

**2025 ANNUAL REPORT
FOR THE MUNICIPALITY OF ARCTIC BAY**

YEAR BEING REPORTED: 2025

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence No. **3BM-ARC2530** issued to the **Municipality of Arctic Bay**.

Below are tabular summaries of data generated under the “Monitoring Program”.

I. Monthly and annual quantities of freshwater obtained from all freshwater sources, estimated sewage waste discharge, and hazardous and non-hazardous waste accepted at the solid waste facility in m³.

Table 1: Summary of water used as recorded with the Fluid Manager program, the estimated discharge of sewage waste, and hazardous and non-hazardous waste accepted at the Solid Waste Facility in m³.

Month Reported	Quantity of Water Obtained from all sources (m³)	Quantity of Sewage Waste Discharged (m³)	Hazardous Waste Accepted (m³)	Non-Hazardous Waste Accepted (m³)
January	2,743.48	Same	0.98	882.30
February	2,431.88	Same	0.98	882.30
March	2,599.35	Same	0.98	882.30
April	2,247.86	Same	0.98	882.30
May	2,480.04	Same	0.98	882.30
June	2,319.71	Same	0.98	882.30
July	2,435.41	Same	0.98	882.30
August	2,470.69	Same	0.98	882.30
September	2,391.52	Same	0.98	882.30
October	2,809.52	Same	0.98	882.30
November	2,477.30	Same	0.98	882.30
December	2,538.29	Same	0.98	882.30
ANNUAL TOTAL	29,945.05	Same	11.71	10,587.65

Note: No meter exists to measure the sewage discharge volumes, therefore Sewage discharge volumes are considered equal to the water consumption volumes. No sludge removed from the Sewage Disposal Facility in 2025.

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II. 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 modifications or major maintenance work carried out in 2025. Construction of a new water treatment plant and fire reserve tanks are expected to begin in summer 2026.

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

No known spills or unauthorized discharges associated with licenced infrastructure under licence 3BM-ARC2530 occurred in 2025.

IV. Updates or revisions to the approved Operation and Maintenance Plans:

No updates or revisions to the approved Operation and Maintenance Plan were made in 2025.

V. 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:

A detailed design was developed for the water treatment plant upgrade and completed in late 2024. Construction to begin summer 2026 and will continue with an anticipated completion of summer 2027.

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

There was no abandonment and restoration work completed during 2025. There is no abandonment and restoration work anticipated for 2026.

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

The Board requested missing plans, including the Environmental Emergency Contingency Plan, Environmental Monitoring and QA/QC Plan, and the Sewage Disposal Facility O&M Plan on January 8, 2025. They were submitted to the board on January 9, 2025. The Water Supply Facilities O&M Plan will be submitted six months prior to commissioning.

VIII. FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

No CIRNAC Inspection took place in 2025.

IX. ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

- While there were exceedances for fecal coliforms at ARC-6b, upstream at ARC-4 was significantly lower at 5×10^5 . The sample ID's may have been mixed up during the sample event.
- An assessment of the geotechnical and geothermal performance of the SDF is unavailable as no monitoring data was gathered from the thermistor, standpipe, and settlement monitoring station in 2025.
- No modifications to the "Monitoring Program" were made in 2025.

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APPENDICES:

Appendix A: Summary of Monitoring Data

Appendix B: Monitoring Program Sample Results

- Certificate of Analysis – 25-09-03

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Appendix A: Summary of Monitoring Data

ARC-6b Effluent Quality Limits as per Part D, Item 3

Parameter	Maximum Concentration of any Grab Sample for ARC-6b	Units	Sept. 3, 2025 ARC-6b
CBOD	100	mg/L	91
Total Suspended Solids	120	mg/L	34
Fecal Coliform	1x10 ⁶	CFU/100 mL	1.9x10 ⁶
Oil and grease	No visible sheen	N/A	14.6 mg/L
pH	Between 6 and 9	N/A	7.74

One exceedance was noted of fecal coliforms, sampled on Sept. 3, 2025.

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Appendix B: Monitoring Program Sample Results

C.O.C.: G 110863

REPORT No: 25-027015 - Rev. 0

Report To:

Hamlet of Arctic Bay
 Box 150
 Arctic Bay, NU X0A 0A0

CADUCEON Environmental Laboratories

2378 Holly Lane
 Ottawa, ON K1V 7P1

Attention: Sam Willie

DATE RECEIVED: 2025-Sep-05
 DATE REPORTED: 2025-Sep-12
 SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT: 2025 Annual W/W Decanting
 P.O. NUMBER: 20423

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	2	OTTAWA	STAILLON	2025-Sep-05	A-IC-01	SM 4110B
BOD5 (Liquid)	2	KINGSTON	JWOLFE2	2025-Sep-05	BOD-001	SM 5210B
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2025-Sep-05	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Fecal Coliforms (Liquid)	2	OTTAWA	AHIRSI	2025-Sep-05	FC-001	SM 9222D
ICP/MS Total (Liquid)	2	OTTAWA	GFENTON	2025-Sep-08	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	2	OTTAWA	NSAUNDERS	2025-Sep-08	D-ICP-01	SM 3120B
Mercury (Liquid)	2	OTTAWA	TBENNETT	2025-Sep-08	D-HG-02	SM 3112B
Ammonia (Liquid)	2	KINGSTON	VHAMMOND	2025-Sep-12	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	2	KINGSTON	MLANE	2025-Sep-08	O&G-001	SM 5520
Phenols (Liquid)	2	KINGSTON	EHINCH	2025-Sep-09	PHEN-01	MECP E3179
Total Organic Carbon (TOC)	2	OTTAWA	LMACGREGOR	2025-Sep-05	C-OC-01	EPA 415.2
TSS (Liquid)	2	KINGSTON	MCLOSS	2025-Sep-09	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

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
REPORT No: 25-027015 - Rev. 0

Parameter	Units	R.L.	Client I.D.	1 W/W Sample Kit ARC-6B	1 W/W Sample Kit ARC-4
			Sample I.D.	25-027015-1	25-027015-2
			Date Collected	2025-09-03	2025-09-03
				-	-
Fecal Coliform	CFU/100mL	1		1900000	500000
Alkalinity(CaCO3) to pH4.5	mg/L	5		359	339
Conductivity @25°C	uS/cm	1		985	924
pH @25°C	pH units	-		7.75	7.74
Chloride	mg/L	0.5		53.5	52.8
Nitrate (N)	mg/L	0.05		<0.05	<0.05
Nitrite (N)	mg/L	0.05		<0.05	0.08
Sulphate	mg/L	1		1	1
BOD5	mg/L	3		91	53
Total Suspended Solids	mg/L	3		34	24
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		77.0	71.7
Total Organic Carbon	mg/L	0.8		85.6	52.0
Phenolics	mg/L	0.001		0.742	0.025
Hardness (as CaCO3)	mg/L	0.02		70.4	72.9
Aluminum (Total)	mg/L	0.01		0.12	0.08
Cadmium (Total)	mg/L	0.005		<0.005	<0.005
Calcium (Total)	mg/L	0.02		12.5	13.3
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		0.062	0.061
Iron (Total)	mg/L	0.005		0.702	0.561



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

CADUCEON Environmental Laboratories Certificate of Analysis

Final Report
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Parameter	Units	R.L.	Client I.D.	1 W/W Sample Kit ARC-6B	1 W/W Sample Kit ARC-4
			Sample I.D.	25-027015-1	25-027015-2
			Date Collected	2025-09-03	2025-09-03
				-	-
Lead (Total)	mg/L	0.02		<0.02	<0.02
Magnesium (Total)	mg/L	0.02		9.53	9.62
Manganese (Total)	mg/L	0.001		0.256	0.288
Nickel (Total)	mg/L	0.01		<0.01	<0.01
Potassium (Total)	mg/L	0.1		24.7	22.5
Sodium (Total)	mg/L	0.2		51.3	47.8
Zinc (Total)	mg/L	0.005		0.042	0.034
Arsenic (Total)	mg/L	0.0005		0.0011	0.0011
Mercury	mg/L	0.00002		0.00002	0.00002

Parameter	Units	R.L.	Client I.D.	1 W/W Sample Kit ARC-6B	1 W/W Sample Kit ARC-4
			Sample I.D.	25-027015-1	25-027015-2
			Date Collected	2025-09-03	2025-09-03
				-	-
Oil & Grease (Total)	mg/L	1.0		14.6	10.6



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Data Specialist

