

☐ Windsor

OCWA DW CofC, Oct 2012 Revision No: 2

C.O.C.: DW 01441

REPORT No. B18-01441

Report To:

Municipality of Igloolik
PO Box 30,
Igloolik NU X0A 0L0 Canada

Attention: SAO -

Caduceon Environmental Laboratories

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

DATE RECEIVED: 16-Jan-18

JOB/PROJECT NO.: Drinking Water

DATE REPORTED: 24-Jan-18

P.O. NUMBER:

SAMPLE MATRIX: Drinking Water

WATERWORKS NO.

			Client I.D.		Igloolik Truck Fill Station - Raw	Water Truck Man 070	Igloolik Truck Fill Station	
			Sample I.D.		B18-01441-1	B18-01441-2	B18-01441-3	
			Date Collected		09-Jan-18	09-Jan-18	09-Jan-18	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
TDS (Calc. from Cond.)	mg/L	1	Calc.	17-Jan-18	664	676	670	
Turbidity	NTU	0.1	SM 2130	16-Jan-18/O	0.8	0.5	0.6	
Fluoride	mg/L	0.1	SM4110C	16-Jan-18/O	< 0.1	< 0.1	< 0.1	
Chloride	mg/L	0.5	SM4110C	16-Jan-18/O	240	245	245	
Nitrite (N)	mg/L	0.1	SM4110C	16-Jan-18/O	< 0.1	< 0.1	< 0.1	
Nitrate (N)	mg/L	0.1	SM4110C	16-Jan-18/O	0.3	0.3	0.3	
Sulphate	mg/L	1	SM4110C	16-Jan-18/O	63	63	63	
Cyanide (Total)	mg/L	0.005	SM 4500CN	18-Jan-18/K	< 0.005	< 0.005	< 0.005	
Arsenic	mg/L	0.0001	EPA 200.8	16-Jan-18/O	0.0018	0.0031	0.0034	
Barium	mg/L	0.001	SM 3120	17-Jan-18/O	0.008	0.008	0.008	
Cadmium	mg/L	0.000014	EPA 200.8	16-Jan-18/O	0.000014	0.000019	0.000017	
Chromium	mg/L	0.002	SM 3120	17-Jan-18/O	< 0.002	< 0.002	< 0.002	
Chromium (VI)	mg/L	0.002	MOE E3056	17-Jan-18/O	< 0.002 ¹	< 0.002 ¹	< 0.002 ¹	
Copper	mg/L	0.002	SM 3120	17-Jan-18/O	< 0.002	< 0.002	< 0.002	
Iron	mg/L	0.005	SM 3120	17-Jan-18/O	0.007	0.007	0.009	
Lead	mg/L	0.00002	EPA 200.8	16-Jan-18/O	< 0.00002	0.00008	< 0.00002	
Manganese	mg/L	0.001	SM 3120	17-Jan-18/O	< 0.001	< 0.001	< 0.001	
Selenium	mg/L	0.001	EPA 200.8	16-Jan-18/O	< 0.001	< 0.001	< 0.001	
Silver	mg/L	0.00002	EPA 200.8	16-Jan-18/O	< 0.00002	< 0.00002	< 0.00002	
Zinc	mg/L	0.005	SM 3120	17-Jan-18/O	< 0.005	0.016	< 0.005	
Dissolved Organic Carbon	mg/L	0.2	EPA 415.1	16-Jan-18/O	2.5	2.7	2.7	
Phenolics	mg/L	0.001	MOEE 3179	18-Jan-18/O	< 0.001	< 0.001	< 0.001	
Surfactants Content	mg/L	0.05	SM-5540-C	24-Jan-18/O	0.08 ²	< 0.05 ²	< 0.05 ²	

¹ Chromium (VI) result is based on total chromium

² Subcontracted to Niagara Analytical

NOTE: Unable to perform analysis for e. Coli as acceptable holding times exceeded upon arrival at lab.



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

Greg Clarkin, BSc., C. Chem
Lab Manager - Ottawa District

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.

C.O.C.: DW 22876

REPORT No. B18-22876

Report To:

Municipality of Igloolik_Do Not Release

PO Box 30,
Igloolik NU X0A 0L0 Canada

Attention: SAO -

Caduceon Environmental Laboratories

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

DATE RECEIVED: 02-Aug-18

JOB/PROJECT NO.: Raw Drinking Water

DATE REPORTED: 13-Aug-18

P.O. NUMBER:

SAMPLE MATRIX: Drinking Water

WATERWORKS NO.

			Client I.D.		South Lake	Fish Lake	Reservoir Raw	Reservoir Treated
			Sample I.D.		B18-22876-1	B18-22876-2	B18-22876-3	B18-22876-4
			Date Collected		30-Jul-18	31-Jul-18	31-Jul-18	31-Jul-18
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
TDS (Calc. from Cond.)	mg/L	1	Calc.	08-Aug-18	328	239	602	596
Chloride	mg/L	0.5	SM4110C	02-Aug-18/O	89.7	80.8	264	259
Fluoride	mg/L	0.1	SM4110C	02-Aug-18/O	< 0.1	< 0.1	< 0.1	< 0.1
Nitrate (N)	mg/L	0.1	SM4110C	02-Aug-18/O	< 0.1	< 0.1	0.4	0.4
Nitrite (N)	mg/L	0.1	SM4110C	02-Aug-18/O	< 0.1	< 0.1	< 0.1	< 0.1
Sulphate	mg/L	1	SM4110C	02-Aug-18/O	131	25	65	65
Cyanide (Total)	mg/L	0.005	SM 4500CN	07-Aug-18/K	< 0.005	< 0.005	< 0.005	< 0.005
Arsenic	mg/L	0.0001	EPA 200.8	07-Aug-18/O	0.0003	0.0003	0.0003	0.0003
Barium	mg/L	0.001	SM 3120	07-Aug-18/O	0.004	0.004	0.007	0.007
Cadmium	mg/L	0.000015	EPA 200.8	07-Aug-18/O	< 0.000015	< 0.000015	< 0.000015	< 0.000015
Chromium	mg/L	0.002	SM 3120	07-Aug-18/O	< 0.002	< 0.002	< 0.002	< 0.002
Chromium (VI)	mg/L	0.002	MOE E3056	02-Aug-18/O	< 0.002	< 0.002	< 0.002	< 0.002
Copper	mg/L	0.002	SM 3120	07-Aug-18/O	< 0.002	0.002	< 0.002	< 0.002
Iron	mg/L	0.005	SM 3120	07-Aug-18/O	0.023	0.006	0.086	0.073
Lead	mg/L	0.00002	EPA 200.8	07-Aug-18/O	0.00005	0.00004	0.00010	0.00009
Manganese	mg/L	0.001	SM 3120	07-Aug-18/O	0.001	0.003	0.002	0.002
Selenium	mg/L	0.001	EPA 200.8	07-Aug-18/O	< 0.001	< 0.001	0.003	0.001
Silver	mg/L	0.0001	EPA 200.8	07-Aug-18/O	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Zinc	mg/L	0.005	SM 3120	07-Aug-18/O	< 0.005	< 0.005	< 0.005	< 0.005
Phenolics	mg/L	0.001	MOEE 3179	07-Aug-18/O	< 0.001	< 0.001	< 0.001	< 0.001
Dissolved Organic Carbon	mg/L	0.2	EPA 415.1	03-Aug-18/O	4.7	3.2	2.4	2.3
Surfactants Content	mg/L	0.05	SM-5540-C	13-Aug-18/O	< 0.05 ¹	< 0.05 ¹	< 0.05 ¹	< 0.05 ¹
E coli	cfu/100mL	1	MOE E3407	02-Aug-18/O	0	0	0	0

¹ Subcontracted to Niagara Analytical

NOTE: E. coli passed acceptable holding time upon arrival at Lab.



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

Greg Clarkin, BSc., C. Chem
Lab Manager - Ottawa District

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☐ O.Reg 153 Table _____ ☐ MISA Guidelines
☐ Surface Soil ☐ Sub Surface Soil (O.Reg 153) ☐ O.Reg 558 Leachate Analysis
☐ Yes ☐ No Record of Site Condition (O.Reg 153) Disposal Site: _____
☐ Provincial Water Quality Objectives ☐ Landfill Monitoring
☐ Sewer Use By-Law: ☐ Other: _____

REPORT NUMBER (Lab Use)

Indicate Laboratory Samples are submitted to: ☐ Kingston ☒ Ottawa ☐ Richmond Hill ☐ Windsor

Organization: Municipality of Igloolik	Address and Invoicing Address (if different)	
Contact: SAO	Municipality of Igloolik PO Box 30 NU X0A 0L0	
Tel: 867-934-8940		
Fax:	Quote No.:	Project Name: Landfill Leachate
Email: sao@igloolik.ca	P.O. No.:	Additional Info:

ANALYSES REQUESTED (Print Test in Boxes)	
BETX, PHC F1-4	
PAH, O & G	
pH Alkalinity Cond Hardness	
Ammonia TP Total Phenols	
N02 N03 Chloride S04	
TOC	
Mg, As, Na, Cu, Fe, Hg, Ca, K,	
Cd, Cr, Pb, Ni, Co, Al, Zn,	
Mn	
BOD, TSS	
Fecal Coliforms	
Suspected Highly Contaminated	

TURNAROUND SERVICE REQUESTED (see back page)	
☐ Platinum	200% Surcharge**
☐ Gold	100% Surcharge
☐ Silver	50% Surcharge
☐ Bronze	25% Surcharge
☒ Standard	5-7 days
☐ Specific Date: _____	

Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations? ☐ Yes ☐ No (If yes, submit all drinking water samples on a drinking water Chain of Custody)

* Sample Matrix Legend: WW=Waste Water SW=Surface Water GW=Groundwater LS=Liquid Sludge SS=Solid Sludge S=Soil Sed=Sediment PC=Paint Chips F=Filter Oil = Oil

[illegible]

SAMPLE SUBMISSION INFORMATION						SHIPPING INFORMATION		REPORTING / INVOICING		SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)									
	Sampled by:		Submitted by:		Client's Courier	☒	Invoice	Report by Fax	☐	Received By (print):		<u>JOL</u> Signature: <u>JB</u>							
Print:	<u>Municipality of Igloolik</u>		Caduceon's Courier	☐	☐			Report by Email	☒	Date Received (yy-mm-dd):	<u>20/09/18</u> Time Received: <u>15:00</u>								
Sign:	<u>[Signature]</u>		Drop Off	☐	# of Pieces			Invoice by Email	☒	Laboratory Prepared Bottles:	☒ Yes ☐ No								
	<u>08/28/18</u> <u>08/28/18</u>		Caduceon (Pick-up)	☒				Invoice by Mail	☐	Sample Temperature °C:	<u>19.5</u>		Labeled by:						
										Comments:		<u>f ota</u> <u>2-14gls</u> <u>IR</u> <u>1 Pet</u> <u>1m</u> <u>1w/1c</u> <u>ipn</u> <u>1 back</u> <u>3 uo.</u>							
Laboratory Locations/Shipping Addresses Kingston Lab - 285 Dalton Ave., Kingston, ON K7K 6Z1, Tel: (613) 544-2001 Fax: (613) 544-2770 Email: contactkingston@caduceonlabs.com Ottawa Lab - 2378 Holly Lane, Ottawa, ON K1V 7P1, Tel: (613) 526-0123 Fax: (613) 526-1244 Email: contactottawa@caduceonlabs.com Richmond Hill Lab - #14-110 West Beaver Creek Rd., ON L4B 1J9, Tel: (289) 475-5442 Fax: (866) 562-1963 Email: contactrichmondhill@caduceonlabs.com Windsor Lab - #5-3201 Marentette Ave., Windsor, ON N8X 4G3, Tel: (519) 966-9541 Fax: (519) 966-9567 Email: contactwindsor@caduceonlabs.com										Page _____ of _____ G									

C.O.C.: ---

REPORT No. B18-26313

Report To:

Municipality of Igloolik

PO Box 30,
Igloolik NU X0A 0L0 Canada

Attention: SAO -

Caduceon Environmental Laboratories

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

DATE RECEIVED: 30-Aug-18

JOB/PROJECT NO.: Landfill Leachate

DATE REPORTED: 07-Sep-18

P.O. NUMBER:

SAMPLE MATRIX: Leachate

WATERWORKS NO.

			Client I.D.	Swamp Near Metal Dump			
			Sample I.D.	B18-26313-1			
			Date Collected	28-Aug-18			
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Hardness (as CaCO ₃)	mg/L	1	SM 3120	05-Sep-18/O	936		
Alkalinity(CaCO ₃) to pH4.5	mg/L	5	SM 2320B	31-Aug-18/O	368		
pH @25°C	pH Units		SM 4500H	31-Aug-18/O	7.66		
Conductivity @25°C	µmho/cm	1	SM 2510B	31-Aug-18/O	1930		
Total Suspended Solids	mg/L	3	SM 2540D	04-Sep-18/O	1020		
Chloride	mg/L	0.5	SM4110C	31-Aug-18/O	176		
Nitrite (N)	mg/L	0.1	SM4110C	31-Aug-18/O	< 0.1		
Nitrate (N)	mg/L	0.1	SM4110C	31-Aug-18/O	< 0.1		
Sulphate	mg/L	1	SM4110C	04-Sep-18/O	500		
Aluminum	mg/L	0.01	SM 3120	05-Sep-18/O	0.75		
Arsenic	mg/L	0.0001	EPA 200.8	31-Aug-18/O	0.0383		
Cadmium	mg/L	0.005	SM 3120	05-Sep-18/O	0.007		
Calcium	mg/L	0.02	SM 3120	05-Sep-18/O	211		
Chromium	mg/L	0.002	SM 3120	05-Sep-18/O	0.007		
Cobalt	mg/L	0.005	SM 3120	05-Sep-18/O	0.016		
Copper	mg/L	0.002	SM 3120	05-Sep-18/O	0.252		
Iron	mg/L	0.005	SM 3120	06-Sep-18/O	170		
Lead	mg/L	0.02	SM 3120	05-Sep-18/O	0.03		
Magnesium	mg/L	0.02	SM 3120	05-Sep-18/O	99.4		
Manganese	mg/L	0.001	SM 3120	05-Sep-18/O	0.337		
Mercury	mg/L	0.00002	SM 3112 B	07-Sep-18/O	0.00017		
Nickel	mg/L	0.01	SM 3120	05-Sep-18/O	0.04		
Potassium	mg/L	0.1	SM 3120	05-Sep-18/O	37.3		
Sodium	mg/L	0.2	SM 3120	05-Sep-18/O	166		
Zinc	mg/L	0.005	SM 3120	05-Sep-18/O	0.488		
Ammonia (N)-Total	mg/L	0.01	SM4500-NH ₃ -H	04-Sep-18/K	5.09		

NOTE: Fecal Coliform passed acceptable holding times upon arrival at Lab.



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

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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C.O.C.: ---

REPORT No. B18-26313

Report To:

Municipality of Igloolik

PO Box 30,
Igloolik NU X0A 0L0 Canada

Attention: SAO -

Caduceon Environmental Laboratories

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

DATE RECEIVED: 30-Aug-18

JOB/PROJECT NO.: Landfill Leachate

DATE REPORTED: 07-Sep-18

P.O. NUMBER:

SAMPLE MATRIX: Leachate

WATERWORKS NO.

			Client I.D.	Swamp Near Metal Dump			
			Sample I.D.	B18-26313-1			
			Date Collected	28-Aug-18			
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Phosphorus-Total	mg/L	0.01	E3199A.1	05-Sep-18/K	4.35		
Phenolics	mg/L	0.002	MOEE 3179	06-Sep-18/K	0.011		
BOD	mg/L	3	SM 5210B	31-Aug-18/O	22		
Total Organic Carbon	mg/L	0.2	EPA 415.1	04-Sep-18/O	15.0		
Fecal Coliform	cfu/100mL	1	MOE E3371	31-Aug-18/O	< 1000		
Benzene	µg/L	0.5	EPA 8260	04-Sep-18/O	< 0.5		
Toluene	µg/L	0.5	EPA 8260	04-Sep-18/O	< 0.5		
Ethylbenzene	µg/L	0.5	EPA 8260	04-Sep-18/O	< 0.5		
Xylene, m,p-	µg/L	0.4	EPA 8260	04-Sep-18/O	< 0.4		
Xylene, o-	µg/L	0.1	EPA 8260	04-Sep-18/O	< 0.1		
Xylene, m,p,o-	µg/L	0.4	EPA 8260	04-Sep-18/O	< 0.4		
Toluene-d8 (SS)	%		EPA 8260	04-Sep-18/O	105		
PHC F1 (C6-C10)	µg/L	20	MOE E3421	04-Sep-18/O	< 20		
PHC F2 (>C10-C16)	µg/L	50	MOE E3421	05-Sep-18/K	< 50		
PHC F3 (>C16-C34)	µg/L	400	MOE E3421	05-Sep-18/K	< 400		
PHC F4 (>C34-C50)	µg/L	400	MOE E3421	05-Sep-18/K	< 400		
Oil & Grease-Total	mg/L	1.0	SM 5520	06-Sep-18/K	5.7		
Acenaphthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Acenaphthylene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Anthracene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Benzo(a)anthracene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Benzo(a)pyrene	µg/L	0.01	EPA 8270	04-Sep-18/K	< 0.02		
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Benzo(b+k)fluoranthene	µg/L	0.1	EPA 8270	04-Sep-18/K	< 0.2		
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Benzo(k)fluoranthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Chrysene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		

NOTE: Fecal Coliform passed acceptable holding times upon arrival at Lab.



R.L. = Reporting Limit

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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C.O.C.: ---

REPORT No. B18-26313

Report To:

Municipality of Igloolik

PO Box 30,
Igloolik NU X0A 0L0 Canada

Attention: SAO -

Caduceon Environmental Laboratories

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

DATE RECEIVED: 30-Aug-18

JOB/PROJECT NO.: Landfill Leachate

DATE REPORTED: 07-Sep-18

P.O. NUMBER:

SAMPLE MATRIX: Leachate

WATERWORKS NO.

			Client I.D.	Swamp Near Metal Dump			
			Sample I.D.	B18-26313-1			
			Date Collected	28-Aug-18			
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Fluoranthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Fluorene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Methylnaphthalene,1-	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Methylnaphthalene,2-	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Naphthalene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08 ¹		
Phenanthrene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Pyrene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.08		
Terphenyl-d14 (SS)	% rec.	10	EPA 8270	04-Sep-18/K	113		

¹ NOTE: Elevated RL due to sample matrix interferences.

NOTE: Fecal Coliform passed acceptable holding times upon arrival at Lab.



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

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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.

Indicate Laboratory Samples are submitted to: ☐ Kingston ☐ Ottawa ☐ Richmond Hill ☐ Windsor

Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations? ☐ Yes ☐ No (If yes, submit all drinking water samples on a drinking water Chain of Custody)

* Sample Matrix Legend: WW=Waste Water SW=Surface Water GW=Groundwater LS=Liquid Sludge SS=Solid Sludge S=Soil Sed=Sediment PC=Paint Chips F=Filter Oil = Oil

SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)

Kingston Lab - 285 Dalton Ave., Kingston, ON K7K 6Z1, Tel: (613) 544-2001 Fax: (613) 544-2770 Email: contactkingston@caduceonlabs.com
Ottawa Lab - 2378 Holly Lane, Ottawa, ON K1V 7P1, Tel: (613) 526-0123 Fax: (613) 526-1244 Email: contactottawa@caduceonlabs.com
Mond Hill Lab - #14-110 West Beaver Creek Rd., ON L8B 1J9, Tel: (289) 475-5442 Fax: (866) 562-1963 Email: contactrichmondhill@caduceonlabs.com
 Windsor Lab - #5-320 Marentette Ave., Windsor, ON N4X 4G3, Tel: (519) 966-9541 Fax: (519) 966-9567 Email: contactwindsor@caduceonlabs.com

CofC., Sept. 2014, Revision No: 18

C.O.C.: ---

REPORT No. B18-26317

Report To:

Municipality of Igloolik

PO Box 30,
Igloolik NU X0A 0L0 Canada

Attention: SAO -

Caduceon Environmental Laboratories

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

DATE RECEIVED: 30-Aug-18

JOB/PROJECT NO.: Landfill Leachate

DATE REPORTED: 07-Sep-18

P.O. NUMBER:

SAMPLE MATRIX: Leachate

WATERWORKS NO.

			Client I.D.	Swamp Near Dump			
			Sample I.D.	B18-26317-1			
			Date Collected	28-Aug-18			
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Hardness (as CaCO ₃)	mg/L	1	SM 3120	05-Sep-18/O	1330		
Alkalinity(CaCO ₃) to pH4.5	mg/L	5	SM 2320B	31-Aug-18/O	160		
pH @25°C	pH Units		SM 4500H	31-Aug-18/O	7.66		
Conductivity @25°C	µmho/cm	1	SM 2510B	31-Aug-18/O	3610		
Total Suspended Solids	mg/L	3	SM 2540D	04-Sep-18/O	34		
Chloride	mg/L	0.5	SM4110C	04-Sep-18/O	695		
Nitrite (N)	mg/L	0.1	SM4110C	31-Aug-18/O	< 0.1		
Nitrate (N)	mg/L	0.1	SM4110C	31-Aug-18/O	1.0		
Sulphate	mg/L	1	SM4110C	04-Sep-18/O	989		
Aluminum	mg/L	0.01	SM 3120	05-Sep-18/O	0.12		
Arsenic	mg/L	0.0001	EPA 200.8	31-Aug-18/O	0.0002		
Cadmium	mg/L	0.005	SM 3120	05-Sep-18/O	< 0.005		
Calcium	mg/L	0.02	SM 3120	05-Sep-18/O	321		
Chromium	mg/L	0.002	SM 3120	05-Sep-18/O	< 0.002		
Cobalt	mg/L	0.005	SM 3120	05-Sep-18/O	< 0.005		
Copper	mg/L	0.002	SM 3120	05-Sep-18/O	0.003		
Iron	mg/L	0.005	SM 3120	05-Sep-18/O	0.178		
Lead	mg/L	0.02	SM 3120	05-Sep-18/O	< 0.02		
Magnesium	mg/L	0.02	SM 3120	05-Sep-18/O	129		
Manganese	mg/L	0.001	SM 3120	05-Sep-18/O	0.008		
Mercury	mg/L	0.00002	SM 3112 B	07-Sep-18/O	< 0.00002		
Nickel	mg/L	0.01	SM 3120	05-Sep-18/O	< 0.01		
Potassium	mg/L	0.1	SM 3120	05-Sep-18/O	7.7		
Sodium	mg/L	0.2	SM 3120	05-Sep-18/O	327		
Zinc	mg/L	0.005	SM 3120	05-Sep-18/O	0.066		
Ammonia (N)-Total	mg/L	0.01	SM4500-NH ₃ -H	04-Sep-18/K	0.03		

NOTE: Fecal Coliform passed acceptable holding times upon arrival at Lab.



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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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C.O.C.: ---

REPORT No. B18-26317

Report To:

Municipality of Igloolik

PO Box 30,
Igloolik NU X0A 0L0 Canada

Attention: SAO -

Caduceon Environmental Laboratories

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

DATE RECEIVED: 30-Aug-18

JOB/PROJECT NO.: Landfill Leachate

DATE REPORTED: 07-Sep-18

P.O. NUMBER:

SAMPLE MATRIX: Leachate

WATERWORKS NO.

			Client I.D.	Swamp Near Dump			
			Sample I.D.	B18-26317-1			
			Date Collected	28-Aug-18			
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Phosphorus-Total	mg/L	0.01	E3199A.1	05-Sep-18/K	0.04		
Phenolics	mg/L	0.002	MOEE 3179	06-Sep-18/K	0.003		
BOD	mg/L	3	SM 5210B	31-Aug-18/O	< 3		
Total Organic Carbon	mg/L	0.2	EPA 415.1	04-Sep-18/O	1.3		
Fecal Coliform	cfu/100mL	1	MOE E3371	31-Aug-18/O	< 2		
Benzene	µg/L	0.5	EPA 8260	04-Sep-18/O	< 0.5		
Toluene	µg/L	0.5	EPA 8260	04-Sep-18/O	< 0.5		
Ethylbenzene	µg/L	0.5	EPA 8260	04-Sep-18/O	< 0.5		
Xylene, m,p-	µg/L	0.4	EPA 8260	04-Sep-18/O	< 0.4		
Xylene, o-	µg/L	0.1	EPA 8260	04-Sep-18/O	< 0.1		
Xylene, m,p,o-	µg/L	0.4	EPA 8260	04-Sep-18/O	< 0.4		
Toluene-d8 (SS)	%		EPA 8260	04-Sep-18/O	110		
PHC F1 (C6-C10)	µg/L	20	MOE E3421	04-Sep-18/O	< 20		
PHC F2 (>C10-C16)	µg/L	50	MOE E3421	05-Sep-18/K	< 50		
PHC F3 (>C16-C34)	µg/L	400	MOE E3421	05-Sep-18/K	< 400		
PHC F4 (>C34-C50)	µg/L	400	MOE E3421	05-Sep-18/K	< 400		
Oil & Grease-Total	mg/L	1.0	SM 5520	06-Sep-18/K	< 1.0		
Acenaphthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Acenaphthylene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Anthracene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Benzo(a)anthracene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Benzo(a)pyrene	µg/L	0.01	EPA 8270	04-Sep-18/K	< 0.10		
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Benzo(b+k)fluoranthene	µg/L	0.1	EPA 8270	04-Sep-18/K	< 1.0		
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Benzo(k)fluoranthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Chrysene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		

NOTE: Fecal Coliform passed acceptable holding times upon arrival at Lab.



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

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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C.O.C.: ---

REPORT No. B18-26317

Report To:

Municipality of Igloolik

PO Box 30,
Igloolik NU X0A 0L0 Canada

Attention: SAO -

Caduceon Environmental Laboratories

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

DATE RECEIVED: 30-Aug-18

JOB/PROJECT NO.: Landfill Leachate

DATE REPORTED: 07-Sep-18

P.O. NUMBER:

SAMPLE MATRIX: Leachate

WATERWORKS NO.

			Client I.D.	Swamp Near Dump			
			Sample I.D.	B18-26317-1			
			Date Collected	28-Aug-18			
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Fluoranthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Fluorene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Methylnaphthalene,1-	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Methylnaphthalene,2-	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Naphthalene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5 ¹		
Phenanthrene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Pyrene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.5		
Terphenyl-d14 (SS)	% rec.	10	EPA 8270	04-Sep-18/K	100		

¹ NOTE: Elevated RL due to sample matrix interferences.

NOTE: Fecal Coliform passed acceptable holding times upon arrival at Lab.



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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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CofC., Sept. 2014, Revision No: 18

C.O.C.: ---

REPORT No. B18-26339

Report To:

Municipality of Igloolik

PO Box 30,
Igloolik NU X0A 0L0 Canada

Attention: SAO -

Caduceon Environmental Laboratories

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

DATE RECEIVED: 31-Aug-18

JOB/PROJECT NO.: Landfill Leachate

DATE REPORTED: 07-Sep-18

P.O. NUMBER:

SAMPLE MATRIX: Leachate

WATERWORKS NO.

			Client I.D.	Pond near the Dump			
			Sample I.D.	B18-26339-1			
			Date Collected				
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Hardness (as CaCO ₃)	mg/L	1	SM 3120	05-Sep-18/O	474		
Alkalinity(CaCO ₃) to pH4.5	mg/L	5	SM 2320B	31-Aug-18/O	196		
pH @25°C	pH Units		SM 4500H	31-Aug-18/O	8.10		
Conductivity @25°C	µmho/cm	1	SM 2510B	31-Aug-18/O	1650		
Total Suspended Solids	mg/L	3	SM 2540D	04-Sep-18/O	4		
Chloride	mg/L	0.5	SM4110C	31-Aug-18/O	225		
Nitrite (N)	mg/L	0.1	SM4110C	31-Aug-18/O	< 0.1		
Nitrate (N)	mg/L	0.1	SM4110C	31-Aug-18/O	< 0.1		
Sulphate	mg/L	1	SM4110C	04-Sep-18/O	492		
Aluminum	mg/L	0.01	SM 3120	05-Sep-18/O	0.06		
Arsenic	mg/L	0.0001	EPA 200.8	31-Aug-18/O	0.0004		
Cadmium	mg/L	0.005	SM 3120	05-Sep-18/O	< 0.005		
Calcium	mg/L	0.02	SM 3120	05-Sep-18/O	99.6		
Chromium	mg/L	0.002	SM 3120	05-Sep-18/O	< 0.002		
Cobalt	mg/L	0.005	SM 3120	05-Sep-18/O	0.015		
Copper	mg/L	0.002	SM 3120	05-Sep-18/O	0.004		
Iron	mg/L	0.005	SM 3120	05-Sep-18/O	0.061		
Lead	mg/L	0.02	SM 3120	05-Sep-18/O	< 0.02		
Magnesium	mg/L	0.02	SM 3120	05-Sep-18/O	54.8		
Manganese	mg/L	0.001	SM 3120	05-Sep-18/O	0.004		
Mercury	mg/L	0.00002	SM 3112 B	07-Sep-18/O	< 0.00002		
Nickel	mg/L	0.01	SM 3120	05-Sep-18/O	< 0.01		
Potassium	mg/L	0.1	SM 3120	05-Sep-18/O	17.0		
Sodium	mg/L	0.2	SM 3120	05-Sep-18/O	166		
Zinc	mg/L	0.005	SM 3120	05-Sep-18/O	0.015		
Ammonia (N)-Total	mg/L	0.01	SM4500-NH ₃ -H	04-Sep-18/K	0.05		

NOTE: Fecal Coliform passed acceptable holding times upon arrival at Lab.



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Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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DATE RECEIVED: 31-Aug-18

JOB/PROJECT NO.: Landfill Leachate

DATE REPORTED: 07-Sep-18

P.O. NUMBER:

SAMPLE MATRIX: Leachate

WATERWORKS NO.

			Client I.D.	Pond near the Dump			
			Sample I.D.	B18-26339-1			
			Date Collected				
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Phosphorus-Total	mg/L	0.01	E3199A.1	05-Sep-18/K	0.03		
Phenolics	mg/L	0.002	MOEE 3179	06-Sep-18/K	< 0.002		
BOD	mg/L	3	SM 5210B	31-Aug-18/O	< 3		
Total Organic Carbon	mg/L	0.2	EPA 415.1	04-Sep-18/O	4.9		
Fecal Coliform	cfu/100mL	1	MOE E3371	31-Aug-18/O	< 2		
Benzene	µg/L	0.5	EPA 8260	04-Sep-18/O	< 0.5		
Toluene	µg/L	0.5	EPA 8260	04-Sep-18/O	< 0.5		
Ethylbenzene	µg/L	0.5	EPA 8260	04-Sep-18/O	< 0.5		
Xylene, m,p-	µg/L	0.4	EPA 8260	04-Sep-18/O	< 0.4		
Xylene, o-	µg/L	0.1	EPA 8260	04-Sep-18/O	< 0.1		
Xylene, m,p,o-	µg/L	0.4	EPA 8260	04-Sep-18/O	< 0.4		
Toluene-d8 (SS)	%		EPA 8260	04-Sep-18/O	106		
PHC F1 (C6-C10)	µg/L	20	MOE E3421	04-Sep-18/O	< 20		
PHC F2 (>C10-C16)	µg/L	50	MOE E3421	05-Sep-18/K	< 50		
PHC F3 (>C16-C34)	µg/L	400	MOE E3421	05-Sep-18/K	< 400		
PHC F4 (>C34-C50)	µg/L	400	MOE E3421	05-Sep-18/K	< 400		
Oil & Grease-Total	mg/L	1.0	SM 5520	06-Sep-18/K	< 1.0		
Acenaphthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Acenaphthylene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Anthracene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Benzo(a)anthracene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Benzo(a)pyrene	µg/L	0.01	EPA 8270	04-Sep-18/K	< 0.01		
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Benzo(b+k)fluoranthene	µg/L	0.1	EPA 8270	04-Sep-18/K	< 0.1		
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Benzo(k)fluoranthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Chrysene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		

NOTE: Fecal Coliform passed acceptable holding times upon arrival at Lab.



R.L. = Reporting Limit

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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PO Box 30,
Igloolik NU X0A 0L0 Canada

Attention: SAO -

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

DATE RECEIVED: 31-Aug-18

JOB/PROJECT NO.: Landfill Leachate

DATE REPORTED: 07-Sep-18

P.O. NUMBER:

SAMPLE MATRIX: Leachate

WATERWORKS NO.

			Client I.D.	Pond near the Dump			
			Sample I.D.	B18-26339-1			
			Date Collected				
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Fluoranthene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Fluorene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Methylnaphthalene,1-	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Methylnaphthalene,2-	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Naphthalene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Phenanthrene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Pyrene	µg/L	0.05	EPA 8270	04-Sep-18/K	< 0.05		
Terphenyl-d14 (SS)	% rec.	10	EPA 8270	04-Sep-18/K	93.0		

NOTE: Fecal Coliform passed acceptable holding times upon arrival at Lab.



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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

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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