ANNUAL REPORT
FOR THE MUNICIPALITY OF RESOLUTE BAY

YEAR BEING REPORTED: 2024

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence No. **3BM-RES2025** issued to the **Municipality of Resolute Bay**.

Below are tabular summaries of all data generated under the "Monitoring Program".

I. Monthly and annual quantities of freshwater obtained by daily logs for all freshwater sources and estimated sewage waste discharged.

Table 1: Summary of water obtained from all sources combined and estimated sewage water discharge in m^3

Month Reported	Quantity of Hazardous Waste Disposed (m^3)	Quantity of Bulky Waste – Metals and Wood Disposed (m^3)	Quantity of Soil Disposed (m^3)
January	0.27	86.92	0
February	0.27	86.92	0
March	0.27	86.92	0
April	0.27	86.92	0
May	0.27	86.92	0
June	0.27	86.92	0
July	0.27	86.92	0
August	0.27	86.92	0
September	0.27	86.92	0
October	0.27	86.92	0
November	0.27	86.92	0
December	0.27	86.92	0
ANNUAL TOTAL	3.24	1,043.01	0

Note: The purpose of this License is the deposit of waste; there is no authorized water use.

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:
- Batteries, empty propane tanks and waste oil are stored in shipping containers in designated areas.

III. A list of unauthorized discharges and summary of follow-up action taken:
- No unauthorized discharges for the infrastructure under licence 3BM-RES2025 occurred in 2024.

IV. A summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year:
- None

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:
- The initial planning study for a new solid waste facility was completed in 2020/21. The cost estimates have indicated that the current funding cannot support the construction of a new state-of-the-art 20-year landfill in all project communities; however, the current site cannot remain where it is in Resolute Bay due to the proximity to the shoreline. A second planning contract for a conceptual design of a new solid waste facility is nearly complete and municipal Council is in the process of passing a Motion to proceed with the recommendations from the planning project for the design and construction of the new solid waste facility. The expected timeline for the new solid waste facility is detailed design during throughout 2025, then construction in 2026 and 2027, and commissioning in 2027. Details of the facility will be provided to the Board in a Water Licence amendment and renewal application to be submitted within two months.

VI. Any other details on water use or waste disposal requested by the Board by November 1st of the year being reported; and
- None

VII. Updates or revisions to the approved Operation and Maintenance Plans:
- Update Environmental Emergency Spill Contingency and Environmental Monitoring and QA/QC Plans will be provided within the 2025 Application for Amendment and Renewal of the Water Licence for approval.
- The changes to the Plans will ensure that all information is up to date for the infrastructure, personnel, and procedures for handling regulatory requirements.

ADDITIONAL INFORMATION THAT THE LICENSEE DEEMS USEFUL:

- There were no modifications to the Monitoring Program.
- Location of sampling locations:

Monitoring Station	Coordinates
1571-5	74°44'33.23"N, 95° 0'47.58"W
RES-2	74°44'30.09"N, 95° 0'48.27"W
RES-3	74°44'29.25"N, 95° 0'58.05"W

FOLLOW-UP REGARDING INSPECTION/COMPLIANCE CONCERNS:

- A CIRNAC Inspection took place on July 17, 2024. As per the Inspection Report attached as Appendix C, the municipality will complete the following to ensure compliance with the Water Licence:
    - Provide notification to the Inspector at least 10 days prior to open burning waste
    - Continue to segregate out hazardous and store them in the designated hazardous waste area of the Solid Waste Disposal Facility until the hazardous waste can be backhauled
        - A backhaul of hazardous wastes along bulky metals and end of life vehicles may become apart of the new solid waste facility project taking place 2026/2027.

- An updated Compliance Plan will be submitted with the 2025 Application for Water Licence Amendment and Renewal.

APPENDICES

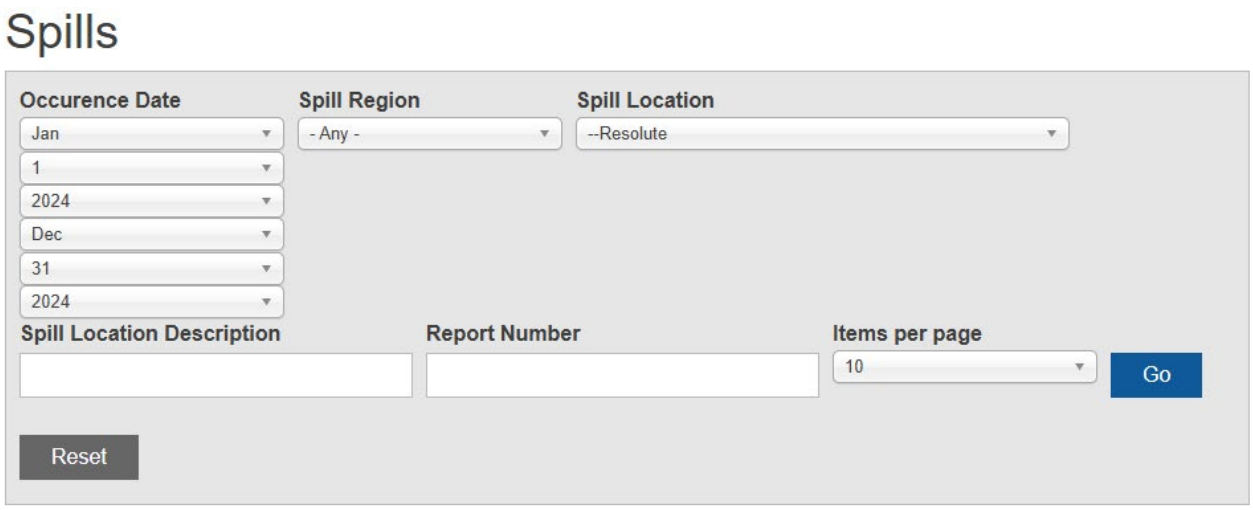
Appendix A: Hazardous Materials Spills Database for Resolute Bay in 2024

Appendix B: Sampling Results
- **Certificate of Analysis – July 16, 2024**
- **Certificate of Analysis – July 29, 2024**
- **Certificate of Analysis – July 30, 2024**

Appendix C: CIRNAC Inspection Report – July 17, 2024

Appendix A: Hazardous Materials Spills Database for Resolute Bay in 2024

None of the spills that occurred in Resolute Bay in 2024 are associated with 3BM-RES2025.



Spill	Occurance Date	Spill Region	Location	Location Description	Product Spilled	Quantity	Measurement	Spill Cause	Lead Agency
spill-2024087	April 5, 2024	Baffin	Resolute	Resolute Bay	Petroleum - fuel oil (jet A, diesel, turbo A, heat)	200.00	Liters	Other	GN - Government of Nunavut

Appendix B: Sampling Results

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: -

REPORT No: 24-022067 - Rev. 0

Report To:
ATCO Frontec Ltd.
PO Box 88
Hamlet of Resolute Bay
, NU X0A 0V0

Attention: Ian Dudla

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

DATE RECEIVED: 2024-Jul-22
DATE REPORTED: 2024-Jul-30
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT:
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2024-Jul-22	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2024-Jul-24	BOD-001	SM 5210B
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2024-Jul-24	COND-02/PH-02/ALK-02	SM 2510B/4500H/2320B
Fecal Coliforms (Liquid)	1	OTTAWA	HALIPDA	2024-Jul-22	FC-001	SM 9222D
ICP/MS Total (Liquid)	1	OTTAWA	AOZKAYMAK	2024-Jul-23	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	APRUDYVUS	2024-Jul-23	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2024-Jul-23	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	JYEARWOOD	2024-Jul-24	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	1	KINGSTON	TMCBRYDE	2024-Jul-23	O&G-001	SM 5520
PHC F1 (Liquid)	1	RICHMOND_HILL	FLENA	2024-Jul-25	C-VPHW-01	MECP E3421
PHC F2-4 (Liquid)	1	KINGSTON	STHOMPSON	2024-Jul-23	PHC-W-001	MECP E3421
Phenols (Liquid)	1	KINGSTON	JMACINNES	2024-Jul-24	PHEN-01	MECP E3179
SVOC - Semi-Volatiles (Liquid)	1	KINGSTON	EASIEDU	2024-Jul-24	NAB-W-001	EPA 8270D
Total Organic Carbon (TOC)	1	OTTAWA	VKASYAN	2024-Jul-22	C-OC-01	EPA 415.2
TP & TKN (Liquid)	1	KINGSTON	KDIBBITS	2024-Jul-24	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	DCASSIDY	2024-Jul-23	TSS-001	SM 2540D
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	FLENA	2024-Jul-25	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.	1571-5
			Sample I.D.	24-022067-1
			Date Collected	2024-07-16
Parameter	Units	R.L.		-
Fecal Coliform	CFU/100mL	1		<2
Alkalinity(CaCO3) to pH4.5	mg/L	5		103
Conductivity @25°C	uS/cm	1		247
pH @25°C	pH units	-		8.00
Chloride	mg/L	0.5		12.3
Nitrate (N)	mg/L	0.05		<0.05
Nitrite (N)	mg/L	0.05		<0.05
Sulphate	mg/L	1		4
BOD5	mg/L	3		<3
Total Suspended Solids	mg/L	3		<3
Phosphorus (Total)	mg/L	0.01		0.01
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		<0.05
Total Organic Carbon	mg/L	0.2		2.5
Phenolics	mg/L	0.001		<0.001
Hardness (as CaCO3)	mg/L	0.02		106
Aluminum (Total)	mg/L	0.01		<0.01
Cadmium (Total)	mg/L	0.005		<0.005
Calcium (Total)	mg/L	0.02		30.1
Chromium (Total)	mg/L	0.002		<0.002
Cobalt (Total)	mg/L	0.005		<0.005
Copper (Total)	mg/L	0.002		<0.002

Michelle Dubien
Data Specialist

			Client I.D.	1571-5
			Sample I.D.	24-022067-1
			Date Collected	2024-07-16
Parameter	Units	R.L.		-
Iron (Total)	mg/L	0.005		0.022
Lead (Total)	mg/L	0.02		<0.02
Manganese (Total)	mg/L	0.001		0.003
Nickel (Total)	mg/L	0.01		<0.01
Potassium (Total)	mg/L	0.1		0.6
Zinc (Total)	mg/L	0.005		<0.005
Arsenic (Total)	mg/L	0.0001		0.0001
Mercury	mg/L	0.00002		<0.00002

Michelle Dubien
Data Specialist

			Client I.D.	1571-5
			Sample I.D.	24-022067-1
			Date Collected	2024-07-16
Parameter	Units	R.L.		-
Benzene	µg/L	0.5		<0.5
Ethylbenzene	µg/L	0.5		<0.5
Toluene	µg/L	0.5		<0.5
Xylene, m,p-	µg/L	1		<1
Xylene, m,p,o-	µg/L	1.1		<1.1
Xylene, o-	µg/L	0.5		<0.5
PHC F1 (C6-C10)	µg/L	25		<25
PHC F2 (>C10-C16)	µg/L	50		<50
PHC F3 (>C16-C34)	µg/L	400		<400
PHC F4 (>C34-C50)	µg/L	400		<400
Oil & Grease (Total)	mg/L	1.0		2.2

Michelle Dubien
Data Specialist

			Client I.D.	1571-5
			Sample I.D.	24-022067-1
			Date Collected	2024-07-16
Parameter	Units	R.L.	-	
Acenaphthene	µg/L	0.05	<0.05	
Acenaphthylene	µg/L	0.05	<0.05	
Anthracene	µg/L	0.05	<0.05	
Benzo[a]anthracene	µg/L	0.05	<0.05	
Benzo(a)pyrene	µg/L	0.01	0.01	
Benzo(b)fluoranthene	µg/L	0.05	<0.05	
Benzo(b+k)fluoranthene	µg/L	0.1	<0.1	
Benzo(g,h,i)perylene	µg/L	0.05	<0.05	
Benzo(k)fluoranthene	µg/L	0.05	<0.05	
Chrysene	µg/L	0.05	<0.05	
Dibenzo(a,h)anthracene	µg/L	0.05	<0.05	
Fluoranthene	µg/L	0.05	<0.05	
Fluorene	µg/L	0.05	<0.05	
Indeno(1,2,3,-cd)Pyrene	µg/L	0.05	<0.05	
Methylnaphthalene,1-	µg/L	0.05	<0.05	
Methylnaphthalene,2-(1-)	µg/L	1	<1	
Methylnaphthalene,2-	µg/L	0.05	<0.05	
Naphthalene	µg/L	0.05	<0.05	
Phenanthrene	µg/L	0.05	<0.05	
Pyrene	µg/L	0.05	<0.05	

Bacteria passed holding time.

Michelle Dubien
Data Specialist

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: -

REPORT No: 24-023425 - Rev. 0

Report To:
ATCO Frontec Ltd.
PO Box 88
Hamlet of Resolute Bay
, NU X0A 0V0

Attention: Ian Dudla

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

DATE RECEIVED: 2024-Aug-01
DATE REPORTED: 2024-Aug-08
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT:
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	LMACGREGOR	2024-Aug-01	A-IC-01	SM 4110B
BOD5 (Liquid)	1	KINGSTON	JWOLFE2	2024-Aug-02	BOD-001	SM 5210B
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2024-Aug-01	COND-02/PH-02/ALK-02	SM 2510B/4500H/2320B
Fecal Coliforms (Liquid)	1	OTTAWA	AHIRSI	2024-Aug-01	FC-001	SM 9222D
ICP/MS Total (Liquid)	1	OTTAWA	TPRICE	2024-Aug-02	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	1	OTTAWA	NHOGAN	2024-Aug-02	D-ICP-01	SM 3120B
Mercury (Liquid)	1	OTTAWA	TBENNETT	2024-Aug-02	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	JYEARWOOD	2024-Aug-06	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	1	KINGSTON	DCHAUDHARI	2024-Aug-02	O&G-001	SM 5520
PHC F1 (Liquid)	1	RICHMOND_HILL	JEVANS	2024-Aug-03	C-VPHW-01	MECP E3421
PHC F2-4 (Liquid)	1	KINGSTON	STHOMPSON	2024-Aug-02	PHC-W-001	MECP E3421
Phenols (Liquid)	1	KINGSTON	JMACINNES	2024-Aug-02	PHEN-01	MECP E3179
SVOC - Semi-Volatiles (Liquid)	1	KINGSTON	EASIEDU	2024-Aug-07	NAB-W-001	EPA 8270D
Total Organic Carbon (TOC)	1	OTTAWA	MMACMILLAN	2024-Aug-02	C-OC-01	EPA 415.2
TP & TKN (Liquid)	1	KINGSTON	KDIBBITS	2024-Aug-06	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2024-Aug-02	TSS-001	SM 2540D
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	JEVANS	2024-Aug-03	C-VOC-02	EPA 8260

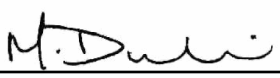
µg/g = micrograms per gram (parts per million) and is equal to mg/Kg
F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)
F2 C10-C16 hydrocarbons in µg/g, (F2-napth if requested)
F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)
F4 C34-C50 hydrocarbons in µg/g
This method complies with the Reference 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.	RES-3
		Sample I.D.	24-023425-1
		Date Collected	2024-07-30
Parameter	**Units**	**R.L.**	-
Fecal Coliform	CFU/100mL	1	<2
Alkalinity(CaCO3) to pH4.5	mg/L	5	150
Conductivity @25°C	uS/cm	1	341
pH @25°C	pH units	-	6.96
Chloride	mg/L	0.5	16.4
Nitrate (N)	mg/L	0.05	0.39
Nitrite (N)	mg/L	0.05	<0.05
Sulphate	mg/L	1	10
BOD5	mg/L	3	<3
Total Suspended Solids	mg/L	3	3
Phosphorus (Total)	mg/L	0.01	0.16
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	<0.05
Total Organic Carbon	mg/L	0.2	7.6
Phenolics	mg/L	0.001	<0.001
Hardness (as CaCO3)	mg/L	0.02	156
Aluminum (Total)	mg/L	0.01	0.04
Cadmium (Total)	mg/L	0.005	<0.005
Calcium (Total)	mg/L	0.02	44.8
Chromium (Total)	mg/L	0.002	<0.002
Cobalt (Total)	mg/L	0.005	0.005
Copper (Total)	mg/L	0.002	<0.002

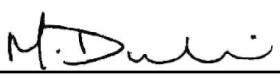


Michelle Dubien
Data Specialist

			Client I.D.	RES-3
			Sample I.D.	24-023425-1
			Date Collected	2024-07-30
Parameter	Units	R.L.		-
Iron (Total)	mg/L	0.005		0.065
Lead (Total)	mg/L	0.02		<0.02
Manganese (Total)	mg/L	0.001		0.011
Nickel (Total)	mg/L	0.01		<0.01
Potassium (Total)	mg/L	0.1		<0.1
Zinc (Total)	mg/L	0.005		0.013
Arsenic (Total)	mg/L	0.0001		0.0003
Mercury	mg/L	0.00002		<0.00002

Michelle Dubien
Data Specialist

			Client I.D.	RES-3
			Sample I.D.	24-023425-1
			Date Collected	2024-07-30
Parameter	**Units**	**R.L.**		-
Benzene	µg/L	0.5		<0.5
Ethylbenzene	µg/L	0.5		<0.5
Toluene	µg/L	0.5		<0.5
Xylene, m,p-	µg/L	1		<1
Xylene, m,p,o-	µg/L	1.1		<1.1
Xylene, o-	µg/L	0.5		<0.5
PHC F1 (C6-C10)	µg/L	25		<25
PHC F2 (>C10-C16)	µg/L	50		<50
PHC F3 (>C16-C34)	µg/L	400		<400
PHC F4 (>C34-C50)	µg/L	400		<400
Oil & Grease (Total)	mg/L	1.0		3.0



Michelle Dubien
Data Specialist

			Client I.D.	RES-3
			Sample I.D.	24-023425-1
			Date Collected	2024-07-30
Parameter	**Units**	**R.L.**		-
Acenaphthene	µg/L	0.05		<0.05
Acenaphthylene	µg/L	0.05		<0.05
Anthracene	µg/L	0.05		<0.05
Benzo[a]anthracene	µg/L	0.05		<0.06 (3.)
Benzo(a)pyrene	µg/L	0.01		<0.01
Benzo(b)fluoranthene	µg/L	0.05		<0.05
Benzo(b+k)fluoranthene	µg/L	0.1		<0.1
Benzo(g,h,i)perylene	µg/L	0.05		<0.05
Benzo(k)fluoranthene	µg/L	0.05		<0.05
Chrysene	µg/L	0.05		<0.05
Dibenzo(a,h)anthracene	µg/L	0.05		<0.05
Fluoranthene	µg/L	0.05		<0.05
Fluorene	µg/L	0.05		<0.05
Indeno(1,2,3,-cd)Pyrene	µg/L	0.05		<0.05
Methylnaphthalene,1-	µg/L	0.05		<0.05
Methylnaphthalene,2-(1-)	µg/L	1		<1
Methylnaphthalene,2-	µg/L	0.05		<0.05
Naphthalene	µg/L	0.05		<0.06
Phenanthrene	µg/L	0.05		<0.05
Pyrene	µg/L	0.05		<0.05
Total PAH	µg/L	0.1		<0.1

Michelle Dubien
Data Specialist

Comments:

3. Elevated RL due to sample matrix interferences/dilution

Bacteria passed holding time.

Michelle Dubien
Data Specialist

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

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: 111284 **REPORT No: 24-023427 - Rev. 0**

Report To:
ATCO Frontec Ltd.
PO Box 88
Hamlet of Resolute Bay
, NU X0A 0V0

Attention: Ian Dudla

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

DATE RECEIVED: 2024-Aug-01
DATE REPORTED: 2024-Aug-08
SAMPLE MATRIX: Waste Water

CUSTOMER PROJECT:
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
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Mercury (Liquid)	1	OTTAWA	TBENNETT	2024-Aug-02	D-HG-02	SM 3112B
Ammonia & o-Phosphate (Liquid)	1	KINGSTON	JYEARWOOD	2024-Aug-06	NH3-001	SM 4500NH3
Oil & Grease (Liquid)	1	KINGSTON	DCHAUDHARI	2024-Aug-02	O&G-001	SM 5520
PHC F1 (Liquid)	1	RICHMOND_HILL	JEVANS	2024-Aug-03	C-VPHW-01	MECP E3421
PHC F2-4 (Liquid)	1	KINGSTON	STHOMPSON	2024-Aug-02	PHC-W-001	MECP E3421
Phenols (Liquid)	1	KINGSTON	JMACINNES	2024-Aug-02	PHEN-01	MECP E3179
SVOC - Semi-Volatiles (Liquid)	1	KINGSTON	EASIEDU	2024-Aug-07	NAB-W-001	EPA 8270D
Total Organic Carbon (TOC)	1	OTTAWA	MMACMILLAN	2024-Aug-02	C-OC-01	EPA 415.2
TP & TKN (Liquid)	1	KINGSTON	KDIBBITS	2024-Aug-06	TPTKN-001	MECP E3516.2
TSS (Liquid)	1	KINGSTON	MCLOSS	2024-Aug-02	TSS-001	SM 2540D
VOC-Volatiles Full (Water)	1	RICHMOND_HILL	JEVANS	2024-Aug-03	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 *

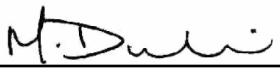
Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.
If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC
QC will be made available upon request.

Michelle Dubien
Data Specialist

			Client I.D.	RES-2
			Sample I.D.	24-023427-1
			Date Collected	2024-07-29
Parameter	Units	R.L.		-
Fecal Coliform	CFU/100mL	1		<2
Alkalinity(CaCO3) to pH4.5	mg/L	5		145
Conductivity @25°C	uS/cm	1		310
pH @25°C	pH units	-		7.21
Chloride	mg/L	0.5		12.9
Nitrate (N)	mg/L	0.05		0.11
Nitrite (N)	mg/L	0.05		<0.05
Sulphate	mg/L	1		10
BOD5	mg/L	3		<3
Total Suspended Solids	mg/L	3		<3
Phosphorus (Total)	mg/L	0.01		0.01
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05		<0.05
Total Organic Carbon	mg/L	0.2		4.2
Phenolics	mg/L	0.001		<0.001
Hardness (as CaCO3)	mg/L	0.02		148
Aluminum (Total)	mg/L	0.01		0.04
Cadmium (Total)	mg/L	0.005		<0.005
Calcium (Total)	mg/L	0.02		42.1
Chromium (Total)	mg/L	0.002		<0.002
Cobalt (Total)	mg/L	0.005		<0.005
Copper (Total)	mg/L	0.002		<0.002

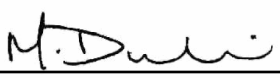
Michelle Dubien
Data Specialist

			Client I.D.	RES-2
			Sample I.D.	24-023427-1
			Date Collected	2024-07-29
Parameter	Units	R.L.		-
Iron (Total)	mg/L	0.005		0.011
Lead (Total)	mg/L	0.02		<0.02
Manganese (Total)	mg/L	0.001		0.005
Nickel (Total)	mg/L	0.01		<0.01
Potassium (Total)	mg/L	0.1		0.6
Zinc (Total)	mg/L	0.005		0.005
Arsenic (Total)	mg/L	0.0001		<0.0003
Mercury	mg/L	0.00002		0.00003



Michelle Dubien
Data Specialist

			Client I.D.	RES-2
			Sample I.D.	24-023427-1
			Date Collected	2024-07-29
Parameter	**Units**	**R.L.**		-
Benzene	µg/L	0.5		<0.5
Ethylbenzene	µg/L	0.5		<0.5
Toluene	µg/L	0.5		<0.5
Xylene, m,p-	µg/L	1		<1
Xylene, m,p,o-	µg/L	1.1		<1.1
Xylene, o-	µg/L	0.5		<0.5
PHC F1 (C6-C10)	µg/L	25		<25
PHC F2 (>C10-C16)	µg/L	50		<50
PHC F3 (>C16-C34)	µg/L	400		<400
PHC F4 (>C34-C50)	µg/L	400		<400
Oil & Grease (Total)	mg/L	1.0		2.2



Michelle Dubien
Data Specialist

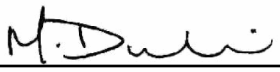
			Client I.D.	RES-2
			Sample I.D.	24-023427-1
			Date Collected	2024-07-29
Parameter	Units	R.L.		-
Acenaphthene	µg/L	0.05		<0.05
Acenaphthylene	µg/L	0.05		<0.05
Anthracene	µg/L	0.05		<0.05
Benzo[a]anthracene	µg/L	0.05		<0.06 (3.)
Benzo(a)pyrene	µg/L	0.01		<0.01
Benzo(b)fluoranthene	µg/L	0.05		<0.05
Benzo(b+k)fluoranthene	µg/L	0.1		<0.1
Benzo(g,h,i)perylene	µg/L	0.05		<0.05
Benzo(k)fluoranthene	µg/L	0.05		<0.05
Chrysene	µg/L	0.05		<0.05
Dibenzo(a,h)anthracene	µg/L	0.05		<0.05
Fluoranthene	µg/L	0.05		<0.05
Fluorene	µg/L	0.05		<0.05
Indeno(1,2,3,-cd)Pyrene	µg/L	0.05		<0.05
Methylnaphthalene,1-	µg/L	0.05		<0.05
Methylnaphthalene,2-(1-)	µg/L	1		<1
Methylnaphthalene,2-	µg/L	0.05		<0.05
Naphthalene	µg/L	0.05		<0.06
Phenanthrene	µg/L	0.05		<0.05
Pyrene	µg/L	0.05		<0.05
Total PAH	µg/L	0.1		<0.1

Michelle Dubien
Data Specialist

Comments:

3. Elevated RL due to sample matrix interferences/dilution

Bacteria passed holding time.



Michelle Dubien
Data Specialist

Appendix C: CIRNAC Inspection Report – July 17, 2024

WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Resolute Bay	Ian Dudla
Licence No. / Expiry	**Representative's Title**
3BM-RES2025	Chief Administrative Officer
Land / Other Authorizations	**Land / Other Authorizations**
Date of Inspection	**Inspector**
July 10, 2024	Joseph Monteith

Activities Inspected

☐ Camp ☐ Drilling ☐ Mining ☐ Construction ☐ Reclamation ☐ Fuel Storage
☒ Roads/Hauling ☒ Other: Solid Waste Facility, Hazardous Waste Facility ☐ Other:

Conditions: **A- Acceptable** **U-Unacceptable** **C-Concern** **NI-Not Inspected** **NA- Not applicable**

PART:	Condition	Observation No.*
A: SCOPE, DEFINITIONS AND ENFORCEMENT	A	
B: GENERAL CONDITIONS	C	
C: CONDITIONS APPLYING TO SECURITY	NI	
D: CONDITIONS APPLYING TO WATER USE	NI	
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT	A	1-11
F: CONDITIONS APPLYING TO MODIFICATIONS	NI	
G: CONDITIONS APPLYING TO CONSTRUCTION	NI	
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING	A	
I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE PLANNING	NA	
J: CONDITIONS APPLYING TO MONITORING	A	
SCHEDULES	A	

** The observation number corresponds with specific comments provided below.*

Samples taken by Inspector:	Location(s): Latitude: 74°43'01"N Longitude: 94°58'10"W
☐ Yes ☒ No	

SECTION 1 ☐ **Comments** (s.__) ☐ **Non-Compliance with Act or Licence** (s.__) ☐ **Action Required** (s.__)

BACKGROUND

There are three water licences for this community. The Hamlet of Resolute Bay was initially issued Licence 3BM-RES9699 for water use, sewage and solid waste disposal. In 2010, the Government of Nunavut, Community and Government Services (GN-CGS) was issued Licence 3BM-RUT1012, subsequently renewed in 2015 as 3BM-RUT1520 for the use of water and disposal of sewage through the Utilidor Systems. Currently, the Hamlet holds the expired Licence 3BM-RES9699 for the Hamlet's solid waste management. In 2003, the GN-CGS applied for and was issued the now expired Licence NWB3YRB0308, for the use of water and deposit of waste at the Hamlet's airport facility. Due to the delayed plans to refurbish the airport facilities (Licence No. 3BM-YRB0308), the Board decided to proceed and process the renewals for the Solid Waste Management Facility (Licence No. 3BM-RES9699) and the Utilidor System (Licence No. 3BM-RUT1520) independently.

The new water license 3BM-RES2025, does not authorize the use of water. The license allows the deposit of waste. Effective March 30, 2020, expires on March 29, 2025.

The relevant facilities for this license includes the community bulk metal and hazardous waste facility, the new bulk metal facility located and the burn and cap facility.

Inspector Statement

On July 10, 2024, A Water Licence Inspection on 3BM-RES2025 was conducted by Water Resource Officer (WRO) Joseph Monteith at the Hamlet of Resolute Bay, Qikiqtani Region, Nunavut.

General Condition

On March 4, 2023 Robert Hunter, Nunavut Water Board, Licencing Administrator emailed WRO Monteith a copy of the Hamlet of Resolute Bay's 2022 Annual Report.

Solid Waste Facility 1 (by the beach)

1. The Hamlet manages their domestic waste by burning and capping along the beach on the south side of the community approximately 206 metres from the high water mark of the ocean. The site doesn't appear to be

lined, no signs of water flowing in and out of the facility. This site was active at the time of inspection (photo 2).

2. No minimum 10 day notice has been given to the inspector since April 2018 for open pit burning.
3. A caution sign was observed cautioning the public from dumping Hazardous Material, Metals, and Rubber Tires, and Tracks. Both signs in English and in Inuktitut m(photo 1).
4. No signs of water entering the facility, the site is on a sloped rocky beach (photo 2).
5. No signs of leachate leaving the facility. Slope downgrade of burn and cap steepens. Signs of past deposits capped.

Metal Dump (Within Community)

6. The Metal Dump facility located with the community of Resolute Bay has a mixture of white waste such as water heaters, washers, dryers, fridges, and freezers. Bulk Metal such as abandoned vehicles such as trucks and snowmobiles, pipes, and storage tanks. (See Photo 2).
7. Water enters the site coming out from underground and migrating through the facility (photo 2).

Hazardous Waste (within Community)

8. The hazardous waste within the community is exposed to the elements. With some waste oil drums in a berm, while the majority of the hazardous waste outside of a berm.
9. Signs of leaks were observed on site at the time of the inspection.

Domestic Waste (4 km west of the community)

10. Inside the new bulk metal Solid Waste Facility west of Resolute Bay (photo 3 & 4).
11. Battery, waste oil can observed exposed to the outside elements within the fenced area of the domestic waste facility.

SECTION 2 ☐ **Comments** ☐ **Non-Compliance with Act or Licence** ☒ **Action Required**

The items listed below are the action's required as summarized from above to ensure compliance:

- Consolidate all hazardous waste such as paint cans and oil cans in the Bulk Metal Solid Waste Facility and Domestic Solid Waste Facility, and store in the hazardous waste section of the Solid Waste Facility to be compliant with Part D: Item 4
- Notify the inspector 10 days ahead of a planned open pit burn by emailing Water Resource Officer Joseph Monteith at: joseph.monteith@rcaanc-cirnac.gc.ca. To be compliant with Part D:Item 3
- Consult with neighbouring land owners on an agreement to mitigate the interaction of water on access to the new bulk metal solid waste facility, to be compliant with Part C:Item 2
- The Licensee is reminded to remain diligent to prevent wastes from entering water, and the environment.

SECTION 3 ☐ **Comments** ☒ **Non-Compliance with Act or Licence** ☐ **Action Required**

Part B: Item 1

The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board for review, no later than March 31st of the year following the calendar year being reported, containing the following information:

a. tabular summaries of all data generated under the "Monitoring Program";

b. summary of modifications to the "Monitoring Program";

c. the monthly and yearly quantities of all Waste types disposed of at the Solid Waste Facility

Part D: Item 3

The Licensee shall provide a minimum of ten (10) days' notice to an Inspector, of the intent to open burn municipal Waste in accordance with the Government of Nunavut's Environmental Guideline for the Burning and Incineration of Solid Waste (2012), at the designated location at the Solid Waste Facilities, including the details of the types and quantity of Waste to be burned, proposed dates, protocols to be followed, ultimate disposal of residual ash and the person responsible for the activity.

Part D: Item 4

The Licensee shall segregate and store all hazardous waste within the Solid Waste Facilities in such a manner as to prevent the deposit of deleterious substances into any Water, until such a time that the materials have been removed for proper disposal at an approved facility.

Part C: Item 2

The Licensee shall implement sediment and erosion control measures prior to and maintain as required during Hamlet Operations, to prevent entry of sediment into Water.

Licensee or Representative	Inspector's Name
Ian Dudla	Joseph Monteith
Signature	**Signature**

Date	**Date**
	November 27, 2023

CC: Licensing Department, NWB
Jeremy Fraser, Manager of Field Operations, CIRNAC

PHOTO LOG

Date	**Camera**	**Inspector**	
July 7, 2025	Nikon Cool Pix	Joseph Monteith	
Photo Log		**Location**	
Photo 1		Burn and Cap, Resolute Bay, NU	

Description: Burn and Cap site active at the time of inspection.

Photo Log	Location
Photo 2	Bulk Metal Solid Waste Facility, Resolute Bay, NU

Description: Burn and Cap smoldering with domestic waste, and bulk wood. Gravel used for capping is stored next to the open pit for use.

Photo Log	Location
Photo 3	Bulk Metal Solid Waste Facility, Resolute Bay, NU

Description: Sign reads "Metal Dump"

Photo Log	Location
Photo 4	Bulk Metal Solid Waste Facility, Resolute Bay, NU

Description: Sign reads Hazardous Waste". Hazardous Waste Storage Facility within the community

Photo Log	Location
Photo 5	Bulk Metal Solid Waste Facility, Resolute Bay, NU

Description: Bulk Metals Facility outside the community. Battery observed.

Photo Log	Location
Photo 6	Bulk Metal Solid Waste Facility, Resolute Bay, NU

Description: Bulk Metals Facility outside the community. Battery observed.

Photo Log	Location
Photo 7	Bulk Metal Solid Waste Facility, Resolute Bay, NU

Description: Bulk Metal Facility outside the community. 2 empty cannisters for compressed gas.

Photo Log	Location
Photo 8	New Bulk Metal Solid Waste Facility, Resolute Bay, NU

Description: Bulk Metal Facility outside the community. Hazardous Waste Oil cans

Photo Log	Location
Photo 9	New Bulk Metal Solid Waste Facility, Resolute Bay, NU

Description: A pool of surface water at the entrance to the Bulk Metal Facility outside the community and Sewage Lagoon.

Photo Log	Location
Photo 9	New Bulk Metal Solid Waste Facility, Resolute Bay, NU

Description: A pool of surface water at the entrance to the Bulk Metal Facility outside the community and Sewage Lagoon.