	1	1	0.05	2	1	0.05
Sample ID							
Well #2		4	absent			absent	
Well #3		absent	absent			absent	
Treated Water			absent	1.70	absent	absent	2.20
Dist. Sewage P	umping Station		absent	0.80	2	absent	1.00
Dist. 2041 Valle	ey St. North		absent	0.80		absent	0.90

July-September 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Moose Creek Drinking Water Quality

Ontario Drinking Water Protection Regulations

The Ontario Clean Water Agency, as the contract operator of the Moose Creek Water Treatment Facility on behalf of the Township of North Stormont, is pleased to present the 2002 Third Quarter Report on drinking water quality. This report has been prepared in response to legislative changes brought about by "Operation Clean Water", an initiative of Ontario's Ministry of the Environment to ensure high quality drinking water for the residents of Ontario. The new regulations put into law what was formerly the Ontario Drinking Water Objectives (ODWO), and sets requirements for public waterworks with regard to sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

Further information on the Ontario Drinking Water Regulations can be found on the Ministry of the Environment web site at www.ene.gov.on.ca

Where to contact us for information



Ontario Clean Water Agency Agence Ontarienne Des Eaux

Web site at www.ocwa.com

Client Services Representative: John Kingsbury

Phone: (613) 774-3663

E-mail Address: jkingsbury@ocwa.com

Operations Manager: Blair Henderson

Phone: (613) 448-3098

E-mail Address: <u>bhenderson@ocwa.com</u>

You may also contact the Township of North Stormont directly by contacting Rheal

Charbonneau, Clerk-Treasurer, Tel. (613) 984-2821 or

e-mail address: admin@northstormont.on.ca

Free copies of this report are available at the Township office or their website @ www.townshipofnorthstormont.on.ca



INSIDE THIS REPORT

Drinking Water Regulations	100 E			1
Where To Contact Us				至 20 8年 1
Plant Description & Treatment P.	roceases 🐃 🚎	100 mg/s	eren eren eren eren eren eren eren eren	2 3 2
Quality Control and Compliance	with Provincial Res	ulifu(o)is		3
Definitions & Terms	A17 (2007) 1723 (1977)			4
Required Testing				4.
Water Quality Tost Results				4
Questions & Answers				Sept. 7.

July-September 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Introduction

We are proud to report that for the period July to September 2002, your water conformed to the Ontario Drinking Water Standards as set out in Ontario Regulation 459/00. The Ontario Clean Water Agency (OCWA) is dedicated to maximizing public health and safety through efficient and reliable operation of your water facility and distribution system.

Plant Description and Treatment Processes

Facility Name: Moose Creek WTP & Distribution System

Total Design Capacity 896 cubic meters/day

Raw Water Source Groundwater

Disinfection Method Sodium Hypochlorite

Municipal Location Municipal Office, 2 Victoria Street, Berwick, Ontario

Service Area Village of Moose Creek

Service Population 400

Operational Description:

Raw water source: Three drilled wells located southwest of the water pumping station.

Low Lift Pumps: Three low lift pumps lift the water from the wells to the main pumping station.

There is one header that directs the water to the Chlorine Contact Chamber. At this point,

Sodium Hypochlorite is added to the raw water for disinfection.

Reservoir: From the Chlorine Contact Chamber the treated water enters a 75 cubic meter underground reservoir.

High Lift Pumps: Two high lift pumps, one duty and one standby, move the treated water from the reservoir into the distribution system and elevated tank.

Elevated Tank: There is approximately 622 cubic meters of water in the elevated water tower located on County Road 15.

<u>Distribution System</u>: There are approximately 400 persons supplied with water from the Moose Creek Water Treatment System.

July-September 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Quality Control & Compliance With Provincial Regulations

This plant provides multiple barriers against bacteriological contamination. Bacteriological testing is carried out on raw water, treated water and distribution samples on a regular frequency. On-line analysers for chlorine residuals and turbidity ensures daily monitoring of water leaving the plant. Chlorine levels in the distribution system are also checked on a regular basis. More specialized testing occurs monthly and quarterly and includes Volatile Organics, Inorganics, Pesticides and PCB's.

OCWA uses internal compliance auditing techniques by teams from within the organization. OCWA operates the Moose Creek Water Treatment Facility in accordance with provincial regulations. Here is how we do it:

- Use of Accredited Labs. Analytical tests to monitor your water quality are conducted by a
 laboratory audited by the Canadian Association for Environmental Analytical Laboratories
 (CAEAL) and accredited by the Standards Council of Canada (SCC). Accreditation ensures
 that the laboratory has acceptable laboratory protocols and test methods in place. It also
 requires the laboratory to provide evidence and assurances of the proficiency of the analysts
 performing the test methods.
- Operation by Licensed Operators. Your water treatment plant is operated and maintained by the Ontario Clean Water Agency's competent and licensed staff. The mandatory licensing program for operators of drinking water facilities is regulated under the *Ontario Water Resources Act (OWRA)* Regulation 435/93. Licensing means that an individual meets the education and experience requirements and has successfully passed the certificate exam.
- Sampling and Analytical requirements. OCWA follows a sampling and analysis schedule required by *OWRA* Regulation 459/00, the Ontario Drinking Water Standards. More information on sampling and analysis including results are available in this report and from your municipal office.
- Adherence to Ministry Guidelines and Procedures. To ensure the protection of the health and operational excellence, the OCWA adheres to the guidelines and procedures developed by the Ministry of the Environment and the Ministry of Health.

Did We Exceed the Standards?

With respect to Operational Parameters, turbidity exceedences were reported as per Regulation 459/00 on 11 separate occasions. These samples are taken continuously in-house by online equipment and the spikes are believed to be caused primarily by air entrained in the water during start-up of vertical turbine hi-lift pumps, and/or a buildup of iron sediment in the sample lines. During these spikes, the system was being adequately disinfected; therefore, reducing any risks that may be associated with the high turbidity.

July-September 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Definitions & Terms

 m^3 - Cubic Meter, $1m^3 = 1000$ litres

TCU - True Colour Units

CaCO₃ - Calcium Carbonate

mg - milligram

mg/L - milligrams per litre

ug/L - micrograms per litre

ng/L - nanograms per litre

NTU - Nephelometric Turbidity Units

MAC - Maximum Acceptable Concentration

IMAC - Interim Maximum Acceptable Concentration

Coliform Bacteria - a group of commonly occurring rod shaped bacteria. Their presence in a water sample is indicative of inadequate filtration and/or disinfection.

Fecal Coliform Bacteria - refers to a subgroup of coliform bacteria present in the digestive system of warm blooded animals and humans.

Heterotrophic Plate Count - a method of measuring bacterial content in water samples. Also known as Standard Plate Count.

Organic Parameter - a group of chemical compounds containing carbon.

Inorganic Parameter - a group of chemical compounds not containing carbon.

Raw Water - Surface or ground water available as a source of drinking water that has not received any treatment.

Required Testing

The Ontario Drinking Water Regulations and Certificates of Approval (C of A) set sampling requirements for the plant. All other sampling conforms to the Drinking Water Protection Regulation schedule for sampling and analysis. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases can pick up substances resulting from the presence of animals or from human activity. Your water is extensively tested for the presence of dozens of compounds. The results of all analytical tests are available at your municipal office. The following table lists all compounds analyzed.

Moose Creek Water Quality Test Results

Microbiological Parameters	OF	Samples	Detectable	Dates			Typical Source of S Contaminants
Total Coliform (counts/100ml)	0	42	0	07/01-09/30	n/a	по	Indicate possible presence of coliform
Escherichia Coliform (counts/100ml)	0	42	0	07/01-09/30	n/a	no	Definite indicator of fecal contamination
Heterotrophic Plate Count (counts/100ml)	500	28	10	07/01-09/30	2-30	no	Indicator of deteriorating water quality if greater than 500

July-September 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

		S MATTER OF THE STREET				** P** ********	
Parameters related to Microbiological Quality	OF STAND	# 01 Samples	A OP: Dejectable Results	Sampling Votes (m/d) + ++++	Range	Exceptonce?	Typical Source of Contaminants
Turbidity (NTU)	1	Continuous	Continuous	07/01-09/30	0.42->.5.0	yes	Turbidity is a measure of particles in water
Free Chlorine – Plant Effluent (mg/l)	-	Continuous	Continuous	07/01-09/30	1.3-2.5	no	Chlorine added for Disinfection
Free Chlorine- Distribution (mg/l min 0.05 & max. 4.0)	-	Grab samples weekly	Weekly	07/01-09/30	0.5-2.1	no	Objective is 0.20 mg/l in the Distribution System (min. 0.05 mg/l required)
Inorganic Parameters (ing/l)	MAC OF IMAC	# of Examples	#.of Detectable Results	Sampling : Dates : (m/d/y) :	Range	Exceedence?	Typical Source of Contaminant
Lead - Distribution	0.01	ı	I	01/21/02	<0.001	no	Leached from lead solder or brass plumbing fixtures
Nitrate	10	1	1	08/08/02	<0.1	no	Natural component of water
Nitrite	1	1	1	08/08/02	<0.1	no	
Arsenic	IMAC= 0.025	1	1	09/19/00	<0.001	no	
Barium	1	1	1	09/19/00	0.24	no	
Boron	IMAC= 5.0	1	1	09/19/00	0.06	no	
Cadmium	0.005	1	1	09/19/00	<0.0001	no	
Chromium (Total)	0.05	1	1	09/19/00	<0.01	no	
Copper	1	1	1	01/21/02	<0.001	no	· · · · · · · · · · · · · · · · · · ·
Iron	0.3	1	1	01/21/02	0.45	yes	Comments below
Lead	0.01	1	. 1	09/19/00	<0.001	no	
Manganese	0.05	1	1	01/21/02	0.04	no	
Mercury	0.001	1	1	09/19/00	<0.0001	no	
Selenium	0.01	1	1	09/19/00	<0.001	no	
Uranium	0.1	1	1	09/19/00	<0.001	no	
Sodium	200	1	1	01/28/02- 02/13/02	26-27	no	
Fluoride	2.4	3	3	08/08/02	0.15	no	

Comment: Iron may be present in groundwater as a result of mineral deposits and chemically reducing underground conditions. The aesthetic objective for Iron, set by appearance effects in drinking water is 0.3 mg/L. Excessive Iron levels in drinking water supplies may impart a brownish color to laundered goods, plumbing fixtures and the water itself; it may produce a bitter, astringent taste in water and beverages; the precipitation of iron can also promote growth of iron bacteria in water mains and service pipes. The Moose Creek Water Pumping Station has no design features for the removal of Iron.

Volatile Organics (ug/l)	MACor	#of.	# pl	Sampling	Range	Exceedence?	Typical Source, of
	IMAC	Samples	Detectable Results	Dates (m/d/y)		45.0	Contammant
Trihalomethanes - Plant	100	2	2	08/08/02	38.1	no	
Trihalomethanes - Dist.	100	2	2	08/08/02	55.5	no	
Benzene	5	1	1	08/08/02	<0.5	no	
Carbon Tetrachloride	5	1	1	08/08/02	<0.9	no	
Dichloromethane	50	1	1	08/08/02	<4	no	
1,2 - Dichlorobenzene	200	1	1	08/08/02	<0.4	no	
1, 4 - Dichlorobenzene	5	1	1	08/08/02	<0.4	no	<u> </u>
1,2 - Dichloroethane	IMAC**	1	1	08/08/02	<0.7	no	
1,1 - Dichloroethylene	14	1	1	08/08/02	<0.5	no	
Ethylbenzene	24	1	1	08/08/02	<0.5	no	

July-September 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

<u> </u>						8 7	
Voiatile Greanics (ug/l)	MACOF IMAC	# 01 Samples	# of Detectable Results	Sampling Dates (m/d/y)	Range	Excessions?	Typical Source of Contaminant
Monochlorobenzene	80	1	1	08/08/02	<0.2	no	
Tetrachloroethylene	30	1	1	08/08/02	<0.3	no	
Toluene	24	1	1	08/08/02	<0.5	no	
Trichloroethlyene	50	1	1	08/08/02	<0.3	no	
Vinyl chloride	2	1	1	08/08/02	<0.5	no	
Xylene	300	2	2	08/08/02	<2.0	no	
Bromodichloromethane	n/a	1	i	08/08/02	10.2	no	
Bromoform	n/a	1	1	08/08/02	<0.4	no	
Chloroform	n/a	1	1	08/08/02	24.9	no	
Dibromochloromethane	n/a	1	1	08/08/02	3.0	no	
Perticides & PCB (up/L)	MAG or 1. IMAG	#QL Samples	4 of Englished Results	Sampling - Dates - (mid/y) **	Kange	Exceedence?	Typical Source of Confirmation
Alachlor	IMAC=5	1	1	08/08/02	<0.5	no	
Aldicarb	9	1	1	08/08/02	<5.0	no	
Aldrin+Dieldrin	0.7	1	1	08/08/02	<0.012	no	
Atrazine	IMAC=5	1	1	08/08/02	<0.5	no	
Azinphos-methyl	20	1	1	08/08/02	<2.0	no	
Bendiocarb	40	1	1	08/08/02	<2.0	no	
Bromoxynil	IMAC=5	1	1	08/08/02	<0.5	no	
Carbaryl	90	1	1	08/08/02	<5.0	no	
Carbofuran	90	1	1	08/08/02	<5.0	no ·	
Chlordane	7	ı	1	08/08/02	<0.012	no	
Chorpyrifus	90	1	1	08/08/02	<1.0	no	
Cyanazine	IMAC=10	1	1	08/08/02	<1.0	no	
Diaznon	20	1	1	08/08/02	<1.0	no	
Dicamba	120	1	1	08/08/02	<1.0	no	******
2,4 Dichlorophenol	900	1	1	08/08/02	<0.5	no	
DDT + Metabolites	30	1	1	08/08/02	<3.0	no	
2,4 - Dichlorophenexy acid (2,4 -D)	IMAC=100	1	1	08/08/02	<1.0	no	
Diclofop-methyl	9	1	1	08/08/02	<0.9	no	
Dimethoate	IMAC=20	1	1	08/08/02	<2.5	no	
Dinoseb	10	1	1	08/08/02	<1.0	no	
Diquat	70	1	1	08/08/02	<7.0	no	
Diuron	150	1	1	08/08/02	<10.0	no	
Glyphosate	IMAC=280	1	1	08/08/02	<10.0	no	
Heprachlor + Heptachlor epoxide	3	1	ı	08/08/02	<0.012	no	
Lindane	4	1	1	08/08/02	<0.006	no	
Malathion	190	1	1	08/08/02	<5.0	no	
Methoxychlor	900	i	1	08/08/02	<0.024	no	
Metolachlor	IMAC=50	1	1	08/08/02	<0.5	no	
Metribuzin	80	1	1	08/08/02	<5.0	no	
Paraquat	IMAC=10	1	1	08/08/02	<1.0	no	
Parathion	50	1	1	08/08/02	<1.0	no	
Pentachlorophenol	60	1	1	08/08/02	<0.5	no	
Phorate	IMAC=2	1	1	08/08/02	<0.5	no	
Picloram	IMAC=190	1	1	08/08/02	<5.0	no	
Polychlorinated Biphenyls	IMAC=3	1	1	08/08/02	<0.05	no	
Prometryne	IMAC=1	1	1	08/08/02	<0.25	no	

July-September 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

	* **					······································	
Pesticides & PCB (ug/L)	MAGer IMAG	# of Samples	A of Detectable Results	Suppling Dates (m/d/v)	Range	Exceedence?	Typical Source of Contuminant
Simazine	IMAC=10	1	1	08/08/02	<1.0	no	
Temephos	IMAC=280	1	1	08/08/02	<10	no	
Terbufos	IMAC=1	1	1	08/08/02	<0.7	no	
2,3,4,6 Tetrachlorophenol	100	1	1	08/08/02	<0.5	no	
Triallate	230	1	1	08/08/02	<1.0	no	
2,4,6-Trichlorophenol	5	1	1	08/08/02	<0.5	no	
2,4,5 - trichlorophenoxy acedic acid	IMAC=280	1	1	08/08/02	<1.0	no	
Trifluralin	45	1	1	08/08/02	<1.0	no	
Additional Parameters Non-Health Related (mg/L)	AD ph OG	# oi. Samples	# 01. Defectable Results	Sampling Dates (m/day)	Kango	Exceedence?	Typical Source of Contaminant
Colour	5	1	1	01/28/02	2	no	
pH	6.8-8.5	1	1	01/28/02	7.84	no	,
Alkalinity	30-500	1	1	01/28/02	205	no	
Total Hardness	80-100	1	1	01/28/02	326	yes	Limits are set as an operational guideline
Sulphate	500	1	1	01/28/02	137	no	
Conductivity		1	1	01/28/02	707	no	
Chloride	250	1	1	01/28/02	29	no	
Free Ammonia		1	1	01/28/02	<0.02	no	
Total Kjeldahl Nitrogen		1	1	01/28/02	0.1	no	
Dissolved Organic Carbon	5	1	1	01/28/02	1.9	no	
Sodium	200	1	1	01/28/02	26	no	
Iron	0.3	1	1	01/28/02	0.45	yes	
Aluminium	0.1	1	1	01/28/02	< 0.05	no	
Manganese	0.05	1	1	01/28/02	0.04	no	
Ammonia + Ammonium N		1	1	01/28/02	< 0.02	no	
Total Organic Carbon		1	1	01/28/02	2.1	no	
Copper	1	1	1	01/28/02	< 0.001	no	
Calcium		l	1	01/28/02	86	no	
Magnesium		1	1	01/28/02	27	no	-

Questions & Answers

Q. What is an Accredited Laboratory?

A. Accredited labs must have undergone an on-site assessment and performance review of their methods by the Canadian Association of Environmental and Analytical Laboratories. The Standards Council of Canada grants accreditation to the lab based on the recommendation of the CAEAL. The accreditation requirements are repeated every two years.

Q. What had to be done to meet the new regulations?

A. The Moose Creek Water Treatment Plant was following the Ontario Drinking Water Objectives (ODWO) before they became law, so little change was required to meet the new regulations. Our chlorine residual in the water leaving the plant was raised to slightly to achieve the (0.20 mg/L free chlorine) required level in the distribution system, and some changes were required in the way results are reported. This report to the public is also the result of the new regulations.

July-September 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

- Q. What parameters did you test for?
- A. Microbiological parameters, volatile organic, inorganic and pesticides & PCBs have been tested. The results are included in this report.
- Q. Sometimes my water looks rusty or coloured. Why is that, and what should I do about it?
- A. This is quite often caused when the tanks in older water heaters start to decay. If the colour is seen only in your hot water, this may be the problem. If the colour is also noticed in your cold water it could be coming from the water main. Various maintenance procedures in the distribution system such as fire hydrant and valve maintenance, or main break repairs require flushing of the water mains. Flushing can cause small particles of sediment to break off adding colour to the water. Please note that there is no health risk associated with this problem. This is usually only temporary, and opening your taps for a while to flush out your service line (the pipe from the water main to your house) should take care of the problem. Let the water run until the colour disappears.

MOOSE CREEK WATER

REQUIRED SAMPLES

JULY, AUGUST, SEPTEMBER 2002

NO2&NO3 Table B & D

Chemical Parameters

Treated
Treated

Samples Collected Date

Initials

Received Results Date

Initials

System THM Flouride

annual

Treated
Treated

Bacti Parameters

System 2 Sites	Treated	Raw Well#1 Well#2 Well#3
E.Coli	E.Coli	E.Coli
Total Coli.	Total Coli.	Total Coli. Total Coli. Total Coli.
HPC 25%	HPC	Background Background Background

JULY 29	JULY 22	JULY 15	3 ATINE	JULY 1
Bacti's	Bacti's	Bacti's	Bacti's	Bacti's
7	7	7	7	(

AUG. 26	AUG. 19	AUG. 12	AUG. 5	
Bacti's	Bacti's	Bacti's	Bacti's	
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SEPT. 30	SEPT. 23	SEPT. 16	SEPT. 9	SEPT. 2
Bacti's	Bacti's	Bacti's	Bacti's	Bacti's

Flouride Treated Water (Annual)
Lead Distribution System (Annual)
Table C Treated Water (Jan. 2003)
Sodium Treated Water (Jan. 2007)

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Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON

K0C 1H0

Attention: **Parameter** **Dave Markell**

MDL Unit

Certificate of Analysis

Report:

220006763

Project:

Moose Creek WTP

Date Sampled:

July 2, 2002

Date Received:

July 3, 2002

Date Printed:

July 05, 2002

Matrix:

Drinking Water

			Well #2 Raw	Well #3 Raw	Treated Water	Dist. Water Tower	Dist. Mall
Total Chlorine	mg/L	0.05			2.00	0.90	1.20
Free Chlorine	mg/L	0.05			1.60	0.60	1.00
E. coli	/100mL	1	absent.	absent	absent	absent	absent
HPC	/mL	2			absent	absent	
Background bacteria	/100mL	1	3	absent		•	
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent

Sample Identification

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

tario Clean Water Agency

o Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Report:

220007058

Project:

Date Sampled:

Date Received:

Date Printed:

Moose Creek WTP

July 8, 2002 July 9, 2002

July 11, 2002

Matrix:

	Attention: Bave	Walkell						my water
		Parameter	Background	E. coli	Free Cl2	НРС	тс	Total CI2
		Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
		MDL	1	1	0.05	2	1	0.05
	Sample ID							
	Well #2 Raw		>200	1			absent	
	Well #3 Raw		absent	absent			absent	
	Treated Water			absent	1.80	absent	absent	2.20
_	Dist. SPS			absent	0.60	absent	absent	0.80
_	Dist. Post Office			absent	1.20		absent	1.50

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

tario Clean Water Agency

o Industrial Dr. Chesterville, ON

K0C 1H0
Attention:

Dave Markell

Report:

220007320

Project:

Moose Creek WTP

Date Sampled:

July 15, 2002

Date Received:
Date Printed:

July 16, 2002 July 18, 2002

Matrix;

Paramete	ЭГ	Background	E. coli	Free Cl2	НРС	тс	Total Cl2
Un	it	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
MD	L	1	1	0.05	2	1	0.05
Sample ID							
Well #2 Raw		3	absent			absent	
Well #3 Raw		absent	absent			absent	
Treated Water			absent	1.90	absent	absent	2.30
Dist. Moose Creek Mall			absent	1.40	absent	absent	1.80
Dist. Paul Adams House			absent	0.90		absent	1.00

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analy

Report:

220007579

Project:

Moose Creek WTP

Date Sampled:

July 22, 2002

Date Received: Date Printed: July 23, 2002 July 25, 2002

Matrix:

	Parameter	Background	E. coli	Free Cl2	НРС	тс	Total Cl2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
Sample ID	MDL	1	1	0.05	2	1	0.05
Well #2 Raw		14	absent			absent	
Weil #3 Raw		41	absent			40	
Treated Water			absent	1.78	absent	absent	2.18
Dist. Tower			absent	1.50	absent	absent	1.90
Dist. 2041 Valle	y St. N		absent	0.72		absent	0.95

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analys

Report:

220007816

Project:

Moose CreeK WTP

Date Sampled:

July 29, 2002

Date Received:

July 30, 2002

Date Printed:

August 01, 2002

Matrix:

									
	Parameter	Background	E. coli	Free Cl2	HPC	тс	Total Cl2		
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L		
Sample ID	MDL	1	1	0.05	2	1	0.05		
Well #2 Raw		71	absent		,	absent			
Well #3 Raw		5	absent			4			
Treated Water			absent	1.70	absent	absent	2.20		
Dist. SPS			absent	0.80	absent	absent	1.10		
Dist. Moose Cree	ek Mall		absent	0.90		absent	1.20		

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

ATT: Mr. Blair Henderson

Report Number:

2210850

Date:

2002-08-19

Date Submitted:

2002-08-09

Project:

Moose Creek Wells

P.O. Number:

Matrix: Supply Water

				IVIALIIX.		Supply water	
		LAB ID:	198038	***			
	Sample Date:						
İ	San	nple ID:	2002-08-08 MCW-04				
PARAMETER	UNITS	MDL	TREATEDWATER				
F	mg/L	0.10	0.15		 		
N-NO2	mg/L	0.10	<0.10				
N-NO3	mg/L	0.10	<0.10				
114-1405	IIIg/L	0.10	\0.10				
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	1						I

MDL = Method Detection Limit

INC = Incomplete

Comment:

APPROVAL:

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

ATT: Mr. Blair Henderson

Report Number:

2210850

Date:

2002-08-16

Date Submitted:

2002-08-09

Project:

Moose Creek Wells

P.O. Number:

Matriy:

Supply Water

				Matrix:		Supply Water	
	LAB ID:						
	Sam	ple Date:	2002-08-08	-			
	Sa	ample ID:	MCW-04				
		_					
PARAMETER	UNITS	MDL					
BTEX / 624 / PURGEABLE HY	DROCARBO	ONS					
Benzene	ug/L	0.5	<0.5i//				
Toluene	ug/L	0.5	<0.5				ł
Ethylbenzene	ug/L	0.5	<0.5 🗸				
m/p-xylene	ug/L	1.0	<1.0				1
o-xylene	ug/L	0.5	<0.5				
Bromodichloromethane	ug/L	0.3	10.2				
Bromoform	ug/L	0.4	<0.4			1	
bon Tetrachloride	ug/L	0.9	<0.9				
nochlorobenzene	ug/L	0.2	<0.2			1	1
Chloroform	ug/L	0.5	24.9 ~/			}	
Dibromochloromethane	ug/L	0.3	3.0				
1,2-dichlorobenzene	ug/L	0.4	<0.4				
1,4-dichlorobenzene	ug/L	0.4	<0.4			}	
1,2-dichloroethane	ug/L	0.7	<0.7]		
1,1-dichloroethylene	ug/L	0.5	<0.5				
Dichloromethane	ug/L	4.0	<4.0			İ	
Tetrachloroethylene	ug/L	0.3	<0.3 -/				
Trichloroethylene	ug/L	0.3	<0.3				
Vinyl Chloride	ug/L	0.5	<0.5				
TOTALS							
Trihalomethanes (total)	ug/L	2.0	38.1				
Xylene; total	ug/L	2.0	<2.0				
BTEX / 624 Surrogate Recover	ies						
Toluene-d8	%		97				
1,2-dichloroethane-d4	%		101		'		
4-bromofluorobenzene	%		101				
	1	1					

MDL = Method Detection Limit

INC = Incomplete

Comment:

APPROVAL:

608 Norris Court, Kingston, ON, K7P 2R9

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

Date Submitted:

2210850

Date:

2002-08-29 2002-08-09

ATT: Mr. Blair Henderson

Project:

Moose Creek Wells

i.				Sample Matri	ix:	Supply Water	
		LAB ID:	198038				
	Sam	ple Date:	8/8/02				
1		ample ID:	MCW-04				
1							
PARAMETER	UNITS	MDL					
PESTICIDES & PCB's			/				***
Alachlor	ug/L	0.5	<0.5				
Aldicarb	ug/L	5	<5 🗸				
Aldrin	ug/L	0.006	<0.006				
Aldrin + Dieldrin	ug/L	0.012	<0.012 🗸				
Atrazine	ug/L	0.5	<0.5 🗸				
Desethyl-atrazine	ug/L	0.5	<0.5				
Atrazine+Desethyl-atrazine	ug/L	1	<1 /				
Azinphos-methyl	ug/L	2	<2/				
Pandiocarb	ug/L	2	<2 🗸			İ	
noxynil	ug/L	0.5	<0.5				
Carbaryl	ug/L	5	<5				
Carbofuran	ug/L	5	<5 V	ŀ			
Chlordane (Total)	ug/L	0.012	<0.012 🗸				
a-Chlorodane	ug/L	0.006	<0.006				ĺ
g-Chlorodane	ug/L	0.006	< 0.006				
Oxychlorodane	ug/L	0.006	<0.006				
Chloropyrifos	ug/L	1	<1 /				
Cyanazine	ug/L	1	<1 /				
Diazinon	ug/L	1 1	<1 /				
Dicamba	ug/L	1	<1 V /				
Dieldrin	ug/L	0.006	<0.006				
Diquat	ug/L	7	<7 /	•			
2,4-Dichlorophenol	ug/L	0.5	<0.5	<i>*</i>			
DDT + Metabolites	ug/L	0.024	<0.024				
o,p'-DDT	ug/L	0.006	<0.006	,			
p,p'-DDT	ug/L	0.006	<0.006				
2,4-D	ug/L	1	<1 ✓				
p,p'-DDE	ug/L	0.006	<0.006				

NOTE: mg/L=1000xug/L

MDL = Method Detection Limit

Comment:

APPROVAL:

146 Colonnade Road, Unit 8, Nepean, Ontario K2E 7Y1 Tel:(@13)727-5692 Fax:(613)727-5222

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2210850

Date:

2002-08-29

Date Submitted:

2002-08-09

ATT: Mr. Blair Henderson

Project:

Moose Creek Wells

				Sample Matri	x:	Supply Water	
		LAB ID:	198038				
	Sam	ple Date:	8/8/02				
	Sa	mple ID:	MCW-04				
		•	1			j	
]	
PARAMETER	UNITS	MDL					
p,p'-DDD	ug/L	0.006	<0.006	1			
Diclofop-methyl	ug/L	0.9	<0.9				
Dimethoate	ug/L	2.5	<2.5		:		[
Dinoseb	ug/L	1	<1 /				[
Diuron	ug/L	10	<10 √]	İ
Glyphosate	ug/L	10	<10 🗸				ł
Heptachlor	ug/L	0.006	<0.006			1	l
Heptachlor epoxide	ug/L	0.006	<0.006		i		
Heptachlor + Hept. Epoxide	ug/L	0.012	<0.012 🗸				
ane	ug/L	0.006	<0.006 🗸			1	
lyanathion	ug/L	5	<5 V				}
Methoxychlor	ug/L	0.024	<0.024			ì	
Metolachlor	ug/L	0.5	<0.5			į	,
Metribuzin	ug/L	5	<5 V				j
Paraquat	ug/L	1	<1 //			j	
Parathion	ug/L	1	<1 /			}	<u> </u>
Pentachlorophenol	ug/L	0.5	<0.5				
Phorate	ug/L	0.5	<0.5			j	
Picloram	ug/L	5	<5 /				[
PCB's (total)	ug/L	0.05	<0.05	_			ĺ
Prometryne	ug/L	0.25	<0.25	•			
Simazine	ug/L	1 1	<1 /				
Temephos	ug/L	10	<10	ĺ			ĺ
Terbufos	ug/L	0.7	<0.7 🗸				
2,3,4,6-Tetrachlorophenol	ug/L	0.5	<0.5				
Triallate	ug/L	1	<1 🗸	į		. *	
2,4,6-Trichlorophenol	ug/L	0.5	<0.5 🗸				
Trifluralin	ug/L	1	<1 /	1			
2,4,5-T	ug/L	1	<1 🗸	1			

NOTE: mg/L=1000xug/L

MDL = Method Detection Limit

Comment:

APPROVAL:

146 Colonnade Road, Unit 8, Nepean, Ontario K2E 7Y1 Tel:(613)727-5692 Fax:(613)727-5222

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2210857

Date:

2002-08-16

Date Submitted:

2002-08-09

ATT: Mr. Blair Henderson

Project:

P.O. Number:

Matrix: Supply Water

				Matrix.	 Supply water	
		LAB ID:	198045			
	Sam	ple Date:	2002-08-08			
			MCW System		 	
		•	_			j
PARAMETER	UNITS	MDL				
BTEX / 624 / PURGEABLE HYD	ROCARBO	NS		-		
Bromodichloromethane	ug/L	0.3	11.9			
Bromoform	ug/L	0.4	<0.4			1
Chloroform	ug/L	0.5	40.0			,
Dibromochloromethane	ug/L	0.3	3.6]
TOTALS				'		[
Trihalomethanes (total)	ug/L	2.0	55.5			
BTEX / 624 Surrogate Recoveri	es					
Zeluene-d8	%	ł	97	'		
	}		Į			ļ
		[1
						ļ
						1
]	'		
]
						1

MDL = Method Detection Limit

INC ≈ Incomplete

Comment:

APPROVAL:

608 Norris Court, Kingston, ON, K7P 2R9

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

ntario Clean Water Agency

5 Industrial Dr. Chesterville, ON **K0C 1H0**

Attention:

Dave Markell

Report:

Project: Date Sampled:

Date Received: Date Printed:

220008067

Moose Creek WTP August 6, 2002 August 7, 2002

August 09, 2002

Matrix:

		Parameter	Background	E. coli	Free CI2	НРС	тс	Total Cl2	
		Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L	
	O amounts ID	MDL	1	1	0.05	2	1	0.05	
	Sample ID								
	Well #2 Raw		58	absent			absent		
	Well #3 Raw		178	absent			absent		
	Treated Water			absent	1.30	2	absent	1.60	
_	Dist. Water Tower			absent	1.20	4	absent	1.20	
	Dist. SPS			absent	1.00		absent	1.20	

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention: Parameter **Dave Markell**

Unit

MDL

Certificate of Analysi

Report:

220008349

Project:

Moose Creek WTP

Date Sampled:

August 12, 2002

Date Received:

Date Printed:

August 13, 2002

Matrix:

August 15, 2002

 M	al

Drinking Water	_		
	Drink	ing	Water

			Well #2 Raw	Well #3 Raw	Treated Water	Dist. 2041 Valley North	Dist. Moose Creek all	
Total Chlorine	mg/L	0.05			2.00	0.70	1.40	
Free Chlorine	mg/L	0.05			1.70	0.50	1.20	
E. coli	/100mL	1	absent	absent	absent	absent	absent	
HPC	/mL	2			absent	30		
Background bacteria	/100mL	1	4	absent				
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent	

Sample Identification

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Parameter

Dave Markell

Unit

MDL

Certificate of Analysi

Report:

220008617

Project:

Moose Creek WTP

Date Sampled: **Date Received:** August 19, 2002

Date Printed:

August 20, 2002 August 22, 2002

Matrix:

Drinking Water

			Well #2 Raw	Well #3 Raw	Treated Water	Dist. M.C. Mall	Dist. Paul Adams
Total Chlorine	mg/L	0.05			2.20	1.60	1.20
Free Chlorine	mg/L	0.05			1.60	1.30	0.90
E. coli	/100mL	1	absent	absent	absent	absent	absent
нрс	/mL	2			2	2	
Background bacteria	/100mL	1	180	17			
Total Coliforms	/100mL	1	absent	15	absent	absent	absent

Sample Identification

Division of Caduceon Enterprises inc.

ptario Clean Water Agency

Industrial Dr. Chesterville, ON **K0C 1H0**

Attention:

Dave Markell

Certificate of Analysis

Report:

Project:

Date Sampled: Date Received: Date Printed:

220008931

Moose Creek WTP August 26, 2002 August 27, 2002 August 29, 2002

Matrix:

	Parameter	Background	E. coli	Free CI2	НРС	тс	Total CI2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MDL	1	1	0.05	2	1	0.05
Sample ID							
Well #2 Raw		2	absent			absent	
Well #3 Raw		absent	absent			absent	
Treated Water			absent	1.70	absent	absent	2.10
Dist. Post Office			absent	1.20	absent	absent	1.50
Dist. 2041 Valley S	st. (N)		absent	1.00		absent	1.50

Division of Caduceon Enterprises Inc.

Ontario Clean Water Agency

5 Industrial Dr.

Chesterville, ON

KOC 1HO

Certificate of Analysis

Report:

Project:

Date Sampled:

Date Received: Date Printed:

220008931

Moose Creek WTP

August 26, 2002

August 27, 2002 August 29, 2002

Attention: [Dave Markell				Matrix:	Drinkir	ng Water
	Parameter	Background	E. coli	Free Cl2	HPC	TC	Total CI2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MOL	1	1	0.05	2	1	0.05
Sample IO							
Well #2 Raw		2	absent			absent	
Well #3 Raw		absent	absent .			absent	
Treated Wate	er		absent	1.70	absent	absent	2.10
Dist. Post Off	fice		absent	1.20	absent	absent	1.50
Dist. 2041 Va	illey St. (N)		absent	1.00		absent	1.50

Caduceon Environmental Laboratories 2378 Holly Lane, Ottawa, Ontario, K1V 7P1, Canada Tel: (613)526-0123, Fax: (613)526-1244

Page

Mishael-Ziebell, General Manager

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

ario Clean Water Agency

industrial Dr. Chesterville, ON **K0C 1H0**

Attention:

Dave Markeli

Report:

Matrix:

220009260

Project: Moose Creek WTP Date Sampled:

September 3, 2002 September 4, 2002 September 06, 2002

Date Received: Date Printed:

Drinking Water

Michael Ziebell, General Manager

Attention. Dave in	rai keli						-g ++ato	
	Parameter	Background	E. coli	Free CI2	НРС	тс	Total CI2	
I	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L	
ŀ	MDL	1	1	0.05	2	1	0.05	
Sample ID								
Well #2 Raw		55	absent			1		
Well #3 Raw		2	absent			2		
Treated Water WTF	•		absent	1.63	absent	absent	1.97	
M.C. Tower			absent	1.06	2	absent	1.48	
S.P.S.			absent	0.88		absent	1.25	

MDL

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON

K0C 1H0

Parameter

Attention: [

Dave Markell

Unit

Certificate of Analysis

Report:

220009538

Project:

Moose Creek WTP

Date Sampled: Date Received:

September 9, 2002 September 10, 2002

Date Printed:

September 12, 2002

Matrix:

Drinking Water

			Well #2 Raw	Well #3 Raw	Treated Water	Dist. Moose Creek Mall	Dist. Valley St. N 2041
Total Chlorine	mg/L	0.05			1.86	1.35	1.14
Free Chlorine	mg/L	0.05			1.51	1.03	0.87
E. coli	/100mL	1	absent	absent	absent	absent	absent
HPC	/mL	2			absent	absent	
Background bacteria	/100mL	1	1	absent			
Total Coliforms	/100mL	1	1	absent	absent	absent	absent

Sample Identification

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220009886

Project:

Moose Creek WTP

Date Sampled:

September 16, 2002

Date Received:

September 17, 2002

Date Printed:

September 19, 2002

Matrix:

<u> </u>		Parameter	Background	E. coli	Free Cl2	НРС	тс	Total CI2
		Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
		MDL	1	1	0.05	2	1	0.05
-	Sample ID							
	Well #2 Raw		118	absent			2	
	Well #3 Raw		absent	absent			absent	
	Treated Water			absent	2.05	2	absent	2.35
	Dist. Post Office			absent	1.36	2	absent	1.76
	Dist. Paul Adams	3		absent	0.73		absent	0.93

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220010231

Project:

Moose Creek WTP

Date Sampled: Date Received: September 23, 2002 September 24, 2002

Date Printed:

September 26, 2002

Matrix:

Parameter	Unit MDL	•	Sample	dentification			
			Well #2 Raw	Well #3 Raw	Treated Water	Dist. Water Tower	Dist. M.C. Mall
Total Chlorine	mg/L	0.05			1.80	1.44	1.22
Free Chlorine	mg/L	0.05			1.53	1.12	0.96
E. coli	/100mL	1	absent	absent	absent	absent	absent
HPC	/mL	2			absent	absent	
Background bacteria	/100mL	1	absent	absent			
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON

K0C 1H0

Attention:

Parameter

Dave Markell

Unit

MDL

Certificate of Analysis

Report:

220010463

Project:

Moose Creek WTP September 30, 2002

Date Sampled: Date Received:

October 1, 2002

Date Printed:

October 03, 2002

Matrix:

Drinking Water

	·						
			Well #2 Raw	Well #3 Raw	Treated Water	Dist. Water Tower	Dist. SPS
Total Chlorine	mg/L	0.05			2.20	1.50	1.24
Free Chlorine	mg/L	0.05			1.83	1.25	1.01
E. coli	/100mL	1	absent	absent	absent	absent	absent
HPC	/mL	2			absent	absent	
Background bacteria	/100mL	1	3	1			
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent

Sample Identification

October - December 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Moose Creek Drinking Water Quality

Ontario Drinking Water Protection Regulations

The Ontario Clean Water Agency, as the contract operator of the Moose Creek Water Treatment Facility on behalf of the Township of North Stormont, is pleased to present the 2002 Fourth Quarter Report on drinking water quality. This report has been prepared in response to legislative changes brought about by "Operation Clean Water", an initiative of Ontario's Ministry of the Environment to ensure high quality drinking water for the residents of Ontario. The new regulations put into law what was formerly the Ontario Drinking Water Objectives (ODWO), and sets requirements for public waterworks with regard to sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

Further information on the Ontario Drinking Water Regulations can be found on the Ministry of the Environment web site at www.ene.gov.on.ca

Where to contact us for information



Web site at www.ocwa.com

Client Services Representative:

John Kingsbury

Phone: (613) 774-3663

E-mail Address: jkingsbury@ocwa.com

Operations Manager:

Blair Henderson

Phone: (613) 448-3098

E-mail Address: bhenderson@ocwa.com

You may also contact the Township of North Stormont directly.

Rheal Charbonneau, Clerk - Treasurer

Phone: (613) 984-2821

E-mail Address: admin@townshipofnorthstormont.on.ca

Free copies of this report are available at the Township office at 2 Victoria St., Berwick, or their website @ www.townshipofnorthstormont.on.ca



INSIDE THIS REPORT

Drinking Water Regulations		and the second	955.74 l
Where To Contact Us		Application of the second	and state of
Plant Description & Treatmen			2
Quality Control and Complian	R Jaieur vogalitimo esi	egulations;	
-Definitions & Terms			5-14-5
Required Lesting			5.5
Water Quality Test Results		Secretary and the second	6
Questions & Answers			10

October - December 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Introduction

We are proud to report that for the period October to December 2002, your water conformed to the Ontario Drinking Water Standards as set out in Ontario Regulation 459/00. The Ontario Clean Water Agency (OCWA) is dedicated to maximizing public health and safety through efficient and reliable operation of your water facility and distribution system.

Plant Description and Treatment Processes

Facility Name: Moose Creek WTP & Distribution System

Total Design Capacity 896 cubic meters/day

Raw Water Source Groundwater

Disinfection Method Sodium Hypochlorite

Municipal Location Municipal office, 2 Victoria Street, Berwick

Service Area Village of Moose Creek

Service Population 400

Operational Description:

Raw Water Source: Three drilled wells located southwest of the water pumping station.

Low Lift Pumps: Three low lift pumps lift the water from the wells to the main pumping station. There is one header that directs the water to the Chlorine Contact Chamber. At this point, Sodium Hypochlorite is added to the raw water for disinfection.

Reservoir: From the Chlorine Contact Chamber the treated water enters a 75 cubic meter underground reservoir.

High Lift Pumps: Two high lift pumps, one duty and one standby, move the treated water from the reservoir into the distribution system and elevated tank.

Elevated Tank: There is approximately 622 cubic meters of water in the elevated water tower ocated on County Road 15.

<u>Distribution System</u>: There are approximately 400 persons supplied with water from the Moose Creek Water Treatment System.

October - December 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Quality Control & Compliance With Provincial Regulations

This plant provides multiple barriers against bacteriological contamination. Bacteriological testing is carried out on raw water, treated water and distribution samples on a regular frequency. On-line analysers for chlorine residuals and turbidity ensure daily monitoring of water leaving the plant. Chlorine levels in the distribution system are also checked on a regular basis. More specialized testing occurs monthly and quarterly and includes Volatile Organics, Inorganics, Pesticides and PCB's.

OCWA uses internal compliance auditing techniques by teams from within the organization. OCWA operates the Moose Creek Water Treatment Facility in accordance with provincial regulations. Here is how we do it:

- Use of Accredited Labs. Analytical tests to monitor your water quality are conducted by a
 laboratory audited by the Canadian Association for Environmental Analytical Laboratories
 (CAEAL) and accredited by the Standards Council of Canada (SCC). Accreditation ensures
 that the laboratory has acceptable laboratory protocols and test methods in place. It also
 requires the laboratory to provide evidence and assurances of the proficiency of the analysts
 performing the test methods.
- Operation by Licensed Operators. Your water treatment plant is operated and maintained by
 the Ontario Clean Water Agency's competent and licensed staff. The mandatory licensing
 program for operators of drinking water facilities is regulated under the Ontario Water
 Resources Act (OWRA) Regulation 435/93. Licensing means that an individual meets the
 education and experience requirements and has successfully passed the certificate exam.
- Sampling and Analytical requirements. OCWA follows a sampling and analysis schedule required by *OWRA* Regulation 459/00, the Ontario Drinking Water Standards. More information on sampling and analysis including results are available in this report and from your municipal office.
- Adherence to Ministry Guidelines and Procedures. To ensure the protection of the health and
 operational excellence, the OCWA adheres to the guidelines and procedures developed by the
 Ministry of the Environment and the Ministry of Health.

Annual Compliance Report

The Annual Compliance Report covers the period from January 1, 2002 to December 31, 2002. Copies of the report will be made available for inspection by any member of the public during normal business hours without charge at the Township Office. The Annual Compliance Rport for 2002 will be completed and made available not later than March 31, 2003.

October - December 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

The Compliance Report will include, at a minimum, the following:

- A statement as to compliance with all of the terms and conditions of the certificate and a detailed description of all of the measures taken to ensure compliance with the certificate, including and supporting data or other information;
- In the event of any non-compliance during the reporting period, details of the non-compliance as well as details of how and when any non-compliance was corrected;
- A summary and discussion of the quantity of water supplied during the reporting period compared to the rated capacity specified in the Certificate of Approval, including monthly average and maximum daily flows;
- A summary of records related to flow rate excedences, 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 the Certificate of Approval;
- A summary listing treatment chemicals used, including average dosage rates with special reference to any abnormal usages

Did We Exceed the Standards?

During the fourth quarter of 2002, in the month of October, a treated water sample was found to exceed the Ontario Drinking Water Standards as set out in Ontario Regulation 459/00. On October 7, 2002, treated water exceeded MAC for Total Coliform with a result of 2 per 100/ml. The Ministry of Environment and the Ministry of Health were immediately notified as per the Ontario Drinking Water Standards. Free chlorine residual of the sample at the time of collection was 1.86 mg/L. Subsequent re-sampling as per O. Reg. 459 indicated no adverse results.

October - December 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Definitions & Terms

 m^3 - Cubic Meter, 1 m^3 = 1000 litres

TCU - True Colour Units
CaCO₃ - Calcium Carbonate

mg - milligram

mg/L - milligrams per litre.ng/L - micrograms per litre.ng/L - nanograms per litre.

NTU - Nephelometric Turbidity Units.

MAC - Maximum Acceptable Concentration

IMAC - Interim Maximum Acceptable Concentration

Coliform Bacteria - a group of commonly occurring rod shaped bacteria. Their presence in a water sample is indicative of inadequate filtration and/or disinfection.

Fecal Coliform Bacteria - refers to a subgroup of coliform bacteria present in the digestive system of warm blooded animals and humans

Background Count - a method of measuring bacterial content in water samples **Heterotrophic Plate Count** - a method of measuring bacterial content in water samples. Also known as Standard Plate Count.

Organic Parameter - a group of chemical compounds containing carbon

Inorganic Parameter - a group of chemical compounds not containing carbon

Raw Water - Surface or ground water available as a source of drinking water that has not received any treatment.

Required Testing

The Ontario Drinking Water Regulations and Certificates of Approval (C of A) set sampling requirements for the plant. All other sampling conforms to the Drinking Water Protection Regulation schedule for sampling and analysis. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases can pick up substances resulting from the presence of animals or from human activity. Your water is extensively tested for the presence of dozens of compounds. The results of all analytical tests are available at your municipal office. The following table lists all compounds analyzed.

October - December 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Moose Creek Water Quality Test Results

Micropiológicai Parameters	MAC or IMAC	#-ci Samples	/ c.i Defectable Résults	Sampling Flaces	Xange	Licedence	Typical Source of Containment and Containment
Total Coliform,Raw (CFU/100mL)	n/a	30	6	10/07 - 12/30 weekly	1-15	n/a	Indicate possible presence of fecal matter
E. Coli, Raw (CFU/100 mL)	n/a	30	0	10/07 - 12/30 weekly	n/a	n/a	Definite indicator of fecal contamination
Background Count, Raw (CFU/100 mL)	n/a	30	12	10/07 - 12/30 weekly	1-85	n/a	Indicator of adverse water quality
Total Coliform, Treated (CFU/100mL)	0	15	1	10/07 - 12/30 weekly	2	no	Indicate possible presence of fecal matter
E. coli, Treated (CFU/100 mL)	0	15	0	10/07 - 12/30 weekly	n/a	no	Definite indicator of fecal contamination
Hetrotrophic Plate Count, Treated (CFU/1 mL)	500	15	4	10/07 - 12/30 weekly	2-20	no	Indicator of adverse water quality
Total Coliform, Dist. (CFU/100mL)	0	28	0	10/07 - 12/30 weekly	n/a	no	Indicate possible presence of fecal matter
E. Coli, Dist. (CFU/100 mL)	0	28	0	10/07 - 12/30 weekly	n/a	no	Definite indicator of fecal contamination
Hetrotrophic Plate Count, Dist. (CFU/1 mL)	500	15	2	10/07 - 12/30 weekly	2	no	Indicator of adverse water quality

Parameters related to Microbiological Quality	MAC or 1044 C	2 Samples 2 Samples	dol Detectable Results	r Sampling Daire German	Range	Exostdence.	Typical Source of Committee
Turbidity (NTU)	l	Continuous	Continuous	10/01-12/31	0.29-0.94	no	Turbidity is a measure of
ł							particles in water
Free Chlorine -	-	Continuous	Continuous	10/01-12/31	1.2-2.3	no	Chlorine added for
Plant Effluent (mg/l)		ļ					Disinfection
Free Chlorine-	•	Grab	Weekly	10/07-12/30	0.52-1.53	no	Objective is 0.20 mg/l in
Distribution (mg/l min 0.05		samples			•	-	the Distribution System
& max. 4.0)		weekly			İ	MOE	(min. 0.05 mg/l required)

Comments: MAC/IMAC values do not apply to Raw Water results. MOE recommend a level of at least 0.2 mg/l free chlorine residual in system to maintain microbiological quality in system. Adverse water quality occurs when the free chlorine residual is less than 0.05mg/l.

October - December 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Inorganie Parameters (mg/l)	MAG ap	The office Sections		Sampling Dates	Kange (Examelence	Typical Source of Contaminant
Lead - Distribution	0.01	1	Pestilia III	01/21/02	<0.001	no	Leached from lead solder or brass plumbing fixtures
Nitrate	10	1	1	10/21/02	<0.1	no	Natural component of water
Nitrite	1	1	1	10/21/02	<0.1	no	
Arsenic	1MAC= 0.025	1	ı	09/19/00	<0.001	no	
Barium	1	1	1	09/19/00	0.24	no	
Boron	IMAC= 5.0	1	1	09/19/00	0.06	no	
Cadmium	0.005	1	1	09/19/00	< 0.0001	no	
Chromium (Total)	0.05	1	1	09/19/00	<0.01	no	
Copper	1	1	1	01/21/02	< 0.001	no	
Iron	0.3	1	1	01/21/02	0.45	yes	Comments below
Lead	0.01	1	1	09/19/00	<0.001	no	
Manganese	0.05	1	1	01/21/02	0.04	no	
Mercury	0.001	1	1	09/19/00	<0.0001	no	
Selenium	0.01	ì	1	09/19/00	< 0.001	no	
Uranium	0.1	ì	1	09/19/00	< 0.001	no	
Sodium	200	1	1	01/28/02- 02/13/02	26-27	no	
Fluoride	2.4	3	3	08/08/02	0.15	no	

Comment: Iron may be present in groundwater as a result of mineral deposits and chemically reducing underground conditions. The aesthetic objective for Iron, set by appearance effects in drinking water is 0.3 mg/L. Excessive Iron levels in drinking water supplies may impart a brownish color to laundered goods, plumbing fixtures and the water itself; it may produce a bitter, astringent taste in water and beverages; the precipitation of iron can also promote growth of iron bacteria in water mains and service pipes. The Moose Creek Water Pumping Station has no design features for the removal of Iron.

Volatile Organits (ng/l)	MAC or	f of	Thereoninie	Samples Trates	Range	Exceedences	Typical Source of
	IMA	Samples	Regula	(m/d/y)			Contaminants
Trihalomethanes - Plant	100	1	1	10/21/02	51.3	no	
Trihalomethanes - Dist.	100	1	1	10/21/02	73.1	no	
Benzene	5	1	1	10/21/02	<0.5	no	
Carbon Tetrachloride	5	1	1	10/21/02	<0.9	no	
Dichloromethane	50	1	1	10/21/02	<4.0	no	
1,2 - Dichlorobenzene	200	1	1	10/21/02	<0.4	no	
1, 4 - Dichlorobenzene	5	1	1	10/21/02	<0.4	no	
1,2 - Dichloroethane	IMAC=	1	1	10/21/02	<0.7	no	
1,1 - Dichloroethylene	14	1	1	10/21/02	<0.5	no	
Ethylbenzene	24	1	1	10/21/02	<0.5	no	
Monochlorobenzene	80	1	1	10/21/02	<0.2	no	
Tetrachloroethylene	30	1	1	10/21/02	<0.3	no	
Toluene	24	1	1	10/21/02	<0.5	no	
Trichloroethlyene	50	1	1	10/21/02	<0.3	no	
Vinyl chloride	2	1	1	10/21/02	<0.5	no	
Xylene	300	1	1	10/21/02	<2.0	no	
Bromodichloromethane	n/a	1	1	10/21/02	15.2	no	

october - December 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

	Т	-	Т	-	٦	
Trinor Source of						
Exercisade	no	υu		ou	2	
Pariso	0.5	78.3	C:07	7.7	?	
STATE OF THE PROPERTY OF THE P	10/21/02	00/10/01	70/17/01	00/10/01	70/17/01	
Metable Metable Results	1		_		-	
Samuel			_		_	
MAG or	n/a		n/a		n/a	
Votable Organics	Bromoform	Diomoronia	Chloroform	Ciliciation	Dibromochloromethane	

(UBSE)	1010		(Confidence		. 0	
Alachlor	IMAC=5	1	-	10/21/02	<0.5	OII
Aldicarb	6	1	-	10/21/02	65.0	OII S
Aldrin+Dieldrin	0.7	1	-	70/17/01	20.012	OII
Atrazine	IMAC=5	1	-	10/21/02	50.5	00 5
Azinphos-methyl	20	-	_	10/21/02	0.75	011
Bendiocarb	40		-	10/21/02	0.2>	2
Bromoxvnil	IMAC=5	1	-	10/21/02	<0.5	0u
Carbaryl	06	1	-	10/21/02	<5.0	Ou Ou
Carbofiran	06	_	1	10/21/02	<5.0	ou
Calbalan	7	-	-	10/21/02	<0.012	no
Chlordalic	06	-	1	10/21/02	<1.0	no
Chorpyrius	IMAC=10	-	-	10/21/02	<1.0	ou
Cyanazine	20	-		10/21/02	<1.0	ou
Diaznon	021	-	_	10/21/02	<1.0	ou
Dicamba	071	-	. _	10/21/02	<0.5	OU
2,4 Dichlorophenol	300	- -	-	10/21/02	<0.024	Ou
DDT + Metabolites 7 4 - Dichlorophenexy acid	30 IMAC=100	-		10/21/02	<1.0	ou
(2.4 -D)					0 0	
Diclofon-methyl	6	1	-	10/21/02	<0.9	OII
Dimethoate	IMAC=20	-	-	10/21/02	<2.5	no
Dimogak	01	-	-	10/21/02	<1.0	no
Dilloseo	02	-	-	10/21/02	<7.0	no
Diquat	051	-	-	10/21/02	<10.0	ou
Diuron	1MAC=280	-	-	10/21/02	<10.0	ou
Glyphosate	3 200	-	-	10/21/02	<0.012	ou
Heprachior + rieptachior enoxide	· · · ·	•			,	
Tindane	4	-	-	10/21/02	<0.006	ou l
Malathion	190	-	-	10/21/02	<5.0	ou
Mathoxychlor	006	-	-	10/21/02	<0.024	ou
Metalachlor	IMAC=50	-	-	10/21/02	<0.5	ou
Motrikuzin	08	-	_	10/21/02	<5.0	no
Mediouzin	IMAC-10	-	-	10/21/02	<1.0	ou
Faraquai	20	-	-	10/21/02	<1.0	ou
Faramon	09	-	-	10/21/02	<0.5	ou
Pentachiolophenoi	IMAC=2	-	-	10/21/02	<0.5	ou
rnorate	IMAC=190	-	-	10/21/02	<5.0	ou
Picioram P. L. Alemated Dinhenyle	IMAC=3	.	-	10/21/02	<0.05	ou
Polychlorinated Diplicing is	IMAC=1	-		10/21/02	<0.25	ou
rromeuyne	IMAC=10	-	-	10/21/02	<1.0	ou
Simazine	IMAC=280	-		10/21/02	<10	ou
1 emephos	INAAC-1	- -	-	10/21/02	<0.7	ou
Terbufos	100	-		10/21/02	<0.5	ou
2,3,4,6 Tetrachlorophenol	230	- -	-	10/21/02	<1.0	ou
Triallate	230	-	-	10/21/02	<0.5	Ou
2,4,6-Trichlorophenol	2000	- -	-	10/21/02	<1.0	Ou
2,4,5 - trichlorophenoxy	IMAC=200	-	-	1		
laceone acid						

October - December 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Additional Parameters	AOW DOM	# of Samples	Detectable	Sampling Dates	Range	Exceedence?	Typical Source of Contaminant
Non-Health Related (mg/L)		28mbles	Results	(m/dy)			
Colour	5	1	1	01/28/02	2	no	<u> </u>
Н	6.8-8.5	1	1	01/28/02	7.84	no	
Alkalinity	30-500	1	1	01/28/02	205	no	
Total Hardness	80-100	1	1	01/28/02	326	yes	Limits are set as an operational guideline
Sulphate	500	1	1	01/28/02	137	no	
Conductivity		1	1	01/28/02	707	no	
Chloride	250	1	1	01/28/02	29	no	
Free Ammonia		1	1	01/28/02	<0.02	no	
Total Kjeldahl Nitrogen		1	1	01/28/02	0.1	no	
Dissolved Organic Carbon	5	1	1	01/28/02	1.9	no	
Sodium	200	1	1	01/28/02	26	no	
Iron	0.3	1	i	01/28/02	0.45	yes	
Aluminium	0.1	1	1	01/28/02	<0.05	no	
	0.05	1	1	01/28/02	0.04	no	-
Manganese Ammonia + Ammonium N	0.05	-	1	01/28/02	<0.02	no	
		 		01/28/02	2.1	no	
Total Organic Carbon		1	· 1	01/28/02	<0.001	no	
Copper	1		1	01/28/02	86	no	
Calcium		1			27	no	
Magnesium		1	1	01/28/02	21	no	

October - December 2002, Moose Creek Water Plant - Serving the Village of Moose Creek

Questions & Answers

Q. What is an Accredited Laboratory?

A. Accredited labs must have undergone an on-site assessment and performance review of their methods by the Canadian Association of Environmental and Analytical Laboratories. The Standards Council of Canada grants accreditation to the lab based on the recommendation of the CAEAL. The accreditation requirements are repeated every two years.

Q. What had to be done to meet the new regulations?

A. The Moose Creek Water Treatment Plant was following the Ontario Drinking Water Objectives (ODWO) before they became law, so little change was required to meet the new regulations. Our chlorine residual in the water leaving the plant was raised to slightly to achieve the (0.20 mg/L free chlorine) required level in the distribution system, and some changes were required in the way results are reported. This report to the public is also the result of the new regulations.

Q. What parameters did you test for?

A. Microbiological parameters, volatile organic, inorganic and pesticides & PCBs have been tested. The results are included in this report.

Q. Sometimes my water looks rusty or coloured. Why is that, and what should I do about it?

A. This is quite often caused when the tanks in older water heaters start to decay. If the colour is seen only in your hot water, this may be the problem. If the colour is also noticed in your cold water it could be coming from the water main. Various maintenance procedures in the distribution system - such as fire hydrant and valve maintenance, or main break repairs - require flushing of the water mains. Flushing can cause small particles of sediment to break off adding colour to the water. Please note that there is no health risk associated with this problem. This is usually only temporary, and opening your taps for a while to flush out your service line (the pipe from the water main to your house) should take care of the problem. Let the water run until the colour disappears.

MOOSE CREEK WATER REQUIRED SAMPLES

OCTOBER, NOVEMBER, DECEMBER 2002

Chemical Parameters

				Collected	Initials	Received	Initials
			_ '				
Table B & D	Well #1	Treated					Deme
NO2&NO3	Well #1	Treated	-				-7
			_				
Table B & B	<i>y</i> ₩el#2 /	7 Treated	1			L	
MOZ&MO3	Well#2	Treated					
			/				
System THM		Treated	\int			L	

Date

Samples

Bacti Parameters

Raw			
Well#1	E.Coli	Total Coli.	Background
Well#2	E.Coli	Total Coli.	Background
Well#3	E.Coli	Total Coli.	Background
Treated	E.Coli	Total Coli.	НРС
System 2 Sites	E.Coli	Total Coli.	HPC 25%

Bacus	V
Bacti's	J
Bacti's	
Bacti's	V
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Flouride Treated Water (Annual) Lead Distribution System (Annual) Table C Treated Water (Jan. 2003) Sodium Treated Water (Jan. 2007)

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Date

Results

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON

K0C 1H0

Attention: Parameter

Dave Markell

Unit

MDL

/100mL 1

Certificate of Analys

Report:

220010890

Project:

Moose Creek WTP October 7, 2002

Date Sampled: Date Received:

October 8, 2002

Date Printed:

October 10, 2002

Matrix:

Drinking Water

			Well #2 Raw	Well #3 Raw	Treated Water	M.C. Heli	Paul Adams Cons.
Total Chlorine	mg/L	0.05			2.18	1.52	1.16
Free Chlorine	mg/L	0.05			1.86	1.12	0.96
E. coli	/100mL	1	absent	absent	absent	absent	absent
HPC	/ml	2			absent	absent	
Background bacteria	/100mL	1	absent	2			

absent

Sample identification

2

absent

absent

absent

Total Coliforms

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

Industrial Dr. Chesterville, ON

K0C 1H0

Attention: Dave Markell

Certificate of Analysis

Report:

220010996

Project:

Moose Creek WTP

Date Sampled:
Date Received:
Date Printed:

October 9, 2002 October 10, 2002

Matrix:

October 15, 2002 Drinking Water

Parameter	Unit MDL Sample Identification					
			Weil #2 Raw	Well #3 Raw	Treated Water	Elevated Tank
Total Chlorine	mg/L	0.05			2.60	1.83
Total Chiorine	шу/ г	0.03				
Free Chlorine	mg/L	0.05			2.20	1.53
E. coli	/100mL	1	absent	absent	absent	absent
Heterotrophic Plate Count	/mL	2			absent	absent
Background bacteria	/100mL	1	absent	absent		
Total Coliforms	/100mL	1	absent	absent	absent	absent

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

ndustrial Dr. Chesterville, ON

K0C 1H0

Parameter

Attention: Dave Markell

Certificate of Analysis

Report:

220010997

Project:

Moose Creek WTP

Date Sampled:
Date Received:
Date Printed:

October 10, 2002 October 10, 2002

Matrix:

October 15, 2002 Drinking Water

			Well #2 Raw	Well #3 Raw	Treated Water	Elevated Tank
Total Chlorine	mg/L	0.05			2.40	1.67
Free Chlorine	mg/L	0.05			2.17	1.40
E. coli	/100mL	1	absent	absent	absent	absent
Heterotrophic Plate Count	/mL	2			absent	absent
Background bacteria	/100mL	1	3	2		
Total Coliforms	/100mL	1	absent	2	absent	absent

Sample Identification

MDL

Unit

Division of Caduceon Enterprises inc.

Client:

Ontario Clean Water Agency

ndustrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220011203

Project: Date Sampled:

Date Printed:

Date Received:

Moose Creek WTP October 15, 2002

October 16, 2002 October 18, 2002

Matrix:

	Parameter	Background	E. coli	Free Cl2	HPC	TC	Total Cl2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MDL	1	1	0.05	2	1	0.05
Sample ID							
Well #2 Raw		1	absent			absent	
Well #3 Raw		absent	absent			absent	
Treated Water			absent	1.99	20	absent	2.35
Dist. SPS			absent	0.56	2	absent	0.68
Dist. Post Office			absent	1.46		absent	1.79

Division of Caduceon Enterprises inc.

Ontario Clean Water Agency

Industrial Dr. Chesterville, ON

K0C 1H0

Attention: **Dave Markell**

Certificate of Analysis

Report:

Project: Date Sampled:

Date Received:

Date Printed:

220011478

Moose Creek WTP

October 21, 2002

October 22, 2002

October 24, 2002

Matrix:

,	Davo markon						
	Parameter	Background	E. coli	Free CI2	НРС	тс	Total Cl2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MDL	. 1	1	0.05	2	1	0.05
Sample ID							
Well #2 R	aw	2	absent			absent	
Well #3 R	aw	85	absent			1	
Treated V	Vater		absent	1.81	2	absent	2.19
Dist. SPS			absent	0.72	absent	absent	0.76
Oist. 2041	I Valley St. N		absent	0.64		absent	0.80

Division of Caduceon Enterprises Inc.

⊇ntario Clean Water Agency ndustrial Dr.

Chesterville, ON **K0C 1H0**

Attention:

Dave Markell

Certificate of Analysis

Report:

Project:

Date Sampled:

Date Received:

Moose Creek WTP October 28, 2002 October 29, 2002

220011851

Date Printed:

October 31, 2002

Matrix:

	Parameter	Background	E. coli	Free Cl2	HPC	ТС	Total Cl2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MDL	1	1	0.05	2	1	0.05
Sample ID							_
Well #2 Raw		absent	absent			absent	
Well #3 Raw		20	absent			9	
Treated Water			absent	1.95	2	absent	2.40
Dist. Elevated Tank			absent	0.98	absent	absent	1.22
Diet M.C. Mell			abcont	1.09		absent	1.41
Dist. M.C. Mall			absent	1.03		ansaut	1.41

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2214702

Date:
Date Submitted:

2002-10-29 2002-10-22

ATT: Mr. Blair Henderson

Project:

Quarterly Chemicals

P.O. Number:

Matrix:

Supply Water

				matrix:		Supply water	
		LAB ID:	212543				
	Sample Date:						
	San	nple ID:	2002-10-21 MCW-01				
		•					
PARAMETER	UNITS	MDL	TREATEDWATER				
N-NO2	mg/L	0.10	<0.10				
N-NO3	mg/L	0.10	<0.10				
							1
							1
,				1			
	İ						
	İ						
							ŀ
		1					
		1					
		l			-		
1		•		t .		i	•

MDL = Method Detection Limit

INC = Incomplete

Comment:

APPROVAL:

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2214702

Date:

2002-10-29

Date Submitted:

2002-10-22

Supply Water

ATT: Mr. Blair Henderson

Project:

Quarterly Chemicals

P.O. Number:

Matrix:

				mati ix.		Supply Water	
	1	LAB ID:	212543				
1	Sampl	e Date:	2002-10-21				
	San	nple ID:	MCW-01				
		•			1	i	
PARAMETER	UNITS	MDL	DISTRIBUTION				
N-NO2	mg/L	0.10	<0.10				
N-NO3	mg/L	0.10	<0.10				
	g/=	•					
			İ				İ
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1			Ì			-	
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` i	1	I	I	I	1	I	1

INC = Incomplete

Comment:

APPROVAL:

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REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2214702

Date:

2002-10-25

Date Submitted:

2002-10-22

ATT: Mr. Blair Henderson

Project:

Quarterly Chemicals

P.O. Number:

Matrix:

Supply Water

	212543	 	_ouppiy trator			
	LAB ID:					
		ple Date:				
	Sa	imple ID:	MCW-01			
PARAMETER	UNITS	MDL				
BTEX / 624 / PURGEABLE HY						
Benzene	ug/L	0.5	` <0.5			
Toluene	ug/L	0.5	`.<0.5			
Ethylbenzene	ug/L	0.5	`√< 0.5			
_ m/p-xylene	ug/L	1.0	<1.0			
. o-xylene	ug/L	0.5	<0.5			
Bromodichloromethane	ug/L	0.3	∼ 15.2			
Bromoform	ug/L	0.4	№ 0.5			
bon Tetrachloride	ug/L	0.9	~ <0.9			
nochlorobenzene	ug/L	0.2	> <0.2			
Chloroform	ug/L	0.5	→ 28.3			
Dibromochloromethane	ug/L	0.3	7 .3			
1,2-dichlorobenzene	ug/L	0.4	~ :<0.4			
1,4-dichlorobenzene	ug/L	0.4	∼ <0.4			1
1,2-dichloroethane	ug/L	0.7	> <0.7			
1,1-dichloroethylene	ug/L	0.5	∼ <0.5			!
Dichloromethane	ug/L	4.0	∼ <4.0			
Tetrachloroethylene	ug/L	0.3	~ <0.3			
Trichloroethylene	ug/L	0.3	√ <0.3			
Vinyl Chloride	ug/L	0.5	→ <0.5			
TOTALS						
Trihalomethanes (total)	ug/L	2.0	≻ 51.3			
Xylene; total	ug/L	2.0	~ <2́.0		i	
BTEX / 624 Surrogate Recover	<u>ies</u>					1
Toluene-d8	%		97			
1,2-dichloroethane-d4	%		99			
4-bromofluorobenzene	%		100			

MDL = Method Detection Limit

INC = Incomplete

Comment:

		diam.	
APPROVAL:	~W	and the contract	

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2214702

Date:

2002-11-07

Date Submitted:

2002-10-22

ATT: Mr. Blair Henderson

Project:

Quarterly Chemicals

				Sample Matrix	c :	Supply Water	
		LAB ID:	212543				
	Sam	ple Date:	2002-10-21				
		imple ID:	MCW-01				
	•	р.о					
PARAMETER	UNITS	MDL	· <u></u>				
PESTICIDES & PCB's			-			1	
Alachlor	ug/L	0.5	∀< 0.5				
Aldicarb	ug/L	5	→ <5				
Aldrin	ug/L	0.006	<0.006				
Aldrin + Dieldrin	ug/L	0.012	√ <0.012				
Atrazine	ug/L	0.5	> <0.5				
Desethyl-atrazine	ug/L	0.5	<0.5				
Atrazine+Desethyl-atrazine	ug/L	1 1	<1				
Azinphos-methyl	ug/L	2	√ .<2				
Bendiocarb	ug/L	2	~< 2				
moxynil	ug/L	0.5	∨ 0.5			1	
Carbaryl	ug/L	5	> <5				
Carbofuran	ug/L	5	~ <5				
Chlordane (Total)	ug/L	0.012	*< 0.012				
a-Chlorodane	ug/L	0.006	<0.006				
g-Chlorodane	ug/L	0.006	<0.006				
Oxychlorodane	ug/L	0.006	<0.006				
Chloropyrifos	ug/L	1 1	∿ <1				
Cyanazine	ug/L	1 1	∀ <1				
Diazinon	ug/L	1 1	> <1				
Dicamba	ug/L	1	∖ <1				
Dieldrin	ug/L	0.006	<0.006				
Diquat	ug/L	7	∖ ₁ <7				
2,4-Dichlorophenol	ug/L	0.5	√ <0.5				
DDT + Metabolites	ug/L	0.024	√ <0.024				
o,p'-DDT	ug/L	0.006	<0.006				
p,p'-DDT	ug/L	0.006	<0.006				
2,4-D	ug/L	1	、 <1				
p,p'-DDE	ug/L	0.006	<0.006				
-	,					1	

NOTE: mg/L (ppm)=1000xug/L (ppb)

MDL = Method Detection Limit

Comment:

APPROVAL:

~w =

146 Colonnade Road, Unit 8, Nepean, Ontario K2E 7Y1 Tel:(613)727-5692 Fax:(613)727-5222

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2214702

Date:

2002-11-07

Date Submitted:

2002-10-22

ATT: Mr. Blair Henderson

Project:

Quarterly Chemicals

				Sample Matr	ix:	Supply Water	
	· ***	LAB ID:	212543		T -	J Guppiy Water	1
	Sam	ple Date:			 	 	
		ample ID:	MCW-01	 		<u> </u>	
i	O.	umpie ib.	10.000				
PARAMETER	UNITS	MDL					
p,p'-DDD	ug/L	0.006	<0.006			 	
Diclofop-methyl	ug/L	0.9	> <0.9				
Dimethoate	ug/L	2.5	→ <2.5				
Dinoseb	ug/L	1 1	⊸< 1				
Diuron	ug/L	10	> <10				
Glyphosate	ug/L	10	< 10	<u> </u>			
Heptachlor	ug/L	0.006	<0.006				
Heptachlor epoxide	ug/L	0.006	<0.006				
Heptachlor + Hept. Epoxide	ug/L	0.012	~ <0.012				
dane	ug/L	0.006	v <0.006				
nwalathion	ug/L	5	> <5				
Methoxychlor	ug/L	0.024	≺ <0.024				
Metolachlor	ug/L	0.5	> <0.5				
Metribuzin	ug/L	5	→ <5			Í	
Paraquat	ug/L	1	∀ <1				
Parathion	ug/L	1 1	> <1				
Pentachlorophenol	ug/L	0.5	∨ <0.5				
Phorate	ug/L	0.5	√ <0.5				
Picloram	ug/L	5	→ <5			:	
PCB's (total)	ug/L	0.05	≻ 0.05				
Prometryne	ug/L	0.25	> <0.25				
Simazine	ug/L	1	→ <1				
Temephos	ug/L	10	√ <10				
Terbufos	ug/L	0.7	> <0.7				
2,3,4,6-Tetrachlorophenol	ug/L	0.5	~ <0.5				
Triallate	ug/L	1	∨ <1				
2,4,6-Trichlorophenol	ug/L	0.5	><0.5				
Trifluralin	ug/L	1	> <1				
2,4,5-T	ug/L	1	y ₁<1				

NOTE: mg/L (ppm)=1000xug/L (ppb)

MDL = Method Detection Limit

Comment:

APPROVAL:

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2214701

Date:

2002-10-25

Date Submitted:

2002-10-22

ATT: Mr. Blair Henderson

Project:

Quarterly Chemicals

P.O. Number:

Matrix: Supply Water

		LAB ID:		muuix.		Supply water	
		ple Date:					
	Sa	mple ID:	MCW-02				
`	1			ļ		1	
PARAMETER	UNITS	MDL					
BTEX / 624 / PURGEABLE HYD							
Bromodichloromethane	ug/L	0.3	17.4				
Bromoform	ug/L	0.4	0.4				
Chloroform	ug/L	0.5	47.7				
Dibromochloromethane	ug/L	0.3	7.6]
TOTALS							
Trihalomethanes (total)	ug/L	2.0	73.1				ļ
BTEX / 624 Surrogate Recover	ies	ļi			i		
Toluene-d8	%		88				
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1							
. 1	1						

MDL = Method Detection Limit

INC = Incomplete

Comment:

APPROVAL:

REPORT OF ANALYSIS

Client: MOOSE CREEK WELL SUPPLY

Report Number:

2215175

Date:

2002-11-06

Date Submitted:

2002-10-29

ATT: Mr. Blair Henderson

Project:

P.O. Number:

Matrix: Supply Water

	LAB ID:					
	Sam	ple Date:	214335 2002-10-28			
	Sa	mple ID:	MCW- Xylene	,		
		•	·			
PARAMETER	UNITS	MDL				
TOTALS						
Xylene; total	ug/L	2.0	<2.0			
	-					
			İ			
].					
					:	
]			
				;		
	i		1			I i

MDL = Method Detection Limit

INC = Incomplete

Comment:

8-146 Colonnade Road, Ottawa, ON, K2E 7Y1

608 Norris Court, Kingston, ON, K7P 2R9

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

ntario Clean Water Agency

Industrial Dr. Chesterville, ON **K0C 1H0**

Attention:

Dave Markell

Report:

Project: Date Sampled:

Date Received: Date Printed:

Matrix:

220012190

Moose Creek WTP

November 4, 2002

November 5, 2002 November 07, 2002

	Parameter	Background	E. coli	Free CI2	НРС	тс	Total CI2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MDL	1	1	0.05	2	1	0.05
Sample ID							
Well #2 Raw		1	absent			absent	
Well #3 Raw		28	absent			15	
Treated Water			absent	1.72	absent	absent	1.99
Dist. Elevated Tank			absent	0.93	absent	absent	1.11
Dist. Post Office			absent	1.09		absent	1.29

Division of Caduceon Enterprises Inc.

Client:

ntario Clean Water Agency

5 Industrial Dr. Chesterville, ON

K0C 1H0
Attention:

Dave Markell

Certificate of Analysis

Report:

Report.

220012670

Project:

Date Sampled: Date Received: Moose Creek WTP November 12, 2002

Date Received:
Date Printed:

November 12, 2002 November 13, 2002 November 15, 2002

Matrix:

	Parameter	Background	E. coli	Free CI2	НРС	TC	Total CI2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MDL	1	1	0.05	2	1	0.05
Sample ID							
Well #2 Raw		absent	absent			absent	
Weil #3 Raw		1	absent			1	
Treated Water			absent	1.41	absent	absent	1.77
Dist. S.P.S			absent	0.65	absent	absent	0.75
Dist. 2265 Valley St			absent	0.52		absent	0.62

Division of Caduceon Enterprises inc.

Client:

ntario Clean Water Agency

Industrial Dr. Chesterville, ON **K0C 1H0**

Attention:

Dave Markell

Certificate of Analysis

Report:

220012904

Project:

Date Sampled:

Date Received:

Moose Creek WTP November 18, 2002

Date Printed:

November 19, 2002 November 21, 2002

Matrix:

		Parameter	Background	E. coli	Free CI2	НРС	ТС	Total Cl2
:		Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
		MDL	1	1	0.05	2	1	0.05
	Sample ID							
	Well # 2 Raw		5	absent			absent	
	Well # 3 Raw		2	absent			1	
	Treated Water			absent	1.71	absent	absent	2.02
ا	Dist .Elevated Tank			absent	0.73	absent	absent	0.93
	Post Office			absent	0.79		absent	0.91

Unit

MDL

Division of Caduceon Enterprises Inc.

Client:

Antario Clean Water Agency

hdustrial Dr.

Chesterville, ON

K0C 1H0

Parameter

Attention: Dave Markell

Certificate of Analysis

Report:

220013266

Project:

Moose Creek WTP

Date Sampled:

November 25, 2002

Date Received: Date Printed: November 26, 2002 November 28, 2002

Matrix:

Drinking Water

			Well #2 Raw	W ell #3 Raw	Treated Water -16950 McNell Rd	Dist. SPS
Total Chlorine	mg/L	0.05			2.07	1.03
Free Chlorine	mg/L	0.05			1.65	0.87
E. coli	/100mL	1	absent	absent	absent	absent
Heterotrophic Plate Count	/mL	2			absent	absent
Background bacteria	/100mL	1	absent	absent		
Total Coliforms	/100mL	1	absent	absent	absent	absent

Sample Identification

Division of Caduceon Enterprises Inc.

Client:

ario Clean Water Agency

5-industrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

220013595

Project:

Moose Creek WTP

Date Sampled:

December 2, 2002

Date Received:
Date Printed:

December 3, 2002 December 05, 2002

Matrix:

	Parameter	Background	E. coli	Free CI2	HPC	тс	Total CI2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
0	MDL	1	1	0.05	2	1	0.05
Sample ID							
Well #2 Raw		absent	ab sent			absent	
Well #3 Raw		absent	absent			absent	
Treated Water			absent	1.73	absent	absent	2.20
Dist. Elevated Tank			absent	1.16	absent	absent	1.49
Dist. Post Office			absent	0.78		absent	0.98

Division of Caduceon Enterprises Inc.

Client:

Ontario Clean Water Agency

5 Industrial Dr. Chesterville, ON

K0C 1H0

Parameter

Attention:

Dave Markell

Unit

MDL

Certificate of Analysis

Report:

220013980

Project:

Moose Creek WTP

Date Sampled: Date Received: December 9, 2002

Date Printed:

December 10, 2002 December 12, 2002

Matrix:

Drinking Water

			Weil #2 Raw	Well #3 Raw	Treated Water	Dist. SPS	Dist. Moose Creek Mail
Total Chlorine	mg/L	0.05			2.40	1.06	1.43
Free Chlorine	mg/L	0.05			1.93	0.94	1.16
E. coli	/100mL	1	absent	absent	absent	absent	absent
HPC	/mL	2			2	2	
Background bacteria	/100mL	1	absent	absent		,	
Total Coliforms	/100mL	1	absent	absent	absent	absent	absent

Sample Identification

Division of Caduceon Enterprises Inc.

Certificate of Analysis

Client:

antario Clean Water Agency

ndustrial Dr. Chesterville, ON **K0C 1H0**

Report:

220014314

Project: Date Sampled: Moose Creek WTP

Date Received:

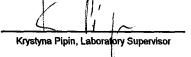
December 16, 2002 December 17, 2002

Date Printed:

December 19, 2002

Attention:	Attention: Dave Markell				Matrix:	Drinking Water	
	Parameter	Background	E. coli	Free Cl2	HPC	тс	Total Cl2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MDL.	1	1	0.05	2	1	0.05
Sample ID							
Well #2 Raw	,	absent	absent			absent	
Well #3 Raw	,	absent	absent			absent	
Treated Wat	er		absent	1.86	absent	absent	2.40
Dist. Elevate	ed Tank		absent	1.14	absent	absent	1.36
Diet 2041 V	alloy St		abcont	0.57		choont	0.60
Dist. 2041 Valley St.			absent	0.57		absent	0.69

Tel: (613)526-0123, Fax: (613)526-1244



Division of Caduceon Enterprises Inc.

Client:

Intario Clean Water Agency

ndustrial Dr. Chesterville, ON **K0C 1H0**

Attention:

Dave Markell

Certificate of Analysis

Report:

220014629

Project:

Date Sampled:

Date Received: **Date Printed:**

Moose Creek WTP December 23, 2002 December 23, 2002

December 27, 2002

Matrix:

	Parameter	Background	E. coli	Free Cl2	НРС	тс	Total CI2
	Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
	MDL	1	1	0.05	2	1	0.05
Sample ID							
Well #2 Raw		absent	absent			absent	
Well #3 Raw		absent	absent			absent	
Treated Water			absent	1.81	absent	absent	2.18
Dist. Water Tower			absent	1.11	absent	absent	1.43
Dist. Moose Creek Ma	all		absent	1.39		absent	1.68

Division of Caduceon Enterprises Inc.

Client:

tario Clean Water Agency

ndustrial Dr. Chesterville, ON K0C 1H0

Attention:

Dave Markell

Certificate of Analysis

Report:

Project:

Date Sampled: Date Received:

Date Printed:

220014786

Moose Creek WTP December 30, 2002 December 30, 2002

January 02, 2003

Matrix:

Parameter	Background	E. coli	Free CI2	НРС	тс	Total CI2
Unit	/100mL	/100mL	mg/L	/mL	/100mL	mg/L
MDL	1	1	0.05	2	1	0.05
	absent	absent	· · · · · · · · · · · · · · · · · · ·		absent	
	absent	absent			absent	
		absent	1.77	absent	absent	2.20
1 all		absent	1.10	absent	absent	1.40
Post Office		absent	0.86		absent	1.10
	Unit	Unit /100mL MDL 1 absent absent	Unit /100mL /100mL MDL 1 1 absent absent absent absent absent	Unit /100mL /100mL mg/L MDL 1 1 0.05 absent absent absent 1.77 fall absent 1.10	Unit /100mL /100mL mg/L /mL MDL 1 1 0.05 2 absent absent absent 1.77 absent fall absent 1.10 absent	Parameter Background E. coli Free Cl2 HPC TC Unit /100mL /100mL mg/L /mL /100mL MDL 1 1 0.05 2 1 absent absent absent absent absent 1.77 absent absent fall absent 1.10 absent absent