

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



EDWARDSBURGH CARDINAL

Phone: 613-658-3055

Fax: 613-658-3445

Toll Free: 866-848-9099

E-mail: mail@twpec.ca

P.O. Box 129,

18 Centre St.

Spencerville, Ontario

K0E 1X0

2021 LAGOON DISCHARGE SPREADSHEET

2021 Spring Discharge Table - Spencerville Lagoon

[illegible][illegible]



EDWARDSBURGH CARDINAL

Phone: 613-658-3055
Fax: 613-658-3445
Toll Free: 866-848-9099
E-mail: mail@twpec.ca

P.O. Box 129,
18 Centre St.
Spencerville, Ontario
K0E 1X0

2021 LABORATORY LAGOON DISCHARGE

RESULTS AND CHAIN OF CUSTODIES

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

Caduceon Environmental Laboratories

2378 Holly Lane
 Ottawa Ontario K1V 7P1
 Tel: 613-526-0123
 Fax: 613-526-1244

DATE RECEIVED: 29-Mar-21

JOB/PROJECT NO.: 120002157-Lagoons

DATE REPORTED: 05-Apr-21

P.O. NUMBER: Pre-Dis-NC-21

SAMPLE MATRIX: Waste Water

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 Collected		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	12	16		
BOD(5 day)	mg/L	3	SM 5210B	31-Mar-21/K	6	9		
CBOD5	mg/L	3	SM 5210B	31-Mar-21/K	5	5		
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



Tahir Yapici Ph.D
 Lab Supervisor

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

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

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

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

DATE RECEIVED: 29-Mar-21

JOB/PROJECT NO.: 120002157-Lagoons

DATE REPORTED: 05-Apr-21

P.O. NUMBER: Pre-Dis-SC-21

SAMPLE MATRIX: Waste Water

WATERWORKS NO.

			Client I.D.		South Cell Pre- Discharge #1	South Cell Pre- Discharge #2		
			Sample I.D.		B21-08513-1	B21-08513-2		
			Date Collected		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*



Tahir Yapici Ph.D
Lab Supervisor

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TURNAROUND SERVICE

**TURNAROUND SERVICE
REQUESTED (see back page)**

Page 37

Platinum 200% Surcharge

Gold 100% Surcharge

Silver	50% Surcharge
Bronze	25% Surcharge

Dilution	5-7 days
Standard	

i

Specific Date: _____

Inter Chain of Custody)

[illegible]

Field	# Bottles	Field
Time	Sample	Elution

Temp.	Sample	Filter
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[illegible][illegible]

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LABORATORY USE ONLY

ture:Received:

3

[illegible]

ed by: _____

1. *Journal of the American Medical Association*, 273: 1025-1030, 1995.

Page _____ of _____G 27004

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

Caduceon Environmental Laboratories

2378 Holly Lane
Ottawa Ontario K1V 7P1

Tel: 613-526-0123

Fax: 613-526-1244

DATE RECEIVED: 06-Apr-21

JOB/PROJECT NO.: 120002157-Lagoons

DATE REPORTED: 15-Apr-21

P.O. NUMBER: Dis-N-21-01

SAMPLE MATRIX: Waste Water

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 Collected		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



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

R.L. = Reporting Limit

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

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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

Caduceon Environmental Laboratories

2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 06-Apr-21

JOB/PROJECT NO.: 120002157-Lagoons

DATE REPORTED: 15-Apr-21

P.O. NUMBER: DisNC-21-02

SAMPLE MATRIX: Waste Water

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 Collected	06-Apr-21	06-Apr-21	06-Apr-21	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
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



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

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

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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

Caduceon Environmental Laboratories

285 Dalton Ave
Kingston Ontario K7K 6Z1
Tel: 613-544-2001
Fax: 613-544-2770

DATE RECEIVED: 08-Apr-21

JOB/PROJECT NO.: 120002157-Lagoons

DATE REPORTED: 15-Apr-21

P.O. NUMBER: Dis-NC-21-03

SAMPLE MATRIX: Waste Water

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 Collected	07-Apr-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		
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. Dubien

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

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☐ MSA Guidelines
☐ O Reg 558 Leachate Analysis
☐ Disposal Site: _____
☐ Landfill Monitoring
☐ Other Wastewater

Water Chain of Custody)

London

TURNAROUND SERVICE

REQUESTED (see back page)

15122 • J. Neurosci., September 24, 2008 • 28(39):15115–15122

☐ **Platinum** 200% Surcharge

☐ Gold 100% Surcharge

☐ Silver 50% Surcharge

<input type="checkbox"/>	Standard	€ 7400
<input type="checkbox"/>	Bronze	25% Surcharge
<input type="checkbox"/>	Silver	50% Surcharge
<input type="checkbox"/>	Gold	75% Surcharge

Stain	5-7 days
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☐ Specific Date: _____

Oil = Oil

Field	# Bottles	File

pH	Temp.	Sample	Filter
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ON (LABORATORY USE ONLY)

Signature:

Time Received:

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NO. 1

Should be:

Carried by.

Page _____ of _____

G 27007

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

Caduceon Environmental Laboratories

285 Dalton Ave
Kingston Ontario K7K 6Z1
Tel: 613-544-2001
Fax: 613-544-2770

DATE RECEIVED: 08-Apr-21

JOB/PROJECT NO.: 120002157-Lagoons

DATE REPORTED: 15-Apr-21

P.O. NUMBER: Dis-NC-21-04

SAMPLE MATRIX: Waste Water

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 Collected	08-Apr-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. Dubien

R.L. = Reporting Limit

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

Michelle Dubien

Lab Manager

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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

Caduceon Environmental Laboratories

2378 Holly Lane
 Ottawa Ontario K1V 7P1
 Tel: 613-526-0123
 Fax: 613-526-1244

DATE RECEIVED: 13-Apr-21

JOB/PROJECT NO.: 120002157-Lagoons

DATE REPORTED: 19-Apr-21

P.O. NUMBER: Dis-S21-01

SAMPLE MATRIX: Waste Water

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 Collected		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
EH



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

R.L. = Reporting Limit

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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

Caduceon Environmental Laboratories

2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 13-Apr-21

JOB/PROJECT NO.: 120002157-Lagoons

DATE REPORTED: 19-Apr-21

P.O. NUMBER: Dis-SC-21-02

SAMPLE MATRIX: Waste Water

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	
			Date Collected	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
EH



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

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

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

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

Caduceon Environmental Laboratories

285 Dalton Ave
Kingston Ontario K7K 6Z1
Tel: 613-544-2001
Fax: 613-544-2770

DATE RECEIVED: 14-Apr-21

JOB/PROJECT NO.: 120002157-Lagoons

DATE REPORTED: 21-Apr-21

P.O. NUMBER: Dis-SC-21-03

SAMPLE MATRIX: Waste Water

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 Collected	13-Apr-21	13-Apr-21	13-Apr-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
EW

M. Dubien

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

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~~Page Number Revised Month~~

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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

Caduceon Environmental Laboratories
285 Dalton Ave
Kingston Ontario K7K 6Z1
Tel: 613-544-2001
Fax: 613-544-2770

DATE RECEIVED: 14-Apr-21

JOB/PROJECT NO.: 120002157-Lagoons

DATE REPORTED: 21-Apr-21

P.O. NUMBER: Dis-NC-21-04

SAMPLE MATRIX: Waste Water

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 Collected	14-Apr-21	14-Apr-21	14-Apr-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

M. Dubien

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

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TESTING REQUIREMENTS

☐ O.Reg 153 ☐ Table ☐ Medium/Fine ☐ Coarse ☐ MSA Guidelines

☐ RPI ☐ ICC ☐ Agricultural ☐ (O.Reg 153) ☐ O.Reg 558 Leachate Analysis

☐ Yes ☐ No ☐ Record of Site Condition ☐ Disposal Site:

☐ Provincial Water Quality Objectives ☐ Landfill Monitoring

☐ Sewer Use By-Law: ☐ Other Wastewater

Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations? ☐ Yes ☐ No (If yes, submit all Drinking Water Samples on a Drinking Water Chain of Custody)

Indicate Laboratory Samples are submitted to: ☐ Kingston ☒ Ottawa ☐ Richmond Hill ☐ Windsor ☐ Barrie ☐ London

Organization: Address and Invoicing Address (if different)

Edwardsburgh/Cardinal

Contact:

Eric Wennerman

4000 John St, Cardinal, Ontario, K0E 1E0

Tel:

613-657-3765

Fax:

613-657-3182

Email:

ewennerman@twpec.ca

Quote No.:

Dis-SC-21-04

P.O. No.:

120002157- Lagoons

BOD

SS

Total P

Ammonia

CBOD 5

Suspected Highly Contaminated

TURNAROUND SERVICE REQUESTED (see back page)

☐ Platinum 200% Surcharge

☐ Gold 100% Surcharge

☐ Silver 50% Surcharge

☐ Bronze 25% Surcharge

☒ Standard 5-7 days

☐ Specific Date:

* Sample Matrix Legend: WW=Waste Water, SW=Surface Water, GW=Groundwater, LS=Liquid Sludge, SS=Solid Sludge, S=Soil, Sed=Sediment, PC=Paint Chips, F=Filter, Oil = Oil

Lab No.	Sample Identification	S.P.L.	Sample Matrix *	Date Collected (yy-mm-dd)	Time Collected	By Using A Check Mark in The Box Provided	pH	Temp.	# Bottles Sample	Field Filtered (Y/N)
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South Cell Sample # 4 15425 WW 21/04/14 6:40 X X X X X

Up Stream, South Nation River 1778C SW 21/04/14 7:18 X X X X

Down Stream South Nation River 1778D SW 21/04/14 6:20 X X X X

SAMPLE SUBMISSION INFORMATION

SHIPPING INFORMATION

REPORTING / INVOICING

SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)

Sampled by:

Submitted by:

Print: *STEPHAN GRONAU*

STEPHAN GRONAU

Sign: *Stephan*

Drop Off

Caduceon (Pick-up) ☒

of Pieces

Report by Fax

Report by Email

Date Received (yy-mm-dd):

Time Received:

Laboratory Prepared Bottles: ☐ Yes ☐ No

Signature:

Comments:

Date (yy-mm-dd)/Time:

Date (yy-mm-dd)/Time:

Invoice by Mail

Sample Temperature °C:

Labeled by: