

Phone: 613-658-3055 Fax: 613-658-3445 Toll Free: 866-848-9099

E-mail: mail@twpec.ca

18 Centre St. Spencerville, Ontario KOE 1X0

P.O. Box 129,

April 22, 2021

Dan White Ministry of the Environment, Conservation and Parks Unit 3, 1259 Gardiners Road Kingston ON K7M 8S5

Re: Spencerville Lagoon 2021 Discharge Report

Project # 2-4007-89-00 Certificate of Approval # 3-1377-87-896 Condition # 6

The contents of the lagoon were discharged into the South Nation River over a 12 day period between April 5th and April 16th, 2021. The combined discharge effluent volume from both cells was approximately 68502 cubic meters using the formula surface area x depth drop.

The sampling program consisted of the following:

- Two pre discharge samples per cell (collected March 27 and March 29, 2021).
- Eight effluent discharge samples (four per cell).
- Eight upstream/downstream samples from the South Nation River (taken at the same time as effluent samples).

The sampling program results determined that the effluent criteria were met as per condition 3.

The mean BOD was 6.3, SS: 10.0, TP: 0.15, Ammonia: 5.6 and H2S was 0.

Attached is a table overview of the discharge and laboratory results. Trusting this is satisfactory.

Sincerely,

Eric Wemerman

Eric Wemerman Chief Water/Sewer Operator Edwardsburgh Cardinal Environmental Services



Phone: 613-658-3055 Fax: 613-658-3445 Toll Free: 866-848-9099

E-mail; mall@twpec.ca

P.O. Box 129, 18 Ceratre St. Spencerville, Ontario K.OE 1X0

2021 LAGOON DISCHARGE SPREADSHEET

2021 Spring Discharge Table - Spencerville Lagoon

				_		_	_		1	_	_	
				5641	6934	7364	7794	6072	5209			Volume Calculation (step 2)
				34032.5	33947.97	33919.81	33891.67	34004.31	34060.7			Volume Calculation (step 1)
				0.17	0.20	0.22	0.23	0.18	0.15			Depth Drop (m)
T	ľ											
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T	T	Ť	П	Г	5.03	5.25	5.22	5.29		6.87	7.28	einommA
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					×	Х	X	×		×	×	Samples Taken
39013				5641	6934	7364	7794	6072	5209			Volume (m3)
45		T		6.5	8	8.5	6	7	9			Drop (Inches)
ļ	T	\dagger		15.5	22	20.5	2	3 8	27			leve.l nwoci \ qoi?
Total Cell Drop			Closed	8.0	2.0	6.0	6.0	5.0	4.0			neqo smui əvisV #
	T	1		22	30	58	59	83	33			reseRvnat2
			4/16/2021	4/15/2021	4/14/2021	4/13/2021	4/12/2021	4/11/2021	4/10/2021	3/29/2021	3/27/2021	Date
		\dagger	South	South	South	South	South	South	South	South	South	8

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Toll Free: 866-848-9099 E-mail: mail@twpec.ca P.O. Box 129, 18 Cerntre St. Spencerville, Ontario K 0E 1X0

2021 LABORATORY LAGOON DISCHARGE RESULTS AND CHAIN OF CUSTODIES



Final Report

C.O.C.: G 27003

REPORT No. B21-08516

Report To:

Township of Edwardsburgh/Cardinal

PO Box 129, 18 Centre Street, Spencerville ON K0E 1X0 Canada

Attention: Gordon Shaw

DATE RECEIVED: 29-Mar-21

DATE REPORTED: 05-Apr-21

SAMPLE MATRIX: Waste Water

Caduceon Environmental Laboratories

2378 Holly Lane

Ottawa Ontario K1V 7P1

Tel: 613-526-0123

Fax: 613-526-1244

JOB/PROJECT NO.: 120002157-Lagoons

P.O. NUMBER:

Pre-Dis-NC-21

WATERWORKS NO.

			Client I.D.		North Cell Pre- Discharge #1	North Cell Pre- Discharge #2		
			Sample I.D.		B21-08516-1	B21-08516-2		
			Date Collect	ed	27-Mar-21	29-Mar-21		10
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
Total Suspended Solids	mg/L	3	SM2540D	31-Mar-21/K	12	16		T
BOD(5 day)	mg/L	3	SM 5210B	31-Mar-21/K	6	9		1
CBOD5	mg/L	3	SM 5210B	31-Mar-21/K	5	5	AMERICAN PROPERTY OF THE PROPE	
Phosphorus-Total	mg/L	0.01	E3199A.1	31-Mar-21/K	0.15	0.16		
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	01-Apr-21/K	6.12	5.95	*****	

Reviewed April 5/21 Ew

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Tahir Yapici Ph.D Lab Supervisor

			Sign:	Print:			8				100			102					No. E	-		Email:	613	1 613	Tel:	613	3 [E G	Τ				
	Laboratory Locations/Shipping Addresses Kingston Lab - 285 Dalton Ave., Kingston, ON K7K 621, Tel: (613) 544-2001 Fax: (613) 544-2770 Email: contactkingston@caduceonlabs.com Ottawa Lab - 2378 Holly Lane, Ottawa, ON K1V 7P1, Tel: (613) 526-0123 Fax: (613) 526-1244 Email: contactottawa@caduceonlabs.com Richmond Hill Lab - #14-110 West Beaver Creek Rd., ON L4B 1J9, Tel: (289) 475-5442 Fax: (866) 562-1963 Email: contactrichmondhill@caduceonlabs.com Windsor Lab - #5-3201 Maremtette Ave., Windsor, ON N8X 4G3, Tel: (519) 966-9541 Fax: (519) 966-9567 Email: contactwindsor@caduceonlabs.com	Date (yy-rinn-dd)/Time:	A	Warney wareh	Sampled by:	SAMPLE SUBMISSION INFORMATION											North Cell Pre-Discharge #2	North Cell Pre-Discharge #1	o: Sample Identification		Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations?	ewemerman@twpec.ca	7-3182	657-3765		613-657-3765	Contact:				ENVIRONMENTAL LA	CABUC	
	Laboratory Locations/Shipping Addresses Kingston Lab - 285 Dalton Ave., Kingston, ON K7K 621, Tel: (613) 544-2001 Fax: (613) 544-2770 Email: contactkingston@caduceonlabs.com Ottawa Lab - 2378 Holly Lane, Ottawa, ON K1V 7P1, Tel: (613) 526-0123 Fax: (813) 526-1244 Email: contactottawa@caduceonlabs.com ond Hill Lab - \$14-110 West Beaver Creek Rd., ON L4B 1J3, Tel: (289) 475-5442 Fax: (866) 562-1963 Email: contactrichmondhili@caduceonlabs.co ndsor Lab - \$5-3201 Marentette Ave., Windsor, ON N8X 4G3, Tel: (519) 966-9541 Fax: (519) 986-9567 Email: contactwindsor@caduceonlabs.co	C)/C3/2 / Date (yy-mm-dd)/Time:	No.	Rosen Confron	Submitted by:	NFORMATION											#2 15424	#1 15424	on S.P.L.	* Sample Matrix Legend: WW=Waste Water SW=Surface Water GW=Groundwater LS=Liquid Sludge SS=Solic	ended for Human Consumption	P.O. No.: Pre-Dis-NC-21	Quote No.:			Card	A 0	Address and Invoicing Address (if different)	Indicate Laboratory Samples are submitted to:		Client committed. Quality assured.	ENN	ļ
	/Shipping Ad /2001 Fax: (61 /123 Fax: (81 /175-5442 Fax: 966-9541 Fax	Caduceon (Pick-up)	Drop Off	Gaduceon's Courier	Client's Courier	¥.											WW	ww	Matrix *	Water SW=S	under any C	Additional Info:	120002157		K0E-1T0	Cardinal, Ontario		(if different)	re submit	Sewer] [Surface Soil]
	<u>idresses</u> 13) 544-2770 Email: c 3) 526-1244 Email: c (866) 562-1963 Ema : (519) 966-9567 Em	Pick-up) 🗓		Courier	ırier	SHIPPING INFORMATION										- 8	12/53/13	21/03/27	(yy-mm-dd)	urface Water GW=G	rinking Water Re	nfo:	120002157-Lagoons			tario.	ţ		ted to:	Sewer Use By-Law:			-
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Final Report

C.O.C.: G 27004

REPORT No. B21-08513

Report To:

Township of Edwardsburgh/Cardinal

PO Box 129, 18 Centre Street, Spencerville ON K0E 1X0 Canada

Attention: Gordon Shaw

DATE RECEIVED: 29-Mar-21

DATE REPORTED: 05-Apr-21

SAMPLE MATRIX: Waste Water

Caduceon Environmental Laboratories

2378 Holly Lane

Ottawa Ontario K1V 7P1

Tel: 613-526-0123

Fax: 613-526-1244

JOB/PROJECT NO.: 120002157-Lagoons

P.O. NUMBER:

Pre-Dis-SC-21

WATERWORKS NO.

			Client I.D.		South Cell Pre- Discharge #1	South Cell Pre- Discharge #2		-10.0
			Sample I.D.		B21-08513-1	B21-08513-2		
			Date Collect	ed	27-Mar-21	29-Mar-21		
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
Total Suspended Solids	mg/L	3	SM2540D	31-Mar-21/K	4	14		
BOD(5 day)	mg/L	3	SM 5210B	31-Mar-21/K	4	8		
CBOD5	mg/L	3	SM 5210B	31-Mar-21/K	< 3	8		
Phosphorus-Total	mg/L	0.01	E3199A.1	31-Mar-21/K	0.13	0.21	,	
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	01-Apr-21/K	7.28	6.87		

Reviewed April 5, 2021

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Tahir Yapici Ph.D Lab Supervisor

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Windsor Lab - #5-3201 Marentette Ave., Windsor, ON N8X 4G3, Tel: (519) 986-9541 Fax: (519) 986-9567 Email: contactwindsor@caduceonlabs.com	Laboratory Locations/Shipping Addresses Kingston Lab - 285 Dalton Ave., Kingston, ON K7K 621, Tel: (613) 544-2001 Fax: (613) 544-2770 Email: contactkingston@caduceonlabs.com Ottawa Lab - 2378 Holly Lane, Ottawa, ON K1V 7P1, Tel: (613) 526-0123 Fax: (613) 526-1244 Email: contactcttawa@caduceonlabs.com Richmond Hill Lab - \$14-110 West Beaver Creek Rd., ON L4B 1J9, Tel: (289) 475-5442 Fax: (866) 562-1963 Email: contactrichmondthil@caduceonlabs.com	Date (yy-mm-dd)/Time:	21/2/24	Markell	Mary Just	Sampled by:	SAMPLE SUBMISSION INFORMATION									South Cell Pre-Discharge #2	South Cell Pre-Discharge #1	Sample Identification		Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations?	ewemerman@twpec.ca	Fax: 613-657-3182	613-657-3765		613-657-3765		Organization: Edwardsburgh/Cardinal	_		ENVIRONMENTAL LA	A DU C	
ve., Windsor, ON N8X 4G3, Tel: (519)	Laboratory Locations/Shipping Addresses Kingston Lab - 285 Dalton Ave., Kingston, ON K7K 621, Tel: (613) 544-2001 Fax: (613) 544-2770 Email: contactkingston@caduceonlabs.com Ottawa Lab - 2378 Holly Lane, Ottawa, ON K1V 7P1, Tel: (613) 526-0123 Fax: (613) 526-1244 Email: contactctitawa@caduceonlabs.com ond Hill Lab - \$14-110 West Beaver Creek Rd., ON L45 1.99, Tel: (289) 475-5442 Fax: (866) 562-1963 Email: contactrichmondthil@caduceonlab	Date (yy-mm-dd)/Time:	21/20/12	A July	home of sur	Submitted by:	INFORMATION									je #2 15425	je #1 15425	tion S.P.L.	* Sample Matrix Legend: WW=Waste Water SW=Surface Water GW=Groundwater LS=Liquid Sludge SS=Solid	tended for Human Consumption	P.O. No.: Pre- Dis-SC-21	Quote No.:			Car		Address and Invoicing Address (if different)	Indicate Laboratory Samples are submitted to:	4	LABORATORIES	E V	
) 966-9541 Fax:	4-2001 Fax: (61: -0123 Fax: (61: 475-5442 Fax:		Caduceon (Pick-un)	Drop Off	Caduceon's Courier	Client's Courier	£									WW	ww	Sample Matrix *	Water SW=Si	nunder any D	Additional Info:	Project Name: 120002157		K0E-1T0	Cardinal, Ontario		s (if different)	are submit	Provin		O.Reg 153/09 Surface Soil]
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or@caduceonlab	@caduceonlabs.com aduceonlabs.com ndhill@caduceon	and and and	Invoice by Mail	Invoice by Email	Report by Email	Report by Fax	REPORTING / INVOICING			+						x x x	x x x		Liquid Sludge SS	☐ Yes x	BOD SS Total F										, ,	
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		Comments:		Laboratory Prepared Bottles:	Date Received (yy-mm-dd):	Received By (print):	SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)											Indicate Test For Each Sample By Using A Check Mark in The Box Provided	Sludge S=Soil Sed=Sediment PC=Paint Chips F=Filter Oil = Oil	(If yes, submit all drinking water samples on a drinking water Chain of Custody)			-				ANALYSES REQUESTED (Print Test in Boxes)		Landfill Monitoring Other: Wastewater	Disposal Site:	MISA Guidelines O.Reg 558 Leachate Analysis	
G 27004	Page	Labeled by.	_	Yes No	Time Received:	Signature:	TION (LABORATORY U									12 S	1,	pH Temp.)il = Oil	rinking water Chain of C	Specific Date:	BronzeStandard	Silver	Gold	☐ Platinum	KEQUESTED	TURNARO	Windsor				AEPONI NO
	<u>o</u> ,						SE ONLY)		+	+						ω	ω	# Bottles/		ustody)		25% Surcharge 5-7 days	50% Surcharge	100% Surcharge	200% Surcharge**	KEQUESTED (see back page)	TURNAROUND SERVICE					NUMBER (Lab Use)
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Final Report

C.O.C.: G27005

REPORT No. B21-09398

Report To:

Township of Edwardsburgh/Cardinal

PO Box 129, 18 Centre Street, Spencerville ON K0E 1X0 Canada Attention: Eric Wemerman

DATE RECEIVED: 06-Apr-21

DATE REPORTED: 15-Apr-21

SAMPLE MATRIX: Waste Water

Caduceon Environmental Laboratories

2378 Holly Lane

Ottawa Ontario K1V 7P1

Tel: 613-526-0123 Fax: 613-526-1244

JOB/PROJECT NO.: 120002157-Lagoons

P.O. NUMBER:

Dis-N-21-01

WATERWORKS NO.

			Client I.D.		North Cell Sample #1	Upstream, South Nation River	Downstream, South Nation River
			Sample I.D.		B21-09398-1	B21-09398-2	B21-09398-3
			Date Collect	ed	05-Apr-21	05-Apr-21	05-Apr-21
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
BOD(5 day)	mg/L	3	SM 5210B	08-Apr-21/K	10	< 3	< 3
CBOD5	mg/L	3	SM 5210B	08-Apr-21/K	6		
Total Suspended Solids	mg/L	3	SM2540D	08-Apr-21/K	20	< 3	< 3
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	08-Apr-21/K	5.50	0.09	0.03
Phosphorus-Total	mg/L	0.01	E3199A.1	09-Apr-21/K	0.19	0.02	0.02

Reviewed April 15/2021 EW

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from

Print: Sign:	Print:	Print:													Dow	Up S	Nort	No:		Email:	Fax:	<u>.</u>		Edwardsburgh/Cardinal	Organization:		Are any :)
Date Cymm-ody ime:	21/04/06	ne Won-	appar Compell	Sampled by:	SAMPLE SUBMISSION INFORMATION										Down Stream South Nation River	Up Stream, South Nation River	North Sample #1	Sample Identification		l: ewmerman@twpec.ca	613-657-3182	613-657-3765	Eric Wemerman	h/Cardinal	r:		Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations?	C.	ENVIRONMENTAL L	· ! :
Jan trees (D seen	21/04/06	the Wars	Euc Wes	Submitted by:	INFORMATION	G3									River	er		ition	* Sample Matrix Legend: WW=Waste Water,	P.O. No.: Dis-NC-21-01	Quote No.:		4000 John St, Cardinal, Ontario, K0E 1E0		Address and Invoicing Address (if different)	Indicate Laboratory Samples are submitted to:	ntended for Human Co	Chent committed. Quality assured.	LABORATORIES	
			Drame.						: :						1778D	1778C	15424	S.P.L.	V=Waste Wate	01			inal, Ontar		ng Address	are submit	nsumption	sured.	Z	
	Caduceon (Pick-up)	Drop Off	Caduceon's Courier	Client's Courier	HS.										WS	WS	WW	Sample Matrix *		Additional Info:	Project Name: 120002157- Lagoons		io, K0E 1E		(if different	led to:	under any I	Provin		0 Reg 153
	Pick-up)		Courier	Ref	SHIPPING INFORMATION									8	21/04/05	21/04/05	21/04/05	Date Collected (yy-mm-dd)	SW=Surface Water, GW=Groundwater, LS=Liquid Sludge,	nfo:	ne: - Lagoons		0				Drinking Water R	Provincial Water Quality Objectives Sewer Use By-Law:	<u>*</u> 8 8	153
		# of Pieces	L	Invoice	ATION										15.39	15.50	15.25	Time Collected	oundwater, LS=L							Kingston	egulations?	Objectives	Agricultural Record of Site Condition	Table
	Invoice by Mail	Invoice by Email	Report by Email	Report by Fax	REPO										×	×	×		iquid Stu	BOD					The same of	Ottawa			ondition	TES
	by Ma	by Em	by Em	by Fax	REPORTING / INVOICING	_		_	_						×	×	×			SS	<u> </u>				STATE OF THE PERSON NAMED IN	"] Yes [(O.Reg 153) ition (O.Reg 153)	TESTING REQUIREMENTS
	_	<u>e.</u>	<u>=</u>) INVO	_					_	-		-	×	×	×	By Using	=Solid	Total Amm				0.00	ANALYS		∐ No		(O.Reg 153) (O.Reg 153)	
		\Box	\mathbb{L}		CING									- 25			×	indicati ng A Ct	SS=Solid Sludge, S=Soil, Sed=Sediment, PC=Paint Chips, F=Filter,	CBO					YSES F	Richmond Hill			3 3 6	EMEN
	Samp	Labor	Date I	Recei	П				0.00									Indicate Test For Each Sample ng A Check Mark in The Box Provided	S=Soil					- 15	ES REQUESTED (Print Test in Boxes)	IIH P	es, sub			
	Sample Temperature °C:	Laboratory Prepared Bottles:	Date Received (yy-mm-dd):	Received By (print):	60	- 63											3	or Each	Sed=S				10.5	- 2	STED (mit ali	Cother: Wastewater	O.Reg 558 Leachate Analysis Disposal Site:	MICA
	peratu	repar	ed (yy	(print	AMP.	_												Sample Box P	edimer						Print T	☐ Windsor	Drinki	Monit Wast	O.Reg 558 Leach Disposal Site:	
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	Labeled by:	<u>S</u>	Time Received:	Signature:	SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)													pH Temp.	ÖĦ	☐ Specific Date:	☐ Bronze☐ Standard	Silver	Platinum	REQUESTE	TURNAR	London	(If yes, submit all Drinking Water Samples on a Drinking Water Chain of Custody)			REPORT N
					USE ONLY								\exists	1	ω	ω		p. Sample		ē	25% Surcharge 5-7 days	50% Surcharge	200% S	REQUESTED (see back page)	TURNAROUND SERVICE		of Custod			REPORT NUMBER (Lab Use)
		177			٥										z	z	z	si Field b Filtered(Y/I	П		rcharge ;	50% Surcharge	200% Surcharge	k page)	VICE		خ			nb Use)



Final Report

C.O.C.: ---

REPORT No. B21-09402

Report To:

Township of Edwardsburgh/Cardinal

PO Box 129, 18 Centre Street, Spencerville ON K0E 1X0 Canada

Attention: Eric Wemerman

DATE RECEIVED: 06-Apr-21 DATE REPORTED: 15-Apr-21

SAMPLE MATRIX: Waste Water

Caduceon Environmental Laboratories

2378 Holly Lane

Ottawa Ontario K1V 7P1

Tel: 613-526-0123 Fax: 613-526-1244

JOB/PROJECT NO.: 120002157-Lagoons

P.O. NUMBER:

DisNC-21-02

WATERWORKS NO.

			Client I.D.		North Cell Sample #2	Upstream, South Nation River	Downstream, South Nation River	
			Sample I.D.		B21-09402-1	B21-09402-2	B21-09402-3	
			Date Collect	ed	06-Apr-21	06-Apr-21	06-Apr-21	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			1	
BOD(5 day)	mg/L	3	SM 5210B	08-Apr-21/K	8	< 3	< 3	_
CBOD5	mg/L	3	SM 5210B	08-Apr-21/K	7			
Total Suspended Solids	mg/L	3	SM2540D	08-Apr-21/K	10	10	3	
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	08-Apr-21/K	5.36	0.04	0.11	
Phosphorus-Total	mg/L	0.01	E3199A.1	09-Apr-21/K	0.16	0.02	0.02	

Reviewed April 15/2021 Ew

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

		Sign:	Print:										Swift of			7	No:		Email:	Fax:	<u> </u>		Edwardst Contact:	Organization:		Are)
9.	Cate by-mm-ddyTime:	Sai hlore	Spellen Gopbell	Sampled by:	SAMPLE SUBMISSION INFORMATION									Down Stream South Nation River	Up Stream, South Nation River	North Sample # 2	Sample identification		il: ewemerman@twpec.ca	613-657-3182	613-657-3765	Eric Wemerman	Edwardsburgh/Cardinal Contact:	ration:		Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations?	Ch	ENVIRONMENTAL LABORATOR] =
	21/04/06 Date (yymm-dd)/Ti	En Wen	ETIL WAR	Submitted by:	INFORMATION								· ·				tion	* Sample Matrix Legend: WW=Waste Water,	P.O. No.: Dis-NC-21-02	Quote No.:		4000 John St, Cardinal, Ontario, K0E 1E0	•	Address and Invoicing Address (if different)	Indicate Laboratory Samples are submitted to:	tended for Human Con	Client committed. Quality assured.	ABORATORIES	
	me:	_	brush -											1778D	1778C	15424	S.P.L.	Waste Wate				tario, KOE 1E		Address	e submitt	sumption	ired.		e l
	Caduceon (Pick-up)	Drop Off	Caduceon's Courier	Client's Courier	£									WS	SW	WW	Sample Matrix *	r, SW=Surfa	Additional Info:	Project Name: 120002157- Lagoons		ö		if different	ed to:	under any I	Provir		0.Reg 153
	Pick-up)		Courier		SHIPPING INFORMATION								, ,	21/04/06	21/04/06	21/04/06	Date Collected (yy-mm-dd)	SW=Surface Water, GW=Groundwater, LS=Liquid Sludge,	nfo:	ne: agoons						Drinking Water R	Provinciat Water Quality Objectives Sewer Use By-Law:	<u>≅ ç</u>	153
		# of Pieces		Invoice	ATION		2							6.20	7.14	-	Time Collected	oundwater, LS≖L							Kingston	egulations?	Objectives	Agricultural Record of Site Condition	Table
	Invoice by Mail	Invoice by Email	Report by Email	Report by Fax	REPO									×	×	×		iquid Sluc	BOD						Ottawa			폴	TES1
	by Mai	by Ema	by Ema	by Fax	REPORTING / INVOICING	_					_	\vdash	-	× ×	×	×			SS Total P				33			Yes [(a) (a)	TESTING REQUIREMENTS Medium/Fine Coarse
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					CING					**						×	ndicate g A Che	ludge,	CBOD	5				SES RI	Richmond Hill				UIREMENTS Coarse
	Sample Temperature °C:	Laboratory Prepared Bottles:	Date Received (yy-mm-dd):	Received By (print):													Indicate Test For Each Sample ng A Check Mark In The Box Provided	SS=Solid Studge, S=Soli, Sed=Sediment, PC=Paint Chips, F=Filter,						ES REQUESTED (Print Test in Boxes)	Ħ	s, subm			
	Tempe	ory Pre	ceived	d By (p	SA							-	- 6				Each Sa n The B	ed=Sed				-0		ED (Pri		it all Dr	Landfill Monitoring Other: Wastewater	O.Reg 558 Leachate Analysis Disposal Site:	MISA Guidelines
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	by:	No	Time Received:	e:	SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)												Field Temp.		Specific Date:	Bronze Standard	Silver	Platinum	REQUESTED (see back page)	TURNAROUND SERVICE	London	(If yes, submit all Drinking Water Samples on a Drinking Water Chain of Custody)			REPORT NUMBER (Lab Use)
2.					E ONLY)									ć,	ω	ω	# Bottles Sample			25% Surcharge 5-7 days	100% Surcharge	200% Surcharge	see back	ND SERV	. 7	Custody			BER (La
					1007									z	z	z	Bottlesi Field Sample Filtered(Y/N)			harge	rcnarge :harge	rcharge	page)	NCE					b Use)



Final Report

C.O.C.: G27007 REPORT No. B21-09715

Report To:

Township of Edwardsburgh/Cardinal

PO Box 129, 18 Centre Street, Spencerville ON K0E 1X0 Canada Attention: Eric Wemerman

DATE RECEIVED: 08-Apr-21

DATE REPORTED: 15-Apr-21

SAMPLE MATRIX: Waste Water

Caduceon Environmental Laboratories

285 Dalton Ave

Kingston Ontario K7K 6Z1

Tel: 613-544-2001 Fax: 613-544-2770

JOB/PROJECT NO.: 120002157-Lagoons

P.O. NUMBER:

Dis-NC-21-03

WATERWORKS NO.

			Client I.D.		North Cell Sample #3	Up Stream, South Nation River	Down Stream South Nation River	
			Sample I.D.		B21-09715-1	B21-09715-2	B21-09715-3	
			Date Collect	ed	07-Арг-21	07-Apr-21	07-Apr-21	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			· ·	
BOD(5 day)	mg/L	3	SM 5210B	09-Apr-21/K	8	< 3	< 3	
CBOD5	mg/L	3	SM 5210B	08-Apr-21/K	6	4		
Total Suspended Solids	mg/L	3	SM2540D	12-Apr-21/K	13	< 3	< 3	
Phosphorus-Total	mg/L	0.01	E3199A.1	12-Apr-21/K	0.18	0.03	0.07	
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	09-Apr-21/K	4.47	0.10	0.11	

M. Duci

White: Lab Copy / Yellow: Invoicing Copy / Pink: Client Copy	2/04/07 2-1/04/07 Caduceon (Pick-up) (Notice by Mail Date (ty-mm-dd)/Time: Date (ty-mm-dd)/Time:	an Campbell truck	Sampled by: Submitted by: Client's Courier Invoice Report by Fax Received By (print):	SAMPLE SUBMISSION INFORMATION SHIPPING INFORMATION REPORTING / INVOICING SAMPLE RECEIVING INFO					Down Stream South Nation River 1778D SW 2//64/07 9:/0 x x x x	Up Stream, South Nation River 1778C SW 21/04/07 / 05/05 x x x x x	North Cell Sample #3 15424 WW 21/64/07 9:30 x x x x x x	No: Sample identification S.P.L. Matrix* (yy-mm-dd) Collected By Using A Check Mark in The Box Provided	*Sample Matrix Legend: WW=Waste Water, SW=Surface Water, GW=Groundwater, LS=Liquid Studge, SS=Solid		613-657-3765		Address and Invoicing Address (if different) ANALYSES REQUESTED (Print Test in Boxes)	J Ottawa	ter Regulations? Yes No	Client committed Quality assured. Provincial Water Quality Objectives Sewer Use By-Law:	ENVIRONMENTAL LABORATOR ES Yes No Record of Site Condition (O.Reg 153) Disposal Site:
		a.		SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)								Test For Each Sample eck Mark In The Box Provided		Suspected Hi	ghly Contam	inated	200	d Hill	(If yes, submit all Drinking Water Samples on a Drinking Water Chain of Custody)	Landfill Monitoring Other: Wastewater	O.Reg 558 Leachate Analysis Disposal Site:
Page of G 27007 G. May 2019, Revision No. 22	Labeled by:	Time Received:	Signature:	N (LABORATORY USE ONL	:				ω	cu	u	Field # Bottless pH Temp. Sample		Standard 5-7 days Specific Date:	3	TED (s	TURNAROUND SERVICE	London	king Water Chain of Custor		



Final Report

C.O.C.: G27008 REPORT No. B21-09716

Report To:

Township of Edwardsburgh/Cardinal

PO Box 129, 18 Centre Street, Spencerville ON K0E 1X0 Canada Attention: Eric Wemerman

DATE RECEIVED: 08-Apr-21

DATE REPORTED: 15-Apr-21

SAMPLE MATRIX: Waste Water

Caduceon Environmental Laboratories

285 Dalton Ave

Kingston Ontario K7K 6Z1

Tel: 613-544-2001 Fax: 613-544-2770

JOB/PROJECT NO.: 120002157-Lagoons

P.O. NUMBER:

Dis-NC-21-04

WATERWORKS NO.

			Client I.D.		North Cell Sample #4	Up Stream, South Nation River	Down Stream South Nation River
			Sample I.D.		B21-09716-1	B21-09716-2	B21-09716-3
			Date Collect	ed	08-Арг-21	08-Apr-21	08-Apr-21
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
BOD(5 day)	mg/L	3	SM 5210B	09-Apr-21/K	7	< 3	< 3
CBOD5	mg/L	3	SM 5210B	08-Apr-21/K	5		
Total Suspended Solids	mg/L	3	SM2540D	12-Apr-21/K	12	< 3	4
Phosphorus-Total	mg/L	0.01	E3199A.1	12-Apr-21/K	0.14	0.03	0.03
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	09-Apr-21/K	4.44	0.06	0.10

M.Duci

ING SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY) Received By (print): Signature: Date Received (yy-mm-dd): Time Received: A Laboratory Prepared Bottles: Yes No
REPORTING / INVOICING SAMPLE REC
Received B Date Received B



Final Report

C.O.C.: G27009

REPORT No. B21-10087

Report To:

Township of Edwardsburgh/Cardinal

PO Box 129, 18 Centre Street, Spencerville ON K0E 1X0 Canada

Attention: Dave Grant

DATE RECEIVED: 13-Apr-21

DATE REPORTED: 19-Apr-21

SAMPLE MATRIX: Waste Water

Caduceon Environmental Laboratories

2378 Holly Lane

Ottawa Ontario K1V 7P1 Tel: 613-526-0123

Fax: 613-526-1244

JOB/PROJECT NO.: 120002157-Lagoons

P.O. NUMBER:

Dis-S21-01

WATERWORKS NO.

			Client I.D.		South Cell Sample #1	Upstream, South Nation River	Downstream, South Nation River	
			Sample I.D.		B21-10087-1	B21-10087-2	B21-10087-3	
			Date Collect	ed	11-Apr-21	11-Apr-21	11-Apr-21	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
BOD(5 day)	mg/L	3	SM 5210B	14-Apr-21/K	4	< 3	< 3	
CBOD5	mg/L	3	SM 5210B	14-Apr-21/K	< 3			
Total Suspended Solids	mg/L	3	SM2540D	14-Apr-21/K	5	< 3	< 3	***************************************
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	14-Apr-21/K	5.29	0.06	0.19	
Phosphorus-Total	mg/L	0.01	E3199A.1	14-Apr-21/K	0.10	0.04	0.04	

Reviewed
April 19/21
April 19/21

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin, BSc., C. Chem Lab Manager - Ottawa District

Page 1 of 1.

White	Collingia.		Sign:	Print: STREWING									Down S	Up Stre	South (No:		Email: ewemerr		613	l act	Edwardsburgh/Cardinal	Organization:		Are any san)
White Lab Copy / Yellow: Invoicing Copy / Tink: Client Copy		21/04/12 Date (yy-mm-dd)/Time:	media	2 CAMPISELL	Sampled by:	SAMPLE SUBMISSION INFORMATION							Down Stream South Nation River	Up Stream, South Nation River	South Cell Sample # 1	Sample Identification	l .	iil: ewemerman@twpec.ca	613-657-3182	613-657-3765	Eric Wemerman	rdinal		Indicate L	Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations?	c)	A D C	:
oiding Copy / Pink: Clie		21/04/12 Date (yy-mm-dd)/Time:	James	STRAMA Como sauce	Submitted by:	INFORMATION							River	/er		ation	Sample Matrix Legend: WW=Waste Water, SW=Surface Water, GW=Groundwater, LS=Liquid Sludge,	P.O. No.: Dis-SC-21-01	Quote No.:		4000 John St, Cardinal, Ontario, K0E 1E0	1	Address and Invoicing Address (if different)	Indicate Laboratory Samples are submitted to:	ntended for Human Co	Client committee, Quality assured	LABORATOR IES	
лі Сору		lime:	b	sick			ļ						1778D	1778C	15425	S.P.L.	/=Waste Wa	=			inal, Onta		g Address	re submi	nsumption	sured	Z	
		Caduceon (Pick-up)	Drop Off	Caduceon's Courier	Client's Courier	HS							WS	WS	WW	Sample Matrix *	ter, SW=Surfac	Additional Info:	Project Name: 120002157- Lagoons		ırio, K0E 1E((if different)	tted to:	າ under any D	Proving Sewer		
		ick-up) ————————————————————————————————————		Courier	rier	SHIPPING INFORMATION							21/04/11	2/04/11	21/04/11	Date Collected (yy-mm-dd)	e Water, GW=0	nfo:	e: ·Lagoons		J				rinking Water	Provincial Water Quality Objectives Sewer Use By-Law:	□□ ⁵	Ś
			# of Pieces		Invoice	MATION							10:12	10:50	82101	Time Collected	roundwater, LS≂l							ŀ II	Regulations?	ly Objectives	Agricultural Record of Site Condition	Table
		Invoice	Invoice by Email	Report	Report by Fax	REPO							×	×	×		iquid Slu	BOD						Ottawa			ondition Telephone	TES
		Invoice by Mail	by Em	Report by Email	by Fax	REPORTING / INVOICE			-	\vdash	+	-	×	×	×			SS Total	D			-] Yes [(O.R	TESTING REQUIREMENTS
		-	<u>=</u> .	=		/ INVOI					+	+	×	×	×	by Using a	=Solid S	Amm				-	ANALY	Richmond Hill	U No		ا يق يق	
			\mathbb{R}	Ţ		CING									×	ndicate	ludge,	CBO) 5				SES R	hmon		1	153) 153)	MENT
		Sample Temperature °C:	Labora	Date Received (yy-mm-dd):	Received By (print):											Indicate Test For Each Sample ing A Check Mark in The Box Provided	SS=Solid Sludge, S=Soil, Sed=Sediment, PC=Paint Chips, F=Filter,						ANALYSES REQUESTED (Print Test in Boxes)		s, subn			
4		Temp	Laboratory Prepared Bottles:	eceived	ed By (Ş			+	\vdash	_					Each Sa	Sed=Sec					_			nit all D	Landfill Monitoring Other: Wastewater	O.Reg 558 Leachate Analysis Disposal Site:	
		erature	epared	(yy-m	print):	MPLE		-			+	+		-		ampte Sox Prov	liment,					\dashv	int Tes	Windsor	rinking 	Monitorioni Mastev	& Leach	
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72018 990 900		by:	No	ceived	6	PATO		_	+		+	+-			3.3	Fjeld		Specific Date:	Bronze Standard	Gold Silver	Platinum	QUES	TURN,	London	er Ch			EPOR
G 27009 CofC: May 2019, Revision No. 22	of _					SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)			<u> </u>		_		ω	ယ	3	# Bottless Temp. Sample)ate:		100% 50% (REQUESTED (see back page)	TURNAROUND SERVICE		(If yes, submit all Drinking Water Samples on a Drinking Water Chain of Custody)			REPORT NUMBER (Lab Use)
l o: 22						3							z	z	N	ties/ Field ple Filtered(Y/N)			25% Surcharge 5-7 days	100% Surcharge 50% Surcharge	200% Surcharge	ack page)	RVICE	1	dv)			(Lab Use)



Final Report

C.O.C.: G27010

REPORT No. B21-10088

Report To:

Township of Edwardsburgh/Cardinal

PO Box 129, 18 Centre Street, Spencerville ON K0E 1X0 Canada

Attention: Dave Grant

DATE RECEIVED: 13-Apr-21

DATE REPORTED: 19-Apr-21

SAMPLE MATRIX: Waste Water

Caduceon Environmental Laboratories

2378 Holly Lane

Ottawa Ontario K1V 7P1

Tel: 613-526-0123

Fax: 613-526-1244

JOB/PROJECT NO.: 120002157-Lagoons

P.O. NUMBER:

Dis-SC-21-02

WATERWORKS NO.

			Client I.D.		South Cell Sample #2	Upstream, South Nation River	Downstream, South Nation River	
			Sample I.D.		B21-10088-1	B21-10088-2	B21-10088-3	
		El	Date Collect	ed	12-Apr-21	12-Apr-21	12-Apr-21	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			·	
BOD(5 day)	mg/L	3	SM 5210B	14-Apr-21/K	3	< 3	< 3	
CBOD5	mg/L	3	SM 5210B	14-Apr-21/K	< 3			
Total Suspended Solids	mg/L	3	SM2540D	14-Apr-21/K	4	3	3	
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	14-Apr-21/K	5.22	0.08	0.23	
Phosphorus-Total	mg/L	0.01	E3199A.1	14-Apr-21/K	0.10	0.04	0.04	

Reviewed
April 19/21

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem Lab Manager - Ottawa District

	Comments:		Sign:	Print:													No:		Email:	Fax:	<u></u>	Contact:	Edwards	Organization:		Are			
White Lab Copy / Yellow havoicing Copy / Pink Client Copy		21/out/12 Date (yy-mm-dd)/Time:	March	STRAHAN CAMPBALL	Sampled by:	SAMPLE SUBMISSION INFORMATION				, seem of				Down Stream South Nation River	Up Stream, South Nation River	South Cell Sample # 2	Sample Identification		ii: ewemerman@twpec.ca	613-657-3182	613-657-3765	Eric Wemerman	Edwardsburgh/Cardinal		Indicate La	Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations?	Che	A D U C	
cing Copy / Pink, Clier		21/64/12 Date (yy-mm-dd)/Time:	An h	STORPHEN CAMPRICLE	Submitted by:	INFORMATION											ion	* Sample Matrix Legend: WW=Waste Water, SW=Surface Water, GW=Groundwater, LS=Liquid Sludge,	P.O. No.: Dis-SC-21-02	Quote No.:		4000 John St, Cardinal, Ontario, K0E 1E0		Address and Invoicing Address (if different)	Indicate Laboratory Samples are submitted to:	ended for Human Con	Chent committed, Quality assured	LABORATORIES	
d Copy		ime:	"	346										1778D	1778C	15425	S.P.L	-Waste Wa	~			nal, Onta) Address	e submi	sumption	tred	Z,	ŧ
		Caduceon (Pick-up)	Drop Off	Caduceon's Courier	Client's Courier	HS	10 To 10 To							MS	SW	AVA	Sample Matrix *	ter, SW=Surfac	Additional Info:	Project Name: 120002157- Lagoons		rio, KOE 1E0		(if different)	tted to:	under any D	Provinc	O.Reg 153	DI SHERWING
		vick-up) /		Courier	rier	SHIPPING INFORMATION	RC Con							21/04/12	21/04/12	2/64/12	Date Collected (yy-mm-dd)	a Water, GW=0	то:	e: Lagoons						rinking Water	Provincial Water Quality Objectives Sewer Use By-Law:	□□ [₫]	
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Final Report

C.O.C.: G27011

REPORT No. B21-10420

Report To:

Township of Edwardsburgh/Cardinal

PO Box 129, 18 Centre Street, Spencerville ON K0E 1X0 Canada

Attention: Eric Wemerman

DATE RECEIVED: 14-Apr-21

DATE REPORTED: 21-Apr-21

SAMPLE MATRIX: Waste Water

Caduceon Environmental Laboratories

285 Dalton Ave

Kingston Ontario K7K 6Z1

Tel: 613-544-2001 Fax: 613-544-2770

JOB/PROJECT NO.: 120002157-Lagoons

P.O. NUMBER:

Dis-SC-21-03

WATERWORKS NO.

			Client I.D.		South Cell Sample #3	Up Stream, South Nation River	Down Stream South Nation River	
			Sample I.D.		B21-10420-1	B21-10420-2	B21-10420-3	
			Date Collect	ed	13-Арг-21	13-Apr-21	13-Арг-21	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
BOD(5 day)	mg/L	3	SM 5210B	15-Apr-21/K	4	< 3	< 3	
CBOD5	mg/L	3	SM 5210B	14-Apr-21/K	< 3			
Total Suspended Solids	mg/L	3	SM2540D	14-Apr-21/K	5	< 3	< 3	
Phosphorus-Total	mg/L	0.01	E3199A.1	16-Apr-21/K	0.10	0.04	0.03	
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	15-Apr-21/K	5.25	0.06	0.26	

Reviewed
April 21/21
En

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Lab Manager

Michelle Dubien

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		Specific Date:		Suspe							CBO	Amm	Total	SS	BOD		nfo:	Additional Info:	ස	P.O. No.: Dis-SC-21-03	ewemerman@twpec.ca	Email: ewerner	Ē
iarge	25% Surcharge 5-7 days	<u>a</u> "		cted Hig													ne: - Lagoons	Project Name: 120002157 - Lagoons		Quote No.:	613-657-3182		Fax:
harge	100% Surcharge 50% Surcharge	Gold Silver		hly Cor																	613-657-3765		Tel:
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Final Report

C.O.C.: G27012

REPORT No. B21-10421

Report To:

Township of Edwardsburgh/Cardinal

PO Box 129, 18 Centre Street, Spencerville ON K0E 1X0 Canada

Attention: Eric Wemerman

DATE RECEIVED: 14-Apr-21

DATE REPORTED: 21-Apr-21

SAMPLE MATRIX: Waste Water

Caduceon Environmental Laboratories

285 Dalton Ave

Kingston Ontario K7K 6Z1

Tel: 613-544-2001 Fax: 613-544-2770

JOB/PROJECT NO.: 120002157-Lagoons

P.O. NUMBER:

Dis-NC-21-04

WATERWORKS NO.

			Client I.D.		South Cell Sample #4	Up Stream, South Nation River	Down Stream South Nation River	
			Sample I.D.		B21-10421-1	B21-10421-2	B21-10421-3	
			Date Collect	ed	14-Apr-21	14-Apr-21	14-Арг-21	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				_
BOD(5 day)	mg/L	3	SM 5210B	15-Apr-21/K	5	< 3	< 3	
CBOD5	mg/L	3	SM 5210B	14-Apr-21/K	< 3			***************************************
Total Suspended Solids	mg/L	3	SM2540D	14-Apr-21/K	5	3	< 3	
Phosphorus-Total	mg/L	0.01	E3199A.1	16-Apr-21/K	0.12	0.03	0.04	
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	15-Apr-21/K	5.03	0.06	0.24	

Reviewed
April 21/21
EW

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Michelle Dubien

Lab Manager

		Comments:	Sign:	_												No:	2	Email:	Fax:	<u>e</u> :	Contact	Edwards	Organization:	Are			<u> </u>
White Lab Copy / Yellow Invoicing Copy / Pink: Client Copy		21/04/14 Date (lyy-mm-dd)/Time:	Ahund	STREAM CAMPOREL	Sampled by:	SAMPLE SUBMISSION INFORMATION							Down Stream South Nation River	Up Stream, South Nation River	South Cell Sample # 4	Sample Identification	. Sa	ewermerman@twpec.ca	613-657-3182	613-657-3765	Eric Wemerman	Edwardsburgh/Cardinal		Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations?		ENVIRONMENTAL L	, , ,
icing Copy / Pink: Clie		21/04/14 Date (yy-mm-dd)/Time:	Khuns	STEPHEN CAMPBACK	Submitted by:	INFORMATION	erii .			i			River	er		ation	Sample Matrix Legend: WW-Waste Water, SW-Surface Water, GW-Groundwater, LS-Liquid Sludge,	P.O. No.: Dis-SC-21-04	Quote No.:		4000 John St, Cardinal, Ontario, K0E 1E0		Indicate Laboratory Samples are submitted to: Address and Invoicing Address (if different)	ntended for Human Co	Chest compitted Guoity assured	LABORATORIES	
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