Analyses from samples in ice growler centre (2008) and from glacier sampling (2006)		Greenland and EU criteria [i,ii] Tap water	Danish criteria [iii] From water works	Narsap Sermia								Sermilik		Nigerlikasik		Russell Glacier	
				Growler K [iv]		Growler L [iv]		Growler M [iv]		GEUS		GEUS		GEUS		GEUS	
				Ka4	Kb4	La4	Lb4	Ma4	Mb4	#1	#2	#1	#2	#1	#2	#1	#2
Sampling date				15-07-08		16-07-08		17-07-08		26-07-06		01-08-06		30-07-06		24-07-06	
Colour	mg Pt/l		<5	None	None	None	None	None	None	1.3	1.7	**9.9**	2.0	1.1	**15**	2.3	1.7
Turbidity	FTU	(<1)	<0.3	**0.75**	**0.85**	**0.90**	**0.55**	**1.20**	**0.55**	**1.5**	**4.3**	**0.64**	**6.3**	**3.0**	**4.0**	**13**	**23**
Smell				None	None	None	None	None	None	None	None	None	None	None	None	None	None
Taste				None	None	None	None	None	None	Normal	Normal	Normal	Normal	Flat	Flat	Normal	Normal
Clarity				Clear	Clear	Clear	Clear	Clear	Clear	Slightly unclear	Clear	Clear	Clear	Clear	Unclear	Slightly unclear	Clear
Conductivity	mS/m	<250	(>30)	**2**	**1**	**<1**	**<1**	**2**	**<1**	**0.2**	**0.2**	**0.3**	**0.4**	**0.6**	**0.2**	**0.3**	**0.2**
Conductivity (field measurement)				**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	…	…	…	…	…	…	…	…
pH		6.5-9.5	7.0-8.5	7.8	7.7	7.9	8.0	8.0	7.9	**6.1**	**6.1**	**6.4**	**6.1**	7.2	7.3	**6.0**	**6.0**
pH (field measurement)				**6.1**	**6.2**	**5.9**	**6.0**	**6.5**	**6.2**	…	…	…	…	…	…	…	…
NVOC (non-volatile organic carbon)	mg/l		<4	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	.	**9.2**	**6.2**	**4.8**	**7.8**	3.0	**9.3**	**8.2**
Fixed solids at 550 °C	mg/l			<10	<10	<10	<10	<10	<10	45	11	<10	57	40	43	36	210
Total solids at 105°C	mg/l		<1,500	<10	<10	<10	<10	<10	<10	.	.	.	.	.	.	.	.
Total suspended solids at 105 °C (>0.45 µ fraction)	mg/l			<2	<2	<2	<2	<2	<2	56.56	35.13	7.39	14.17	16.79	17.88	23.55	119.90
Inorganic ions																	
Calcium, Ca^{++}	mg/l		(<200)	<1	<1	<1	<1	<1	<1	0.51	0.73	0.63	0.66	0.53	0.57	1.05	0.70
										<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Magnesium, Mg^{++}	mg/l		<50	<1	<1	<1	<1	<1	<1	0.13	0.16	0.13	0.18	0.15	0.14	0.23	0.15
	mg/l									<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total hardness	dH		(5-30)	.	.	.	.	.	.	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Sodium, Na^{+}	mg/l	<200	<175	1.8	1.3	<0.1	<0.1	4.6	<0.1	0.36	0.88	1.24	0.51	1.84	0.18	2.36	0.53
	mg/l									0.38	0.28	0.25	0.28	0.57	0.15	0.16	0.11
Potassium, K^{+}	mg/l		<10	0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.22	0.63	0.39	0.25	0.85	0.23	1.23	0.41
	mg/l									<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ammonium, NH_4^{+} [v]	mg/l	<0.5	<0.05	0.025	0.017	<0.004	0.011	0.020	0.022	**0.10**	**0.12**	0	0.11	**0.55**	0.14	**0.98**	0.07
	mg/l									**0.057**	0.039	0.032	0.049	**0.12**	0.034	**0.098**	**0.057**
Iron, Fe	mg/l	<0.2	<0.1	0.08	0.06	0.08	**0.40**	**0.11**	**0.20**	**0.11**	**0.52**	0.026	**0.18**	0.077	**0.18**	**0.24**	**0.51**
Manganese, Mn	mg/l	<0.05	<0.02	0.001	<0.001	<0.001	0.003	0.001	0.002	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	0.006
Hydrogen carbonate, HCO_3^{-}	mg/l		(>100)	**4**	**<1**	**1**	**<1**	**<1**	**1**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**
Chloride, Cl^{-}	mg/l	<250	<250	3	2	<1	<1	3	<1	0.51	0.59	0.9	0.99	4.96	0.42	0.44	2.09
										0.57	0.52	0.75	1.1	1.3	<0.50	0.72	0.58
Sulphate, SO_4^{--}	mg/l	<250	<250	<0.5	<0.5	<0.5	<0.5	1	<0.5	0.7	0.43	0.29	0.28	2.99	0	0.39	0.94
	mg/l									<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nitrate, NO_3^{-}	mg/l	<50	<50	0.135	0.13	0.06	0.058	0.063	0.061	0.06	0	0.04	0	0.15	0.06	0.24	0.06
	mg/l									0.75	0.71	0.75	1.0	0.75	0.8	1.1	1.0
Nitrite, NO_2^{-}	mg/l	<0.5	<0.01	0.0017	<0.0016	<0.0016	0.0021	<0.0016	<0.0016	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total phosphorous, P [v]	mg/l		<0.15	0.026	0.031	0.021	0.034	0.081	0.020	**1.24**	0.01	0	0	**2.05**	0	0.02	0.04
	mg/l									<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.010	0.033
Fluoride, F^{-}	mg/l	<1.5	<1.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.07	0.05	0.08	0.73	0.13	0.15	1.44
										<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromide, Br^{-}	µg/l			<10	<10	<10	<10	13	<10	.	.	.	.	.	.	.	.

Analyses from samples in ice growler centre (2008) and from glacier sampling (2006)		Greenland and EU criteria [i,ii] Tap water	Danish criteria [iii] From water works	Narsap Sermia								Sermilik		Nigerlikasik		Russell Glacier	
				Growler K [iv]		Growler L [iv]		Growler M [iv]		GEUS		GEUS		GEUS		GEUS	
				Ka4	Kb4	La4	Lb4	Ma4	Mb4	#1	#2	#1	#2	#1	#2	#1	#2
Oxygen. O_2	mg/l		(>5)[vi]	.	.	.	.	.	.	8.2	10.1	8.2	8.0	7.6	6.9	7.5	6.6
Aggressive carbon dioxide, CO_2	mg/l		<2	**6**	**3**	**4**	**4**	**2**	**3**	**4.5**	**4.2**	**4.3**	**5.1**	**3.5**	**5.8**	**5.2**	**4.9**
Metals																	
Antimony, Sb	µg/l	<5	<2	.	.	.	.	.	.	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Arsenic , As	µg/l	<5	<5	.	.	.	.	.	.	<0.030	0.031	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Barium, Ba	µg/l		<700	.	.	.	.	.	.	1.8	2.9	<1.0	2.0	1.1	3.1	5.2	11
Boron, B	µg/l	<1000	<1000	.	.	.	.	.	.	2.9	<1.0	1.3	3.4	2.0	<1.0	<1.0	1.3
Cadmium, Ca	µg/l	<5	<2	.	.	.	.	.	.	0.028	0.051	0.026	0.068	0.013	0.025	0.053	0.028
Chromium, Cr	µg/l	<50	<20	.	.	.	.	.	.	2.6	2.6	1.8	2.2	3.7	2.5	4.0	3.2
Copper, Cu	µg/l	<2000	<100	.	.	.	.	.	.	1.0	2.1	0.68	1.8	0.62	2.0	1.8	3.1
Lead, Pb	µg/l	<10	<5	.	.	.	.	.	.	0.26	1.1	0.22	0.47	0.15	0.57	0.49	0.50
Mercury, Hg	µg/l	<1	<1	.	.	.	.	.	.	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nickel, Ni	µg/l	<20	<20	.	.	.	.	.	.	0.35	0.88	0.29	0.46	0.37	0.63	0.71	1.1
Selenium, Se	µg/l	<10	<10	.	.	.	.	.	.	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc, Zn	µg/l	<100	<100	.	.	.	.	.	.	10	16	5.4	16	8.3	18	24	13
PAH, PCB, pesticides and PCP [vii]																	
4-nitrophenole	µg/l	<0.1	<0.5	.	.	.	.	.	.	0.020	0.019	0.022	0.024	0.020	0.021	0.020	0.032
TCA	µg/l		<0.1	.	.	.	.	.	.	<0.010	<0.010	<0.010	0.020	0.200	<0.010	0.084	0.019
Bacteria and spores																	
Total coliforms	/100ml	0	0	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
E. coli	/100 ml	0	0	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
Colony counts 37°C	/ml	<20 [viii]	<5	<2	<2	<2	<2	<2	<2	<1	<1	**5**	1	2	2	1	4
Colony counts 22°C	/ml	<100 [viii]	<50	<2	<2	<2	<2	<2	<2	5	5	6	9	1	<1	5	6
Faecal streptococcus	/100 ml	0	0	-	-	-	-	-	-	.	.	.	.	.	.	.	.
Clostridium perfringens	/100 ml	0	0	-	-	-[ix]	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1
Clostridium perfringens (spores)	/100 ml	0	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pseudomonas aeruginosa	/100 ml	0 [viii]		<1	<1	<1	<1	<1	<1	.	.	.	.	.	.	.	.
Total bacteria [x]	/ml			.	.	.	.	.	.	750	750	1200	1000	350	300	1100	500
Laboratory			MILANA, Denmark August 2008							GEUS, Denmark, January 2007							
			Dronning Ingrids Hospital (DIH), Greenland, August 2008							Eurofins, Denmark, September 2007							
										Eurofins, Denmark, December 2006							

Analyses from samples in ice growlers in various depth; analyses from centre of growlers, see table above (2008)		Ice growler K							Ice growler L							Ice growler M						
		KSW	Ka1	Kb1	Ka2	Kb2	Ka3	Kb3	LSW	La1	Lb1	La2	Lb2	La3	Lb3	MSW	Ma1	Mb1	Ma2	Mb2	Ma3	Mb3
Depth in ice growler	cm		2-20	2-9	21-30	9-16		16-22		0-10	0-6	19-26	14-19	33-39	28-37		3-9	3-9	14-21	15-21	27-35	28-35
Conductivity	mS/m	1390	**1**	**1**	**1**	**<1**	.	**1**	2120	**1**	**1**	**<1**	**<1**	**<1**	**<1**	1180	**1**	**1**	**1**	**<1**	**2**	**<1**
Conductivity (field measurement)	mS/m	1460	**<1**	**<1**	**<1**	**<1**	.	**<1**	1750	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	1430	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
pH		7.7	8.2	8.2	8.2	8.2	.	8.2	8.0	8.4	8.2	8.2	8.2	8.2	8.2	7.7	8.1	8.2	7.8	8.1	8.1	8.1
pH (field measurement)		7.6	**6.5**	**6.5**	**6.5**	**6.4**	.	**6.4**	7.6	**6.5**	**6.5**	**5.9**	**5.9**	**5.6**	**5.6**	7.7	**6.7**	**6.5**	**6.5**	**6.5**	**6.5**	**6.2**
Chloride	mg/l	4400	2	2	2	1	.	1	7300	1	<1	<1	<1	<1	<1	3600	1	2	<1	<1	3	<1
Total coliforms	/100 ml	-	-	-	-	-	.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E. coli	/100 ml	-	-	-	-	-	.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colony counts 37 °C	/ml	-	<2	<2	<2	<2	.	<2	-	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2
Colony counts 22 °C	/ml	51	<2	<2	<2	<2	.	<2	33	<2	<2	<2	<2	<2	<2	33	<2	<2	<2	<2	<2	<2
Faecal streptococcus	/100 ml	1	-	-	-	-	.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clostridium perfringens	/100 ml	-	-	-	-	-	.	-	-	-	-	-	-	**1**	-	-	-	-	-	-	-	-

SW = sea water

[i] Greenland Home Rule: Order No. 7 of 17. March 2008 on water quality and inspection of water supply plants. Criteria for water at the users' tab

[ii] European Union: The Council directive 98/83/EC of 3 November 1998 on quality of water intended for human consumption. Criteria for water at users' tab

[iii] The Danish Environmental Ministry: Order no. 1449 of 21st. December 2007 on water quality and inspection of water supply plants. Criteria for water leaving treatment plant

[iv] Centre of growler. Other depth see page 3

[v] Supplementary spectrometric analyses are made by GEUS (GEUS 2007:110)

[vi] Oxygen content at the consumer tap should be larger than 5 mg/l, ref. [iii]

[vii] All analyses are below detection limit except mentioned.

[viii] Bottled water

[ix] One bacteria was found in one out of eight samples (NIRAS 2008: 19)

[x] DAPI stained bacterial cells visible in microscope

Bold figures indicate that DK quality criteria for water from treatment plant are exceeded; figures in **bold and red** indicate quality criteria for water at the user tap are exceeded

. No analysis … No information available

0 Below detection limit

- Zero

Ad [iii] For water leaving the water works (values in parenthesis are recommended)

Ad [ii] Some values are indicator parameters and if exceeded a risk assessment of consequences for human health should be made. For microbiological and chemical parameters (heavy metals, contaminants) the maximum values must be complied with