ANNUAL REPORT FOR
THE MUNICIPALITY OF CLYDE RIVER, 2022

YEAR BEING REPORTED: 2022

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence # 3BM-CLY1924 issued to the Municipality of Clyde River.

i) - iii) tabular summaries of all data generated under the "Monitoring Program"; monthly and annual quantities in cubic metres of freshwater obtained from all sources; monthly and annual quantities in cubic metres of each and all wastes discharged; Attached are quantities of water used as reported in our On Tap Water Delivery System and the estimated discharge of sewage waste.

Month Reported	Quantity of Water Obtained from all sources (L)	Quantity of Sewage Waste Discharged (Estimated)
January	**2,507,907.70**	Same
February	**2,295,353.40**	Same
March	**3,182,684.20**	Same
April	**3,220,606.90**	Same
May	**3,279,593.90**	Same
June	**3,029,781.30**	Same
July	**3,434,908.00**	Same
August	**3,556,000.50**	Same
September	**3,236,690.90**	Same
October	**3,489,156.40**	Same
November	**3,329,443.90**	Same
December	**3,307,324.30**	Same
ANNUAL TOTAL	**37,869,451.40**	**Same**

Note: The average consumption volume is considered equal to the sewage discharge volume in each month because there is no meter at the end of the discharge pipe.

iv. A summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities;

v. The following water treatment plant upgrades were completed: Intake submersible pump is replaced, heat trace replaced along with controls.

vi. A list of unauthorized discharges and summary of follow-up action taken;

NONE

vii. A summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;

Planning study for construction of a new solid waste facility has been completed. Study identified significant shortfall in funding to construct new solid waste facility. Planning study to improve present solid waste issues is being developed and is anticipated to be complete in 2023.

viii. A summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;

None

ix. Any other details on water use or waste disposal requested by the Board by November 1st of the year being reported; and

x. Updates or revisions to the approved Operation and Maintenance Plans.

N/A

x. ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

xi. FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

CGS will work with Municipality to improve solid waste practices, waste segregation and sampling.

Appendix A: CLY-4, CLY-5 Effluent Quality Limits

Appendix B: Certificate of Analysis

Appendix C: Hazardous Materials Spill Database, Clyde River 2022

Appendix D: Clyde River 2022 CIRNAC Inspection Report

Appendix A

CLY-4Effluent Quality limits

Parameter	Maximum Concentration of any Grab Sample	DATE: July 26.2022.
BOD_5	120 mg/L	111 mg/L
Total Suspended Solids	180 mg/L	22 mg/L
Fecal Coliform	$1x10^6$ CFU/dl	31000 cfu/100mL
Oil and Grease	No visible sheen	18.2 mg/L
pH	Between 6 and 9	7.67

CLY-5 Effluent Quality limits

Parameter	Maximum Concentration of any Grab Sample	DATE: July 26. 2022.
BOD_5	120 mg/L	**103 mg/L**
Total Suspended Solids	180 mg/L	**28 mg/L**
Fecal Coliform	$1x10^6$ CFU/dl	**4600 cfu/100mL**
Oil and Grease	No visible sheen	**17.2 mg/L**
pH	Between 6 and 9	**7.64 pH Units**

Appendix B

CADUCEON™ ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---

REPORT No. B22-22458

Report To:

Municipality of Clyde River
Box 89,
Clyde River Nunavut X0A 0E0 Canada
Attention: Jerry Natanine

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

DATE RECEIVED: 18-Jul-22
DATE REPORTED: 26-Jul-22
SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.:
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		CLY-4	CLY-5	CLY-6A	CLY-6B
			Sample I.D.		B22-22458-1	B22-22458-2	B22-22458-3	B22-22458-4
			Date Collected		14-Jul-22	14-Jul-22	14-Jul-22	14-Jul-22
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Total Suspended Solids	mg/L	3	SM2540D	19-Jul-22/K	22	28	5	5
BOD(5 day)	mg/L	3	SM 5210B	20-Jul-22/K	111	103	4	3
Conductivity @25°C	µmho/cm	1	SM 2510B	18-Jul-22/O	912	915	135	135
Alkalinity(CaCO3) to pH4.5	mg/L	5	SM 2320B	18-Jul-22/O	307	308	40	38
Chloride	mg/L	0.5	SM4110C	19-Jul-22/O	51.3	51.6	10.1	10.2
Nitrite (N)	mg/L	0.1	SM4110C	19-Jul-22/O	< 0.1	< 0.1	< 0.1	< 0.1
Nitrate (N)	mg/L	0.1	SM4110C	19-Jul-22/O	< 0.1	< 0.1	0.5	0.5
Sulphate	mg/L	1	SM4110C	19-Jul-22/O	2	2	2	2
Ammonia (N)-Total	mg/L	0.01	SM4500-NH3-H	19-Jul-22/K	88.9	92.6	7.75	7.70
Phenolics	mg/L	0.001	MOEE 3179	20-Jul-22/K	0.840	0.888	< 0.001	< 0.001
Total Organic Carbon	mg/L	0.2	EPA 415.2	19-Jul-22/O	24.4	26.4	16.3	14.2
Hardness (as CaCO3)	mg/L	1	SM 3120	21-Jul-22/O	34	32	9	10
Arsenic	mg/L	0.0005	EPA 200.8	19-Jul-22/O	0.0008	0.0008	< 0.0005	< 0.0005
Calcium	mg/L	0.02	SM 3120	21-Jul-22/O	5.82	5.50	1.80	2.05
Cadmium	mg/L	).000070	EPA 200.8	19-Jul-22/O	< 0.000070	< 0.000070	< 0.000070	< 0.000070
Potassium	mg/L	0.1	SM 3120	21-Jul-22/O	22.1	20.9	3.5	4.0
Aluminum	mg/L	0.01	SM 3120	21-Jul-22/O	0.15	0.13	0.05	0.05
Chromium	mg/L	0.002	SM 3120	21-Jul-22/O	< 0.002	< 0.002	< 0.002	< 0.002
Cobalt	mg/L	0.005	SM 3120	21-Jul-22/O	< 0.005	< 0.005	< 0.005	< 0.005
Copper	mg/L	0.002	SM 3120	21-Jul-22/O	0.107	0.097	0.012	0.014
Lead	mg/L	0.0001	EPA 200.8	19-Jul-22/O	0.0009	0.0011	< 0.0001	< 0.0001
Iron	mg/L	0.005	SM 3120	21-Jul-22/O	1.41	1.31	0.176	0.196
Manganese	mg/L	0.001	SM 3120	21-Jul-22/O	0.119	0.112	0.012	0.013
Mercury	mg/L	0.00002	SM 3112 B	20-Jul-22/O	0.00003	0.00003	< 0.00002	< 0.00002
Nickel	mg/L	0.01	SM 3120	21-Jul-22/O	< 0.01	< 0.01	< 0.01	< 0.01
Zinc	mg/L	0.005	SM 3120	21-Jul-22/O	0.062	0.053	0.013	0.013
pH @25°C	pH Units		SM 4500H	18-Jul-22/O	7.67	7.64	7.43	7.44

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

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Final Report

C.O.C.: ---

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Municipality of Clyde River
Box 89,
Clyde River Nunavut X0A 0E0 Canada
Attention: Jerry Natanine

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

DATE RECEIVED: 18-Jul-22
DATE REPORTED: 26-Jul-22
SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.:
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		CLY-4	CLY-5	CLY-6A	CLY-6B
			Sample I.D.		B22-22458-1	B22-22458-2	B22-22458-3	B22-22458-4
			Date Collected		14-Jul-22	14-Jul-22	14-Jul-22	14-Jul-22
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Oil & Grease-Total	mg/L	1.0	SM 5520	20-Jul-22/K	18.2	17.2	1.6	1.7
Fecal Coliform	cfu/100mL	1	MOE E3371	18-Jul-22/O	31000	4600	< 100	< 100

Tahir Yapici Ph.D
Lab Supervisor

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SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.:
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		CLY-11			
			Sample I.D.		B22-22458-5			
			Date Collected		14-Jul-22			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Total Suspended Solids	mg/L	3	SM2540D	19-Jul-22/K	6			
BOD(5 day)	mg/L	3	SM 5210B	20-Jul-22/K	< 3			
Conductivity @25°C	µmho/cm	1	SM 2510B	18-Jul-22/O	135			
Alkalinity(CaCO3) to pH4.5	mg/L	5	SM 2320B	18-Jul-22/O	40			
Chloride	mg/L	0.5	SM4110C	19-Jul-22/O	10.2			
Nitrite (N)	mg/L	0.1	SM4110C	19-Jul-22/O	< 0.1			
Nitrate (N)	mg/L	0.1	SM4110C	19-Jul-22/O	0.5			
Sulphate	mg/L	1	SM4110C	19-Jul-22/O	2			
Ammonia (N)-Total	mg/L	0.01	SM4500-NH3-H	19-Jul-22/K	7.71			
Phenolics	mg/L	0.001	MOEE 3179	20-Jul-22/K	< 0.001			
Total Organic Carbon	mg/L	0.2	EPA 415.2	19-Jul-22/O	13.9			
Hardness (as CaCO3)	mg/L	1	SM 3120	21-Jul-22/O	9			
Arsenic	mg/L	0.0005	EPA 200.8	19-Jul-22/O	< 0.0005			
Calcium	mg/L	0.02	SM 3120	21-Jul-22/O	1.70			
Cadmium	mg/L	).000070	EPA 200.8	19-Jul-22/O	< 0.000070			
Potassium	mg/L	0.1	SM 3120	21-Jul-22/O	3.9			
Aluminum	mg/L	0.01	SM 3120	21-Jul-22/O	0.05			
Chromium	mg/L	0.002	SM 3120	21-Jul-22/O	< 0.002			
Cobalt	mg/L	0.005	SM 3120	21-Jul-22/O	< 0.005			
Copper	mg/L	0.002	SM 3120	21-Jul-22/O	0.013			
Lead	mg/L	0.0001	EPA 200.8	19-Jul-22/O	< 0.0001			
Iron	mg/L	0.005	SM 3120	21-Jul-22/O	0.182			
Manganese	mg/L	0.001	SM 3120	21-Jul-22/O	0.013			
Mercury	mg/L	0.00002	SM 3112 B	20-Jul-22/O	< 0.00002			
Nickel	mg/L	0.01	SM 3120	21-Jul-22/O	< 0.01			
Zinc	mg/L	0.005	SM 3120	21-Jul-22/O	0.008			
pH @25°C	pH Units		SM 4500H	18-Jul-22/O	7.42			

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Tahir Yapici Ph.D
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			Client I.D.		CLY-11			
			Sample I.D.		B22-22458-5			
			Date Collected		14-Jul-22			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Oil & Grease-Total	mg/L	1.0	SM 5520	20-Jul-22/K	1.6			
Fecal Coliform	cfu/100mL	1	MOE E3371	18-Jul-22/O	200			

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DATE RECEIVED: 18-Jul-22
DATE REPORTED: 26-Jul-22
SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.:
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		CLY-2			
			Sample I.D.		B22-22457-1			
			Date Collected		14-Jul-22			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Conductivity @25°C	µmho/cm	1	SM 2510B	18-Jul-22/O	202			
Nitrite (N)	mg/L	0.1	SM4110C	19-Jul-22/O	< 0.1			
Nitrate (N)	mg/L	0.1	SM4110C	19-Jul-22/O	< 0.1			
Chloride	mg/L	0.5	SM4110C	19-Jul-22/O	4.2			
Sulphate	mg/L	1	SM4110C	19-Jul-22/O	67			
Fecal Coliform	cfu/100mL	1	MOE E3371	18-Jul-22/O	< 10			
Alkalinity(CaCO3) to pH4.5	mg/L	5	SM 2320B	18-Jul-22/O	17			
Aluminum	mg/L	0.01	SM 3120	21-Jul-22/O	0.13			
Calcium	mg/L	0.02	SM 3120	21-Jul-22/O	25.9			
Cadmium	mg/L	0.005	SM 3120	21-Jul-22/O	< 0.005			
Cobalt	mg/L	0.005	SM 3120	21-Jul-22/O	< 0.005			
Copper	mg/L	0.002	SM 3120	21-Jul-22/O	< 0.002			
Chromium	mg/L	0.002	SM 3120	21-Jul-22/O	< 0.002			
Iron	mg/L	0.005	SM 3120	21-Jul-22/O	0.397			
Potassium	mg/L	0.1	SM 3120	21-Jul-22/O	3.4			
Manganese	mg/L	0.001	SM 3120	21-Jul-22/O	0.104			
Nickel	mg/L	0.01	SM 3120	21-Jul-22/O	< 0.01			
Lead	mg/L	0.02	SM 3120	21-Jul-22/O	< 0.02			
Zinc	mg/L	0.005	SM 3120	21-Jul-22/O	0.027			
Hardness (as CaCO3)	mg/L	1	SM 3120	21-Jul-22/O	77			
Arsenic	mg/L	0.0005	EPA 200.8	19-Jul-22/O	< 0.0005			
Total Organic Carbon	mg/L	0.2	EPA 415.2	19-Jul-22/O	3.8			
Mercury	mg/L	0.00002	SM 3112 B	20-Jul-22/O	< 0.00002			
pH @25°C	pH Units		SM 4500H	18-Jul-22/O	6.62			
Oil & Grease-Total	mg/L	1.0	SM 5520	20-Jul-22/K	1.7			
BOD(5 day)	mg/L	3	SM 5210B	20-Jul-22/K	< 3			
Ammonia (N)-Total	mg/L	0.01	SM4500-NH3-H	19-Jul-22/K	0.32			

Tahir Yapici Ph.D
Lab Supervisor

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			Client I.D.		CLY-2			
			Sample I.D.		B22-22457-1			
			Date Collected		14-Jul-22			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Phenolics	mg/L	0.001	MOEE 3179	20-Jul-22/K	< 0.001			
Total Suspended Solids	mg/L	3	SM2540D	19-Jul-22/K	7			
PHC F1 (C6-C10)	µg/L	25	MOE E3421	19-Jul-22/R	< 25			
PHC F2 (>C10-C16)	µg/L	50	MOE E3421	19-Jul-22/K	< 50			
PHC F3 (>C16-C34)	µg/L	400	MOE E3421	19-Jul-22/K	< 400			
PHC F4 (>C34-C50)	µg/L	400	MOE E3421	19-Jul-22/K	< 400			
Acenaphthene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Acenaphthylene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Anthracene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Benzo(a)anthracene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Benzo(a)pyrene	µg/L	0.01	EPA 8270	20-Jul-22/K	< 0.01			
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Benzo(b+k)fluoranthene	µg/L	0.1	EPA 8270	20-Jul-22/K	< 0.1			
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Benzo(k)fluoranthene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Chrysene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Fluoranthene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Fluorene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Methylnaphthalene,1-	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Methylnaphthalene,2-	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Methylnaphthalene 2-(1-)	µg/L	1	EPA 8270	20-Jul-22/K	< 1			
Naphthalene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Phenanthrene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Pyrene	µg/L	0.05	EPA 8270	20-Jul-22/K	< 0.05			
Phosphorus-Total	mg/L	0.01	E3516.2	25-Jul-22/K	0.07			

Tahir Yapici Ph.D
Lab Supervisor

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SAMPLE MATRIX: Waste Water

JOB/PROJECT NO.:
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		CLY-2			
			Sample I.D.		B22-22457-1			
			Date Collected		14-Jul-22			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Benzene	µg/L	0.5	EPA 8260	19-Jul-22/R	< 0.5			
Toluene	µg/L	0.5	EPA 8260	19-Jul-22/R	< 0.5			
Ethylbenzene	µg/L	0.5	EPA 8260	19-Jul-22/R	< 0.5			
Xylene, m,p-	µg/L	1.0	EPA 8260	19-Jul-22/R	< 1.0			
Xylene, o-	µg/L	0.5	EPA 8260	19-Jul-22/R	< 0.5			
Xylene, m,p,o-	µg/L	1.1	EPA 8260	19-Jul-22/R	< 1.1			

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Appendix C

N/A

Appendix D

CIRNAC has not submitted inspection report.