

2025

Spencerville Lagoon Discharge Report



Prepared by: Eric Wemerman
For: MECP and Council
Date: April 28, 2025

2025 Spencerville Lagoon Discharge Report

Introduction

This report summarizes the 2025 lagoon discharge activities as required under Environmental Compliance Approval # 3-1377-87-896.

Condition # 2

The contents of the lagoon were discharged into the South Nation River over a 12-day period between April 7 to 19th, 2025. The combined discharge effluent volume from both cells was approximately 74,040 cubic meters using the formula surface area x depth drop. Condition # 2 requires the discharge not to occur before March 15th nor after April 21st, over a minimum of 8 days and not to exceed 30 days. A discharge summary table has been included in Appendix A.

Condition # 3 and # 6

Condition # 3 outlines the maximum average mean effluent concentrations allowed.

<u>Parameter</u>	<u>Average Result (mg/L)</u>	<u>Environmental Compliance Approval Limit (mg/L)</u>
BOD ₅	5.8	25
CBOD ₅	4.5	N/A
Total Suspended Solids	12.2	30
Total Phosphorus	0.15	1
Total Ammonia	6.1	20
Hydrogen Sulfide	0.03	5

The sampling program results determined the effluent criteria was met as per condition 3 of Environmental Compliance Approval # 3-1377-87-896. Certificate of Analyses for all samples collected are included in Appendix B.

Condition # 4

No exceedances of BOD₅, Total Suspended Solids, Total Phosphorus, Total Ammonia and Hydrogen Sulfide occurred during the 2025 discharge.

Condition # 5

The sampling program requires two effluent (either grab or composite) samples to be collected a week prior to discharge and two samples per week during the discharge. Sampling frequency exceeds the minimum requirements set out in condition 5 and consisted of the following:

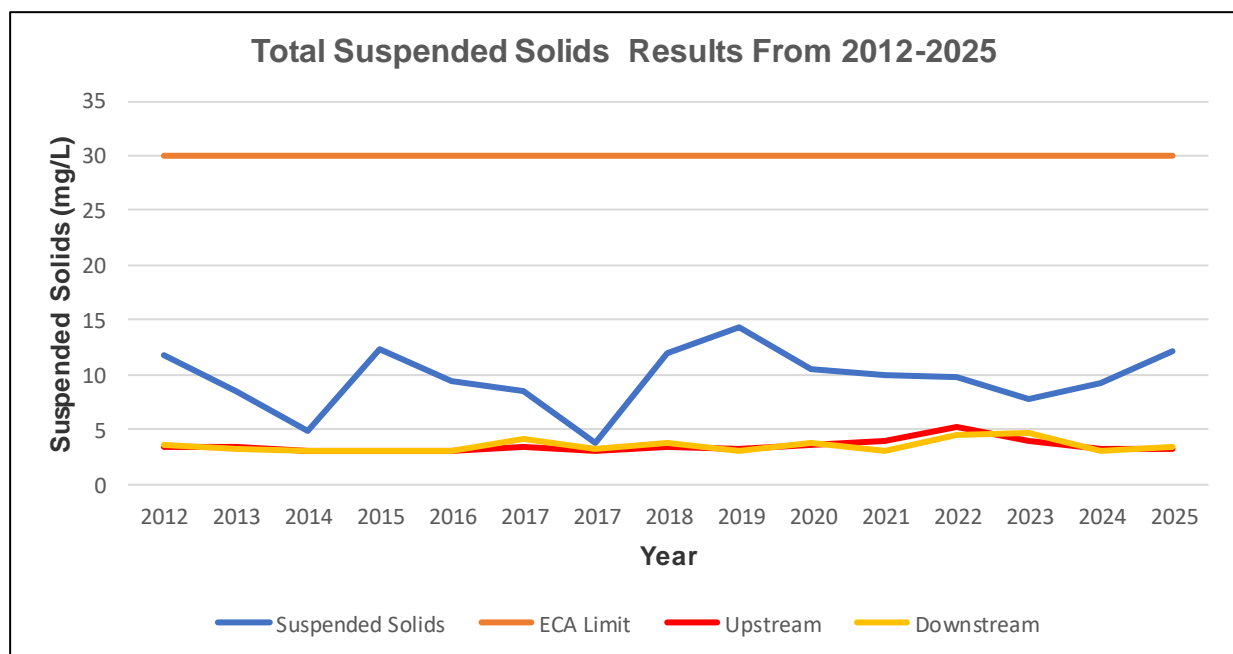
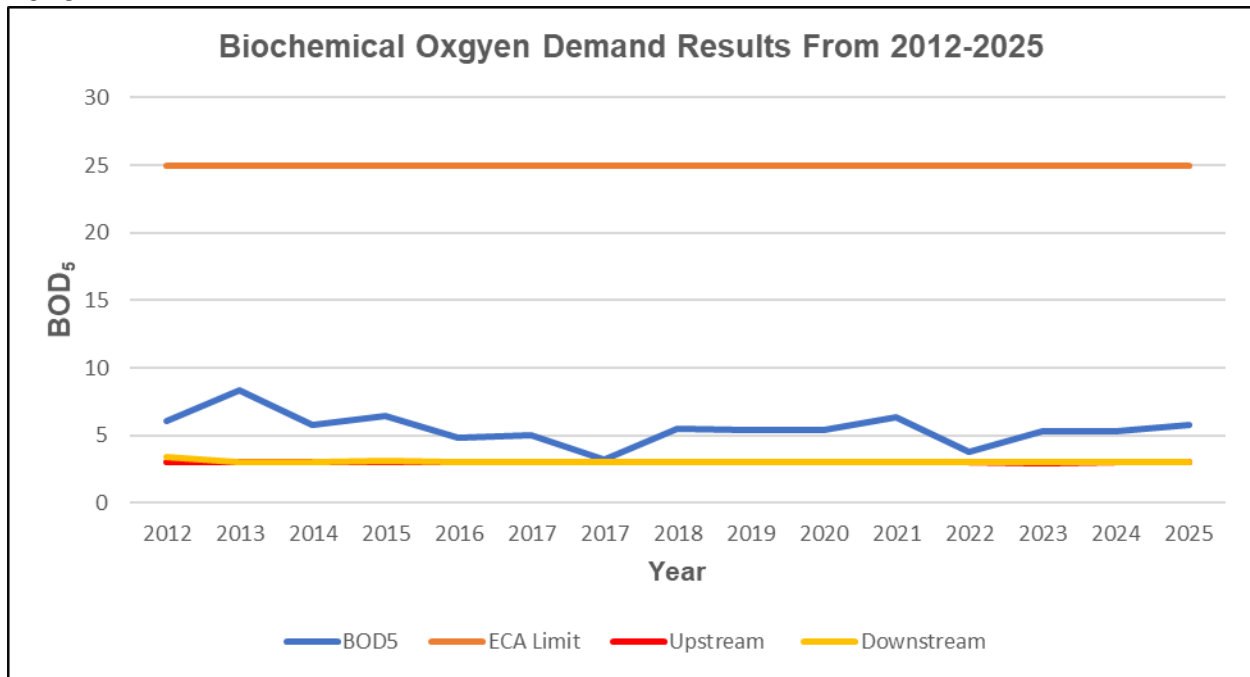
- Four pre-discharge samples.
- Eight effluent discharge samples (four per cell).
- Eight upstream/downstream samples from the South Nation River (taken at the same time as effluent samples).

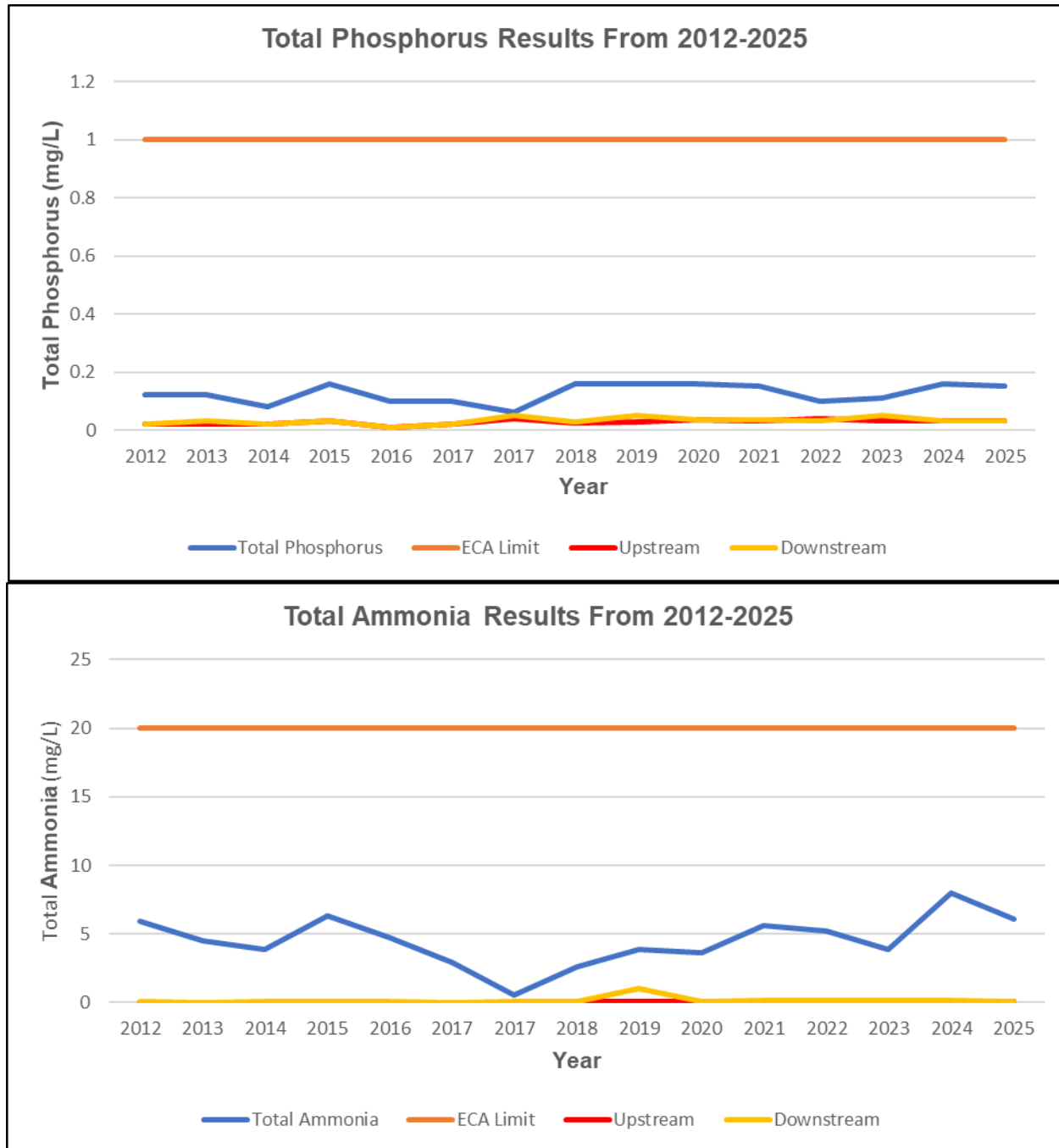
Condition # 7

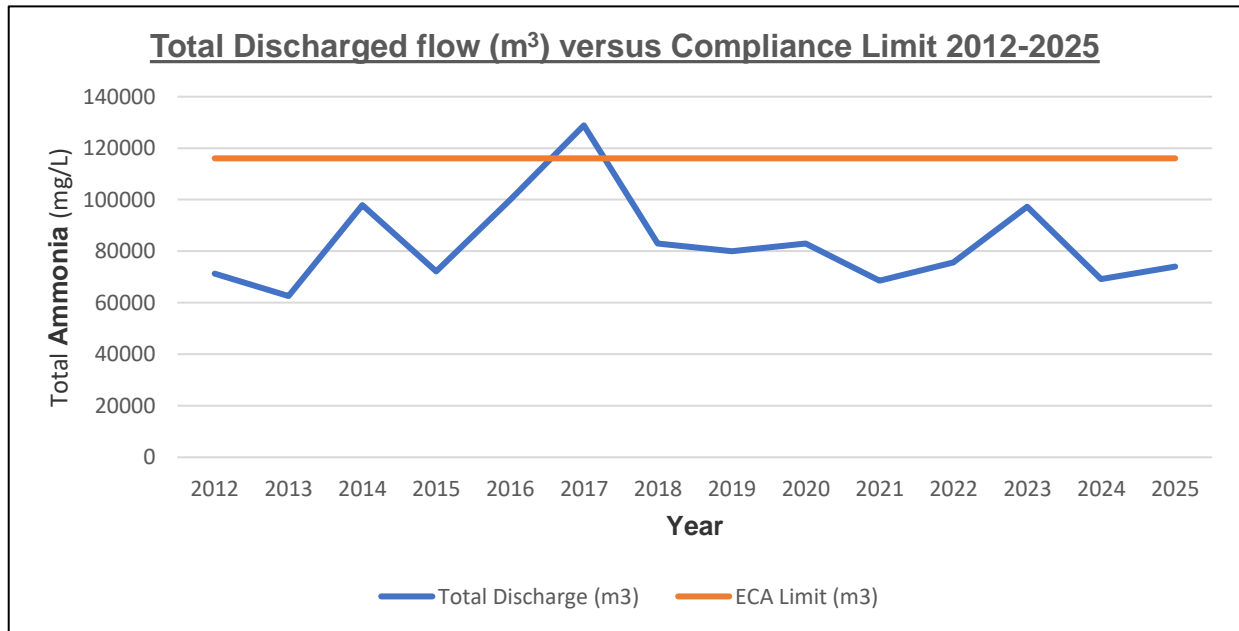
Influent flow was diverted to the cell not being discharged as per condition # 7.

Historical Trending

Historical trending shows effluent results are remaining below compliance limits. Upstream and downstream sample results have remained consistent from 2012 to 2025.









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

APPENDIX A

2025 Spencerville Lagoon Discharge Table

2025 Spencerville Lagoon Discharge Table

[illegible][illegible]

APPENDIX B

2025 Spencerville Lagoon Laboratory Results

C.O.C.: G 27834

REPORT No: 25-007402 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
 PO Box 129, 18 Centre Street
 Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
 Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Mar-25
 DATE REPORTED: 2025-Apr-01
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
 P.O. NUMBER: Pre-Dis-SC-25-01

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-Mar-26	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-Mar-26	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	KDIBBITS	2025-Mar-26	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Mar-27	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Mar-27	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	South Cell Pre Discharge # 1
			Sample I.D.	25-007402-1
			Date Collected	2025-03-23
Parameter	Units	R.L.		
BOD5	mg/L	3	11	
CBOD5	mg/L	3	7	
Total Suspended Solids	mg/L	3	26	
Phosphorus (Total)	mg/L	0.01	0.30	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	5.40	



Michelle Dubien
Data Specialist

C.O.C.: G 27830

REPORT No: 25-007401 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Mar-25
DATE REPORTED: 2025-Apr-01
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: Pre-Dis-NC-25-01

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-Mar-26	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-Mar-26	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	KDIBBITS	2025-Mar-26	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Mar-27	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Mar-27	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	North Cell Pre Discharge # 1
			Sample I.D.	25-007401-1
			Date Collected	2025-03-23
Parameter	Units	R.L.		
BOD5	mg/L	3	4	
CBOD5	mg/L	3	<3	
Total Suspended Solids	mg/L	3	18	
Phosphorus (Total)	mg/L	0.01	0.10	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	1.60	



Michelle Dubien
Data Specialist

C.O.C.: G 27834

REPORT No: 25-008219 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
 PO Box 129, 18 Centre Street
 Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
 Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-02
 DATE REPORTED: 2025-Apr-09
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
 P.O. NUMBER: Pre-Dis-SC-25-02

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-03	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-03	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	VHAMMOND	2025-Apr-07	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Apr-04	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Apr-04	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	South Cell Pre Discharge #2
			Sample I.D.	25-008219-1
			Date Collected	2025-04-02
Parameter	Units	R.L.	-	
BOD5	mg/L	3	12	
CBOD5	mg/L	3	7	
Total Suspended Solids	mg/L	3	15	
Phosphorus (Total)	mg/L	0.01	0.18	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	8.70	



Michelle Dubien
Data Specialist

C.O.C.: G 27830

REPORT No: 25-008218 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-02
DATE REPORTED: 2025-Apr-09
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: Pre-Dis-NC-25-02

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-03	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-03	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	VHAMMOND	2025-Apr-07	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Apr-04	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Apr-04	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	North Cell Pre Discharge #2
			Sample I.D.	25-008218-1
			Date Collected	2025-04-02
Parameter	Units	R.L.		
BOD5	mg/L	3	3	
CBOD5	mg/L	3	<3	
Total Suspended Solids	mg/L	3	9	
Phosphorus (Total)	mg/L	0.01	0.05	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	2.38	



Michelle Dubien
Data Specialist

C.O.C.: G 27835

REPORT No: 25-008909 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
 PO Box 129, 18 Centre Street
 Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
 Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-08
 DATE REPORTED: 2025-Apr-15
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
 P.O. NUMBER: Dis-SC-25-01

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-10	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-10	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-11	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Apr-14	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Apr-10	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	South Sample #1
			Sample I.D.	25-008909-1
			Date Collected	2025-04-07
Parameter	Units	R.L.		
BOD5	mg/L	3	7	
CBOD5	mg/L	3	6	
Total Suspended Solids	mg/L	3	13	
Phosphorus (Total)	mg/L	0.01	0.21	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	8.88	



Michelle Dubien
Data Specialist

C.O.C.: G 27835

REPORT No: 25-008910 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-08
DATE REPORTED: 2025-Apr-15
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: Dis-SC-25-01

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-Apr-10	BOD-001	SM 5210B
Ammonia (Liquid)	2	KINGSTON	DCASSIDY	2025-Apr-11	NH3-001	SM 4500NH3
TP & TKN (Liquid)	2	KINGSTON	YLIEN	2025-Apr-14	TPTKN-001	MECP E3516.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Apr-10	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	Upstream South Nation River	Downstream South Nation River
			Sample I.D.	25-008910-1	25-008910-2
			Date Collected	2025-04-07	2025-04-07
Parameter	Units	R.L.		-	-
BOD5	mg/L	3		<3	<3
Total Suspended Solids	mg/L	3		<3	<3
Phosphorus (Total)	mg/L	0.01		0.03	0.03
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		<0.05	0.06



Michelle Dubien
Data Specialist

C.O.C.: G 27836

REPORT No: 25-008913 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
 PO Box 129, 18 Centre Street
 Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
 Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-08
 DATE REPORTED: 2025-Apr-15
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
 P.O. NUMBER: Dis-SC-25-02

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-10	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-10	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-11	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Apr-14	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Apr-10	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	South Sample #2
			Sample I.D.	25-008913-1
			Date Collected	2025-04-08
Parameter	Units	R.L.		
BOD5	mg/L	3	7	
CBOD5	mg/L	3	5	
Total Suspended Solids	mg/L	3	15	
Phosphorus (Total)	mg/L	0.01	0.21	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	8.54	



Michelle Dubien
Data Specialist

C.O.C.: G 27836

REPORT No: 25-008915 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
 PO Box 129, 18 Centre Street
 Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
 Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-08
 DATE REPORTED: 2025-Apr-15
 SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: 120002157-Lagoons
 P.O. NUMBER: Dis-SC-25-02

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-Apr-10	BOD-001	SM 5210B
Ammonia (Liquid)	2	KINGSTON	DCASSIDY	2025-Apr-11	NH3-001	SM 4500NH3
TP & TKN (Liquid)	2	KINGSTON	YLIEN	2025-Apr-14	TPTKN-001	MECP E3516.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Apr-10	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

Parameter	Units	R.L.	Client I.D.	Upstream South Nation River	Downstream South Nation River
			Sample I.D.	25-008915-1	25-008915-2
			Date Collected	2025-04-08	2025-04-08
				-	-
BOD5	mg/L	3		<3	<3
Total Suspended Solids	mg/L	3		<3	<3
Phosphorus (Total)	mg/L	0.01		0.03	0.03
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.05	0.08



Michelle Dubien
Data Specialist

C.O.C.: G 27837

REPORT No: 25-009307 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-10
DATE REPORTED: 2025-Apr-17
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: Dis-SC-25-03

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-11	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-11	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-16	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Apr-15	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Apr-14	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	South Sample #3
			Sample I.D.	25-009307-1
			Date Collected	2025-04-09
Parameter	Units	R.L.		
BOD5	mg/L	3	7	
CBOD5	mg/L	3	5	
Total Suspended Solids	mg/L	3	11	
Phosphorus (Total)	mg/L	0.01	0.20	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	8.73	



Michelle Dubien
Data Specialist

C.O.C.: G 27837

REPORT No: 25-009308 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-10
DATE REPORTED: 2025-Apr-17
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: Dis-SC-25-03

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-Apr-11	BOD-001	SM 5210B
Ammonia (Liquid)	2	KINGSTON	DCASSIDY	2025-Apr-16	NH3-001	SM 4500NH3
TP & TKN (Liquid)	2	KINGSTON	YLIEN	2025-Apr-15	TPTKN-001	MECP E3516.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Apr-14	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

Parameter	Units	R.L.	Client I.D.	Upstream South Nation River	Downstream South Nation River
			Sample I.D.	25-009308-1	25-009308-2
			Date Collected	2025-04-09	2025-04-09
				-	-
BOD5	mg/L	3		<3	<3
Total Suspended Solids	mg/L	3		4	<3
Phosphorus (Total)	mg/L	0.01		0.02	0.02
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		<0.05	0.06



Michelle Dubien
Data Specialist

C.O.C.: G 27838

REPORT No: 25-009309 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
 PO Box 129, 18 Centre Street
 Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
 Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-10
 DATE REPORTED: 2025-Apr-17
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
 P.O. NUMBER: Dis-SC-25-04

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-11	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-11	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-16	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Apr-15	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Apr-14	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	South Sample #4
			Sample I.D.	25-009309-1
			Date Collected	2025-04-10
Parameter	Units	R.L.		
BOD5	mg/L	3	7	
CBOD5	mg/L	3	6	
Total Suspended Solids	mg/L	3	13	
Phosphorus (Total)	mg/L	0.01	0.18	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	8.55	



Michelle Dubien
Data Specialist

C.O.C.: G 27838

REPORT No: 25-009310 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-10
DATE REPORTED: 2025-Apr-17
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: Dis-SC-25-04

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-Apr-11	BOD-001	SM 5210B
Ammonia (Liquid)	2	KINGSTON	DCASSIDY	2025-Apr-16	NH3-001	SM 4500NH3
TP & TKN (Liquid)	2	KINGSTON	YLIEN	2025-Apr-15	TPTKN-001	MECP E3516.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Apr-14	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

Parameter	Units	R.L.	Client I.D.	Upstream South Nation River	Downstream South Nation River
			Sample I.D.	25-009310-1	25-009310-2
			Date Collected	2025-04-10	2025-04-10
				-	-
BOD5	mg/L	3		<3	<3
Total Suspended Solids	mg/L	3		<3	4
Phosphorus (Total)	mg/L	0.01		0.02	0.03
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.08	0.10



Michelle Dubien
Data Specialist

C.O.C.: G 27831

REPORT No: 25-009629 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-15
DATE REPORTED: 2025-Apr-22
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: Dis-NC-25-01

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-16	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-16	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-17	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Apr-21	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Apr-16	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	North Sample #1
			Sample I.D.	25-009629-1
			Date Collected	2025-04-13
Parameter	Units	R.L.		
BOD5	mg/L	3	<3	
CBOD5	mg/L	3	<3	
Total Suspended Solids	mg/L	3	8	
Phosphorus (Total)	mg/L	0.01	0.10	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	5.18	



Michelle Dubien
Data Specialist

C.O.C.: G 27831

REPORT No: 25-009630 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-15
DATE REPORTED: 2025-Apr-22
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: Dis-NC-25-01

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	2	KINGSTON	DCASSIDY	2025-Apr-16	BOD-001	SM 5210B
Ammonia (Liquid)	2	KINGSTON	DCASSIDY	2025-Apr-17	NH3-001	SM 4500NH3
TP & TKN (Liquid)	2	KINGSTON	YLIEN	2025-Apr-21	TPTKN-001	MECP E3516.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Apr-16	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	Upstream South Nation River	Downstream South Nation River
			Sample I.D.	25-009630-1	25-009630-2
			Date Collected	2025-04-13	2025-04-13
Parameter	Units	R.L.		-	-
BOD5	mg/L	3		<3	<3
Total Suspended Solids	mg/L	3		3	4
Phosphorus (Total)	mg/L	0.01		0.02	0.03
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.05	0.09



Michelle Dubien
Data Specialist

C.O.C.: G 27832

REPORT No: 25-009631 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-15
DATE REPORTED: 2025-Apr-22
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: Dis-NC-25-02

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-16	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-16	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-17	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Apr-21	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Apr-16	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	North Sample #2
			Sample I.D.	25-009631-1
			Date Collected	2025-04-14
Parameter	Units	R.L.		
BOD5	mg/L	3	3	
CBOD5	mg/L	3	<3	
Total Suspended Solids	mg/L	3	10	
Phosphorus (Total)	mg/L	0.01	0.12	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	5.23	



Michelle Dubien
Data Specialist

C.O.C.: G 27832

REPORT No: 25-009632 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-15
DATE REPORTED: 2025-Apr-22
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: Dis-NC-25-02

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	2	KINGSTON	DCASSIDY	2025-Apr-16	BOD-001	SM 5210B
Ammonia (Liquid)	2	KINGSTON	DCASSIDY	2025-Apr-17	NH3-001	SM 4500NH3
TP & TKN (Liquid)	2	KINGSTON	YLIEN	2025-Apr-21	TPTKN-001	MECP E3516.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Apr-16	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	Upstream South Nation River	Downstream South Nation River
			Sample I.D.	25-009632-1	25-009632-2
			Date Collected	2025-04-14	2025-04-14
Parameter	Units	R.L.		-	-
BOD5	mg/L	3		<3	<3
Total Suspended Solids	mg/L	3		4	5
Phosphorus (Total)	mg/L	0.01		0.04	0.02
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.10	0.10



Michelle Dubien
Data Specialist

C.O.C.: G27833

REPORT No: 25-009987 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-16
DATE REPORTED: 2025-Apr-25
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: PO#Dis-NC-25-03

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-17	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-17	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-24	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Apr-24	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Apr-17	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	North Sample #3
			Sample I.D.	25-009987-1
			Date Collected	2025-04-15
Parameter	Units	R.L.		
BOD5	mg/L	3	<3	
CBOD5	mg/L	3	<3	
Total Suspended Solids	mg/L	3	<3	
Phosphorus (Total)	mg/L	0.01	0.08	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	4.98	



Michelle Dubien
Data Specialist

C.O.C.: G27833

REPORT No: 25-009991 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-16
DATE REPORTED: 2025-Apr-25
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: PO#Dis-NC-25-03

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-Apr-17	BOD-001	SM 5210B
Ammonia (Liquid)	2	KINGSTON	DCASSIDY	2025-Apr-24	NH3-001	SM 4500NH3
TP & TKN (Liquid)	2	KINGSTON	YLIEN	2025-Apr-24	TPTKN-001	MECP E3516.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Apr-21	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	Upstream South National River	Downstream South National River
			Sample I.D.	25-009991-1	25-009991-2
			Date Collected	2025-04-15	2025-04-15
Parameter	Units	R.L.		-	-
BOD5	mg/L	3		<3	<3
Total Suspended Solids	mg/L	3		3	<3
Phosphorus (Total)	mg/L	0.01		0.03	0.03
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		0.05	0.10



Michelle Dubien
Data Specialist

C.O.C.: G27834

REPORT No: 25-009994 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-16
DATE REPORTED: 2025-Apr-25
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: PO#Dis-NC-25-04

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-17	BOD-001	SM 5210B
CBOD5 (Liquid)	1	KINGSTON	JWOLFE2	2025-Apr-17	BOD-001	SM 5210B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Apr-24	NH3-001	SM 4500NH3
TP & TKN (Liquid)	1	KINGSTON	YLIEN	2025-Apr-24	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2025-Apr-21	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

			Client I.D.	North Sample #4
			Sample I.D.	25-009994-1
			Date Collected	2025-04-16
Parameter	Units	R.L.		
BOD5	mg/L	3	3	
CBOD5	mg/L	3	<3	
Total Suspended Solids	mg/L	3	5	
Phosphorus (Total)	mg/L	0.01	0.09	
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	5.05	



Michelle Dubien
Data Specialist

C.O.C.: G27834

REPORT No: 25-009995 - Rev. 0

Report To:

Township of Edwardsburgh/Cardinal
PO Box 129, 18 Centre Street
Spencerville, ON K0E 1X0

CADUCEON Environmental Laboratories

285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Eric Wemerman

DATE RECEIVED: 2025-Apr-16
DATE REPORTED: 2025-Apr-25
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: 120002157-Lagoons
P.O. NUMBER: PO#Dis-NC-25-04

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-Apr-17	BOD-001	SM 5210B
Ammonia (Liquid)	2	KINGSTON	DCASSIDY	2025-Apr-24	NH3-001	SM 4500NH3
TP & TKN (Liquid)	2	KINGSTON	YLIEN	2025-Apr-24	TPTKN-001	MECP E3516.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Apr-17	TSS-001	SM 2540D

R.L. = Reporting Limit

NC = Not Calculated

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

Parameter	Units	R.L.	Client I.D.	Upstream South Nation River	Downstream South Nation River
			Sample I.D.	25-009995-1	25-009995-2
			Date Collected	2025-04-16	2025-04-16
				-	-
BOD5	mg/L	3		<3	<3
Total Suspended Solids	mg/L	3		<3	<3
Phosphorus (Total)	mg/L	0.01		0.03	0.03
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		<0.05	0.10



Michelle Dubien
Data Specialist