

C.O.C.: —

REPORT No. B17-22112

Report To:

Hamlet of Pangnirtung

P.O. Box 253,

Pangnirtung Nunavut X0A 0R0 Canada

Attention: Shawn Trepanier

DATE RECEIVED: 03-Aug-17

DATE REPORTED: 14-Aug-17

SAMPLE MATRIX: Leachate

NUNAVUT WATER BOARD

Date: March 21, 2017

Exhibit No.: 9

Caduceon Environmental Laboratories

2378 Holly Lane

Ottawa Ontario K1V 7P1

Tel: 613-526-0123

Fax: 613-526-1244

JOB/PROJECT NO.: Landfill Leachate

P.O. NUMBER:

WATERWORKS NO.

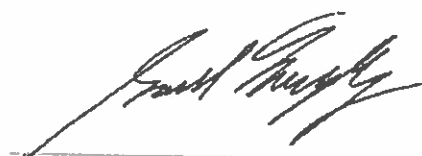
Parameter	Units	R.L.	Client I.D.		Leachate from Landfill			
			Reference Method	Date/Site Analyzed	B17-22112-1			
					01-Aug-17			
BOD	mg/L	3	SM 5210B	09-Aug-17/O	14			
Total Suspended Solids	mg/L	3	SM 2540D	09-Aug-17/O	60			
Hardness (as CaCO ₃)	mg/L	1	SM 3120	09-Aug-17/O	956			
Conductivity @25°C	µmho/cm	1	SM 2510B	03-Aug-17/O	2460			
Alkalinity(CaCO ₃) to pH4.5	mg/L	5	SM 2320B	03-Aug-17/O	357			
pH @25°C	pH Units		SM 4500H	03-Aug-17/O	7.77			
Chloride	mg/L	0.5	SM4110C	03-Aug-17/O	157			
Nitrite (N)	mg/L	0.1	SM4110C	03-Aug-17/O	< 0.5			
Nitrate (N)	mg/L	0.1	SM4110C	03-Aug-17/O	< 0.5			
Sulphate	mg/L	1	SM4110C	03-Aug-17/O	634			
Ammonia (N)-Total	mg/L	0.01	SM4500-NH ₃ -H	04-Aug-17/K	5.79			
Phosphorus-Total	mg/L	0.01	E3199A.1	09-Aug-17/K	0.11			
Phenolics	mg/L	0.001	MOEE 3179	03-Aug-17/O	0.016			
Total Organic Carbon	mg/L	0.2	EPA 415.1	03-Aug-17/O	45.6			
Aluminum	mg/L	0.01	SM 3120	09-Aug-17/O	0.15			
Arsenic	mg/L	0.0001	EPA 200.8	04-Aug-17/O	0.0032			
Calcium	mg/L	0.02	SM 3120	09-Aug-17/O	307			
Cadmium	mg/L	0.005	SM 3120	09-Aug-17/O	< 0.005			
Cobalt	mg/L	0.005	SM 3120	09-Aug-17/O	0.010			
Copper	mg/L	0.002	SM 3120	09-Aug-17/O	0.137			
Chromium	mg/L	0.002	SM 3120	09-Aug-17/O	< 0.002			
Iron	mg/L	0.005	SM 3120	09-Aug-17/O	21.2			
Lead	mg/L	0.02	SM 3120	09-Aug-17/O	< 0.02			
Magnesium	mg/L	0.01	SM 3120	09-Aug-17/O	45.8			
Manganese	mg/L	0.001	SM 3120	09-Aug-17/O	2.53			
Mercury	mg/L	0.00002	SM 3112 B	04-Aug-17/O	0.00004			

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

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



Gord Murphy
Lab Supervisor

C.O.C.: —

REPORT No. B17-22112

Report To:

Hamlet of Pangnirtung

P.O. Box 253,

Pangnirtung Nunavut X0A 0R0 Canada

Attention: Shawn Trepanier

DATE RECEIVED: 03-Aug-17

DATE REPORTED: 14-Aug-17

SAMPLE MATRIX: Leachate

Caduceon Environmental Laboratories

2378 Holly Lane

Ottawa Ontario K1V 7P1

Tel: 613-526-0123

Fax: 613-526-1244

JOB/PROJECT NO.: Landfill Leachate

P.O. NUMBER:

WATERWORKS NO.

			Client I.D.		Leachate from Landfill			
			Sample I.D.		B17-22112-1			
			Date Collected		01-Aug-17			
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
Sodium	mg/L	0.2	SM 3120	09-Aug-17/O	159			
Nickel	mg/L	0.01	SM 3120	09-Aug-17/O	0.02			
Potassium	mg/L	0.1	SM 3120	09-Aug-17/O	62.1			
Zinc	mg/L	0.005	SM 3120	09-Aug-17/O	0.429			
Acenaphthene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Acenaphthylene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Anthracene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Benzo(a)anthracene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Benzo(a)pyrene	µg/L	0.01	EPA 8270	11-Aug-17/K	< 0.01			
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Benzo(b+k)fluoranthene	µg/L	0.1	EPA 8270	11-Aug-17/K	< 0.1			
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Benzo(k)fluoranthene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Chrysene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Fluoranthene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Fluorene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Methylnaphthalene,1-	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Methylnaphthalene,2-	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Naphthalene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Phenanthrene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
Pyrene	µg/L	0.05	EPA 8270	11-Aug-17/K	< 0.05			
2-Fluorobiphenyl (SS)	% rec.	10	EPA 8270	11-Aug-17/K	87.0			
Terphenyl-d14 (SS)	% rec.	10	EPA 8270	11-Aug-17/K	100			
Benzene	µg/L	0.5	EPA 8260	03-Aug-17/O	0.6			
Toluene	µg/L	0.5	EPA 8260	03-Aug-17/O	0.6			

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

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

Gord Murphy
Lab Supervisor

C.O.C.: —

REPORT No. B17-22112

Report To:

Hamlet of Pangnirtung
P.O. Box 253,
Pangnirtung Nunavut X0A 0R0 Canada

Attention: Shawn Trepanier

Caduceon Environmental Laboratories

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

DATE RECEIVED: 03-Aug-17

JOB/PROJECT NO.: Landfill Leachate

DATE REPORTED: 14-Aug-17

P.O. NUMBER:

SAMPLE MATRIX: Leachate

WATERWORKS NO.

			Client I.D.		Leachate from Landfill			
			Sample I.D.		B17-22112-1			
			Date Collected		01-Aug-17			
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
Ethylbenzene	µg/L	0.5	EPA 8260	03-Aug-17/O	< 0.5			
Styrene	µg/L	0.5	EPA 8260	03-Aug-17/O	< 0.5			
Xylene, m,p-	µg/L	0.4	EPA 8260	03-Aug-17/O	< 0.4			
Xylene, o-	µg/L	0.1	EPA 8260	03-Aug-17/O	< 0.1			
Xylene, m,p,o-	µg/L	0.4	EPA 8260	03-Aug-17/O	< 0.4			
Toluene-d8 (SS)	%		EPA 8260	03-Aug-17/O	103			
PHC F1 (C6-C10)	µg/L	20	MOE E3421	03-Aug-17/O	< 20			
PHC F2 (>C10-C16)	µg/L	50	MOE E3421	04-Aug-17/K	< 50			
PHC F3 (>C16-C34)	µg/L	400	MOE E3421	04-Aug-17/K	< 400			
PHC F4 (>C34-C50)	µg/L	400	MOE E3421	04-Aug-17/K	< 400			
Oil & Grease-Total	mg/L	1.0	SM 5520	08-Aug-17/K	< 1.0			
Fecal Coliform	cfu/100mL	1	MOE E3371	03-Aug-17/O	140			

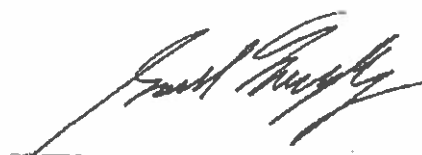
↑ elevated detection limit due to high chloride & SO

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

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



Gord Murphy
Lab Supervisor