ANNUAL REPORT
FOR THE MUNICIPALITY OF PANGNIRTUNG, 2025

YEAR BEING REPORTED: 2025

The following information is compiled pursuant to the requirements of Part A, Item 1 of Water Licence 3AM-PAN1828 issued to the Hamlet of Pangnirtung.

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 based on quantities used.

Month Reported	Quantity of Water Obtained from all sources (m^3)	Quantity of Sewage Waste Discharged (Estimated)	Hazardous Waste Accepted (m^3)	Non-Hazardous Waste Accepted (m^3)
January	4,419	Same	1.87	1,686.86
February	4,262	Same	1.87	1,686.86
March	4,511	Same	1.87	1,686.86
April	4,040	Same	1.87	1,686.86
May	6,318	Same	1.87	1,686.86
June	6,577	Same	1.87	1,686.86
July	7,501	Same	1.87	1,686.86
August	6,891	Same	1.87	1,686.86
September	17,060	Same	1.87	1,686.86
October	6,175	Same	1.87	1,686.86
November	6,013	Same	1.87	1,686.86
December	5,713	Same	1.87	1,686.86
ANNUAL TOTAL	**67,845**	**Same**	**22.39**	**20,242.37**

Note: The water consumption volume is not considered equal to the discharge volume
The sludge is separated out from the raw wastewater. The effluent volume = (Raw Wastewater Volume) - (sludge volume). The SCADA system did not accurately record effluent volume for the majority of 2024. The Hamlet was working in coordination with EXP Services Inc. and Violia to address the issues with the monitoring and recording system. The Hamlet will install new flow meters in 2026 to record the influent and effluent volumes more accurately and generate monthly reports with up-to-date volumes for each.

Total withdrawal from the Duval River was 11,635 m^3. An emergency pumping event took place from September 27 - 28, 2025 when the WTP had a pipe break. A total of 180 m^3 was pumped directly from the Duval River to the fill trucks during this time and is included in the total withdrawal number.

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.

No modification and /or major maintenance work was carried out in 2025.

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

A list of spills reported to the NT-NU Spill Report Line as listed on the Hazardous Materials Spills Database for Pangnirtung in 2025 available in Appendix B. Spill reports included in Appendix C. Notifications to the Board available in Appendix D.

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

No abandonment and restoration work was carried out this reporting year.

VII. 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.

The Duval River hydrology study under the grant of ANCP of NRC commenced in 2024. The study faced delays due to damaged equipment during the 2024 field season. The surface velocity sensor was installed and calibrated in the summer of 2025 and began to record data. The study is currently ongoing.

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

No other details on water use or waste disposal requested by the Board by November 1st of 2025.

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

EXP Services Inc. was retained to upgrade the O&M Plans and resubmitted corrected versions to the NWB in 2024.

Following submission of the updated O&M Plans, additional feedback comments were provided by DFO and ECCC in February 2025. A technical review was completed on the updated plans by CIRNAC in July 2025.

X. ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

The Municipality is actively working on the following studies:

1. Hydrology/hydraulic study of the Duval River, funded by NRC; 3 year term and expected to be completed in 2026.
2. Bursting the Banks: Dealing with the flooding due to climate change in the Arctic; Hamlet of Pangnirtung; funded by CIRNAC; 3 year term; expected to be completed in 2027.
3. Risk-based Approach to Community Planning; funded by CIRNAC; 3 year term; expected to be completed in 2028.

PAN-3 was compliant except for pH in the spring months. See tabular summary of monitoring results in Appendix A.

XI. FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

The 2025 CIRNAC Inspection did not take place.

APPENDICES:

Appendix A: Pangnirtung Effluent Quality Limits 2025
Appendix B: Hazardous Materials Spills Database for Pangnirtung in 2025
Appendix C: Pangnirtung Spill Reports 2025
Appendix D: Notifications to the Board
Appendix E: Pangnirtung Laboratory Certificate of Analyses 2025

- **Certificate of Analysis, 03/03/2025, 3 pages.**
- **Certificate of Analysis, 04/28/2025, 3 pages.**
- **Certificate of Analysis, 05/28/2025, 3 pages.**
- **Certificate of Analysis, 06/05/2025, 3 pages.**
- **Certificate of Analysis, 06/30/2025, 3 pages.**
- **Certificate of Analysis, 07/23/2025, 6 pages.**
- **Certificate of Analysis, 07/31/2025, 3 pages.**

APPENDIX A: Pangnirtung Effluent Quality Limits 2025

Tabular Summary of Monitoring Data

Parameter	**Maximum Concentration of any Grab Sample for *PAN-3***	**Units**	Mar 3, 2025 PAN-3	Apr 28, 2025 PAN-3[1]	May 28, 2025 PAN-3	Jun 30, 2025 PAN-3	Jul 31, 2025 PAN-3
BOD_5	120	mg/L	<3	<3	<3	<3	<3
Total Suspended Solids	180	mg/L	<3	5	5	<3	6
Fecal Coliform	$1x10^3$	CFU/100 mL	<100	<10	<10	100	200
Oil and Grease	No visible sheen	mg/L	1.6	1.8	1.6	6.5	1.8
pH	Between 6 and 9	N/A	3.99	3.71[2]	4.23	6.68	7.39

APPENDIX B: Hazardous Materials Spills Database for Pangnirtung in 2025

Spill	Occurance Date	Spill Region	Location	Location Description	Product Spilled	Quantity	Measurement	Spill Cause	Lead Agency
spill-2025273	June 25, 2025	Baffin	Pangnirtung	Pangnirtung	Sewage	85000.00	Liters	Deliberate Discharge	CIRNAC - Crown-Indigenous Relations and Northern Affairs Canada
spill-2025261	June 4, 2025	Baffin	Pangnirtung	Pangnirtung	Wastewater/impacted water	Unknown Quantity		Effuent Quality Criteria (EQC) Exceedance	CIRNAC - Crown-Indigenous Relations and Northern Affairs Canada

Appendix C: Pangnirtung Spill Reports 2025

NT NU Spill Report - Jan 15, 2026.pdf

Appendix D: Pangnirtung Notifications to the Board 2025

Appendix E: Pangnirtung Laboratory Certificate of Analyses 2025

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G 138196

REPORT No: 25-005956 - Rev. 0

Report To:
Hamlet of Pangnirtung
P.O. Box 253
Pangnirtung, NVT X0A 0R0

CADUCEON Environmental Laboratories
2378 Holly Lane
Ottawa, ON K1V 7P1

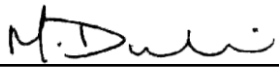
Attention: Andrew Keenaivak

DATE RECEIVED: 2025-Mar-10
DATE REPORTED: 2025-Mar-18
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT:
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	2	OTTAWA	LMACGREGOR	2025-Mar-10	A-IC-01	SM 4110B
BOD5 (Liquid)	2	KINGSTON	DCASSIDY	2025-Mar-12	BOD-001	SM 5210B
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2025-Mar-10	COND-02/PH-02/ALK-02	SM 2510B/4500H/2320B
Fecal Coliforms (Liquid)	2	OTTAWA	AHIRSI	2025-Mar-11	FC-001	SM 9222D
ICP/MS Total (Liquid)	2	OTTAWA	AOZKAYMAK	2025-Mar-13	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	2	OTTAWA	APRUDYVUS	2025-Mar-11	D-ICP-01	SM 3120B
Mercury (Liquid)	2	OTTAWA	TBENNETT	2025-Mar-11	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	2	KINGSTON	DCASSIDY	2025-Mar-13	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	2	KINGSTON	TMCBRYDE	2025-Mar-12	O&G-001	SM 5520
Phenols (Liquid)	2	KINGSTON	EHINCH	2025-Mar-14	PHEN-01	MECP E3179
Total Organic Carbon (TOC)	2	OTTAWA	SLOZO	2025-Mar-11	C-OC-01	EPA 415.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Mar-12	TSS-001	SM 2540D

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

	Client I.D.		Effluent PAN-3	Influent PAN-2
	Sample I.D.		25-005956-1	25-005956-2
	Date Collected		2025-03-03	2025-03-03
Parameter	**Units**	**R.L.**	-	-
Fecal Coliform	CFU/100mL	1	<100	76000000
Alkalinity(CaCO3) to pH4.5	mg/L	5	9	443
Conductivity @25°C	uS/cm	1	1340	1460
pH @25°C	pH units	-	3.99	7.47
Chloride	mg/L	0.5	210	91.0
Nitrate (N)	mg/L	0.05	54.3	0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05
Sulphate	mg/L	1	48	17
BOD5	mg/L	3	<3	200
Total Suspended Solids	mg/L	3	<3	200
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	5.81	105
Total Organic Carbon	mg/L	0.8	21.2	143
Phenolics	mg/L	0.001	<0.001	0.280
Hardness (as CaCO3)	mg/L	0.02	89.7	40.7
Aluminum (Total)	mg/L	0.01	0.10	0.38
Cadmium (Total)	mg/L	0.005	<0.005	<0.005
Calcium (Total)	mg/L	0.02	14.5	9.66
Chromium (Total)	mg/L	0.002	<0.002	0.004
Cobalt (Total)	mg/L	0.005	<0.005	<0.005
Copper (Total)	mg/L	0.002	0.113	0.196
Iron (Total)	mg/L	0.005	0.082	1.30

Michelle Dubien
Data Specialist

Parameter	Units	R.L.	Client I.D.	Effluent PAN-3	Influent PAN-2
			Sample I.D.	25-005956-1	25-005956-2
			Date Collected	2025-03-03	2025-03-03
				-	-
Lead (Total)	mg/L	0.02		<0.02	<0.02
Magnesium (Total)	mg/L	0.02		13.0	4.02
Manganese (Total)	mg/L	0.001		0.044	0.051
Nickel (Total)	mg/L	0.01		<0.01	<0.01
Potassium (Total)	mg/L	0.1		34.5	35.2
Sodium (Total)	mg/L	0.2		183	83.1
Zinc (Total)	mg/L	0.005		0.407	0.307
Arsenic (Total)	mg/L	0.0005		0.0022	0.0017
Mercury	mg/L	0.00002		<0.00002	0.00010

Parameter	Units	R.L.	Client I.D.	Effluent PAN-3	Influent PAN-2
			Sample I.D.	25-005956-1	25-005956-2
			Date Collected	2025-03-03	2025-03-03
				-	-
Oil & Grease (Total)	mg/L	1.0		1.6	118

Bacteria passed holding time.

Michelle Dubien
Data Specialist

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: -

REPORT No: 25-011574 - Rev. 0

Report To:
Hamlet of Pangnirtung
P.O. Box 253
Pangnirtung, NVT X0A 0R0

CADUCEON Environmental Laboratories
2378 Holly Lane
Ottawa, ON K1V 7P1

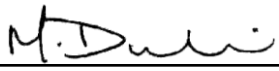
Attention: Andrew Keenaivak

DATE RECEIVED: 2025-May-01
DATE REPORTED: 2025-May-08
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT:
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	2	OTTAWA	LMACGREGOR	2025-May-02	A-IC-01	SM 4110B
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-May-02	BOD-001	SM 5210B
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2025-May-01	COND-02/PH-02/ALK-02	SM 2510B/4500H/2320B
Fecal Coliforms (Liquid)	2	OTTAWA	HALIPDA	2025-May-01	FC-001	SM 9222D
ICP/MS Total (Liquid)	2	OTTAWA	TPRICE	2025-May-02	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	2	OTTAWA	SGORMAN	2025-May-02	D-ICP-01	SM 3120B
Mercury (Liquid)	2	OTTAWA	TBENNETT	2025-May-06	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	2	KINGSTON	VHAMMOND	2025-May-07	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	2	KINGSTON	MLANE	2025-May-06	O&G-001	SM 5520
Phenols (Liquid)	2	KINGSTON	EHINCH	2025-May-06	PHEN-01	MECP E3179
Total Organic Carbon (TOC)	2	OTTAWA	ASCHNEIDER	2025-May-02	C-OC-01	EPA 415.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-May-05	TSS-001	SM 2540D

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

	Client I.D.		Influent PAN-2	Effluent PAN-3
	Sample I.D.		25-011574-1	25-011574-2
	Date Collected		2025-04-28	2025-04-28
Parameter	**Units**	**R.L.**	-	-
Fecal Coliform	CFU/100mL	1	31000000	<10
Alkalinity(CaCO3) to pH4.5	mg/L	5	426	<5
Conductivity @25°C	uS/cm	1	1330	970
pH @25°C	pH units	-	7.60	3.71 (13)
Chloride	mg/L	0.5	82.0	88.2
Nitrate (N)	mg/L	0.05	<0.05	51.5
Nitrite (N)	mg/L	0.05	<0.05	0.09
Sulphate	mg/L	1	5	35
BOD5	mg/L	3	194	<3
Total Suspended Solids	mg/L	3	220	5
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	129	1.92
Total Organic Carbon	mg/L	0.8	138	18.9
Phenolics	mg/L	0.001	0.325	0.004
Hardness (as CaCO3)	mg/L	0.02	46.6	53.2
Aluminum (Total)	mg/L	0.01	0.23	0.06
Cadmium (Total)	mg/L	0.005	<0.005	<0.005
Calcium (Total)	mg/L	0.02	9.96	12.2
Chromium (Total)	mg/L	0.002	0.002	<0.002
Cobalt (Total)	mg/L	0.005	<0.005	<0.005
Copper (Total)	mg/L	0.002	0.288	0.121
Iron (Total)	mg/L	0.005	0.574	0.090

Michelle Dubien
Data Specialist

Parameter	Units	R.L.	Client I.D.	Influent PAN-2	Effluent PAN-3
			Sample I.D.	25-011574-1	25-011574-2
			Date Collected	2025-04-28	2025-04-28
				-	-
Lead (Total)	mg/L	0.02		<0.02	<0.02
Magnesium (Total)	mg/L	0.02		5.29	5.52
Manganese (Total)	mg/L	0.001		0.065	0.024
Nickel (Total)	mg/L	0.01		<0.01	<0.01
Potassium (Total)	mg/L	0.1		32.5	27.6
Sodium (Total)	mg/L	0.2		57.2	116
Zinc (Total)	mg/L	0.005		0.233	0.298
Arsenic (Total)	mg/L	0.0005		0.0011	0.0017
Mercury	mg/L	0.00002		0.00005	<0.00002

Parameter	Units	R.L.	Client I.D.	Influent PAN-2	Effluent PAN-3
			Sample I.D.	25-011574-1	25-011574-2
			Date Collected	2025-04-28	2025-04-28
				-	-
Oil & Grease (Total)	mg/L	1.0		61.6	1.8

Comments:

13. Result reported outside calibration range

Bacteria passed holding time.

Michelle Dubien
Data Specialist

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G 138037

REPORT No: 25-015212 - Rev. 0

Report To:
Hamlet of Pangnirtung
P.O. Box 253
Pangnirtung, NVT X0A 0R0

CADUCEON Environmental Laboratories
2378 Holly Lane
Ottawa, ON K1V 7P1

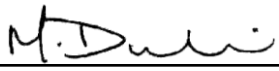
Attention: Andrew Keenaivak

DATE RECEIVED: 2025-May-30
DATE REPORTED: 2025-Jun-11
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT:
P.O. NUMBER: 253

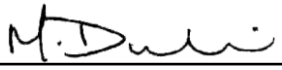
Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	2	OTTAWA	STAILLON	2025-May-31	A-IC-01	SM 4110B
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-May-30	BOD-001	SM 5210B
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2025-May-30	COND-02/PH-02/ALK-02	SM 2510B/4500H/2320B
Fecal Coliforms (Liquid)	2	OTTAWA	AHIRSI	2025-May-30	FC-001	SM 9222D
ICP/MS Total (Liquid)	2	OTTAWA	AOZKAYMAK	2025-Jun-02	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	2	OTTAWA	SGORMAN	2025-Jun-02	D-ICP-01	SM 3120B
Mercury (Liquid)	2	OTTAWA	TBENNETT	2025-Jun-03	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	2	KINGSTON	VHAMMOND	2025-Jun-09	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	2	KINGSTON	TMCBRYDE	2025-Jun-02	O&G-001	SM 5520
Phenols (Liquid)	2	KINGSTON	MCLOSS	2025-Jun-03	PHEN-01	MECP E3179
Total Organic Carbon (TOC)	2	OTTAWA	SLOZO	2025-Jun-03	C-OC-01	EPA 415.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Jun-05	TSS-001	SM 2540D

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *



Michelle Dubien
Data Specialist

	Client I.D.		Influent PAN-2	Effluent PAN-3
	Sample I.D.		25-015212-1	25-015212-2
	Date Collected		2025-05-28	2025-05-28
Parameter	**Units**	**R.L.**	-	-
Fecal Coliform	CFU/100mL	1	70000000	<10
Alkalinity(CaCO3) to pH4.5	mg/L	5	360	<5
Conductivity @25°C	uS/cm	1	1160	889
pH @25°C	pH units	-	7.46	4.23
Chloride	mg/L	0.5	70.2	61.4
Nitrate (N)	mg/L	0.05	<0.05	59.1
Nitrite (N)	mg/L	0.05	<0.05	0.34
Sulphate	mg/L	1	10	34
BOD5	mg/L	3	190	<3
Total Suspended Solids	mg/L	3	220	5
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	106	4.54
Total Organic Carbon	mg/L	0.8	78.7	20.4
Phenolics	mg/L	0.001	0.238	0.004
Hardness (as CaCO3)	mg/L	0.02	35.1	44.2
Aluminum (Total)	mg/L	0.01	0.47	0.09
Cadmium (Total)	mg/L	0.005	<0.005	<0.005
Calcium (Total)	mg/L	0.02	8.68	11.3
Chromium (Total)	mg/L	0.002	0.004	0.002
Cobalt (Total)	mg/L	0.005	<0.005	<0.005
Copper (Total)	mg/L	0.002	0.110	0.105
Iron (Total)	mg/L	0.005	1.03	0.122



Michelle Dubien
Data Specialist

		Client I.D.	Influent PAN-2	Effluent PAN-3
		Sample I.D.	25-015212-1	25-015212-2
		Date Collected	2025-05-28	2025-05-28
Parameter	**Units**	**R.L.**	-	-
Lead (Total)	mg/L	0.02	<0.02	<0.02
Magnesium (Total)	mg/L	0.02	3.27	3.87
Manganese (Total)	mg/L	0.001	0.057	0.092
Nickel (Total)	mg/L	0.01	<0.01	<0.01
Potassium (Total)	mg/L	0.1	27.9	28.4
Sodium (Total)	mg/L	0.2	52.7	118
Zinc (Total)	mg/L	0.005	0.239	0.361
Arsenic (Total)	mg/L	0.0005	0.0012	0.0010
Mercury	mg/L	0.00002	0.00006	<0.00002

		Client I.D.	Influent PAN-2	Effluent PAN-3
		Sample I.D.	25-015212-1	25-015212-2
		Date Collected	2025-05-28	2025-05-28
Parameter	**Units**	**R.L.**	-	-
Oil & Grease (Total)	mg/L	1.0	87.4	1.6

Michelle Dubien
Data Specialist

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: -

REPORT No: 25-016588 - Rev. 0

Report To:
Hamlet of Pangnirtung
P.O. Box 253
Pangnirtung, NVT X0A 0R0

CADUCEON Environmental Laboratories
2378 Holly Lane
Ottawa, ON K1V 7P1

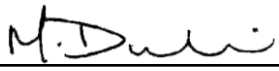
Attention: Andrew Keenaivak

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

CUSTOMER PROJECT:
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	2	OTTAWA	PCURIEL	2025-Jun-10	A-IC-01	SM 4110B
BOD5 (Liquid)	2	KINGSTON	DCASSIDY	2025-Jun-11	BOD-001	SM 5210B
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2025-Jun-10	COND-02/PH-02/ALK-02	SM 2510B/4500H/2320B
Fecal Coliforms (Liquid)	2	OTTAWA	HALIPDA	2025-Jun-10	FC-001	SM 9222D
ICP/MS Total (Liquid)	2	OTTAWA	AOZKAYMAK	2025-Jun-12	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	2	OTTAWA	GFENTON	2025-Jun-11	D-ICP-01	SM 3120B
Mercury (Liquid)	2	OTTAWA	TBENNETT	2025-Jun-11	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	2	KINGSTON	DCASSIDY	2025-Jun-13	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	2	KINGSTON	DCHAUDHARI	2025-Jun-12	O&G-001	SM 5520
Phenols (Liquid)	2	KINGSTON	EHINCH	2025-Jun-12	PHEN-01	MECP E3179
Total Organic Carbon (TOC)	2	OTTAWA	SLOZO	2025-Jun-12	C-OC-01	EPA 415.2
TSS (Liquid)	2	KINGSTON	KYUILL	2025-Jun-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 *



Michelle Dubien
Data Specialist

Parameter	Units	R.L.	Client I.D.: PAN 4	PAN 5
			Sample I.D.: 25-016588-1	25-016588-2
			Date Collected: 2025-06-05	2025-06-05
			-	-
Fecal Coliform	CFU/100mL	1	500	11800
Alkalinity(CaCO3) to pH4.5	mg/L	5	108	349
Conductivity @25°C	uS/cm	1	579	2540
pH @25°C	pH units	-	6.69	6.57
Chloride	mg/L	0.5	64.1	371
Nitrate (N)	mg/L	0.05	<0.05	<0.40
Nitrite (N)	mg/L	0.05	<0.05	<0.40
Sulphate	mg/L	1	77	366
BOD5	mg/L	3	14	183
Total Suspended Solids	mg/L	3	17	104
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	4.87	15.8
Total Organic Carbon	mg/L	0.8	56.4	541
Phenolics	mg/L	0.001	0.014	1.28
Hardness (as CaCO3)	mg/L	0.02	130	625
Aluminum (Total)	mg/L	0.01	0.06	0.36
Cadmium (Total)	mg/L	0.005	<0.005	<0.005
Calcium (Total)	mg/L	0.02	40.8	204
Chromium (Total)	mg/L	0.002	<0.002	0.008
Cobalt (Total)	mg/L	0.005	<0.005	0.014
Copper (Total)	mg/L	0.002	0.094	0.399
Iron (Total)	mg/L	0.005	0.370	0.808

Michelle Dubien
Data Specialist

Parameter	Units	R.L.	Client I.D.	PAN 4	PAN 5
			Sample I.D.	25-016588-1	25-016588-2
			Date Collected	2025-06-05	2025-06-05
				-	-
Lead (Total)	mg/L	0.02		<0.02	<0.02
Magnesium (Total)	mg/L	0.02		6.83	28.0
Manganese (Total)	mg/L	0.001		0.140	1.53
Nickel (Total)	mg/L	0.01		<0.01	0.03
Potassium (Total)	mg/L	0.1		16.2	88.1
Sodium (Total)	mg/L	0.2		46.4	246
Zinc (Total)	mg/L	0.005		0.263	0.700
Arsenic (Total)	mg/L	0.0005		0.0018	0.0025
Mercury	mg/L	0.00002		0.00003	0.00003

Parameter	Units	R.L.	Client I.D.	PAN 4	PAN 5
			Sample I.D.	25-016588-1	25-016588-2
			Date Collected	2025-06-05	2025-06-05
				-	-
Oil & Grease (Total)	mg/L	1.0		5.2	9.1

Bacteria analyzed passed holding time.
Elevated RLs due to sample matrix interferences

Michelle Dubien
Data Specialist

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured. Proudly Canadian.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: -

REPORT No: 25-020728 - Rev. 0

Report To:
Hamlet of Pangnirtung
P.O. Box 253
Pangnirtung, NVT X0A 0R0

CADUCEON Environmental Laboratories
2378 Holly Lane
Ottawa, ON K1V 7P1

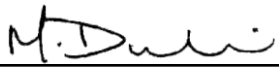
Attention: Andrew Keenaivak

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

CUSTOMER PROJECT:
P.O. NUMBER: 253

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	2	OTTAWA	PCURIEL	2025-Jul-17	A-IC-01	SM 4110B
BOD5 (Liquid)	2	KINGSTON	DCASSIDY	2025-Jul-17	BOD-001	SM 5210B
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2025-Jul-15	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Fecal Coliforms (Liquid)	2	OTTAWA	HALIPDA	2025-Jul-15	FC-001	SM 9222D
ICP/MS Total (Liquid)	2	OTTAWA	AOZKAYMAK	2025-Jul-16	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	2	OTTAWA	SGORMAN	2025-Jul-16	D-ICP-01	SM 3120B
Mercury (Liquid)	2	OTTAWA	TBENNETT	2025-Jul-16	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	2	KINGSTON	VHAMMOND	2025-Jul-21	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	2	KINGSTON	MLANE	2025-Jul-17	O&G-001	SM 5520
Phenols (Liquid)	2	KINGSTON	EHINCH	2025-Jul-18	PHEN-01	MECP E3179
Total Organic Carbon (TOC)	2	OTTAWA	LMACGREGOR	2025-Jul-15	C-OC-01	EPA 415.2
TSS (Liquid)	2	KINGSTON	KYUILL	2025-Jul-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 *



Michelle Dubien
Data Specialist

Parameter	Units	R.L.	Client I.D.: PAN 2	Client I.D.: PAN 3
			Sample I.D.: 25-020728-1	Sample I.D.: 25-020728-2
			Date Collected: 2025-06-30	Date Collected: 2025-06-30
			-	-
Fecal Coliform	CFU/100mL	1	2100000	100
Alkalinity(CaCO3) to pH4.5	mg/L	5	450	22
Conductivity @25°C	uS/cm	1	1320	904
pH @25°C	pH units	-	7.37	6.68
Chloride	mg/L	0.5	67.4	57.0
Nitrate (N)	mg/L	0.05	<0.05	75.9
Nitrite (N)	mg/L	0.05	<0.05	0.10
Sulphate	mg/L	1	<1	32
BOD5	mg/L	3	197	<3
Total Suspended Solids	mg/L	3	155	<3
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	122	0.67
Total Organic Carbon	mg/L	0.8	138	21.3
Phenolics	mg/L	0.001	0.269	<0.010
Hardness (as CaCO3)	mg/L	0.02	38.1	32.5
Aluminum (Total)	mg/L	0.01	0.30	0.03
Cadmium (Total)	mg/L	0.005	<0.005	<0.005
Calcium (Total)	mg/L	0.02	9.04	7.84
Chromium (Total)	mg/L	0.002	0.003	<0.002
Cobalt (Total)	mg/L	0.005	<0.005	<0.005
Copper (Total)	mg/L	0.002	0.253	0.063
Iron (Total)	mg/L	0.005	0.915	0.106

Michelle Dubien
Data Specialist

		Client I.D.	PAN 2	PAN 3
		Sample I.D.	25-020728-1	25-020728-2
		Date Collected	2025-06-30	2025-06-30
Parameter	**Units**	**R.L.**	-	-
Lead (Total)	mg/L	0.02	<0.02	<0.02
Magnesium (Total)	mg/L	0.02	3.78	3.13
Manganese (Total)	mg/L	0.001	0.056	0.008
Nickel (Total)	mg/L	0.01	<0.01	<0.01
Potassium (Total)	mg/L	0.1	34.4	27.8
Sodium (Total)	mg/L	0.2	56.2	138
Zinc (Total)	mg/L	0.005	0.275	0.216
Arsenic (Total)	mg/L	0.0005	0.0008	0.0009
Mercury	mg/L	0.00002	0.00007	<0.00002

		Client I.D.	PAN 2	PAN 3
		Sample I.D.	25-020728-1	25-020728-2
		Date Collected	2025-06-30	2025-06-30
Parameter	**Units**	**R.L.**	-	-
Oil & Grease (Total)	mg/L	1.0	69.1	6.5

Bacteria and gen chem past holding time.
Elevated RLs due to sample matrix interferences

Michelle Dubien
Data Specialist

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured. Proudly Canadian.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G 136648 **REPORT No: 25-022083 - Rev. 0**

Report To:
Hamlet of Pangnirtung
P.O. Box 253
Pangnirtung, NVT X0A 0R0

CADUCEON Environmental Laboratories
2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Jack Hicks

DATE RECEIVED: 2025-Jul-28
DATE REPORTED: 2025-Aug-05
SAMPLE MATRIX: Waste Water

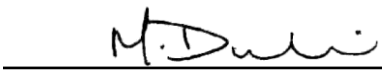
CUSTOMER PROJECT:
P.O. NUMBER: 253

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	3	OTTAWA	PCURIEL	2025-Jul-28	A-IC-01	SM 4110B
BOD5 (Liquid)	3	KINGSTON	JWOLFE2	2025-Jul-30	BOD-001	SM 5210B
Cond/pH/Alk Auto (Liquid)	3	OTTAWA	SBOUDREAU	2025-Jul-28	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Fecal Coliforms (Liquid)	3	OTTAWA	HALIPDA	2025-Jul-28	FC-001	SM 9222D
ICP/MS Total (Liquid)	3	OTTAWA	AOZKAYMAK	2025-Jul-29	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	3	OTTAWA	SGORMAN	2025-Jul-29	D-ICP-01	SM 3120B
Mercury (Liquid)	3	OTTAWA	TBENNETT	2025-Jul-29	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	3	KINGSTON	DCASSIDY	2025-Jul-30	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	3	KINGSTON	TMCBRYDE	2025-Aug-01	O&G-001	SM 5520
PHC F1 (Liquid)	3	RICHMOND_HILL	JEVANS	2025-Jul-30	C-VPHW-01	MECP E3421
PHC F2-4 (Liquid)	3	KINGSTON	STHOMPSON	2025-Jul-30	PHC-W-001	MECP E3421
Phenols (Liquid)	3	KINGSTON	MCLOSS	2025-Jul-30	PHEN-01	MECP E3179
SVOC - Semi-Volatiles (Liquid)	3	KINGSTON	KPARKER	2025-Jul-31	NAB-W-001	EPA 8270D
Total Organic Carbon (TOC)	3	OTTAWA	SLOZO	2025-Jul-30	C-OC-01	EPA 415.2
TP & TKN (Liquid)	3	KINGSTON	YLIEN	2025-Aug-01	TPTKN-001	MECP E3516.2
TSS (Liquid)	3	KINGSTON	KYUILL	2025-Aug-01	TSS-001	SM 2540D
VOC-Volatiles Full (Water)	3	RICHMOND_HILL	JEVANS	2025-Jul-30	C-VOC-02	EPA 8260

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg
F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)
F2 C10-C16 hydrocarbons in µg/g, (F2-napth if requested)
F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)
F4 C34-C50 hydrocarbons in µg/g
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
Any deviations from the method are noted and reported for any particular sample.
nC6 and nC10 response factor is within 30% of response factor for toluene:
nC10,nC16 and nC34 response factors within 10% of each other:
C50 response factors within 70% of nC10+nC16+nC34 average:
Linearity is within 15%:
All results expressed on a dry weight basis.
Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.
If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC
QC will be made available upon request.



Michelle Dubien
Data Specialist

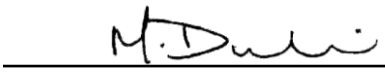
	Client I.D.		PAN 4	PAN 5	PAN 6
	Sample I.D.		25-022083-1	25-022083-2	25-022083-3
	Date Collected		2025-07-23	2025-07-23	2025-07-23
Parameter	**Units**	**R.L.**	-	-	-
Fecal Coliform	CFU/100mL	1	<2	<2	6
Alkalinity(CaCO3) to pH4.5	mg/L	5	638	6	8
Conductivity @25°C	uS/cm	1	2640	33	34
pH @25°C	pH units	-	7.97	6.67	6.64
Chloride	mg/L	0.5	162	6.2	4.7
Nitrate (N)	mg/L	0.05	10.6	<0.05	<0.05
Nitrite (N)	mg/L	0.05	3.79	<0.05	<0.05
Sulphate	mg/L	1	521	3	4
BOD5	mg/L	3	45	<3	<3
Total Suspended Solids	mg/L	3	54	35	<3
Phosphorus (Total)	mg/L	0.01	0.60	0.22	0.03
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	31.0	0.12	0.08
Total Organic Carbon	mg/L	0.8	85.2	13.1	5.1
Phenolics	mg/L	0.001	0.010	0.007	0.003
Hardness (as CaCO3)	mg/L	0.02	928	9.60	10.7
Aluminum (Total)	mg/L	0.01	0.13	0.47	0.09
Cadmium (Total)	mg/L	0.005	<0.005	<0.005	<0.005
Calcium (Total)	mg/L	0.02	294	2.57	3.21
Chromium (Total)	mg/L	0.002	<0.002	<0.002	<0.002
Cobalt (Total)	mg/L	0.005	0.011	0.006	<0.005
Copper (Total)	mg/L	0.002	0.451	0.003	<0.002

Michelle Dubien
Data Specialist

			Client I.D.	PAN 4	PAN 5	PAN 6
			Sample I.D.	25-022083-1	25-022083-2	25-022083-3
			Date Collected	2025-07-23	2025-07-23	2025-07-23
Parameter	**Units**	**R.L.**		-	-	-
Iron (Total)	mg/L	0.005		1.78	1.64	0.582
Lead (Total)	mg/L	0.02		<0.02	<0.02	<0.02
Manganese (Total)	mg/L	0.001		0.700	0.076	0.045
Nickel (Total)	mg/L	0.01		0.04	<0.01	<0.01
Potassium (Total)	mg/L	0.1		81.3	1.0	0.8
Zinc (Total)	mg/L	0.005		0.794	0.020	0.130
Arsenic (Total)	mg/L	0.0005		0.0106	<0.0005	<0.0005
Mercury	mg/L	0.00002		0.00032	<0.00002	<0.00002

Michelle Dubien
Data Specialist

			Client I.D.	PAN 4	PAN 5	PAN 6
			Sample I.D.	25-022083-1	25-022083-2	25-022083-3
			Date Collected	2025-07-23	2025-07-23	2025-07-23
Parameter	**Units**	**R.L.**		-	-	-
Benzene	µg/L	0.5		<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5		<0.5	<0.5	<0.5
Toluene	µg/L	0.5		<0.5	<0.5	<0.5
Xylene, m,p-	µg/L	1		<1	<1	<1
Xylene, m,p,o-	µg/L	1.1		<1.1	<1.1	<1.1
Xylene, o-	µg/L	0.5		<0.5	<0.5	<0.5
PHC F1 (C6-C10)	µg/L	25		<25	<25	<25
PHC F2 (>C10-C16)	µg/L	50		<50	<50	<50
PHC F3 (>C16-C34)	µg/L	400		<400	<400	<400
PHC F4 (>C34-C50)	µg/L	400		<400	<400	<400
Oil & Grease (Total)	mg/L	1.0		3.1	8.6	1.5



Michelle Dubien
Data Specialist

			Client I.D.	PAN 4	PAN 5	PAN 6
			Sample I.D.	25-022083-1	25-022083-2	25-022083-3
			Date Collected	2025-07-23	2025-07-23	2025-07-23
Parameter	**Units**	**R.L.**		-	-	-
Acenaphthene	µg/L	0.05		<0.95	<0.05	<0.05
Acenaphthylene	µg/L	0.05		<0.73	<0.05	<0.05
Anthracene	µg/L	0.05		<0.62	<0.05	<0.05
Benzo[a]anthracene	µg/L	0.05		<1.79	<0.05	<0.05
Benzo(a)pyrene	µg/L	0.01		<0.39	<0.01	<0.01
Benzo(b)fluoranthene	µg/L	0.05		<0.67	<0.05	<0.05
Benzo(b+k)fluoranthene	µg/L	0.1		<0.9	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	0.05		<0.67	<0.05	<0.05
Benzo(k)fluoranthene	µg/L	0.05		<0.56	<0.05	<0.05
Chrysene	µg/L	0.05		<0.67	<0.05	<0.05
Dibenzo(a,h)anthracene	µg/L	0.05		<0.67	<0.05	<0.05
Fluoranthene	µg/L	0.05		<0.56	<0.05	<0.05
Fluorene	µg/L	0.05		<0.56	<0.05	<0.05
Indeno(1,2,3,-cd)Pyrene	µg/L	0.05		<0.73	<0.05	<0.05
Methylnaphthalene,1-	µg/L	0.05		<0.78	<0.05	<0.05
Methylnaphthalene,2-(1-)	µg/L	1		<1	<1	<1
Methylnaphthalene,2-	µg/L	0.05		<0.84	<0.05	<0.05
Naphthalene	µg/L	0.05		<1.79	<0.05	<0.05
Phenanthrene	µg/L	0.05		<0.90	<0.05	<0.05
Pyrene	µg/L	0.05		<0.50	<0.05	<0.05
Total PAH	µg/L	0.1		<3.7	<0.1	<0.1

Michelle Dubien
Data Specialist

Bacteria passed holding time.
VOC vials contain head space

Michelle Dubien
Data Specialist

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured. Proudly Canadian.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: -

REPORT No: 25-022950 - Rev. 0

Report To:
Hamlet of Pangnirtung
P.O. Box 253
Pangnirtung, NVT X0A 0R0

CADUCEON Environmental Laboratories
2378 Holly Lane
Ottawa, ON K1V 7P1

Attention: Jack Hicks

DATE RECEIVED: 2025-Aug-05
DATE REPORTED: 2025-Aug-18
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT:
P.O. NUMBER: 253

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	2	OTTAWA	PCURIEL	2025-Aug-06	A-IC-01	SM 4110B
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-Aug-07	BOD-001	SM 5210B
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	AGRAF	2025-Aug-05	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Fecal Coliforms (Liquid)	2	OTTAWA	HALIPDA	2025-Aug-05	FC-001	SM 9222D
ICP/MS Total (Liquid)	2	OTTAWA	AOZKAYMAK	2025-Aug-07	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	2	OTTAWA	SGORMAN	2025-Aug-06	D-ICP-01	SM 3120B
Mercury (Liquid)	2	OTTAWA	AANTONY	2025-Aug-06	D-HG-02	SM 3112B
Ammonia (Liquid)	2	KINGSTON	VHAMMOND	2025-Aug-07	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	2	KINGSTON	DCHAUDHARI	2025-Aug-08	O&G-001	SM 5520
Phenols (Liquid)	2	KINGSTON	EHINCH	2025-Aug-07	PHEN-01	MECP E3179
Total Organic Carbon (TOC)	2	OTTAWA	SLOZO	2025-Aug-05	C-OC-01	EPA 415.2
TSS (Liquid)	2	KINGSTON	KYUILL	2025-Aug-11	TSS-001	SM 2540D

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *

Michelle Dubien

Data Specialist

			Client I.D.	PAN 2	PAN 3
			Sample I.D.	25-022950-1	25-022950-2
			Date Collected	2025-07-31	2025-07-31
Parameter	**Units**	**R.L.**		-	-
Fecal Coliform	CFU/100mL	1		43000000	200
Alkalinity(CaCO3) to pH4.5	mg/L	5		444	59
Conductivity @25°C	uS/cm	1		1300	1880
pH @25°C	pH units	-		7.59	7.39
Chloride	mg/L	0.5		49.2	165
Nitrate (N)	mg/L	0.05		0.05	61.5
Nitrite (N)	mg/L	0.05		<0.05	32.5
Sulphate	mg/L	1		4	78
BOD5	mg/L	3		359	<3
Total Suspended Solids	mg/L	3		260	6
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		126	6.21
Total Organic Carbon	mg/L	0.8		123	1.9
Phenolics	mg/L	0.001		0.241	<0.001
Hardness (as CaCO3)	mg/L	0.02		37.3	59.1
Aluminum (Total)	mg/L	0.01		0.72	0.02
Cadmium (Total)	mg/L	0.005		<0.005	<0.005
Calcium (Total)	mg/L	0.02		8.79	14.0
Chromium (Total)	mg/L	0.002		0.003	0.002
Cobalt (Total)	mg/L	0.005		0.007	<0.005
Copper (Total)	mg/L	0.002		0.164	0.017
Iron (Total)	mg/L	0.005		1.14	0.022

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		Client I.D.	PAN 2	PAN 3
		Sample I.D.	25-022950-1	25-022950-2
		Date Collected	2025-07-31	2025-07-31
Parameter	**Units**	**R.L.**	-	-
Lead (Total)	mg/L	0.02	<0.02	<0.02
Magnesium (Total)	mg/L	0.02	3.73	5.86
Manganese (Total)	mg/L	0.001	0.051	0.005
Nickel (Total)	mg/L	0.01	<0.01	<0.01
Potassium (Total)	mg/L	0.1	30.0	52.9
Sodium (Total)	mg/L	0.2	47.1	283
Zinc (Total)	mg/L	0.005	0.280	0.018
Arsenic (Total)	mg/L	0.0005	0.0014	0.0017
Mercury	mg/L	0.00002	0.00010	<0.00002

		Client I.D.	PAN 2	PAN 3
		Sample I.D.	25-022950-1	25-022950-2
		Date Collected	2025-07-31	2025-07-31
Parameter	**Units**	**R.L.**	-	-
Oil & Grease (Total)	mg/L	1.0	65.5	1.8

Bacteria passed holding time.

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