1. INTRODUCTION

When the 5th Scientific Committee on Antarctic Research (SCAR) meeting was held in Wellington, New Zealand in October 1961, Rear Admiral David M. Tyree, Commander of the US Navy Support Forces, invited one delegate from each nation to visit the US Antarctic facilities. The editor-in-chief was one of this fortunate members of this excursion. During a flight in an Otter airplane over the Dry Valleys region, he gained a strong interest in studying its many lakes and ponds. Of particular interest was Don Juan Pond, a highly saline pond discovered only one week ealier.

The Japanese geochemical studies in the McMurdo Dry Valleys region started in the 1963/1964 field season, when Dr. Thomas O. Jones, director of the Division of Polar Programs of the National Science Foundation (NSF), U.S.A., kindly invited the Japanese geochemists to conduct investigations in that area. Since that time, research activities had been continued until the 1986/1987 field season, with invitations by the Division of Polar Programs, NSF from 1963/1964 to 1968/1969, and by the Antarctic Division, Department of Scientific and Industrial Research, New Zealand from 1970/1971 to 1986/1987 field seasons.

The Dry Valleys region of southern Victoria Land is the largest oasis in Antarctica, exceeding 2500 km^2. Japanese scientific studies were mainly focused on the geochemical characteristics of lakes and ponds and their surroundings in Victoria, Wright, Taylor and Miers Valleys and also on Ross Island. These extensive studies are providing many geochemical data, including general characteristics, major and trace elements, nutrients, organic matter, stable and radioisotope data and secondary minerals of lakes, ponds, and their surroundings. Our geochemical studies were almost completed in the 1986-1987 summer season. We hereby summarize these data of the Dry Valleys region and Ross Island.

The Japanese field party members were as follows:

1963-64: Tetsuya Torii (Chiba Institute of Technology), Noboru Yamagata (Institute of Public Health), Tsurahide Cho (Gakushuin University) and Yoshio Yoshida (Ochanomizu Women's University).

1964-65: Tetsuya Torii, Noboru Yamagata, Tsurahide Cho, Yoshio Yoshida (Hiroshima University), Zenkichi Hirayama (Nihon University) and Junta Sugiyama (The University of Tokyo).

1965-66: Tetsuya Torii, Noboru Yamagata, Makoto Shima (The Institute of Physical and Chemical Research) and Akito Koga (Kyushu University).

1968-69: Tetsuya Torii and Noboru Yamagata.

1970-71: Tetsuya Torii, Yoshio Yoshida, Yuki Yusa (Kyoto University) and Kiichi Moriwaki (Hiroshima University).

1971-72: Tetsuya Torii, Yuki Yusa, Takeo Hashimoto (Chiba Institute of Technology), Kinshiro Nakao (Hokkaido University), Hiroshi Kinoshita (Tama Chemical Industry Co. Ltd.), Yasushi Nishizaki (Chiba Institute of Technology) and Koichi Nakayama (Chiba Institute of Technology).

1972-73: Tetsuya Torii, Yoshio Yoshida, Shyu Nakaya (Hokkaido University) and Takeo Hashimoto.

1973-74: Tetsuya Torii, Nobuyuki Nakai (Nagoya University), Hajime Kurasawa (Geological Survey of Japan), Kunihiko Watanuki (The University of Tokyo), Yoshio Yoshida, Hideki Morikawa (Tokyo Institute of Technology), Syoichi Ohno (Geological Survey of Japan) and Koichi Nakayama.

1974-75: Tetsuya Torii, Genshu Waguri (Osaka City University), Kikuo Kato (Nagoya University), Takashi Nishiyama (Kyoto University) and Hajime Kurasawa.

1975-76: Nobuyuki Nakai.

1976-77: Tetsuya Torii, Genki Matsumoto (Tokyo Metropolitan University) and Yoshiki Tanaka (Chiba Institute of Technology).

1977-78: Tetsuya Torii and Tsurahide Cho (Tama Chemical Industry Co. Ltd.).

1978-79: Tetsuya Torii and Noriyasu Masuda (Hokkaido University).

1979-80: Tetsuya Torii, Yuki Yusa, Shyu Nakaya (Hirosaki University) and Kazuhisa Komura (Kanazawa University).

1980-81: Tetsuya Torii, Tsurahide Cho, Eitaro Wada (Mitsubishi-kasei Institute of Life Sciences), Shyu Nakaya and Genki Matsumoto.

1981-82: Tetsuya Torii, Yuki Yusa, Genki Matsumoto and Haruta Murayama (Yokohama National University).

1982-83: Tetsuya Torii, Shyu Nakaya, Noriyasu Masuda and Nobuya Torii (Gakushuin University).

1983-84: Tetsuya Torii, Tsurahide Cho, Genki I. Matsumoto, Tamio Kawano (Oita University), Yoshiharu Kobata (Chiba University) and Chisato Tomiyama (Nagoya University).

1984-85: Tetsuya Torii, Shyu Nakaya, Kazuhisa Komura and Takao Morimoto (Japan Chemical Analysis Center).

1985-86: Tetsuya Torii, Genki I. Matsumoto (The University of Tokyo), Noriyasu Masuda, Katsumi Yoshimizu (Japan Chemical Analysis Center) and Tetsuo Takeuchi (Japan Polar Research Association).

1986-87: Tetsuya Torii, Takeo Hashimoto, Yoshihiro Ikeuchi (Japan Chemical Analysis Center) and Hideki Wada (Shizuoka University).

These geochemical studies of the McMurdo Sound region were supported by many

scientists, in particular, the following geochemists: Joyo Ossaka (Tokyo Institue of Technology), Sadao Murata (Chiba Institute of Technology), Osamu Matsubaya (Akita University), Hitoshi Sakai (Yamagata University), Kunihiko Kigoshi (Gakushuin University).

This data book was compiled by Tetsuya Torii (editor-in-chief) and the following associates:

Tamio Kawano	Oita University, Executive editor
Tadashi Araki	Japan Chemical Analysis Center
Tsurahide Cho	Tama Chemical Industry Co. Ltd.
Takeo Hashimoto	Japan Chemical Analysis Center
Noriyasu Masuda	Iai Senior High School
Genki I. Matsumoto	Otsuma Women's University
Haruta Murayama	Yokohama National University
Shyu Nakaya	Hirosaki University
Yoshio Yoshida	National Institute of Polar Research

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2. ANALYTICAL METHODS

2.1. Studied Sites

Geochemical samples were collected during the 1963-1987 field seasons from Victoria, Wright, Taylor and Miers Valleys of the Dry Valleys of southern Victoria Land and Ross Island, Antarctica.

2.2. Field Methods

Using a Sipre ice auger to drill a hole through lake ice, water temperature and electric conductivity were measured, and water samples were collected by the use of a Kitahara-type water sampler (1 ℓ). Nutrients were determined according to the methods of Strickland and Parsons (1968) and the Japan Meteorological Agency (1970) with some special modifications for the presence of hydrogen sulfide in water.

Temperature: Thermistor thermometer and glass thermometer.

Electric conductivity: Electric conductometer.

pH: Glass electrode method.

Dissolved oxygen: Winkler's chemical method.

Alkalinity: Titration with hydrochloric acid at pH 4.3 (BCG).

Silicate-Si: Molybdenum yellow method.

Phosphate-P: Molybdenum blue method.

Ammonium-N: Indophenol blue method. (Richards and Kletsch, 1964)

Nitrite-N: Griess-Romijin reagent method (1963-1969 field season samples). Sulfanilamide method (1970-1986 field season samples).

Nitrate-N: Griess-Romijin reagent method after reduction with zinc powder (1963-1969 field season samples). Sulfanilamide method after reduction with copper-cadmium column (1970-1986 field season samples).

2.3. Laboratory Methods

Water samples in polyethylene bottles were brought back to Japan by ship and analyzed by the following analytical methods.

Na: Flame spectrophotometry for low salinity (1963-1966 field season samples). Gravimetric method using sodium uranyl zincacetate for high salinity (1963-1966 field season samples). Atomic absorption spectrophotometry (1967-1987 field season samples).

K: Flame spectrophotometry for low and high salinity (1963-1966 field season samples). Atomic absorption spectrophotometry (1967-1987 field season samples).

Ca and Mg: EDTA titration method for low and high salinity (1963-1966 field season samples). EDTA titration method for high salinity (1963-1987 field season samples). Atomic

absorption spectrophotometry for low salinity (1966-1987 field season samples).

Cl: Mercuric thiocyanate colorimetry (Iwasaki *et al.*, 1956) and ion chromatography (1986-1987 field season samples) for low salinity. Mercuric nitrate method (Domask and Kobe, 1952) and Mohr method for high salinity.

SO_4: Barium chromate colorimetric method (Iwasaki *et al.*, 1957) and ion chromatography (1986-1987 field season samples) for low salinity. Barium chloride gravimetric method for high salinity.

F: Ion selective electrode method (1983-1987 field season samples).

Br: Iodometry (Kaplan and Schnerb, 1958).

B: Titration method using mannitol (1963-1980 field season samples; Gast and Thompson, 1958). Methylene-blue colorimetry (1981-1987 field season samples).

Li, Sr: Flame and flameless atomic absorption spectrophotometry (1982-1987 field season samples; Takamatsu *et al.*, 1988, 1994).

Trace metals: Neutron activation analysis.

δ D: Uranium reduction method (Friedman, 1953).

$\delta\,^{18}O$: Water-carbon dioxide equilibrium method (Epstein and Mayeda, 1953).

$\delta\,^{15}N$: Wada and Hattori (1976)

Isotopes of U, Th, Pu, Ra and Am: α-ray spectrometry.

^{14}C and ^{90}Sr: β-ray counting method.

^{3}H: Liquid scintillation analysis.

Other natural and artificial radionuclides: γ-ray spectrometry.

Remarks:

This data was collected over the course of this 35-year investigation. It is recognized that many improvements in the analytical methods and field instruments have made the recent data more concise and complete. "n.d." in the table means "not detected".

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4. Victoria Valley

Photo 1. Lake Vida.

Photo 2. Balham Lake

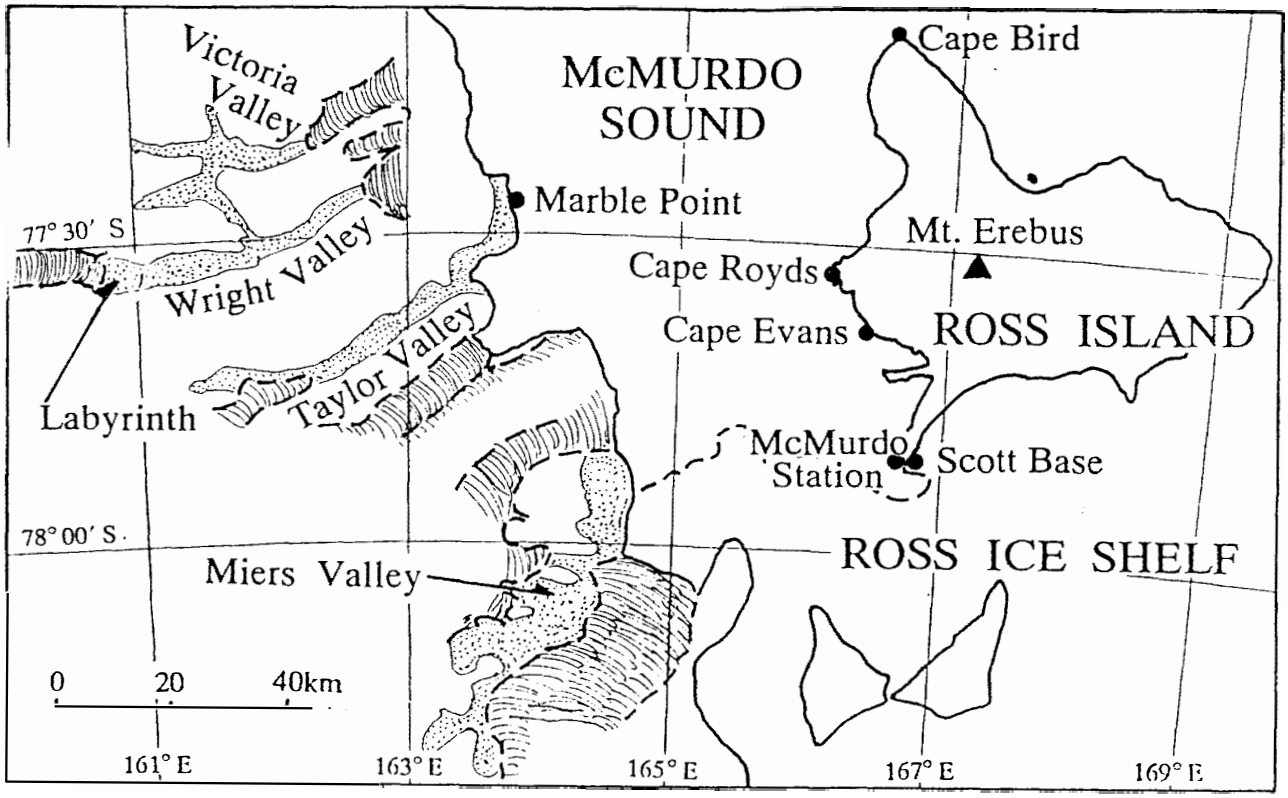

Fig. 1. McMurdo Sound region, Antarctica.

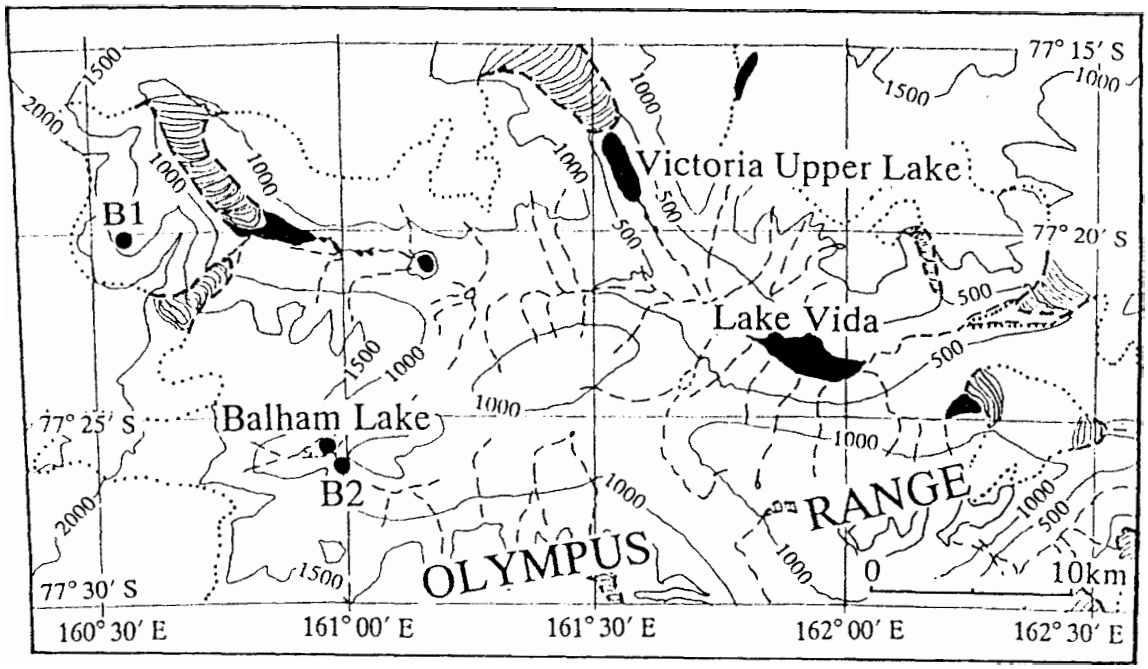

Fig. 2. Lakes and ponds in Victoria Valley.

Table 1. Chemical composition of lake puddles and inflow waters to Lake Vida.

Sampling station		L.Vida		inflow	
Sampling date		21 Dec.1971	23 Dec.1971	21 Dec.1971	23 Dec.1971
Water temperature (℃)		0.0	0.5	0.0	0.0
Specific gravity					
Electric conductivity (mS/cm)					
pH		7.4	7.3	6.99	7.4
Dissolved oxygen (mℓ/ℓ)					
Alkalinity	(meq/ℓ)	0.36	0.3	0.69	0.88
SiO_2-Si	(μg-at/ℓ)	86.6	90.0	10.0	51.6
PO_4-P	(μg-at/ℓ)	0.73	0.65	0.27	0.42
NO_2-N	(μg-at/ℓ)	0.78	0.7	0.02	0.31
NO_3-N	(μg-at/ℓ)	13.2	1.8	76.1	43.2
NH_4-N	(μg-at/ℓ)	0.15	0.78	0.07	0.07
Na	(mg/kg)				
K	(mg/kg)				
Mg	(mg/kg)				
Ca	(mg/kg)				
Cl	(mg/kg)				
SO_4	(mg/kg)				
Li	(mg/kg)				
B	(mg/kg)				
F	(mg/kg)				
Br	(mg/kg)				
Sr	(mg/kg)				
δD	(‰)				
$\delta^{18}O$	(‰)				
Remarks		west site puddle water frozen lake	east site puddle water	from west	from west

Table 2. Chemical composition of waters in Balham Lake and unnamed ponds.

Sampling station	B1 pond		Balham L.		B2 pond
Sampling date	7 Jan. 1982	21 Dec. 1982	8 Jan. 1982	8 Jan. 1982	9 Jan. 1982
Air temperature (℃)	-8.5			-0.8	
Size of pond (m) SN×EW	10×18		113.1×177		30×15
Sampling depth (cm)	surface	50	20	280	
Water temperature (℃)	-2.3	-0.2	-0.1	-0.2	
Specific gravity	1.037	1.034	1.003	1.005	
Electric conductivity (mS/cm)		54.5	2.75	3.85	
pH	8.32	8.32	8.21	8.11	
Dissolved oxygen (mℓ/ℓ)	12.5	9.74		20.8	
Alkalinity (meq/ℓ)	2.44	2.44	0.88	1.54	
SiO_2-Si (μg-at/ℓ)					
PO_4-P (μg-at/ℓ)					
NO_2-N (μg-at/ℓ)					
NO_3-N (μg-at/ℓ)					
NH_4-N (μg-at/ℓ)					
Na (mg/kg)	7480	9960		800	
K (mg/kg)	50	52.3		14	
Mg (mg/kg)	5270	5860		419	
Ca (mg/kg)	1060	1070		413	
Cl (mg/kg)	16700	17080	820	1350	
SO_4 (mg/kg)	2450	1900		1500	
Li (mg/kg)					
B (mg/kg)	8.2	6.8	0.77	0.90	
F (mg/kg)	20.0	19	4.0	7.9	
Br (mg/kg)	19.7		0.4	0.43	
Sr (mg/kg)	6.30	4.84	n.d.	1.19	
δD (‰)	-225.7	-225	-198.3	-198.8	
$\delta^{18}O$ (‰)	-25.3	-25.3	-21.9	-22.1	
Remarks	Valley lies between Gibson Spur and Mt. Bastian elevation: 1450 m ref. 153, 180	77°20'30" S 160°33' E ref. 180	puddle water elevation: 670 m completely frozen depth: 4 m ref. 153, 180	ice thickness: 2.9 m ref. 153, 180	dried up pond elevation: 800 m saddle between Insel Range and Rude Spur

5. Wright Valley

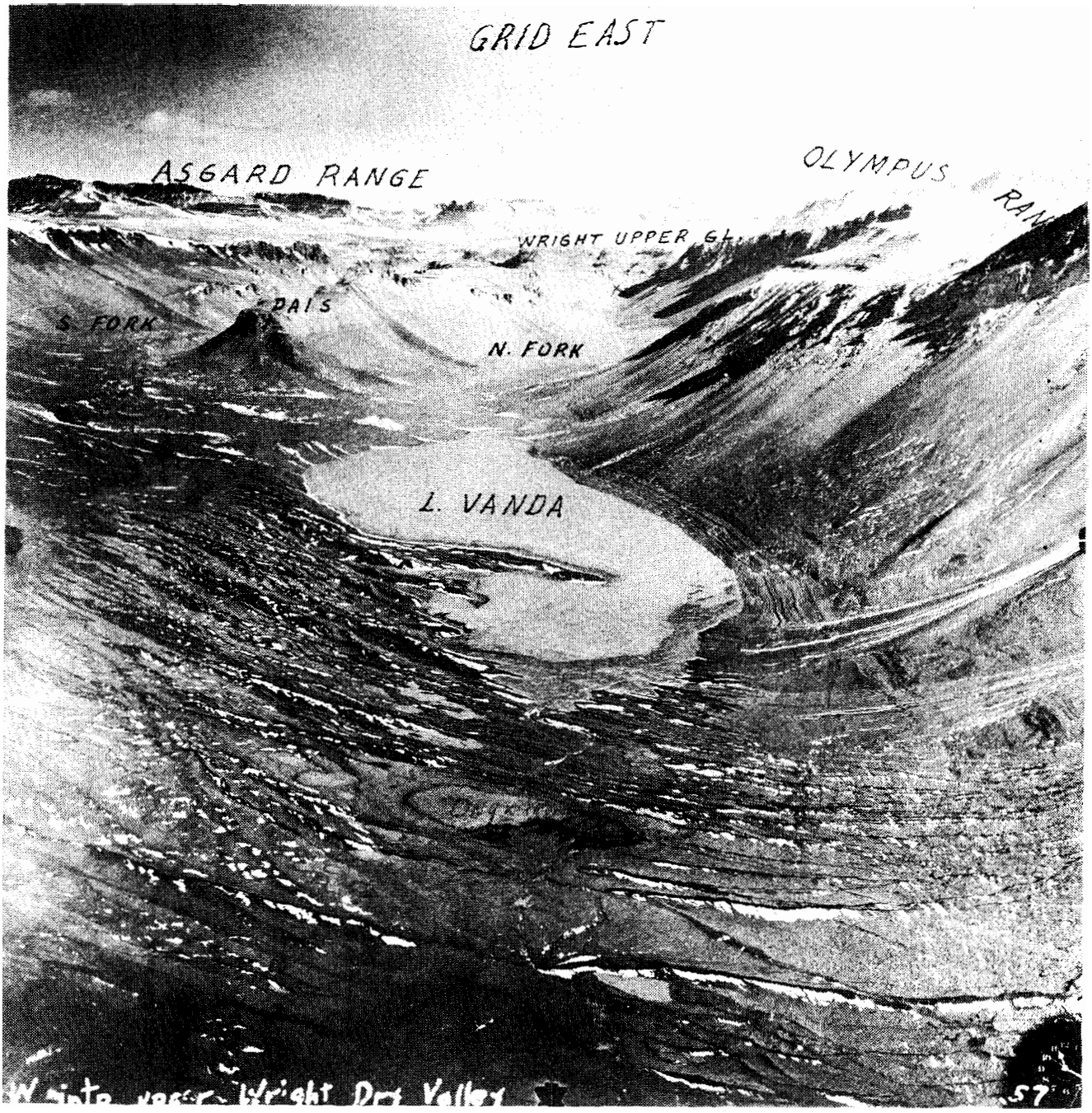

Photo 3. Aerial view of Lake Vanda. Pronounced old strand lines to the right side indicate higher lake levels in the past (official U. S. Navy photograph).

Photo 4. Aerial view of Wright Valley facing east (official U. S. Navy photograph).

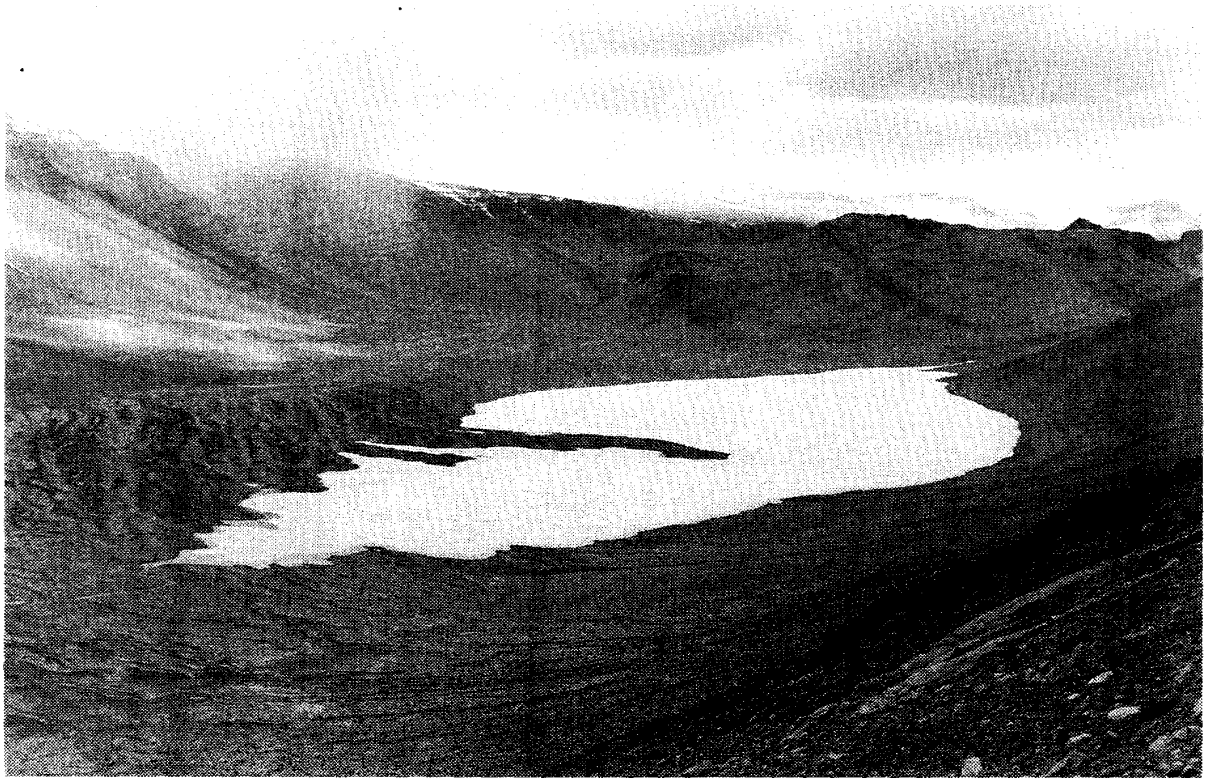

Photo 5. Lake Vanda from the east.

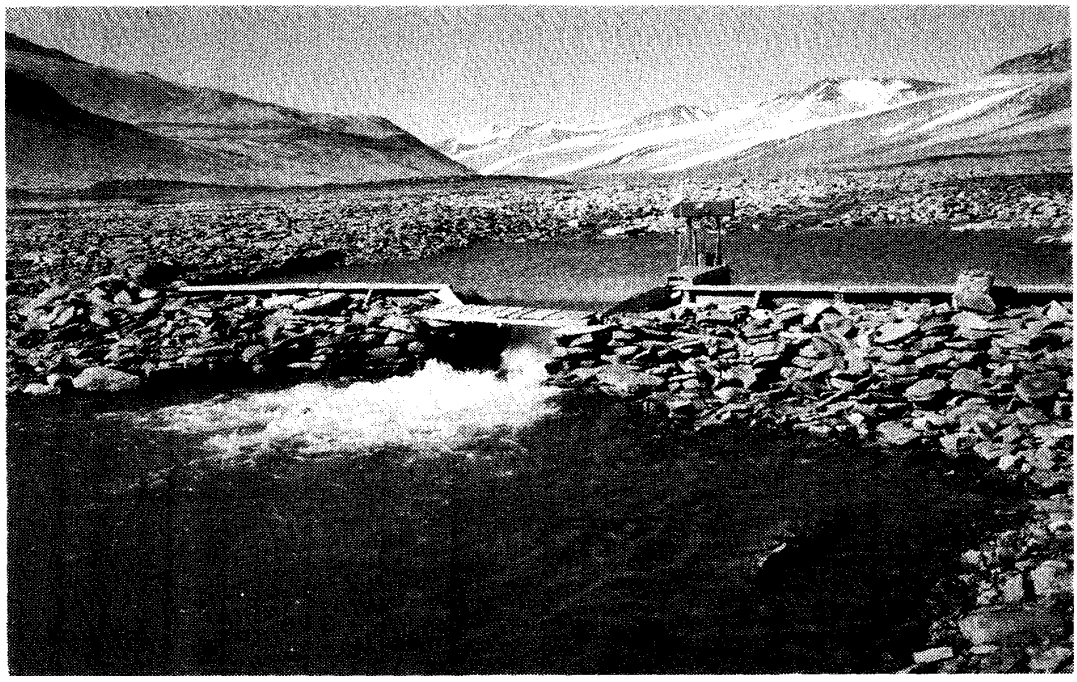

Photo 6. Onyx River at weir near Vanda Station.

Photo 7. Don Juan Pond facing west.

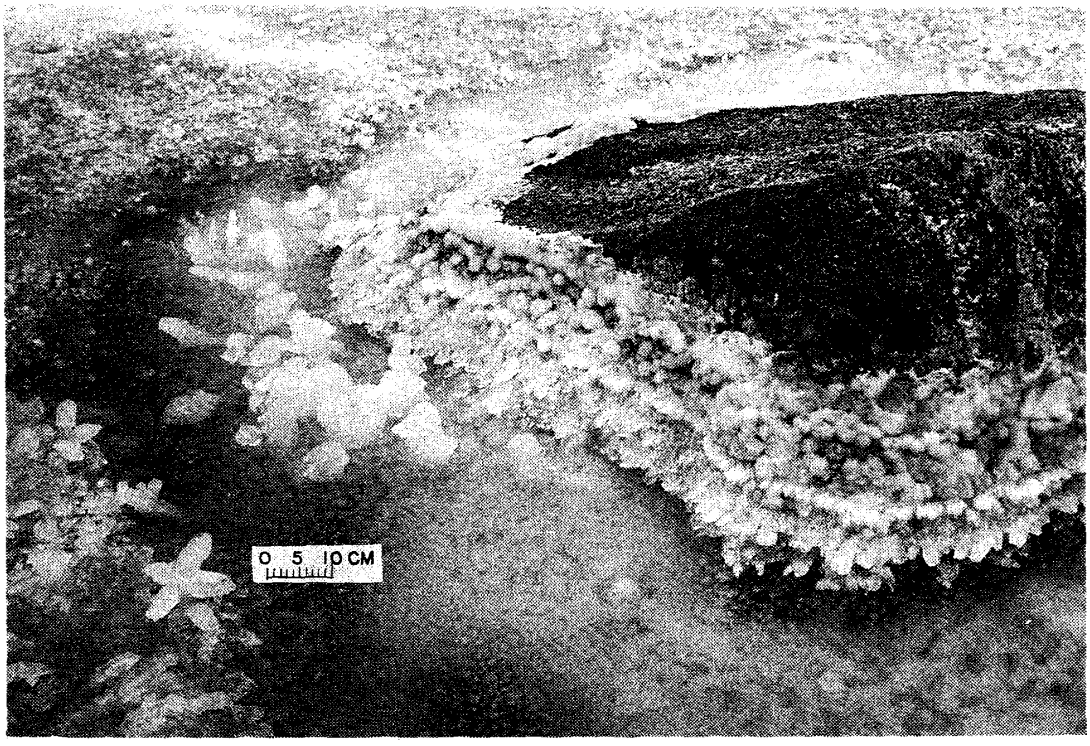

Photo 8. Antarcticite crystals in Don Juan Pond.

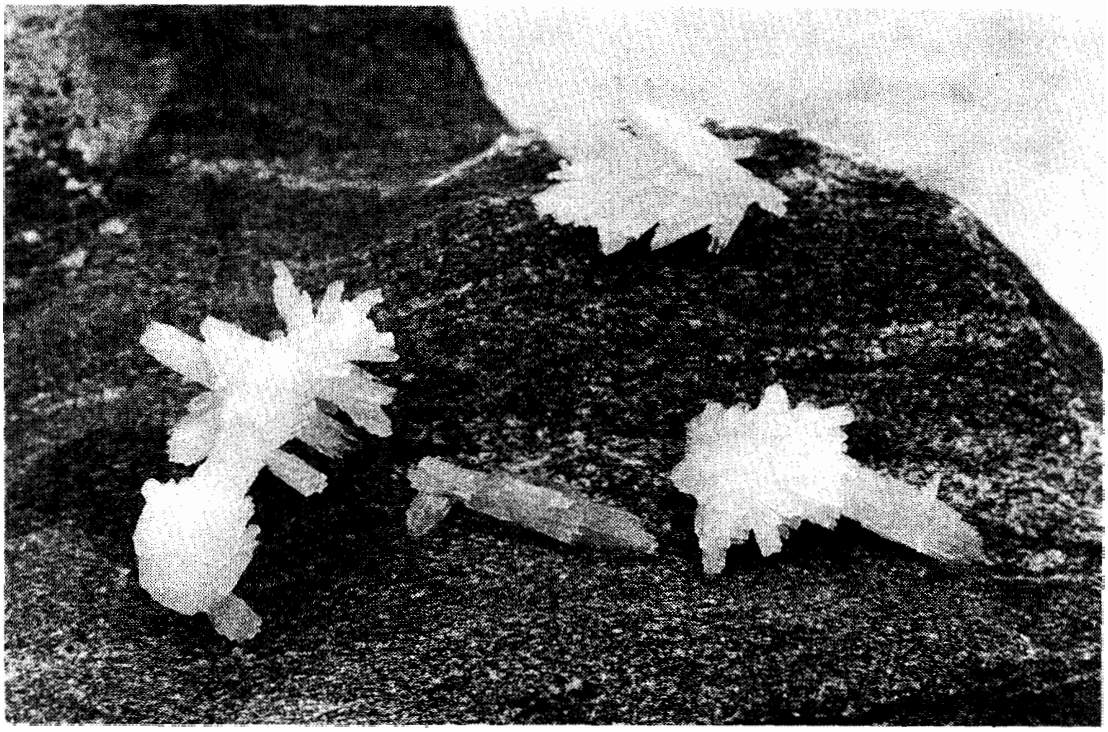

Photo 9. Crystals of antarcticite.

Photo 10. Don Quixote Pond on the North Fork.

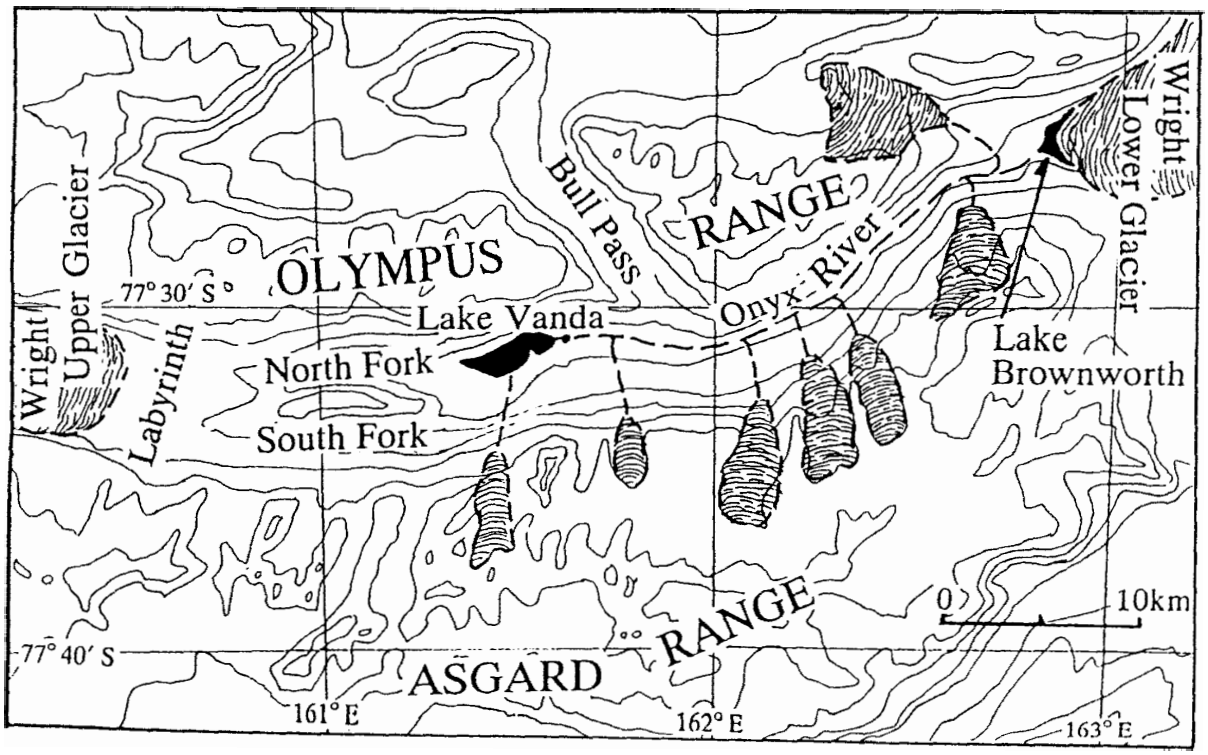

Fig. 3. Wright Valley.

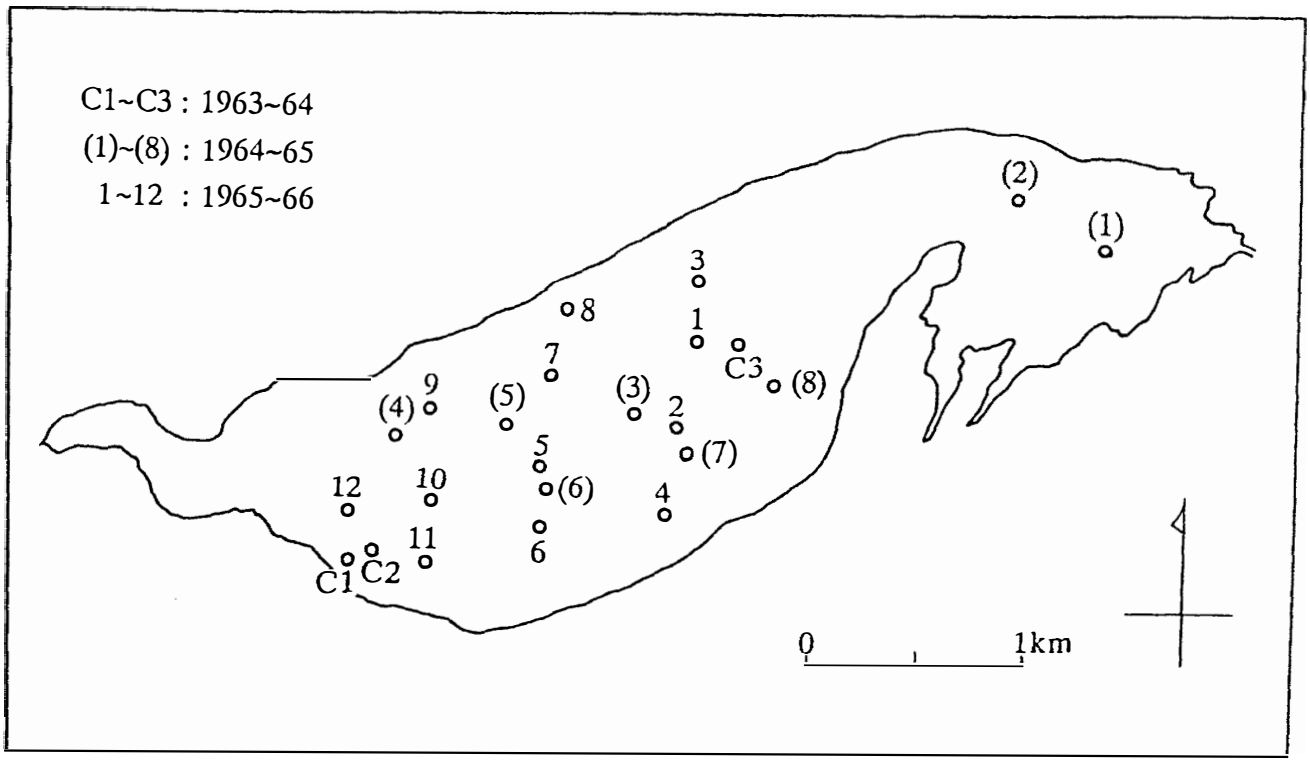

Fig. 4. Sampling sites in Lake Vanda, Wright Valley (1963-1966 field seasons).

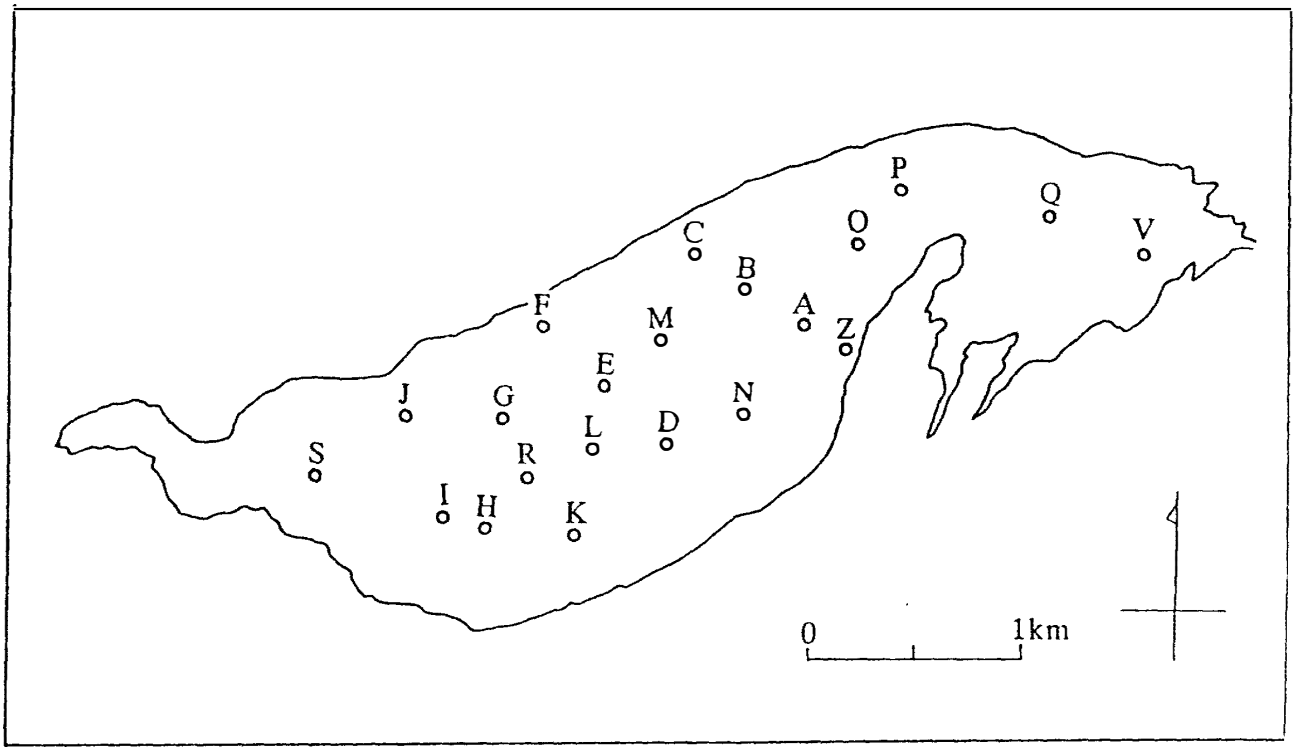

Fig. 5. Sampling sites in Lake Vanda, Wright Valley (1970-1973 field seasons).

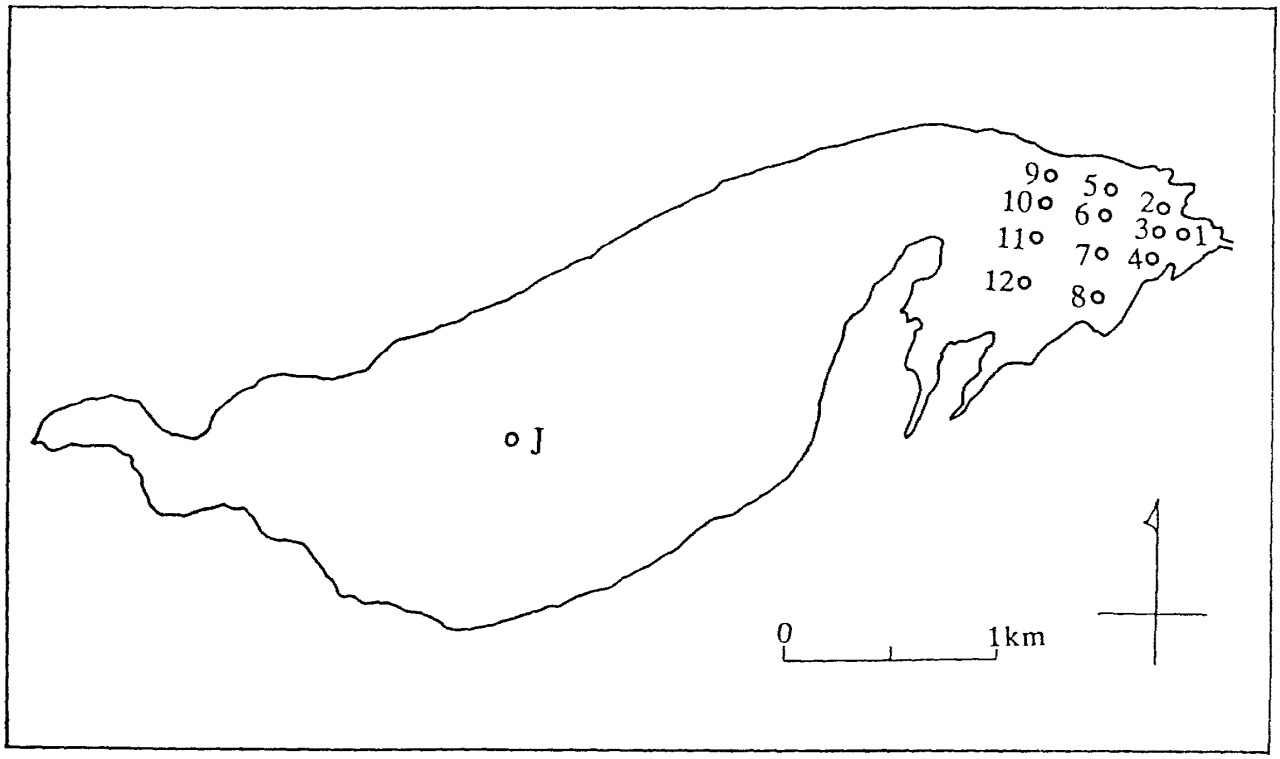

Fig. 6. Sampling sites in Lake Vanda, Wright Valley (1977-1984 field seasons).

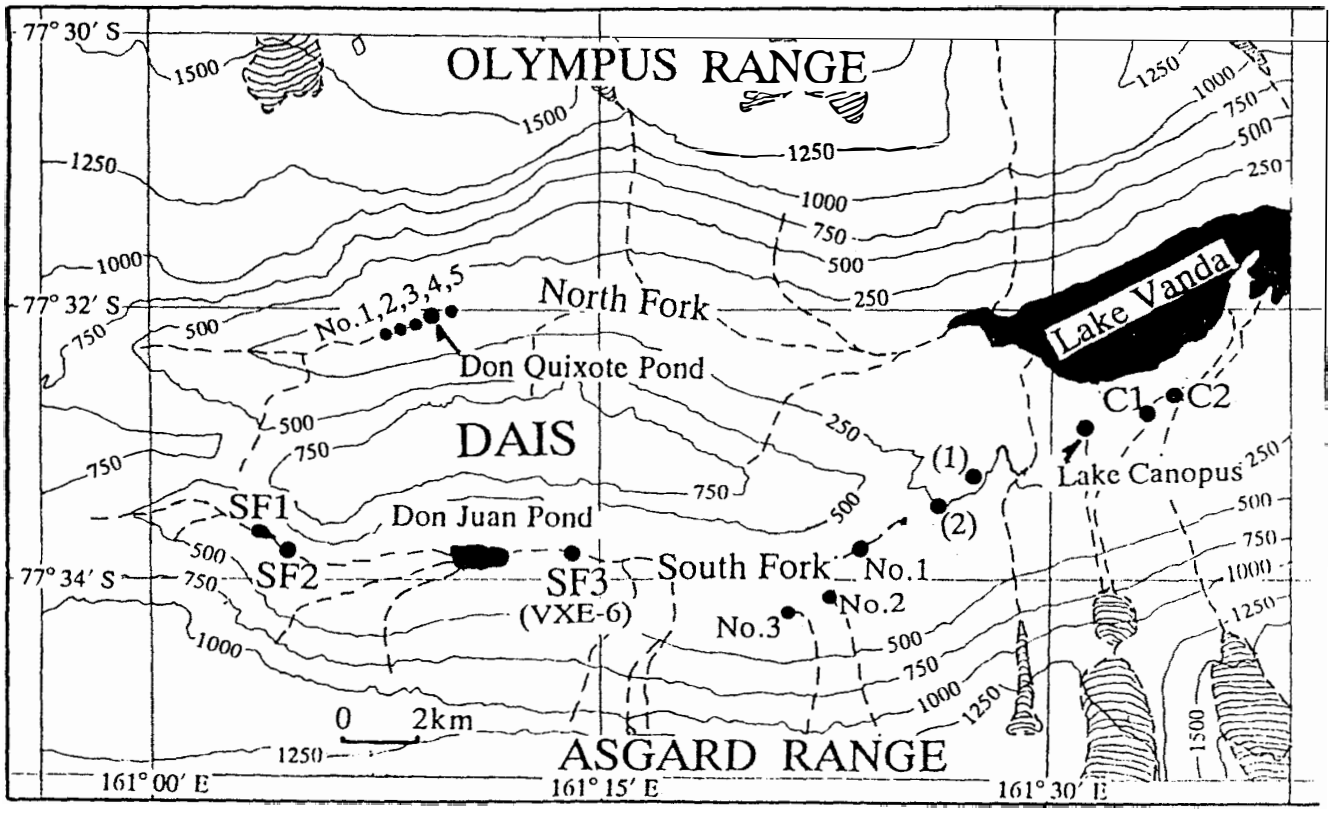

Fig. 7. Lake Vanda and ponds to the west, Wright Valley.

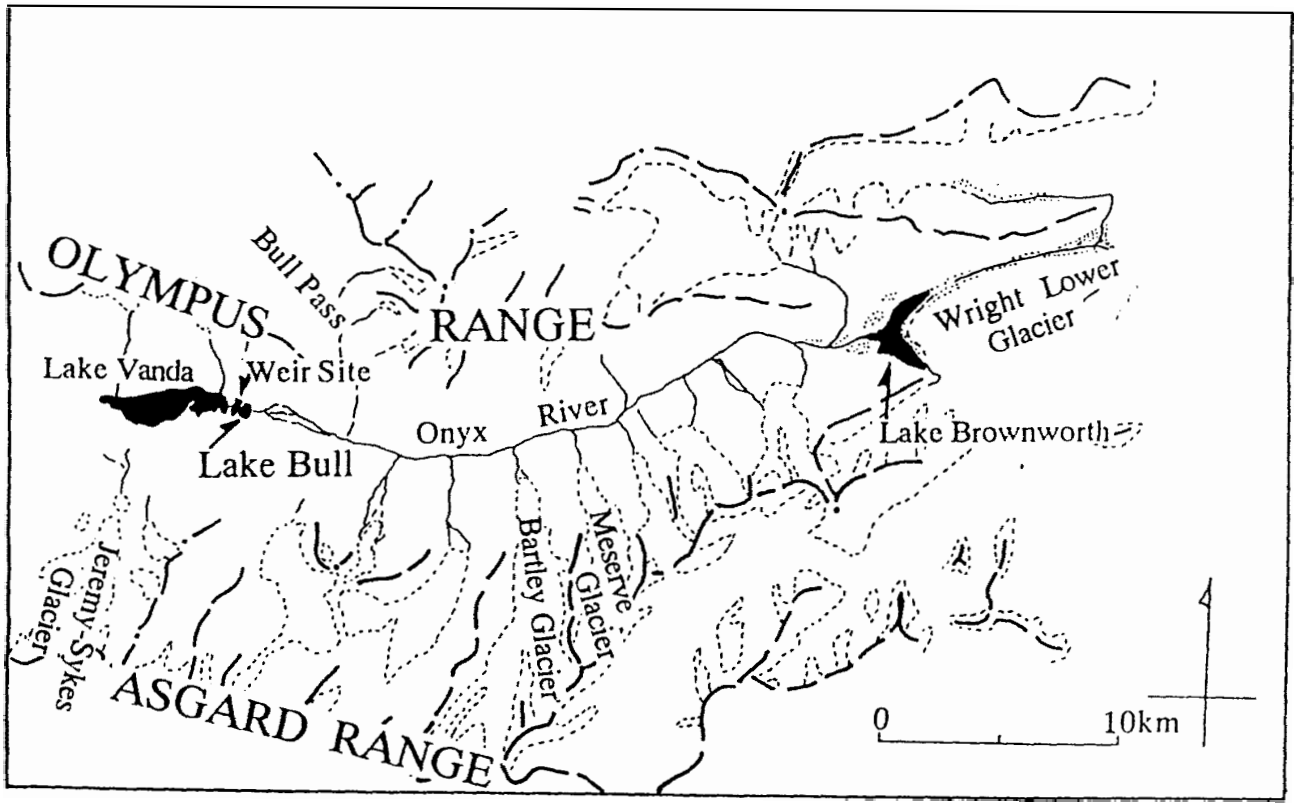

Fig. 8. Onyx River system in Wright Valley.

Table 3. Chemical composition of waters in Lake Vanda.

Sampling station	edge	C1		C2	
Sampling date	28 Dec.1963	29 Dec.1963		29 Dec.1963	
Sampling depth (m)	surface	5.0	10.0	5.0	15.0
Water temperature (°C)	2.00	4.38	4.99	4.49	7.42
Specific gravity					1.004
Electric conductivity (mS/cm)					
pH	7.8	8.4	8.4	7.4	7.4
Dissolved oxygen (mℓ/ℓ)		2.36	2.80	1.84	2.36
Alkalinity (meq/ℓ)					
SiO_2-Si (μg-at/ℓ)		1.3	1.6	0.7	3.41
PO_4-P (μg-at/ℓ)		0.0	0.0	0.0	0.0
NO_2-N (μg-at/ℓ)		0.2	0.2	0.0	0.0
NO_3-N (μg-at/ℓ)					
NH_4-N (μg-at/ℓ)		0.0	0.0	0.03	0.03
Na (mg/kg)	15.0	35.0	42.0	15.0	72.5
K (mg/kg)	5.3	10.5	12.0	4.5	23.5
Mg (mg/kg)	5.6	12.0	14.3	5.3	33.7
Ca (mg/kg)	23.9	49.4	59.8	26.5	138.4
Cl (mg/kg)	80.1	166.0	195.7	92.1	443.2
SO_4 (mg/kg)	6	13	16	8	20
Li (mg/kg)					
B (mg/kg)					0.032
F (mg/kg)					
Br (mg/kg)					
Sr (mg/kg)					
δD (‰)	-235	-257	-265	-255	-263
$\delta^{18}O$ (‰)					
Remarks	ref. 9, 28	ref. 9, 28		ref. 9, 28	

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		C3				V1	
Date		15 Jan.1964				31 Dec.1964	
Depth (m)		5.0	30.0	45.0	63.0	3.7	5.0
Water temp. (℃)		4.36	6.90	8.39	23.20	0.4	4.6
Specific gravity		1.003		1.014	1.092		
E.C.	(mS/cm)						
pH						8.0	
DO	(mℓ/ℓ)						
Alkalinity	(meq/ℓ)						
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	29.0	109	750	6554	13	20
K	(mg/kg)	8.8	31	175	726	5.4	8.9
Mg	(mg/kg)	11.8	44.2	1020	7170	6.2	10.3
Ca	(mg/kg)	44.7	184	3600	22730	23.8	41.7
Cl	(mg/kg)	149.0	583	11350	72150	78.6	135
SO_4	(mg/kg)	9	25	89	641	5.1	11
Li	(mg/kg)						
B	(mg/kg)	0.011	0.044	0.56	3.0		
F	(mg/kg)						
Br	(mg/kg)	0.045	0.18	3.1	19		
Sr	(mg/kg)						
δD	(‰)	-234	-261	-267	-245		
$\delta^{18}O$	(‰)						
Remarks		ref. 9, 28				ref. 8, 9	

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station	V1	V2				V6
Date	31 Dec.1964	31 Dec.1964				3 Jan.1965
Depth (m)	9.0	3.75	5.0	13.5	15.5	3.6
Water temp. (℃)	4.7		5.1	6.8	8.1	
Specific gravity						
E.C. (mS/cm)						
pH	8.2	8.3	8.3	8.3	7.9	7.1
DO (mℓ/ℓ)	9.25		14.77	11.19		
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)						23
PO_4-P (μg-at/ℓ)						0.3
NO_2-N (μg-at/ℓ)						0.8
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	35	12	21	39	66	2.0
K (mg/kg)	13.0	5.3	8.3	15.8	27.4	1.8
Mg (mg/kg)	14.3	3.9	9.0	14.9	35.5	1.7
Ca (mg/kg)	59.0	17.0	38.5	60.6	141	6.4
Cl (mg/kg)	188	76.3	127	256	525	21.4
SO_4 (mg/kg)	12	5.4	8.2	16	24	2.2
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 10 m bottom temp.: 5.3 ℃ ref. 9	bottom depth: 32.5 m bottom temp.: 8.1 ℃ ref. 9				ref. 8, 9

Table 3. Chemical composition of waters in Lake Vanda (contunued).

Station	V6					
Date	3 Jan. 1965					
Depth (m)	5.0	15.5	31.5	52.0	63.5	66.5
Watertemp. (℃)	4.8	8.0	8.0	17.3	24.8	
Specific gravity						
E.C. (mS/cm)						
pH	8.4	9.0	8.4	7.3	6.8	6.2
DO (mℓ/ℓ)						
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	19	34	64	1655	1794	4570
K (mg/kg)	7.2	13.4	28.8	406	419	960
Mg (mg/kg)	8.5	15.8	44.3	2329	3137	4580
Ca (mg/kg)	32.7	66.1	184	7918	10120	24620
Cl (mg/kg)	105	210	573	23650	30680	75880
SO_4 (mg/kg)	10	17	24	187	288	622
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 66.8 m bottom temp.: 25.1 ℃ ref. 8, 9					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		V7					
Date		4 Jan. 1965					
Depth (m)		3.6	5.0	15.5	52.0	56.0	61.0
Water temp. (℃)			4.7	8.0	17.2	21.1	24.5
Specific gravity							
E.C.	(mS/cm)						
pH		8.6	8.6	8.6	6.6	6.7	6.2
DO	(mℓ/ℓ)						
Alkalinity	(meq/ℓ)						
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	32	35	38	1460	2390	3828
K	(mg/kg)	12.6	13.7	14.0	438	502	905
Mg	(mg/kg)	14.6	17.1	16.9	2081	4012	6395
Ca	(mg/kg)	57.8	60.3	67.0	7132	13250	20850
Cl	(mg/kg)	185	201	217	21250	39570	62940
SO_4	(mg/kg)	14.4	16	16	137	235	448
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ice thickness: 3.50 m ref. 8, 9					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station	V8					
Date	4 Jan.1965					
Depth (m)	3.5	5.0	15.5	20.0	31.5	42.0
Watertemp. (℃)		4.7	8.0	8.0	8.0	8.8
Specific gravity						
E.C. (mS/cm)						
pH						
DO (mℓ/ℓ)						
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	9	32	66	68	63	90
K (mg/kg)	4.2	13.0	27.9	32.2	29.4	38.3
Mg (mg/kg)	5.3	14.8	38.0	45.2	40.9	75.1
Ca (mg/kg)	20.9	58.1	155	184	171	297
Cl (mg/kg)	68.8	189	485	572	529	911
SO_4 (mg/kg)	2.9	14	21	21	21	26
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	ref. 8, 9					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		V8		B			
Date		4 Jan.1965		19 Jan.1971			
Depth (m)		52.0	59.0	surface	3.8	7.5	11.3
Water temp. (℃)		17.2	23.4	0.2	3.4	4.9	5.8
Specific gravity							
E.C.	(mS/cm)						
pH				5.75	7.53	8.54	8.65
DO	(mℓ/ℓ)			13.0	15.8	20.5	27.5
Alkalinity	(meq/ℓ)			0.15	0.53	0.75	0.91
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	1460	2820	0.18	25.5	52.2	67.5
K	(mg/kg)	394	597	0.25	16.3	35.3	48.0
Mg	(mg/kg)	2242	5390		6.1	13.4	19.1
Ca	(mg/kg)	7546	17510	0.29	28.8	60.0	83.0
Cl	(mg/kg)	22610	52490	0.85	87.0	190	268
SO_4	(mg/kg)	177	450	1.0	8.4	14.1	18.1
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)				0.11	0.22	0.32
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		bottom depth: 59.0 m ref. 8, 9		ice thickness: 3.23 m ref. 14			

Table 3. Chemical composition of waters in Lake Vanda (contnued).

Station		B					
Date		19 Jan. 1971					
Depth (m)		13.2	20.7	39.6	45.3	51.9	55.8
Water temp. (℃)		6.7	7.4	7.4	9.2	15.9	21.0
Specific gravity						1.016	1.043
E.C.	(mS/cm)						
pH		8.62	8.41	8.41	8.10	6.8	6.52
DO	(mℓ/ℓ)	24.1	20.4	9.0	24.0	18.9	26.9
Alkalinity	(meq/ℓ)	1.01	1.39	1.32	1.39	2.02	3.03
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	85.0	142	132	205	1520	3510
K	(mg/kg)	51.5	77.0	76.0	116	533	1060
Mg	(mg/kg)	23.3	41.2	40.5	92.5	1430	3340
Ca	(mg/kg)	98.8	177	178	377	4200	9340
Cl	(mg/kg)	320	555	552	1149	12530	34520
SO_4	(mg/kg)	19.3	25.2	26.1	32.8	94.0	265
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.36	0.61	0.63	1.3	13.0	37.0
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		bottom depth: 57.0 m ref. 14					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		D					
Date		10 Jan. 1971					
Depth (m)		0.0	3.9	7.8	13.7	19.6	61.7
Water temp. (℃)		0.1	3.5	5.2	6.6	7.5	25.0
Specific gravity							1.077
E.C.	(mS/cm)						
pH		4.87	6.70	7.97	8.13	8.12	5.45
DO	(mℓ/ℓ)	13.1	13.0	17.2	21.7	20.3	5.3
Alkalinity	(meq/ℓ)	0.20	0.37	1.41	1.07	1.36	
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	0.47	13.8	66.5	90.8	142	6460
K	(mg/kg)	0.53	9.2	47.5	57.0	78.0	1630
Mg	(mg/kg)		3.7	38.5	21.4	41.9	5890
Ca	(mg/kg)	0.53	13.6	82.0	119	177	20730
Cl	(mg/kg)	2.2	40.2	264	371	557	60850
SO_4	(mg/kg)						560
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ice thickness: 3.10 m ref. 14					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		E					
Date		14 Jan.1971					
Depth (m)		3.8	7.6	11.4	13.3	21.0	39.6
Water temp. (℃)		2.8	5.4	5.8	6.1	7.5	7.5
Specific gravity							
E.C.	(mS/cm)						
pH		7.10	8.35	8.50	8.45	8.27	8.21
DO	(mℓ/ℓ)	13.2	20.1	20.9	17.1	15.3	20.0
Alkalinity	(meq/ℓ)	0.5	0.95	1.05	1.03	1.38	1.41
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	13.2	70.0	78.4	86.6	124	124
K	(mg/kg)	8.8	47.0	50.5	52.0	75.0	75.0
Mg	(mg/kg)	3.3	18.9	27.5	31.5	41.7	41.8
Ca	(mg/kg)	13.0	83.4	91.0	101	174	175
Cl	(mg/kg)	38	269	295	318	549	550
SO_4	(mg/kg)	5.9	18.3	19.0	19.6	25.4	25.2
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ice thickness: 3.08 m ref. 14					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		E					F
Date		14 Jan.1971					19 Jan.1971
Depth (m)		44.8	51.5	56.2	61.0	62.1	0.0
Water temp. (℃)		9.2	15.5	21.0	24.6	24.9	0.4
Specific gravity			1.014	1.045	1.075	1.083	
E.C.	(mS/cm)						
pH		7.95	6.70	6.31	5.76	5.74	5.90
DO	(mℓ/ℓ)	17.0	10.7	18.9	6.0	5.0	13.0
Alkalinity	(meq/ℓ)	1.57	2.14	3.23			0.15
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	200	1840	3530	6120	6540	0.30
K	(mg/kg)	114	495	1080	1420	1740	0.30
Mg	(mg/kg)	91.5	967	4100	5700	6200	
Ca	(mg/kg)	365	3790	12200	20100	21800	0.44
Cl	(mg/kg)	1127	11120	28820	59020	64910	1.2
SO_4	(mg/kg)	32.0	91.1	281	655	621	<0.001
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 14					ice thickness: 2.99 m ref. 14

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		F					G
Date		19 Jan. 1971					10 Jan. 1971
Depth (m)		3.8	7.5	11.3	13.2	20.7	0.0
Water temp. (℃)		4.3	5.2	6.1	6.7	7.5	0.2
Specific gravity							
E.C.	(mS/cm)						
pH		7.72	8.57	8.70	8.62	8.41	5.90
DO	(mℓ/ℓ)	14.8	21.9	22.3	19.3	24.0	13.5
Alkalinity	(meq/ℓ)	0.5	0.79	0.91	1.01	1.37	
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	22.8	56.8	68.2	86.6	126	
K	(mg/kg)	15.3	37.2	48.0	52.0	75.0	
Mg	(mg/kg)	5.9	14.8	17.0	22.4	41.4	
Ca	(mg/kg)	24.1	64.5	88.1	101	178	
Cl	(mg/kg)	78.6	203	266	319	551	
SO_4	(mg/kg)	8.1	15.3	18.7	19.4	25.6	
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.083	0.22				
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 14					ice thickness: 3.12 m ref. 14

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		G					
Date		10 Jan. 1971					
Depth (m)		3.9	7.7	11.6	13.5	19.4	38.4
Water temp. (℃)		3.6	5.2	6.1	6.75	7.5	7.6
Specific gravity							
E.C.	(mS/cm)						
pH		7.17	8.60	8.27	8.13	8.41	8.40
DO	(mℓ/ℓ)	12.2	27.0	31.0	22.0	29.9	24.0
Alkalinity	(meq/ℓ)	0.43	0.99	0.98	1.45	1.45	1.38
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	15.5	70.8	80.0	137	136	140
K	(mg/kg)	10.2	47.5	51.0	76.0	75.0	75.0
Mg	(mg/kg)	2.4	18.5	21.0	40.6	36.6	39.9
Ca	(mg/kg)	15.8	84.2	92.3	179.1	185.4	179.5
Cl	(mg/kg)	45.5	269	297	553	553	554
SO_4	(mg/kg)	6.4	18.4	18.8	25.4	26.2	26.2
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 14					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		G			H		
Date		10 Jan. 1971			10 Jan. 1971		
Depth (m)		43.7	50.2	62.5	surface	3.8	7.7
Water temp. (°C)		9.4	15.2	24.9	0.2	2.6	5.1
Specific gravity			1.009	1.080			
E.C.	(mS/cm)						
pH		8.10	6.90	5.88	5.77	7.50	8.58
DO	(mℓ/ℓ)	25.3	25.0	9.1	13.5	14.3	18.3
Alkalinity	(meq/ℓ)	1.59	2.02		0.23	0.52	0.96
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	176	971	6560	0.25	18.4	66.5
K	(mg/kg)	101	350	1670	0.29	12.7	46.4
Mg	(mg/kg)	73.9	623	6140		4.5	18.3
Ca	(mg/kg)	310.7	2420	21210	0.57	20.3	80.8
Cl	(mg/kg)	951	7200	63050	2.1	60.9	259
SO_4	(mg/kg)	30.2	80	62.3	<0.001	7.6	17.5
Li	(mg/kg)						
B	(mg/kg)				4.8	18.0	29.5
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)					0.07	0.34
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 14			ice thickness: 3.06 m ref. 14		

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		H					
Date		13 Jan.1971					
Depth (m)		11.5	13.4	19.2	37.9	43.2	50.8
Water temp. (℃)		6.0	6.7	7.5	7.5	9.0	15.8
Specific gravity							1.011
E.C.	(mS/cm)						
pH		8.63	8.60	8.35	8.40	8.05	6.92
DO	(mℓ/ℓ)	15.4	14.2	21.0	23.0	20.6	11.0
Alkalinity	(meq/ℓ)	1.01	1.05	1.41	1.44	1.58	2.12
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	80.0	87.5	135	140	173	1110
K	(mg/kg)	50.0	52.0	75.0	77.0	100	409
Mg	(mg/kg)	21.6	23.4	40.5	42.1	71.6	787
Ca	(mg/kg)	93.9	99.7	179	177	238	2917
Cl	(mg/kg)	298	318	552	554	914	8750
SO_4	(mg/kg)	18.6	18.9	24.6	24.5	30.5	77.0
Li	(mg/kg)						
B	(mg/kg)	40.0	32.5	33.2	38.0	46.4	266
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.36	0.39	0.60	0.64	0.92	0.90
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 14					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		H		K			
Date		13 Jan.1971		10 Jan.1971			
Depth (m)		55.7	64.3	surface	3.9	7.8	11.7
Water temp.	(℃)	21.5	24.8	0.2	2.6	5.0	6.0
Specific gravity		1.041	1.088				
E.C.	(mS/cm)						
pH		6.45	5.76	4.50	7.10	7.56	8.38
DO	(mℓ/ℓ)	24.9	10.5	14.3	13.8	15.2	21.0
Alkalinity	(meq/ℓ)	3.06		0.14	0.43	0.57	1.04
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	3520	6420	0.47	10.0	20.5	85.0
K	(mg/kg)	1050	1780	0.46	7.5	13.3	51.0
Mg	(mg/kg)	3280	6600		2.2	4.5	21.0
Ca	(mg/kg)	11030	32900	0.82	10.1	22.4	96.4
Cl	(mg/kg)	32940	68750	1.5	27.6	63.0	303
SO_4	(mg/kg)	255	633	<0.001	4.6	8.0	18.6
Li	(mg/kg)						
B	(mg/kg)	239	359				
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	44	87				
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 14		ice thickness: 3.16 m ref. 14			

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K					
Date		10 Jan. 1971					
Depth (m)		13.7	19.5	38.5	43.9	50.7	63.4
Water temp. (℃)		7.2	7.5	7.5	9.5	15.9	24.8
Specific gravity						1.01	1.086
E.C.	(mS/cm)						
pH		8.42	8.31	8.37	8.05	6.75	5.50
DO	(mℓ/ℓ)	18.8	18.9	20.0	19.1	12.0	8.1
Alkalinity	(meq/ℓ)	1.16	1.47	1.47	1.71	1.87	
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	91.6	116	137	240	994	6250
K	(mg/kg)	57.0	74.0	76.0	103	380	3400
Mg	(mg/kg)	26.6	39.9	40.7	82.8	728	6580
Ca	(mg/kg)	117	174	178	326.2	2746	22180
Cl	(mg/kg)	371	539	554	1012	8225	66920
SO_4	(mg/kg)	20.4	24.2	24.8	31	53.4	62.8
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 14					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		L					
Date		13 Jan. 1971					
Depth (m)		surface	3.8	7.7	11.5	13.4	19.2
Water temp.	(℃)	0.2	3.6	5.3	6.1	6.6	7.5
Specific gravity							
E.C.	(mS/cm)						
pH		4.80	7.35	8.32	8.57	8.52	8.32
DO	(mℓ/ℓ)	12.1	13.1	13.0	17.2	12.1	23.0
Alkalinity	(meq/ℓ)	0.14	0.52	0.85	1.02	1.08	1.50
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	0.18	21.0	50.4	79.2	88.2	140
K	(mg/kg)	0.33	13.3	33.4	51.0	53.0	76.0
Mg	(mg/kg)		5.6	13.5	20.4	22.3	40.4
Ca	(mg/kg)	0.56	21.4	51.5	93.3	104	179
Cl	(mg/kg)	4.7	66.3	180	296	326	554
SO_4	(mg/kg)	1.0	7.7	13.6	18	19.0	25.0
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ice thickness: 3.15 m ref. 14					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		L					N
Date		13 Jan. 1971					9 Jan. 1971
Depth (m)		37.9	43.2	49.9	55.7	60.4	surface
Water temp. (℃)		7.5	9.1	14.8	21.7	24.8	0.1
Specific gravity				1.004	1.039	1.078	
E.C.	(mS/cm)						
pH		8.30	8.10	6.77	6.14	5.67	4.90
DO	(mℓ/ℓ)	24.0	22.7	17.2	22.0	5.6	11.5
Alkalinity	(meq/ℓ)	1.48	1.62	2.03	3.12		
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	140	173	1040	3470	5470	
K	(mg/kg)	76.0	100	305	1010	1570	
Mg	(mg/kg)	39.9	68.2	485	3270	5860	
Ca	(mg/kg)	179	307	1970	11200	20700	
Cl	(mg/kg)	555	922	5830	33530	61010	
SO_4	(mg/kg)	25.0	30.0	63.4	253	550	
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 14					ice thickness: 3.15 m ref. 14

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		N					
Date		9 Jan. 1971					
Depth (m)		3.9	7.8	11.7	13.7	19.7	38.8
Watertemp. (℃)		2.8	5.1	6.0	6.6	7.5	7.5
Specific gravity							
E.C.	(mS/cm)						
pH		6.85	8.10	8.05	8.30	8.37	8.33
DO	(mℓ/ℓ)	15.7	22.6	26.5	28.0	30.7	17.1
Alkalinity	(meq/ℓ)	0.52	0.98	1.04	1.14	0.6	1.47
SiO_2-Si	(μg-at/ℓ)						
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)						
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	11.6	70.0	85.0	90.8	30.0	132
K	(mg/kg)	8.5	47.0	51.0	57.5	19.3	73.0
Mg	(mg/kg)	2.4	18.9	21.3	26.7	7.8	38.4
Ca	(mg/kg)	11.1	80.8	96.3	120	34.1	176
Cl	(mg/kg)	27.3	259	308	379	105	539
SO_4	(mg/kg)	7.4	19.4	20.2	20.8	10.7	25.4
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 14					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		N		B			
Date		9 Jan.1971		28 Dec.1971			
Depth (m)		44.2	55.0	4	12.3	20.4	40.2
Water temp. (°C)		9.0	20.6	4.6	5.9	7.8	4.8
Specific gravity			1.044				
E.C.	(mS/cm)						
pH		8.35	6.30	8.15	8.4	8.2	8.16
DO	(mℓ/ℓ)	32.5	30.5	16.6	17.8	18.3	18.5
Alkalinity	(meq/ℓ)	1.65	3.09	0.73	0.83	1.28	1.27
SiO_2-Si	(μg-at/ℓ)			122	155	253	253
PO_4-P	(μg-at/ℓ)			n.d.	n.d.	n.d.	n.d.
NO_2-N	(μg-at/ℓ)			n.d.	n.d.	n.d.	n.d.
NO_3-N	(μg-at/ℓ)			8.5	9.9	6.9	2.5
NH_4-N	(μg-at/ℓ)					0.73	1.1
Na	(mg/kg)	210	1580				
K	(mg/kg)	114	529				
Mg	(mg/kg)	92.4	1650	12.2	18.7	414	415
Ca	(mg/kg)	390	5960	55.2	79.9	175	176
Cl	(mg/kg)	1178	20660	174	255	546	548
SO_4	(mg/kg)	32.9	134	14.6	12.9	25.1	25.3
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)			0.22	0.33	0.52	0.52
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 14					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		B			D		
Date		28 Dec.1971			19 Dec.1971		
Depth (m)		49.9	55.0	57.0	4.0	12.3	20.4
Watertemp. (℃)		12.1	18.6	20.3	4.3	6.2	7.7
Specific gravity			1.024				
E.C.	(mS/cm)						
pH		7.6	6.91	6.72	8.29	8.5	8.21
DO	(mℓ/ℓ)	15.2	15.7	15.7	13.8	19.1	19.9
Alkalinity	(meq/ℓ)	1.55	1.84	2.64	0.75	0.89	1.33
SiO_2-Si	(μg-at/ℓ)	266	362		127	164	265
PO_4-P	(μg-at/ℓ)	n.d.			n.d.	n.d.	n.d.
NO_2-N	(μg-at/ℓ)	n.d.	1.87	0.91	n.d.	n.d.	n.d.
NO_3-N	(μg-at/ℓ)	3.5	37.0	13.0	7.7	1.4	1.1
NH_4-N	(μg-at/ℓ)	0.73	5.77	21.1			
Na	(mg/kg)						
K	(mg/kg)						
Mg	(mg/kg)	451	1608	6435	12.7	18.8	42.0
Ca	(mg/kg)	603	5680	11310	52.2	34.5	175
Cl	(mg/kg)	1850	17100	33910	173	267	548
SO_4	(mg/kg)	35.0	149	279	13.1	17.5	25.2
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	2.6	17.6	34.4	0.19	0.36	0.51
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		D					E
Date		19 Dec.1971					30 Dec.1971
Depth (m)		40.2	49.9	55.0	60.0	65.0	4.0
Water temp. (℃)		7.7	12.4	18.7	23.0	24.7	4.6
Specific gravity				1.030	1.064	1.085	
E.C.	(mS/cm)						
pH		8.1	7.40	6.89	6.56	6.4	8.26
DO	(mℓ/ℓ)	17.8	13.7	11.6	4.2	3.9	16.6
Alkalinity	(meq/ℓ)	1.44	1.88	2.3	3.5	4.72	0.75
SiO_2-Si	(μg-at/ℓ)	260	278	468			127
PO_4-P	(μg-at/ℓ)	n.d.	n.d.				n.d.
NO_2-N	(μg-at/ℓ)	n.d.	0.14	1.32	0.39	0.57	0.14
NO_3-N	(μg-at/ℓ)	1.1	4.3	21.0	14.0	1.1	9.0
NH_4-N	(μg-at/ℓ)				3.3		n.d.
Na	(mg/kg)						
K	(mg/kg)						
Mg	(mg/kg)	42.0	237	2319	5035	6080	12.7
Ca	(mg/kg)	182	937	7913	16410	19770	56
Cl	(mg/kg)	566	2894	23660	49980	61020	179
SO_4	(mg/kg)	25.9	40.0	179	398	554	14.2
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.54	3.9	29.8	67.6	77.5	0.36
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		E					
Date		30 Dec.1971					
Depth (m)		12.3	20.4	40.2	49.9	55.0	60.0
Water temp. (℃)		6.1	7.7	7.7	12.2	18.5	23.2
Specific gravity						1.017	1.058
E.C.	(mS/cm)						
pH		8.56	8.28	8.22	7.72	7.05	6.8
DO	(mℓ/ℓ)	18.6	16.4	17.4	15.7	15.5	14.5
Alkalinity	(meq/ℓ)	0.94	1.27	1.41	1.58	2.38	3.21
SiO_2-Si	(μg-at/ℓ)	164	268	267	286	460	
PO_4-P	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.		
NO_2-N	(μg-at/ℓ)	0.1	n.d.	n.d.	n.d.	2.08	0.25
NO_3-N	(μg-at/ℓ)	9.1	7.3	21.0	14.0	84.0	65.0
NH_4-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	6.8	17.1
Na	(mg/kg)						
K	(mg/kg)						
Mg	(mg/kg)	18.4	42.7	39.6	146	1748	4447
Ca	(mg/kg)	79.3	173	171	601	6377	14810
Cl	(mg/kg)	255	547	531	1843	18970	44720
SO_4	(mg/kg)	17.3	25.7	25.1	35.0	149	384
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.39	0.52	0.51	1.90	19.4	46.0
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		E	H				
Date		30 Dec.1971	5 Jan.1972				
Depth (m)		65	4.0	12.3	20.4	40.2	49.9
Water temp. (℃)		24.7	4.8	6.3	7.6	7.8	12.1
Specific gravity		1.083					1.003
E.C.	(mS/cm)						
pH		6.59	8.29	8.48	8.37	8.34	7.7
DO	(mℓ/ℓ)	2.5	17.0	16.6	18.9	17.9	16.8
Alkalinity	(meq/ℓ)	4.76	0.64	0.7	1.27	1.36	1.59
SiO_2-Si	(μg-at/ℓ)		116	127	249	265	280
PO_4-P	(μg-at/ℓ)						
NO_2-N	(μg-at/ℓ)	0.66	n.d.	n.d.	n.d.	n.d.	n.d.
NO_3-N	(μg-at/ℓ)	2.6				48.0	21.0
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)		48	54	115	125	440
K	(mg/kg)			9.7	27	27	60
Mg	(mg/kg)	6168	12.1	13.0	38.9	43.2	174
Ca	(mg/kg)	20210	50	56.1	159	174	661
Cl	(mg/kg)	62000	160	179	503	550	2070
SO_4	(mg/kg)	583	12.8	14.1	23.6	25.2	34.6
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	77.0	0.52	0.23	0.60	0.64	2.56
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		H			I		
Date		5 Jan. 1972			15 Dec. 1971		
Depth (m)		55.0	60.0	65.0	4.5	12.3	20.4
Water temp. (℃)		18.5	23.1	24.6	4.5	6.3	7.7
Specific gravity		1.026	1.060	1.082			
E.C.	(mS/cm)						
pH		6.91	6.59	6.1	7.9	8.32	8.01
DO	(mℓ/ℓ)	16.0	11.6	3.0	20.7	21.5	22.1
Alkalinity	(meq/ℓ)	2.14	3.19	5.43	0.72	0.9	1.23
SiO_2-Si	(μg-at/ℓ)	423			127	160	260
PO_4-P	(μg-at/ℓ)				0.29	0.30	n.d.
NO_2-N	(μg-at/ℓ)	1.74	n.d.	0.52	0.24	0.24	0.25
NO_3-N	(μg-at/ℓ)	166.0	27.0	0.03	9.2	7.6	4.2
NH_4-N	(μg-at/ℓ)						
Na	(mg/kg)	2870	5530	9200			
K	(mg/kg)	284	535	767	12	16	21
Mg	(mg/kg)	1976	4650	7520	13.9	18.4	42.5
Ca	(mg/kg)	6876	15380	22040	57.6	78.8	174
Cl	(mg/kg)	20600	46500	70900	186	254	548
SO_4	(mg/kg)	149	360	636	14.6	17.7	25.5
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	23.3	83.3	93.8	0.30	0.38	0.55
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		I					J
Date		15 Dec.1971					16 Dec.1971
Depth (m)		40.2	49.9	55.5	60.8	64.1	4.0
Water temp. (℃)		7.7	12.3	18.8	23.3	24.7	4.2
Specific gravity				1.03	1.064	1.087	
E.C.	(mS/cm)						
pH		7.89	7.39	6.97	6.70	6.49	6.9
DO	(mℓ/ℓ)	17.4	14.7	11.1	11.6	1.1	17.6
Alkalinity	(meq/ℓ)	1.27	1.56	2.06	3.37	4.99	0.77
SiO_2-Si	(μg-at/ℓ)	262	280				132
PO_4-P	(μg-at/ℓ)	n.d.	n.d.				n.d.
NO_2-N	(μg-at/ℓ)	n.d.	n.d.	1.42	0.27		0.36
NO_3-N	(μg-at/ℓ)	3.3	8.7	16.6	0.9	3.1	8.6
NH_4-N	(μg-at/ℓ)						n.d.
Na	(mg/kg)						
K	(mg/kg)	28	60	335	602	801	
Mg	(mg/kg)	44.3	249	2284	5086	6843	13.4
Ca	(mg/kg)	181	922	7852	17560	22490	55.4
Cl	(mg/kg)	570	2890	23510	51010	68740	179
SO_4	(mg/kg)	25.7	46.2	185	421	674	14.1
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.53	3.9	24.2	69.2	85.5	0.22
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J					
Date		16 Dec. 1971					
Depth (m)		12.3	20.4	40.2	49.9	55.0	60.0
Water temp. (℃)		6.1	7.6	7.7	12.4	18.7	23.2
Specific gravity						1.029	1.062
E.C.	(mS/cm)						
pH		8.46	8.22	8.2	7.41	6.9	6.58
DO	(mℓ/ℓ)	19.6	13.6	21.3	18.5	14.3	7.6
Alkalinity	(meq/ℓ)	0.98	1.33	1.33	1.95	2.4	3.4
SiO_2-Si	(μg-at/ℓ)	168	265	265	281	460	
PO_4-P	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.		
NO_2-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	1.88	0.42
NO_3-N	(μg-at/ℓ)	9.0	2.9	2.8	11.5	71.0	22.0
NH_4-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.		
Na	(mg/kg)						
K	(mg/kg)						
Mg	(mg/kg)	20.4	40.6	42.2	236	2398	4956
Ca	(mg/kg)	83.8	177	181	925	8289	16690
Cl	(mg/kg)	274	551	565	2833	24880	50230
SO_4	(mg/kg)	17.8	26.6	25.6	40.8	196	434
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.37	0.57	0.58	3.7	24.8	57.2
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station	J	K				
Date	16 Dec.1971	28 Nov.1971				
Depth (m)	65.0	4.0	12.0	20.0	40.0	65.0
Water temp. (℃)	24.4					
Specific gravity	1.086					1.090
E.C. (mS/cm)						
pH	6.4	7.7	7.8	8.2	8.2	6.18
DO (mℓ/ℓ)		19.7	20.5	21.5	19.7	5.3
Alkalinity (meq/ℓ)	5.0					
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)	0.52					
NO_3-N (μg-at/ℓ)	1.7					
NH_4-N (μg-at/ℓ)						
Na (mg/kg)						
K (mg/kg)						
Mg (mg/kg)	6687	12.9	18.2	42.6	44.5	7059
Ca (mg/kg)	22450	56.6	78.0	171	188	23070
Cl (mg/kg)	68380	180	252	548	584	70300
SO_4 (mg/kg)	658	14.4	17.1	25.2	26.1	67.3
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)	83.0	0.33	0.41	0.59	0.56	91.0
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks						

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K					
Date		18 Dec.1971					
Depth (m)		4.0	12.3	20.4	40.2	49.9	55.0
Water temp. (℃)		4.3	6.1	7.7	7.7	12.3	18.8
Specific gravity							1.030
E.C.	(mS/cm)						
pH		8.2	8.41	8.19	8.04	7.40	6.96
DO	(mℓ/ℓ)	18.3	18.1	21.5	18.5	14.6	
Alkalinity	(meq/ℓ)	0.83	0.90	1.24	1.43	1.80	2.65
SiO_2-Si	(μg-at/ℓ)	127	164	268	267	286	460
PO_4-P	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	n.d.	
NO_2-N	(μg-at/ℓ)	0.56	n.d.	n.d.	n.d.	n.d.	1.65
NO_3-N	(μg-at/ℓ)	10.0	8.9	4.2	6.1	7.4	54
NH_4-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	n.d.	8.81
Na	(mg/kg)	53	68	112	124	529	2560
K	(mg/kg)	12	16	24	27	76	319
Mg	(mg/kg)	13.7	19.9	42.7	44.2	290	2300
Ca	(mg/kg)	55.1	80.6	174	176	1090	7860
Cl	(mg/kg)	181	263	548	557	3350	23700
SO_4	(mg/kg)	14.2	17.9	25.7	25.8	40.8	182
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.24	0.35	0.64	0.68	4.08	26.9
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K		P			
Date		18 Dec.1971		27 Dec.1971			
Depth (m)		60.0	65.0	4.0	8.2	12.3	20.4
Water temp. (℃)		23.3	24.8	4.6	4.4	5.9	7.7
Specific gravity		1.064	1.089				
E.C.	(mS/cm)						
pH		6.65	6.39	8.23	8.3	8.48	8.18
DO	(mℓ/ℓ)			16.3	16.4	17.1	17.9
Alkalinity	(meq/ℓ)	3.92	5.46	0.71	0.74	0.84	0.91
SiO_2-Si	(μg-at/ℓ)			117	132	156	260
PO_4-P	(μg-at/ℓ)			n.d.	n.d.	n.d.	n.d.
NO_2-N	(μg-at/ℓ)	0.28	0.87	n.d.	n.d.	n.d.	n.d.
NO_3-N	(μg-at/ℓ)	23	2.5	9.1	12.0	9.9	4.8
NH_4-N	(μg-at/ℓ)	6.97		n.d.	n.d.	n.d.	n.d.
Na	(mg/kg)	5540	8660				
K	(mg/kg)	519	722				
Mg	(mg/kg)	5030	6950	12.1	12.5	18.8	43.3
Ca	(mg/kg)	16550	22680	53.8	61.8	79.6	174
Cl	(mg/kg)	50300	69600	168	189	258	550
SO_4	(mg/kg)	406	651	13.5	14.5	17.1	25.2
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	39.1	85.7	0.16	0.22	0.27	0.53
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		P	Q			Q	
Date		27 Dec.1971	28 Nov.1971			13 Dec.1971	
Depth (m)		37.8	4.0	8.0	12.0	4.0	6.0
Water temp. (℃)		7.6				3.6	3.7
Specific gravity							
E.C.	(mS/cm)						
pH		8.17	8.02	8.5	8.59	7.87	7.86
DO	(mℓ/ℓ)	18.8	14.8	20.8	22.5	20.5	22.1
Alkalinity	(meq/ℓ)	1.27				0.61	0.61
SiO_2-Si	(μg-at/ℓ)	260				133	133
PO_4-P	(μg-at/ℓ)	n.d.				0.38	0.45
NO_2-N	(μg-at/ℓ)	n.d.				0.27	0.19
NO_3-N	(μg-at/ℓ)	4.6				7.6	8.2
NH_4-N	(μg-at/ℓ)	0.1				n.d.	0.45
Na	(mg/kg)					45	46
K	(mg/kg)					11	12
Mg	(mg/kg)	41.7	13.3	14.2	18.3	12.4	12.9
Ca	(mg/kg)	175	57.6	60.0	77.3	52.3	54.3
Cl	(mg/kg)	550	184	194	249	167	173
SO_4	(mg/kg)	26.1	14.8	15.3	16.9	14.3	15.4
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.54	0.17	0.24	0.36	0.21	0.22
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		Q			S		
Date		13 Dec.1971			31 Dec.1971		
Depth (m)		8.2	10.2	12.3	4.0	8.2	12.3
Water temp. (℃)		4.0	4.3	5.9		5.4	6.2
Specific gravity							
E.C.	(mS/cm)						
pH		7.95	8.01	8.05	8.39	8.44	8.49
DO	(mℓ/ℓ)	20.4	18.7		15.5	16.8	16.7
Alkalinity	(meq/ℓ)	0.67	0.68	0.73	0.95	0.96	1.01
SiO_2-Si	(μg-at/ℓ)	135	135	135	122	141	166
PO_4-P	(μg-at/ℓ)	0.35	0.34	0.27	n.d.	n.d.	n.d.
NO_2-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
NO_3-N	(μg-at/ℓ)	11.3	10.5	10.1	12.0	10.0	8.6
NH_4-N	(μg-at/ℓ)	n.d.	0.63	0.76	n.d.	n.d.	n.d.
Na	(mg/kg)	53	55	68			
K	(mg/kg)	13	13	13			
Mg	(mg/kg)	14.8	14.4	25.6	12.3	14.8	18.7
Ca	(mg/kg)	58.9	60.9	62.5	50.8	62.2	82.3
Cl	(mg/kg)	192	193	190	163	200	262
SO_4	(mg/kg)	15.7	14.9	14.6	12.8	15.3	16.8
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.23	0.25	0.32	0.28	0.29	0.39
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		S		K			
Date		31 Dec.1971		9 Dec.1972			
Depth (m)		20.4	25.5	3.9	5.8	7.7	9.7
Water temp. (℃)		7.8	7.7	4.7	4.8	4.7	5.2
Specific gravity							
E.C.	(mS/cm)			0.471	0.514	0.529	0.587
pH		8.28	8.25	7.11	7.59	7.48	7.99
DO	(mℓ/ℓ)	18.7	20.2	12.2	12.2	11.1	13.9
Alkalinity	(meq/ℓ)	1.53	1.73	0.64	0.71	0.78	0.79
SiO_2-Si	(μg-at/ℓ)	269	269	111	123	127	127
PO_4-P	(μg-at/ℓ)	n.d.	n.d.	0.1	0.01	0.04	0.03
NO_2-N	(μg-at/ℓ)	n.d.	n.d.	0.11	0.09	0.07	0.06
NO_3-N	(μg-at/ℓ)	4.3	5.0	2.93	3.28	3.56	3.29
NH_4-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	n.d.	0.09
Na	(mg/kg)			31	66	57	
K	(mg/kg)			8	15	13	
Mg	(mg/kg)	42.7	41.7	5	13	15	
Ca	(mg/kg)	174	173	42	57	61	
Cl	(mg/kg)	548	543	154	186	204	
SO_4	(mg/kg)	20.1	32.2	12	13	13	
Li	(mg/kg)						
B	(mg/kg)				0.01	0.01	
F	(mg/kg)						
Br	(mg/kg)			0.03	0.06	0.06	
Sr	(mg/kg)	0.52	0.52	0.24		0.34	
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks				ref. 66, 70			

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K					
Date		9 Dec.1972					
Depth (m)		11.6	13.5	15.3	19.0	28.6	38.1
Water temp. (℃)		5.9	6.6	7.2	7.7	7.6	7.6
Specific gravity							
E.C.	(mS/cm)	0.609	0.77	1.04	1.53	1.53	1.53
pH		7.9	7.62	6.95	6.61	7.4	7.3
DO	(mℓ/ℓ)	13.0	15.5	15.9	15.3	14.8	15.6
Alkalinity	(meq/ℓ)	0.86	0.92	1.12	1.24	1.31	1.3
SiO_2-Si	(μg-at/ℓ)	136	164	217	268	268	249
PO_4-P	(μg-at/ℓ)	n.d.	0.01	n.d.	0.04	n.d.	0.01
NO_2-N	(μg-at/ℓ)	0.04	0.04	0.04	0.02	0.01	0.01
NO_3-N	(μg-at/ℓ)	3.01	2.91	2.21	1.45	1.35	1.22
NH_4-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	n.d.	0.08
Na	(mg/kg)	57	75			116	
K	(mg/kg)	8	11			16	
Mg	(mg/kg)	17	22			43	
Ca	(mg/kg)	71	92			172	
Cl	(mg/kg)	234	302			548	
SO_4	(mg/kg)	18	20			31	
Li	(mg/kg)						
B	(mg/kg)	0.01	0.02				
F	(mg/kg)						
Br	(mg/kg)	0.06	0.12			0.12	
Sr	(mg/kg)	0.35	0.39			0.64	
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 66, 70					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K					
Date		9 Dec. 1972					
Depth (m)		40.0	41.9	45.6	47.5	48.4	49.4
Water temp. (℃)		7.7	8.0	9.5	10.0	10.6	11.4
Specific gravity			1.001				
E.C.	(mS/cm)	1.54	1.82	2.64	3.09	3.90	5.66
pH		7.6	7.01	6.4	6.52	6.72	6.9
DO	(mℓ/ℓ)	15.1	16.9	14.3	13.8	13.1	12.1
Alkalinity	(meq/ℓ)	1.34	1.46	1.48	1.49	1.49	1.67
SiO_2-Si	(μg-at/ℓ)	253	255	318	286	323	296
PO_4-P	(μg-at/ℓ)	n.d.	0.18	n.d.	n.d.	0.45	
NO_2-N	(μg-at/ℓ)	0.01	n.d.	0.01	0.05	0.19	0.11
NO_3-N	(μg-at/ℓ)	2.01	1.94	2.14	2.27	2.13	13.4
NH_4-N	(μg-at/ℓ)	0.19	0.22	n.d.	n.d.	n.d.	n.d.
Na	(mg/kg)		140				
K	(mg/kg)		32				
Mg	(mg/kg)		73				
Ca	(mg/kg)		275				
Cl	(mg/kg)		880				
SO_4	(mg/kg)		34				
Li	(mg/kg)						
B	(mg/kg)		0.04				
F	(mg/kg)						
Br	(mg/kg)		0.22				
Sr	(mg/kg)		0.91				
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 66, 70					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K					
Date		9 Dec. 1972					
Depth (m)		50.3	51.3	52.2	53.2	54.1	55.1
Water temp. (℃)		12.4	13.7	15.0	16.2	17.2	18.2
Specific gravity		1.009		1.018		1.023	1.039
E.C.	(mS/cm)	10.9	15.4	21.1	2.59	3.97	4.88
pH		6.75	6.62	6.46	6.21	6.4	6.46
DO	(mℓ/ℓ)	11.0	11.5	12.6	12.3	12.7	15.4
Alkalinity	(meq/ℓ)	1.71	1.91	1.88	2.18	1.93	2.42
SiO_2-Si	(μg-at/ℓ)	387	384	685	475	669	911
PO_4-P	(μg-at/ℓ)	0.58		0.78		0.84	n.d.
NO_2-N	(μg-at/ℓ)	0.12	0.58	1.48		1.83	2.27
NO_3-N	(μg-at/ℓ)	9.5	14.9	31.4	64.6		56.4
NH_4-N	(μg-at/ℓ)	n.d.	n.d.	5.35	3.51		3.97
Na	(mg/kg)	719		1400		2200	2780
K	(mg/kg)	71		125		212	224
Mg	(mg/kg)	667		1480		2430	3150
Ca	(mg/kg)	2300		5090		8300	10160
Cl	(mg/kg)	7110		15430		24950	30870
SO_4	(mg/kg)	74		130		199	246
Li	(mg/kg)						
B	(mg/kg)	0.27		0.59		0.94	1.2
F	(mg/kg)						
Br	(mg/kg)	2.2		4.8		7.0	9.0
Sr	(mg/kg)			19.4			37.0
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 66, 70					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K					
Date		9 Dec. 1972					
Depth (m)		56.0	57.0	57.9	58.9	59.9	60.8
Watertemp. (℃)		19.3	20.3	21.1	21.8	22.6	23.0
Specific gravity				1.060		1.07	
E.C.	(mS/cm)	5.75	6.63	75.7	82.9	89.7	100
pH		6.38	5.95	6.18	5.8	5.2	6.03
DO	(mℓ/ℓ)	10.5	4.7	2.6	0.0		
Alkalinity	(meq/ℓ)	2.63	2.99	3.09	3.75	3.84	4.54
SiO_2-Si	(μg-at/ℓ)	919	742	1090	1310	1370	1520
PO_4-P	(μg-at/ℓ)	n.d.	n.d.	0.39	n.d.	n.d.	3.5
NO_2-N	(μg-at/ℓ)	1.18	0.32	0.36	0.19	0.38	n.d.
NO_3-N	(μg-at/ℓ)	42.9	17.0	15.4	0.8	1.15	0.38
NH_4-N	(μg-at/ℓ)	0.25	8.9	6.91		9.04	8.24
Na	(mg/kg)			3920		5550	
K	(mg/kg)			413		415	
Mg	(mg/kg)			4820		5660	
Ca	(mg/kg)			15560		18070	
Cl	(mg/kg)			46940		54040	
SO_4	(mg/kg)			396		473	
Li	(mg/kg)						
B	(mg/kg)			1.7		2.2	
F	(mg/kg)						
Br	(mg/kg)			13.0		15.0	
Sr	(mg/kg)					67.6	
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 66, 70					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K		K			
Date		9 Dec.1972		16 Jan.1973			
Depth (m)		61.7	64.6	4.0	6.0	8.0	10.0
Water temp. (℃)		23.5	24.3	5.8	5.6	5.5	5.7
Specific gravity			1.092				
E.C.	(mS/cm)	107	123				
pH		5.2	5.45	6.86	8.2	7.95	7.52
DO	(mℓ/ℓ)			11.4	14.1	13.0	13.4
Alkalinity	(meq/ℓ)	4.74	4.73	0.6	0.65	0.66	0.67
SiO_2-Si	(μg-at/ℓ)	2100	1690	82	86	65	95
PO_4-P	(μg-at/ℓ)	4.05	0.26	n.d.	n.d.	n.d.	n.d.
NO_2-N	(μg-at/ℓ)	n.d.	n.d.	0.12	0.09	0.14	0.09
NO_3-N	(μg-at/ℓ)	0.25	n.d.	0.8	1.32	7.62	10.8
NH_4-N	(μg-at/ℓ)	2.32	10.1	n.d.	n.d.	n.d.	n.d.
Na	(mg/kg)		6110				
K	(mg/kg)		590				
Mg	(mg/kg)		7400				
Ca	(mg/kg)		24400				
Cl	(mg/kg)		74280				
SO_4	(mg/kg)		615				
Li	(mg/kg)						
B	(mg/kg)		3.0				
F	(mg/kg)						
Br	(mg/kg)		20.0				
Sr	(mg/kg)		93.8				
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 66, 70					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K					
Date		16 Jan. 1973					
Depth (m)		12.0	14.0	16.0	20.0	30.0	40.0
Water temp. (℃)		6.5	6.8	7.8	7.8	7.75	7.8
Specific gravity							
E.C.	(mS/cm)						
pH		7.1	7.5	7.75	7.51	7.3	7.3
DO	(mℓ/ℓ)	13.6	13.9	14.4	15.2	16.2	15.2
Alkalinity	(meq/ℓ)	0.69	0.76	1.04	1.14	1.17	1.2
SiO_2-Si	(μg-at/ℓ)	82	82	112	99	160	216
PO_4-P	(μg-at/ℓ)	n.d.	n.d.	0.01	n.d.	n.d.	n.d.
NO_2-N	(μg-at/ℓ)	0.12	0.1	0.06	0.04	0.03	0.04
NO_3-N	(μg-at/ℓ)	10.6	4.83	7.3	6.2	8.0	3.5
NH_4-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Na	(mg/kg)						
K	(mg/kg)						
Mg	(mg/kg)						
Ca	(mg/kg)						
Cl	(mg/kg)						
SO_4	(mg/kg)						
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K					
Date		16 Jan. 1973					
Depth (m)		42.0	44.0	46.0	48.0	50.0	52.0
Water temp. (℃)		8.3	8.9	9.4	10.4	12.1	14.7
Specific gravity							
E.C.	(mS/cm)						
pH		7.1	7.25	6.9	6.65	6.29	6.15
DO	(mℓ/ℓ)	15.7	16.5	14.6	13.8	12.3	11.4
Alkalinity	(meq/ℓ)	1.27	1.32	1.46	1.48	1.57	1.79
SiO_2-Si	(μg-at/ℓ)	238	258	483	397	535	638
PO_4-P	(μg-at/ℓ)	0.38	0.2	n.d.	n.d.	n.d.	0.22
NO_2-N	(μg-at/ℓ)	0.12	0.06	0.01	0.03	0.01	0.55
NO_3-N	(μg-at/ℓ)	4.1	4.7	1.3	12.3	63.3	23.2
NH_4-N	(μg-at/ℓ)	n.d.	n.d.	0.05	n.d.	0.19	n.d.
Na	(mg/kg)						
K	(mg/kg)						
Mg	(mg/kg)						
Ca	(mg/kg)						
Cl	(mg/kg)						
SO_4	(mg/kg)						
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		K					Q
Date		16 Jan. 1973					17 Jan. 1973
Depth (m)		54.0	56.0	58.0	60.0	62.0	4.0
Water temp. (℃)		17.1	19.0	21.1	22.5	23.7	
Specific gravity							
E.C.	(mS/cm)						
pH		6.25	5.8	6.08	6.01	5.99	6.85
DO	(mℓ/ℓ)	13.4	15.3	6.0	0.0		11.8
Alkalinity	(meq/ℓ)	2.11	2.52	3.09	3.78	4.54	0.51
SiO_2-Si	(μg-at/ℓ)	828	914	1570	1760	2200	119
PO_4-P	(μg-at/ℓ)	n.d.	0.13	n.d.	n.d.	0.42	n.d.
NO_2-N	(μg-at/ℓ)	2.15	1.57	2.36	0.57	0.47	0.07
NO_3-N	(μg-at/ℓ)	34.0	16.1	5.7	2.9	1.1	1.3
NH_4-N	(μg-at/ℓ)	0.58	3.49	4.91	1.19		n.d.
Na	(mg/kg)						
K	(mg/kg)						
Mg	(mg/kg)						
Ca	(mg/kg)						
Cl	(mg/kg)						
SO_4	(mg/kg)						
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		Q				J	
Date		17 Jan. 1973				13 Dec. 1976	
Depth (m)		6.0	8.0	10.0	12.0	5.4	10.4
Water temp. (℃)							
Specific gravity							
E.C.	(mS/cm)					0.82	0.88
pH		7.8	8.1	8.4	7.1	7.18	7.81
DO	(mℓ/ℓ)	12.3	12.9	12.7	13.1	13.5	14.9
Alkalinity	(meq/ℓ)	0.65	0.65	0.69	0.72	0.74	0.74
SiO_2-Si	(μg-at/ℓ)	142	142	127	141	140	140
PO_4-P	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	0.1	0.1
NO_2-N	(μg-at/ℓ)	0.07	0.08	0.07	0.13	0.06	0.07
NO_3-N	(μg-at/ℓ)	1.3	0.3	0.3	0.0	6.2	5.6
NH_4-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	1	1
Na	(mg/kg)						
K	(mg/kg)						
Mg	(mg/kg)						
Ca	(mg/kg)						
Cl	(mg/kg)						
SO_4	(mg/kg)						
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J					J
Date		13 Dec.1976					18 Dec.1981
Depth (m)		30.4	50.4	55.4	60.4	65.9	5.0
Water temp. (℃)							5.0
Specific gravity							
E.C.	(mS/cm)	1.3	9.8	45	73	>100	
pH		7.80	6.96	6.21	5.60	5.46	8.05
DO	(mℓ/ℓ)	17.9	13.1	16.9	0.1	0.0	12.9
Alkalinity	(meq/ℓ)	1.04	1.44	2.01	3.36	5.13	0.43
SiO_2-Si	(μg-at/ℓ)	240	270	500	630		180
PO_4-P	(μg-at/ℓ)	0.0	0.0				0.0
NO_2-N	(μg-at/ℓ)	0.04	0.07	1.6	0.23		0.1
NO_3-N	(μg-at/ℓ)	5.9	56	220	2.9		6.2
NH_4-N	(μg-at/ℓ)	0	0	56	110		1.1
Na	(mg/kg)						
K	(mg/kg)						
Mg	(mg/kg)				5955		
Ca	(mg/kg)				18260		
Cl	(mg/kg)						
SO_4	(mg/kg)						
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)				46.5		
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 180					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station	J					
Date	18 Dec.1981					
Depth (m)	12.5	20.0	40.0	50.0	55.0	60.0
Water temp. (℃)	5.8	7.1	7.1	12.3	18.5	23.1
Specific gravity						
E.C. (mS/cm)						
pH	8.1	8.3	8.25	7.65	6.70	6.40
DO (mℓ/ℓ)	13.4	15.8	16	13.5	11.3	0.6
Alkalinity (meq/ℓ)	0.45	0.55	0.56	0.68	0.97	1.6
SiO_2-Si (μg-at/ℓ)	130	280	270	280	470	800
PO_4-P (μg-at/ℓ)	0.0	0.0	0.0	0.0	0.4	2.0
NO_2-N (μg-at/ℓ)	0.1	0.1	0.1	0.2	0.9	0.3
NO_3-N (μg-at/ℓ)	4.5	3.6	3.4	8.0	53.0	57.8
NH_4-N (μg-at/ℓ)	0.7	0.0	0.0	0.0	8.0	560
Na (mg/kg)						
K (mg/kg)						
Mg (mg/kg)						
Ca (mg/kg)						
Cl (mg/kg)						
SO_4 (mg/kg)						
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks						

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J		J			
Date		18 Dec.1981		29 Dec.1982			
Depth (m)		65.0	68.0	5.2	10.4	31.1	41.4
Water temp. (℃)		24.1	23.8				
Specific gravity							
E.C.	(mS/cm)			700	710	1130	1150
pH		6.00		6.29	6.3	6.62	7.03
DO	(mℓ/ℓ)	n.d.		11.8	11.8	14.7	14.7
Alkalinity	(meq/ℓ)	2.52		1.08	0.48	0.76	1.25
SiO_2-Si	(μg-at/ℓ)	800		129	168	246	244
PO_4-P	(μg-at/ℓ)	7.0	54	0.06	0.05	0.04	0.09
NO_2-N	(μg-at/ℓ)	0.0		11.1	12.3	22.6	23
NO_3-N	(μg-at/ℓ)	5.7	3.6	0.13	0.15	0.08	0.09
NH_4-N	(μg-at/ℓ)	790	1910	1.36	0.53	0.39	0.54
Na	(mg/kg)						
K	(mg/kg)						
Mg	(mg/kg)						
Ca	(mg/kg)						
Cl	(mg/kg)						
SO_4	(mg/kg)						
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J					J
Date		29 Dec.1982					16 Dec.1983
Depth (m)		51.8	56.9	62.1	67.3	68.3	5.1
Water temp. (℃)							4.4
Specific gravity							
E.C.	(mS/cm)	10770					1.15
pH		6.45	6	5.75	5.56	5.53	8.50
DO	(mℓ/ℓ)	13.9	2.58	4.53	6.5	6.51	11.9
Alkalinity	(meq/ℓ)	1.55	11.5				0.85
SiO_2-Si	(μg-at/ℓ)	329	892	974	1470	2020	181
PO_4-P	(μg-at/ℓ)	0.08	0.47	3.84	7.03	25.6	0.0
NO_2-N	(μg-at/ℓ)	824	574	60.1	61.7	27.7	0.05
NO_3-N	(μg-at/ℓ)	0.1	2.26	1.73	0.11	0.04	5.45
NH_4-N	(μg-at/ℓ)	3.6	222	640	486	510	0
Na	(mg/kg)						62
K	(mg/kg)						18
Mg	(mg/kg)						24
Ca	(mg/kg)						97
Cl	(mg/kg)						274
SO_4	(mg/kg)						18
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						0.30
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							sampling time: 1300～1500 ref. 166, 180

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J					
Date		16 Dec. 1983					
Depth (m)		10.1	30.0	40.0	50.1	55.1	60.1
Water temp. (℃)		4.4	7.5	7.4	11.1	17.8	22.1
Specific gravity						1.02	1.06
E.C.	(mS/cm)	1.16	1.80	1.80	7.20	50.5	96.5
pH		7.83	8.19	8.38	7.55	6.96	6.05
DO	(mℓ/ℓ)	11.8	15.7	15.31	14.71	10.85	5.00
Alkalinity	(meq/ℓ)	0.85	1.09	1.24	1.42	1.96	3.20
SiO_2-Si	(μg-at/ℓ)	178	240	258	301	489	676
PO_4-P	(μg-at/ℓ)	0.0	0.0	0.0	0.0	0.0	0.0
NO_2-N	(μg-at/ℓ)	0.05	0.05	0.04	0.10	0.70	0.15
NO_3-N	(μg-at/ℓ)	5.29	2.80	3.01	22.2	152	80.1
NH_4-N	(μg-at/ℓ)	0	0	0	0	11	600
Na	(mg/kg)	63	90	89	142	1760	3470
K	(mg/kg)	18	25	26	28	290	530
Mg	(mg/kg)	24	40	42	263	2030	4810
Ca	(mg/kg)	98	156	156	749	6860	15600
Cl	(mg/kg)	292	460	466	2430	21480	46480
SO_4	(mg/kg)	19	24	25	42	180	180
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.30	0.41	0.42	1.72	15.7	40.1
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 166, 180					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J		J			
Date		16 Dec.1983		19 Dec.1983			
Depth (m)		65.1	68.6	5.1	10.1	30.0	40.0
Water temp. (℃)		23.6	23.5	4.9	4.8	7.4	7.3
Specific gravity		1.08	1.09				
E.C.	(mS/cm)	130	141	n.d.	n.d.	n.d.	n.d.
pH		5.82	6.52	n.d.	n.d.	n.d.	n.d.
DO	(mℓ/ℓ)	0.0		11.89	12.31	17.15	15.43
Alkalinity	(meq/ℓ)	4.96	5.08	1.08	0.84	1.04	1.00
SiO_2-Si	(μg-at/ℓ)			176	184	250	256
PO_4-P	(μg-at/ℓ)	1.6		0.0	0.0	0.0	0.0
NO_2-N	(μg-at/ℓ)			0.06	0.06	0.05	0.05
NO_3-N	(μg-at/ℓ)						
NH_4-N	(μg-at/ℓ)	1400		0	0	0	0
Na	(mg/kg)	5340	6660				
K	(mg/kg)	780	850				
Mg	(mg/kg)	6850	7890				
Ca	(mg/kg)	22000	24500				
Cl	(mg/kg)	67940	76460				
SO_4	(mg/kg)	640	750				
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	61.2	66.4				
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 166, 180		sampling time: 0100~0300 ref. 166			

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J					J
Date		19 Dec.1983					2 Jan.1986
Depth (m)		50.1	55.1	60.1	65.1	68.6	57.5
Watertemp. (℃)		10.8	17.5	n.d.	23.2	23.7	18.4
Specific gravity							
E.C.	(mS/cm)	n.d.	n.d.	n.d.	n.d.	n.d.	
pH		n.d.	n.d.	n.d.	n.d.	n.d.	6.33
DO	(mℓ/ℓ)	14.54	13.22	4.89	0.00	0.00	12.4
Alkalinity	(meq/ℓ)	1.42	2.97	3.12	n.d.	5.14	2.34
SiO_2-Si	(μg-at/ℓ)	n.d.	n.d.	714			500
PO_4-P	(μg-at/ℓ)	0.0	0.1	0.7	4.1	10.2	0.2
NO_2-N	(μg-at/ℓ)	0.05	0.13	0.20			0.78
NO_3-N	(μg-at/ℓ)						270
NH_4-N	(μg-at/ℓ)	0	2	550	1400	n.d.	45
Na	(mg/kg)						1870
K	(mg/kg)						256
Mg	(mg/kg)						2290
Ca	(mg/kg)						7790
Cl	(mg/kg)						23300
SO_4	(mg/kg)						96
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 166					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J					
Date		2 Jan. 1986					
Depth (m)		60.0	61.0	62.0	62.5	63.0	64.0
Water temp. (℃)		20.1			22.2		
Specific gravity							
E.C.	(mS/cm)						
pH		6.32			6.92		
DO	(mℓ/ℓ)	11.5			11		
Alkalinity	(meq/ℓ)	2.7					
SiO_2-Si	(μg-at/ℓ)	580			630		
PO_4-P	(μg-at/ℓ)				0		
NO_2-N	(μg-at/ℓ)	0.51			0.18		
NO_3-N	(μg-at/ℓ)	5			<1		
NH_4-N	(μg-at/ℓ)	300			210		
Na	(mg/kg)	2750	3093	3450		3770	4020
K	(mg/kg)	350	386	429		467	476
Mg	(mg/kg)	3550	4080	4620		5200	5640
Ca	(mg/kg)	12100	13700	15100		16700	17700
Cl	(mg/kg)	35740	40360	45100		49960	53390
SO_4	(mg/kg)	113	90.5	77.8		200	259
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J					J
Date		2 Jan. 1986					4 Jan. 1987
Depth (m)		65.0	66.0	67.0	68.0	69.5	5.0
Water temp. (℃)		23.2				23.7	4.8
Specific gravity							
E.C.	(mS/cm)						1.11
pH		6.04				5.74	7.1
DO	(mℓ/ℓ)	0				0	10.9
Alkalinity	(meq/ℓ)	2.84				3.03	0.92
SiO_2-Si	(μg-at/ℓ)	830				1200	170
PO_4-P	(μg-at/ℓ)	4.2				11	n.d.
NO_2-N	(μg-at/ℓ)	0				0	n.d.
NO_3-N	(μg-at/ℓ)	<1				<1	4.8
NH_4-N	(μg-at/ℓ)	1200				1700	n.d.
Na	(mg/kg)	4340	4940	5240	5590	5320	56.6
K	(mg/kg)	530	542	576	611	581	16.3
Mg	(mg/kg)	5950	6370	5660	7190	6660	24.3
Ca	(mg/kg)	18800	20500	21600	22300	21000	92.6
Cl	(mg/kg)	56580	61660	65070	68530	62080	291.6
SO_4	(mg/kg)	196	257	243	243	225	15
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						0.31
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks							ref. 180

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J					
Date		4 Jan.1987					
Depth (m)		20.0	40.0	50.0	55.0	57.5	60.0
Water temp. (°C)		5.0	6.9	9.3	14.3	17.4	19.8
Specific gravity							
E.C.	(mS/cm)	1.18	1.37	4.42	27.6	52.8	78.7
pH		7.69	7.97	7.49	6.45	6.24	6.22
DO	(mℓ/ℓ)	0.11	14.1	14.8	12.2	10.8	16.1
Alkalinity	(meq/ℓ)	0.96	0.96	1.28	1.42	1.68	2.03
SiO_2-Si	(μg-at/ℓ)	170	240	270	340	480	610
PO_4-P	(μg-at/ℓ)	n.d.	n.d.	n.d.	0.36	0.42	
NO_2-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	0.26	0.65	1.1
NO_3-N	(μg-at/ℓ)	1.4	0.69	0.69	7.5	140	140
NH_4-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	6.4	120
Na	(mg/kg)	60.2	85.3	174	843	1585	2490
K	(mg/kg)	18.3	24	39.5	176	256	365
Mg	(mg/kg)	26	39.1	113	1030	2120	3350
Ca	(mg/kg)	97.8	159	409	2960	6640	11400
Cl	(mg/kg)	314.4	492.6	1291	3326	20040	33490
SO_4	(mg/kg)	16	22	24	142	136	255
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)	0.31	0.42	0.98	7.23	15.6	27.8
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		ref. 180					

Table 3. Chemical composition of waters in Lake Vanda (continued).

Station		J				DVDP#4		DVDP#4
Date		4 Jan. 1987				Nov. 1973		Nov. 1973
Depth (m)		62.5	65.0	67.5	69.5	64.6	72.2	75.7-76.7
Water temp. (℃)		21.6	22.9	23.5	23.7			
Specific gravity						1.095	1.121	1.143
E.C.	(mS/cm)	100	115	220	236			
pH		5.91	5.86	5.73	5.57			
DO	(mℓ/ℓ)	3.05	n.d.	n.d.	n.d.			
Alkalinity	(meq/ℓ)	2.62	3.43	3.83	4.58			
SiO_2-Si	(μg-at/ℓ)	680	730	880	880	1690	6700	8550
PO_4-P	(μg-at/ℓ)	0.84	0.96	2.3	3.8	0	10.2	10.3
NO_2-N	(μg-at/ℓ)	0.28	n.d.	n.d.	n.d.	0	8.2	7.8
NO_3-N	(μg-at/ℓ)	18	1.6	0.24	0.28	0	0	0
NH_4-N	(μg-at/ℓ)	240	380	470	580	10.1	4.7	19.6
Na	(mg/kg)	3390	4300	5284	5860	6110	7820	8750
K	(mg/kg)	455	513	571	609	590	980	1080
Mg	(mg/kg)	4760	5810	7050	6780	7400	9030	10500
Ca	(mg/kg)	15300	18700	21200	22700	24400	28900	33200
Cl	(mg/kg)	46080	55690	65440	70300	74280	94240	108700
SO_4	(mg/kg)	250	259	290	289	615	463	284
Li	(mg/kg)							
B	(mg/kg)					3.0	3.9	4.4
F	(mg/kg)							
Br	(mg/kg)					20	25	28
Sr	(mg/kg)	39.8	50.3	57.9	68.7			
δD	(‰)							
$\delta^{18}O$	(‰)							
Remarks		ref. 180				bottom water iodine: 1 mg/kg ref. 39	groundwater 7.6 m below lake bottom iodine: 1 mg/kg ref. 39, 66	groundwater iodine: 1 mg/kg ref. 39

Table 4. Chemical composition of waters in Lake Canopus and unnamed ponds.

Sampling station		L. Canopus					
Sampling date		30 Nov. 1971	29 Dec. 1971	3 Jan. 1984	5 Jan. 1986	7 Jan. 1987	7 Jan. 1987
Sampling depth (cm)		surface	surface	surface	surface	surface	surface
Water temperature (℃)		4.5	2.5	1.7			3.5
Electric conductivity (mS/cm)				0.74			0.31
pH		9.02	9.40	9.21			9.57
Dissolved oxygen (mℓ/ℓ)				10.5			9.43
Alkalinity	(meq/ℓ)		0.53	0.56	0.34	0.38	0.4
SiO_2-Si	(μg-at/ℓ)		18.7				44
PO_4-P	(μg-at/ℓ)		0.17				n.d.
NO_2-N	(μg-at/ℓ)		0.6				n.d.
NO_3-N	(μg-at/ℓ)		51				0.66
NH_4-N	(μg-at/ℓ)		1.32				n.d.
Na	(mg/kg)	46	35.9	104	62.4	1.84	42.3
K	(mg/kg)		2.01	5.8	4.0	0.081	3.2
Mg	(mg/kg)	10.3	5.8	13.3	7.5	0.387	4.7
Ca	(mg/kg)	11.3	4.10	11.9	6.6	0.329	6.6
Cl	(mg/kg)	51.3	44.0	220	70.3	1.36	48.4
SO_4	(mg/kg)	57.7	38.0	103	66	0.781	3.75
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)				0.04		
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks			ref. 70			south edge	

Table 4. Chemical composition of waters in Lake Canopus and unnamed ponds (continued).

Station	inflow water	C-1	C-2
Date	29 Dec.1971	7 Jan.1987	29 Dec.1971
Depth (cm)	surface	surface	surface
Water temp.(℃)	4.6	6.8	6.0
E.C. (mS/cm)		2.28	
pH	7.62	8.22	7.99
DO (mℓ/ℓ)		8.42	
Alkalinity (meq/ℓ)	1.03	1.92	1.15
SiO_2-Si (μg-at/ℓ)		590	82.3
PO_4-P (μg-at/ℓ)		n.d.	0.91
NO_2-N (μg-at/ℓ)		9.9	1.15
NO_3-N (μg-at/ℓ)		440	
NH_4-N (μg-at/ℓ)		n.d.	0.25
Na (mg/kg)	19.6		
K (mg/kg)	1.86		
Mg (mg/kg)	8.0		
Ca (mg/kg)	24.2		
Cl (mg/kg)	20.7		
SO_4 (mg/kg)	23.6		
Li (mg/kg)			
B (mg/kg)			
F (mg/kg)			
Br (mg/kg)			
Sr (mg/kg)			
δD (‰)			
$\delta^{18}O$ (‰)			
Remarks	from Jelemy-Sykes Glacier ref. 70	1.3 km east from L. Canopus fig. 7	east from C-1 fig. 7

Table 5. Sequential change of chemical composition in Don Juan Pond water.

Sampling date Size of pond (m) SN×EW	16 Dec. 1962	30 Dec. 1963 330×106	5 Jan. 1965 205×105	3 Dec. 1965	28 Dec. 1965 75×210	11 Nov. 1969
Water temperature (℃)		6.45	10.4	3.5	10.0	
Specific gravity	1.351	1.380	1.386	1.375	1.361	1.298
Na (g/kg)	4.11	2.16	1.63	2.66	3.51	9.89
K (g/kg)	0.15	0.23	0.26	0.23	0.20	0.12
Mg (g/kg)	1.8	2.6	1.8	2.3	1.8	1.6
Ca (g/kg)	123.9	132.2	137.1	131.7	127.1	107.2
Cl (g/kg)	229.4	247.1	251.1	243.6	235.5	209.1
SO_4 (g/kg)	0.0	0.0	0.0	0.0	0.0	0.0
B (mg/kg)	0.01	0.004	0.001	0.005	0.005	0.003
Br (mg/kg)	112	152	124	130	111	
Sr (mg/kg)						
Evaporation residue at 180℃ (g/kg)	361.9	388.8	390.6	384.5	370.7	328.6
Occurrence of antarcticite	no	observed	observed	observed	observed	no
δD (‰)		-193	-186		-183	-214
$\delta^{18}O$ (‰)		-13.5	-13.9		-10.8	-17.4
Remarks	ref. 13, 98	ref. 13, 98, 125	ref. 13, 98, 125, 141	ref. 13, 98	ref. 13, 98, 125	ref. 98, 125

Table 5. Sequential change of chemical composition in Don Juan Pond water (continued).

Sampling date Size of pond (m) SN×EW	7 Jan. 1971	15 Jan. 1971	10 Dec. 1971	30 Dec. 1972	17 Nov. 1973	3 Dec. 1973 315×116
Water temperature (℃)	10.6		7.0	9.1	2.8	
Specific gravity	1.283	1.216	1.288	1.339	1.324	
Na (g/kg)	11.9	11.6	10.4	3.68	6.73	
K (g/kg)	0.13	0.13	0.12	0.14	0.14	
Mg (g/kg)	0.7	1.2	1.3	1.5	1.6	
Ca (g/kg)	98.2	73.8	104.0	127.0	12.7	
Cl (g/kg)	197.0	151.2	201.0	243.6	215.7	
SO_4 (g/kg)	0.0	0.02	0.0	0.0	0.00	
B (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)		0.83	0.93			
Evaporation residue at 180℃ (g/kg)	334.3	247.3	355.1	368.2	339.4	
Occurrence of antarcticite	no	no	no	no	no	
δD (‰)	-162	-156	-195		-209	-197
$\delta^{18}O$ (‰)	-8.3	-9.4	-14.4		-16.6	-11.8
Remarks	ref. 98, 125	ref. 98, 125	ref. 98, 125	air temp.: 1.1 ℃ sampling time: 1500 ref. 98	ref. 98, 125	ref. 98, 125

Table 5. Sequential change of chemical composition in Don Juan Pond water (continued).

Sampling date Size of pond (m) SN×EW	25 Apr. 1974	9 Jul. 1974	9 Jul. 1974	7 Dec. 1974	14 Dec. 1974	9 Jan. 1975
Water temperature (℃)	-32.5	-50~-51		6.9	8.2	6.3
Specific gravity	1.224	1.208	1.134	1.233	1.255	1.265
Na (g/kg)	6.19	8.13	6.81	8.97	9.83	9.18
K (g/kg)	0.10	0.08	0.05	0.09	0.11	0.118
Mg (g/kg)	1.1	1.1	0.70	1.1	1.2	1.2
Ca (g/kg)	81.1	74.1	48.23	81.85	88.40	91.48
Cl (g/kg)	157.9	147.6	98.71	162.8	175.5	182.2
SO_4 (g/kg)	0.00	0.03	0.28	0.03	0.01	0.03
B (mg/kg)	0.001	0.000		0.002	0.0001	0.001
Br (mg/kg)						
Sr (mg/kg)						
Evaporation residue at 180℃ (g/kg)	265.6	242.6	174.3	273.8	274.1	293.1
Occurrence of antarcticite	no	no	no	no	no	no
δD (‰)	-206	-206		-183	-180	-170
$\delta^{18}O$ (‰)	-19.5	-20.2		-13.6	-12.4	-10.3
Remarks	collected by NZARP ref. 98, 125	south west site airtemp.-44.0 ℃ collected by NZARP ref. 125	east site collected by NZARP	east site ref. 98, 125	east site ref. 98, 125	east site ref. 98, 125, 139

Table 5. Sequential change of chemical composition in Don Juan Pond water (continued).

Sampling date Size of pond (m) SN×EW	18 Dec.1975	5 Jan.1976	17 Jan.1978	3 Jan.1979 107×259	16 Jan.1979 16×241	3 Dec.1979 130×297
Water temperature (℃)	2.5			16.5	7.8	9.8
Specific gravity	1.324	1.318	1.356	1.340	1.342	1.328
Na (g/kg)	6.76	6.73	4.77	2.29	2.41	6.14
K (g/kg)	0.11	0.13	0.22	0.15	0.15	0.17
Mg (g/kg)	1.7	1.6	1.9	1.5	1.5	1.90
Ca (g/kg)	110.0	105.0	124.6	130.2	130.2	115.3
Cl (g/kg)	216.3	207.5	229.8	238.7	238.7	231.2
SO_4 (g/kg)	0.0	0.0	0.0	0.0	0.0	0.0
B (mg/kg) Br (mg/kg) Sr (mg/kg)	103	98				
Evaporation residue at 180℃ (g/kg)						
Occurrence of antarcticite	no	no	no	no	no	no
δD (‰) $\delta^{18}O$ (‰)						
Remarks	ref. 98, 141	ref. 98		air temp.: 8.3 ℃ sampling time: 1725 water depth: 10 cm	water depth:4 cm	air temp.: 4.2 ℃ sampling time: 1240 water depth: 10.1 cm

Table 5. Sequential change of chemical composition in Don Juan Pond water (continued).

Sampling date Size of pond (m) SN×EW	22 Dec.1980 12×24	9 Jan.1981	20 Jan.1981	30 Jan.1981	21 Dec.1982	4 Jan.1983
Water temperature (℃)	9.5					
Specific gravity	1.311	1.323	1.322	1.302	1.334	1.292
Na (g/kg)	9.95	6.95	7.80	7.75	2.50	10.6
K (g/kg)	0.15	0.19	0.19	0.17	0.19	0.10
Mg (g/kg)	1.66	1.49	1.55	1.86	2.37	1.63
Ca (g/kg)	107.7	117.2	112.0	106.0	130.4	108.7
Cl (g/kg)	209.6	215.4	215.6	207.9	238.0	210.9
SO_4 (g/kg)	0.0	0.0	0.0	0.0	0.0	0.0
B (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
Evaporation residue at 180℃ (g/kg)						
Occurrence of antarcticite	no	no	no	no	no	no
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks						

Table 5. Sequential change of chemical composition in Don Juan Pond water (continued).

Sampling date Size of pond (m) SN×EW	29 Dec. 1983	7 Dec. 1984 54×111	31 Dec. 1985 83.6×105.7	28 Dec. 1986 54.0×144.4	Jan. 1993
Water temperature (℃) Specific gravity	6.5 1.310	10.8 1.298	6.0	10.0	 1.359
Na (g/kg) K (g/kg) Mg (g/kg) Ca (g/kg) Cl (g/kg) SO_4 (g/kg)	7.50 0.18 1.14 107.0 211.0 0.0	10.1 0.138 1.58 104.9 200.3 0.0	10.2 0.176 95.8 203.9 0.0	4.27 0.186 2.50 122.0 232.3 0.0	3.12 0.205 2.30 129.2 239.5 0.00
B (mg/kg) Br (mg/kg) Sr (mg/kg)					
Evaporation residue at 180℃ (g/kg)		321.3			373.1
Occurrence of antarcticite	observed	no	no	no	
δD (‰) $\delta^{18}O$ (‰)					
Remarks		air temp.: 2.6 ℃ sampling time: 1725 pH: 5.6	air temp.: 2.5 ℃ sampling time: 1240	air temp.: 2.0 ℃	collected by NZAP

Table 6. Chemical composition of pool waters near Don Juan Pond.

Sampling date Size of pond (m) SN×EW	29 Nov. 1970	29 Nov. 1970	7 Jan. 1971	15 Jan. 1971	15 Jan. 1971	15 Jan. 1971	15 Jan. 1971	9 Jan. 1975
Water temperature(℃)								6.5
Specific gravity	1.207	1.380	1.387	1.379	1.214	1.394	1.354	1.379
Na (g/kg)	12.51	8.75	8.13	8.05	14.7	8.10	9.98	2.35
K (g/kg)	0.23	0.31	0.41	0.45	0.26	0.44	0.39	0.25
Mg (g/kg)	0.78	1.08	1.26	1.04	0.45	0.99	0.92	2.30
Ca (g/kg)	74.25	134.8	137.5	134.9	76.4	140.1	125.8	133.0
Cl (g/kg)	147.1	249.0	252.4	247.5	151.1	256.1	233.2	247.5
SO_4 (g/kg)								0.0
B (mg/kg)								0.005
Br (mg/kg)								
Sr (mg/kg)	0.65	1.20	0.30	0.30	0.83	1.10	1.20	
Evaporation residue at 180℃ (g/kg)					247.3			
Occurrence of antarcticite	observed	observed	observed	observed	observed	observed	observed	observed
δD (‰)								-202
$\delta^{18}O$ (‰)								-10.7
Remarks								ref. 125

Table 7. Chemical composition of inflow waters to Don Juan Pond.

Sampling date		15 Jan. 1971	10 Dec. 1971	1 Nov. 1975	31 Dec. 1985
Water temperature (℃)					3.2
pH					8.37
Na	(g/kg)	2.59	6.1		0.102
K	(g/kg)	0.39			0.003
Mg	(g/kg)	0.703	4.57		0.022
Ca	(g/kg)	2.13	6.04		0.038
Cl	(g/kg)	0.32	7.39	0.8	0.171
SO_4	(g/kg)	0.307	6.11		0.076
B	(mg/kg)	0.526			
F	(mg/kg)				1.3
Br	(mg/kg)				
Sr	(mg/kg)		0.11		
δD	(‰)			-155	
$\delta^{18}O$	(‰)			-13.9	
Remarks		from west	from west	from east ref. 81, 125	from west ref. 125

Table 8. Chemical composition of groundwater in DVDP #5 hole.

Sampling date		9 Jan.1975	9 Jan.1975
Sampling depth (m)		6.1	9.42
Water temperature (℃)			
Specific gravity		1.119	1.121
pH			
Na	(g/kg)	4.21	4.61
K	(g/kg)	0.071	0.072
Mg	(g/kg)	0.44	0.46
Ca	(g/kg)	44.39	46.66
Cl	(g/kg)	87.41	92.58
SO_4	(g/kg)	0.367	0.353
B	(mg/kg)	0.002	0.001
F	(mg/kg)		
Br	(mg/kg)	0.034	0.037
Sr	(mg/kg)		
δD	(‰)	-179	-176
$\delta^{18}O$	(‰)	-16.1	-16.3
Remarks		ref. 69, 125	ref. 69, 125

Table 9. Stable isotope ratio of groundwater in DVDP #5 hole collected by H.Harris.

Depth (m)	Sampling date	δD (‰)	$\delta^{18}O$ (‰)
2	27 Jan.1975	-192	-17.9
7	27 Jan.1975	-195	-18.1
14	27 Jan.1975	-194	-18.6
14	29 Jan.1975	-204	-21.1
20	27 Jan.1975	-193	-18.9
30	27 Jan.1975	-194	-19.3
40	27 Jan.1975	-197	-19.2
50	27 Jan.1975	-200	-21.0

Table 10. Chemical composition of pond waters in the South Fork.

Sampling station	(1)	(2)	No.1	No.2	No.3
Sampling date	30 Dec.1963	30 Dec.1963	Jan.1964	Jan.1964	Jan.1964
Sampling depth (m)	surface	surface	surface	surface	surface
Water temperature (℃) Specific gravity Electric conductivity (mS/cm) pH Dissolved oxygen (mℓ/ℓ) Alkalinity (meq/ℓ)					
SiO_2-Si (μg-at/ℓ) PO_4-P (μg-at/ℓ) NO_2-N (μg-at/ℓ) NO_3-N (μg-at/ℓ) NH_4-N (μg-at/ℓ)					
Na (mg/kg)	244	17.5	119	1270	8
K (mg/kg)	13.8	1.3	11	37.2	1.0
Mg (mg/kg)	78.5	9.4	44.2	325.3	1.4
Ca (mg/kg)	57.2	10.3	94.8	75.6	5.1
Cl (mg/kg)	306.0	36.0	228	2299	18.6
SO_4 (mg/kg)	228	25	219	178	6.4
Li (mg/kg) B (mg/kg) F (mg/kg) Br (mg/kg) Sr (mg/kg)	0.29				
δD (‰) $\delta^{18}O$ (‰)	-17.2	-15.9			
Remarks	ref. 9	ref. 9	red pond ref. 9, Fig. 7	white pond ref. 9, Fig. 7	ice pond ref. 9, Fig. 7

Table 10. Chemical composition of pond waters in the South Fork (continued).

Station	SF-0	SF-1	SF-1-inflow	SF-2	SF-3
Date	31 Dec.1985	29 Dec.1983	30 Dec.1985	29 Dec.1983	30 Dec.1983
Depth (m)	surface	surface	surface	surface	surface
Water temp.(℃)	0.3	1.3		1.1	0.3
Specific gravity			0.999	1.003	
E.C. (mS/cm)		0.52		5.3	0.09
pH	8.31	10.39	8.14	10.52	10.78
DO (mℓ/ℓ)		6.2		9.20	8.7
Alkalinity (meq/ℓ)	1.05	0.48	1.24	2.40	0.17
SiO_2-Si (μg-at/ℓ)					
PO_4-P (μg-at/ℓ)					
NO_2-N (μg-at/ℓ)					
NO_3-N (μg-at/ℓ)					
NH_4-N (μg-at/ℓ)					
Na (mg/kg)	43.7	45.0	41.2	957	8.0
K (mg/kg)	1.12	2.0	1.58	23.4	0.16
Mg (mg/kg)	34.6	13.7	36.2	96.2	0.7
Ca (mg/kg)	29.0	26.4	28.9	44.4	6.9
Cl (mg/kg)	82.0	62.9	84.1	431	11.7
SO_4 (mg/kg)	112	133	98.0	1910	13.7
Li (mg/kg)					
B (mg/kg)					
F (mg/kg)		1.9		8.30	
Br (mg/kg)		22		120	<3
Sr (mg/kg)		n.d.		<30	
δD (‰)				-167	
$\delta^{18}O$ (‰)				-17.9	
Remarks					size of pond: 82 m×250 m VXE-6 pond

Table 11. Chemical composition of pond waters in the North Fork.

Sampling station	No.1	No.2	No.3	No.4	No.5
Sampling date	17 Dec.1971				
Sampling depth (m)	surface				
Water temperature (℃)	1.3	1.5	3.0	8.7	2.8
Specific gravity				1.0258	
Electric conductivity (mS/cm)					
pH	9.53	9.29	9.11	8.7	9.43
Dissolved oxygen (mℓ/ℓ)					
Alkalinity (meq/ℓ)	1.11	1.63	1.44	6.64	0.93
SiO_2-Si (μg-at/ℓ)	73.5	65.0	73.5	458	25.2
PO_4-P (μg-at/ℓ)	0.27			0.02	
NO_2-N (μg-at/ℓ)	2.68	2.70	4.33	20.0	15.0
NO_3-N (μg-at/ℓ)	107	129	455	24800	535
NH_4-N (μg-at/ℓ)	n.d.			0.81	n.d.
Na (mg/kg)	17	20	29	5910	31.8
K (mg/kg)	0.65	0.66	1.04	189	1.04
Mg (mg/kg)	6.4	7.2	24.5	2600	21.4
Ca (mg/kg)	4.4	5.7	15.7	815	11.9
Cl (mg/kg)	16.1	18.5	36.3	10900	57.2
SO_4 (mg/kg)	0.25	15.2	40.3	223	8.3
Li (mg/kg)					
B (mg/kg)					
F (mg/kg)					
Br (mg/kg)					
Sr (mg/kg)				4.1	
δD (‰)					
$\delta^{18}O$ (‰)					
Remarks	pond number indicates from west to east No.4 is called as Don Quixote pond ref. 70 , Fig. 7				

Photo 11. Labyrinth area facing east.

Photo 12. L-20 pond in the Labyrinth.

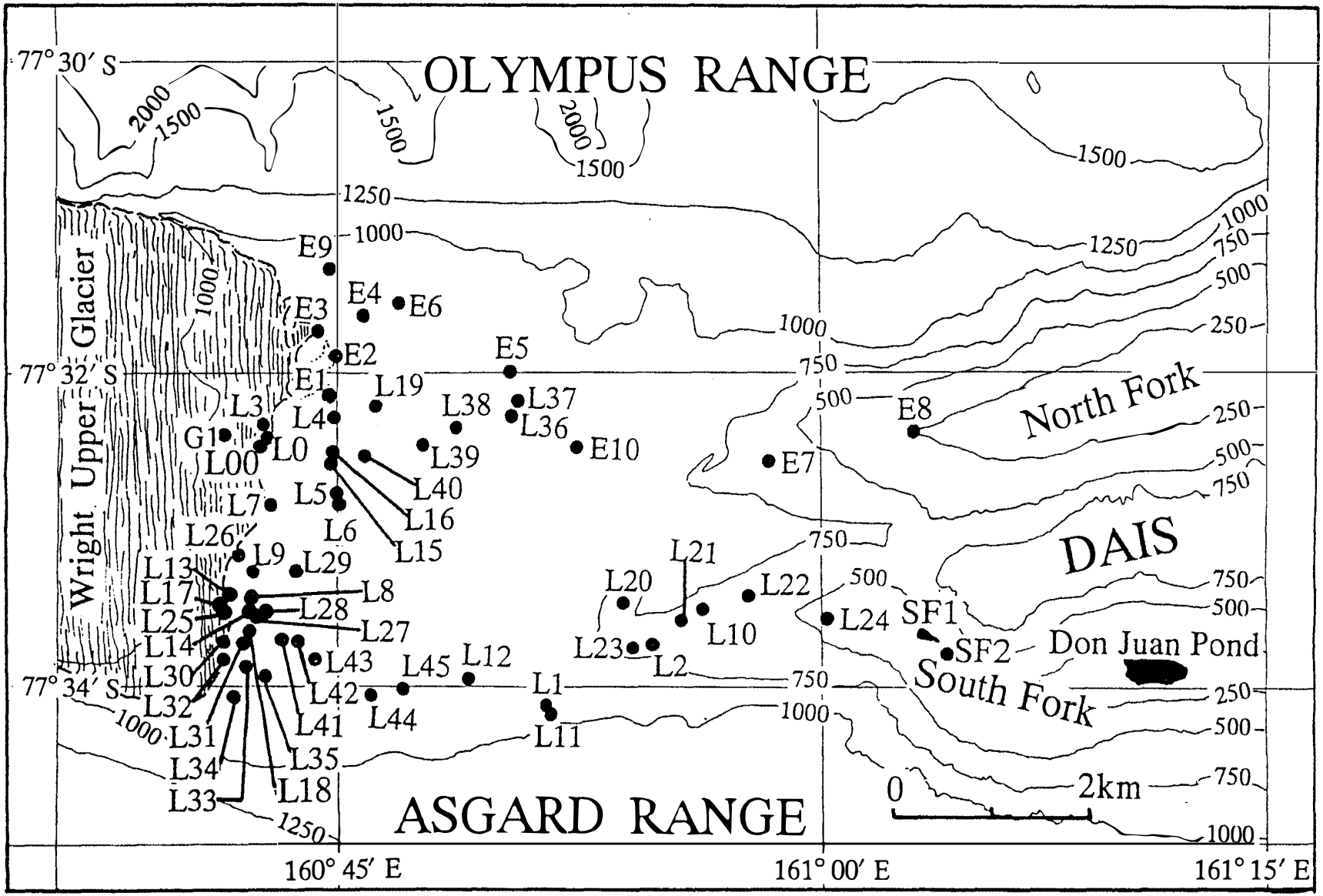

Fig. 9. Ponds and glacier ice in the Labyrinth area, Wright Valley.

Table 12. Chemical composition of pond waters in the Labyrinth.

Sampling station	L-0	L-0-1	L-0-2	L-0-5	L-1
Sampling date	15 Dec.1984	23 Dec.1985	23 Dec.1985	23 Dec.1985	Jan.3.1977
Air temperature (℃)	-4.2	-4.5			
Size of pond (m) SN×EW	30.8×18.4	38.8×17.2			20×8
Sampling depth (cm)	surface	95	68	94	surface
Water temperature (℃)	-3.2	-2.0	0.8	-1.5	1.7
Specific gravity	1.050	1.053	1.007		1.017
Electric conductivity (mS/cm)		40	19		
pH		7.62	8.43	8.22	8.22
Dissolved oxygen (mℓ/ℓ)		14.40	27.3		15.7
Alkalinity (meq/ℓ)		11.1	2.09	4.61	
SiO_2-Si (μg-at/ℓ)		670	380		
PO_4-P (μg-at/ℓ)		0.76	0.43		
NO_2-N (μg-at/ℓ)	15.1	0.16	0.1		
NO_3-N (μg-at/ℓ)	177				
NH_4-N (μg-at/ℓ)		89	28		
Na (mg/kg)	10900	11200	1710	6200	4130
K (mg/kg)	711	52.3	9.22	35.6	25.0
Mg (mg/kg)	4840	6040	882	3570	1920
Ca (mg/kg)	711	990	368	699	531
Cl (mg/kg)	20760	20400	3080	2300	7580
SO_4 (mg/kg)	8990	8350	2280		2130
Li (mg/kg)		0.039	n.d.		n.d.
B (mg/kg)	0.18	1.96	0.27		0.99
F (mg/kg)	19.0	20			8.9
Br (mg/kg)	7.79				
Sr (mg/kg)		5.08	1.59		2.9
δD (‰)		-264	-241		-174
$\delta^{18}O$ (‰)	-33.3	-33.3	-28.7		-12.7
Remarks		center of the pond ref. 180, 181, 189	2.18 m from L-0-1 ref. 180, 181	3.03 m from L-0-1	ref. 180, 181, 189

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-1	L-1	L-2	L-3	L-3	L-3
Date	28 Dec.1983	31 Dec.1985	13 Jan.1978	16 Jan.1979	24 Dec.1983	12 Dec.1984
Air temp. (℃)		-4.4			0.7	-3.7
Size(m)SN×EW	30×10	13×39.6			42×17.3	
Depth (cm)	surface	5	surface	surface	surface	surface
Water temp.(℃)	0.3	14	0.8	1.4	4.4	-0.1
Specific gravity	1.12		1.002		0.999	1.000
E.C. (mS/cm)	135				0.310	0.081
pH	7.76	8.22		6.80	9.78	9.88
DO (mℓ/ℓ)	31.6				7.0	
Alkalinity (meq/ℓ)	8.4				0.21	
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						6.16
NO_3-N (μg-at/ℓ)						168
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	26600		392	24.6	23.4	12.5
K (mg/kg)	210		6.3	1.2	0.56	0.62
Mg (mg/kg)	12500		109	10.3	9.2	4.1
Ca (mg/kg)	820		78.3	21.1	7.8	2.4
Cl (mg/kg)	48700		533	35.5	42.0	15.5
SO_4 (mg/kg)	15300		537	70.8	22.3	15.3
Li (mg/kg)						
B (mg/kg)	2.7					0.049
F (mg/kg)						0.24
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						-30.6
Remarks	ref. 166				ref. 166	

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-3	L-4	L-4	L-4	L-4	L-5
Date	24 Dec.1985	16 Jan.1979	20 Dec.1980	6 Jan.1982	14 Dec.1984	16 Jan.1979
Air temp. (℃)	-3.0				-1.3	
Size(m)SN×EW				18.3×31.0		
Depth (cm)	223	surface	surface	surface	surface	surface
Water temp.(℃)	0.0	-1.5	-1.8		0.3	
Specific gravity	1.003		1.041	1.106	1.080	
E.C. (mS/cm)				103		
pH	9.23		7.0	7.28	8.11	
DO (mℓ/ℓ)	25.1					
Alkalinity (meq/ℓ)	0.32					
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)					59.3	
NO_3-N (μg-at/ℓ)					74.7	
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	1170	2610	9800	25700	14400	588
K (mg/kg)	11.5	38.7	98	235	135	28
Mg (mg/kg)	112	255	4990	11800	10300	275
Ca (mg/kg)	270	237	720	1070	1020	260
Cl (mg/kg)	392	6870	17400	45200	37200	587
SO_4 (mg/kg)	2600	1630	5120	10400	4840	1550
Li (mg/kg)	0.0073		0.020		n.d.	
B (mg/kg)	0.27	0.963	0.790	25	4.2	
F (mg/kg)	5.4	0.24		50	33.0	
Br (mg/kg)				25		
Sr (mg/kg)			3.16		4.81	
δD (‰)	-326				-235	
$\delta^{18}O$ (‰)	-45.4				-24.5	
Remarks	ref. 189		ref. 180		ref. 180, 181, 189	

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-6	L-7	L-7	L-7	L-7	L-7
Date	16 Jan. 1979	20 Dec. 1980	6 Jan. 1982	6 Jan. 1982	4 Jan. 1983	24 Dec. 1983
Air temp. (℃)						0.0
Size(m) SN×EW			25.1×38.7	25.1×38.7		32.0×21.3
Depth (cm)	surface	surface	surface	75	surface	surface
Water temp. (℃)			0.6	2.3	0.7	1.3
Specific gravity	1.000	1.003	1.000	1.010	1.027	1.021
E.C. (mS/cm)			1.82	20.3		28.5
pH		7.0	9.4	7.92	7.0	8.47
DO (mℓ/ℓ)			12.49			12.8
Alkalinity (meq/ℓ)			0.38	2.48		4.34
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	16.3	1540	230	2920	10700	3980
K (mg/kg)	1.2	14.6	3.4	32.0	66.1	42
Mg (mg/kg)	7.8	565	65.5	1100	5040	1630
Ca (mg/kg)	15	92.5	11.8	139	676	220
Cl (mg/kg)	34	2750	397	5360	15780	7930
SO_4 (mg/kg)	47.2	205	30	261	896	290
Li (mg/kg)			0.0007	0.0060	n.d.	
B (mg/kg)			0.46	3.0	3.48	
F (mg/kg)			1.4	5.3		
Br (mg/kg)				4.6		
Sr (mg/kg)			n.d.	0.50	0.60	
δD (‰)		-226.1		-226.1		
$\delta^{18}O$ (‰)		-26.8		-26.8		
Remarks			ref. 153, 180	ref. 153, 180	ref. 180, 181	ref. 166

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-7	L-8	L-8	L-8	L-9	L-9
Date	16 Dec.1984	21 Dec.1980	23 Dec.1983	22 Dec.1985	21 Dec.1980	4 Jan.1982
Air temp. (℃)			-4.3	-4.5		
Size(m)SN×EW	20.0×31.2		42.1×26.3	41.4×30.0		10×8.5
Depth (cm)	30	surface	surface	surface	surface	surface
Water temp.(℃)	10.9	2.0	-1.8	4.2		3.2
Specific gravity	1.080	1.023	1.101	1.000	1.053	1.077
E.C. (mS/cm)			37.0	4.94		88.3
pH			n.d.	8.31		7.9
DO (mℓ/ℓ)			n.d.			12.39
Alkalinity (meq/ℓ)			n.d.	1.55		14.1
SiO_2-Si (μg-at/ℓ)		320				
PO_4-P (μg-at/ℓ)		0.42				
NO_2-N (μg-at/ℓ)	19	0.1				
NO_3-N (μg-at/ℓ)	86					
NH_4-N (μg-at/ℓ)		32				
Na (mg/kg)	17400	5470	23600	587	14200	17600
K (mg/kg)	354	49.0	250	6.34	116	188
Mg (mg/kg)	9070	2740	11940	222	7220	8650
Ca (mg/kg)	981	270	1020	70.1	1600	929
Cl (mg/kg)	38100	11200	48100	1040	24800	35900
SO_4 (mg/kg)	4690	1860	9900	267	6140	7340
Li (mg/kg)	0.035			0.0023		
B (mg/kg)	8.6			0.27		23
F (mg/kg)	29.0			1.3		21.3
Br (mg/kg)	27					21.0
Sr (mg/kg)				0.12		
δD (‰)				-175	-173.9	
$\delta^{18}O$ (‰)	-22.3			-16.6	-12.9	
Remarks	ice-free ref. 181, 189		dried up taken from digged hole ref. 166	ref. 180, 181		ref. 153

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-9	L-9	L-9	L-9	L-10	L-10
Date	4 Jan. 1982	5 Jan. 1983	25 Dec. 1983	22 Dec. 1985	4 Jan. 1982	27 Dec. 1983
Air temp. (℃)			0.0	-4.5		-0.4
Size(m)SN×EW				25.9×29.2		81×61
Depth (cm)	15	12	surface	40	surface	surface
Water temp.(℃)	4.0	6.2	3.5	2.0	1.6	-0.4
Specific gravity	1.113	1.038	1.080	1.014	1.000	
E.C. (mS/cm)	103	14.4	107	27.8	0.65	2.2
pH	7.65	8.38	7.73	7.85	9.8	9.28
DO (mℓ/ℓ)			20.7	8.18	11.54	12.0
Alkalinity (meq/ℓ)			9.35	5.88	0.24	0.62
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	24200	13900	17800	3780	66	230
K (mg/kg)	243	75.4	400	32.6	1.7	8.3
Mg (mg/kg)	10200	6210	8450	1780	29.5	107
Ca (mg/kg)	1240	1640	1460	322	7.0	21.7
Cl (mg/kg)	52400	15780	34800	7170	140	472
SO_4 (mg/kg)	12100	7080	10100	1650	31	100
Li (mg/kg)				0.0054	0.00050	
B (mg/kg)	23			0.96	0.13	0.032
F (mg/kg)	28.0			5.2	0.51	0.51
Br (mg/kg)	34.5					
Sr (mg/kg)				0.60		
δD (‰)	-174				-170.0	
$\delta^{18}O$ (‰)	-12.7				-18.7	
Remarks	ref. 153, 189		dried up taken from digged hole ref. 166	ref. 180, 181	ref. 153	ref. 166

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-10	L-11	L-12	L-12-1	L-12-2	inflow to L-12
Date	31 Dec.1985	5 Jan.1982	5 Jan.1982	28 Dec.1983	28 Dec.1983	28 Dec.1983
Air temp. (℃)	-3.7			-3.2		
Size(m)SN×EW	57.5×61.6	2×5	100×100	61.3×127		
Depth (cm)	5	12	surface	surface	150	surface
Water temp.(℃)	0.0	3.1	-0.2	3.0	-0.4	2.3
Specific gravity		1.011	1.000	1.000	1.005	1.000
E.C. (mS/cm)		21.1	0.355	0.810	7.30	0.36
pH	10.18	8.3	9.7	10.1	8.67	9.18
DO (mℓ/ℓ)				14.1	n.d.	14.1
Alkalinity (meq/ℓ)		1.29	0.31	0.31	n.d.	0.58
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)		1970	30.8	60.3	985	55.8
K (mg/kg)		9.9	1.1	1.3	12	1.2
Mg (mg/kg)		1680	10.1	17.5	319	37.3
Ca (mg/kg)		980	17.8	25.8	264	33.7
Cl (mg/kg)		5890	50.2	78.2	1070	123.0
SO_4 (mg/kg)		990	37.1	99.6	1790	46.5
Li (mg/kg)				0.0015		
B (mg/kg)		2.4	0.08	0.03		
F (mg/kg)		3.3	0.90	1.4	5.9	0.62
Br (mg/kg)		6.1	0.56	0.7	9.8	
Sr (mg/kg)		3.94	n.d.	0.07		
δD (‰)		-243.1	-217.4	-216		
$\delta^{18}O$ (‰)		-28.4	24.9	-23.4		
Remarks		ref. 153, 180	ref. 153, 180	ref. 166, 180, 189	frozen, puddle water ref. 166	ref. 166

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-13	L-13	L-13	L-13-S	L-13-N	L-14
Date	5 Jan.1982	23 Dec.1983	16 Dec.1984	22 Dec.1985	22 Dec.1985	5 Jan.1982
Air temp. (℃)				0.0	+0.2	
Size(m)SN×EW		44.8×22.0	37.8×40.1	50.2×28.3		3×5
Depth (cm)	15	surface	5	83	74	5
Water temp.(℃)	3.6	4.6	-0.2	0	0.0	4.7
Specific gravity	1.000	1.000	1.000	1.003	1.002	1.025
E.C. (mS/cm)	0.30	0.385	0.16	43		38.5
pH	7.88	10.2	8.2	8.30	7.98	8.2
DO (mℓ/ℓ)	12.09	9.5		11.5	11.5	10.51
Alkalinity (meq/ℓ)	0.32	0.33		9.93	9.93	7.37
SiO_2-Si (μg-at/ℓ)				580		
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)			15.7			
NO_3-N (μg-at/ℓ)			99.3			
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	69.8	50.8	11.2	1290	1130	5950
K (mg/kg)	1.9	1.2	0.38	13.6	12.9	45
Mg (mg/kg)	9.8	8.8	2.7	275	215	2710
Ca (mg/kg)	11.5	6.9	1.8	160	118	459
Cl (mg/kg)	82.5	54	26.7	1510	1230	10400
SO_4 (mg/kg)	80.4	48.5	18.1	1300	1110	3790
Li (mg/kg)				0.0083	0.0085	n.d.
B (mg/kg)	1.1			0.67	0.59	2.52
F (mg/kg)		0.94	0.15	5.6	5.4	10
Br (mg/kg)	0.50					
Sr (mg/kg)	n.d.		0.20	0.57	0.43	0.72
δD (‰)	-246.6			-261	-261	-168.8
$\delta^{18}O$ (‰)	-33.5			-31.1	-32.7	-14.9
Remarks	ref. 153, 180	ref. 166	ref. 173	pond depth: 86 cm ref. 180, 181	pond depth: 74 cm ref. 180, 181, 189	ref. 180, 181

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-15	L-15	L-15	L-16	L-16	L-16
Date	6 Jan. 1982	4 Jan. 1983	24 Dec. 1983	6 Jan. 1982	24 Dec. 1983	14 Dec. 1984
Air temp. (℃)			0.0			-2.6
Size(m) SN×EW	2×2		21.7×13.2	47.5×71.0	61.4×43.0	54.6×39.7
Depth (cm)	10	surface	surface	surface	surface	99
Water temp. (℃)	0.1		8.7	0.8	1.1	-2.7
Specific gravity	1.026	1.024	1.029	1.000	1.000	1.045
E.C. (mS/cm)	31.6		22.0	0.296	0.995	
pH	8.08		8.33	9.02	9.11	7.69
DO (mℓ/ℓ)			6.04	12.43	8.7	
Alkalinity (meq/ℓ)	10.9		5.66	0.23	0.45	
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)			29.3			29.3
NO_3-N (μg-at/ℓ)			12.7			12.7
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	6570	1400	4320	24.5	92	9950
K (mg/kg)	48.0	21.3	47.0	0.64	2.1	233
Mg (mg/kg)	2170	1620	1230	11.8	44.6	5880
Ca (mg/kg)	595	382	540	8.64	19.6	683
Cl (mg/kg)	4890	2900	2930	47.8	169	18300
SO_4 (mg/kg)	13100	5420	8200	25.0	57	7090
Li (mg/kg)	n.d.	0.0385			0.00070	
B (mg/kg)		0.09		0.12	0.11	
F (mg/kg)	40	12		0.38	0.67	28
Br (mg/kg)	5.6			n.d.	0.10	7.4
Sr (mg/kg)	3.45	2.81		n.d.	0.05	
δD (‰)	-185.7	-181		-208.4		
$\delta^{18}O$ (‰)	-16.9	-17.2		-22.8		-28.8
Remarks	ref. 153	ref. 180, 181	almost dried up ref. 166	ref. 153, 180	ref. 166, 180, 181	ice thickness: 90 cm ref. 173

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-17	L-17	L-18	L-18 inflow	L-19	L-19
Date	23 Dec.1983	16 Dec.1984	23 Dec.1983	23 Dec.1983	24 Dec.1983	14 Dec.1984
Air temp. (℃)	-4.1		-3.4		0.1	
Size(m)SN×EW	53.8×41.8	34.3×28.5	28.6×183		1.0×0.7	
Depth (cm)	surface	surface	surface	surface	surface	surface
Water temp.(℃)	0.4	-1.0	2.8	0.8		-2.8
Specific gravity	1.001	1.010	1.000	1.000	1.016	1.054
E.C. (mS/cm)	0.067	10.3	0.050	0.036	89.5	100
pH	9.8	8.34	10.0	8.90	8.31	8.63
DO (mℓ/ℓ)	10.7	25.4	11.5	9.80	15.54	
Alkalinity (meq/ℓ)	0.07	0.32	0.09	0.16	9.58	
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)		26.4				13.6
NO_3-N (μg-at/ℓ)		194				77.9
NH_4-N (μg-at/ℓ)						13.6
Na (mg/kg)	6.4	2750	4.8	3.44	14800	12700
K (mg/kg)	0.43	46.5	0.54	0.78	130	110
Mg (mg/kg)	2.1	592	1.1	2.83	6780	6010
Ca (mg/kg)	1.5	386	1.9	2.60	790	880
Cl (mg/kg)	7.5	3800	4.9	2.14	26700	23000
SO_4 (mg/kg)	7.2	2800	9.5	6.80	8770	7580
Li (mg/kg)					0.037	
B (mg/kg)	0.008	<0.02	0.008	0.005	4.2	
F (mg/kg)	0.14	7.4	0.21	0.085	30.0	23
Br (mg/kg)	0.20	1.7				
Sr (mg/kg)	n.d.		n.d.		4.36	
δD (‰)		-245	-291	-298		
$\delta^{18}O$ (‰)		-32.2	-37.1	-36.9		-18.5
Remarks	water depth: 141cm ice thickness: 114 cm ref. 166, 180	ref. 173, 189	ref. 166, 189	inflow to L-18 ref. 166,189	ref. 166, 180, 181	dried up taken from digged hole ref. 173

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-20-1	L-20-2	L-21-1	L-21-2	L-22-1	L-22-2
Date	27 Dec.1983	27 Dec.1983	27 Dec.1983	27 Dec.1983	27 Dec.1983	27 Dec.1983
Air temp. (℃)	-0.5	-0.5	3.1	3.1	-1.3	-1.3
Size(m)SN×EW	76.0×46.7				39.8×88.6	
Depth (cm)	surface	surface	surface	surface	surface	110
Water temp.(℃)	0.9	4.5	6.7	5.6	2.3	-2.4
Specific gravity	1.000		1.071	1.058	1.001	1.020
E.C. (mS/cm)	0.39	0.38	84.5	60.0	1.13	
pH	7.7	9.3	8.34	9.42	9.40	8.12
DO (mℓ/ℓ)	9.1	9.5	35.0		9.70	
Alkalinity (meq/ℓ)	0.12	0.14	10.0		0.57	
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	42.5		21100	28400	120	5200
K (mg/kg)	1.3		350	240	2.0	113
Mg (mg/kg)	10.0		5110	2520	49.1	3060
Ca (mg/kg)	4.5		570	410	18.4	451
Cl (mg/kg)	93.6		20800	11300	231	12400
SO_4 (mg/kg)	15.0		27400	26200	42.0	1430
Li (mg/kg)	0.00033				0.00090	
B (mg/kg)	0.06		14.5	5.3	0.13	5.2
F (mg/kg)	0.33		10.0	16	0.98	
Br (mg/kg)						
Sr (mg/kg)	n.d.	n.d.	n.d.		n.d.	
δD (‰)	-182		-168			
$\delta^{18}O$ (‰)	-19.3		-16.2			
Remarks	ref. 166, 181, 189	ref. 166	ref. 166	ref. 166	frozen puddle water ref. 166, 181	ref. 166

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-23	L-24	L-24	L-24-2	L-24	L-25
Date	28 Dec.1983	29 Dec.1983	8 Dec.1984	8 Dec.1984	31 Dec.1985	22 Dec.1985
Air temp. (℃)	-2.3			3.2		-3.5
Size(m)SN×EW	38.3×44.0					
Depth (cm)	surface	surface	surface	surface	surface	40
Water temp.(℃)	2.0	0.8	3.0		0.3	0.0
Specific gravity	1.056	0.999				0.999
E.C. (mS/cm)	77.0	0.561				0.20
pH	8.53	8.71			8.31	6.18
DO (mℓ/ℓ)	17.5	8.7				9.89
Alkalinity (meq/ℓ)	10.58	1.17			1.05	0.15
SiO_2-Si (μg-at/ℓ)						26
PO_4-P (μg-at/ℓ)						0.90
NO_2-N (μg-at/ℓ)						0.77
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						3.7
Na (mg/kg)	15000	39.5	9.8	34.5	43.7	13.2
K (mg/kg)	190	1.61	1.38	1.72	1.12	0.77
Mg (mg/kg)	4600	25.1	7.8	23.7	34.6	3.78
Ca (mg/kg)	560	16.0	2.08	6.69	29.0	5.60
Cl (mg/kg)	20800	57.9	16.0	63.3	82.0	20.3
SO_4 (mg/kg)	16500	79.9	37.0	92.6	112	18.5
Li (mg/kg)						0.0037
B (mg/kg)		0.059				
F (mg/kg)	15.0		0.65	0.55		0.13
Br (mg/kg)			0.80	0.40		
Sr (mg/kg)						n.d.
δD (‰)						-328
$\delta^{18}O$ (‰)						-42.3
Remarks	ref. 166	underflow water		underflow water		puddle water

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-26	L-27	L-28	L-29	L-30	L-31
Date	27 Dec.1985	27 Dec.1985	27 Dec.1985	27 Dec.1985	27 Dec.1985	27 Dec.1985
Air temp. (℃)	-5.7	-8.5	-8.5	-8.0	-7.3	-7.4
Size(m)SN×EW	17.8×23.5	12.2×11.0	8.4×10.1	22.4×28.4	49.6×58.3	34.9×56.5
Depth (cm)	10	10	surface	surface	10	10
Water temp.(℃)	1.7	-0.6	-0.2	0.8	0.8	0.0
Specific gravity	0.999	1.001	1.000	0.999	1.000	0.999
E.C. (mS/cm)	0.844	5.1	4.8	0.344	0.062	0.38
pH	8.89	8.42	8.98	8.58	9.89	
DO (mℓ/ℓ)	10.2	10.7	11.90	7.77		
Alkalinity (meq/ℓ)	0.87	2.61	2.97	0.41	0.18	0.22
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	110	753	542	38.8	6.67	42.4
K (mg/kg)	1.22	6.0	4.87	0.96	0.64	0.53
Mg (mg/kg)	19.8	182	161	11.4	1.09	13.1
Ca (mg/kg)	13.1	49.6	48.1	7.94	1.10	5.21
Cl (mg/kg)	134	941	743	53.6	8.76	75.5
SO_4 (mg/kg)	85	437	345	33.5	3.0	8.4
Li (mg/kg)	0.00083	0.0054	0.0039	n.d.	0.00030	0.00035
B (mg/kg)	0.07		0.25	0.05	<0.02	
F (mg/kg)	1.2	3.7	3.7	0.52	0.10	0.24
Br (mg/kg)						
Sr (mg/kg)	n.d.	0.05	0.04	n.d.	n.d.	n.d.
δD (‰)	-213	-181			-298	-266
$\delta^{18}O$ (‰)	-22.5	-18.1			-38.7	-31.4
Remarks	ref. 181		ref. 180, 181	ref. 181	ref. 189	

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-32	L-33	L-34	L-35	L-36	L-37
Date	27 Dec.1985	27 Dec.1985	27 Dec.1985	27 Dec.1985	28 Dec.1985	28 Dec.1985
Air temp. (℃)	-7.3	-7.5	-5.5	-7.5	-4.5	
Size(m)SN×EW	33.2×13.8	67.4×143.4	12.4×33.2	15.9×11.1	17.2×16.1	5.2×6.1
Depth (cm)	20	40	15	6	5	5
Water temp.(℃)	0.0	0.0	-2.4	1.5	0.0	-1.2
Specific gravity	0.999	0.999	1.029	1.031	1.002	1.017
E.C. (mS/cm)	0.12	0.1	39	16.0	7.18	
pH	10.17	10.7	8.53	8.15	8.57	8.40
DO (mℓ/ℓ)		10.9	21.4	15.9		
Alkalinity (meq/ℓ)	0.27	0.15	1.60	5.10	1.91	7.40
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	12.6	9.17	6970	8650	941	4790
K (mg/kg)	2.80	1.03	52.6	55.7	11.0	32.2
Mg (mg/kg)	3.06	2.28	2530	2870	338	1920
Ca (mg/kg)	4.44	3.50	944	755	71.2	282
Cl (mg/kg)	15.7	8.94	11500	13500	1500	8570
SO_4 (mg/kg)	20.0	14.5	4430	3450	411	1720
Li (mg/kg)	0.0022	0.00037	0.088	0.028	0.0032	0.019
B (mg/kg)	0.07			2.79	0.39	0.83
F (mg/kg)	0.35	0.32	22	22	2.9	9.1
Br (mg/kg)						
Sr (mg/kg)	n.d.	n.d.	3.36	2.30	0.18	0.98
δD (‰)	-201	-200	-286	-165	-184	-194
$\delta^{18}O$ (‰)	-22.2	-22.6	-36.8	-12.6	-16.7	-19.1
Remarks	ref. 181			ref. 180, 181	ref. 180, 181	ref. 180, 181

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-38	L-39	L-40	L-41	L-42	L-43
Date	28 Dec.1985	28 Dec.1985	28 Dec.1985	31 Dec.1985	31 Dec.1985	31 Dec.1985
Air temp. (℃)	-6.5	-5.0	-5.0	-4.3	-3.3	-3.2
Size(m)SN×EW	14.6×10.1	4.7×10.2	19.5×64.4	19.2×21.6	11.8×18.5	18.0×22.4
Depth (cm)	5	5	10	5	5	5
Water temp.(℃)	-0.4	0.0	0.8	-1.0	-0.8	-0.5
Specific gravity	1.003	1.011	0.999	1.001	1.012	0.999
E.C. (mS/cm)	7.4		0.81	5.1	22.8	0.16
pH	8.74	8.62	8.70	9.67	8.63	9.58
DO (mℓ/ℓ)			15.7			
Alkalinity (meq/ℓ)	3.33	2.72	0.85			
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	1010	3070	89.5	720	3730	84.1
K (mg/kg)	8.70	26.0	1.62	5.70	31.0	1.65
Mg (mg/kg)	313	1170	29.6	194	1030	13.7
Ca (mg/kg)	86.9	332	19.1	55.6	344	14.1
Cl (mg/kg)	1430	5140	103	979	5120	66.7
SO_4 (mg/kg)	657	1800	128	343	2280	109
Li (mg/kg)	0.0095	0.0087	0.0012		0.0075	0.0034
B (mg/kg)	0.59		0.1		2.44	0.17
F (mg/kg)	5.1	9.1	4.3	1.2	12	1.7
Br (mg/kg)						
Sr (mg/kg)	0.17	0.76	n.d.		1.05	n.d.
δD (‰)	-187	-184				
$\delta^{18}O$ (‰)	-17.6	-16.7				
Remarks	ref. 180, 181	ref. 180	ref. 181		ref. 180, 181	ref. 181

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	L-44	L-45	E-1	E-1	E-2	E-3
Date	31 Dec.1985	31 Dec.1985	13 Dec.1984	24 Dec.1985	13 Dec.1984	13 Dec.1984
Air temp. (℃)	-2.2	-2.1	-3.7	-6.0		-3.4
Size(m)SN×EW	27.5×36.6	22.2×31.7	17.1×36.7	20.5×49.7		407×110
Depth (cm)	20	10	surface	79		surface
Water temp.(℃)	-0.2	-0.6	-0.1	1.0		0.0
Specific gravity	1.022	1.001	1.014	1.044		1.000
E.C. (mS/cm)	41.8	5.06	17.4	38		0.17
pH	7.70	9.42	8.13	7.62		9.9
DO (mℓ/ℓ)				20.4		
Alkalinity (meq/ℓ)	3.33	2.00		7.69		
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)			1.7			10.5
NO_3-N (μg-at/ℓ)			115			120
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	4620	604	2700	10300		7.55
K (mg/kg)	39.2	7.05	20.0	64.6		0.56
Mg (mg/kg)	2210	217	1520	5050		0.75
Ca (mg/kg)	1600	78.2	423	891		1.00
Cl (mg/kg)	10600	1010	5870	19100		3.70
SO_4 (mg/kg)	4830	322	4870	4970		8.0
Li (mg/kg)	0.021	0.0069		0.017		
B (mg/kg)	0.16	0.35		2.99		
F (mg/kg)	5.9	2.9	8.5			0.14
Br (mg/kg)			7.2			0.20
Sr (mg/kg)	10.6	0.20		4.04		n.d.
δD (‰)	-183			-277		
$\delta^{18}O$ (‰)	-17.3		-32.2	-33.8		-39.0
Remarks	ref. 180, 181	ref. 180, 181	ref. 173	ref. 180, 181	completely frozen	ref. 173, 181

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	E-3	E-3-inflow	E-4	E-5	E-5	E-6
Date	24 Dec.1985	24 Dec.1985	24 Dec.1985	14 Dec.1984	24 Dec.1985	24 Dec.1985
Air temp. (℃)	-8.0		-7.0		-5.0	
Size(m)SN×EW			36.5×57		7.8×5.2	
Depth (cm)		surface	40	surface	5	surface
Water temp.(℃)			0.3		0.8	
Specific gravity		0.999	0.999	1.072	1.031	
E.C. (mS/cm)		0.038	0.069		33	
pH		6.02	9.24		7.98	
DO (mℓ/ℓ)			8.66		16	
Alkalinity (meq/ℓ)		0.08	0.29		4.11	
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)		1.42	8.66	14000	7860	
K (mg/kg)		0.26	0.35	159	75.3	
Mg (mg/kg)		1.19	2.88	8040	3170	
Ca (mg/kg)		2.5	1.81	1320	1140	
Cl (mg/kg)		1.6	10.3	33200	14400	
SO_4 (mg/kg)		7.0	12.4	13300	3710	
Li (mg/kg)	0.0073	0.00082	0.00058		0.011	
B (mg/kg)		0.27				
F (mg/kg)		0.12	0.27	39	18.0	
Br (mg/kg)				12.2		
Sr (mg/kg)	1.53	n.d.	n.d.		1.93	
δD (‰)	-304	-299	-304		-156	
$\delta^{18}O$ (‰)	-37.9	-36.7	-36.8	-13.5	-9.2	
Remarks	ref. 180	ref. 180	ref. 180		ref. 180	completely dried up

Table 12. Chemical composition of pond waters in the Labyrinth (continued).

Station	E-7	E-8	E-9	E-10
Date	17 Dec.1984	19 Dec.1984	24 Dec.1985	27 Dec.1985
Air temp. (℃)			-7.5	-4.8
Size(m)SN×EW	97.3×56.0		46.3×140.8	15.7×20.5
Depth (cm)	surface	surface	73	12
Water temp.(℃)	-0.8	2.2	1.2	-0.8
Specific gravity	0.999	1.000	0.999	1.006
E.C. (mS/cm)	1		0.084	13.5
pH	9.71	9.42	8.94	9.10
DO (mℓ/ℓ)	11.5		6.59	
Alkalinity (meq/ℓ)	0.12		0.16	2.83
SiO_2-Si (μg-at/ℓ)				
PO_4-P (μg-at/ℓ)				
NO_2-N (μg-at/ℓ)				
NO_3-N (μg-at/ℓ)				
NH_4-N (μg-at/ℓ)				
Na (mg/kg)	24.0	85.0	11.2	1970
K (mg/kg)	1.09	45.0	0.30	16.8
Mg (mg/kg)	5.7	45.0	1.81	550
Ca (mg/kg)	2.10	30.0	1.10	142
Cl (mg/kg)	48.1	151	9.28	3030
SO_4 (mg/kg)	24.2	284	10.8	973
Li (mg/kg)			0.00049	0.00049
B (mg/kg)	0.03			0.40
F (mg/kg)	0.45	4.2	0.37	5.0
Br (mg/kg)				n.d.
Sr (mg/kg)	n.d.		n.d.	0.575
δD (‰)	-184		-308	-186
$\delta^{18}O$ (‰)	-20.2	-13.8	-39.2	-20.0
Remarks	ref. 181, 189			ref. 180, 189

Table 13. Chemical composition of ice core samples from L-00 pond in the Labyrinth.

Sampling date		21 Dec.1985				
Depth	(cm)	0-50	57-83	83-100	100-123	123-152
Na	(mg/kg)	16.7	10.0	23.7	28.8	9.56
K	(mg/kg)	0.31	0.14	0.29	0.39	0.13
Mg	(mg/kg)	4.72	1.82	5.07	5.73	1.42
Ca	(mg/kg)	21.4	9.2	32.4	24.3	9.9
Cl	(mg/kg)	19.4	11.1	26.1	27.5	10.3
SO_4	(mg/kg)	74.3	27.5	98.0	96.0	30.3
Li	(mg/kg)	0.00073	0.0013	0.0012	0.0019	0.00064
B	(mg/kg)	0.05	0.05	0.05	0.03	0.05
F	(mg/kg)					
Br	(mg/kg)					
Sr	(mg/kg)	0.04	n.d.	0.07	0.07	n.d.
δD	(‰)	-255	-244			
$\delta^{18}O$	(‰)	-31.6	-29.4			
Remarks		airtemp.: -5.0 ℃. sampling location: just above L-0 pond. pond size (m): NS×WE : 80×50, completely frozen.				

Sampling date		21 Dec.1985		
Depth	(cm)	180-200	222-236	236-260
Na	(mg/kg)	12.2	4.54	8.72
K	(mg/kg)	0.35	0.25	0.20
Mg	(mg/kg)	6.20	3.80	2.01
Ca	(mg/kg)	0.6	1.0	5.2
Cl	(mg/kg)	28.2	14.7	12.7
SO_4	(mg/kg)	9.2	3.3	20.2
Li	(mg/kg)	0.0013	0.00086	0.0014
B	(mg/kg)	0.05	0.05	0.05
F	(mg/kg)			
Br	(mg/kg)			
Sr	(mg/kg)	n.d.	n.d.	n.d.
δD	(‰)	-258	-258	-222
$\delta^{18}O$	(‰)	-31.6	-31.7	-26.1
Remarks		ref. 180, 181		

Table 14. Chemical composition of Wright Upper Glacier ice and fresh snow in the Labyrinth.

Sampling date		26 Dec.1985				
Sample No.		N-20	N-40	N-60	N-80	N-100
Na	(mg/kg)	0.270	0.20	0.220	0.370	0.100
K	(mg/kg)	0.106	0.075	0.067	0.138	0.033
Mg	(mg/kg)	0.037	0.038	0.044	0.024	0.037
Ca	(mg/kg)	0.100	0.092	0.073	0.060	0.091
Cl	(mg/kg)	0.47	0.48	0.42	0.62	0.46
SO_4	(mg/kg)	0.20	0.12	0.20	0.16	0.10
Li	(mg/kg)					
B	(mg/kg)					
F	(mg/kg)					
Br	(mg/kg)					
Sr	(mg/kg)					
δD	(‰)					
$\delta^{18}O$	(‰)					
Remarks		sampling station: terminus of Wright Upper Glacier				

Sampling date		26 Dec.1985				
Sample No.		center	E-20	E-40	E-60	E-80
Na	(mg/kg)	0.650	0.570	0.21	0.071	0.380
K	(mg/kg)	0.125	0.151	0.088	0.024	0.125
Mg	(mg/kg)	0.048	0.210	0.024	0.022	0.086
Ca	(mg/kg)	0.124	0.710	0.062	0.050	0.238
Cl	(mg/kg)	1.22	2.08	0.40	0.17	0.98
SO_4	(mg/kg)	0.20	0.58	0.12	0.20	0.15
Li	(mg/kg)					
B	(mg/kg)	<0.12				
F	(mg/kg)	<0.01				
Br	(mg/kg)	<0.1				
Sr	(mg/kg)	n. d.		n.d.		
δD	(‰)	-299				
$\delta^{18}O$	(‰)	-38.0				
Remarks		samples were collected 10 cm bellow surface at 20 m intervals from the center to north (N-20～N-100) and east (E-20～E-100)				

Table 14. Chemical composition of Wright Upper Glacier ice and fresh snow in the Labyrinth (continued).

Sampling date		26 Dec.1985	26 Dec.1985	24 Dec.1985	26 Dec.1985	
Sample No.		E-100	glacier ice	meltwater	snow-1	snow-2
Na	(mg/kg)	0.083	0.32	1.63	0.77	0.78
K	(mg/kg)	0.041	0.09	0.23	0.25	0.20
Mg	(mg/kg)	0.017	0.06	0.78	0.06	0.12
Ca	(mg/kg)	0.051	0.18	1.0	0.14	0.22
Cl	(mg/kg)	0.25	0.83	2.70	1.16	1.14
SO_4	(mg/kg)	0.12	0.20	3.0	0.44	0.75
Li	(mg/kg)					
B	(mg/kg)		<0.02	0.03	<0.2	
F	(mg/kg)		<0.01	0.14	<0.01	
Br	(mg/kg)				<0.1	
Sr	(mg/kg)					
δD	(‰)		-294	-296	-200	
$\delta^{18}O$	(‰)		-38.0	-37.1	-27.1	
Remarks			surface from W. U. Gl. ref. 189	pH: 5.65, alkalinity: 0.8 meq/ℓ ref. 189	fresh snow pH: 5.27 sampling location: near L-00	

Table 15. Chemical composition of Onyx River system.

Sampling station		Wright Lower Gl.	L. Brownworth	meltwater	Meserve Gl.	Bartley Gl.	Onyx River
Sampling date		26 Dec.1972	26 Dec.1972	26 Dec.1972	2 Jan.1975	2 Jan.1975	2 Jan.1975
Water temperature	(℃)	0.0	0.2	9.4			
Electric conductivity	(mS/cm)						
pH							
Dissolved oxygen	(mℓ/ℓ)						
Alkalinity	(meq/ℓ)						
SiO_2-Si	(μg-at/ℓ)	3.0	3.0	12.0			
PO_4-P	(μg-at/ℓ)	0.43	0.37	0.04			
NO_2-N	(μg-at/ℓ)	n.d.	0.04	0.00			
NO_3-N	(μg-at/ℓ)	1.79	1.59	0.36			
NH_4-N	(μg-at/ℓ)	4.88	3.27	0.00			
Na	(mg/kg)	2.77	3.85	2.50			
K	(mg/kg)	0.36	0.47	0.52			
Mg	(mg/kg)	0.58	0.58	0.71			
Ca	(mg/kg)	1.90	1.90	2.47			
Cl	(mg/kg)	5.0	4.9	5.8			
SO_4	(mg/kg)	0.86	6.17	2.31			
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)						
Sr	(mg/kg)						
δD	(‰)				-250	-251	-230
$\delta^{18}O$	(‰)				-32.4	-32.4	-29.2
Remarks		meltwater ref. 70, 95	old name: L. Wright ref. 70, 95	stream from L. Brownworth head of Onyx R. ref. 70	stream from the glacier ref. 125	stream from the glacier ref. 125	stream from Bull Pass ref. 125

Table 15. Chemical composition of Onyx River system (continued).

Station	Onyx River		L. Bull			Onyx River	
Date	3 Jan. 1965	15 Dec. 1970	3 Jan. 1965	2 Jan. 1975	3 Jan. 1984	6 Dec. 1970	22 Dec. 1970
Water temp. (℃)					5.0		
E.C. (mS/cm)					0.057		
pH			7.4		8.86		
DO (mℓ/ℓ)					10.9		
Alkalinity (meq/ℓ)					0.22		
SiO_2-Si (μg-at/ℓ)							
PO_4-P (μg-at/ℓ)							
NO_2-N (μg-at/ℓ)							
NO_3-N (μg-at/ℓ)							
NH_4-N (μg-at/ℓ)							
Na (mg/kg)	9.0	7.4	9.0			12.7	8.3
K (mg/kg)	2.9	4.1	3.3			8.1	4.4
Mg (mg/kg)	3.2	1.4	3.8			5.5	1.7
Ca (mg/kg)	13.3	6.5	14.4			10.0	9.75
Cl (mg/kg)	19.6	10.1	21.5		5.1	19.2	9.7
SO_4 (mg/kg)	9.1	7.0	9.7			11.6	8.8
B (mg/kg)							
F (mg/kg)							
Br (mg/kg)							
Sr (mg/kg)		0.019				0.047	0.027
δD (‰)				-230			
$\delta^{18}O$ (‰)				-29.2			
Remarks	inflow to L. Bull	inflow to L. Bull	ref. 9	ref. 125	ref. 166	weir	weir

Table 15. Chemical composition of Onyx River system (continued).

Station	Onyx River						
Date	29 Nov.1971	11 Dec.1971	14 Dec.1971	26 Dec.1971	7 Jan.1972	21 Jan.1972	17 Jan.1973
Water temp.(℃)			1.0	5.0	2.3		4.8
E.C. (mS/cm)							
pH			6.55	7.19			7.22
DO (mℓ/ℓ)							
Alkalinity (meq/ℓ)			0.63	0.38	0.36		
SiO_2-Si (μg-at/ℓ)			56.7	54			97.0
PO_4-P (μg-at/ℓ)			0.55	1.1			0.25
NO_2-N (μg-at/ℓ)			0.34	0.36			0.38
NO_3-N (μg-at/ℓ)							4.50
NH_4-N (μg-at/ℓ)			0.15	0.72			0.00
Na (mg/kg)	15	6.3	7.5	6.90	6.6	0.91	5.54
K (mg/kg)				1.27			1.28
Mg (mg/kg)	4.2	1.4	2	1.60	1.7	2.1	1.54
Ca (mg/kg)	51	9	12.4	9.40	8.5	13.3	8.66
Cl (mg/kg)	20	6.9	8.6	7.5	7.2	8.6	7.5
SO_4 (mg/kg)	14.1	3.8	5	3.7	4.4	8.8	12.6
B (mg/kg)							0.00
F (mg/kg)							
Br (mg/kg)							0.00
Sr (mg/kg)	0.04	0.04	0.04	0.02	0.02	0.03	
δD (‰)							-220
$\delta^{18}O$ (‰)							-27.4
Remarks	weir	weir	weir	weir ref. 70	weir	weir	weir ref. 70, 95

Table 15. Chemical composition of Onyx River system (continued).

Station	Onyx River					Onyx River	
Date	2 Jan. 1975	13 Dec. 1976	17 Dec. 1981	3 Jan. 1984	7 Jan. 1987	15 Dec. 1970	24 Dec. 1970
Water temp. (℃)				5.5	3.6		
E.C. (mS/cm)		0.55		0.048	0.030		
pH		6.81		8.60	6.25		
DO (mℓ/ℓ)		10.9		8.4	8.85		
Alkalinity (meq/ℓ)		0.08	0.20	0.24	0.28		
SiO_2-Si (μg-at/ℓ)		60			44		
PO_4-P (μg-at/ℓ)		0.3			n.d.		
NO_2-N (μg-at/ℓ)		0.41			0.66		
NO_3-N (μg-at/ℓ)		8.9			n.d.		
NH_4-N (μg-at/ℓ)		0.0			n.d.		
Na (mg/kg)			3.8	3.6	0.166	9.3	7.1
K (mg/kg)			1.0	0.93	0.03	4.9	4.0
Mg (mg/kg)			5.5	0.7	0.45	1.4	1.5
Ca (mg/kg)			4.1	3.4	0.21	9.91	9.18
Cl (mg/kg)			21.5	5.0	0.6	11.4	9.9
SO_4 (mg/kg)			2.4		0.05	9.9	7.8
B (mg/kg)							
F (mg/kg)							
Br (mg/kg)							
Sr (mg/kg)						0.14	0.024
δD (‰)	-229						
$\delta^{18}O$ (‰)	-29.8						
Remarks	weir ref. 125	weir ref. 146	weir	weir ref. 166	weir	end of Onyx River	

Table 15. Chemical composition of Onyx River system (continued).

Station	Onyx River		
Date	30 Dec. 1970	5 Jan. 1971	18 Jan. 1971
Water temp. (℃)			
E.C. (mS/cm)			
pH			
DO (mℓ/ℓ)			
Alkalinity (meq/ℓ)			
SiO_2-Si (μg-at/ℓ)			
PO_4-P (μg-at/ℓ)			
NO_2-N (μg-at/ℓ)			
NO_3-N (μg-at/ℓ)			
NH_4-N (μg-at/ℓ)			
Na (mg/kg)	6.7	6.3	7.8
K (mg/kg)	3.6	3.5	3.2
Mg (mg/kg)	1.2	0.83	0.68
Ca (mg/kg)	9.1	5.8	6.2
Cl (mg/kg)	9.5	8.5	8.5
SO_4 (mg/kg)	8.8	6.7	7.1
B (mg/kg)			0.005
F (mg/kg)			
Br (mg/kg)			
Sr (mg/kg)		0.053	0.013
δD (‰)			
$\delta^{18}O$ (‰)			
Remarks	end of Onyx River		

Table 16. Water temperature and electric conductivity in Lake Vanda.

Station: V1 31 Dec.1964		Station: V2 31 Dec.1964		Station: V3 31 Dec.1964			
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
5	4.6	4	5.1	4	4.7	45	10.2
6	4.7	5	5.1	5	4.7	46	10.4
7	4.7	6	5.0	6	4.7	47	11.0
8	4.7	7	4.8	7	4.7	48	11.9
9	4.7	8	4.7	8	4.7	49	13.1
10	5.3	9	4.7	9	4.7	50	14.6
		10	4.7	10	5.2	51	16.0
		11	5.6	11	5.7	52	17.2
		12	6.0	12	6.0	53	18.1
		13	6.8	13	6.6	54	19.4
		14	7.0	14	7.0	55	20.3
		15	8.1	15	7.7	56	21.1
		16	8.2	16	8.0	57	22.0
		17	8.2	17	8.0	58	22.7
		18	8.2	18	8.0	59	23.3
		19	8.2	19	8.0	60	24.2
		20	8.2	20	8.0	61	24.3
		21	8.2	21	8.0	62	24.5
		22	8.2	22	8.0	63	24.7
		23	8.2	23	8.0	64	24.8
		24	8.2	24	8.0		
		25	8.2	25	8.0		
		26	8.0	26	8.0		
		27	8.0	27	8.0		
		28	8.0	28	8.0		
		29	8.0	29	8.0		
		30	8.0	30	8.0		
		31	8.1	31	8.0		
		32	8.1	32	8.0		
				33	8.0		
				34	8.0		
				35	8.0		
				36	8.0		
				37	8.0		
				38	8.2		
				39	8.4		
				40	8.6		
				41	8.9		
				42	9.0		
				43	9.3		
ref.8		ref.8		44	9.6	ref.8	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: V4 31 Dec.1964				Station: V5 31 Dec.1964			
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
4	3.6	45	10.4	4	0.1	45	10.3
5	4.8	46	10.4	5	4.7	46	10.4
6	5.0	47	11.2	6	4.8	47	11.0
7	5.0	48	11.9	7	4.8	48	11.7
8	5.0	49	13.6	8	4.8	49	12.8
9	5.3	50	14.7	9	4.8	50	14.8
10	5.3	51	16.0	10	5.0	51	15.9
11	6.1	52	17.2	11	5.6	52	17.0
12	6.1	53	18.4	12	6.0	53	18.3
13	7.0	54	19.2	13	6.4	54	19.2
14	7.2	55	20.5	14	7.0	55	20.5
15	8.0	56	21.1	15	8.0	56	21.3
16	8.0	57	21.9	16	8.0	57	22.0
17	8.0			17	8.0	58	22.8
18	8.0			18	8.0	59	23.6
19	8.0			19	8.0	60	24.2
20	8.0			20	8.0	61	24.5
21	8.0			21	8.0	62	24.7
22	8.0			22	8.0	63	24.7
23	8.0			23	8.0	64	24.9
24	8.0			24	8.0	65	24.9
25	8.1			25	8.0	66	25.0
26	8.1			26	8.0		
27	8.1			27	8.0		
28	8.1			28	8.0		
29	8.1			29	8.0		
30	8.1			30	8.0		
31	8.1			31	8.0		
32	8.1			32	8.0		
33	8.1			33	8.0		
34	8.1			34	8.0		
35	8.1			35	8.0		
36	8.1			36	8.0		
37	8.1			37	8.0		
38	8.1			38	8.0		
39	8.3			39	8.3		
40	8.7			40	8.6		
41	8.9			41	8.9		
42	9.0			42	8.9		
43	9.3			43	9.2		
44	9.7	ref.8		44	9.7	ref.8	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: V6 31 Dec.1964				Station: V7 31 Dec.1964			
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
4	4.7	45	10.3	4	2.0	45	10.2
5	4.8	46	10.5	5	4.7	46	10.4
6	4.8	47	11.3	6	4.7	47	11.2
7	4.9	48	12.3	7	4.7	48	12.1
8	4.9	49	13.5	8	4.7	49	13.5
9	4.9	50	14.6	9	4.7	50	14.6
10	5.3	51	16.1	10	5.1	51	15.8
11	5.9	52	17.3	11	5.9	52	17.2
12	6.1	53	18.5	12	6.1	53	18.3
13	6.9	54	19.4	13	6.7	54	19.2
14	7.0	55	20.4	14	6.9	55	20.3
15	8.0	56	21.4	15	8.0	56	21.1
16	8.0	57	22.2	16	8.0	57	22.0
17	8.0	58	23.0	17	8.0	58	22.8
18	8.0	59	23.6	18	8.0	59	23.5
19	8.0	60	24.2	19	8.0	60	24.1
20	8.0	61	24.5	20	8.0	61	24.5
21	8.0	62	24.6	21	8.0	62	24.5
22	8.0	63	24.7	22	8.0		
23	8.0	64	24.9	23	8.0		
24	8.0	65	24.9	24	8.0		
25	8.0	66	25.0	25	8.0		
26	8.0	66.8	25.1	26	8.0		
27	8.0			27	8.0		
28	8.0			28	8.0		
29	8.0			29	8.0		
30	8.0			30	8.0		
31	8.0			31	8.0		
32	8.0			32	8.0		
33	8.0			33	8.0		
34	8.0			34	8.0		
35	8.0			35	8.0		
36	8.0			36	8.0		
37	8.0			37	8.0		
38	8.0			38	8.0		
39	8.4			39	8.3		
40	8.7			40	8.7		
41	8.9			41	8.8		
42	8.9			42	8.9		
43	9.3			43	9.3		
44	9.6	ref.8		44	9.5	ref.8	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: V8 31 Dec.1964				Station: V1 4 Dec.1965			
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
4	4.2	45	10.2	4	4.2	45	10.0
5	4.7	46	10.3	5	4.3	46	10.6
6	4.7	47	11.1	6	4.3	47	11.7
7	4.7	48	11.9	7	4.3	48	13.2
8	4.7	49	13.4	8	4.3	49	14.6
9	4.7	50	14.6	9	4.8	50	16.1
10	5.0	51	15.8	10	5.5	51	17.3
11	5.9	52	17.2	11	5.6	52	18.6
12	6.0	53	19.0	12	6.1	53	19.6
13	6.8	54	19.5	13	6.7	54	20.6
14	6.9	55	20.3	14	7.7	55	21.4
15	8.0	56	21.1	15	7.7	56	22.3
16	8.0	57	21.8	16	7.9	57	23.1
17	8.0	58	22.8	17	7.9	58	23.9
18	8.0	59	23.4	18	7.9	59	24.5
19	8.0			19	7.9		
20	8.0			20	7.9		
21	8.0			21	7.9		
22	8.0			22	7.9		
23	8.0			23	7.9		
24	8.0			24	7.9		
25	8.0			25	7.9		
26	8.0			26	7.9		
27	8.0			27	7.9		
28	8.0			28	7.9		
29	8.0			29	7.9		
30	8.0			30	7.9		
31	8.0			31	7.9		
32	8.0			32	7.9		
33	8.0			33	7.8		
34	8.0			34	7.8		
35	8.0			35	7.8		
36	8.0			36	7.8		
37	8.0			37	7.8		
38	8.0			38	8.2		
39	8.3			39	8.6		
40	8.6			40	8.8		
41	8.8			41	8.8		
42	8.8			42	9.2		
43	9.1			43	9.4		
44	9.5	ref.8		44	9.9	ref.8	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: V2 4 Dec.1965				Station: V3 4 Dec.1965			
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
4	4.2	45	10.0	4	4.2	45	10.1
5	4.2	46	10.5	5	4.2	46	10.7
6	4.2	47	11.7	6	4.2	47	12.0
7	4.2	48	13.2	7	4.2	48	13.6
8	4.2	49	14.6	8	4.2	49	14.8
9	4.2	50	16.1	9	4.9	50	16.2
10	5.5	51	17.1	10	5.6	51	17.3
11	5.5	52	18.2	11	6.0	52	18.4
12	6.0	53	19.3	12	6.5	53	19.6
13	6.5	54	20.3	13	6.6	54	20.6
14	7.7	55	21.4	14	7.7	55	21.4
15	7.7	56	22.2	15	7.7		
16	7.7	57	22.9	16	7.8		
17	7.7	58	23.5	17	7.8		
18	7.7	59	24.1	18	7.9		
19	7.7	60	24.3	19	7.9		
20	7.7	61	24.5	20	7.9		
21	7.7			21	7.9		
22	7.7			22	7.9		
23	7.7			23	7.9		
24	7.7			24	7.9		
25	7.7			25	7.9		
26	7.7			26	7.9		
27	7.7			27	7.9		
28	7.7			28	7.9		
29	7.7			29	7.9		
30	7.7			30	7.9		
31	7.7			31	7.9		
32	7.7			32	7.9		
33	7.7			33	7.9		
34	7.7			34	7.9		
35	7.7			35	7.9		
36	7.7			36	7.9		
37	7.7			37	7.9		
38	8.2			38	8.2		
39	8.6			39	8.6		
40	8.8			40	8.8		
41	8.8			41	8.8		
42	9.0			42	9.1		
43	9.3			43	9.3		
44	9.8	ref.8		44	9.9	ref.8	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: V4 4 Dec.1965		Station: V5 4 Dec.1965				Station: V6 4 Dec.1965	
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
4	4.1	4	4.2	45	9.9	4	4.1
5	4.2	5	4.3	46	10.5	5	4.2
6	4.3	6	4.3	47	11.7	6	4.2
7	4.3	7	4.3	48	13.3	7	4.3
8	4.3	8	4.3	49	14.8	8	4.3
9	4.7	9	4.3	50	16.0	9	4.6
10	5.5	10	5.5	51	17.2	10	5.5
11	5.9	11	5.5	52	18.3	11	5.7
12	6.6	12	6.1	53	19.5	12	6.2
13	6.7	13	6.5	54	20.6	13	6.5
14	7.7	14	7.6	55	21.4	14	7.7
15	7.8	15	7.7	56	22.2	15	7.7
16	7.9	16	7.7	57	23.0	16	7.7
17	7.9	17	7.7	58	23.6	17	7.7
18	7.9	18	7.7	59	24.2	18	7.7
19	7.9	19	7.7	60	24.5	19	7.7
20	7.9	20	7.7	61	24.6	20	7.7
21	7.9	21	7.7	62	24.6	21	7.7
22	7.9	22	7.7	63	24.7	22	7.7
23	7.9	23	7.7	64	24.7	23	7.7
24	7.9	24	7.7	65	24.9	24	7.7
25	7.9	25	7.7			25	7.7
26	7.9	26	7.7			26	7.7
27	7.9	27	7.7			27	7.7
28	7.9	28	7.7			28	7.7
29	7.9	29	7.7			29	7.7
30	7.9	30	7.7			30	7.7
31	7.9	31	7.7			31	7.7
32	7.9	32	7.7			32	7.7
33	7.9	33	7.7			33	7.7
34	7.9	34	7.7			34	7.7
35	7.9	35	7.7			35	7.7
36	7.9	36	7.7			36	7.7
37	7.9	37	7.7			37	7.7
38	8.2	38	8.2			38	8.2
39	8.7	39	8.6			39	8.6
40	8.7	40	8.7			40	8.7
41	8.8	41	8.8			41	8.8
		42	9.0			42	9.0
		43	9.2			43	9.3
ref.8		44	9.6	ref.8		44	9.7

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: V6 4 Dec.1965		Station: V7 4 Dec.1965				Station: V8 4 Dec.1965	
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
45	10.0	4	4.2	45	9.9	4	4.6
46	10.5	5	4.3	46	10.6	5	4.7
47	12.1	6	4.3	47	11.7	6	4.7
48	13.5	7	4.3	48	13.3	7	4.7
49	14.8	8	4.4	49	14.8	8	4.7
50	16.1	9	4.4	50	16.2	9	5.2
51	17.1	10	5.5	51	17.3	10	5.5
52	18.5	11	5.8	52	18.4	11	5.8
53	19.5	12	6.2	53	19.6	12	6.2
54	20.6	13	6.7	54	20.6	13	6.7
55	21.4	14	7.7	55	21.5	14	7.7
56	22.1	15	7.7	56	22.3	15	7.9
57	23.0	16	7.9	57	23.1	16	7.9
58	23.6	17	7.9	58	23.8	17	7.9
59	24.1	18	7.9	59	24.3	18	7.9
60	24.5	19	7.9	60	24.6	19	7.9
61	24.5	20	7.9	61	24.6	20	7.9
62	24.6	21	7.9	62	24.7	21	7.9
		22	7.9			22	7.9
		23	7.9			23	7.9
		24	7.9				
		25	7.9				
		26	7.9				
		27	7.9				
		28	7.9				
		29	7.9				
		30	7.9				
		31	7.9				
		32	7.9				
		33	7.9				
		34	7.9				
		35	7.9				
		36	7.9				
		37	7.9				
		38	8.2				
		39	8.6				
		40	8.8				
		41	8.8				
		42	9.1				
		43	9.4				
ref.8		44	9.8	ref.8		ref.8	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: V9 4 Dec.1965				Station: V10 4 Dec.1965			
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
4	4.5	45	10.1	4	4.3	45	10.0
5	4.6	46	10.7	5	4.6	46	10.6
6	4.6	47	12.0	6	4.6	47	11.8
7	4.6	48	13.6	7	4.6	48	13.3
8	4.6	49	14.9	8	4.6	49	14.7
9	5.2	50	16.3	9	5.1	50	16.1
10	5.5	51	17.6	10	5.5	51	17.3
11	5.6	52	18.6	11	5.5	52	18.3
12	6.5	53	19.8	12	6.1	53	19.4
13	6.7	54	20.7	13	6.6	54	20.5
14	7.7	55	21.7	14	7.7	55	21.4
15	7.9	56	22.5	15	7.7	56	22.2
16	7.9	57	22.9	16	7.8	57	22.9
17	7.9			17	7.9	58	23.3
18	7.9			18	7.9		
19	7.9			19	7.9		
20	7.9			20	7.9		
21	7.9			21	7.9		
22	7.9			22	7.9		
23	7.9			23	7.9		
24	7.9			24	7.9		
25	7.9			25	7.9		
26	7.9			26	7.9		
27	7.9			27	7.9		
28	7.9			28	7.9		
29	7.9			29	7.9		
30	7.9			30	7.9		
31	7.9			31	7.9		
32	7.9			32	7.9		
33	7.9			33	7.9		
34	7.9			34	7.9		
35	7.9			35	7.9		
36	7.9			36	7.9		
37	7.9			37	7.9		
38	8.3			38	8.2		
39	8.6			39	8.6		
40	8.8			40	8.8		
41	8.9			41	8.9		
42	9.2			42	9.2		
43	9.5			43	9.4		
44	9.9	ref.8		44	9.9	ref.8	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: V11 4 Dec.1965		Station: V12 4 Dec.1965	
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
4	4.3	4	4.6
5	4.6	5	4.6
6	4.6	6	4.6
7	4.6	7	4.6
8	4.6	8	4.6
9	5.5	9	5.5
10	5.6	10	5.6
11	6.1	11	6.1
12	6.7	12	6.7
13	6.7	13	6.8
14	7.7	14	7.7
15	7.9	15	8.0
16	7.9		
17	7.9		
18	7.9		
19	7.9		
20	7.9		
21	7.9		
22	7.9		
23	7.9		
24	7.9		
25	7.9		
26	7.9		
27	7.9		
28	7.9		
29	7.9		
30	7.9		
31	7.9		
32	7.9		
33	7.9		
34	8.0		
35	8.0		
		ref.8	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: B 31 Dec.1970								
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
0.0	0.1		14.0	7.5	1.27	50.5	15.6	26.0
1.0	0.0		16.0	7.5	1.37	51.0	16.4	31.1
2.0	0.0		18.0	7.5	1.36	51.5	17.1	35.5
3.0	0.1		20.0	7.5	1.36	52.0	17.6	40.1
3.5	1.4	0.065	22.0	7.5	1.36	52.5	18.2	44.9
3.6	2.4	0.194	24.0	7.5	1.36	53.0	18.7	48.9
3.7	3.4	0.232	26.0	7.5	1.37	53.5	19.4	53.1
3.8	3.4	0.269	28.0	7.5	1.37	54.0	20.0	58.0
3.9	3.6	0.344	30.0	7.5	1.37	54.5	20.7	63.0
4.0	4.0	0.463	32.0	7.5	1.37	55.27	21.4	60.6
4.1	4.5	0.544	34.0	7.5	1.37	(bottom)		
4.2	4.9	0.581	36.0	7.5	1.37			
4.3	4.9	0.612	38.0	7.5	1.37			
4.4	4.9	0.625	38.5	7.5	1.37			
4.5	4.9	0.625	38.6	7.5	1.37			
5.0	4.9	0.680	38.7	7.5	1.37			
6.0	4.9	0.707	38.8	7.5	1.36			
7.0	4.9	0.713	38.9	7.6	1.42			
8.0	4.9	0.719	39.0	7.8	1.44			
9.0	4.9	0.719	39.5	8.0	1.51			
10.0	4.9	0.718	40.0	8.4	1.60			
10.1	4.9	0.716	40.5	8.4	1.79			
10.2	5.0	0.715	41.0	8.7	2.02			
10.3	5.2	0.717	41.5	8.7	2.09			
10.4	5.5	0.725	42.0	8.7	2.10			
10.5	5.5	0.725	42.5	9.1	2.13			
10.6	5.5	0.725	43.0	9.1	2.33			
10.7	5.5	0.724	43.5	9.5	2.53			
10.8	5.5	0.724	44.0	9.5	2.61			
10.9	5.6	0.730	44.5	9.8	2.85			
11.0	5.6	0.755	45.0	10.2	3.10			
11.1	5.6	0.761	45.5	10.2	3.15			
11.5	5.6	0.785	46.0	10.5	3.44			
12.0	5.8	0.807	46.5	10.5	3.90			
12.5	6.0	0.814	47.0	11.0	4.32			
13.0	6.6	0.958	47.5	11.5	5.60			
13.5	6.6	1.00	48.0	12.1	7.67			
13.6	6.6	1.25	48.5	12.8	10.7			
13.7	7.4	1.31	49.0	13.5	14.3			
13.8	7.5	1.32	49.5	14.2	17.9			
13.9	7.5	1.28	50.0	15.1	22.1			

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: B 18 Jan. 1971							
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
0.0	0.0	6.8	4.75	40.3	7.4	47.3	10.5
1.0	0.0	6.9	5.2	40.4	7.7	47.4	10.5
2.0	0.0	7.0	5.3	40.5	7.8	47.5	10.5
3.0	0.5	7.1	5.3	40.6	7.8	47.6	10.5
3.1	3.0	8.0	5.3	40.7	7.9	47.7	10.5
3.2	3.1	9.0	5.3	40.8	8.0	47.8	10.5
3.3	3.1	10.0	5.3	40.9	8.0	47.9	10.6
3.4	3.15	10.5	5.3	41.0	8.0	48.0	10.8
3.5	3.15	10.6	5.3	41.1	8.0	48.5	11.1
3.6	3.15	10.7	5.3	41.2	8.1	49.0	11.75
3.7	3.15	10.8	5.3	41.3	8.3+	49.5	12.4
3.8	3.1	10.9	5.5	41.4	8.3	50.0	13.0
3.9	3.1	11.0	5.8	41.5	8.3	50.5	13.7
4.0	3.1	11.1	5.8	41.6	8.3	51.0	14.4
4.1	3.1	11.2	5.8	41.7	8.3	51.5	15.4
4.2	2.9	11.5	5.8	41.8	8.3	52.0	16.0
4.3	2.75	11.6	5.8	41.9	8.4	52.5	16.5
4.4	2.6+	11.7	5.8	42.0	8.7	53.0	17.1
4.5	2.6	11.8	5.8+	42.1	8.7	53.5	17.6
4.6	2.6	11.9	6.1	43.5	8.7	54.0	18.25
4.7	2.5	12.0	6.1	43.6	8.7	54.5	18.8
4.8	2.5	13.0	6.1	43.7	8.75	55.0	19.4
4.9	2.5	13.1	6.6	43.8	8.9	55.5	19.9
5.0	2.5	13.2	6.7	43.9	8.9	56.0	20.5
5.1	2.5	13.3	6.7	44.0	8.9	56.5	20.8
5.2	2.6	14.5	6.7	44.4	8.9	56.8	21.0
5.3	2.6	14.6	6.7	44.5	8.9	(bottom)	
5.4	2.6+	14.7	6.7	44.6	9.1+		
5.5	2.75	14.8	6.7	44.7	9.2		
5.6	2.75	14.9	6.9	44.8	9.2		
5.7	2.9	15.0	7.2	44.9	9.2		
5.8	3.0	15.1	7.3	45.0	9.2		
5.9	2.15	15.2	7.4	45.5	9.2		
6.0	3.3	15.3	7.4	45.6	9.2		
6.1	3.5	15.4	7.4	45.7	9.6		
6.2	3.75	15.5	7.4	45.8	9.9		
6.3	3.8	16.0	7.4	45.9	9.9+		
6.4	3.8	30.0	7.4	46.0	9.9		
6.5	3.9	40.0	7.4	47.0	9.9		
6.6	3.9+	40.1	7.4	47.1	9.9		
6.7	4.2	40.2	7.4	47.2	10.1		

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: B 2 Feb. 1971								
Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
0.0	0.1	0.130	7.7	3.0	0.398	11.8	5.3	0.586
1.0	0.0	0.014	7.8	3.0	0.400	12.0	5.5	0.619
2.0	0.0	0.014	7.9	3.0+	0.402	12.1	5.5	0.619
3.0	1.75	0.105	8.0	3.0+	0.403	12.2	5.5	0.624
3.1	2.0	0.184	8.1	3.1	0.402	12.3	5.5	0.633
3.2	2.4	0.276	8.2	3.2	0.402	12.4	5.5+	0.645
3.3	2.4	0.296	8.3	3.3	0.402	12.5	5.8	0.659
3.4	2.4	0.296	8.4	3.4	0.401	12.6	5.8	0.662
3.5	2.5	0.309	8.5	3.5	0.402	12.7	5.8	0.669
3.6	2.6	0.307	8.6	3.5	0.402	12.8	5.9	0.672
3.7	2.6	0.309	8.7	3.5+	0.401	12.9	5.9	0.683
3.8	2.6	0.311	8.8	3.6	0.402	13.0	5.9	0.708
3.9	2.6	0.313	8.9	3.7	0.413	13.1	5.9	0.710
4.0	2.6	0.314	9.0	3.8	0.413	13.2	5.9	0.710
4.1	2.6	0.314	9.1	3.9	0.412	13.3	5.9	0.710
4.2	2.6	0.317	9.2	3.9	0.419	13.4	5.9	0.714
4.3	2.6	0.317	9.3	4.0	0.415	13.5	5.9	0.719
4.4	2.6	0.324	9.4	4.0	0.419	13.6	5.9	0.719
4.5	2.5	0.328	9.5	4.2	0.422	13.7	6.0	0.718
4.6	2.5	0.336	9.6	4.4	0.434	13.8	6.0	0.718
4.7	2.5+	0.343	9.7	4.4+	0.451	13.9	6.1	0.729
4.8	2.6	0.343	9.8	4.5	0.454	14.0	6.1	0.728
4.9	2.6	0.344	9.9	4.5	0.466	14.5	6.6	0.798
5.0	2.6	0.347	10.0	4.7	0.469	15.0	6.6	0.894
5.1	2.6	0.354	10.1	4.8	0.467	15.1	6.6+	0.892
5.2	2.5+	0.356	10.2	4.8+	0.468	15.2	6.8	0.924
5.3	2.5	0.358	10.3	4.9	0.477	15.3	7.0	1.03
5.4	2.5+	0.365	10.4	4.9	0.491	15.4	7.2	1.09
5.5	2.6	0.366	10.5	4.9	0.523	15.5	7.2	1.14
5.6	2.7	0.368	10.6	5.0	0.530	15.6	7.3	1.18
5.7	2.75	0.373	10.7	5.0	0.530	15.7	7.4	1.18
5.8	2.75	0.377	10.8	5.0+	0.542	15.8	7.4	1.19
5.9	2.8	0.378	10.9	5.0+	0.541	15.9	7.4+	1.20
6.0	2.8	0.378	11.0	5.0+	0.554	16.0	7.4	1.21
7.0	2.8	0.393	11.1	5.1	0.551	20.0	7.5	1.33
7.1	2.8	0.393	11.2	5.1	0.554	30.0	7.4+	1.33
7.2	2.9	0.394	11.3	5.1	0.561	40.0	7.5-	1.33
7.3	2.9	0.397	11.4	5.1	0.559	40.1	7.5-	1.33
7.4	3.0	0.397	11.5	5.25	0.563	40.2	7.4	1.33
7.5	3.0	0.400	11.6	5.3	0.566	40.3	7.5	1.33
7.6	3.0	0.398	11.7	5.3	0.586	40.4	7.5	1.37

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: B 2 Feb. 1971						Station: D 1 Jan. 1971		
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
40.5	7.5+	1.36	49.5	12.1	6.91	0.0	0.1	
40.6	7.6	1.36	50.0	12.6	9.27	1.0	0.1	
40.7	7.8	1.39	51.0	14.2	15.7	2.0	0.0	
40.8	7.9	1.45	52.0	15.6	24.6	3.0	0.2	
40.9	7.9+	1.43	53.0	16.9	33.1	3.1	0.5	
41.0	8.0	1.45	54.0	18.0	41.7	3.2	1.4	0.040
41.1	8.1	1.45	55.0	19.2	50.6	3.3	1.6	0.105
41.2	8.1	1.46	56.0	20.4	59.7	3.4	2.2	0.118
41.3	8.1	1.47	56.71	21.2	63.9	3.5	2.4	0.144
41.4	8.1	1.51	57.04	21.2	64.6	3.6	2.6	0.186
41.5	8.2	1.55	(bottom)			3.7	2.7	0.220
41.6	8.3	1.64				3.8	3.2	0.277
41.7	8.3	1.68				3.9	3.5	0.320
41.8	8.3+	1.68				4.0	4.0	0.420
41.9	8.4	1.69				4.1	4.4	0.544
42.0	8.4	1.69				4.2	4.5	0.593
42.1	8.4	1.71				4.3	4.9	0.630
42.2	8.5	1.82				4.4	5.0	0.629
42.3	8.6	1.90				4.5	5.1	0.616
42.4	8.6	1.91				4.6	5.1	0.604
43.4	8.7	2.03				4.7	5.1	0.611
43.5	8.7	2.02				4.8	5.1	0.609
43.6	8.7	2.04				4.9	5.1	0.616
43.7	8.7	2.03				5.0	5.1	0.616
43.8	8.7	2.03				6.0	5.2	0.678
43.9	8.7	2.03				7.0	5.2	0.716
44.0	8.7	2.03				8.0	5.2	0.728
44.1	8.75	2.02				9.0	5.0	0.740
44.2	8.9	2.09				9.1	5.0	0.738
44.3	9.0	2.11				9.2	5.0	0.741
44.4	9.0	2.14				9.3	5.0	0.741
44.5	9.0	2.13				9.4	5.0	0.736
45.0	9.2	2.45				9.5	5.0	0.735
45.5	9.25	2.57				9.6	5.0	0.731
46.0	9.3	2.58				9.7	5.2	0.735
46.5	9.9	2.94				9.8	5.2	0.739
47.0	10.0	3.00				9.9	5.4	0.730
47.5	10.0+	3.05				10.0	5.5	0.734
48.0	10.4	3.35				10.1	5.6	0.754
48.5	11.0	3.97				10.2	5.7	0.748
49.0	11.3	4.95				10.3	5.7	0.746

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: D
1 Jan.1971

Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
10.4	5.7	0.748	14.5	7.5	1.31	40.4	8.4	1.91
10.5	5.7	0.759	14.6	7.5	1.32	40.5	8.4	1.90
10.6	5.75	0.759	14.7	7.5	1.32	40.6	8.4	1.91
10.7	5.8	0.763	14.8	7.5	1.32	40.7	8.5	2.00
10.8	5.8	0.770	14.9	7.5	1.32	40.8	8.6	2.03
10.9	5.8	0.782	15.0	7.5	1.33	40.9	8.7	2.12
11.0	5.9	0.781	16.0	7.5	1.39	41.0	8.7	2.12
11.1	6.0	0.781	18.0	7.5	1.40	41.5	8.8	2.16
11.2	6.0	0.792	20.0	7.5	1.42	42.0	8.8	2.19
11.3	6.0	0.799	22.0	7.5	1.40	42.5	9.0	2.20
11.4	6.1	0.807	24.0	7.5	1.39	43.0	9.1	2.29
11.5	6.1	0.817	26.0	7.5	1.39	43.1	9.1	2.34
11.6	6.1	0.826	28.0	7.5	1.39	43.2	9.1	2.39
11.7	6.1	0.820	30.0	7.5	1.39	43.3	9.4	2.53
11.8	6.1	0.823	32.0	7.5	1.39	43.4	9.5	2.57
11.9	6.1	0.829	34.0	7.5	1.39	43.5	9.5	2.60
12.0	6.1	0.829	36.0	7.5	1.39	43.6	9.5	2.61
12.1	6.1	0.842	38.0	7.5	1.39	43.7	9.5	2.63
12.2	6.1	0.840	38.1	7.5	1.40	43.8	9.5	2.63
12.3	6.1	0.840	38.2	7.5	1.40	43.9	9.5	2.66
12.4	6.1	0.839	38.3	7.5	1.40	44.0	9.5	2.68
12.5	6.3	0.849	38.4	7.5	1.40	44.1	9.5	2.70
12.6	6.4	0.843	38.5	7.5	1.40	44.2	9.5	2.74
12.7	6.5	0.847	38.6	7.5	1.40	44.3	9.6	2.85
12.8	6.6	0.872	38.7	7.5	1.40	44.4	9.8	2.97
12.9	6.6	0.896	38.8	7.5	1.40	44.5	10.0	3.05
13.0	6.6	0.909	38.9	7.5	1.41	44.6	10.1	3.13
13.1	6.6	0.921	39.0	7.5	1.41	44.7	10.1	3.13
13.2	6.6	0.921	39.1	7.8	1.43	44.8	10.2	3.16
13.3	6.6	0.933	39.2	7.8	1.45	44.9	10.2	3.16
13.4	6.6	0.939	39.3	7.8	1.47	45.0	10.2	3.17
13.5	6.6	0.930	39.4	7.9	1.55	45.1	10.2	3.19
13.6	6.6	0.941	39.5	7.9	1.56	45.2	10.2	3.23
13.7	6.6	0.950	39.6	8.0	1.57	45.3	10.2	3.23
13.8	7.2	1.21	39.7	8.0	1.63	45.4	10.2	3.23
13.9	7.2	1.32	39.8	8.0	1.64	45.5	10.2	3.23
14.0	7.4	1.33	39.9	8.2	1.69	45.6	10.2	3.24
14.1	7.5	1.37	40.0	8.4	1.80	45.7	10.2	3.24
14.2	7.5	1.30	40.1	8.4	1.85	45.8	10.2	3.24
14.3	7.5	1.32	40.2	8.4	1.87	45.9	10.3	3.45
14.4	7.5	1.31	40.3	8.4	1.88	46.0	10.5	3.56

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: D 1 Jan.1971						Station: D 17 Jan.1971	
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)
46.1	10.5	3.57	63.27	24.8	110	0.0	0.1-
46.2	10.6	3.67	(bottom)			1.0	0.0
46.3	10.6	3.69				2.0	0.1-
46.4	10.6	3.71				3.0	0.1
46.5	10.6	3.84				3.1	0.6
46.6	10.75	4.21				3.2	2.5
46.7	10.9	4.44				3.3	2.6+
46.8	11.0	4.54				3.4	2.75
46.9	11.1	4.55				3.5	3.0
47.0	11.2	4.60				3.6	3.0
47.5	11.3	5.58				3.7	2.8
48.0	12.0	7.20				3.8	2.6+
48.5	12.5	9.90				3.9	2.75
49.0	13.5	14.0				4.0	2.8
49.5	14.2	17.4				4.1	2.8
50.0	15.0	21.3				4.2	2.9
50.5	15.7	26.0				4.3	2.9
51.0	16.5	32.8				4.4	2.8
51.5	17.0	35.0				4.5	2.75
52.0	17.6	39.1				4.6	2.6+
52.5	18.2	43.6				4.7	2.6
53.0	18.7	48.0				4.8	2.6
53.5	19.4	52.3				4.9	2.6
54.0	20.0	56.7				5.0	2.6+
54.5	20.5	61.4				5.1	2.6
55.0	21.0	67.5				5.2	2.6
55.5	21.4	71.0				5.3	2.75
56.0	21.9	75.3				5.4	3.2
56.5	22.3	79.2				5.5	3.4
57.0	22.7	83.0				5.6	3.4
57.5	23.2	86.7				5.7	3.3
58.0	23.5	88.6				5.8	3.4
58.5	23.9	93.3				5.9	3.5
59.0	24.2	97.0				6.0	3.6
59.5	24.5	102				6.1	3.7
60.0	24.8	105				6.2	4.1
60.5	24.9	110				6.3	4.25
61.0	25.0	114				6.4	4.6
61.5	25.0	115				6.5	4.7
62.0	25.0	120				6.6	4.9
62.5	24.9	121				6.7	5.0

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: D 17 Jan. 1971							
Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)
6.8	5.25	16.0	7.5	46.8	10.0	62.5	25.0
6.9	5.4	18.0	7.5	46.9	10.0	63.0	25.0
7.0	5.4	20.0	7.5	47.0	10.0	63.5	25.0
8.0	5.4	30.0	7.5	47.1	10.0	64.0	24.9
9.0	5.4	40.0	7.5	47.2	10.25	64.5	24.9
10.0	5.4	40.1	7.5	47.3	10.5	(bottom)	
10.5	5.4	40.2	7.5	47.4	10.6		
10.6	5.4	40.3	7.5	47.5	10.6		
10.7	5.4	40.4	7.8	47.6	10.6		
10.8	5.5	40.5	7.8	47.7	10.6		
10.9	5.5	40.6	7.9	47.8	10.6		
11.0	5.5	40.7	8.0-	47.9	10.6		
11.1	5.5	40.8	8.1-	48.0	10.8		
11.2	5.5	40.9	8.1	48.5	11.1		
11.3	5.5	41.0	8.1	49.0	11.75		
11.4	5.5	41.25	8.3+	49.5	12.4		
11.5	5.8	41.5	8.4	50.0	13.1		
11.6	5.8	42.0	8.75	50.5	13.7		
11.7	5.8	42.5	8.75	51.0	14.4		
11.8	5.8	43.0	8.75	51.5	15.3		
11.9	5.8	43.4	8.75	52.0	15.9		
12.0	5.8	43.5	8.75	52.5	16.5		
12.1	5.8	43.6	8.75	53.0	17.1		
12.2	5.8	43.7	8.75	53.5	17.6		
12.3	5.8	43.8	9.0	54.0	18.25		
12.4	5.8	43.9	9.0	54.5	18.8		
12.5	6.1	44.0	9.0	55.0	19.4		
12.6	6.1	44.3	9.0	55.5	20.0		
13.0	6.1	44.4	9.0	56.0	20.5		
13.5	6.1	44.5	9.0	56.5	21.0		
13.6	6.1	44.6	9.2	57.0	21.6		
13.7	6.2	44.7	9.3	57.5	22.0		
13.8	6.4	44.8	9.3	58.0	22.5		
13.9	6.7	45.3	9.3	58.5	22.9		
14.0	6.8	45.4	9.3	59.0	23.4		
14.8	6.7	45.5	9.3	59.5	23.7		
14.9	6.8	45.6	9.3	60.0	24.2		
15.0	6.8	45.7	9.75	60.5	24.3		
15.1	7.4	45.8	9.8	61.0	24.6		
15.2	7.5	45.9	10.0	61.5	24.8		
15.3	7.5	46.0	10.0	62.0	24.9		

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: D 3 Feb. 1971								
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
0.0	0.0	0.154	8.4	3.0	0.441	12.5	5.5	0.578
1.0	0.0	0.014	8.5	3.0	0.441	12.6	5.6	0.588
2.0	0.0		8.6	3.0	0.441	12.7	5.6	0.634
3.0	1.7	0.027	8.7	3.1	0.449	12.8	5.7	0.658
3.1	1.7	0.027	8.8	3.1	0.452	12.9	5.9	0.682
3.2	1.7	0.040	8.9	3.1	0.454	13.0	5.9	0.693
3.3	1.75	0.119	9.0	3.2	0.455	13.1	6.0	0.694
3.4	1.8	0.161	9.1	3.2	0.462	13.2	6.0	0.709
3.5	1.8+	0.178	9.2	3.3	0.463	13.3	6.0+	0.715
3.6	1.9	0.198	9.3	3.6	0.470	13.4	6.0+	0.716
3.7	1.9	0.209	9.4	3.8	0.563	13.5	6.0+	0.721
3.8	1.9	0.219	9.5	4.0	0.573	13.6	6.1	0.718
3.9	1.9	0.225	9.6	4.0+	0.565	13.7	6.1	0.718
4.0	1.9	0.226	9.7	4.1	0.550	13.8	6.1	0.728
4.1	1.9	0.228	9.8	4.3	0.555	13.9	6.1	0.729
4.2	2.0-	0.241	9.9	4.4	0.548	14.0	6.1	0.728
4.3	2.0+	0.240	10.0	4.6	0.551	14.1	6.2	0.749
4.4	2.1	0.265	10.1	4.7	0.555	14.2	6.3	0.770
4.5	2.1	0.266	10.2	4.8	0.563	14.3	6.4	0.797
4.6	2.1	0.276	10.3	4.8	0.567	14.4	6.5	0.809
4.7	2.2	0.292	10.4	5.0-	0.570	14.5	6.5	0.826
4.8	2.3	0.305	10.5	5.0	0.573	14.6	6.6	0.847
4.9	2.4	0.316	10.6	5.0+	0.575	14.7	6.6	0.847
5.0	2.4	0.329	10.7	5.0+	0.577	14.8	6.6	0.860
5.5	2.6	0.373	10.8	5.1	0.578	14.9	6.6	0.860
6.0	2.6	0.396	10.9	5.1	0.578	15.0	6.6	0.858
6.5	2.9	0.406	11.0	5.2	0.578	15.1	6.6	0.884
7.0	2.9	0.427	11.1	5.2	0.577	15.2	6.7	0.937
7.1	2.9	0.428	11.2	5.2	0.579	15.3	7.0	1.01
7.2	2.8	0.430	11.3	5.3	0.578	15.4	7.1	1.08
7.3	2.8	0.427	11.4	5.3	0.579	15.5	7.3	1.14
7.4	2.8	0.427	11.5	5.3	0.582	15.6	7.4	1.16
7.5	2.9	0.426	11.6	5.3	0.582	15.7	7.4	1.17
7.6	2.9	0.425	11.7	5.4	0.580	16.0	7.4	1.21
7.7	2.9	0.426	11.8	5.4	0.581	18.0	7.4	1.21
7.8	3.0	0.429	11.9	5.4	0.582	30.0	7.5-	1.21
7.9	3.0	0.429	12.0	5.4	0.582	40.0	7.4+	1.21
8.0	3.1	0.429	12.1	5.4	0.585	40.5	7.4+	1.28
8.1	3.0	0.432	12.2	5.4	0.584	41.0	7.8	1.42
8.2	2.9	0.438	12.3	5.4	0.584	41.5	8.1	1.47
8.3	3.0	0.438	12.4	5.5	0.583	42.0	8.4	1.70

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: D 3 Feb. 1971			Station: E 1 Jan. 1971					
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
42.5	8.6	1.96	0.0	0.2		10.3	5.8	0.717
43.0	8.6	2.01	1.0	0.1		10.4	5.8	0.722
43.5	8.7	2.02	2.0	0.1		10.5	5.8	0.728
44.0	8.7	2.01	3.0	0.2		10.6	5.8	0.733
44.5	9.0	2.17	3.1	0.8		10.7	5.8	0.732
45.0	9.2	2.25	3.2	1.2		10.8	5.8	0.744
45.5	9.3	2.62	3.3	2.5		10.9	6.1	0.749
46.0	9.3	2.56	3.4	3.1	0.013	11.0	6.1	0.754
46.5	9.8	2.94	3.5	3.4	0.026	11.1	6.1	0.765
47.0	10.0-	3.02	3.6	3.5	0.039	11.2	6.1	0.761
47.5	10.0	3.02	3.7	3.5	0.064	11.3	6.1	0.765
48.0	10.4	3.32	3.8	3.7	0.066	11.4	6.1	0.769
48.5	10.9	3.66	3.9	4.0	0.346	11.5	6.1	0.768
49.0	11.2	4.66	4.0	4.0	0.431	11.6	6.1	0.769
49.5	11.7	6.37	4.1	4.5	0.505	11.7	6.1	0.768
50.0	12.6	8.67	4.2	5.0	0.569	11.8	6.1	0.774
51.0	14.0	15.7	4.3	5.0	0.582	11.9	6.1	0.771
52.0	15.6	25.1	4.4	5.1	0.593	12.0	6.1	0.768
53.0	17.0	33.3	4.5	5.1	0.596	12.1	6.1	0.770
54.0	18.1	41.1	4.6	5.1	0.608	12.2	6.1	0.782
55.0	19.2	49.7	4.7	5.1	0.613	12.3	6.1	0.787
56.0	20.3	60.4	4.8	5.1	0.619	12.4	6.6	0.858
57.0	21.3	67.6	4.9	5.1	0.648	12.5	6.6	0.881
58.0	22.3	76.5	5.0	5.1	0.644	12.6	6.7	0.895
59.0	23.1	83.3	6.0	5.2	0.701	12.7	6.7	0.907
60.0	23.7	89.3	7.0	5.2	0.707	12.8	6.7	0.905
61.0	24.3	97.7	8.0	5.2	0.710	12.9	6.7	0.907
62.0	24.7	105	9.0	5.3	0.715	13.0	6.7	0.913
63.0	24.9	112	9.1	5.3	0.709	13.1	6.7	0.926
64.0	25.0	117	9.2	5.3	0.709	13.2	6.7	0.932
64.1	24.9	106	9.3	5.3	0.709	13.3	6.7	0.935
64.43	24.6	103	9.4	5.3	0.715	13.4	6.7	0.942
(bottom)			9.5	5.3	0.707	13.5	6.75	0.976
			9.6	5.3	0.704	13.6	6.7	1.04
			9.7	5.4	0.703	13.7	7.1	1.21
			9.8	5.6	0.710	13.8	7.5	1.22
			9.9	5.7	0.709	13.9	7.5	1.23
			10.0	5.8	0.709	14.0	7.5	1.25
			10.1	5.8	0.709	14.1	7.5	1.26
			10.2	5.8	0.709	14.2	7.5	1.28

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: E 1 Jan. 1971								
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
14.3	7.5	1.28	40.2	8.4	1.79	45.9	10.3	3.45
14.4	7.5	1.32	40.3	8.4	1.80	46.0	10.5	3.48
14.5	7.5	1.32	40.4	8.4	1.81	46.1	10.6	3.57
14.6	7.5	1.32	40.5	8.5	1.85	46.2	10.6	3.55
14.7	7.5	1.34	40.6	8.7	2.00	46.3	10.7	3.62
14.8	7.5	1.34	40.7	8.7	2.06	46.4	10.6	3.67
14.9	7.5	1.34	40.8	8.8	2.05	46.5	10.7	3.83
15.0	7.6	1.35	40.9	8.8	2.05	46.6	10.8	4.04
16.0	7.5	1.43	41.0	8.8	2.05	46.7	10.8	4.12
18.0	7.5	1.37	41.5	8.8	2.13	46.8	11.0	4.40
20.0	7.5	1.36	42.0	8.8	2.13	46.9	11.2	4.41
22.0	7.6	1.37	42.5	9.1	2.25	47.0	11.2	4.42
24.0	7.6	1.37	43.0	9.1	2.30	47.5	11.4	5.31
26.0	7.6	1.35	43.1	9.1	2.31	48.0	11.9	7.15
28.0	7.6	1.35	43.2	9.1	2.36	48.5	12.9	9.86
30.0	7.5	1.37	43.3	9.2	2.56	49.0	13.5	13.5
32.0	7.6	1.37	43.4	9.4	2.60	49.5	14.3	17.7
34.0	7.6	1.35	43.5	9.4	2.59	50.0	15.1	21.6
36.0	7.5	1.37	43.6	9.5	2.59	50.5	15.7	25.9
38.0	7.5	1.37	43.7	9.5	2.60	51.0	16.4	30.2
38.1	7.5	1.37	43.8	9.5	2.62	51.5	16.8	35.5
38.2	7.5	1.37	43.9	9.5	2.62	52.0	17.6	38.9
38.3	7.5	1.37	44.0	9.5	2.64	52.5	18.3	44.3
38.4	7.5	1.37	44.1	9.5	2.68	53.0	18.8	48.4
38.5	7.6	1.37	44.2	9.5	2.68	53.5	19.4	52.9
38.6	7.6	1.37	44.3	9.5	2.77	54.0	20.0	57.0
38.7	7.6	1.37	44.4	9.7	2.91	54.5	20.5	61.8
38.8	7.5	1.37	44.5	9.9	3.03	55.0	21.0	66.5
38.9	7.5	1.36	44.6	10.1	3.06	55.5	21.5	70.5
39.0	7.7	1.40	44.7	10.2	3.10	56.0	21.9	75.3
39.1	7.8	1.41	44.8	10.2	3.10	56.5	22.4	79.2
39.2	7.8	1.43	44.9	10.2	3.12	57.0	22.7	83.0
39.3	7.8	1.44	45.0	10.2	3.12	57.5	23.1	85.8
39.4	7.8	1.47	45.1	10.2	3.12	58.0	23.5	89.5
39.5	7.9	1.51	45.2	10.2	3.12	58.5	23.9	95.0
39.6	8.0	1.55	45.3	10.2	3.12	59.0	24.2	98.8
39.7	8.0	1.56	45.4	10.2	3.12	59.5	24.5	102
39.8	8.0	1.63	45.5	10.2	3.12	60.0	24.7	108
39.9	8.1	1.67	45.6	10.2	3.12	60.5	24.9	111
40.0	8.3	1.76	45.7	10.2	3.14	61.0	25.0	113
40.1	8.4	1.79	45.8	10.2	3.23	61.5	25.0	115

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: E 1 Jan. 1971			Station: E 14 Jan. 1971					
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
62.12 (bottom)	25.0	93.7	0.0	0.2		10.4	5.4	0.709
			1.0	0.0		10.5	5.4	0.706
			2.0	0.0		10.6	5.4	0.705
			3.0	1.2		10.7	5.4	0.699
			3.1	1.6	0.013	10.8	5.8	0.704
			3.2	1.8	0.066	10.9	5.8	0.709
			3.3	2.0	0.118	11.0	5.8	0.709
			3.4	2.1	0.134	11.1	5.8	0.715
			3.5	2.3	0.140	11.2	5.8	0.724
			3.6	2.5	0.138	11.3	5.8	0.732
			3.7	2.7	0.140	11.4	5.8+	0.744
			3.8	2.8	0.142	11.5	6.0	0.754
			3.9	2.8	0.142	11.6	6.0	0.756
			4.0	2.8	0.142	11.7	6.0	0.756
			4.1	2.9	0.142	11.8	6.0+	0.770
			4.2	3.0	0.143	11.9	6.0+	0.770
			4.3	3.0	0.143	12.0	6.0+	0.770
			4.4	3.0	0.144	12.1	6.0+	0.776
			4.5	3.1	0.145	12.2	6.0+	0.792
			4.6	3.1	0.148	12.3	6.0+	0.794
			4.7	3.1	0.152	12.4	6.0+	0.794
			4.8	3.1	0.158	12.5	6.0+	0.794
			4.9	3.25	0.175	12.6	6.0+	0.804
			5.0	3.4	0.195	12.7	6.0+	0.805
			6.0	5.4	0.426	12.8	6.1	0.806
			7.0	5.4	0.645	12.9	6.0+	0.806
			8.0	5.4	0.679	13.0	6.0+	0.800
			9.0	5.4	0.695	13.1	6.0+	0.805
			9.1	5.4	0.704	13.2	6.1	0.801
			9.2	5.4	0.702	13.3	6.1	0.809
			9.3	5.4	0.707	13.4	6.6	0.872
			9.4	5.4	0.704	13.5	6.6	0.920
			9.5	5.4	0.702	13.6	6.6	0.926
			9.6	5.4	0.702	13.7	6.7	0.932
			9.7	5.4	0.702	13.8	6.7	0.932
			9.8	5.4	0.702	13.9	6.7	0.932
			9.9	5.4	0.705	14.0	6.7	0.932
			10.0	5.4	0.705	14.1	6.7	0.932
			10.1	5.4	0.704	14.2	6.7	0.934
			10.2	5.4	0.704	14.3	6.7	0.956
			10.3	5.4	0.701	14.4	6.7	0.953

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: E 14 Jan. 1971								
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
14.5	6.7	0.968	40.4	7.7	1.44	46.1	10.1	3.03
14.6	6.8	1.14	40.5	7.75	1.47	46.2	10.1	3.10
14.7	7.3	1.21	40.6	7.9	1.48	46.3	10.1	3.09
14.8	7.4	1.25	40.7	8.0	1.55	46.4	10.1	3.10
14.9	7.4	1.29	40.8	8.0	1.56	46.5	10.1	3.10
15.0	7.4	1.27	40.9	8.0	1.57	46.6	10.1	3.10
16.0	7.5	1.32	41.0	8.0	1.64	46.7	10.1	3.12
18.0	7.5	1.32	41.5	8.3	1.75	46.8	10.1	3.12
20.0	7.5	1.32	42.0	8.6	1.90	46.9	10.1	3.19
22.0	7.5	1.32	42.5	8.7	2.00	47.0	10.4	3.35
24.0	7.5	1.33	43.0	8.7	2.04	47.5	10.5	3.48
26.0	7.5	1.33	43.1	8.7	2.03	48.0	11.1	3.92
28.0	7.5	1.33	43.2	8.7	2.04	48.5	11.4	4.95
30.0	7.5	1.33	43.3	8.7	2.03	49.0	12.0	6.78
32.0	7.5	1.33	43.4	8.7	2.05	49.5	12.8	9.06
34.0	7.5	1.32	43.5	8.7	2.12	50.0	13.4	12.2
36.0	7.5	1.33	43.6	8.9	2.20	50.5	14.1	16.4
38.0	7.5	1.33	43.7	8.9	2.23	51.0	15.0	20.4
38.1	7.5	1.33	43.8	9.0	2.25	51.5	15.5	24.8
38.2	7.5	1.33	43.9	9.0	2.24	52.0	16.2	28.7
38.3	7.5	1.33	44.0	9.0	2.29	52.5	16.9	33.4
38.4	7.5	1.33	44.1	9.0	2.28	53.0	17.5	37.4
38.5	7.5	1.33	44.2	9.0	2.30	53.5	18.1	42.4
38.6	7.5	1.33	44.3	9.0	2.33	54.0	18.6	46.5
38.7	7.5	1.33	44.4	9.1	2.46	54.5	19.1	51.6
38.8	7.5	1.33	44.5	9.2	2.52	55.0	19.6	55.8
38.9	7.5	1.33	44.6	9.2	2.53	55.5	20.3	59.9
39.0	7.5	1.33	44.7	9.2	2.54	56.0	20.8	64.9
39.1	7.5	1.33	44.8	9.2	2.56	56.5	21.3	69.1
39.2	7.5	1.33	44.9	9.2	2.56	57.0	21.9	74.1
39.3	7.5	1.33	45.0	9.2	2.56	57.5	22.1	77.7
39.4	7.5	1.33	45.1	9.2	2.60	58.0	22.5	81.5
39.5	7.5	1.33	45.2	9.2	2.59	58.5	23.0	85.1
39.6	7.5	1.33	45.3	9.3	2.81	59.0	23.4	88.6
39.7	7.5	1.33	45.4	9.4	2.88	59.5	23.7	94.4
39.8	7.5	1.33	45.5	9.75	2.97	60.0	24.1	97.9
39.9	7.5	1.33	45.6	10.0	3.01	60.5	24.5	101
40.0	7.5	1.32	45.7	10.0	3.02	61.0	24.6	105
40.1	7.5	1.34	45.8	10.1	3.02	61.5	24.8	110
40.2	7.6	1.41	45.9	10.1	3.02	62.0	24.9	113
40.3	7.7	1.43	46.0	10.1	3.02	62.5	24.9	115

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: E 14 Jan. 1971			Station: E 3 Feb. 1971					
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
63.0	24.9	120	0.0	0.2	0.014	8.4	2.9	0.390
63.34 (bottom)	24.9	86.2	1.0	0.0	0.014	8.5	3.0	0.389
			2.0	2.2	0.014	8.6	3.0	0.389
			3.0	2.2	0.185	8.7	3.1	0.389
			3.1	2.3	0.226	8.8	3.1+	0.389
			3.2	2.3+	0.249	8.9	3.2	0.388
			3.3	2.4	0.295	9.0	3.2-	0.401
			3.4	2.5	0.300	9.1	3.2-	0.402
			3.5	2.5	0.313	9.2	3.5	0.399
			3.6	2.5	0.318	9.3	3.6	0.388
			3.7	2.5	0.325	9.4	3.8	0.394
			3.8	2.5	0.328	9.5	4.0	0.396
			3.9	2.5	0.328	9.6	4.1	0.410
			4.0	2.5	0.329	9.7	4.2	0.448
			4.1	2.5	0.331	9.8	4.3	0.470
			4.2	2.5	0.335	9.9	4.4	0.485
			4.3	2.5	0.341	10.0	4.5	0.503
			4.4	2.5	0.341	10.1	4.6	0.511
			4.5	2.5	0.356	10.2	4.6	0.513
			4.6	2.5	0.359	10.3	4.7	0.520
			4.7	2.5	0.362	10.4	4.7	0.529
			4.8	2.5	0.364	10.5	4.7	0.532
			4.9	2.5	0.364	10.6	4.7	0.537
			5.0	2.5	0.364	10.7	4.7	0.544
			5.5	2.5	0.379	10.8	4.7	0.544
			6.0	2.5-	0.379	10.9	4.75	0.543
			6.5	2.5	0.383	11.0	4.8	0.541
			7.0	2.6	0.392	11.1	4.8	0.539
			7.1	2.6	0.389	11.2	4.9	0.539
			7.2	2.6	0.390	11.3	4.9	0.542
			7.3	2.7	0.392	11.4	4.9+	0.543
			7.4	2.7	0.389	11.5	5.0	0.551
			7.5	2.7	0.389	11.6	5.0	0.546
			7.6	2.75	0.389	11.7	5.0-	0.544
			7.7	2.75	0.389	11.8	5.0	0.550
			7.8	2.75	0.389	11.9	5.0+	0.552
			7.9	2.75	0.389	12.0	5.1	0.553
			8.0	2.75	0.389	12.1	5.1	0.552
			8.1	2.75	0.391	12.2	5.2	0.552
			8.2	2.75	0.388	12.3	5.4-	0.563
			8.3	2.8	0.391	12.4	5.4	0.563

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: E 3 Feb. 1971						Station: F 1 Jan. 1971		
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
12.5	5.5	0.578	43.5	8.7	2.00	0.0	0.4	
12.6	5.5	0.588	44.0	8.7	2.00	1.0	0.0	
12.7	5.5	0.588	44.5	9.0	2.13	2.0	0.1	
12.8	5.5	0.590	45.0	9.2	2.32	3.0	2.1	
12.9	5.5	0.598	45.5	9.2	2.45	3.1	4.1	
13.0	5.7	0.610	46.0	9.6	2.65	3.2	4.1	
13.1	5.7	0.610	46.5	9.9+	2.92	3.3	4.4	
13.2	5.7	0.621	47.0	10.0	2.99	3.4	4.5	
13.3	5.9	0.633	47.5	10.2	3.38	3.5	4.5	0.064
13.4	5.9	0.638	48.0	10.4+	3.36	3.6	4.4	0.064
13.5	5.9	0.645	48.5	11.0	3.92	3.7	4.3	0.102
13.6	5.9	0.653	49.0	11.4	4.96	3.8	4.3	0.150
13.7	6.0+	0.670	49.5	11.9	6.36	3.9	4.4	0.303
13.8	6.0+	0.683	50.0	12.9	9.11	4.0	4.6	0.391
13.9	6.0+	0.692	51.0	14.25	15.5	4.1	4.9	0.491
14.0	6.1	0.699	52.0	15.8	25.1	4.2	5.1	0.579
14.1	6.1	0.716	53.0	16.9	32.6	4.3	5.1	0.629
14.2	6.25	0.739	54.0	18.1	40.8	4.4	5.1	0.629
14.3	6.4	0.775	55.0	19.2	51.5	4.5	5.1	0.629
14.4	6.5	0.810	56.0	20.5	59.1	4.6	5.2	0.641
14.5	6.5	0.810	57.0	21.4	67.9	4.7	5.1	0.653
14.6	6.6-	0.826	58.5	22.3	76.6	4.8	5.1	0.658
14.7	6.6-	0.835	59.5	22.9	83.7	4.9	5.2	0.659
14.8	6.6	0.840	60.5	23.75	89.3	5.0	5.2	0.666
14.9	6.6	0.843	61.5	24.3	97.9	6.0	5.2	0.703
15.0	6.7	0.854	62.12	24.7	104	7.0	5.2	0.710
15.1	6.7	0.877	63.0	24.9	109	8.0	5.2	0.710
15.2	7.1	1.03	63.98	25.0	93.7	9.0	5.2	0.715
15.3	7.4	1.13	64.31	24.9	84.5	9.1	5.3	0.715
15.4	7.4	1.16	(bottom)			9.2	5.3	0.714
15.5	7.4+	1.16				9.3	5.3	0.714
16.0	7.5	1.32				9.4	5.4	0.714
20.0	7.5	1.27				9.5	5.4	0.714
30.0	7.5	1.27				9.6	5.4	0.718
40.0	7.5	1.30				9.7	5.4	0.714
40.5	7.5	1.26				9.8	5.7	0.715
41.0	7.9	1.44				9.9	5.8	0.722
41.5	8.1	1.47				10.0	5.8	0.728
42.0	8.4	1.67				10.1	5.8	0.731
42.5	8.6+	1.91				10.2	5.8	0.734
43.0	8.6	2.00				10.3	5.8	0.746

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: F 17 Jan. 1971				Station: F 3 Feb. 1971		
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
6.7	4.2	13.6	6.5+	0.0	0.2	0.136
6.8	4.25	13.7	6.8	1.0	0.0	
6.9	4.4	13.8	6.8	2.0	0.0	
7.0	4.7	13.9	6.8	3.0	2.1	0.268
7.5	5.25	14.0	6.8	3.1	2.1	0.281
8.0	5.3	14.1	6.8	3.2	2.1	0.287
9.0	5.25	14.2	6.8	3.3	2.1	0.293
9.5	5.25	14.3	6.8	3.4	2.1+	0.298
10.0	5.25	14.4	6.8	3.5	2.1+	0.306
10.5	5.25	14.5	6.8	3.6	2.1+	0.318
10.6	5.25	14.6	6.8	3.7	2.1+	0.318
10.7	5.25	14.7	6.8	3.8	2.1+	0.318
10.8	5.25	14.8	6.8	3.9	2.2-	0.316
10.9	5.25	14.9	6.8	4.0	2.2-	0.318
11.0	5.25	15.0	6.8	4.1	2.2-	0.330
11.1	5.5	15.1	7.3	4.2	2.2	0.350
11.2	5.8+	15.2	7.5	4.3	2.2	0.355
11.3	5.8	15.3	7.5	4.4	2.2	0.358
11.4	5.8	15.5	7.5	4.5	2.2	0.368
11.5	5.8	16.0	7.5	4.6	2.2	0.366
11.6	5.8	18.0	7.5	4.7	2.25	0.368
11.7	5.8	20.0	7.5	4.8	2.2	0.375
11.8	5.8	21.8	7.5	4.9	2.25	0.380
11.9	5.8	(bottom)		5.0	2.3	0.381
12.0	5.9			5.1	2.3	0.381
12.1	6.1			5.5	2.3	0.381
12.2	6.1			5.6	2.3	0.381
12.3	6.1			6.0	2.3	0.383
12.4	6.1			6.5	2.6	0.386
12.5	6.1			7.0	2.6	0.392
12.6	6.1			7.5	2.8	0.403
12.7	6.1			8.0	2.9	0.415
12.8	6.1			8.1	2.9	0.416
12.9	6.1			8.2	2.9	0.418
13.0	6.1			8.3	3.0	0.428
13.1	6.1			8.4	3.1	0.433
13.2	6.1			8.5	3.2	0.440
13.3	6.1			8.6	3.3	0.440
13.4	6.1			8.7	3.4	0.446
13.5	6.1			8.8	3.3	0.453

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: F 1 Jan.1971						Station: F 17 Jan.1971	
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)
10.4	5.8	0.753	14.4	7.5	1.28	0.0	0.1
10.5	5.8	0.758	14.5	7.5	1.29	1.0	0.0
10.6	5.8	0.756	14.6	7.5	1.31	2.0	0.0
10.7	5.9	0.763	14.7	7.6	1.32	3.0	2.6
10.8	6.1	0.768	14.8	7.6	1.32	3.1	2.9
10.9	6.1	0.768	14.9	7.5	1.33	3.2	2.8
11.0	6.1	0.770	15.0	7.5	1.33	3.3	2.75
11.1	6.1	0.780	16.0	7.5	1.37	3.4	2.6
11.2	6.1	0.780	18.0	7.5	1.37	3.5	2.6
11.3	6.1	0.780	20.0	7.5	1.37	3.6	2.75
11.4	6.1	0.780	20.58	7.5	1.38	3.7	2.8
11.5	6.1	0.781	(bottom)			3.8	2.75
11.6	6.1	0.784				3.9	2.75
11.7	6.1	0.784				4.0	2.75
11.8	6.1	0.787				4.1	2.75
11.9	6.1	0.786				4.2	2.75
12.0	6.1	0.786				4.3	2.75
12.1	6.1	0.785				4.4	2.75
12.2	6.1	0.785				4.5	2.6
12.3	6.1	0.787				4.6	2.6
12.4	6.3	0.860				4.7	2.6
12.5	6.7	0.889				4.8	2.6
12.6	6.7	0.905				4.9	2.6
12.7	6.7	0.932				5.0	2.6
12.8	6.7	0.946				5.1	2.6
12.9	6.7	0.946				5.2	2.75
13.0	6.7	0.956				5.3	2.8
13.1	6.7	0.959				5.4	2.8
13.2	6.7	0.967				5.5	2.8
13.3	6.7	0.993				5.6	2.8
13.4	6.7	0.999				5.7	2.8
13.5	6.7	1.00				5.8	2.9
13.6	6.7	1.01				5.9	2.9
13.7	6.9	1.18				6.0	3.0
13.8	7.4	1.26				6.1	3.0
13.9	7.4	1.25				6.2	3.0
14.0	7.5	1.25				6.3	3.15
14.1	7.5	1.25				6.4	3.2
14.2	7.5	1.25				6.5	3.75
14.3	7.5	1.28				6.6	4.0

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: F 3 Feb. 1971						Station: G 2 Jan. 1971		
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
8.9	3.3	0.452	13.0	6.1	0.714	0.0	0.2	
9.0	3.3+	0.460	13.1	6.1	0.717	1.0	0.0	
9.1	3.4	0.464	13.2	6.2	0.707	2.0	0.0	0.026
9.2	3.5	0.464	13.3	6.3	0.690	3.0	0.5	0.027
9.3	3.5	0.468	13.4	6.3+	0.681	3.1	1.4	0.079
9.4	3.5	0.473	13.5	6.5	0.683	3.2	2.0	0.092
9.5	3.5	0.478	13.6	6.6	0.700	3.3	2.6	0.104
9.6	3.5	0.482	13.7	6.6	0.712	3.4	2.6	0.117
9.7	3.7	0.488	13.8	6.6	0.727	3.5	2.9	0.133
9.8	3.8	0.506	13.9	6.6+	0.736	3.6	2.9	0.145
9.9	4.0	0.513	14.0	6.7	0.748	3.7	3.0	0.166
10.0	4.2	0.522	14.1	6.7	0.761	3.8	3.3	0.184
10.1	4.3	0.536	14.2	6.7	0.772	3.9	3.6	0.216
10.2	4.4	0.552	14.3	6.7	0.775	4.0	3.9	0.282
10.3	4.5+	0.560	14.4	6.7	0.775	4.1	4.3	0.481
10.4	4.5	0.572	14.5	6.7	0.785	4.2	4.6	0.554
10.5	4.4	0.568	14.6	6.7	0.779	4.3	5.0	0.577
10.6	4.5	0.566	14.7	6.7	0.783	4.4	5.0	0.603
10.7	4.6	0.558	14.8	6.7	0.785	4.5	5.2	0.618
10.8	5.0	0.556	14.9	6.7	0.779	4.6	5.2	0.628
10.9	5.0+	0.566	15.0	6.7	0.783	4.7	5.2	0.631
11.0	5.0	0.575	15.1	6.7	0.807	4.8	5.2	0.633
11.1	5.2	0.587	15.2	6.8-	0.915	4.9	5.2	0.641
11.2	5.25	0.596	15.3	6.9	1.00	5.0	5.2	0.638
11.3	5.3	0.592	15.4	7.0	1.10	6.0	5.2	0.737
11.4	5.3	0.601	15.5	7.1+	1.13	7.0	5.2	0.747
11.5	5.4	0.609	15.6	7.1+	1.14	8.0	5.2	0.740
11.6	5.5	0.612	15.7	7.2	1.18	9.0	5.2	0.728
11.7	5.6	0.624	15.8	7.3	1.18	9.1	5.2	0.740
11.8	5.6	0.635	15.9	7.3	1.19	9.2	5.2	0.732
11.9	5.6	0.635	16.0	7.3	1.20	9.3	5.2	0.731
12.0	5.75	0.644	16.1	7.3+	1.21	9.4	5.2	0.728
12.1	5.8	0.666	16.2	7.4-	1.21	9.5	5.2	0.728
12.2	5.8+	0.673	16.3	7.4-	1.22	9.6	5.2	0.728
12.3	6.0	0.686	16.4	7.4	1.22	9.7	5.2	0.728
12.4	6.1	0.692	16.5	7.4	1.22	9.8	5.2	0.727
12.5	6.1	0.695	20.0	7.4	1.27	9.9	5.2	0.726
12.6	6.1	0.695	22.23	7.4	1.29	10.0	5.2	0.723
12.7	6.1	0.702	22.56	7.4	1.29	10.1	5.4	0.723
12.8	6.1	0.709	(bottom)			10.2	5.75	0.722
12.9	6.1	0.701				10.3	5.8	0.722

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: G

2 Jan. 1971

Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
10.4	5.8	0.725	14.5	7.5	1.21	40.4	8.5	1.87
10.5	5.8	0.734	14.6	7.5	1.21	40.5	8.5	1.89
10.6	5.8	0.734	14.7	7.5	1.22	40.6	8.5	1.95
10.7	5.8	0.734	14.8	7.5	1.22	40.7	8.7	2.03
10.8	5.8	0.740	14.9	7.5	1.22	40.8	8.8	2.07
10.9	5.8	0.746	15.0	7.5	1.25	40.9	8.8	2.08
11.0	5.8	0.746	16.0	7.5	1.34	41.0	8.8	2.10
11.1	5.8	0.759	18.0	7.5	1.36	41.5	8.8	2.14
11.2	5.8	0.758	20.0	7.5	1.37	42.0	8.8	2.14
11.3	5.8	0.756	22.0	7.6	1.37	42.5	8.9	2.16
11.4	5.8	0.756	24.0	7.5	1.36	43.0	9.0	2.30
11.5	6.1	0.753	26.0	7.6	1.37	43.1	9.0	2.30
11.6	6.1	0.756	28.0	7.5	1.37	43.2	9.0	2.33
11.7	6.1	0.755	30.0	7.5	1.37	43.3	9.0	2.41
11.8	6.1	0.770	32.0	7.5	1.37	43.4	9.25	2.53
11.9	6.1	0.771	34.0	7.6	1.37	43.5	9.4	2.58
12.0	6.1	0.768	36.0	7.5	1.37	43.6	9.4	2.58
12.1	6.1	0.777	38.0	7.5	1.36	43.7	9.4	2.60
12.2	6.1	0.768	38.1	7.5	1.35	43.8	9.4	2.62
12.3	6.1	0.765	38.2	7.5	1.35	43.9	9.5	2.63
12.4	6.1	0.764	38.3	7.6	1.37	44.0	9.5	2.63
12.5	6.1	0.760	38.4	7.6	1.36	44.1	9.5	2.64
12.6	6.75	0.845	38.5	7.6	1.36	44.2	9.5	2.66
12.7	6.7	0.900	38.6	7.7	1.36	44.3	9.5	2.74
12.8	6.8	0.918	38.7	7.7	1.36	44.4	9.5	2.84
12.9	6.8	0.930	38.8	7.9	1.37	44.5	9.8	2.96
13.0	6.75	0.936	38.9	8.0	1.38	44.6	9.9	3.01
13.1	6.8	0.955	39.0	8.0	1.43	44.7	10.1	3.09
13.2	6.75	0.955	39.1	7.9	1.45	44.8	10.2	3.11
13.3	6.75	0.973	39.2	8.0	1.47	44.9	10.2	3.11
13.4	6.75	0.973	39.3	8.1	1.51	45.0	10.25	3.12
13.5	6.75	0.979	39.4	8.1	1.53	45.1	10.2	3.12
13.6	6.8	0.988	39.5	8.1	1.54	45.2	10.2	3.12
13.7	6.75	0.999	39.6	8.1	1.56	45.3	10.2	3.13
13.8	6.8	1.02	39.7	8.2	1.58	45.4	10.2	3.16
13.9	7.5	1.11	39.8	8.25	1.65	45.5	10.2	3.16
14.0	7.5	1.16	39.9	8.3	1.69	45.6	10.2	3.14
14.1	7.5	1.17	40.0	8.5	1.77	45.7	10.2	3.18
14.2	7.5	1.20	40.1	8.5	1.79	45.8	10.2	3.22
14.3	7.5	1.22	40.2	8.5	1.80	45.9	10.2	3.24
14.4	7.5	1.22	40.3	8.5	1.85	46.0	10.3	3.40

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: G 2 Jan. 1971						Station: H 3 Jan. 1971		
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
46.1	10.5	3.48	63.0	24.9	122	0.0	0.2	0.366
46.2	10.5	3.57	63.6	24.9	78.4	1.0	0.1	0.014
46.3	10.6	3.62	(bottom)			2.0	0.0	0.014
46.4	10.6	3.66				3.0	1.9	0.013
46.5	10.6	3.70				3.1	2.5	0.026
46.6	10.6	3.87				3.2	2.5	0.039
46.7	10.7	4.10				3.3	2.5	0.078
46.8	11.0	4.27				3.4	2.6	0.118
46.9	11.0	4.32				3.5	2.6	0.135
47.0	11.2	4.40				3.6	2.5	0.294
47.5	11.3	5.23				3.7	2.4	0.156
48.0	12.1	7.12				3.8	2.6	0.168
48.5	12.75	9.90				3.9	3.0	0.174
49.0	13.4	13.1				4.0	3.1	0.185
49.5	14.25	17.1				4.1	3.25	0.192
50.0	15.0	21.1				4.2	3.25	0.206
50.5	15.7	25.0				4.3	3.3	0.256
51.0	16.25	29.8				4.4	3.5	0.326
51.5	16.8	33.9				4.5	4.0	0.443
52.0	17.3	38.2				4.6	4.9	0.554
52.5	18.25	42.8				4.7	5.0	0.592
53.0	18.75	47.2				4.8	5.0	0.630
53.5	19.2	52.0				4.9	5.0	0.643
54.0	19.8	55.8				5.0	5.0	0.655
54.5	20.3	60.7				6.0	5.1	0.717
55.0	20.8	64.9				7.0	5.1	0.723
55.5	21.3	69.8				8.0	5.1	0.730
56.0	21.8	74.5				9.0	5.1	0.717
56.5	22.2	78.1				9.1	5.1	0.717
57.0	22.6	81.2				9.2	5.1	0.720
57.5	23.2	84.0				9.3	5.1	0.717
58.0	23.5	88.8				9.4	5.1	0.717
58.5	23.75	92.6				9.5	5.1	0.715
59.0	24.2	97.0				9.6	5.1	0.717
59.5	24.4	101				9.7	5.1	0.717
60.0	24.7	104				9.8	5.1	0.717
60.5	24.9	110				9.9	5.1	0.717
61.0	25.0	112				10.0	5.1	0.722
61.5	25.0	115				10.1	5.1	0.721
62.0	25.0	118				10.2	5.1	0.725
62.5	24.9	121				10.3	5.5	0.736

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: H 3 Jan. 1971								
Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
10.4	5.6	0.735	14.5	7.5	1.28	40.4	8.4	1.83
10.5	5.7	0.766	14.6	7.5	1.30	40.5	8.5	1.84
10.6	5.75	0.767	14.7	7.5	1.30	40.6	8.5	1.89
10.7	5.75	0.766	14.8	7.5	1.28	40.7	8.5	1.90
10.8	5.75	0.766	14.9	7.5	1.31	40.8	8.7	1.95
10.9	5.75	0.766	15.0	7.5	1.30	40.9	8.8	2.01
11.0	5.7	0.762	16.0	7.5	1.34	41.0	8.8	2.01
11.1	5.7	0.763	18.0	7.5	1.34	41.5	8.8	2.13
11.2	5.75	0.768	20.0	7.5	1.34	42.0	8.8	2.14
11.3	5.8	0.770	22.0	7.5	1.34	42.5	8.8	2.14
11.4	5.9	0.770	24.0	7.5	1.34	43.0	9.0	2.24
11.5	6.0	0.770	26.0	7.5	1.34	43.1	9.0	2.24
11.6	6.0	0.770	28.0	7.5	1.36	43.2	9.0	2.25
11.7	6.0	0.774	30.0	7.5	1.34	43.3	9.0	2.33
11.8	6.0	0.773	32.0	7.5	1.34	43.4	9.2	2.50
11.9	6.1	0.780	34.0	7.5	1.34	43.5	9.4	2.57
12.0	6.1	0.780	36.0	7.5	1.34	43.6	9.5	2.60
12.1	6.1	0.779	38.0	7.5	1.34	43.7	9.5	2.61
12.2	6.1	0.780	38.1	7.5	1.34	43.8	9.5	2.64
12.3	6.1	0.810	38.2	7.5	1.34	43.9	9.5	2.66
12.4	6.1	0.790	38.3	7.5	1.34	44.0	9.5	2.68
12.5	6.2	0.795	38.4	7.5	1.34	44.1	9.5	2.69
12.6	6.4	0.843	38.5	7.5	1.34	44.2	9.5	2.69
12.7	6.4	0.872	38.6	7.5	1.34	44.3	9.5	2.69
12.8	6.5	0.899	38.7	7.5	1.34	44.4	9.5	2.69
12.9	6.6	0.920	38.8	7.5	1.34	44.5	9.5	2.78
13.0	6.7	0.926	38.9	7.5	1.34	44.6	9.9	3.01
13.1	6.7	0.920	39.0	7.5	1.34	44.7	10.0	3.13
13.2	6.7	0.932	39.1	7.5	1.34	44.8	10.1	3.12
13.3	6.7	0.926	39.2	7.7	1.36	44.9	10.2	3.12
13.4	6.7	0.926	39.3	7.8	1.42	45.0	10.2	3.12
13.5	6.7	0.929	39.4	7.8	1.45	45.1	10.2	3.12
13.6	6.7	0.944	39.5	7.8	1.45	45.2	10.2	3.13
13.7	6.7	0.997	39.6	7.8	1.47	45.3	10.2	3.13
13.8	7.4	1.30	39.7	7.9	1.51	45.4	10.2	3.13
13.9	7.4	1.26	39.8	8.0	1.55	45.5	10.2	3.14
14.0	7.4	1.27	39.9	8.0	1.56	45.6	10.2	3.14
14.1	7.5	1.28	40.0	8.0+	1.60	45.7	10.2	3.16
14.2	7.5	1.28	40.1	8.2	1.72	45.8	10.2	3.17
14.3	7.5	1.28	40.2	8.4+	1.82	45.9	10.2	3.17
14.4	7.5	1.27	40.3	8.4	1.81	46.0	10.2	3.23

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: H 3 Jan. 1971						Station: H 4 Feb. 1971		
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
46.1	10.4	3.39	63.0	24.9	122	0.0	0.0	0.231
46.2	10.5	3.56	63.5	24.9	123	1.0	0.0	0.193
46.3	10.6	3.57	64.0	24.8	126	2.0	0.0	0.177
46.4	10.6	3.57	64.5	24.75	127	3.0	0.5	0.174
46.5	10.6	3.64	65.11	24.7	121	3.1	1.6	0.175
46.6	10.6+	3.78				3.2	1.6	0.175
46.7	10.7	4.02	bottom depth: 66.0 m			3.3	1.9	0.174
46.8	10.7	4.10				3.4	2.0	0.189
46.9	11.0	4.33				3.5	2.0	0.236
47.0	11.0	4.36				3.6	2.0	0.294
47.5	11.2	4.80				3.7	2.0	0.303
48.0	11.9	6.70				3.8	2.1	0.283
48.5	12.5	9.05				3.9	2.1	0.283
49.0	13.25	12.3				4.0	2.1	0.303
49.5	14.0	18.2				4.1	2.1	0.312
50.0	14.9	20.7				4.2	2.1	0.323
50.5	15.5	24.5				4.3	2.1	0.332
51.0	16.1	28.7				4.4	2.1	0.336
51.5	16.7	33.2				4.5	2.1	0.344
52.0	17.4	37.4				4.6	2.1	0.344
52.5	18.0	42.0				4.7	2.1	0.355
53.0	18.6	46.3				4.8	2.1	0.358
53.5	19.1	50.7				4.9	2.1	0.358
54.0	19.7	55.2				5.0	2.1	0.365
54.5	20.3	59.9				5.5	2.1	0.389
55.0	20.75	64.4				6.0	2.1	0.409
55.5	21.4	68.8				6.5	2.3	0.405
56.0	21.7	73.8				7.0	2.4	0.392
56.5	22.1	76.8				7.1	2.4	0.393
57.0	22.5	80.5				7.2	2.4	0.393
57.5	23.1	84.7				7.3	2.5	0.390
58.0	23.4	87.9				7.4	2.5	0.389
58.5	23.9	91.5				7.5	2.5	0.392
59.0	24.2	97.0				7.6	2.5	0.388
59.5	24.5	99.8				7.7	2.6	0.388
60.0	24.8	105				7.8	2.6	0.388
60.5	24.9	109				7.9	2.6	0.392
61.0	25.0	112				8.0	2.7-	0.401
61.5	25.0	114				8.1	2.7-	0.401
62.0	25.0	117				8.2	2.7-	0.409
62.5	25.0	120				8.3	2.7-	0.414

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: H
4 Feb. 1971

Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
8.4	2.7-	0.414	12.5	5.4	0.628	44.5	9.0	2.24
8.5	2.7-	0.417	12.6	5.5	0.643	45.0	9.2	2.25
8.6	2.7	0.418	12.7	5.6	0.648	45.5	9.2	2.37
8.7	2.7	0.418	12.8	5.6	0.650	46.0	9.6	2.45
8.8	2.7	0.422	12.9	5.7	0.659	46.5	9.9	2.85
8.9	2.7	0.421	13.0	5.8	0.671	47.0	10.0	2.97
9.0	2.7	0.420	13.1	5.8	0.671	47.5	10.0	2.97
9.1	2.75	0.420	13.2	5.8	0.670	48.0	10.4	3.26
9.2	2.75	0.417	13.3	6.0	0.670	48.5	11.0	3.76
9.3	2.8	0.422	13.4	6.0+	0.683	49.0	11.0	4.63
9.4	2.9	0.421	13.5	6.0+	0.679	49.5	12.1	6.54
9.5	3.0	0.417	13.6	6.1	0.690	50.0	12.7	8.98
9.6	3.0	0.420	13.7	6.4	0.713	51.0	14.3	16.1
9.7	3.0	0.426	13.8	6.5	0.716	52.0	15.5	25.1
9.8	3.0	0.426	13.9	6.6	0.810	53.0	16.9	32.9
9.9	3.0	0.429	14.0	6.6	0.835	54.0	18.0	42.5
10.0	3.0	0.429	14.1	6.6	0.857	55.0	19.5	52.3
10.1	3.0	0.428	14.2	6.6	0.858	56.0	20.4	58.8
10.2	3.1	0.425	14.3	6.6	0.870	57.0	21.4	67.7
10.3	3.6	0.424	14.4	6.7	0.869	58.0	22.2	76.2
10.4	3.7	0.425	14.5	6.7	0.873	59.0	23.0	84.4
10.5	4.0	0.427	14.6	6.8	0.878	60.0	23.7	91.1
10.6	4.5	0.430	14.7	6.9	0.920	61.0	24.4	97.4
10.7	4.6	0.429	14.8	7.1	0.987	62.0	24.8	105
10.8	4.9	0.431	14.9	7.1	1.02	63.0	24.9	112
10.9	5.0	0.440	15.0	7.25	1.09	64.0	24.9	116
11.0	5.0	0.440	15.1	7.25	1.14	65.0	24.8	121
11.1	5.0+	0.447	15.2	7.3	1.16	66.0	24.8	123
11.2	5.1	0.457	15.3	7.4	1.18	66.5	24.8	116
11.3	5.1	0.477	15.4	7.4	1.21	66.83	24.8	115
11.4	5.1	0.471	20.0	7.5	1.26	(bottom)		
11.5	5.2	0.476	30.0	7.5	1.28			
11.6	5.2	0.467	40.0	7.5	1.27			
11.7	5.2	0.509	40.5	7.5	1.27			
11.8	5.2	0.505	41.0	7.9	1.38			
11.9	5.2	0.512	41.5	8.0	1.49			
12.0	5.2	0.502	42.0	8.4	1.67			
12.1	5.3	0.508	42.5	8.7	1.86			
12.2	5.3	0.532	43.0	8.7	1.99			
12.3	5.3	0.553	43.5	8.7	2.00			
12.4	5.4	0.575	44.0	8.7	2.00			

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: K

2 Jan. 1971

Depth (m)	Temp. (℃)	Cond. (mS/cm)	Temp. (℃)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
0.0	0.2		10.4	5.6	0.736	14.5	7.5	1.33
1.0	0.0	0.326	10.5	5.6	0.736	14.6	7.5	1.34
2.0	0.0	0.231	10.6	5.6	0.736	14.7	7.5	1.38
3.0	0.5	0.027	10.7	5.6	0.736	14.8	7.5	1.37
3.1	1.6	0.118	10.8	5.6	0.736	14.9	7.5	1.37
3.2	2.1	0.118	10.9	5.6	0.749	15.0	7.5	1.38
3.3	2.5	0.141	11.0	5.6	0.749	16.0	7.5	1.44
3.4	2.7	0.169	11.1	5.6	0.748	18.0	7.5	1.39
3.5	2.6	0.179	11.2	5.6	0.748	20.0	7.5	1.38
3.6	2.6	0.187	11.3	5.6	0.756	22.0	7.5	1.38
3.7	2.6	0.191	11.4	5.8	0.749	24.0	7.5	1.38
3.8	2.6	0.195	11.5	5.9	0.756	26.0	7.5	1.37
3.9	2.6	0.207	11.6	6.0	0.756	28.0	7.5	1.37
4.0	3.0	0.231	11.7	6.0	0.756	30.0	7.5	1.37
4.1	3.5	0.362	11.8	6.0	0.758	32.0	7.5	1.39
4.2	3.9	0.486	11.9	6.0	0.769	34.0	7.5	1.38
4.3	4.3	0.582	12.0	6.0	0.773	36.0	7.5	1.37
4.4	4.7	0.655	12.1	6.0	0.779	38.0	7.5	1.38
4.5	4.7	0.669	12.2	6.0	0.779	38.1	7.5	1.36
4.6	5.0	0.687	12.3	6.0	0.791	38.2	7.5	1.37
4.7	5.0	0.693	12.4	6.0	0.834	38.3	7.5	1.37
4.8	5.0	0.698	12.5	6.7	0.870	38.4	7.5	1.37
4.9	5.0	0.703	12.6	6.7	0.881	38.5	7.5	1.36
5.0	5.0	0.693	12.7	6.7	0.905	38.6	7.5	1.36
6.0	5.0	0.718	12.8	6.7	0.907	38.7	7.5	1.34
7.0	5.0	0.731	12.9	6.7	0.920	38.8	7.5	1.37
8.0	5.0	0.730	13.0	6.7	0.932	38.9	7.5	1.35
9.0	5.0	0.731	13.1	6.7	0.938	39.0	7.5	1.40
9.1	5.0	0.731	13.2	6.7	0.944	39.1	7.6	1.41
9.2	5.0	0.743	13.3	6.7	0.950	39.2	7.8	1.45
9.3	5.0	0.742	13.4	6.7	0.945	39.3	7.8	1.46
9.4	5.0	0.737	13.5	6.7	0.964	39.4	7.8	1.48
9.5	5.0	0.737	13.6	6.7	1.02	39.5	7.8	1.50
9.6	5.0	0.737	13.7	7.2	1.24	39.6	7.9	1.52
9.7	5.0	0.737	13.8	7.4	1.30	39.7	8.0	1.56
9.8	5.0	0.737	13.9	7.5	1.32	39.8	8.0	1.57
9.9	5.0	0.740	14.0	7.4	1.32	39.9	8.0	1.62
10.0	5.0	0.736	14.1	7.5	1.33	40.0	8.2	1.67
10.1	5.0	0.732	14.2	7.5	1.33	40.1	8.2	1.75
10.2	5.2	0.738	14.3	7.5	1.33	40.2	8.3	1.80
10.3	5.6	0.736	14.4	7.5	1.32	40.3	8.4	1.81

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: K

2 Jan. 1971

Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
40.4	8.5	1.85	46.1	10.6	3.61	63.0	24.8	121
40.5	8.5	1.85	46.2	10.6	3.67	63.5	24.75	125
40.6	8.5	1.90	46.3	10.7	3.67	64.0	24.75	126
40.7	8.5	1.96	46.4	10.7	3.75	64.5	24.7	99.6
40.8	8.7	2.02	46.5	10.7	3.78	64.77	24.7	130
40.9	8.7	2.04	46.6	10.7	4.02	(bottom)		
41.0	8.75	2.07	46.7	10.9	4.28			
41.5	8.8	2.14	46.8	10.9	4.39			
42.0	8.8	2.16	46.9	11.1	4.44			
42.5	8.8	2.25	47.0	11.1	4.54			
43.0	9.0	2.36	47.5	11.3	5.09			
43.1	9.0	2.35	48.0	12.0	7.25			
43.2	9.1	2.36	48.5	12.7	11.0			
43.3	9.1	2.46	49.0	13.5	13.2			
43.4	9.4	2.56	49.5	14.1	17.2			
43.5	9.4	2.59	50.0	15.0	21.1			
43.6	9.5	2.59	50.5	15.7	25.4			
43.7	9.5	2.59	51.0	16.25	29.6			
43.8	9.5	2.62	51.5	16.9	34.2			
43.9	9.5	2.61	52.0	17.5	38.7			
44.0	9.5	2.63	52.5	18.2	43.3			
44.1	9.5	2.69	53.0	18.7	48.1			
44.2	9.5	2.71	53.5	19.3	52.4			
44.3	9.5	2.75	54.0	19.9	56.4			
44.4	9.6	2.93	54.5	20.5	62.6			
44.5	9.9	3.03	55.0	20.9	65.6			
44.6	10.1	3.11	55.5	21.4	69.6			
44.7	10.1	3.14	56.0	21.9	74.7			
44.8	10.2	3.16	56.5	22.2	78.4			
44.9	10.2	3.16	57.0	22.7	81.6			
45.0	10.2	3.14	57.5	23.1	86.3			
45.1	10.2	3.19	58.0	23.6	88.6			
45.2	10.2	3.18	58.5	23.8	94.2			
45.3	10.2	3.18	59.0	24.3	97.7			
45.4	10.2	3.21	59.5	24.5	102			
45.5	10.2	3.20	60.0	24.7	105			
45.6	10.2	3.23	60.5	24.9	110			
45.7	10.2	3.23	61.0	25.0	112			
45.8	10.2	3.24	61.5	24.9	115			
45.9	10.3	3.38	62.0	24.9	117			
46.0	10.4	3.56	62.5	24.8	120			

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: K 4 Feb. 1971								
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
0.0	0.0	0.231	8.3	2.6	0.418	12.4	5.5	0.628
1.0	0.0	0.177	8.4	2.6	0.418	12.5	5.5+	0.631
2.0	0.0	0.166	8.5	2.7	0.419	12.6	5.6	0.631
3.0	1.9	0.158	8.6	2.8	0.418	12.7	5.6	0.634
3.1	2.0	0.156	8.7	2.8	0.419	12.8	5.6	0.635
3.2	2.1	0.157	8.8	3.3	0.424	12.9	5.6	0.637
3.3	2.1	0.157	8.9	3.5	0.438	13.0	5.8	0.636
3.4	2.2	0.158	9.0	3.5	0.451	13.1	5.9	0.635
3.5	2.2	0.159	9.1	3.6	0.459	13.2	5.9	0.640
3.6	2.2	0.162	9.2	3.7	0.473	13.3	6.0	0.644
3.7	2.2	0.171	9.3	3.75	0.476	13.4	6.1	0.655
3.8	2.2	0.171	9.4	3.8	0.481	13.5	6.1	0.665
3.9	2.2	0.171	9.5	3.9	0.486	13.6	6.1	0.680
4.0	2.2	0.167	9.6	4.0	0.487	13.7	6.1	0.685
4.1	2.2	0.174	9.7	4.2	0.481	13.8	6.1	0.692
4.2	2.2	0.167	9.8	4.4	0.472	13.9	6.1	0.703
4.3	2.2	0.168	9.9	4.5	0.469	14.0	6.25	0.738
4.4	2.2	0.162	10.0	4.6	0.463	14.1	6.5	0.786
4.5	2.2	0.224	10.1	4.6	0.472	14.2	6.5+	0.810
4.6	2.2	0.243	10.2	4.6+	0.484	14.3	6.6	0.823
4.7	2.2	0.254	10.3	4.5	0.502	14.4	6.6	0.823
4.8	2.2	0.263	10.4	4.5	0.507	14.5	6.6	0.823
4.9	2.2	0.261	10.5	4.5	0.518	14.6	6.6	0.823
5.0	2.2	0.270	10.6	4.5	0.526	14.7	6.6	0.823
5.5	2.3-	0.394	10.7	5.0	0.629	14.8	6.6	0.823
6.0	2.2	0.420	10.8	5.1	0.629	14.9	6.6	0.834
6.5	2.2	0.414	10.9	5.1	0.629	15.0	6.6	0.843
7.0	2.4	0.413	11.0	5.1	0.629	15.1	6.6	0.877
7.1	2.4	0.413	11.1	5.1	0.632	15.2	7.0	0.874
7.2	2.4	0.410	11.2	5.1	0.628	15.3	7.3	1.02
7.3	2.4	0.410	11.3	5.1+	0.628	15.4	7.4	1.12
7.4	2.5-	0.410	11.4	5.2	0.629	15.5	7.4	1.16
7.5	2.5	0.407	11.5	5.2	0.627	16.0	7.4	1.17
7.6	2.5	0.407	11.6	5.2	0.627	20.0	7.4+	1.27
7.7	2.5	0.407	11.7	5.3	0.626	30.0	7.4+	1.27
7.8	2.5	0.407	11.8	5.3	0.626	40.0	7.4+	1.27
7.9	2.5+	0.413	11.9	5.4	0.626	40.5	7.5-	1.24
8.0	2.5	0.419	12.0	5.4	0.625	40.6	7.9-	1.35
8.1	2.6-	0.419	12.1	5.4+	0.629	41.5	8.0+	1.44
8.2	2.6	0.419	12.2	5.5	0.629	42.0	8.4	1.67

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: K 4 Feb. 1971			Station: L 2 Jan. 1971					
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
43.0	8.7	2.00	0.0	0.2		10.4	5.8	0.734
43.5	8.7	2.02	1.0	0.1	0.122	10.5	5.8	0.734
44.0	8.7	2.01	2.0	0.0		10.6	5.8	0.734
44.5	8.9	2.11	3.0	0.3		10.7	5.8	0.734
45.0	9.2	2.26	3.1	0.9		10.8	5.8	0.740
45.5	9.2	2.45	3.2	1.6	0.013	10.9	5.8	0.745
46.0	9.4	2.56	3.3	2.3	0.039	11.0	5.8	0.744
46.5	9.9	2.91	3.4	2.5	0.078	11.1	5.8	0.738
47.0	9.9	2.99	3.5	2.5	0.104	11.2	6.1	0.743
47.5	10.0	3.01	3.6	3.0	0.219	11.3	6.1	0.743
48.0	10.3	3.22	3.7	3.3		11.4	6.1	0.743
48.5	10.8	3.76	3.8	3.6	0.225	11.5	6.1	0.743
49.0	11.25	4.79	3.9	3.9	0.301	11.6	6.1	0.749
49.5	11.6	6.70	4.0	4.0	0.406	11.7	6.1	0.758
50.0	12.7	9.33	4.1	4.4	0.492	11.8	6.1	0.761
51.0	14.2	15.1	4.2	4.9	0.604	11.9	6.1	0.759
52.0	15.6	24.7	4.3	5.1	0.618	12.0	6.1	0.759
53.0	16.8	32.7	4.4	5.2	0.641	12.1	6.1	0.765
54.0	18.2	42.5	4.5	5.2	0.653	12.2	6.1	0.771
55.0	19.25	50.5	4.6	5.2	0.655	12.3	6.1	0.773
56.0	20.4	58.8	4.7	5.3	0.660	12.4	6.1	0.776
57.0	21.5	69.3	4.8	5.25	0.675	12.5	6.1	0.787
58.0	22.3	76.6	4.9	5.25	0.684	12.6	6.6	0.835
59.0	23.0	83.3	5.0	5.25	0.690	12.7	6.6	0.915
60.0	23.9	90.6	6.0	5.3	0.730	12.8	6.6	0.946
61.0	24.3	101	7.0	5.3	0.734	12.9	6.6	0.946
62.0	24.8	104	8.0	5.3	0.730	13.0	6.6	0.946
63.0	24.8	112	9.0	5.2	0.728	13.1	6.6	0.950
64.0	24.9	117	9.1	5.2	0.727	13.2	6.6	0.952
65.0	24.75	122	9.2	5.25	0.727	13.3	6.6	0.982
66.0	24.7	124	9.3	5.3	0.726	13.4	6.6	0.982
66.37	24.7	119	9.4	5.4	0.726	13.5	6.6	0.982
66.7	24.7	115	9.5	5.4	0.731	13.6	6.6	0.979
(bottom)			9.6	5.4	0.726	13.7	6.6	0.988
			9.7	5.4	0.729	13.8	6.6	1.27
			9.8	5.6	0.728	13.9	7.4	1.31
			9.9	5.8	0.729	14.0	7.5	1.31
			10.0	5.8	0.731	14.1	7.5	1.31
			10.1	5.8	0.731	14.4	7.5	1.32

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: L 2 Jan. 1971								
Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
14.5	7.5	1.33	40.4	8.5	1.98	46.1	10.6	3.56
14.6	7.5	1.33	40.5	8.5	1.97	46.2	10.6	3.58
14.7	7.5	1.34	40.6	8.5	2.01	46.3	10.6	3.61
14.8	7.5	1.34	40.7	8.75	2.14	46.4	10.6	3.68
14.9	7.6	1.34	40.8	8.8	2.20	46.5	10.7	3.78
15.0	7.5	1.34	40.9	8.8	2.21	46.6	10.7	4.09
16.0	7.5	1.45	41.0	8.8	2.20	46.7	10.8	4.30
18.0	7.5	1.45	41.5	8.8	2.25	46.8	10.9	4.44
20.0	7.5	1.45	42.0	8.8	2.27	46.9	11.2	4.54
22.0	7.5	1.45	42.5	8.8	2.21	47.0	11.3	4.54
24.0	7.5	1.45	43.0	9.0	2.30	47.5	11.4	4.39
26.0	7.6	1.45	43.1	9.1	2.33	48.0	12.1	7.17
28.0	7.5	1.44	43.2	9.1	2.35	48.5	12.7	9.79
30.0	7.6	1.45	43.3	9.1	2.43	49.0	13.3	13.4
32.0	7.5	1.44	43.4	9.4	2.52	49.5	14.2	16.9
34.0	7.6	1.45	43.5	9.5	2.57	50.0	15.0	20.8
36.0	7.5	1.45	43.6	9.5	2.57	50.5	15.6	25.3
38.0	7.5	1.45	43.7	9.5	2.59	51.0	16.3	29.6
38.1	7.5	1.45	43.8	9.5	2.61	51.5	17.0	36.5
38.2	7.5	1.45	43.9	9.5	2.62	52.0	17.6	38.6
38.3	7.5	1.45	44.0	9.5	2.67	52.5	18.2	43.4
38.4	7.5	1.45	44.1	9.5	2.67	53.0	18.7	47.2
38.5	7.5	1.45	44.2	9.5	2.69	53.5	19.25	52.2
38.6	7.5	1.45	44.3	9.5	2.75	54.0	20.0	56.3
38.7	7.5	1.45	44.4	9.6	2.89	54.5	20.5	60.5
38.8	7.5	1.45	44.5	9.7	3.03	55.0	20.9	65.3
38.9	7.6	1.46	44.6	9.9	3.12	55.5	21.5	70.4
39.0	7.9	1.45	44.7	10.2	3.13	56.0	22.0	74.6
39.1	7.9	1.48	44.8	10.2	3.13	56.5	22.3	78.7
39.2	7.9	1.46	44.9	10.2	3.13	57.0	22.7	82.1
39.3	7.9	1.55	45.0	10.2	3.13	57.5	23.1	84.9
39.4	8.1	1.58	45.1	10.2	3.19	58.0	23.5	88.6
39.5	8.1	1.59	45.2	10.25	3.17	58.5	24.0	93.1
39.6	8.1	1.63	45.3	10.2	3.18	59.0	24.2	97.9
39.7	8.1	1.64	45.4	10.2	3.21	59.5	24.5	102
39.8	8.1	1.66	45.5	10.2	3.19	60.0	24.7	106
39.9	8.1	1.67	45.6	10.2	3.20	60.5	24.8	109
40.0	8.2	1.79	45.7	10.2	3.21	61.0	25.0	111
40.1	8.25	1.91	45.8	10.2	3.23	61.5	25.0	114
40.2	8.5	1.93	45.9	10.3	3.34	62.0	25.0	116
40.3	8.5	1.98	46.0	10.4	3.47	62.5	25.0	118

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: L 2 Jan. 1971			Station: N 4 Jan. 1971					
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
63.0	25.0	120	0.0	0.0	0.218	10.4	5.5	0.698
63.5	25.0	122	1.0	0.0	0.027	10.5	5.7	0.704
64.0	25.0	124	2.0	0.0		10.6	5.7	0.701
64.5	24.9	94.8	3.0	0.6		10.7	5.75	0.722
(bottom)			3.1	2.3	0.013	10.8	5.75	0.722
			3.2	3.4	0.013	10.9	5.75	0.722
			3.3	3.6	0.026	11.0	5.75	0.727
			3.4	2.8	0.078	11.1	5.75	0.720
			3.5	2.6	0.118	11.2	5.8	0.723
			3.6	2.5-	0.118	11.3	6.0	0.725
			3.7	2.5	0.132	11.4	6.0	0.732
			3.8	2.6	0.154	11.5	6.0	0.739
			3.9	2.8	0.172	11.6	6.0	0.756
			4.0	3.0	0.206	11.7	6.0+	0.751
			4.1	3.3	0.251	11.8	6.0+	0.755
			4.2	3.8	0.330	11.9	6.0+	0.763
			4.3	4.5+	0.466	12.0	6.0+	0.763
			4.4	5.0	0.503	12.1	6.0+	0.755
			4.5	5.0+	0.579	12.2	6.0+	0.768
			4.6	5.1	0.595	12.3	6.1	0.774
			4.7	5.1	0.605	12.4	6.1	0.770
			4.8	5.1	0.615	12.5	6.1	0.786
			4.9	5.1	0.613	12.6	6.1	0.790
			5.0	5.1	0.626	12.7	6.6	0.829
			6.0	5.1	0.673	12.8	6.6	0.860
			7.0	5.1	0.704	12.9	6.6	0.867
			8.0	5.1	0.704	13.0	6.6	0.878
			9.0	5.1	0.704	13.1	6.6	0.884
			9.1	5.1	0.697	13.2	6.6	0.900
			9.2	5.1	0.704	13.3	6.6	0.894
			9.3	5.1	0.704	13.4	6.6	0.896
			9.4	5.1	0.703	13.5	6.6	0.896
			9.5	5.1	0.704	13.6	6.6	0.903
			9.6	5.1	0.704	13.7	6.6	0.899
			9.7	5.1	0.704	13.8	6.6	0.910
			9.8	5.1	0.704	13.9	6.6	0.956
			9.9	5.1	0.698	14.0	6.9	1.17
			10.0	5.1	0.703	14.1	7.4	1.22
			10.1	5.1	0.695	14.2	7.4	1.22
			10.2	5.1	0.701	14.3	7.5	1.22
			10.3	5.3	0.691	14.4	7.5	1.22

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: N

4 Jan. 1971

Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
14.5	7.5	1.22	40.4	8.3	1.74	46.1	10.2	3.19
14.6	7.5	1.22	40.5	8.4	1.75	46.2	10.4	3.34
14.7	7.5	1.22	40.6	8.4	1.77	46.3	10.5	3.36
14.8	7.5	1.22	40.7	8.4	1.80	46.4	10.6	3.44
14.9	7.5	1.23	40.8	8.4	1.81	46.5	10.6	3.44
15.0	7.5	1.25	40.9	8.6	1.91	46.6	10.6	3.54
16.0	7.5	1.33	41.0	8.6	1.97	46.7	10.6	3.56
18.0	7.5	1.33	41.5	8.7	2.06	46.8	10.7	3.79
20.0	7.5	1.33	42.0	8.7	2.09	46.9	10.7	3.91
22.0	7.5	1.33	42.5	8.75	2.11	47.0	10.9	4.10
24.0	7.5	1.33	43.0	9.0	2.15	47.5	11.2	4.42
26.0	7.5	1.33	43.1	9.0+	2.15	48.0	11.6	6.07
28.0	7.5	1.33	43.2	9.0	2.18	48.5	11.8	7.99
30.0	7.5	1.33	43.3	9.0	2.22	49.0	13.2	11.3
32.0	7.5	1.33	43.4	9.1	2.31	49.5	13.5	15.4
34.0	7.5	1.33	43.5	9.1	2.35	50.0	14.6	21.0
36.0	7.5	1.33	43.6	9.4	2.41	50.5	15.4	23.5
38.0	7.5	1.33	43.7	9.4	2.51	51.0	16.1	27.7
38.1	7.5	1.33	43.8	9.4	2.51	51.5	16.7	31.7
38.2	7.5	1.33	43.9	9.4	2.52	52.0	17.3	36.3
38.3	7.5	1.33	44.0	9.4	2.53	52.5	17.9	40.8
38.4	7.5	1.33	44.1	9.4	2.54	53.0	18.5	45.3
38.5	7.5	1.33	44.2	9.4	2.55	53.5	19.1	49.7
38.6	7.5	1.33	44.3	9.5	2.56	54.0	19.6	54.3
38.7	7.5	1.33	44.4	9.5	2.58	54.5	20.1	59.0
38.8	7.5	1.33	44.5	9.5	2.64	55.0	20.6	63.1
38.9	7.5	1.33	44.6	9.7	2.79	55.5	21.25	67.6
39.0	7.5	1.33	44.7	9.9	2.90	56.0	21.7	71.5
39.1	7.5	1.33	44.8	9.9	2.95	56.5	22.1	76.1
39.2	7.5	1.33	44.9	10.1	3.01	57.0	22.6	79.7
39.3	7.6	1.33	45.0	10.1	3.01	57.5	22.9	83.5
39.4	7.7	1.34	45.1	10.1	3.01	58.0	23.3	86.5
39.5	7.75	1.36	45.2	10.1	3.01	58.58	23.6	83.5
39.6	7.8	1.42	45.3	10.2	3.01	(bottom)		
39.7	8.0	1.45	45.4	10.2	3.02			
39.8	7.9	1.48	45.5	10.2	3.03			
39.9	8.0	1.51	45.6	10.2	3.03			
40.0	8.0	1.55	45.7	10.2	3.04			
40.1	8.0	1.56	45.8	10.2	3.06			
40.2	8.1	1.62	45.9	10.2	3.07			
40.3	8.3	1.71	46.0	10.2	3.17			

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: B 28 Dec. 1971			Station: D 19 Dec. 1971			Station: E 11 Nov. 1971		
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
3.0	0.1		3.0	0.1	0.193	3.0	0.0	0.449
4.0	4.6	0.280	4.0	4.3	0.471	3.5	0.2	0.443
5.0	4.6	0.468	5.0	4.3	0.550	4.0	1.6	0.438
10.0	5.1	0.516	6.0	4.3	0.573	4.5	2.4	0.461
11.0	5.6	0.549	10.0	5.2	0.578	5.0	2.6	0.471
12.0	5.9	0.633	11.0	5.9	0.643	5.5	3.0	0.482
15.0	6.8	0.883	12.0	6.1	0.719	6.0	3.0	0.489
19.0	7.8	1.30	13.0	6.5	0.814	6.5	3.1	0.488
20.0	7.8	1.30	15.0	6.8	0.979	7.0	3.4	0.491
21.0	7.8	1.31	19.0	7.7	1.36	7.5	3.7	0.477
25.0	7.7	1.30	20.0	7.7	1.37	8.0	3.9	0.491
30.0	7.7	1.30	21.0	7.7	1.40	8.5	4.0	0.486
35.0	7.7	1.31	25.0	7.6	1.39	9.0	4.3	0.490
39.0	7.7	1.31	30.0	7.6	1.38	9.5	4.9	0.492
40.0	7.8	1.32	35.0	7.6	1.39	10.0	5.4	0.505
41.0	7.9	1.41	39.0	7.6	1.37	10.5	5.9	0.522
45.0	9.1	2.10	40.0	7.7	1.41	11.0	6.0	0.538
49.0	11.0	4.11	41.0	7.8	1.44	11.5	6.0	0.577
50.0	12.2	6.91	45.0	9.3	2.25	12.0	6.1	0.619
51.0	13.7	13.3	49.0	11.2	4.42	12.5	6.1	0.638
52.0	14.8	21.1	50.0	12.5	7.76	13.0	6.3	0.666
53.0	16.2	29.1	51.0	13.8	13.9	13.5	6.4	0.739
54.0	17.2	37.6	52.0	15.0	22.2	14.0	6.4	0.788
55.0	18.6	46.0	53.0	16.2	30.3	14.5	6.6	0.872
56.0	19.5	54.8	54.0	17.5	40.0	15.0	6.8	0.980
57.0	20.3	60.1	55.0	18.7	49.0	15.5	7.5	1.23
(bottom)			56.0	19.7	59.0	16.0	7.5	1.26
			57.0	20.7	66.2	18.0	7.5	1.33
			58.0	21.8	75.6	20.0	7.5	1.34
			59.0	22.3	82.6	22.0	7.5	1.34
			60.0	23.0	89.9	24.0	7.5	1.34
			61.0	23.7	98.2	26.0	7.5	1.33
			62.0	24.1	105	28.0	7.5	1.33
			63.0	24.4	113	30.0	7.5	1.34
			64.0	24.6	119	32.0	7.5	1.33
			64.9	24.7	93.0	34.0	7.5	1.33
			(bottom)			36.0	7.5	1.33
						37.0	7.5	1.33
						38.0	7.5	1.33
						39.0	7.5	1.34
						40.0	7.6	1.37

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: E 11 Nov. 1971			Station: E 3 Dec. 1971			
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
41.0	7.8	1.43	3.0	0.0	41.0	7.7
42.0	8.3	1.66	3.5	0.0	42.0	8.3
43.0	8.7	2.03	4.0	4.0	43.0	8.7
44.0	8.8	2.03	4.5	4.0	44.0	8.8
45.0	9.4	2.29	5.0	4.0	45.0	9.2
46.0	9.8	2.66	5.5	4.1	46.0	9.7
47.0	9.9	2.95	6.0	4.1	47.0	9.9
48.0	10.4	3.50	6.5	4.1	48.0	10.3
49.0	11.3	5.08	7.0	4.2	49.0	11.0
50.0	12.5	9.98	7.5	4.2	50.0	12.4
51.0	13.8	15.4	8.0	4.6	51.0	13.7
52.0	15.1	23.0	8.5	4.8	52.0	15.1
53.0	16.4	31.9	9.0	5.1	53.0	16.4
54.0	17.7	40.5	9.5	5.3	54.0	17.6
55.0	18.7	49.4	10.0	5.6	55.0	18.7
56.0	19.9	57.7	10.5	5.8	56.0	19.9
57.0	21.0	66.7	11.0	5.9	57.0	20.9
58.0	22.0	75.2	11.5	6.1	58.0	21.9
59.0	22.7	81.5	12.0	6.1	59.0	22.6
60.0	23.4	88.2	12.5	6.4	60.0	23.3
61.0	23.9	96.0	13.0	6.4	61.0	23.9
62.0	24.3	104	13.5	6.4	62.0	24.2
63.0	24.6	111	14.0	6.8	63.0	24.4
63.9	24.8	99.2	14.5	6.8	64.0	24.7
(bottom)			15.0	6.8	64.3	24.7
			15.5	7.5	(bottom)	
			16.0	7.6		
			18.0	7.6		
			20.0	7.6		
			22.0	7.6		
			24.0	7.6		
			26.0	7.5		
			28.0	7.5		
			30.0	7.5		
			32.0	7.5		
			34.0	7.5		
			36.0	7.5		
			37.0	7.5		
			38.0	7.5		
			39.0	7.5		
ref. 21			40.0	7.6	ref. 21	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: E 30 Dec. 1971			Station: E 3 Jan. 1972				Station: H 2 Jan. 1972	
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
3.0	0.1		3.0	0.1	41.0	7.8	3.0	0.2
4.0	4.6	0.236	3.5	3.4	42.0	8.3	3.5	3.4
5.0	4.7	0.457	4.0	4.8	43.0	8.8	4.0	4.8
10.0	5.3	0.515	4.5	4.8	44.0	8.8	4.5	4.8
11.0	5.8	0.541	5.0	4.7	45.0	9.0	5.0	4.8
12.0	6.0	0.619	5.5	4.7	46.0	9.2	5.5	4.8
13.0	6.4	0.686	6.0	4.7	47.0	9.9	6.0	4.8
15.0	6.8	0.869	6.5	4.7	48.0	10.2	6.5	4.8
19.0	7.8	1.28	7.0	4.8	49.0	10.9	7.0	4.8
20.0	7.7	1.29	7.5	4.8	50.0	12.1	7.5	5.1
21.0	7.7	1.29	8.0	5.1	51.0	13.5	8.0	5.1
25.0	7.7	1.30	8.5	5.1	52.0	14.7	8.5	5.2
30.0	7.6	1.30	9.0	5.1	53.0	16.1	9.0	5.2
35.0	7.6	1.30	9.5	5.1	54.0	17.2	9.5	5.2
39.0	7.6	1.29	10.0	5.2	55.0	18.4	10.0	5.2
40.0	7.7	1.33	10.5	5.4	56.0	19.5	10.5	5.6
41.0	7.8	1.36	11.0	5.9	57.0	20.7	11.0	5.8
45.0	8.9	2.10	11.5	5.9	58.0	21.6	11.5	5.9
49.0	11.0	3.88	12.0	6.0	59.0	22.3	12.0	6.0
50.0	12.3	6.65	12.5	6.1	60.0	23.1	12.5	6.0
51.0	13.6	12.4	13.0	6.4	61.0	23.7	13.0	6.5
52.0	14.8	19.6	13.5	6.4	62.0	24.1	13.5	6.5
53.0	16.2	28.1	14.0	6.5	63.0	24.4	14.0	6.5
54.0	17.3	37.1	14.5	6.7	64.0	24.6	14.5	6.7
55.0	18.5	45.6	15.0	6.7	64.3	24.6	15.0	6.7
56.0	19.5	54.4	15.5	6.9	(bottom)		15.5	6.7
57.0	20.7	63.3	16.0	7.6			16.0	7.5
58.0	21.7	72.2	18.0	7.6			16.5	7.7
59.0	22.4	79.3	20.0	7.6			17.0	7.7
60.0	23.2	85.3	22.0	7.6			18.0	7.7
61.0	23.8	94.5	24.0	7.6			19.0	7.7
62.0	24.2	102	26.0	7.6			20.0	7.7
63.0	24.4	110	28.0	7.6			22.0	7.6
64.0	24.7	85.6	30.0	7.6			24.0	7.6
64.2	24.7	92.5	32.0	7.6			25.0	7.6
(bottom)			34.0	7.6			26.0	7.6
			36.0	7.5			28.0	7.6
			37.0	7.5			30.0	7.6
			38.0	7.5			32.0	7.6
			39.0	7.5			34.0	7.6
			40.0	7.7	ref. 21		36.0	7.6

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: H 2 Jan. 1972		Station: I 15 Dec. 1971					
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
38.0	7.6	3.0	0.1	0.163	53.0	16.3	29.9
39.0	7.6	4.0	4.5	0.267	54.0	17.6	40.3
40.0	7.8	5.0	4.5	0.470	55.0	18.8	48.2
41.0	7.8	6.0	4.5	0.495	56.0	20.0	56.8
42.0	8.3	7.0	4.8	0.517	57.0	20.9	65.9
43.0	8.9	8.0	5.0	0.530	58.0	21.9	74.3
44.0	8.9	9.0	5.3	0.552	59.0	22.7	82.4
45.0	9.1	10.0	5.5	0.555	60.0	23.3	89.3
46.0	9.2	11.0	5.9	0.607	61.0	23.9	100
47.0	9.9	12.0	6.1	0.681	62.0	24.3	106
48.0	10.2	13.0	6.6	0.761	63.0	24.6	112
49.0	10.9	14.0	6.6	0.823	64.0	24.7	118
50.0	12.2	15.0	7.0	0.975	65.0	24.7	105
51.0	13.5	16.0	7.7	1.20	65.2	24.7	94.2
52.0	14.8	17.0	7.7	1.34	(bottom)		
53.0	16.1	18.0	7.8	1.35	ice thickness: 3.52 m		
54.0	17.2	19.0	7.7	1.35			
55.0	18.5	20.0	7.7	1.35			
56.0	19.6	22.0	7.7	1.35			
57.0	20.5	24.0	7.7	1.35			
59.0	22.3	26.0	7.6	1.36			
60.0	23.1	28.0	7.6	1.34			
61.0	23.8	30.0	7.6	1.36			
62.0	24.2	32.0	7.6	1.34			
63.0	24.5	34.0	7.6	1.36			
64.0	24.6	36.0	7.6	1.34			
65.0	24.6	38.0	7.6	1.34			
66.0	24.7	39.0	7.6	1.34			
67.0	24.8	40.0	7.7	1.40			
67.6	24.7	41.0	7.8	1.45			
(bottom)		42.0	8.4	1.61			
		43.0	8.9	1.96			
		44.0	8.9	2.03			
		45.0	9.3	2.33			
		46.0	9.7	2.58			
		47.0	9.9	2.94			
		48.0	10.4	3.29			
		49.0	11.1	4.64			
		50.0	12.3	7.46			

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: J 16 Dec. 1971			Station: K 18 Dec. 1971			Station: P 27 Dec. 1971		
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
3.0	0.1	0.122	3.0	0.1	0.068	3.0	1.6	0.020
4.0	4.2	0.412	4.0	4.3	0.395	4.0	4.6	0.215
5.0	4.2	0.524	5.0	4.4	0.511	5.0	4.4	0.371
6.0	4.2	0.537	10.0	5.1	0.559	6.0	4.4	0.398
10.0	5.2	0.565	11.0	5.9	0.632	7.0	4.4	0.409
11.0	5.8	0.616	12.0	6.0	0.713	8.0	4.4	0.413
12.0	6.0	0.686	13.0	6.5	0.804	9.0	4.4	0.419
13.0	6.3	0.779	15.0	6.8	0.967	10.0	4.6	0.427
15.0	6.8	0.949	19.0	7.7	1.37	11.0	5.1	0.449
19.0	7.6	1.39	20.0	7.7	1.39	12.0	5.9	0.540
20.0	7.6	1.39	21.0	7.7	1.39	13.0	6.0	0.672
21.0	7.6	1.39	25.0	7.6	1.40	15.0	6.8	0.770
25.0	7.6	1.39	30.0	7.6	1.39	19.0	7.6	1.12
30.0	7.6	1.38	35.0	7.6	1.39	20.0	7.7	1.13
35.0	7.6	1.37	39.0	7.6	1.39	21.0	7.8	1.13
39.0	7.6	1.40	40.0	7.7	1.44	25.0	7.7	1.13
40.0	7.7	1.43	41.0	7.9	1.53	30.0	7.7	1.13
41.0	7.9	1.48	45.0	9.2	2.33	35.0	7.6	1.12
45.0	9.2	2.22	49.0	11.0	4.39	36.0	7.6	1.12
49.0	11.2	4.64	50.0	12.3	7.54	37.0	7.6	1.12
50.0	12.4	7.75	51.0	13.8	14.1	38.0	7.6	1.13
51.0	13.8	14.3	52.0	14.9	22.3	38.3	7.5	1.12
52.0	15.1	21.8	53.0	16.2	31.3	(bottom)		
53.0	16.3	30.8	54.0	17.5	39.6			
54.0	17.6	39.6	55.0	18.8	48.3			
55.0	18.7	48.6	56.0	19.7	57.2			
56.0	19.8	57.0	57.0	20.8	66.1			
57.0	20.9	66.4	58.0	21.7	75.9			
58.0	21.8	74.8	59.0	22.4	82.5			
59.0	22.5	82.1	60.0	23.3	90.2			
60.0	23.9	89.5	61.0	23.9	97.8			
61.0	24.2	96.9	62.0	24.2	105			
62.0	24.4	105	63.0	24.6	112			
63.0	24.4	112	64.0	24.7	117			
64.0	24.4	118	65.0	24.8	122			
65.0	24.4	114	66.0	24.8	126			
(bottom)			66.3	24.8	127			
			(bottom)					

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: Q 13 Feb. 1971		Station: Q 27 Dec. 1971			Station: S 2 Jan. 1971	
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)
3.0	0.0	3.0	0.1	0.068	3.0	0.2
3.5	2.9	5.0	3.8	0.507	3.5	4.5
4.0	3.6	7.0	4.0	0.556	4.0	5.2
4.5	3.7	8.0	4.0	0.564	4.5	5.1
5.0	3.7	9.0	4.3	0.572	5.0	5.1
5.5	3.7	10.0	4.5	0.584	5.5	5.1
6.0	3.7	11.0	5.2	0.614	6.0	5.1
6.5	3.7	12.0	5.7	0.662	6.5	5.1
7.0	3.7	12.6	5.9	0.733	7.0	5.2
7.5	4.0	(bottom)			7.5	5.3
8.0	4.0	ice thickness: 3.34 m			8.0	5.4
8.5	4.0				8.5	5.4
9.0	4.2				9.0	5.4
9.5	4.3				9.5	5.4
10.0	4.3				10.0	5.4
10.5	4.4				10.5	5.7
11.0	4.6				11.0	5.9
11.5	5.1				11.5	6.0
12.0	5.8				12.0	6.1
12.5	5.9				12.5	6.3
12.6	5.9				13.0	6.5
(bottom)					13.5	6.5
					14.0	6.5
ice thickness: 3.41 m					14.5	6.8
					15.0	6.8
					15.5	7.2
					16.0	7.7
					16.5	7.8
					17.0	7.8
					17.5	7.8
					18.0	7.8
					19.0	7.8
					20.0	7.8
					22.0	7.7
					24.0	7.7
					25.8	7.7
					(bottom)	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: B 9 Dec. 1972						Station: E 9 Dec. 1972		
Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
3.0	0.1	0.076	40.0	7.6	1.64	3.0	0.1	0.088
3.5	3.1	0.458	40.5	7.75	1.70	3.5	4.2	0.459
4.0	4.3	0.524	41.0	7.9	1.78	4.0	4.4	0.522
4.5	4.4	0.544	41.5	8.0	1.82	4.5	4.4	0.547
5.0	4.4	0.562	42.0	8.0	1.98	5.0	4.4	0.562
5.5	4.5	0.568	42.5	8.4	2.15	5.5	4.4	0.572
6.0	4.5	0.574	43.0	8.7	2.25	6.0	4.4	0.583
6.5	4.5	0.584	43.5	8.9	2.32	6.5	4.4	0.583
7.0	4.5	0.584	44.0	8.9	2.36	7.0	4.5	0.582
7.5	4.5	0.591	44.5	9.1	2.53	7.5	4.4	0.585
8.0	4.5	0.591	45.0	9.1	2.63	8.0	4.5	0.582
8.5	4.5	0.585	45.5	9.4	2.87	8.5	4.4	0.595
9.0	4.8	0.594	46.0	9.4	2.97	9.0	5.0	0.604
9.5	5.0	0.605	46.5	9.9	3.21	9.5	5.0	0.607
10.0	5.0	0.605	47.0	10.0	3.42	10.0	5.0	0.606
10.5	5.25	0.614	47.5	10.0	3.48	10.5	5.3	0.617
11.0	5.5	0.650	48.0	10.4	3.92	11.0	5.5	0.648
11.5	5.8	0.677	48.5	10.6	4.24	11.5	5.7	0.662
12.0	6.0	0.707	49.0	10.9	4.82	12.0	5.9	0.683
12.5	6.1	0.756	49.5	11.4	6.57	12.5	6.1	0.732
13.0	6.5	0.807	50.0	12.0	8.64	13.0	6.2	0.773
13.5	6.5	0.855	50.5	12.7	12.2	13.5	6.5	0.844
14.0	6.5	0.898	51.0	13.3	15.5	14.0	6.5	0.861
14.5	6.9	1.08	51.5	13.9	18.7	14.5	6.75	0.943
15.0	6.9	1.07	52.0	14.8	22.8	15.0	6.8	1.02
15.5	7.0	1.14	52.5	15.4	27.1	15.5	7.0	1.12
16.0	7.5	1.39	53.0	15.9	31.4	16.0	7.5+	1.27
16.5	7.6	1.50	53.5	16.5	36.1	16.5	7.5	1.38
17.0	7.6	1.57	54.0	17.0	40.8	17.0	7.6	1.53
17.5	7.6	1.58	54.5	17.7	45.2	17.5	7.6	1.57
18.0	7.6	1.59	55.0	18.2	49.5	18.0	7.6	1.58
20.0	7.6	1.59	55.5	18.8	54.1	20.0	7.5+	1.59
22.0	7.6	1.59	56.0	19.25	58.4	22.0	7.5+	1.60
24.0	7.6	1.59	56.5	19.6	62.9	24.0	7.6	1.58
26.0	7.6	1.59	57.0	20.0	63.0	26.0	7.5+	1.59
28.0	7.6	1.59	(bottom)			28.0	7.5+	1.59
30.0	7.5+	1.60				30.0	7.5	1.59
32.0	7.6	1.59				32.0	7.5	1.59
34.0	7.5+	1.60				34.0	7.5	1.59
36.0	7.5+	1.60				36.0	7.5	1.59
38.0	7.5+	1.60				38.0	7.5	1.62

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: E 9 Dec. 1972						Station: K 9 Dec. 1972		
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
40.0	7.6	1.62	60.0	22.5	90.1	0.0	0.1	0.014
40.5	7.75	1.64	60.5	22.9	94.7	1.0	0.0	0.011
41.0	7.9	1.73	61.0	23.1	99.7	2.0	0.1	0.007
41.5	8.0	1.81	61.5	23.5	104	3.0	0.1	0.011
42.0	8.1	1.93	62.0	23.7	104	3.4	4.0	0.424
42.5	8.4	2.11	62.5	23.9	110	3.5	4.3	0.446
43.0	8.8	2.17	63.0	24.0	114	3.6	4.4	0.454
43.5	8.8	2.33	63.5	24.1	116	3.7	4.6	0.463
44.0	8.8	2.37	64.0	24.3		3.8	4.7	0.468
44.5	9.0	2.48	64.5	24.3	96.1	3.9	4.7	0.471
45.0	9.1	2.58				4.0	4.7	0.472
45.5	9.3	2.83				4.1	4.7	0.475
46.0	9.3	2.95				4.2	4.7	0.479
46.5	9.8	3.11				4.3	4.8	0.482
47.0	9.9	3.39				4.4	4.75	0.487
47.5	10.0	3.48				4.5	4.7	0.494
48.0	10.3	3.81				4.6	4.8	0.494
48.5	10.6	4.49				4.7	4.75	0.496
49.0	10.9	5.02				4.8	4.75	0.503
49.5	11.0	6.61				4.9	4.8	0.504
50.0	12.0	8.85				5.0	4.8	0.503
50.5	12.6	11.9				5.1	4.7	0.508
51.0	13.3	15.4				5.2	4.75	0.507
51.5	14.0	18.8				5.3	4.7	0.510
52.0	14.5	22.7				5.4	4.75	0.508
52.5	15.4	27.0				5.5	4.75	0.510
53.0	15.9	31.4				5.6	4.75	0.512
53.5	16.6	36.0				5.7	4.75	0.512
54.0	17.1	40.4				5.8	4.8	0.514
54.5	17.6	44.9				5.9	4.75	0.516
55.0	18.2	49.3				6.0	4.75	0.516
55.5	18.6	53.9				6.5	4.75	0.522
56.0	19.2	58.6				7.0	4.75	0.529
56.5	19.6	62.4				7.5	4.7	0.529
57.0	20.2	67.3				8.0	4.7	0.530
57.5	20.6	71.3				8.5	5.1	0.538
58.0	21.1	76.9				8.6	5.1	0.541
58.5	21.4	80.2				8.7	5.1	0.541
59.0	21.9	83.4				8.8	5.1	0.542
59.5	22.1	87.2				8.9	5.2	0.541
60.0	22.5	90.1				9.0	5.2	0.541

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: K

9 Dec. 1972

Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
9.5	5.2	0.546	14.0	6.7	0.832	40.7	7.8	1.58
10.0	5.2+	0.587	14.1	6.75	0.870	40.8	7.8	1.58
10.1	5.5	0.588	14.2	6.9	0.892	40.9	7.9	1.59
10.2	5.6	0.587	14.3	6.9	0.902	41.0	7.9	1.62
10.3	5.6	0.584	14.4	6.9+	0.917	41.1	7.9	1.63
10.4	5.5	0.581	14.5	7.0	0.921	41.2	7.9	1.67
10.5	5.5+	0.602	14.6	7.0	0.927	41.3	7.9	1.68
10.6	5.6	0.605	14.7	7.0	0.927	41.4	7.9+	1.69
10.7	5.6	0.605	14.8	7.0	0.930	41.5	8.0	1.70
10.8	5.6	0.605	14.9	7.0	0.952	41.6	8.0	1.74
10.9	5.6	0.605	15.0	7.0	0.974	41.7	8.0	1.76
11.0	5.75	0.608	15.1	7.0	0.989	41.8	8.0	1.79
11.1	5.8	0.607	15.2	7.1	1.01	41.9	8.0	1.82
11.2	5.9	0.606	15.3	7.2	1.04	42.0	8.1	1.88
11.3	5.9	0.606	15.4	7.2	1.08	42.1	8.2	1.91
11.4	5.9	0.609	15.5	7.2	1.11	42.2	8.3	1.93
11.5	5.9	0.609	15.6	7.2	1.16	42.3	8.4	1.97
11.6	5.9	0.609	15.7	7.25	1.28	42.4	8.5	1.98
11.7	5.9	0.610	15.8	7.7	1.37	42.5	8.5	2.00
11.8	6.2	0.616	15.9	7.7	1.40	42.6	8.5	2.02
11.9	6.25	0.630	16.0	7.7	1.42	42.7	8.5	2.08
12.0	6.25	0.630	16.5	7.7	1.47	42.8	8.5	2.19
12.1	6.25	0.642	17.0	7.7	1.51	42.9	8.7	2.25
12.2	6.25	0.648	18.0	7.7	1.52	43.0	8.75	2.25
12.3	6.3	0.655	20.0	7.7	1.53	43.1	8.8	2.20
12.4	6.25	0.667	22.0	7.7	1.53	43.2	8.9	2.19
12.5	6.25	0.678	24.0	7.7	1.53	43.3	8.9	2.20
12.6	6.3	0.675	26.0	7.6+	1.53	43.4	8.9	2.25
12.7	6.3	0.679	28.0	7.6	1.53	43.5	8.9	2.25
12.8	6.3	0.691	30.0	7.6	1.53	43.6	8.9	2.25
12.9	6.5	0.704	32.0	7.6	1.53	43.7	8.9	2.25
13.0	6.5	0.726	34.0	7.6	1.53	43.8	8.9	2.13
13.1	6.6	0.734	36.0	7.6	1.53	43.9	8.9	2.20
13.2	6.6	0.749	38.0	7.6	1.53	44.0	8.9	2.14
13.3	6.6	0.756	40.0	7.7	1.54	44.1	8.9	2.14
13.4	6.6	0.761	40.1	7.7	1.56	44.2	8.9	2.23
13.5	6.6	0.770	40.2	7.7	1.56	44.3	9.0	2.25
13.6	6.6	0.776	40.3	7.8	1.55	44.4	9.1	2.39
13.7	6.6	0.786	40.4	7.8	1.55	44.5	9.1	2.32
13.8	6.6	0.798	40.5	7.8	1.57	44.6	9.1	2.34
13.9	6.6	0.819	40.6	7.8	1.58	44.7	9.1	2.34

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: K 9 Dec. 1972								
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
44.8	9.1	2.34	48.9	11.0	4.29	64.5	24.3	123
44.9	9.1	2.34	49.0	11.0	4.55	65.0	24.4	125
45.0	9.1	2.47	49.1	11.0	4.73	65.5	24.4+	127
45.1	9.2	2.47	49.2	11.1	4.96	66.0	24.5	114
45.2	9.25	2.59	49.3	11.25	5.45			
45.3	9.4	2.63	49.4	11.4	5.66			
45.4	9.4	2.63	49.5	11.4	6.28			
45.5	9.4+	2.64	49.6	11.5	6.22			
45.6	9.5	2.64	49.7	11.7	6.98			
45.7	9.5	2.61	49.8	11.8	6.91			
45.8	9.5	2.61	49.9	11.9	7.41			
45.9	9.5	2.61	50.0	12.0	8.20			
46.0	9.5	2.64	50.1	12.1	7.92			
46.1	9.5	2.69	50.5	12.75	10.9			
46.2	9.5	2.78	51.0	13.4	12.6			
46.3	9.75	2.91	51.5	14.0	15.4			
46.4	9.9	3.02	52.0	14.75	21.1			
46.5	9.9	3.03	52.5	15.4	24.7			
46.6	9.9+	3.04	53.0	16.0	25.9			
46.7	10.0	3.05	53.5	16.5	35.6			
46.8	10.0	3.05	54.0	17.1	39.7			
46.9	10.0	3.07	54.5	17.7	43.8			
47.0	10.0	3.07	55.0	18.1	48.8			
47.1	10.0	3.07	55.5	18.75	53.2			
47.2	10.0	3.07	56.0	19.3	57.5			
47.3	10.0	3.07	56.5	19.75	61.2			
47.4	10.0	3.07	57.0	20.3	66.3			
47.5	10.0	3.09	57.5	20.7	71.0			
47.6	10.0	3.14	58.0	21.2	75.7			
47.7	10.1	3.25	58.5	21.5	79.1			
47.8	10.2	3.34	59.0	21.9	82.9			
47.9	10.3	3.44	59.5	22.2	86.6			
48.0	10.4	3.46	60.0	22.7	89.7			
48.1	10.5	3.51	60.5	22.8	95.8			
48.2	10.5	3.57	61.0	23.2	100			
48.3	10.5	3.68	61.5	23.4+	104			
48.4	10.6	3.90	62.0	23.7	107			
48.5	10.7	4.01	62.5	23.9	112			
48.6	11.0	4.12	63.0	24.0	115			
48.7	11.0	4.22	63.5	24.2	118			
48.8	11.0	4.26	64.0	24.45	121			

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: W
9 Dec. 1972

Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
3.0	0.1	0.011	40.0	7.6	1.59	60.5	22.9	97.4
3.5	4.5	0.432	40.5	7.8	1.64	61.0	23.2	99.5
4.0	4.5	0.508	41.0	7.9	1.75	61.5	23.4+	104
4.5	4.6	0.530	41.5	8.0	1.75	62.0	23.7	107
5.0	4.6	0.543	42.0	8.1	1.98	62.5	23.9	112
5.5	4.6	0.548	42.5	8.4	2.09	63.0	24.1	115
6.0	4.6	0.555	43.0	8.7	2.16	63.5	24.2	116
6.5	4.6	0.562	43.5	8.8	2.31	64.0	24.25	120
7.0	4.6	0.560	44.0	8.8	2.34	64.5	24.4	122
7.5	4.6	0.558	44.5	9.1	2.47	65.0	24.4+	123
8.0	4.9	0.558	45.0	9.1	2.63	65.5	24.5	124
8.5	5.0	0.567	45.5	9.4	2.70	66.0	24.5	127
9.0	5.1	0.579	46.0	9.4	2.92	66.5	24.5+	130
9.5	5.2	0.584	46.5	9.9	3.27	67.0	24.6	130
10.0	5.2	0.593	47.0	10.0	3.43	67.5	24.5+	132
10.5	5.6	0.636	47.5	10.0	3.48	68.0	24.6	135
11.0	5.8	0.661	48.0	10.4	3.92			
11.5	5.8	0.675	48.5	10.6	4.55			
12.0	6.2	0.705	49.0	10.9	5.14			
12.5	6.25	0.751	49.5	11.5	6.55			
13.0	6.5	0.775	50.0	12.1	8.61			
13.5	6.6	0.808	50.5	12.8	11.9			
14.0	6.6	0.845	51.0	13.4	15.2			
14.5	6.9	0.978	51.5	14.1	19.2			
15.0	6.9	1.03	52.0	14.8	22.9			
15.5	7.2	1.09	52.5	15.5	27.2			
16.0	7.6	1.39	53.0	16.0	31.3			
16.5	7.6	1.51	53.5	16.6	36.1			
17.0	7.6	1.57	54.0	17.2	40.6			
17.5	7.6	1.57	54.5	17.7	45.2			
18.0	7.6	1.58	55.0	18.4	49.6			
20.0	7.6	1.58	55.5	18.8	53.8			
22.0	7.6	1.58	56.0	19.2	58.5			
24.0	7.6	1.58	56.5	19.8	62.7			
26.0	7.6	1.58	57.0	20.2	67.0			
28.0	7.6	1.59	57.5	20.7	71.4			
30.0	7.6	1.58	58.0	21.1	76.3			
32.0	7.6	1.58	58.5	21.5	80.0			
34.0	7.6	1.59	59.0	21.8	84.1			
36.0	7.6	1.58	59.5	22.2	87.5			
38.0	7.6	1.58	60.0	22.5	90.9			

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: K 15 Jan. 1973								
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
0.0	0.0+	0.156	10.0	5.7+	0.598	14.1	6.8	0.955
1.0	0.0	0.027	10.1	5.75	0.598	14.2	7.1	1.01
2.0	0.0+	0.014	10.2	5.8	0.597	14.3	7.1	1.01
3.0	2.1	0.376	10.3	6.0	0.596	14.4	7.1	1.02
3.5	5.5	0.450	10.4	6.0	0.604	14.5	7.1	1.02
3.6	5.7	0.460	10.5	6.0	0.608	14.6	7.1	1.02
3.7	5.8	0.463	10.6	6.0	0.616	14.7	7.1	1.03
3.8	5.8	0.467	10.7	6.0	0.632	14.8	7.1	1.03
3.9	5.8+	0.473	10.8	6.0	0.632	14.9	7.1	1.04
4.0	5.8	0.480	10.9	6.0	0.632	15.0	7.1	1.06
4.1	5.8	0.491	11.0	6.0	0.635	15.1	7.1	1.08
4.2	5.8	0.494	11.1	6.0	0.637	15.2	7.2	1.12
4.3	5.75	0.504	11.2	6.1	0.639	15.3	7.4	1.15
4.4	5.75	0.502	11.3	6.1+	0.640	15.4	7.4+	1.16
4.5	5.7	0.510	11.4	6.1	0.644	15.5	7.4	1.21
4.6	5.6	0.518	11.5	6.1+	0.644	15.6	7.5-	1.27
4.7	5.6+	0.523	11.6	6.1+	0.650	15.7	7.4	1.45
4.8	5.6+	0.523	11.7	6.2	0.662	15.8	7.75	1.48
4.9	5.6+	0.523	11.8	6.25	0.678	15.9	7.8	1.51
5.0	5.6	0.529	11.9	6.4	0.689	16.0	7.8	1.53
5.1	5.6	0.535	12.0	6.5-	0.701	16.5	7.8	1.58
5.2	5.6	0.539	12.1	6.5-	0.713	17.0	7.75	1.59
5.3	5.6	0.539	12.2	6.5	0.722	18.0	7.8	1.59
5.4	5.6	0.543	12.3	6.5	0.729	20.0	7.8	1.60
5.5	5.6	0.547	12.4	6.5	0.738	22.0	7.8	1.60
5.6	5.6	0.547	12.5	6.5	0.740	24.0	7.8	1.60
5.7	5.6	0.548	12.6	6.5	0.744	26.0	7.75	1.60
5.8	5.6	0.552	12.7	6.5	0.750	28.0	7.75	1.60
5.9	5.6	0.558	12.8	6.5	0.759	30.0	7.75	1.60
6.0	5.6	0.558	12.9	6.7	0.774	32.0	7.75	1.60
6.5	5.55	0.575	13.0	6.75	0.799	34.0	7.75	1.57
7.0	5.5+	0.578	13.1	6.75	0.809	36.0	7.75	1.57
7.5	5.5	0.580	13.2	6.75	0.815	38.0	7.75	1.57
8.0	5.5+	0.581	13.3	6.8	0.819	40.0	7.8+	1.60
8.5	5.5+	0.580	13.4	6.8	0.818	40.1	7.8	1.59
8.6	5.5	0.579	13.5	6.8	0.829	40.2	7.8	1.63
8.7	5.5	0.581	13.6	6.8	0.829	40.3	7.9	1.62
8.8	5.5	0.581	13.7	6.8	0.824	40.4	8.0	1.63
8.9	5.5+	0.581	13.8	6.8	0.832	40.5	8.0	1.64
9.0	5.5+	0.584	13.9	6.8	0.852	40.6	8.0	1.64
9.5	5.5+	0.598	14.0	6.8	0.869	40.7	8.0	1.64

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: K
15 Jan. 1973

Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
40.7	8.0	1.64	44.8	9.1	2.59	49.0	10.9	5.05
40.8	8.0	1.66	45.0	9.1	2.60	49.1	11.0	5.24
40.9	8.0	1.68	45.1	9.1	2.64	49.2	11.1	5.54
41.0	8.1	1.71	45.2	9.2	2.79	49.3	11.2	6.01
41.1	8.1	1.73	45.3	9.4	4.86	49.4	11.3	6.12
41.2	8.1	1.75	45.4	9.4	2.88	49.5	11.4	6.40
41.3	8.1	1.80	45.5	9.4	2.92	49.6	11.5+	6.95
41.4	8.2	1.79	45.6	9.4	2.93	49.7	11.6	7.31
41.5	8.2	1.73	45.7	9.4	2.93	49.8	11.8	7.64
41.6	8.2	1.83	45.8	9.4	2.93	49.9	11.9	8.19
41.7	8.2	1.84	45.9	9.4	2.93	50.0	12.1	8.61
41.8	8.2	1.88	46.0	9.4	2.93	50.1	12.1	9.18
41.9	8.2	1.96	46.1	9.4	2.97	50.5	12.6	11.9
42.0	8.3	2.01	46.2	9.5	3.10	51.0	13.3	15.3
42.1	8.4	2.09	46.3	9.7-	3.26	51.5	13.9	18.9
42.2	8.5	2.14	46.4	9.8	3.33	52.0	14.7	23.1
42.3	8.5	2.17	46.5	10.0	3.34	52.5	15.25	27.2
42.4	8.5	2.18	46.6	10.0	3.35	53.0	15.9	31.6
42.5	8.5	2.18	46.7	10.0	3.36	53.5	16.5	36.3
42.6	8.5	2.20	46.8	10.0	3.38	54.0	17.1-	40.8
42.7	8.5	2.20	46.9	10.0	3.38	54.5	17.7	46.6
42.8	8.5	2.26	47.0	10.0	3.39	55.0	18.2	50.1
42.9	8.75	2.27	47.1	10.0	3.39	55.5	18.7	54.9
43.0	8.9	2.33	47.2	10.0	3.40	56.0	19.0	59.8
43.1	8.9	2.33	47.3	10.0	3.40	56.5	19.7	64.0
43.2	9.0	2.32	47.4	10.0	3.39	57.0	20.25	68.4
43.3	8.9+	2.33	47.5	10.0	3.39	57.5	20.75	73.2
43.4	8.9	2.33	47.6	10.0+	3.49	58.0	21.1	78.3
43.5	8.9	2.34	47.7	10.2	3.73	58.5	21.5	81.9
43.6	8.9	2.34	47.8	10.2	3.85	59.0	21.8	86.4
43.7	8.9	2.35	47.9	10.3	3.92	59.5	22.3	88.7
43.8	8.9+	2.35	48.0	10.4	3.92	60.0	22.5	92.8
43.9	8.9+	2.35	48.1	10.4+	3.92	60.5	22.9	97.4
44.0	8.9	2.35	48.2	10.4	4.00	61.0	23.2	101
44.1	9.0-	2.35	48.3	10.4+	4.17	61.5	23.5	105
44.2	8.9	2.36	48.4	10.4+	4.38	62.0	23.7	109
44.3	9.0	2.56	48.5	10.5	4.51	62.5	23.9	112
44.4	9.1	2.57	48.6	10.7	4.70	63.0	24.0	116
44.5	9.1	2.59	48.7	10.7	4.82	63.5	24.1	119
44.6	9.1	2.59	48.8	11.0-	4.88	64.0	24.2	121
44.7	9.1	2.59	48.9	10.9+	4.91	64.5	24.3	123

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: K 15 Jan. 1973			Station: J 2 Jan. 1978				Station: J 18 Dec. 1981	
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
65.0	24.4	126	0.4	0.2	39.9	7.2	0.0	-0.1
65.5	24.4	129	0.9	0.2	40.9	7.2	2.0	-0.2
66.0	24.5	127	1.9	0.1	41.9	7.2	2.5	-0.1
			2.9	0.0	42.9	7.3	2.6	-0.1
			3.4	5.1	43.9	7.4	2.7	0.0
			3.9	5.1	44.9	7.7	2.8	1.9
			4.9	5.3	45.9	8.1	2.9	4.3
			5.9	5.1	46.9	8.4	3.0	5.0
			6.9	5.1	47.9	8.8	3.5	5.0
			7.9	5.0	48.9	9.0	4.0	5.0
			8.9	5.0	49.9	9.4	4.5	5.0
			9.9	5.0	50.9	9.6	5.0	5.0
			10.9	5.0	51.9	10.2	5.5	5.0
			11.9	5.0	52.9	12.1	6.0	5.0
			12.9	5.0	53.9	13.5	6.5	5.0
			13.9	5.0	54.9	14.7	7.0	5.0
			14.9	5.0	55.9	15.9	7.5	5.0
			15.9	5.0	56.9	16.9	8.0	5.0
			16.9	5.0	57.9	18.2	8.5	5.0
			17.9	5.0	58.9	19.0	9.0	5.0
			18.9	5.3	59.9	19.9	10.0	5.0
			19.9	5.5	60.9	20.7	10.5	5.0
			20.9	5.9	61.9	21.5	11.0	5.0
			21.9	6.0	62.9	22.1	11.5	5.0
			22.9	6.7	63.9	22.6	12.0	5.3
			23.9	7.1	64.9	23.1	12.5	5.8
			24.9	7.1	65.9	23.3	13.0	5.8
			25.9	7.1	66.9	23.4	13.5	6.0
			26.9	7.1	67.9	23.5	14.0	6.4
			27.9	7.1	68.9	23.5	14.5	6.5
			28.9	7.1	69.9	23.6	15.0	7.0
			29.9	7.1			15.5	7.1
			30.9	7.1			16.0	7.1
			31.9	7.1			16.5	7.1
			32.9	7.1			17.0	7.1
			33.9	7.1			18.0	7.1
			34.9	7.1			20.0	7.1
			35.9	7.2			25.0	7.1
			36.9	7.2			30.0	7.1
			37.9	7.2			35.0	7.1
			38.9	7.2			40.0	7.1

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station : J 18 Dec. 1981		Station : J 3 Dec. 1983					
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
41.0	7.2	0.5	0.0	35.0	7.5	64.0	23.9
42.0	7.5	2.0	0.0	36.0	7.6	64.5	23.9
43.0	7.9	3.0	0.0	37.0	7.6	65.0	23.8
44.0	8.4	3.5	4.4	38.0	7.6	65.5	23.8
45.0	8.6	4.0	4.3	39.0	7.6	66.0	23.8
46.0	9.2	4.5	4.4	40.0	7.6	66.5	23.8
47.0	9.7	5.0	4.4	41.0	7.6	67.0	23.8
48.0	10.3	5.5	4.5	42.0	7.7	67.5	23.8
49.0	10.9	6.0	4.4	43.0	7.9	68.0	23.8
50.0	12.3	6.5	4.4	44.0	8.3	68.5	23.8
51.0	13.6	7.0	4.5	45.0	8.6	68.9	23.8
52.0	14.9	7.5	4.5	46.0	9.2	(bottom)	
53.0	16.2	8.0	4.5	47.0	9.3	ice thickness: 3.30 m	
54.0	17.4	8.5	4.6	48.0	9.7		
55.0	18.5	9.0	4.5	49.0	10.2		
56.0	19.6	9.5	4.5	50.0	11.0		
57.0	20.5	10.0	4.5	51.0	12.4		
58.0	21.6	11.0	4.7	52.0	13.7		
59.0	22.4	12.0	4.8	52.5	14.5		
60.0	23.1	13.0	4.8	53.0	15.3		
61.0	23.5	14.0	5.1	53.5	16.1		
62.0	23.9	15.0	5.4	54.0	16.4		
63.0	24.0	16.0	6.0	54.5	17.2		
64.0	24.1	17.0	6.2	55.0	17.8		
65.0	24.1	18.0	6.6	55.5	18.2		
66.0	24.0	19.0	7.0	56.0	18.7		
67.0	23.8	20.0	7.0	56.5	19.5		
68.0	23.8	21.0	7.3	57.0	19.7		
68.43	23.8	22.0	7.3	57.5	20.3		
68.64		23.0	7.3	58.0	20.6		
(bottom)		24.0	7.4	58.5	21.2		
		25.0	7.4	59.0	21.3		
		26.0	7.4	59.5	22.0		
ice thickness: 2.906 m		27.0	7.4	60.0	22.2		
		28.0	7.5	60.5	22.6		
		29.0	7.5	61.0	22.8		
		30.0	7.5	61.5	23.0		
		31.0	7.5	62.0	23.1		
		32.0	7.5	62.5	23.4		
		33.0	7.5	63.0	23.6		
ref. 153		34.0	7.5	63.5	23.8	ref . 166	

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: J 16 Dec. 1983				Station: J 19 Dec. 1983		Station: J 2 Jan. 1984	
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
0.5	0.1	39.0	7.4	0.5	0.0	0.5	-0.3
1.0	0.1	40.0	7.4	5.0	4.9	1.0	-0.3
2.0	0.0	41.0	7.3	10.0	4.8	2.0	-0.1
3.0	0.5	42.0	7.4	15.0	5.5	3.0	0.9
3.5	4.3	43.0	7.9	20.0	7.4	4.0	5.4
4.0	4.4	44.0	8.1	25.0	7.4	5.0	5.4
4.5	4.4	45.0	8.4	30.0	7.4	6.0	5.2
5.0	4.4	46.0	8.8	35.0	7.4	7.0	5.1
6.0	4.4	47.0	9.0	40.0	7.3	8.0	5.1
7.0	4.4	48.0	9.4	45.0	8.3	9.0	5.1
8.0	4.4	49.0	9.9	50.0	10.8	10.0	5.1
9.0	4.4	50.0	11.1	55.0	17.5	11.0	5.1
10.0	4.4	51.0	12.3	60.0	19.3	12.0	5.1
11.0	4.4	52.0	13.7	65.0	23.2	13.0	5.1
12.0	4.4	53.0	15.0	68.0	23.6	14.0	5.1
13.0	4.7	54.0	16.5	68.9	23.7	15.0	5.3
14.0	4.7	55.0	17.8	(bottom)		16.0	5.8
15.0	5.3	56.0	17.8			17.0	6.1
16.0	5.8	57.0	19.7			18.0	6.4
17.0	6.4	58.0	20.6			19.0	6.8
18.0	6.7	59.0	21.4			20.0	7.2
19.0	7.1	60.0	22.1			21.0	7.2
20.0	7.4	61.0	22.7			22.0	7.2
21.0	7.4	62.0	23.1			23.0	7.3
22.0	7.5	63.0	23.5			24.0	7.3
23.0	7.5	64.0	23.6			25.0	7.2
24.0	7.5	65.0	23.6			26.0	7.3
25.0	7.4	66.0	23.6			27.0	7.3
26.0	7.5	67.0	23.5			28.0	7.2
27.0	7.5	68.0	23.5			29.0	7.2
28.0	7.5	68.9	23.5			30.0	7.2
29.0	7.5	(bottom)				31.0	7.3
30.0	7.5					32.0	7.3
31.0	7.5					33.0	7.4
32.0	7.5					34.0	7.3
33.0	7.5					35.0	7.4
34.0	7.4					36.0	7.4
35.0	7.4					37.0	7.4
36.0	7.4					38.0	7.3
37.0	7.4					39.0	7.3
38.0	7.4					40.0	7.3

Table 16. Water temperature and electric conductivity in Lake Vanda (continued).

Station: J 2 Jan. 1984		Station: J 16 Dec. 1984				Station: J 4 Jan. 1987	
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
40.0	7.3	2.5	0.3	53.0	14.6	33.0	6.9
41.0	7.3	5.0	5.0	54.0	15.9	34.0	6.9
42.0	7.3	6.0	5.1	55.0	17.1	35.0	6.9
43.0	7.5	7.0	5.1	56.0	18.2	36.0	6.9
44.0	7.8	8.0	5.1	57.0	19.1	37.0	6.9
45.0	8.0	9.0	5.1	58.0	20.0	38.0	6.9
46.0	8.5	10.0	5.1	59.0	20.8	39.0	6.9
47.0	8.8	11.0	5.1	60.0	21.8	40.0	6.9
48.0	9.3	12.0	5.1	61.0	22.2	41.0	6.9
49.0	9.7	13.0	5.2	62.0	23.0	42.0	6.9
50.0	10.6	14.0	5.2	63.0	23.3	43.0	7.1
51.0	11.5	15.0	5.5	64.0	23.8	44.0	7.3
52.0	12.9	16.0	5.8	65.0	23.9	45.0	7.5
53.0	14.2	17.0	6.3	66.0	23.9	46.0	7.8
54.0	15.7	18.0	6.7	67.0	23.9	47.0	8.1
55.0	17.0	19.0	6.8	68.0	23.8	48.0	8.5
56.0	18.0	20.0	7.3	ice thickness: 2.87 m		49.0	8.8
57.0	18.9	21.0	7.5			50.0	9.3
58.0	20.0	22.0	7.6			51.0	9.8
59.0	20.8	23.0	7.6			52.0	10.5
60.0	21.5	24.0	7.6			53.0	11.8
60.5	22.2	25.0	7.6			54.0	13.0
61.0	22.3	26.0	7.6			55.0	14.3
61.5	22.4	28.0	7.6			56.0	15.7
62.0	22.8	30.0	7.6			57.0	16.9
62.5	23.1	32.0	7.6			58.0	17.9
63.0	23.1	34.0	7.6			59.0	18.9
63.5	23.1	36.0	7.6	ref. 173		60.0	19.8
64.0	23.2	38.0	7.6	Station: J 4 Jan. 1987		61.0	20.5
64.5	23.2	40.0	7.6			62.0	21.3
65.0	23.2	42.0	7.7			63.0	21.9
65.5	23.3	43.0	7.9	Depth (m)	Temp. (℃)	64.0	22.5
66.0	23.3	44.0	8.1			65.0	22.9
66.5	23.4	45.0	8.5	5.0	4.8	66.0	23.2
67.0	23.4	46.0	9.2	10.0	4.8	67.0	23.4
67.5	23.4	47.0	9.5	15.0	4.9	68.0	23.5
68.0	23.4	48.0	10.1	20.0	5.0	69.0	23.6
68.5	23.4	49.0	10.4	25.0	6.8	69.55	23.7
69.0	23.5	50.0	11.2	30.0	6.9	(bottom)	
69.5	23.5	51.0	12.2	31.0	6.9	ice thickness: 3.12 m	
(bottom)		52.0	13.4	32.0	6.9		

6. Taylor Valley

Photo 13. Aerial view of Taylor Valley facing west (official U. S. Navy photograph).

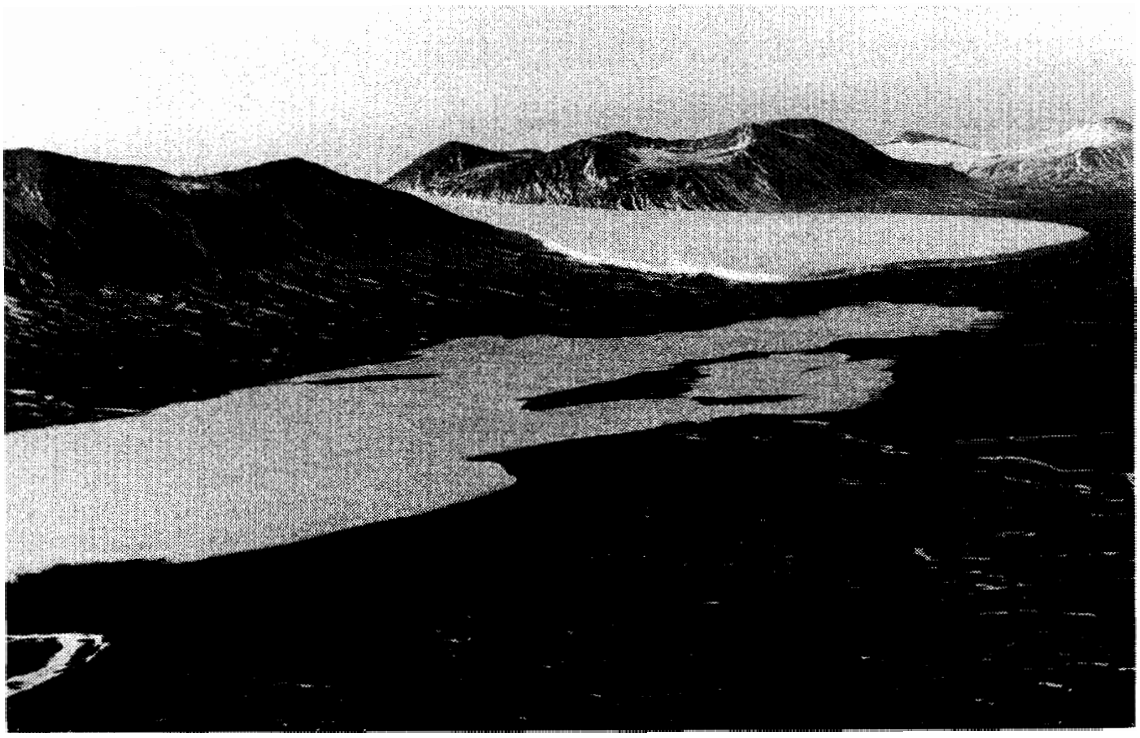

Photo 14. Lake Fryxell facing northeast.

Photo 15. Lake Bonney facing east. Two lobes and connecting narrow channel.

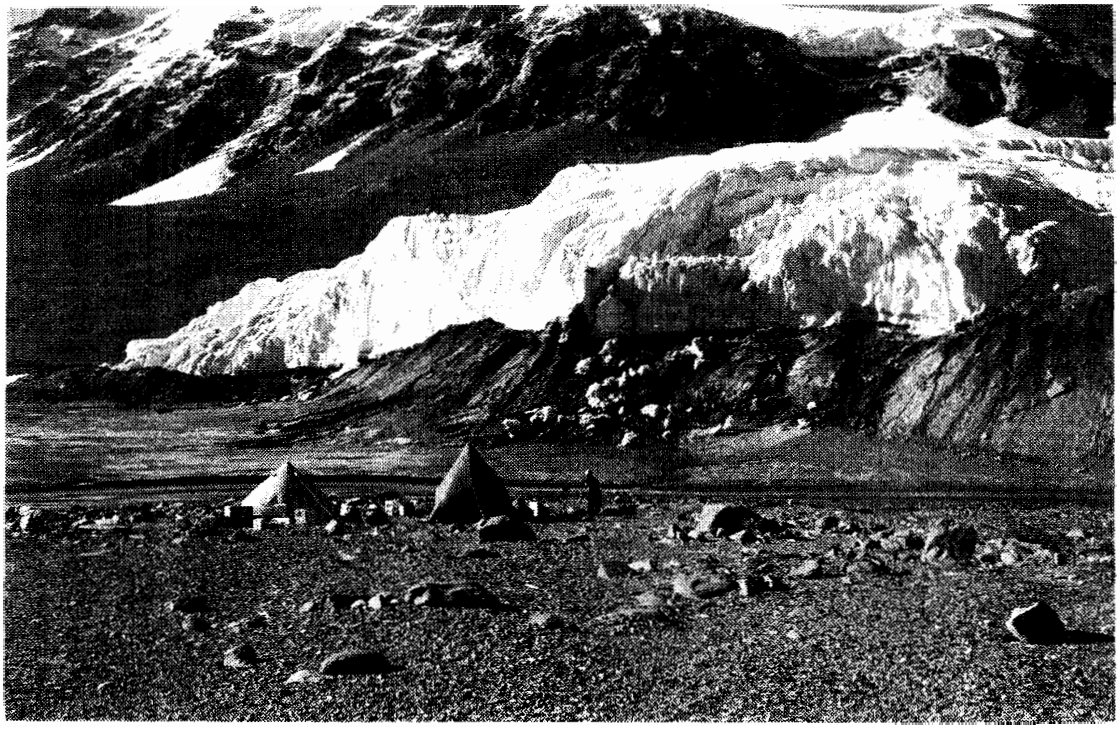

Photo 16. Terminus of Taylor Glacier facing west.

Photo 17. Lake Joyce in Pearse Valley situated at the northwestern terminus of Taylor Glacier.

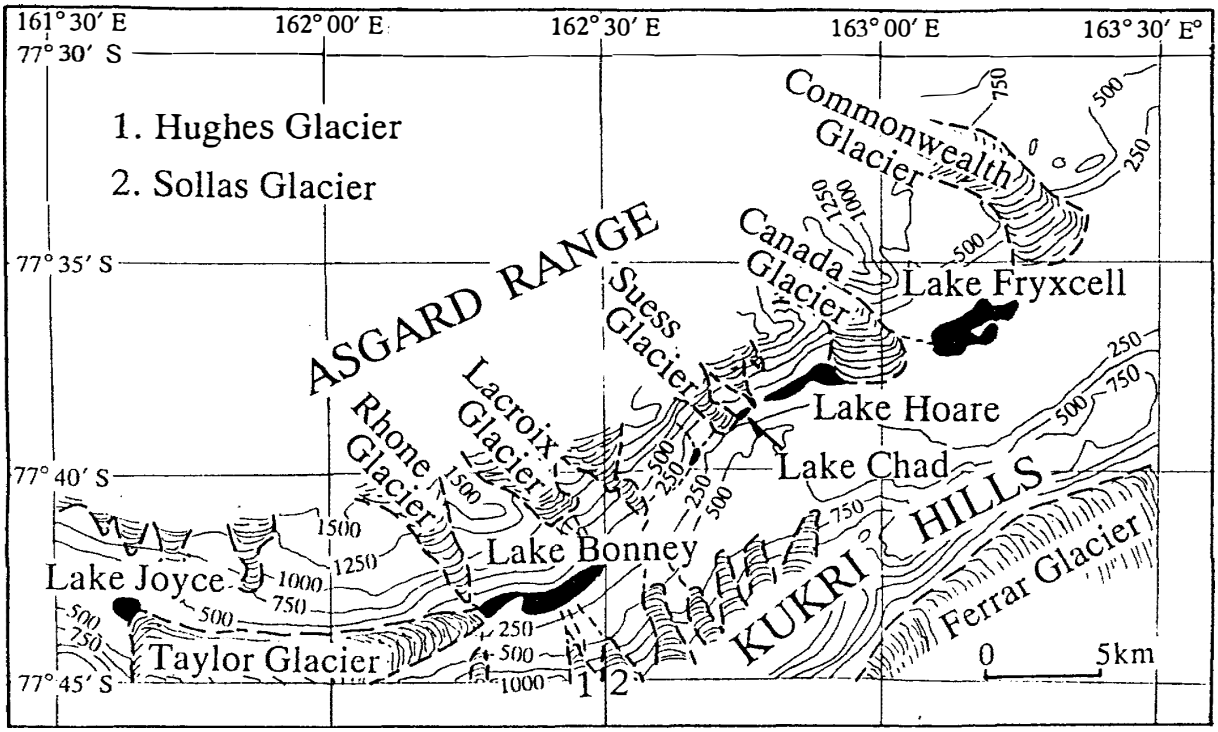

Fig. 10. Lakes in Taylor Valley.

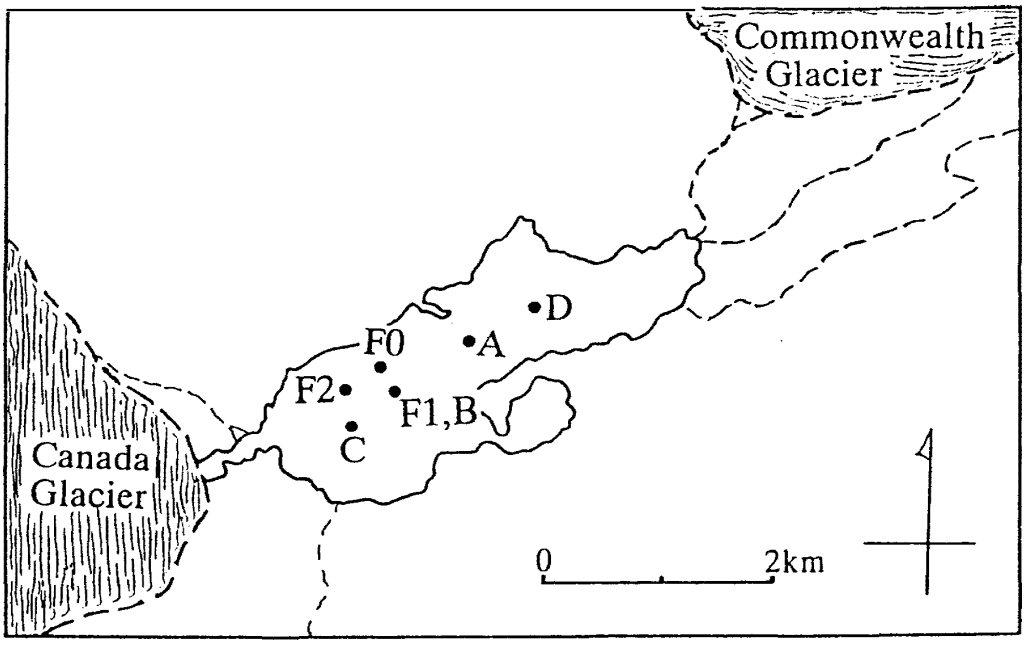

Fig. 11. Sampling sites in Lake Fryxell, Taylor Valley.

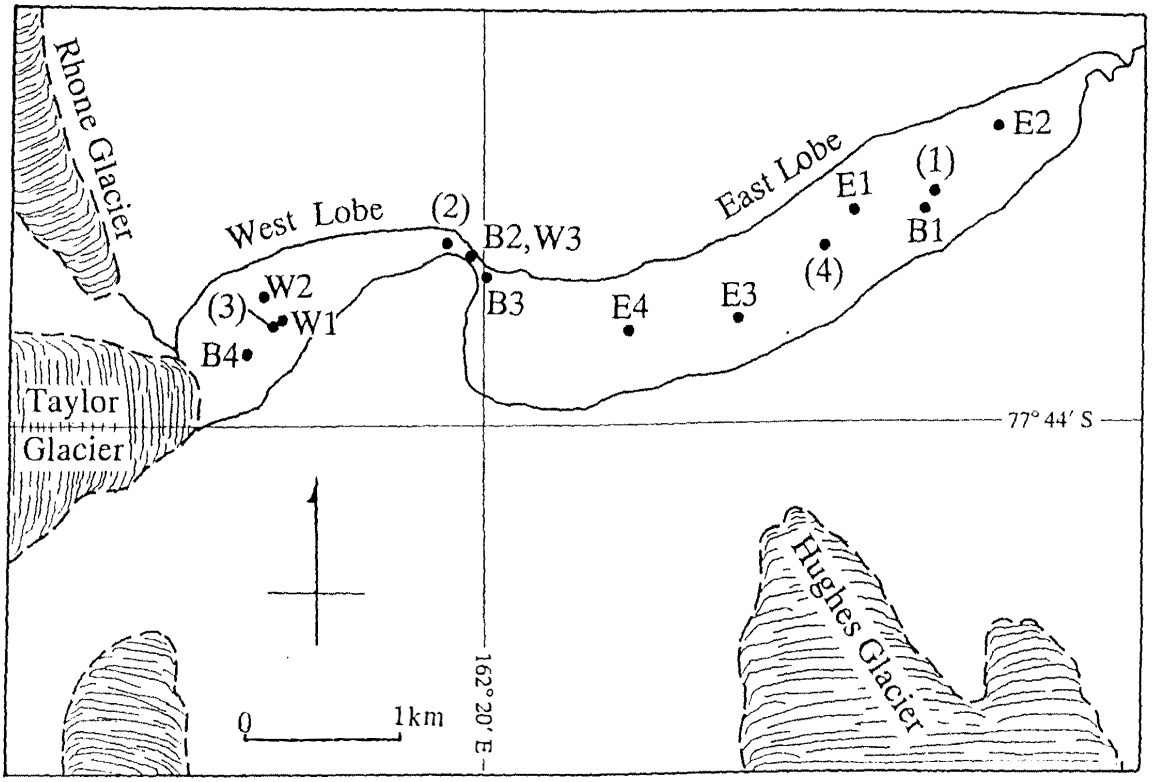

Fig. 12. Sampling sites in Lake Bonney, Taylor Valley.

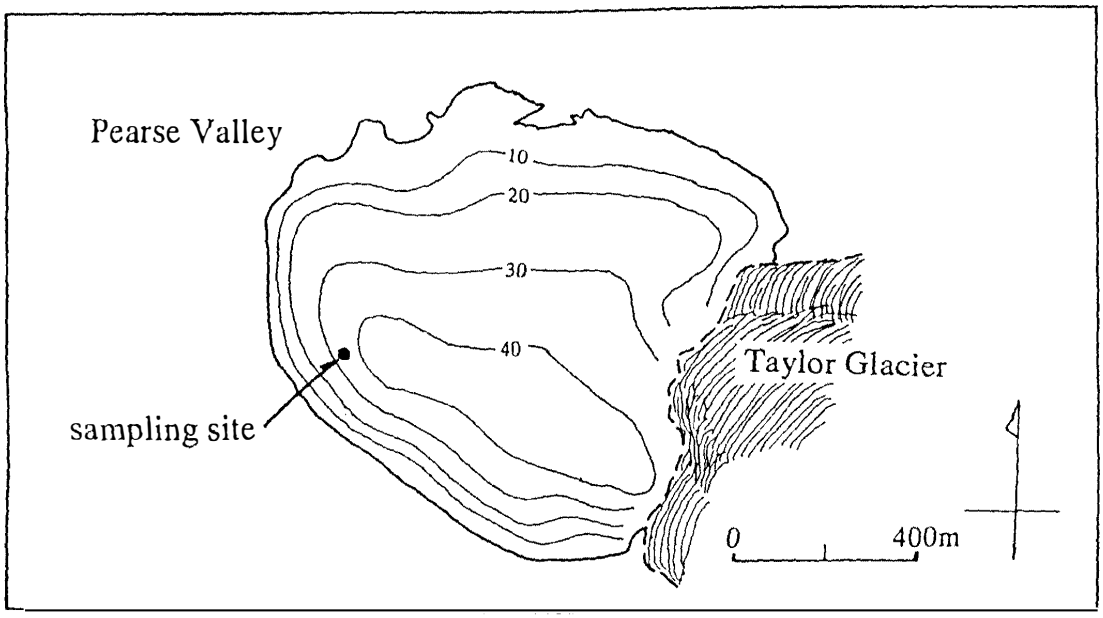

Fig. 13. Sampling site in Lake Joyce, Pearse Valley.

Table 17. Chemical composition of waters in Lake Fryxell.

Sampling station		F0			F1	
Sampling date		2 Jan. 1964			22 Jan. 1965	
Sampling depth (m)		4.0	10.0	18.0	5.0	9.0
Water temperature (℃)		0.20	2.13	1.47	0.1	1.9
Specific gravity		1.005	1.007	1.017	1.0004	1.0038
Electric conductivity (mS/cm)						
pH		7.9	7.5	7.4	7.8	7.5
Dissolved oxygen (mℓ/ℓ)		1.78	0	0		0
Alkalinity	(meq/ℓ)					
SiO_2-Si	(μg-at/ℓ)	21			73	175
PO_4-P	(μg-at/ℓ)	0	0.03	0.06	0.4	4.8
NO_2-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	0.2	0.6
NO_3-N	(μg-at/ℓ)					
NH_4-N	(μg-at/ℓ)	0.4	36		9.5	48
Na	(mg/kg)	58.0	1240	2840	200	1540
K	(mg/kg)	6.0	104.0	196	19.8	125
Mg	(mg/kg)	8.7	156.1	342	20.1	165.1
Ca	(mg/kg)	2.6	97.0	128	25.8	109
Cl	(mg/kg)	105.0	1828	3871	249.8	1917
SO_4	(mg/kg)	11	159	116	25.7	169
Li	(mg/kg)					
B	(mg/kg)		0.80	1.8		
F	(mg/kg)					
Br	(mg/kg)					
Sr	(mg/kg)					
δD	(‰)	-21.9	-25.5	-24.3		
$\delta^{18}O$	(‰)					
Remarks		air temp.: +0.3 ℃ ice thickness: 2.15 m H_2S: 13.3 mg/kg (10.0 m) 30.4 mg/kg (18.0 m) ref. 9			ref. 8, 9	

Table 17. Chemical composition of waters in Lake Fryxell (continued).

Station	F1		F1-2			
Date	22 Jan. 1965		24 Jan. 1965			
Depth (m)	13.0	16.0	6.0	8.0	10.0	12.0
Water temp. (℃)	2.0	1.9	1.2	1.5	1.9	2.0
Specific gravity	1.0070	1.0075	1.0012	1.0035	1.0053	1.0064
E.C. (mS/cm)						
pH	7.4	7.6				
DO (mℓ/ℓ)	0	0	16.9			
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)	330	420	163	262		
PO_4-P (μg-at/ℓ)	11	12	1.2	2.2	9.4	10.9
NO_2-N (μg-at/ℓ)	0.8	1.3		<0.1	<0.1	0.8
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)			4	6	108	
Na (mg/kg)	2600	2350	399	1140	1980	2540
K (mg/kg)	169	213	41.9	108	166	190
Mg (mg/kg)	298.7	337.1	42.6	139.4	215.0	263.5
Ca (mg/kg)	148	62.8	49.2	101	116	119
Cl (mg/kg)	3390	3766	512.2	1638	2454	2992
SO_4 (mg/kg)	230	175	53.9	157	218	249
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	ref. 8, 9		H_2S: 5.6 mg/kg (10.0 m) ref. 8, 9			

Table 17. Chemical composition of waters in Lake Fryxell (continued).

Station	F1-2		F2			A
Date	24 Jan. 1965		22 Jan. 1965			20 Dec. 1972
Depth (m)	14.0	15.5	5.0	8.0	11.0	4.0
Water temp. (℃)	1.9	1.8	0.1	1.6	2.1	
Specific gravity	1.0069	1.0074	1.0001	1.0022	1.0035	
E.C. (mS/cm)						
pH			8.4	7.8	7.6	6.47
DO (mℓ/ℓ)	0	0	26.6		0	13.7
Alkalinity (meq/ℓ)						0.54
SiO_2-Si (μg-at/ℓ)	142	186	47	200	230	11
PO_4-P (μg-at/ℓ)	13	>10	0.4	0.4	4.6	0.02
NO_2-N (μg-at/ℓ)	1.55	1.4	>0.1	0.4	0.5	0.0
NO_3-N (μg-at/ℓ)						0.0
NH_4-N (μg-at/ℓ)			11	16	44	1.5
Na (mg/kg)	2180	2480	46			
K (mg/kg)	205	209	10.9			
Mg (mg/kg)	300.3	322.3	10.4	83.1	138.7	
Ca (mg/kg)	145	149	14.0	63.3	88.5	
Cl (mg/kg)	3414	3615	130.0	968	1591	
SO_4 (mg/kg)	229	229	13.3	88.6	140	
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	H_2S: 7.7 mg/kg (14.0 m) 13.4 mg/kg (15.5 m) ref. 8, 9		H_2S: 0.0 mg/kg (11.0 m) bottom depth: 12 m ref. 8, 9			

Table 17. Chemical composition of waters in Lake Fryxell (continued).

Station		A			B		
Date		20 Dec.1972			20 Dec.1972		
Depth (m)		6.0	10.0	14.0	4.0	5.0	6.0
Water temp.(℃)		1.8	1.7	1.6	0.2	1.2	1.6
Specific gravity							
E.C.	(mS/cm)	3.57	7.43	9.96	0.593	1.73	3.6
pH		7.8	7.4	7.25	7.00	8.16	7.98
DO	(mℓ/ℓ)	30.6	0.0		17.5	18.3	28.8
Alkalinity	(meq/ℓ)	15.2	28.4	45.3	3.26	3.55	7.44
SiO_2-Si	(μg-at/ℓ)	55	128		37	14	34
PO_4-P	(μg-at/ℓ)	0.0	3.92	27.1	0.05	0.02	0.1
NO_2-N	(μg-at/ℓ)	0.04	1.57	0.56	0.0	0.1	0.1
NO_3-N	(μg-at/ℓ)	0.0	0.0	0.0	n.d.	n.d.	n.d.
NH_4-N	(μg-at/ℓ)	0.0	41.9	11.6	11.2	n.d.	n.d.
Na	(mg/kg)				85	135	348
K	(mg/kg)				12.6	15.3	36
Mg	(mg/kg)				16	17	40
Ca	(mg/kg)				25.3	29.0	21.1
Cl	(mg/kg)				195	199	480
SO_4	(mg/kg)				27.2	30.8	57
Li	(mg/kg)						
B	(mg/kg)				0.1	0.20	0.30
F	(mg/kg)						
Br	(mg/kg)				0.4		1.2
Sr	(mg/kg)						
δD	(‰)						
$\delta^{18}O$	(‰)						
Remarks		H_2S: 30.3 mg/kg (10.0 m) 14.6 mg/kg (14.0 m)			ref. 66, 70		

Table 17. Chemical composition of waters in Lake Fryxell (continued).

Station		B					C
Date		20 Dec.1972					20 Dec.1972
Depth (m)		8.0	10.0	12.0	15.0	16.0	4.0
Water temp.(℃)		1.9	1.7	1.6	1.6	1.6	0.4
Specific gravity							
E.C.	(mS/cm)	5.27	7.56	9.04	10.3	10.7	0.493
pH		7.50	7.40	7.40	7.10	7.07	7.2
DO	(mℓ/ℓ)	9.8	n.d.	n.d.	n.d.	n.d.	11.3
Alkalinity	(meq/ℓ)	20.5	29.8	38.3	47.5	51.3	1.86
SiO_2-Si	(μg-at/ℓ)	102	128	175			20
PO_4-P	(μg-at/ℓ)	0.14	6.78	18.2	39.5	50.2	0.08
NO_2-N	(μg-at/ℓ)	0.1	1.3	0.7	0.1	0.0	0.07
NO_3-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	n.d.	0.0
NH_4-N	(μg-at/ℓ)	2.94	60.0	214	293		0.0
Na	(mg/kg)	1110	1670	1950	2700	2980	
K	(mg/kg)	91.5	134	172	192	203	
Mg	(mg/kg)	124	184	248	311	331	
Ca	(mg/kg)	31.6	35.2	31.0	43.5	26.8	
Cl	(mg/kg)	1450	2160	2845	3510	3710	
SO_4	(mg/kg)	165	214	240	244	253	
Li	(mg/kg)						
B	(mg/kg)	0.59	1.1	1.7	2.0	2.2	
F	(mg/kg)						
Br	(mg/kg)	4.3	6.3	8.4	10.5	11.1	
Sr	(mg/kg)						
δD	(‰)	-236		-254		-243	
$\delta^{18}O$	(‰)	-31.3		-31.8		-31.2	
Remarks		H_2S: 6.8 mg/kg (8.0 m) 22.6 mg/kg (15.0 m) ref. 66, 70					

Table 17. Chemical composition of waters in Lake Fryxell (continued).

Station	C			D		
Date	20 Dec. 1972			21 Dec. 1972		
Depth (m)	6.0	10.0	14.0	5.0	7.0	8.0
Water temp. (℃)	1.7	1.7	1.6	0.2	1.9	1.8
Specific gravity						
E.C. (mS/cm)	3.66	7.56	10.1	0.271	4.24	5.19
pH	7.4	7.42	7.4	7.02	7.49	7.35
DO (mℓ/ℓ)	23.9	0.0		10.4	2.7	1.8
Alkalinity (meq/ℓ)	5.59	30.8	47.1	1.02	18.4	20.5
SiO_2-Si (μg-at/ℓ)	18	130		28	331	352
PO_4-P (μg-at/ℓ)	0.0	9.04	33.4	0.03		0.18
NO_2-N (μg-at/ℓ)	0.06	0.97	0.44	0.02	0.13	0.13
NO_3-N (μg-at/ℓ)	0.0	0.0	0.0	0.0	0.0	0.0
NH_4-N (μg-at/ℓ)	0.0	113	293	3.5	8.2	3.8
Na (mg/kg)						
K (mg/kg)						
Mg (mg/kg)						
Ca (mg/kg)						
Cl (mg/kg)						
SO_4 (mg/kg)						
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	H_2S: 23.4 mg/kg (10.0 m) 19 mg/kg (14.0 m)					

Table 17. Chemical composition of waters in Lake Fryxell (continued).

Station	F0				F0	
Date	22 Nov.1979				10 Dec.1985	
Depth (m)	0.0	5.0	10.0	15.0	5.0	7.5
Watertemp.(℃)					0.1	2.3
Specific gravity						
E.C. (mS/cm)						
pH			6.74		7.98	8.03
DO (mℓ/ℓ)			13.7		13.6	22.6
Alkalinity (meq/ℓ)			0.54		2	8.9
SiO_2-Si (μg-at/ℓ)	17.9	151	523	723	64	210
PO_4-P (μg-at/ℓ)	0.18	0.18	6.9	38.7	0.26	0.24
NO_2-N (μg-at/ℓ)	0.14	0.04	0.04	0.02	0.6	0.36
NO_3-N (μg-at/ℓ)					<1	<1
NH_4-N (μg-at/ℓ)					0.4	0.0
Na (mg/kg)					76.0	436.0
K (mg/kg)					9.1	44.4
Mg (mg/kg)					0.62	44.3
Ca (mg/kg)					21.0	24.1
Cl (mg/kg)					80	594
SO_4 (mg/kg)					17.1	78.0
Li (mg/kg)					n.d.	0.030
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)					0.54	0.68
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks						

Table 17. Chemical composition of waters in Lake Fryxell (continued).

Station		F0				
Date		10 Dec.1985				
Depth (m)		10.0	12.5	15.0	17.5	18.5
Water temp.(°C)		2.6	2.4	2.3	2.2	2.1
Specific gravity						
E.C.	(mS/cm)					
pH		7.81	7.8	7.88	7.89	7.83
DO	(mℓ/ℓ)	5.59	0.0	0.0	0.0	0.0
Alkalinity	(meq/ℓ)	21.3	35.4	44.4	49.4	51.9
SiO_2-Si	(μg-at/ℓ)	440	570	630	610	650
PO_4-P	(μg-at/ℓ)	1.3	18	44	70	77
NO_2-N	(μg-at/ℓ)	0.53	0.0	0.0	0.0	0.0
NO_3-N	(μg-at/ℓ)	<1	<1	<1	<1	<1
NH_4-N	(μg-at/ℓ)	8.4	140	340	660	800
Na	(mg/kg)	1120	1880	2380	2680	2720
K	(mg/kg)	99.2	146.0	194.0	193.0	193.0
Mg	(mg/kg)	163	197	251	292	307
Ca	(mg/kg)	14.3	11.4	14.3	14.8	12.4
Cl	(mg/kg)	1610	2710	3460	3830	3940
SO_4	(mg/kg)	145.0	200.0	196.0	165.0	136.0
Li	(mg/kg)	0.060	0.10	0.11	0.11	0.13
B	(mg/kg)					3.18
F	(mg/kg)					
Br	(mg/kg)					
Sr	(mg/kg)	1.21	2.07	1.90	2.01	2.48

Table 18. Stable isotope ratio of Fryxell lake ice.

	δD (‰)	$\delta^{18}O$ (‰)	Remarks
Upper part	-210	-27.3	sampling date:
Middle part	-200	-25.0	2 Jan. 1964
Lower part	-212	-27.1	ref. 125

Table 19. Chemical composition of waters in the east lobe of Lake Bonney.

Sampling station	B1-0		B2-0		
Sampling date	1 Jan.1964		1 Jan.1964		
Sampling depth (m)	5.0	14.0	5.0	14.0	29.6
Water temperature (℃)		0.47	0.47	6.95	-1.21
Specific gravity		1.098	1.003	1.090	1.143
Electric conductivity (mS/cm)					
pH	8.2	6.9	7.6	7.0	7.6
Dissolved oxygen (mℓ/ℓ)	3.23		2.46	0.30	0.21
Alkalinity (meq/ℓ)					
SiO_2-Si (μg-at/ℓ)					
PO_4-P (μg-at/ℓ)	0.0	0.0	0.0	0.0	0.0
NO_2-N (μg-at/ℓ)					
NO_3-N (μg-at/ℓ)					
NH_4-N (μg-at/ℓ)					
Na (mg/kg)	273.0	15200	148.0	17000	85600
K (mg/kg)	17.4	1190	11.4	1220	2710
Mg (mg/kg)	32.5	15880	18.0	14320	21420
Ca (mg/kg)	25.9	1010	21.0	980.0	1090
Cl (mg/kg)	301.5	80140	209.0	72870	116000
SO_4 (mg/kg)	54	2556	44	2440	2570
Li (mg/kg)					
B (mg/kg)	0.074	16	0.052	15	26
F (mg/kg)					
Br (mg/kg)	1.6	780	1.0	730	1090
Sr (mg/kg)					
δD (‰)					
$\delta^{18}O$ (‰)					
Remarks	airtemp.: -3.4 ℃ 350 m from east edge bottom depth: 16.8 m		airtemp.: +1.4 ℃ 220 m west from B1-0 bottom depth: 29.65 m		

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	B(1)					
Date	8 Jan. 1965					
Depth (m)	5.0	10.5	14.5	19.0	22.0	25.0
Water temp. (℃)	0.0	6.0	7.2	5.6	3.7	1.9
Specific gravity	1.0005	1.0156	1.1034	1.1636	1.1665	1.1819
E.C. (mS/cm)						
pH	8.5	7.6	6.8	6.6	7.0	7.2
DO (mℓ/ℓ)	22.53	17.75	1.27	7.60	3.27	3.17
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)	45	70	155	105	85	85
PO_4-P (μg-at/ℓ)	0.02	0.4	0.3	0.0	0.0	0.0
NO_2-N (μg-at/ℓ)	0.1	0.2	6.0	19		>20
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	335	3920	16780	33300	32600	38800
K (mg/kg)	25.6	417	1540	2950	2750	3730
Mg (mg/kg)	64.4	1762	16700	25470	25290	27270
Ca (mg/kg)	74.4	343	1260	1430	1430	1600
Cl (mg/kg)	734	12420	82470	129700	131600	142800
SO_4 (mg/kg)	160	473	2480	2560	2480	2710
Li (mg/kg)						
B (mg/kg)	0.16	2.6	17		29	32
F (mg/kg)						
Br (mg/kg)	3.7	110	780		1200	1300
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	air temp.: -1.2 ℃ ice thickness: 4.2 m ref. 9					

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	B(1)		B(4)			
Date	8 Jan. 1965		10 Jan. 1965			
Depth (m)	28.5	32.0	5.0	10.5	14.5	19.0
Water temp. (℃)	-0.1	-2.6	0.0	5.9	7.3	5.8
Specific gravity	1.1839	1.1983	1.0008	1.0117	1.1027	1.1636
E.C. (mS/cm)						
pH	8.2		8.4	7.6	6.7	6.6
DO (mℓ/ℓ)	3.23	2.64	19.97	18.06	1.26	0.43
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)	97	73	37	80	142	100
PO_4-P (μg-at/ℓ)	0.0	0.0	0.2	0.1	0.01	0.01
NO_2-N (μg-at/ℓ)	>20	19	0.0	0.8	7.6	20
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	33900	36000	215	3170	18100	27200
K (mg/kg)	3090	2870	18.7	269	1680	2850
Mg (mg/kg)	26970	26030	45.3	1275	16470	25340
Ca (mg/kg)	1810	1540	52.4	298	1260	1540
Cl (mg/kg)	144500	154500	520.0	9436	81940	129700
SO_4 (mg/kg)	2760	2950	106	367	2480	2640
Li (mg/kg)						
B (mg/kg)	32	31	0.08	0.085	0.084	0.09
F (mg/kg)						
Br (mg/kg)	1300	1300	0.50	0.90	0.95	0.94
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 32.2 m bottom temp.: -2.7 ℃ ref. 9		air temp.: +1.7 ℃ ice thickness: 4.15 m ref. 9			

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	B(4)				B1	
Date	10 Jan.1965				15 Dec.1965	
Depth (m)	22.0	25.0	28.5	32.0	5.0	10.0
Water temp.(℃)	4.2	2.2	-0.5	-2.2	1.5	6.1
Specific gravity	1.1715	1.1816	1.1865	1.1979		
E.C. (mS/cm)						
pH	7.2	7.2	7.2	7.2	8.0	7.6
DO (mℓ/ℓ)	3.02	3.18	3.19	2.26		
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)	70	73	77	73	13	68
PO_4-P (μg-at/ℓ)	0.0	0.0	0.0	0.0	0.01	0.02
NO_2-N (μg-at/ℓ)	20	20	>20	>20	0.30	0.52
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	30900		34300	80000		
K (mg/kg)	3060	3120	3300	6861		
Mg (mg/kg)	25970	26900	27100	26140		
Ca (mg/kg)	1510	1620	1560	1440		
Cl (mg/kg)	135800	142900	146300	154500	351	5445
SO_4 (mg/kg)	2630	2760	2830	2960		
Li (mg/kg)						
B (mg/kg)	0.09	0.09	0.09	0.082		
F (mg/kg)						
Br (mg/kg)	0.93	0.93	0.93	0.83		
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 32.4 m bottom temp.: -2.6 ℃				ice thickness: 4.30 m ref. 9	

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	B1				E4	
Date	15 Dec.1965				30 Jan.1971	
Depth (m)	14.0	21.0	28.0	32.0	5.0	15.0
Water temp.(℃)	6.8	4.1	-0.3	-2.5	1.2	6.4
Specific gravity						1.073
E.C. (mS/cm)						
pH	7.0	7.2	6.9	6.7		
DO (mℓ/ℓ)						
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)	122	81	78	71		
PO_4-P (μg-at/ℓ)	0.01	0.02	0.02			
NO_2-N (μg-at/ℓ)	5.0	22	22	19		
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)					255	19100
K (mg/kg)					38	3000
Mg (mg/kg)					36.9	11330
Ca (mg/kg)					49	1090
Cl (mg/kg)	63040	116700	136400	147800	435	59180
SO_4 (mg/kg)					106	1970
Li (mg/kg)						
B (mg/kg)					0.146	17.1
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)					0.00035	0.020
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 32.0 m bottom temp.: -2.7 ℃ ref. 9				ice thickness: 3.58 m	

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E4			E1		
Date	30 Jan.1971			8 Jan.1973		
Depth (m)	22.0	32.0	33.08	5.0	8.5	10.0
Water temp.(℃)	4.0	-2.2	-2.8	2.0	4.9	5.5
Specific gravity	1.17	1.186		1.001	1.011	1.011
E.C. (mS/cm)				2.77	17.2	22.4
pH				5.5	6.9	6.95
DO (mℓ/ℓ)				23	25.9	23.2
Alkalinity (meq/ℓ)				1.4	3.46	5.26
SiO_2-Si (μg-at/ℓ)				72.9	95.9	101.0
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)					5.6	37.1
NH_4-N (μg-at/ℓ)				2.2		9.4
Na (mg/kg)	43900	45800	140000	298	3870	3850
K (mg/kg)	6700	7300		18	134	152
Mg (mg/kg)	26170	271700		67	948	914
Ca (mg/kg)	1510	1560	10000	119	323	566
Cl (mg/kg)	135400	146400	168000	769	8670	9080
SO_4 (mg/kg)	2760	2890		111	292	533
Li (mg/kg)			8.8			
B (mg/kg)	51.0	54.5	44.9			
F (mg/kg)						
Br (mg/kg)				3.9	58	55
Sr (mg/kg)	0.041	0.043				
δD (‰)				-300	-299	-304
$\delta^{18}O$ (‰)				-39.8	-40.2	-40.0
Remarks	bottom depth: 33.08 m			air temp.: 1.4 ℃ ice thickness: 3.55 m ref. 125		

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E1					
Date	8 Jan. 1973					
Depth (m)	13.0	15.0	19.0	22.0	26.0	29.5
Water temp. (℃)	6.0	6.0	5.25	3.8	1.75	-0.5
Specific gravity		1.1	1.143		1.181	1.177
E.C. (mS/cm)	73.2	118	156	155	151	144
pH	6.89	6.4	6	6.51	6.81	6.72
DO (mℓ/ℓ)	12.1	1.9	0.34	0.81	1.4	2.2
Alkalinity (meq/ℓ)	10.8	16.4	12.4	10.3	8.21	7.72
SiO_2-Si (μg-at/ℓ)	262.0	265.0	162.0	82.0	60.2	64.0
PO_4-P (μg-at/ℓ)	0.0	0.0	0.0	0.0	0.0	0.0
NO_2-N (μg-at/ℓ)	1.09	5.35	11.9	13.2	13.2	12.7
NO_3-N (μg-at/ℓ)	61.8	40.4	104.0	384.0	425.0	459.0
NH_4-N (μg-at/ℓ)	1.8	1.6	16.0	39.7	23.4	59.8
Na (mg/kg)		21600	34300		43900	43500
K (mg/kg)		1360	2010		2740	2690
Mg (mg/kg)		15250	22370		27270	23700
Ca (mg/kg)		797	990		1350	1110
Cl (mg/kg)		79320	113700		143400	141300
SO_4 (mg/kg)		2507	2510		2748	2854
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)		775	1107		1340	
Sr (mg/kg)						
δD (‰)	-312	-295	-281	-261	-251	-251
$\delta^{18}O$ (‰)	-40.2	-38.3	-31.7	-26.5	-25.0	-25.2
Remarks	ref. 125					

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E1	E2				
Date	8 Jan. 1973	8 Jan. 1973				
Depth (m)	32.5	5.0	8.5	10.0	13.0	15.0
Water temp. (℃)	-2.4	2.2	4.8	5.3	6.0	6.0
Specific gravity	1.203					
E.C. (mS/cm)	145					
pH	6.51	7.1	7.06	6.9	6.9	6.35
DO (mℓ/ℓ)	1.5	22.8	25.1	24.3	10.2	1.8
Alkalinity (meq/ℓ)	3.7	1.45	3.46	5.56	10.6	16.4
SiO_2-Si (μg-at/ℓ)	31.4	74.4	87.4	105.0	252.0	273.0
PO_4-P (μg-at/ℓ)	0.0	0.0	0.0	0.0	0.0	0.0
NO_2-N (μg-at/ℓ)	8.8	0.59	0.2	0.3	1.15	4.93
NO_3-N (μg-at/ℓ)	388.0	7.1	4.5	23.2	104.0	230.0
NH_4-N (μg-at/ℓ)	25.0	n.d.	28.8	12.5	8.2	21.7
Na (mg/kg)	56900					
K (mg/kg)	2300					
Mg (mg/kg)	21710					
Ca (mg/kg)	1220					
Cl (mg/kg)	161500					
SO_4 (mg/kg)	2936					
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)	1239					
Sr (mg/kg)						
δD (‰)	-252					
$\delta^{18}O$ (‰)	-25.2					
Remarks	bottom depth: 33.0 m bottom temp.: -2.6 ℃ ref. 140, 141	air temp.: 1.0 ℃ ice thickness: 3.57 m				

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E2					E3
Date	8 Jan. 1973					24 Dec. 1976
Depth (m)	19.0	22.0	26.0	29.5	31.5	5.4
Water temp. (℃)	5.25	3.8	1.7	-0.5	-1.8	
Specific gravity						
E.C. (mS/cm)						1.9
pH	6.12	6.62	6.71	6.78	6.7	8.34
DO (mℓ/ℓ)	0.44	0.89	1.36	1.8	1.95	23.3
Alkalinity (meq/ℓ)	13.5	10.0	8.1	8.08	6.99	1.64
SiO_2-Si (μg-at/ℓ)	116.0	76.7	95.9	77.5	89.0	61.0
PO_4-P (μg-at/ℓ)	0.0	0.0	0.0	0.0	0.0	0.0
NO_2-N (μg-at/ℓ)	12.3	12.7	12.7	11.3	11.0	0.25
NO_3-N (μg-at/ℓ)	389.0	469.0	310.0	405.0	446.0	16.0
NH_4-N (μg-at/ℓ)	24.5	24.5	37.0	17.4	11.4	2.0
Na (mg/kg)						343
K (mg/kg)						17.9
Mg (mg/kg)						53
Ca (mg/kg)						70
Cl (mg/kg)						647
SO_4 (mg/kg)						130
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						0.78
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 32.5 m bottom temp.: -2.5 ℃					

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E3					
Date	24 Dec.1976					
Depth (m)	10.4	15.4	19.4	25.4	30.4	33.4
Water temp.(℃)						
Specific gravity						
E.C. (mS/cm)	20	71	>100	>100	>100	>100
pH	6.78	6.58	6.05	6.70	6.70	6.77
DO (mℓ/ℓ)	28.0	9.4	0.4	0.8	2.9	4.1
Alkalinity (meq/ℓ)	5.96	13.1	15.6	9.18	8.94	6.40
SiO_2-Si (μg-at/ℓ)	78	220	37	12	8.5	6.5
PO_4-P (μg-at/ℓ)	0.0	0.0	0.0	0.0	0.0	0.0
NO_2-N (μg-at/ℓ)	0.25	1.6	9.0	40	39	31
NO_3-N (μg-at/ℓ)	25	80	170	210	210	190
NH_4-N (μg-at/ℓ)	4	38	55	58	47	46
Na (mg/kg)	3840	15800	33300	39200	40500	
K (mg/kg)	193	1090	1940	2470	2580	
Mg (mg/kg)	984	10100	23000	25900	26000	
Ca (mg/kg)	236	647	1000	1130	1130	
Cl (mg/kg)	8824	56630	118600	138800	142900	
SO_4 (mg/kg)	316	1840	2790	2740	1420	
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)	3.15	9.30	18.2	23.1	24.7	
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 34.2 m ref. 146					

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E4					
Date	31 Dec.1980					
Depth (m)	5.0	10.0	15.0	20.0	25.0	30.0
Water temp.(℃)						
Specific gravity						
E.C. (mS/cm)						
pH						
DO (mℓ/ℓ)						
Alkalinity (meq/ℓ)	1.21	2.86	7.51	17.78	10.53	7.92
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	214	1580	7750	25900	37900	39900
K (mg/kg)	12.7	83.1	436	1590	2280	2360
Mg (mg/kg)	60	343	3062	20060	25530	26380
Ca (mg/kg)	56	158	488	892	1022	1019
Cl (mg/kg)	420	3473	20970	101300	136400	143100
SO_4 (mg/kg)	96	275	731	1610	1530	1600
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	ice thickness: 3.80 m					

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E4		E4			
Date	31 Dec.1980		28 Dec.1981			
Depth (m)	35.0	35.5	5.0	10.0	15.0	20.0
Water temp.(℃)			1.3	2.4	-0.3	-2.3
Specific gravity						
E.C. (mS/cm)						
pH			8.9	7.6	7.3	6.4
DO (mℓ/ℓ)			22.4	24.1	18.5	2.4
Alkalinity (meq/ℓ)	7.40	5.57	1.6	3.7	9.9	16.4
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)			0.2	0.2	1.2	11
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	48700	55800				
K (mg/kg)	2380	2180				
Mg (mg/kg)	26380	23420				
Ca (mg/kg)	936	927				
Cl (mg/kg)	153200	156800				
SO_4 (mg/kg)	1620	1390				
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks			ice thickness: 3.87 m			

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E4			E3		
Date	28 Dec.1981			24 Dec.1982		
Depth (m)	25.0	30.0	35.0	5.2	10.4	15.5
Water temp.(℃)	-3.5	-4.1	-4.6			
Specific gravity						
E.C. (mS/cm)				1.06	10.55	17.49
pH	6.95	7.1	7.05	7.17	6.65	6.54
DO (mℓ/ℓ)			1.3	16.9	25.5	12.4
Alkalinity (meq/ℓ)	10.7	7.8	8	1.04	3.91	10.8
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)	40	38	36	0.12	0.2	1.5
NO_3-N (μg-at/ℓ)				12.1	25.1	138
NH_4-N (μg-at/ℓ)				0.29	0.87	<0.01
Na (mg/kg)						
K (mg/kg)						
Mg (mg/kg)						
Ca (mg/kg)						
Cl (mg/kg)						
SO_4 (mg/kg)						
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 35.82 m bottom temp.: -4.6 ℃					

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E3				E3	
Date	24 Dec. 1982				10 Dec. 1983	
Depth (m)	20.7	25.9	31.1	34.2	5.2	10.2
Water temp. (℃)					1.6	5.4
Specific gravity						
E.C. (mS/cm)	>20	>20	>20	>20	2.2	16.3
pH	5.85	6.58	6.68	5.72	8.23	7.37
DO (mℓ/ℓ)	0.43				21.7	27.3
Alkalinity (meq/ℓ)	14.8	11.5	8.48	7.57	1.66	6.45
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)	12.1	7.3	7.72	6.77		
NO_3-N (μg-at/ℓ)	303	250	106	247		
NH_4-N (μg-at/ℓ)	1.7	35.3	26.7	30.6		
Na (mg/kg)					282	2300
K (mg/kg)					18	1450
Mg (mg/kg)					44	583
Ca (mg/kg)					80	220
Cl (mg/kg)					580	547
SO_4 (mg/kg)					170	420
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks					ice thickness: 3.74 m ref. 166	

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E3					E3
Date	10 Dec.1983					29 Dec.1986
Depth (m)	15.3	20.3	25.4	30.4	34.5	5.0
Water temp.(℃)	6.2	5.6	3.5	0.8	-1.7	1.8
Specific gravity		1.15	1.18	1.18	1.19	
E.C. (mS/cm)		175	188	189	197	2.01
pH	7.2	6.29	7.02	7.09	6.98	7.54
DO (mℓ/ℓ)	16.1	0.59	1.49	2.3	2.77	20.9
Alkalinity (meq/ℓ)	9.46	9.6	9.65	7.84	6.4	1.2
SiO_2-Si (μg-at/ℓ)						68
PO_4-P (μg-at/ℓ)						0.61
NO_2-N (μg-at/ℓ)						n.d.
NO_3-N (μg-at/ℓ)						1.8
NH_4-N (μg-at/ℓ)						n.d.
Na (mg/kg)		28700	35700	36900	48200	
K (mg/kg)		2150	2710	2720	2580	
Mg (mg/kg)		23100	26700	27000	24300	
Ca (mg/kg)		1180	1270	1150	1360	
Cl (mg/kg)		115800	139900	143600	155800	
SO_4 (mg/kg)		2790	2770	2830	3060	
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 36.0 m bottom temp.: -2.0 ℃					

Table 19. Chemical composition of waters in the east lobe of Lake Bonney (continued).

Station	E3					
Date	29 Dec.1986					
Depth (m)	10.0	15.0	20.0	25.0	30.0	35.0
Water temp.(℃)	5.3	6.0	5.7	3.8	1.3	-1.6
Specific gravity						
E.C. (mS/cm)	10.8	57.9	183	206	327	278
pH	7.74	6.75	6.15	6.59	6.75	6.6
DO (mℓ/ℓ)	25.1	23.1	0.85	3.01	1.66	2.41
Alkalinity (meq/ℓ)	2.48	6.97	15.8	8.72	7.11	6.67
SiO_2-Si (μg-at/ℓ)	75	140	230	140		
PO_4-P (μg-at/ℓ)	0.48	0.48	0.73	0.24		
NO_2-N (μg-at/ℓ)	n.d.	0.24	15	18		
NO_3-N (μg-at/ℓ)	5.5	28	100	110		
NH_4-N (μg-at/ℓ)	n.d.	1.6	n.d.	2.1		
Na (mg/kg)						
K (mg/kg)						
Mg (mg/kg)						
Ca (mg/kg)						
Cl (mg/kg)						
SO_4 (mg/kg)						
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 35.83 m bottom temp.: -2.2 ℃					

Table 20. Chemical composition of waters in the west lobe of Lake Bonney.

Sampling station		(B3)				
Sampling date		9 Jan.1965				
Sampling depth (m)		5.0	9.5	13.5	18.0	20.0
Water temperature (℃)		0.1	1.1	0.0	-2.2	-2.8
Specific gravity		1.0005	1.0545	1.0776	1.0871	1.0901
Electric conductivity (mS/cm)						
pH		8.0	6.8	6.2	6.0	5.9
Dissolved oxygen (mℓ/ℓ)		18.70	1.73	0.78	0	0
Alkalinity	(meq/ℓ)					
SiO_2-Si	(μg-at/ℓ)	32	150	165	167	120
PO_4-P	(μg-at/ℓ)	0.3	0.0			
NO_2-N	(μg-at/ℓ)	0.5	0.0	0.0	0.0	0.0
NO_3-N	(μg-at/ℓ)					
NH_4-N	(μg-at/ℓ)					
Na	(mg/kg)	280	16300	46900	33100	22700
K	(mg/kg)	21.0	716	1980	1240	1410
Mg	(mg/kg)	53.8	2420	6065	7115	7472
Ca	(mg/kg)	62.2	1660	2270	2200	2160
Cl	(mg/kg)	634.8	40680	58960	66820	69360
SO_4	(mg/kg)	133	3290	4530	4290	4190
Li	(mg/kg)					
B	(mg/kg)					
F	(mg/kg)					
Br	(mg/kg)					
Sr	(mg/kg)					
δD	(‰)					
$\delta^{18}O$	(‰)					
Remarks		air temp.: +0.2 ℃ ice thickness: 3.90 m bottom depth: 21 m bottom temp.: -3.0 ℃ ref. 9				

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station	B4					
Date	18 Dec.1965					
Depth (m)	5.0	9.0	14.0	18.0	21.0	28.0
Water temp.(℃)	0.0	5.9	7.3	6.4	4.7	2.8
Specific gravity						
E.C. (mS/cm)						
pH	8.4	7.0	6.8	6.6	6.6	6.4
DO (mℓ/ℓ)	19.97	18.06	1.26	0.43	3.02	3.18
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)	15.3	82.6				
PO_4-P (μg-at/ℓ)	0.01	0.02				
NO_2-N (μg-at/ℓ)	0.39	0.31	0.12		0.37	0.70
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)						
K (mg/kg)						
Mg (mg/kg)						
Ca (mg/kg)						
Cl (mg/kg)	455	29040	51370		58670	77930
SO_4 (mg/kg)						
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	ice thickness: 3.9 m bottom depth: 28.5 m ref. 9					

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station	B4					W1
Date	9 Dec.1971					9 Jan.1972
Depth (m)	5.0	10.0	15.0	22.0	30.0	29.5
Water temp.(℃)						-4.6
Specific gravity						1.102
E.C. (mS/cm)						
pH	8.52	6.98	6.8	6.28	6.2	5.73
DO (mℓ/ℓ)	26.1	10.1	0.0	0.0	0.0	
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)						32100
K (mg/kg)						1470
Mg (mg/kg)						8340
Ca (mg/kg)						1480
Cl (mg/kg)	673	49300	74600	91500	91500	78120
SO_4 (mg/kg)	176	4080	4430	4060	4060	4450
Li (mg/kg)						
B (mg/kg)						19.3
F (mg/kg)						
Br (mg/kg)						375
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks						ref. 140

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station		W1					
Date		5 Jan.1973					
Depth (m)		5.0	8.5	10.0	13.0	15.0	19.0
Water temp.(℃)		1.7	1.9	1	-0.8	-1.8	-3.1
Specific gravity		1.001	1.037	1.063		1.078	
E.C.	(mS/cm)	2.85	56.6	84.2	94.3	98.1	102
pH		6.87	6.3	5.98	5.88	5.99	5.8
DO	(mℓ/ℓ)	21.4	23.9	0.71	0.39	0.24	
Alkalinity	(meq/ℓ)	1.32	44.1	71.7	79.8	82.9	85.6
SiO_2-Si	(μg-at/ℓ)	63	153	193	160	191	177
PO_4-P	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.	0.28	0.08
NO_2-N	(μg-at/ℓ)	0.47	0.32	0.46	0.5	0.5	0.49
NO_3-N	(μg-at/ℓ)	15.4	28.9	4.9	4.6	4.7	4.1
NH_4-N	(μg-at/ℓ)	n.d.	10.9	0.4	3.2	4.5	5.0
Na	(mg/kg)	379	8250	21800		28200	
K	(mg/kg)	14	433	813		996	
Mg	(mg/kg)	68	3000	5050		6270	
Ca	(mg/kg)	56	803	1180		1560	
Cl	(mg/kg)	733	28230	48690		60260	
SO_4	(mg/kg)	114	2748	4056		4521	
Li	(mg/kg)						
B	(mg/kg)						
F	(mg/kg)						
Br	(mg/kg)	3.6	135	228		284	
Sr	(mg/kg)						
δD	(‰)	-296	-312	-325	-323	-315	-321
$\delta^{18}O$	(‰)	-39.5	-41.0	-42.0	-42.4	-42.0	-41.0
Remarks		airtemp.: -3.5 ℃ ice thickness: 3.02 m ref. 125					

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station	W1			W2		
Date	5 Jan. 1973			5 Jan. 1973		
Depth (m)	22.0	26.0	29.5	5.0	8.5	15.0
Water temp. (℃)	-3.7	-4.3	-4.6	1.8	2.0	-1.7
Specific gravity	1.094		1.102			
E.C. (mS/cm)	110	116	115			
pH	5.7	5.72	5.78	6.89	7.11	6.1
DO (mℓ/ℓ)	0.0	0.0	0.0	20.2	28.3	0.46
Alkalinity (meq/ℓ)	90.8	98.4	99.7	0.58	3.31	83.5
SiO_2-Si (μg-at/ℓ)	203	193	194	41	90	223
PO_4-P (μg-at/ℓ)	0.26	0.8	0.84	0.11	0.2	0.08
NO_2-N (μg-at/ℓ)	0.18	0.48	0.13	0.17	0.32	0.42
NO_3-N (μg-at/ℓ)	0.1	n.d.	n.d.	24.1	3.1	2.7
NH_4-N (μg-at/ℓ)	2.4	1.7	1.7	n.d.	n.d.	n.d.
Na (mg/kg)	33000		32080			
K (mg/kg)	1260		1470			
Mg (mg/kg)	7970		8340			
Ca (mg/kg)	1460		1480			
Cl (mg/kg)	74410		78120			
SO_4 (mg/kg)	4332		4453			
Li (mg/kg)						
B (mg/kg)			0.02			
F (mg/kg)						
Br (mg/kg)	360		375			
Sr (mg/kg)						
δD (‰)	-313	-321	-318			
$\delta^{18}O$ (‰)	-40.3	-40.5	-40.5			
Remarks	ref. 125			air temp.: -3.5 ℃ ice thickness: 3.07 m ref. 146		

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station	W2		W2			
Date	5 Jan.1973		21 Dec.1976			
Depth (m)	22.0	26.5	5.4	8.4	13.4	18.4
Water temp.(℃)	-3.6	-4.3				
Specific gravity						
E.C. (mS/cm)			1.8	7.1	73	88
pH	6.18	6.2	7.65	7.96	6.22	6.02
DO (mℓ/ℓ)			18.3	32.5	1.9	0.7
Alkalinity (meq/ℓ)	90.9	98.4	1.28	3.15	42.0	42.2
SiO_2-Si (μg-at/ℓ)	196	267	47	67	250	240
PO_4-P (μg-at/ℓ)	0.26	0.81	0.0	0.0	0.0	0.1
NO_2-N (μg-at/ℓ)	0.58	0.19	0.31	0.15	0.04	0.37
NO_3-N (μg-at/ℓ)	1.1	0.1	13.5	12.5	24.4	12.7
NH_4-N (μg-at/ℓ)	n.d.	n.d.	0	0	190	130
Na (mg/kg)			378	1500	25600	28200
K (mg/kg)			16.9	90	95.4	1080
Mg (mg/kg)			59	298	5560	6420
Ca (mg/kg)			67	142	1230	1240
Cl (mg/kg)			718	3232	58730	66690
SO_4 (mg/kg)			166	173	2210	2150
Li (mg/kg)			n.d.	0.15	3.1	3.6
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)			0.86	1.89	18.2	20.5
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks			ref. 146			

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station	W2		W2			
Date	21 Dec.1976		26 Dec.1980			
Depth (m)	25.4	30.2	5.0	10.0	15.0	20.0
Water temp.(℃)			0.2	2.6	0.1	-2.6
Specific gravity			1.001	1.003	1.066	1.071
E.C. (mS/cm)	>100	>100				
pH	5.90	5.88	8.40	7.46	6.13	5.85
DO (mℓ/ℓ)	0.0	0.0				
Alkalinity (meq/ℓ)	49.3	51.6				
SiO_2-Si (μg-at/ℓ)	190	180				
PO_4-P (μg-at/ℓ)	0.3	0.7				
NO_2-N (μg-at/ℓ)	0.01	0.01	0.34	0.26	0.09	0.06
NO_3-N (μg-at/ℓ)	0.0	0.0	14.3	12.1	12.7	13.1
NH_4-N (μg-at/ℓ)	48	29	7.4	3.5	1.1	173
Na (mg/kg)	35100	38500				
K (mg/kg)	1340	1350				
Mg (mg/kg)	8340	8370				
Ca (mg/kg)	1210	1130				
Cl (mg/kg)	83930	86080	140	3010	45400	60090
SO_4 (mg/kg)	1960	2120				
Li (mg/kg)	5.0	5.1				
B (mg/kg)		24.1				
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)	20.0	23.0				
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	ref. 146		ref. 142			

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station	W2		B4			
Date	26 Dec.1980		27 Dec.1981			
Depth (m)	25.0	30.0	5.0	10.0	15.0	20.0
Water temp.(℃)	-3.7		1.3	2.4	-0.3	-2.3
Specific gravity	1.094	1.100	0.997	1.003	1.066	1.074
E.C. (mS/cm)			2.18	17.4	934	102
pH	5.65	5.72	8.90	7.45	6.40	6.35
DO (mℓ/ℓ)			22.7	31.1	1.3	
Alkalinity (meq/ℓ)			1.6	4.6	36.1	42.6
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)	0.30	0.05	0.2	0.2	<0.1	<0.1
NO_3-N (μg-at/ℓ)	11.0	1.7				
NH_4-N (μg-at/ℓ)	57	192				
Na (mg/kg)			300	2700	24000	27000
K (mg/kg)			19	150	900	1100
Mg (mg/kg)			46.1	591	5600	6430
Ca (mg/kg)			76.1	244	1480	1530
Cl (mg/kg)	72110	76250	562	6010	54300	61100
SO_4 (mg/kg)						
Li (mg/kg)						
B (mg/kg)			0.23	1.5	20	20
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	ref. 142		ice thickness: 3.87 m			

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station	B4			W1		
Date	27 Dec.1981			25 Dec.1982		
Depth (m)	25.0	30.0	35.0	5.1	8.2	12.3
Water temp.(℃)	-3.5	-4.1	-4.6			
Specific gravity	1.091	1.092	1.063			
E.C. (mS/cm)	113	114	97.4	1.29	3.68	>20
pH	6.15	6.15	6.35	8.33	6.93	5.93
DO (mℓ/ℓ)				19.7	16.4	0.95
Alkalinity (meq/ℓ)	49.6	51.8	36.7	1.79	2.72	35
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)	<0.1	<0.1	<0.1	0.17	0.18	<0.01
NO_3-N (μg-at/ℓ)				25.7	23.2	12.2
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	33000	33000	24000			
K (mg/kg)	1300	1300	880			
Mg (mg/kg)	8010	7890	5580			
Ca (mg/kg)	1590	1520	1100			
Cl (mg/kg)	75300	75500	53300			
SO_4 (mg/kg)						
Li (mg/kg)						
B (mg/kg)	20	24	20			
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	bottom depth: 35.82 m bottom water temp.: -4.6 ℃					

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station	W1		B4			
Date	25 Dec. 1982		12 Dec. 1983			
Depth (m)	18.4	22.4	5.0	10.0	15.0	20.0
Water temp. (℃)			1.2	1.9	-0.8	-2.5
Specific gravity			1.001	1.03	1.07	
E.C. (mS/cm)	>20	>20	2.22	14	120	
pH	5.8	5.63	8.88	7.68	6.2	6.21
DO (mℓ/ℓ)			21.8	31.9	1.2	1.2
Alkalinity (meq/ℓ)	40.8	45.1	1.56	3.72	38.2	40.3
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)	<0.01	<0.01				
NO_3-N (μg-at/ℓ)	<0.01	<0.01				
NH_4-N (μg-at/ℓ)						
Na (mg/kg)			304	2060	22300	
K (mg/kg)			18	130	990	
Mg (mg/kg)			51	472	5680	
Ca (mg/kg)			73	1180	1610	
Cl (mg/kg)			640	514	54660	
SO_4 (mg/kg)			170	390	4020	
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks			ice thickness: 3.27 m			

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station	B4			B4		
Date	12 Dec.1983			30 Dec.1986		
Depth (m)	25.0	30.0	32.7	5.0	10.0	15.0
Water temp.(℃)	-3.6	-4.3	-4.6	2.2	3.5	0.1
Specific gravity	1.1	1.11	1.11			
E.C. (mS/cm)	151	156	159	2.02	12.3	129
pH	6.3	6.31	6.22	8.77	7.61	6.4
DO (mℓ/ℓ)	0.0	0.0	0.0	16.6	24.4	0.71
Alkalinity (meq/ℓ)	48.6	50.1	52	1.11	2.79	36.5
SiO_2-Si (μg-at/ℓ)				55	171	240
PO_4-P (μg-at/ℓ)				1	0.48	1.4
NO_2-N (μg-at/ℓ)				1.2	1.2	1.3
NO_3-N (μg-at/ℓ)				2.8	2.1	19
NH_4-N (μg-at/ℓ)				n.d.		
Na (mg/kg)	32600	32700	32700	253	1630	24200
K (mg/kg)	1360	1440	1590	13.5	89.2	974
Mg (mg/kg)	8000	8260	8430	44	399	5750
Ca (mg/kg)	1710	1590	1360	62	160	1130
Cl (mg/kg)	75380	78850	80990	457.5	3426	52940
SO_4 (mg/kg)	4360	4200	4110	114	160	2140
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks						

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station		B4				
Date		30 Dec.1986				
Depth (m)		20.0	25.0	30.0	35.0	37.0
Water temp.(℃)		-2.0	-3.2	-4.0	-4.6	-4.8
Specific gravity						
E.C.	(mS/cm)	144	164	168	175	178
pH		5.88	5.65	5.59	5.6	5.58
DO	(mℓ/ℓ)	0.23	n.d.	n.d.	n.d.	n.d.
Alkalinity	(meq/ℓ)	39.1	47.8	47.8	49	50.4
SiO_2-Si	(μg-at/ℓ)	250	220	180	160	150
PO_4-P	(μg-at/ℓ)	0.48	0.61	2.6	1.8	1.4
NO_2-N	(μg-at/ℓ)	1.2	1.5	1.5	1.2	1.3
NO_3-N	(μg-at/ℓ)	11				
NH_4-N	(μg-at/ℓ)					
Na	(mg/kg)	27600	32400	33700	36100	36500
K	(mg/kg)	1260	1290	1310	1400	1430
Mg	(mg/kg)	6620	7810	7730	8530	8430
Ca	(mg/kg)	1170	1010	1050	1160	1130
Cl	(mg/kg)	61170	71910	73600	80680	82420
SO_4	(mg/kg)	2360	2150	2400	2600	3180
Li	(mg/kg)					
B	(mg/kg)					
F	(mg/kg)					
Br	(mg/kg)					
Sr	(mg/kg)					
δD	(‰)					
$\delta^{18}O$	(‰)					
Remarks		bottom depth: 37.4 m bottom temp.: -4.8 ℃				

Table 20. Chemical composition of waters in the west lobe of Lake Bonney (continued).

Station	B4						
Date	29 Dec.1986						
Depth (m)	10.0	15.0	20.0	25.0	30.0	35.0	37.0
Water temp.(℃)	3.5	0.1	-2	-3.2	-4	-4.6	-4.8
Specific gravity							
E.C. (mS/cm)	12.3	129	144	164	168	175	178
pH	7.61	6.4	5.88	5.65	5.59	5.6	5.58
DO (mℓ/ℓ)	24.4	0.71	0.23	n.d.	n.d.	n.d.	n.d.
Alkalinity (meq/ℓ)	2.79	36.5	39.1	47.8	47.8	49	50.4
SiO_2-Si (μg-at/ℓ)	171	240	250	220	180	160	150
PO_4-P (μg-at/ℓ)	0.48	1.4	0.48	0.61	2.6	1.8	1.4
NO_2-N (μg-at/ℓ)	1.2	1.3	1.2	1.5	1.5	1.2	1.3
NO_3-N (μg-at/ℓ)	2.1	19	11	n.d.	n.d.	n.d.	n.d.
NH_4-N (μg-at/ℓ)	tr	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Na (mg/kg)							
K (mg/kg)							
Mg (mg/kg)							
Ca (mg/kg)							
Cl (mg/kg)							
SO_4 (mg/kg)							
Li (mg/kg)							
B (mg/kg)							
F (mg/kg)							
Br (mg/kg)							
Sr (mg/kg)							
δD (‰)							
$\delta^{18}O$ (‰)							
Remarks							

Table 21. Chemical composition of waters in the channel in Lake Bonney.

Sampling station		(B2)			B2	
Sampling date		9 Jan. 1965			17 Dec. 1965	
Sampling depth (m)		5.0	8.5	10.7	5.0	7.5
Water temperature (℃)		0.1	2.9	1.5	0.8	4.2
Specific gravity		1.0017	1.0490	1.0707		
Electric conductivity (mS/cm)						
pH		8.8	6.6	6.5	8.4	7.7
Dissolved oxygen (mℓ/ℓ)		21.79	4.27	1.22		
Alkalinity	(meq/ℓ)					
SiO_2-Si	(μg-at/ℓ)	63	77	150	69	44
PO_4-P	(μg-at/ℓ)	0.5		0.1	0.01	0.02
NO_2-N	(μg-at/ℓ)	0.0	23	0.0	0.54	0.38
NO_3-N	(μg-at/ℓ)					
NH_4-N	(μg-at/ℓ)	6				
Na	(mg/kg)	445	14500	20700		
K	(mg/kg)	45.0	602	1030		
Mg	(mg/kg)	90.2	4087	5461		
Ca	(mg/kg)	96.1	1510	2140		
Cl	(mg/kg)	1005	36780	53040	1116	4140
SO_4	(mg/kg)	196	3320	4250		
Li	(mg/kg)					
B	(mg/kg)					
F	(mg/kg)					
Br	(mg/kg)					
Sr	(mg/kg)					
δD	(‰)					
$\delta^{18}O$	(‰)					
Remarks		air temp.: +0.3 ℃ ice thickness: 4.2 m bottom depth: 12 m ref. 9			ice thickness: 4.2 m bottom depth: 7.5 m ref. 9	

Table 21. Chemical composition of waters in the channel in Lake Bonney (continued).

Station	B3		B2		
Date	15 Dec.1965		5 Jan.1973		
Depth (m)	5.0	8.0	5.0	8.0	9.5
Water temp.(℃)	0.7	2.1	2.0	4.4	4.4
Specific gravity					
E.C. (mS/cm)					
pH	8.4	7.3	8.3	7.36	7.1
DO (mℓ/ℓ)				26.5	24.9
Alkalinity (meq/ℓ)			1.12	4.22	5.7
SiO_2-Si (μg-at/ℓ)	16	45	29	52	57
PO_4-P (μg-at/ℓ)	0.01	0.01	n.d.	n.d.	0.01
NO_2-N (μg-at/ℓ)	0.38	0.31	0.27	0.31	0.27
NO_3-N (μg-at/ℓ)			14.1	23.9	n.d.
NH_4-N (μg-at/ℓ)			n.d.	n.d.	5.1
Na (mg/kg)					
K (mg/kg)					
Mg (mg/kg)					
Ca (mg/kg)					
Cl (mg/kg)	827	9902			
SO_4 (mg/kg)					
Li (mg/kg)					
B (mg/kg)					
F (mg/kg)					
Br (mg/kg)					
Sr (mg/kg)					
δD (‰)					-307
$\delta^{18}O$ (‰)					-40.8
Remarks			ref. 125		

Table 22. Width changes of Lake Bonney channel.

Year	Width (m)	Remarks
1903	5.2	Scott*1
1911	30.5	Taylor*2
1963	39	Hoare *et al.**3
1974	47.5	Torii *et al.**4
1978	51.81	ditto
4 Dec.1979	51.50	ditto
25 Dec.1980	52.45	ditto
24 Dec.1982	54.70	ditto
31 Dec.1986	58.40	ditto

*1) Scott, R. F. (1905) : The Voyage of the Discovery, vol.2, p.290, Smith Elder and Co., London.
*2) Taylor, T. G., With Scott (1916) : The Silver Lining, p.136, Smith, Elder and Co., London.
*3) Hoare, R. A., Popplewell, K. B., House, D. A., Henderson, R. A., Prebble, W. M., and Wilson, A. T(1964) : Lake Bonney, Taylor Valley, Antarctica: A natural solar energy trap, Nature, **202**, 886-888.
*4) Torii,T. *et al.* unpublished.

Table 23. Chemical composition of waters in Lake Joyce.

Sampling station	south site of the lake					
Date	18 Dec. 1976					
Depth (m)	5.4	13.4	20.4	25.4	30.4	33.0
Water temp. (℃)	-0.1	+0.7	+0.3	+0.1	-0.1	-0.1
Specific gravity						
E.C. (mS/cm)	0.14	1.5	3.9	3.9	4.0	
pH	8.99	9.00	6.95	6.97	6.59	
DO (mℓ/ℓ)	18.2	32.8	3.2	0.4	0.0	
Alkalinity (meq/ℓ)	0.25	1.10	5.30	5.58	6.17	
SiO_2-Si (μg-at/ℓ)	39	210	450	490	500	
PO_4-P (μg-at/ℓ)	0.1	0.1	0.0	0.2	3.2	
NO_2-N (μg-at/ℓ)	0.32	0.55	0.05	0.05	0.00	
NO_3-N (μg-at/ℓ)	570	100	14	1.4	0.8	
NH_4-N (μg-at/ℓ)	0	0	1.1	7.4	66	
Na (mg/kg)	16	264	1000	1050	1060	1090
K (mg/kg)	2.3	19.4	68.5	69.8	70	79.4
Mg (mg/kg)	1.8	23.3	128	129	137	173
Ca (mg/kg)	6.3	55.4	229	237	248	251
Cl (mg/kg)	33	332	1360	1375	1448	1475
SO_4 (mg/kg)	24	265	944	1020	1080	1150
Li (mg/kg)						
B (mg/kg)					0.0	
F (mg/kg)						
Br (mg/kg)					0.001	
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	The lake is located in Pearse Valley air temp.: -4.4 ℃ ice thickness: 4.25 m bottom depth: 34.8 m ref. 116, 146					

Table 24. Chemical composition of glacial meltwaters in Taylor Valley.

Sampling station	Common-wealth Gl.	Canada Gl.	L.Chad	Suess Gl.	Lacroix Gl.	Sollas Gl.
Sampling date	26 Dec.1974	27 Dec.1974	5 Dec.1974	5 Dec.1974	19 Dec.1974	23 Dec.1974
Water temp.(°C)						
Specific gravity						
E.C. (mS/cm)						
pH						
DO (mℓ/ℓ)						
Alkalinity (meq/ℓ)	0.49	0.19				
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)						
K (mg/kg)						
Mg (mg/kg)						
Ca (mg/kg)						
Cl (mg/kg)						
SO_4 (mg/kg)						
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)	n.d.	n.d.				
δD (‰)	-216	-222	-236	-226	-244	-235
$\delta^{18}O$ (‰)	-28.4	-29.4	-29.5	-30.6	-32.1	-29.8
Remarks	ref. 125, 180	ref. 125, 180	ref. 125	ref. 125		

Table 24. Chemical composition of glacial meltwaters in Taylor Valley (continued).

Station	east inflow to L.Bonney	Hughes Gl.	Rhone Gl.	strean from Rhone Gl.	Taylor Gl.	west inflow to L.Bonney
Date	9 Jan.1973	23 Dec.1974	22 Dec.1974	9 Jan.1973	22 Dec.1974	5 Jan.1973
Water temp.(℃)						2.3
Specific gravity						
E.C. (mS/cm)						
pH						
DO (mℓ/ℓ)						
Alkalinity (meq/ℓ)	1.77					0.2
SiO_2-Si (μg-at/ℓ)	95.5					91.0
PO_4-P (μg-at/ℓ)	0.58					0.81
NO_2-N (μg-at/ℓ)	0.33					0.74
NO_3-N (μg-at/ℓ)	21.8					15.5
NH_4-N (μg-at/ℓ)	n.d.					n.d.
Na (mg/kg)	25.6					12.6
K (mg/kg)	3.84					1.16
Mg (mg/kg)	6.0					4.0
Ca (mg/kg)	20.0					19.0
Cl (mg/kg)	25.0					12.0
SO_4 (mg/kg)	29.1					10.7
Li (mg/kg)						
B (mg/kg)	0.00					0.00
F (mg/kg)						
Br (mg/kg)	0.05					
Sr (mg/kg)						0.03
δD (‰)	-214	-231	-258	256	-330	-301
$\delta^{18}O$ (‰)	-26.4	-30.1	-33.6	-33.2	-42.5	-38.5
Remarks	east lobe			inflow to west lobe		meltwater from Taylor Glacier
	ref. 70, 125	ref. 125	ref. 125	ref. 125	ref. 125	ref. 125

Table 25. Water temperature and electric conductivity in Lake Fryxell.

Station: F1 22 Jan. 1965		Station: F1'-2 24 Jan. 1965		Station: F2 22 Jan. 1965	
Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)
4	0.0	4	0.0	4	0.1
5	0.1	5	0.1	5	0.1
6	0.1	6	1.2	6	0.2
7	0.6	7	1.4	7	1.4
8	1.6	8	1.5	8	1.6
9	1.9	9	1.8	9	2.0
10	2.0	10	1.9	10	2.0
11	2.0	11	2.0	11	2.1
12	2.0	12	2.0	12	2.1
13	2.0	13	2.0		
14	2.0	14	1.9		
15	1.9	15	1.8		
16	1.9	16	1.8		
17	1.9	17	1.8		
ref. 8		ref. 8		ref. 8	

Table 25. Water temperature and electric conductivity in Lake Fryxell (continued).

Station: A 20 Dec.1972						Station: B 20 Dec.1972		
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
0.0	0.0	0.007	12.75	1.6	9.42	0.0	0.0	0.343
1.0	0.0	0.007	13.0	1.6	9.56	3.0	0.0	0.583
2.0	0.0	0.007	13.25	1.6	9.68	4.0	0.2	0.593
3.0	0.0	0.004	13.5	1.6	9.83	4.25	0.5	0.590
3.5	0.1	0.068	13.75	1.6	9.92	4.5	0.6	0.589
3.75	0.4	0.149	14.0	1.6	9.96	4.75	0.9	1.21
4.0	0.4	0.162	14.25	1.6	10.1	5.0	1.2	1.75
4.25	0.4	0.243	14.5	1.6	10.2	5.25	1.5	2.45
4.5	0.5	0.284	14.75	1.6	10.4	5.5	1.5	2.95
4.75	0.5	0.365	14.8	1.6	10.5	5.75	1.7	3.33
5.0	0.7	1.35				6.0	1.6-	3.60
5.25	0.8	2.55				6.25	1.8	3.73
5.5	1.75	2.93				6.5	1.9	3.83
5.75	1.7	3.32				6.75	1.9	4.10
6.0	1.8	3.57				7.0	1.9	4.27
6.25	1.8	3.71				7.25	1.9	4.49
6.5	1.8	3.85				7.5	1.9	4.72
6.75	1.9	4.05				7.75	1.9	5.01
7.0	2.0	4.20				8.0	1.9	5.27
7.25	1.9+	4.49				8.5	1.8	5.83
7.5	1.9	4.65				9.0	1.8	6.54
7.75	1.8+	4.93				9.5	1.75	7.04
8.0	1.9	5.18				10.0	1.7	7.56
8.25	1.8+	5.76				10.5	1.6	8.03
8.5	1.8+	5.85				11.0	1.6	8.41
8.75	1.8	6.20				11.5	1.6	8.63
9.0	1.8	6.38				12.0	1.6	9.04
9.25	1.8	6.75				12.5	1.6	9.28
9.5	1.75	6.90				13.0	1.6	9.56
9.75	1.75	7.10				13.5	1.6	9.81
10.0	1.7	7.43				14.0	1.6	9.96
10.25	1.7	7.70				14.5	1.6	10.1
10.5	1.6	7.98				15.0	1.6	10.3
10.75	1.6+	8.23				15.5	1.6	10.6
11.0	1.6+	8.38				16.0	1.6	10.7
11.25	1.6	8.50				16.5	1.7	8.35
11.5	1.6	8.63				17.0	1.7	8.35
11.75	1.6	8.88						
12.0	1.6	8.99						
12.25	1.6	9.11						
12.5	1.6	9.30						

Table 25. Water temperature and electric conductivity in Lake Fryxell (continued).

Station: C 20 Dec.1972			Station: D 20 Dec.1972			Station: A 10 Dec.1985	
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)
0.0	0.1	0.020	0.0	0.0	0.007	0.6	0.1
3.0	0.0	0.007	3.0	0.0	0.011	1	0.1
3.7	0.1	0.445	3.25	0.0	0.011	2	0.0
4.0	0.4	0.493	3.5	0.1	0.014	3	0.0
4.25	0.7	0.565	3.75	0.1	0.048	3.5	0.0
4.5	0.8+	0.793	4.0	0.1	0.095	4.0	0.0
4.75	1.1	1.14	4.25	0.1	0.136	4.5	0.0
5.0	1.25	1.55	4.5	0.1	0.210	5.0	0.1
5.25	1.4	2.36	4.75	0.2	0.210	5.5	1.0
5.5	1.6	2.95	5.0	0.2	0.271	6.0	1.6
5.75	1.6+	3.45	5.25	0.25	0.352	6.5	2.0
6.0	1.7	3.66	5.5	0.3	0.425	7.0	2.2
6.25	1.8	3.81	5.75	0.5	1.38	7.5	2.3
6.5	1.8+	3.87	6.0	1.2	4.11	8.0	2.6
6.75	1.8	4.10	6.25	1.1	3.20	8.5	2.7
7.0	1.8	4.26	6.5	1.9	4.24	9.0	2.7
7.25	1.8+	4.53	6.75	1.9+	4.28	9.5	2.6
7.5	1.9	4.75	7.0	1.9	4.24	10	2.6
7.75	1.9	5.00	7.25	1.9	4.51	10.5	2.6
8.0	1.9	5.30	7.5	1.8+	4.67	11	2.5
8.5	1.8+	5.87	7.75	1.8	4.90	11.5	2.5
9.0	1.8	6.51	8.0	1.8	5.19	12	2.5
9.5	1.75	7.05	8.5	1.8	5.85	12.5	2.4
10.0	1.7	7.56	9.0	1.75	6.49	13	2.4
10.5	1.7	8.22	9.1	1.7	6.60	13.5	2.4
11.0	1.6+	8.41				14	2.3
11.5	1.6+	8.76				14.5	2.3
12.0	1.6	9.08				15	2.3
12.5	1.6	9.16				15.5	2.3
13.0	1.6	9.43				16	2.3
13.5	1.6	9.81				16.5	2.3
14.0	1.6	10.1				17	2.3
						17.5	2.2
						18	2.2
						18.5	2.1
						19	2.1

Table 26. Water temperature and electric conductivity in Lake Bonney.

B1 (east lobe) 8 Jan. 1965		B4 (east lobe) 8 Jan. 1965		B2 (channel) 8 Jan. 1965		B3 (west lobe) 8 Jan. 1965	
Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)
4		4		4		4	0.1
5	0.0	5	0.0	5	0.1	5	0.1
6	0.1	6	1.5	6	0.6	6	0.1
7	2.7	7	2.9	7	2.7	7	0.4
8	4.1	8	4.3	8	2.9	8	0.9
9	4.9	9	5.3	9	2.0	9	1.1
10	6.0	10	5.9	10	1.8	10	0.6
11	6.6	11	6.5	11	1.5	11	0.3
12	7.0	12	7.0	12	1.2	12	0.3
13	7.2	13	7.1	(bottom)		13	0.0
14	7.2	14	7.3			14	-0.9
15	7.1	15	7.2	ice thickness: 4.2 m		15	-1.5
16	6.9	16	7.0			16	-2.2
17	6.7	17	6.8			17	-2.2
18	6.2	18	6.4			18	-2.2
19	5.6	19	5.8			19	-2.6
20	4.9	20	5.2			20	-2.8
21	4.3	21	4.7			20.5	-3.0
22	3.7	22	4.2			(bottom)	
23	3.0	23	3.6				
24	2.2	24	2.8			ice thickness: 3.9 m	
25	1.9	25	2.2				
26	1.3	26	1.5				
27	0.6	27	0.8				
28	-0.1	28	0.2				
29	-0.7	29	-0.5				
30	-1.2	30	-1.1				
31	-1.9	31	-1.7				
32	-2.6	32	-2.2				
32.2	-2.7	32.4	-2.6				
(bottom)		(bottom)					
ice thickness: 4.2 m		ice thickness: 4.15 m					
ref. 8		ref. 8					

Table 26. Water temperature and electric conductivity in Lake Bonney (continued).

B1 (east lobe) 15 Dec. 1965		B2 (channel) 15 Dec. 1965		B3 (channel) 15 Dec. 1965		B4 (west lobe) 15 Dec. 1965	
Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)
5	1.5	5	0.8	5	0.7	5	0.7
6	1.7	6	1.7	6	1.1	6	0.9
7	3.8	7	3.6	7	3.1	7	1.1
8	4.8	7.5	4.2	8	2.1	8	1.1
9	5.5					9	0.8
10	6.1					10	0.4
11	6.6					11	-0.2
12	6.8					12	-0.5
13	7.0					13	-0.8
14	7.0					14	-1.3
15	6.8					15	-2.0
16	6.6					16	-2.4
17	6.2					17	-2.6
18	5.7					18	-2.7
19	5.2						
20	4.7						
21	4.1						
22	3.5						
23	2.8						
24	2.3						
25	1.6						
26	1.0						
27	0.3						
28	-0.3						
29	-0.9						
30	-1.6						
31	-2.2						
32	-2.5						
ref. 8		ref. 8		ref. 8		ref. 8	

Table 26. Water temperature and electric conductivity in Lake Bonney (continued).

east lobe 30 Jan. 1971						east lobe 8 Dec. 1971		
Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
0.0	0.3	0.393	21.0	4.5	152	3.5	0.0	
0.5	0.2	0.226	22.0	4.0	151	4.0	0.0	
1.0	0.1	0.198	23.0	3.4	147	4.5	0.2	
1.5	0.1	0.201	24.0	2.9	146	5.0	1.6	
2.0	0.0	0.190	25.0	2.4	146	5.5	2.0	0.106
2.5	0.0	0.184	26.0	1.8	146	6.0	2.6	2.95
3.0	0.0	0.204	27.0	1.0	143	6.5	3.0	5.84
3.5	0.4	0.194	28.0	0.6	139	7.0	3.6	7.18
4.0	1.0	1.14	29.0	0.0	137	7.5	4.1	9.57
4.5	1.1	1.87	30.0	-0.9	136	8.0	4.4	14.4
5.0	1.2	2.32	31.0	-1.5	135	8.5	4.7	14.8
5.5	1.6	2.79	32.0	-2.2	135	9.0	4.9	16.9
6.0	2.1	3.67	32.75	-2.7	134	9.5	5.1	18.1
6.5	2.8	4.62	33.08	-2.8	137	10.0	5.3	19.9
7.0	3.1	6.47				10.5	5.4	23.8
7.5	3.6	8.60	ice thickness: 3.58 m			11.0	5.7	29.4
8.0	4.0	12.1				11.5	5.8	38.7
8.5	4.2	15.6				12.0	5.9	51.5
9.0	4.7	18.2				12.5	5.9	63.9
9.5	5.1	19.3				13.0	5.9	75.4
10.0	5.3	20.9				13.5	6.0	87.4
10.5	5.5	23.8				14.0	6.0	99.8
11.0	5.7	30.0				14.5	6.0	110
11.5	5.8	38.8				15.0	5.9	117
12.0	6.0	50.8				15.5	5.9	124
12.5	6.1	63.1				16.0	5.9	132
13.0	6.25	75.8				16.5	5.9	136
13.5	6.4	87.5				17.0	5.9	141
14..0	6.4	99.8				17.5	5.7	145
14.5	6.4	110				18.0	5.5	148
15.0	6.4	118				19.0	5.2	150
15.5	6.4	127				20.0	4.8	151
16.0	6.3	135				21.0	4.3	152
16.5	6.2	136				22.0	3.8	151
17.0	6.1	139				23.0	3.2	150
17.5	6.0	146				24.0	2.6	149
18.0	5.9	149				25.0	2.0	146
18.5	5.7	150				26.0	1.5	146
19.0	5.5	150				27.0	0.9	143
19.5	5.3	152				28.0	0.2	142
20.0	5.1	151				29.0	-0.4	139

Table 26. Water temperature and electric conductivity in Lake Bonney (continued).

east lobe 8 Dec. 1971			east lobe 11 Jan. 1972			
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
30.0	-1.1	138	3.0	-0.2	30.0	-1.0
31.0	-1.8	138	3.5	0.1	31.0	-1.6
32.0	-2.4	139	4.0	0.6	32.0	-2.3
32.7	-2.8	143	4.5	1.1	32.7	-2.8
(bottom)			5.0	1.8	(bottom)	
ice thickness: 3.92 m			5.5	2.2		
			6.0	2.7		
			6.5	3.2		
			7.0	3.6		
			7.5	4.0		
			8.0	4.3		
			8.5	4.6		
			9.0	4.8		
			9.5	5.1		
			10.0	5.2		
			10.5	5.3		
			11.0	5.5		
			11.5	5.6		
			12.0	5.8		
			12.5	5.9		
			13.0	5.9		
			13.5	5.9		
			14.0	5.9		
			14.5	5.9		
			15.0	5.9		
			15.5	5.9		
			16.0	5.9		
			16.5	5.9		
			17.0	5.8		
			18.0	5.6		
			19.0	5.2		
			20.0	4.8		
			21.0	4.4		
			22.0	3.8		
			23.0	3.3		
			24.0	2.7		
			25.0	2.1		
			26.0	1.5		
			27.0	1.0		
			28.0	0.4		
			29.0	-0.5		

Table 26. Water temperature and electric conductivity in Lake Bonney (continued).

west lobe 9 Dec. 1971			west lobe 11 Jan. 1972		E-1 8 Jan. 1973		
Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
3.0	0.0	1.90	2.0	0.0	0.0	0.1	0.353
3.5	0.7	1.80	2.5	0.0	1.0	0.0	0.158
4.0	1.2	1.82	3.0	1.0	2.0	0.0	0.109
4.5	1.5	1.91	3.5	1.1	3.0	0.0	0.131
5.0	1.6	2.20	4.0	1.3	3.5	0.5-	1.38
5.5	1.7	3.16	4.5	1.5	4.0	1.0	1.76
6.0	1.7	4.08	5.0	1.7	4.5	1.0	2.26
6.5	1.7	5.14	5.5	1.8	5.0	2.0	2.77
7.0	1.5	6.87	6.0	1.8	5.5	2.5	3.42
7.5	1.4	9.29	6.5	1.8	6.0	3.0	4.41
8.0	1.3	24.8	7.0	1.8	6.5	3.5	5.61
8.5	1.0	65.1	7.5	1.8	7.0	3.9+	7.63
9.0	0.9	74.6	8.0	1.6	7.5	4.2	9.83
9.5	0.6	79.0	9.0	1.1	8.0	4.5+	13.8
10.0	0.4	81.9	10.0	0.6	8.5	4.9	17.2
11.0	0.0	86.0	11.0	0.0	9.0	5.0+	19.3
12.0	-0.6	88.6	12.0	-0.5	9.5	5.2	20.8
13.0	-1.1	91.0	13.0	-1.0	10.0	5.5	22.4
14.0	-1.5	92.6	14.0	-1.3	10.5	5.5	25.0
15.0	-2.2	95.0	15.0	-1.8	11.0	5.6	31.2
16.0	-2.6	95.5	16.0	-2.3	11.5	5.75	38.5
17.0	-2.9	97.4	17.0	-2.5	12.0	5.8	49.8
18.0	-3.1	97.6	18.0	-2.9	12.5	5.9	62.5
19.0	-3.3	99.3	19.0	-3.2	13.0	6.0	73.2
20.0	-3.4	102	20.0	-3.4	13.5	6.0	85.1
21.0	-3.5	104	21.0	-3.5	14.0	6.0	98.1
22.0	-3.8	107	22.0	-3.7	14.5	6.0+	110
23.0	-3.9	109	23.0	-3.9	15.0	6.0	118
24.0	-4.1	109	24.0	-4.1	15.5	6.0	125
25.0	-4.1	109	25.0	-4.1	16.0	6.0-	133
26.0	-4.2	109	26.0	-4.2	16.5	5.9	143
27.0	-4.3	110	27.0	-4.3	17.0	5.8	147
28.0	-4.5	110	28.0	-4.5	17.5	5.7+	150
29.0	-4.6	110	29.0	-4.6	18.0	5.6-	152
30.0	-4.7	103	30.0	-4.7	18.5	5.5	154
(bottom)			30.3	-4.7	19.0	5.25	156
			(bottom)		19.5	5.1	156
					20.0	4.9	155
ice thickness: 3.29 m			ice thickness: 2.82 m		20.5	4.6	156
					21.0	4.4	155
					21.5	4.1	156

Table 26. Water temperature and electric conductivity in Lake Bonney (continued).

E-1 8 Jan. 1973			E-2 8 Jan. 1973					
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)
22.0	3.8	155	0.0	0.0	0.537	22.0	3.8	157
22.5	3.6	155	1.0	0.0+	0.295	22.5	3.5	156
23.0	3.4	155	2.0	0.0+	0.256	23.0	3.3	157
23.5	3.1	154	3.0	0.0+	0.328	23.5	3.1	156
24.0	2.8	154	3.5	0.4-	1.55	24.0	2.75	157
24.5	2.5	153	4.0	1.1	1.74	24.5	2.5	155
25.0	2.25	153	4.5	1.7	2.19	25.0	2.2	154
25.5	2.0	152	5.0	2.2	2.83	25.5	2.0	153
26.0	1.75	151	5.5	2.75	3.454	26.0	1.7	152
26.5	1.6	150	6.0	3.1	4.57	26.5	1.5	152
27.0	1.0	149	6.5	3.5	5.91	27.0	1.1	151
27.5	0.8	148	7.0	3.9+	7.78	27.5	0.75	149
28.0	0.5	147	7.5	4.25	10.1	28.0	0.5	149
28.5	0.2	146	8.0	4.5	14.0	28.5	0.1	148
29.0	-0.1	146	8.5	4.8	17.8	29.0	0.0	146
29.5	-0.5	144	9.0	5.0	19.9	29.5	-0.5	145
30.0	-0.9	143	9.5	5.2	21.6	30.0	-0.8	144
30.5	-1.1	142	10.0	5.3	22.9	30.5	-1.1	142
31.0	-1.5	142	10.5	5.5	26.0	31.0	-1.5	142
31.5	-1.9	141	11.0	5.6	31.0	31.5	-1.8	142
32.0	-2.15	142	11.5	5.7	38.1	32.0	-2.25	143
32.5	-2.4	145	12.0	5.8	49.4	32.5	-2.5	
33.0	-2.6	147	12.5	5.9	62.3			
			13.0	6.0	73.8			
			13.5	6.0	85.9			
			14.0	6.0+	99.3			
			14.5	6.0	110			
			15.0	6.0	119			
			15.5	6.0	126			
			16.0	5.9	133			
			16.5	5.8+	141			
			17.0	5.75	146			
			17.5	5.7	148			
			18.0	5.5	151			
			18.5	5.4	154			
			19.0	5.25	154			
			19.5	5.0	155			
			20.0	4.8	155			
			20.5	4.6	156			
			21.0	4.4	156			
			21.5	4.0	156			

Table 26. Water temperature and electric conductivity in Lake Bonney (continued).

S-1 5 Jan.1973			W-1 5 Jan.1973					
Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)	Depth (m)	Temp. (°C)	Cond. (mS/cm)
0.0	0.0	0.027	0.0	0.0	0.190	23.0	-3.9	113
2.0	0.0	0.082	3.0	0.5	0.344	23.5	-4.0	114
3.0	0.0+	0.095	3.5	1.0	1.01	24.0	-4.0	115
3.5	0.6	0.136	4.0	1.4	1.64	24.5	-4.1	115
4.0	1.0+	0.165	4.5	1.6	2.26	25.0	-4.1	115
4.5	1.75	0.207	5.0	1.7	2.85	25.5	-4.2	115
5.0	2.0	0.261	5.5	1.9	3.57	26.0	-4.3	116
5.5	2.1	0.333	6.0	2.2	4.49	26.5	-4.3-	116
6.0	2.75	0.433	6.5	2.2	5.69	27.0	-4.4	115
6.5	2.9	0.561	7.0	2.2	7.50	27.5	-4.5	115
7.0	3.0	0.728	7.5	2.1	9.77	28.0	-4.5	115
7.5	3.6	0.999	8.0	2.0	12.2	28.5	-4.5	115
8.0	4.4	1.36	8.5	1.9	56.6	29.0	-4.5-	115
8.5	4.7	1.72	9.0	1.6	75.2	29.5	-4.6	115
9.0	4.9	1.88	9.5	1.4	80.9	30.0	-4.75	103
9.5	4.4	1.95	10.0	1.0	84.2			
9.8	3.8	2.07	10.5	0.75	86.1			
			11.0	0.4+	88.8			
			11.5	0.1	90.7			
			12.0	-0.2	91.4			
			12.5	-0.5-	93.2			
			13.0	-0.8	94.3			
			13.5	-1.0	95.5			
			14.0	-1.3	95.9			
			14.5	-1.5-	97.3			
			15.0	-1.8-	98.1			
			15.5	-2.0	99.3			
			16.0	-2.2	99.7			
			16.5	-2.4	100			
			17.0	-2.5-	101			
			17.5	-2.7	101			
			18.0	-2.9	101			
			18.5	-3.0	102			
			19.0	-3.1	102			
			19.5	-3.25	105			
			20.0	-3.4	106			
			20.5	-3.5	107			
			21.0	-3.5-	108			
			21.5	-3.6	109			
			22.0	-3.7	110			
			22.5	-3.8	112			

Table 26. Water temperature and electric conductivity in Lake Bonney (continued).

W-2 5 Jan. 1973						east lobe 26 Dec. 1981	
Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)	Cond. (mS/cm)	Depth (m)	Temp. (℃)
0.0	0.0		23.0	-3.8	111	0.0	0.1
3.0	0.4	0.101	23.5	-3.9	113	2.0	0.1
3.5	1.1	1.16	24.0	-4.0	113	3.0	0.1
4.0	1.4	1.64	24.5	-4.0	113	3.5	0.1
4.5	1.4	2.17	25.0	-4.1	114	3.6	0.1
5.0	1.8	2.67	25.5	-4.2	114	3.7	0.1
5.5	2.0	3.34	26.0	-4.3	114	3.8	0.2
6.0	2.2	4.28	26.5	-4.3-	108	3.9	0.2
6.5	2.2	5.53	26.6	-4.4	110	4.0	0.2
7.0	2.2	7.26				4.5	1.0
7.5	2.1	11.4				5.0	1.6
8.0	2.1	11.6				5.5	2.1
8.5	2.0	54.5				6.0	2.7
9.0	1.6+	72.6				6.5	3.4
9.5	1.4	78.5				7.0	3.7
10.0	1.0	81.5				7.5	4.2
10.5	0.7	83.5				8.0	4.6
11.0	0.4	84.5				9.0	5.2
11.5	0.1	86.0				9.5	5.4
12.0	-0.1	88.5				10.0	5.6
12.5	-0.3-	88.8				10.5	5.9
13.0	-0.6	90.1				11.0	6.1
13.5	-1.0	90.7				11.5	6.1
14.0	-1.2	91.3				12.0	6.2
14.5	-1.5	91.9				12.5	6.3
15.0	-1.7	95.2				13.0	6.3
15.5	-1.9	95.1				13.5	6.3
16.0	-2.1	95.5				14.0	6.3
16.5	-2.4	96.7				14.5	6.3
17.0	-2.5-	96.6				15.0	6.3
17.5	-2.75	97.6				15.5	6.3
18.0	-2.9	97.8				16.0	6.3
18.5	-3.0	98.0				16.5	6.3
19.0	-3.1-	99.0				17.0	6.2
19.5	-3.25	101				17.5	6.2
20.0	-3.3	103				18.0	6.1
20.5	-3.4-	104				18.5	6.0
21.0	-3.5	104				19.0	5.9
21.5	-3.5-	106				19.5	5.6
22.0	-3.6	107				20.0	5.5
22.5	-3.75	108				21.0	5.2

Table 26. Water temperature and electric conductivity in Lake Bonney (continued).

east lobe 26 Dec. 1981		west lobe 27 Dec. 1981				east lobe 10 Dec. 1983	
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
22.0	4.7	0.0	0.1	32.0	-4.4	0.6	0.0
23.0	4.3	2.0	0.1	33.0	-4.4	1.0	0.0
24.0	3.7	3.0	0.0	34.0	-4.5	2.0	0.0
25.0	3.1	3.5	0.1	35.0	-4.6	3.0	0.0
26.0	2.7	3.6	0.1	35.56	-4.6	4.0	0.1
27.0	2.3	3.7	0.2	35.82	-4.6	4.5	0.4
28.0	1.7	4.0	0.6	(bottom)		5.0	1.4
29.0	1.0	4.5	0.9	ice thickness: 3.87 m		5.5	1.9
30.0	0.6	5.0	1.3			6.0	2.2
31.0	0.1	5.5	1.7			6.5	2.7
32.0	-0.5	6.0	1.9			7.0	3.2
33.0	-1.1	6.5	2.3			7.5	3.6
34.0	-1.8	7.0	2.5			8.0	3.9
34.92	-2.2	7.5	2.6			8.5	4.2
35.18	-2.4	8.0	2.6			9.0	4.8
(bottom)		8.5	2.7			9.5	5.1
		9.0	2.6			10.0	5.4
ice thickness: 4.11m		9.5	2.5			10.5	5.5
		10.0	2.4			11.0	5.6
		10.5	2.2			11.5	5.8
		11.0	1.9			12.0	5.8
		12.0	1.4			12.5	6.0
		13.0	0.7			13.0	6.0
		14.0	0.2			13.5	6.1
		15.0	-0.3			14.0	6.1
		16.0	-0.7			14.5	6.2
		17.0	-1.2			15.0	6.2
		18.0	-1.7			15.5	6.2
		19.0	-2.0			16.0	6.2
		20.0	-2.3			16.5	6.2
		21.0	-2.7			17.0	6.2
		22.0	-3.0			17.5	6.1
		23.0	-3.1			18.0	6.1
		24.0	-3.3			18.5	6.0
		25.0	-3.5			19.0	5.9
		26.0	-3.6			19.5	5.8
		27.0	-3.8			20.0	5.7
		28.0	-3.8			20.5	5.5
		29.0	-4.0			21.0	5.3
		30.0	-4.1			21.5	5.1
		31.0	-4.2			22.0	5.1

Table 26. Water temperature and electric conductivity in Lake Bonney (continued).

east lobe 10 Dec. 1983		west lobe 8 Dec. 1983				west lobe 12 Dec. 1983	
Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)
22.5	4.8	1.0	0.0	22.5	-3.2	0.5	-0.1
23.0	4.6	2.0	0.0	23.0	-3.3	1.0	0.0
23.5	4.2	3.0	0.0	23.5	-3.4	2.0	0.0
24.0	4.0	3.5	0.1	24.0	-3.4	3.0	0.0
24.5	3.9	4.0	0.5	24.5	-3.4	4.0	0.5
25.0	3.7	4.5	0.9	25.0	-3.6	5.0	1.2
25.5	3.5	5.0	0.9	25.5	-3.6	6.0	1.7
26.0	3.1	5.5	1.5	26.0	-3.7	7.0	2.1
26.5	2.9	6.0	1.7	26.5	-3.7	8.0	2.2
27.0	2.6	6.5	2.0	27.0	-3.9	9.0	2.1
27.5	2.4	7.0	2.0	27.5	-3.9	10.0	1.9
28.0	2.1	7.5	2.2	28.0	-4.0	11.0	1.6
28.5	1.7	8.0	2.2	28.5	-4.1	12.0	1.1
29.0	1.5	8.5	2.2	29.0	-4.1	13.0	0.3
29.5	1.3	9.0	2.2	29.5	-4.1	14.0	-0.1
30.0	1.1	9.5	2.0	30.0	-4.2	15.0	-0.8
30.5	0.7	10.0	2.0	30.5	-4.3	16.0	-1.5
31.0	0.4	10.5	1.7	31.0	-4.3	17.0	-1.7
31.5	0.1	11.0	1.6	31.5	-4.3	18.0	-2.0
32.0	-0.1	11.5	1.4	32.0	-4.5	19.0	-2.4
32.5	-0.5	12.0	1.1	32.5	-4.6	20.0	-2.5
33.0	-0.8	12.5	0.6	33.0	-4.6	21.0	-2.8
33.5	-1.0	13.0	0.5	33.7	-4.7	22.0	-3.1
34.0	-1.5	13.5	0.1	(bottom)		23.0	-3.3
34.5	-1.7	14.0	-0.2			24.0	-3.4
35.0	-2.0	14.5	-0.8	ice thickness: 3.27 m		25.0	-3.6
35.8	-2.0	15.0	-0.9			26.0	-3.7
36.0		15.5	-1.3			27.0	-3.9
(bottom)		16.0	-1.6			28.0	-4.1
		16.5	-1.7			29.0	-4.1
ice thickness: 3.74 m		17.0	-1.7			30.0	-4.3
		17.5	-1.8			31.0	-4.4
		18.0	-2.0			32.0	-4.5
		18.5	-2.3			33.0	-4.6
		19.0	-2.4			33.7	-4.7
		19.5	-2.5			(bottom)	
		20.0	-2.6				
		20.5	-2.7			ice thickness: 3.27 m	
		21.0	-2.7				
		21.5	-2.8				
ref. 166		22.0	-3.0	ref. 166		ref. 166	

Table 26. Water temperature and electric conductivity in Lake Bonney (continued).

east lobe 29 Dec. 1986		west lobe 30 Dec. 1986	
Depth (m)	Temp. (°C)	Depth (m)	Temp. (°C)
5.0	1.8	4.0	1.4
6.0	2.8	5.0	2.2
7.0	3.6	6.0	2.8
8.0	4.2	7.0	3.2
9.0	4.8	8.0	3.5
10.0	5.3	9.0	3.6
11.0	5.6	10.0	3.5
12.0	5.7	11.0	3.3
13.0	5.9	12.0	2.7
14.0	5.9	13.0	1.9
15.0	6.0	14.0	1.0
16.0	6.0	15.0	0.1
17.0	6.0	16.0	-0.4
18.0	6.0	17.0	-1.0
19.0	5.8	18.0	-1.3
20.0	5.7	19.0	-1.7
21.0	5.4	20.0	-2.0
22.0	5.1	21.0	-2.3
23.0	4.8	22.0	-2.6
24.0	4.3	23.0	-2.8
25.0	3.8	24.0	-3.1
26.0	3.4	25.0	-3.2
27.0	2.9	26.0	-3.4
28.0	2.4	27.0	-3.6
29.0	1.8	28.0	-3.7
30.0	1.3	29.0	-3.9
31.0	0.8	30.0	-4.0
32.0	0.2	31.0	-4.1
33.0	-0.3	32.0	-4.3
34.0	-1.0	33.0	-4.4
35.0	-1.6	34.0	-4.5
35.83 (bottom)	-2.2	35.0	-4.6
		35.5	-4.7
		36.0	-4.7
		36.5	-4.8
		37.0	-4.8
		37.4 (bottom)	-4.8
ice thickness: 3.50 m		ice thickness: 3.2 m	

7. Miers Valley and surroundings

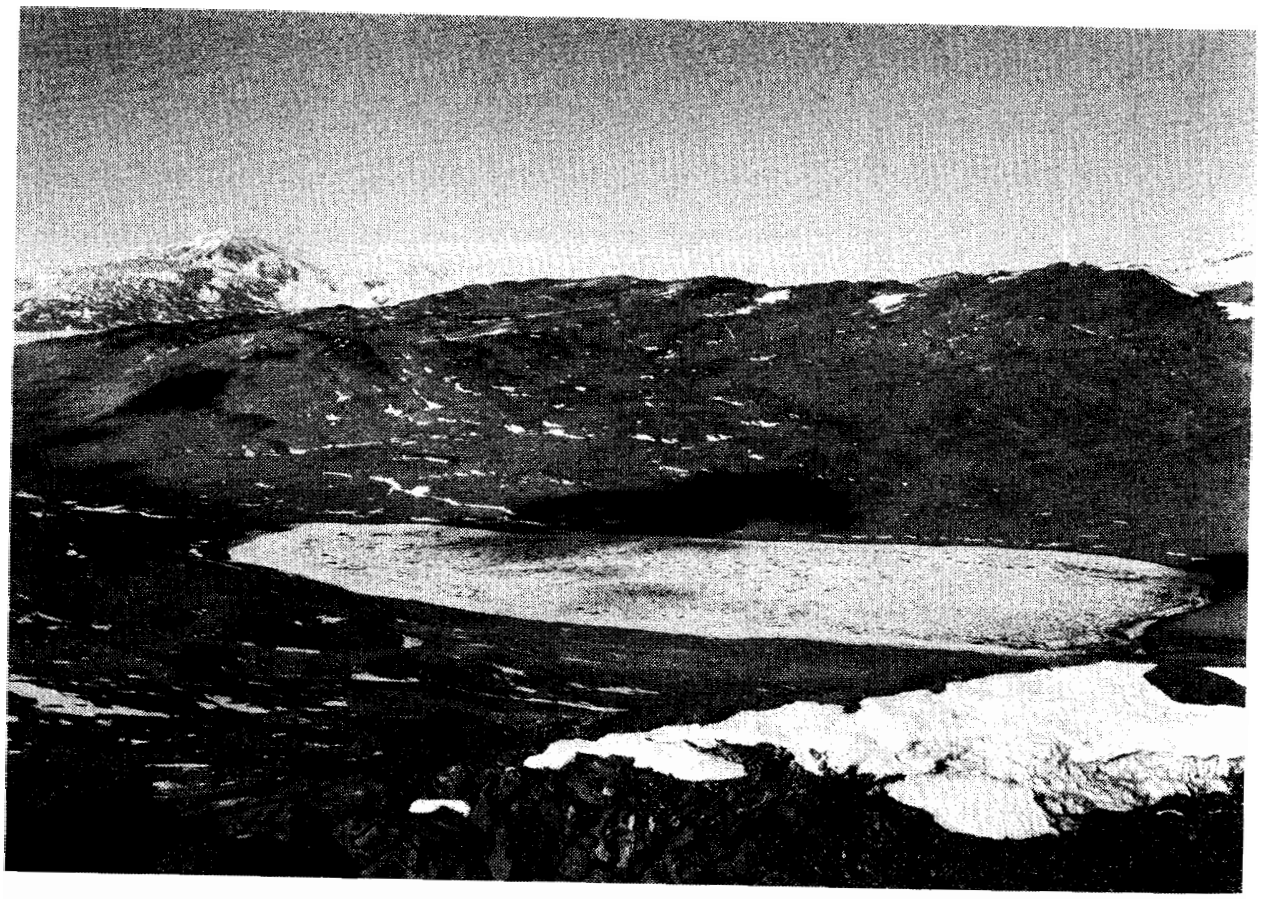

Photo 18. Lake Miers.

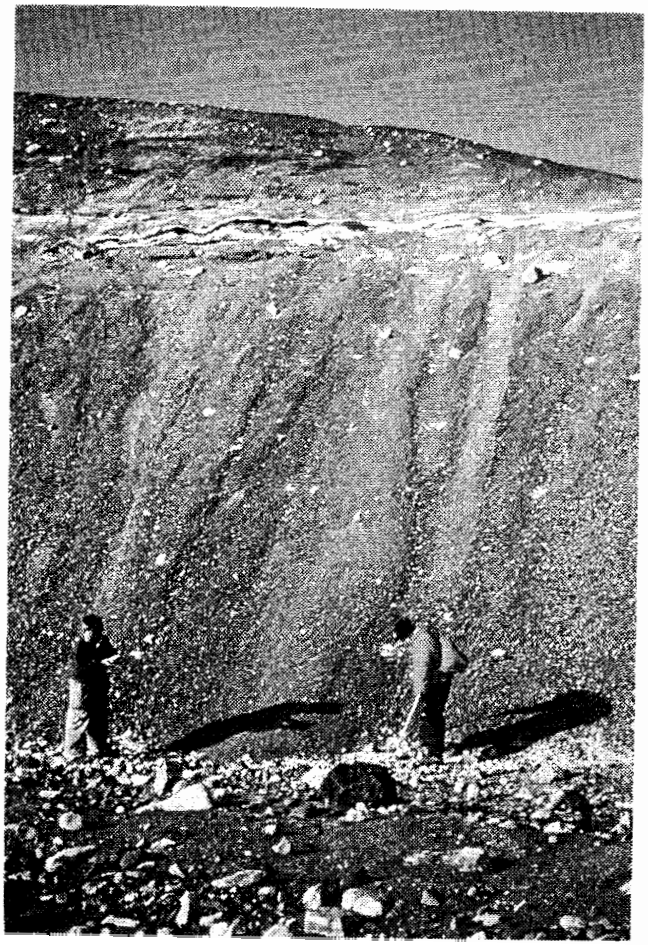

Photo 19. A seam of evaporites on the flank of the valley wall.

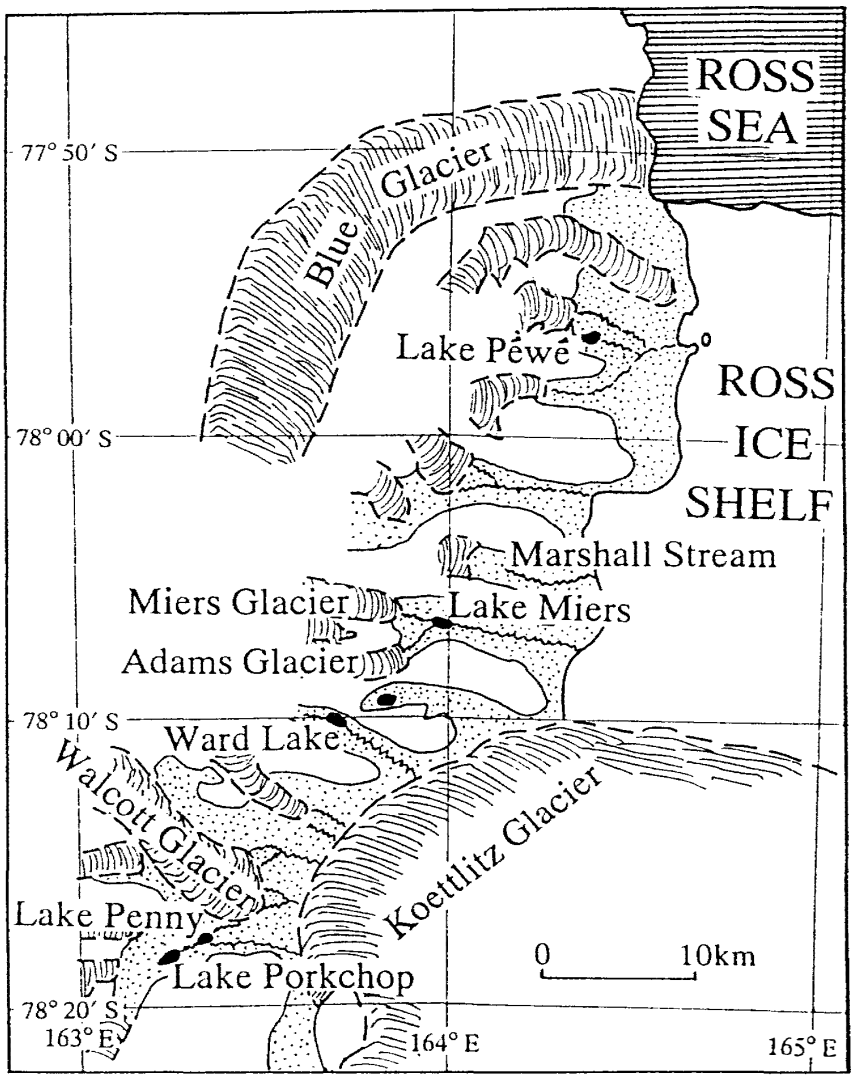

Fig. 14. Lakes and ponds in Miers Valley and surroundings.

Table 27. Chemical composition of waters in Lake Miers.

Sampling station		M1			
Sampling date		12 Jan.1965			
Air temperature (℃)		5.6			
Sampling depth (m)		8.5	12.5	17	19.5
Water temperature (℃)					
Specific gravity					
Electric conductivity (mS/cm)					
pH		9.2	9.2	8.2	7.7
Dissolved oxygen (mℓ/ℓ)					
Alkalinity	(meq/ℓ)				
SiO_2-Si	(μg-at/ℓ)	54	50	63	128
PO_4-P	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.
NO_2-N	(μg-at/ℓ)	n.d.	n.d.	n.d.	n.d.
NO_3-N	(μg-at/ℓ)				
NH_4-N	(μg-at/ℓ)	0.01	0.02	0.02	0.07
Na	(mg/kg)	3	3	2	<1
K	(mg/kg)	2.5	2.4	2.6	3.4
Mg	(mg/kg)	2.3	2.7	2.3	2.9
Ca	(mg/kg)	16.6	16.7	28.8	40.0
Cl	(mg/kg)	5.6	5.5	6.3	6.5
SO_4	(mg/kg)	3.1	4.1	2.9	1.7
Li	(mg/kg)				
B	(mg/kg)				
F	(mg/kg)				
Br	(mg/kg)				
Sr	(mg/kg)				
δD	(‰)	-210	-210	-208	-211
$\delta^{18}O$	(‰)	-27.0	-27.0	-26.8	-27.1
Remarks		ref. 4, 125	ref. 4, 125	ref. 4, 125	ref. 4, 125

Table 27 Chemical composition of waters in Lake Miers (continued).

Station		M2				meltwater
Date		12 Jan.1965				12 Jan.1965
Air temp.	(℃)	5.6				2.7
Depth	(m)	8.5	11.5	15	16	
Water temp.	(℃)					
Specific gravity						
E.C.	(mS/cm)					
pH		9.2			8.4	
DO	(mℓ/ℓ)					
Alkalinity	(meq/ℓ)					
SiO_2-Si	(μg-at/ℓ)	54	51		56	
PO_4-P	(μg-at/ℓ)	0.01	n.d.		n.d.	
NO_2-N	(μg-at/ℓ)	n.d.	n.d.		n.d.	
NO_3-N	(μg-at/ℓ)					
NH_4-N	(μg-at/ℓ)		0.00	0.01	0.02	
Na	(mg/kg)	3	3	3	2	<1.0
K	(mg/kg)	2.6	2.5	2.4	2.6	1.0
Mg	(mg/kg)	1.6	1.8	2.0	2.1	0.6
Ca	(mg/kg)	16.6	15.6	17.7	24.7	15.2
Cl	(mg/kg)	6.8	4.5	4.8	5.0	3.5
SO_4	(mg/kg)	5.3	3.1	3.3	3.1	2.0
Li	(mg/kg)					
B	(mg/kg)					
F	(mg/kg)					
Br	(mg/kg)					
Sr	(mg/kg)					
δD	(‰)					-212
$\delta^{18}O$	(‰)					-26.4
Remarks		ref. 4	ref. 4	ref. 4	ref. 4	inflow water to L.Miers from Miers Glacier ref. 4

Table 28. Water temperature in Lake Miers.

Station: M1 12 Jan. 1965		Station: M2 12 Jan. 1965	
Depth (m)	Temp. (℃)	Depth (m)	Temp. (℃)
6	0.2	6	0.5
7	0.6	7	1.5
8	2.2	8	2.3
9	2.8	9	2.9
10	3.4	10	3.3
11	3.7	11	3.6
12	4.2	12	3.9
13	4.5	13	4.2
14	4.7	14	4.7
15	4.9	15	4.9
16	5.1	16	5.2
17	5.5	16.5	5.4
18	5.5		
19	5.6		
20	5.7		
20.6	5.6		
		ref. 4	

Table 29. Chemical composition of coastal ponds and glacial meltwater streams southwest of McMurdo Sound.

Sampling station	L.Porkchop	Penney L.	Ward L.	Ward L.inflow	Marshall	L.Pe'we'
Samplig date	29 Jan.1965	29 Jan.1965	29 Jan.1965	29 Jan.1965	29 Jan.1965	29 Jan.1965
Depth (m)	surface	surface	surface			surface
Water temp. (℃)	2.4	0.0	3.0	4.2	2.0	0.0
Specific gravity						
E.C. (mS/cm)						
pH						
DO (mℓ/ℓ)						
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	5	12	5	7	24	
K (mg/kg)	2.7	6.7	2.3	2.2	4.2	
Mg (mg/kg)	2.6	2.7	10.4	9.9	13.2	0.6
Ca (mg/kg)	7.7	20.2	1.4	1.4	1.6	7.9
Cl (mg/kg)	5.6	25.6	11.9	11.9	14.4	5.5
SO_4 (mg/kg)	12.7	19.8	11.9	11.1	39.5	6.5
Li (mg/kg)						
B (mg/kg)						
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)						
$\delta^{18}O$ (‰)						
Remarks	ref. 9	ref. 9	ref. 9	ref. 9	stream ref. 9	ref. 9

8. Ross Island

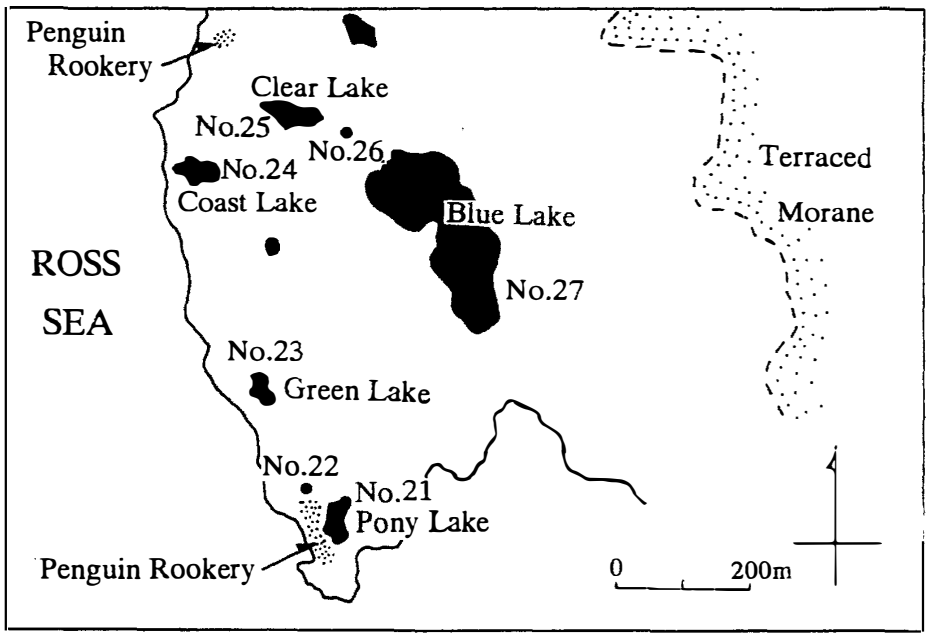

Fig. 15. Lakes and ponds in Cape Royds, Ross Island.

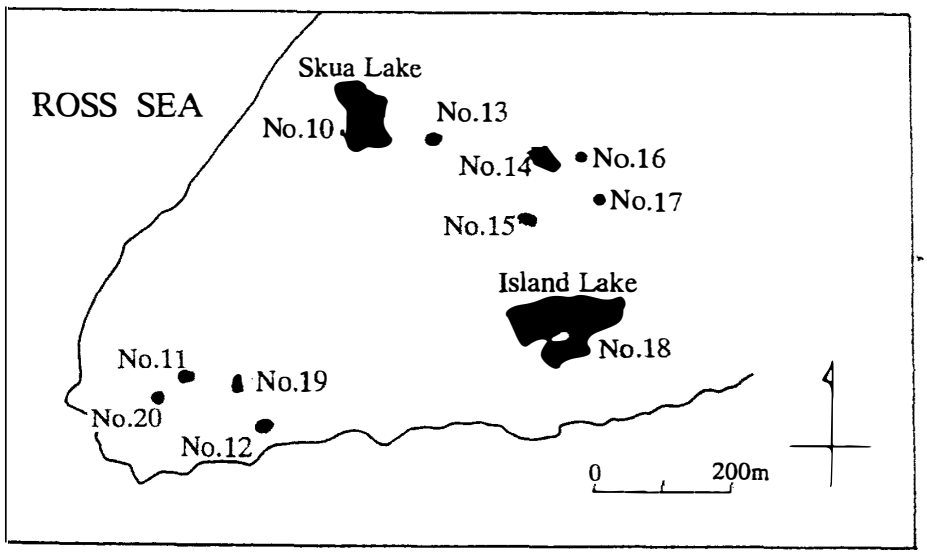

Fig. 16. Lakes and ponds in Cape Evans, Ross Island.

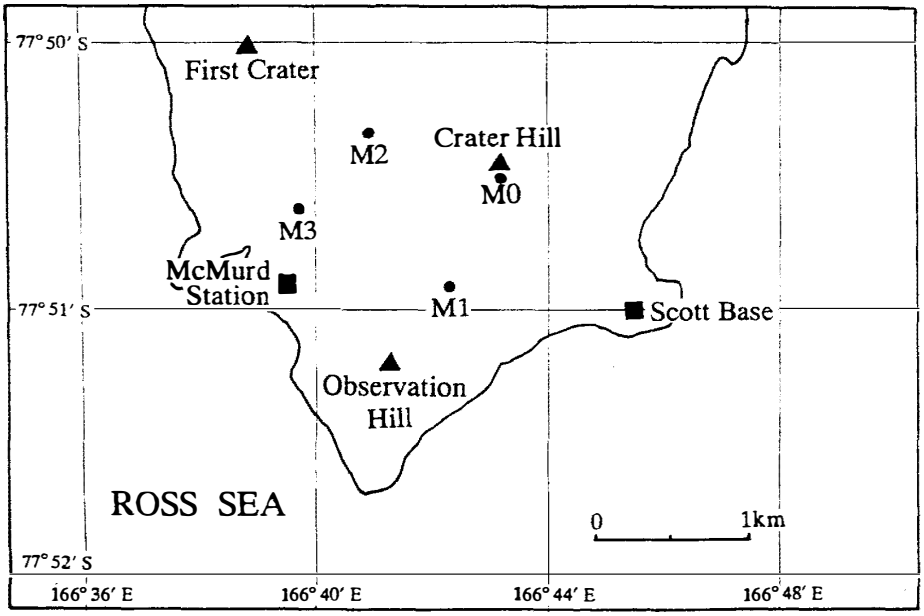

Fig. 17. Ponds in McMurdo Station area, Ross Island.

Table 30. Chemical composition of lake and pond waters in Cape Royds.

Sampling station	No.26	Pony Lake	Blue Lake	Pony Lake
Sampling date	14 Jan.1964	14 Jan.1964	14 Jan.1964	8 Dec.1976
Air temperature (℃)	-2.0	-0.5	-2.0	
Sampling depth (cm)	surface	surface	surface	surface
Water temperature (℃)	4.6	3.4	0.05	1.0
Specific gravity				
Electric conductivity (mS/cm)				8.7
pH				5.60
Dissolved oxygen (mℓ/ℓ)				11.1
Alkalinity (meq/ℓ)				2.06
SiO_2-Si (μg-at/ℓ)				240
PO_4-P (μg-at/ℓ)				190
NO_2-N (μg-at/ℓ)				3.1
NO_3-N (μg-at/ℓ)				5.6
NH_4-N (μg-at/ℓ)				36
Na (mg/kg)	2640	905	15.5	
K (mg/kg)	264	64	3.2	
Mg (mg/kg)	228	59.6	0.9	
Ca (mg/kg)	55.2	28.4	1.1	
Cl (mg/kg)	3891	1061	30.5	
SO_4 (mg/kg)	674	708	0.0	
Li (mg/kg)				
B (mg/kg)	0.13	0.25		
F (mg/kg)				
Br (mg/kg)				
Sr (mg/kg)				
δD (‰)	-132	-143	-185	
$\delta^{18}O$ (‰)	-14.1	-16.9		
Remarks	water temp. (20 cm depth): 4.0 ℃	old name: Home Lake		
	ref. 10, 125	ref. 10, 125	ref. 10, 28	ref. 146

Table 31. Chemical composition of lake and pond waters in Cape Evans.

Sampling station	Skua Lake	No.15	No.17	No.18	No.19	No.20
Sampling date	9 Jan. 1964	9 Jan. 1964	9 Jan. 1964	9 Jan. 1964	9 Jan. 1964	9 Jan. 1964
Air temp. (℃)	-1.6	-1.4	-2.4	-2.0	-1.5	-1.5
Depth (cm)	surface	surface	surface	surface	surface	surface
Water temp. (℃)	5.8	5.4	4.5	2.2	3.65	3.3
Specific gravity						
E.C. (mS/cm)						
pH						
DO (mℓ/ℓ)						
Alkalinity (meq/ℓ)						
SiO_2-Si (μg-at/ℓ)						
PO_4-P (μg-at/ℓ)						
NO_2-N (μg-at/ℓ)						
NO_3-N (μg-at/ℓ)						
NH_4-N (μg-at/ℓ)						
Na (mg/kg)	108	1600	2550	480	1800	3710
K (mg/kg)	9.6	10.1	12.5	17.7	72.0	203
Mg (mg/kg)	15.4	106.4	129.7	37.3	183.8	395
Ca (mg/kg)	7.1	38.5	55.4	18.6	80.0	156
Cl (mg/kg)	221	1549	2406	540	2782	6042
SO_4 (mg/kg)	41	313	644	465	867	1140
Li (mg/kg)						
B (mg/kg)		0.24	0.41	0.23	0.46	0.60
F (mg/kg)						
Br (mg/kg)						
Sr (mg/kg)						
δD (‰)		-174			-186	-162
$\delta^{18}O$ (‰)		-20.3			-23.1	-18.0
Remarks	ref. 10	ref. 10, 125	ref. 10	ref. 10	ref. 10, 125	ref. 10, 125

Table 32. Chemical composition of pond waters around McMurdo Station.

Sampling station	M-0	M-0	M-1	M-2	M-3
Sampling date	25 Dec.1963	19 Dec.1984	6 Jan.1984	6 Jan.1984	6 Jan.1984
Air temperature (℃)	-0.5		-0.2	-0.2	-0.2
Sampling depth (cm)	surface	surface	surface	surface	surface
Water temperature (℃)	1.00	0.5	4.2	3.0	0.0
Specific gravity					
Electric conductivity (mS/cm)		0.3	1.01	0.600	1.18
pH		8.84	9.14	9.37	8.38
Dissolved oxygen (mℓ/ℓ)		8.96	9.6	9.6	9.7
Alkalinity (meq/ℓ)		2.52	1.18	1.03	0.86
SiO_2-Si (μg-at/ℓ)					
PO_4-P (μg-at/ℓ)					
NO_2-N (μg-at/ℓ)					
NO_3-N (μg-at/ℓ)					
NH_4-N (μg-at/ℓ)					
Na (mg/kg)			100	58.5	128
K (mg/kg)			20.4	7.4	10.7
Mg (mg/kg)	1.4		34.5	20.2	21.8
Ca (mg/kg)	4.0		21.0	9.3	45.1
Cl (mg/kg)	18.9		187	106	284
SO_4 (mg/kg)	2		90.8	24.0	40.1
Li (mg/kg)					
B (mg/kg)					
F (mg/kg)			0.79	0.27	0.23
Br (mg/kg)					
Sr (mg/kg)					
δD (‰)					
$\delta^{18}O$ (‰)					
Remarks	Crater Hill ref. 10	Crater Hill	near US radio transmission station ref. 166	ref. 166	stream water ref. 166

9. Miscellaneous analyses

Photo 20. Mummified seal at Don Juan Pond.

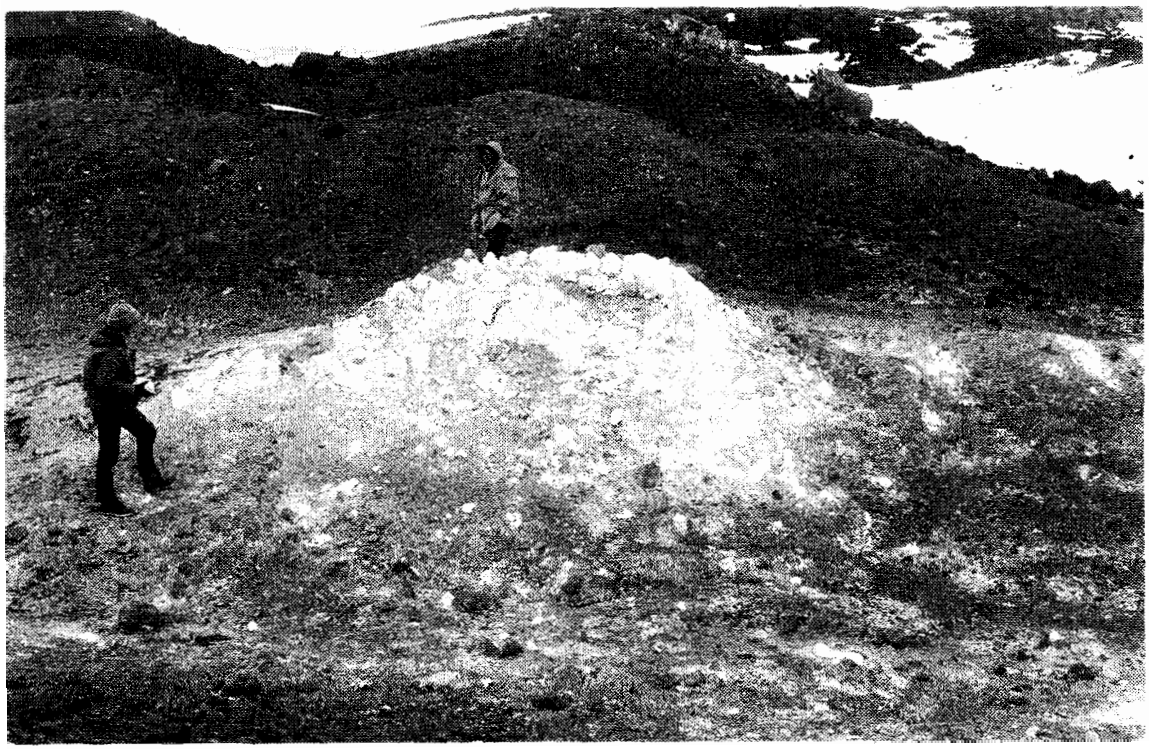

Photo 21. Mirabilite deposit at Cape Barne, Ross Island.

Table 33. Natural and artificial radionuclides in surface soils.

Sampling station	Depth (cm)	U (mg/kg)	Th (mg/kg)	K (%)	^{137}Cs (Bq/kg)	$^{239+240}Pu$ (Bq/kg)
Ross Island						
Crater Hill	0-3	1.43±0.05	8.5±0.2	2.00±0.04	0.70±0.11	0.016±0.004
	3-6	1.46±0.06	8.1±0.2	1.93±0.06	n.d.	0.003±0.001
	6-10	1.95±0.05	8.8±0.2	2.12±0.06	n.d.	
Cape Royds	0-2	3.74±0.07	12.3±0.4	3.35±0.08	6.7±0.7	
	2-4	3.62±0.03	12.9±0.4	3.69±0.09	0.02±0.01	
	4-7	3.80±0.07	12.8±0.4	3.69±0.07	n.d.	
	7-10	3.33±0.12	12.8±0.6	3.49±0.07	n.d.	
	10-13	3.97±0.11	13.7±0.6	3.47±0.09	n.d.	
Wright Valley						
Lake Vanda	0-3	1.08±0.05	7.1±0.3	1.24±0.05	n.d.	
delta area	3-6	1.15±0.05	6.2±0.3	1.07±0.05	n.d.	
	6-10	0.99±0.06	4.8±0.2	1.02±0.05	n.d.	
	10-15	0.88±0.06	4.7±0.2	1.04±0.03	n.d.	
	15-20	0.57±0.03	4.0±0.2	1.09±0.03	n.d.	
Remarks	sampled in October - December, 1979 ref. 156					

Table 33. Natural and artificial radionuclides in surface soils (continued).

Sampling station	Depth (cm)	U (mg/kg)	Th (mg/kg)	K (%)	^{137}Cs (Bq/kg)	$^{239+240}Pu$ (Bq/kg)
Don Juan Pond	0-1.5	0.62±0.05	3.2±0.2	0.94±0.03	0.74±0.10	0.016±0.002
	1.5-3	0.70±0.05	3.0±0.2	0.89±0.03	0.41±0.10	0.007±0.002
	3-5	0.66±0.05	3.2±0.2	0.90±0.03	n.d.	
	5-7.5	0.72±0.05	3.2±0.2	0.94±0.03	n.d.	
	7.5-10	0.76±0.05	3.6±0.3	0.96±0.03		
Don Quixote Pond	0-1	0.45±0.05	2.1±0.1	0.51±0.03	1.3±0.1	
	1-5	0.75±0.05	3.0±0.2	0.68±0.03	n.d.	
	5-10	0.59±0.04	2.3±0.1	0.57±0.03	n.d.	
Taylor Valley						
Lake Fryxell	0-1	1.37±0.04	5.4±0.3	1.93±0.09	21±1	0.33±0.01
	1-2	1.47±0.04	6.9±0.3	2.25±0.03	1.5±0.7	
	2-4	1.34±0.03	6.1±0.3	1.86±0.03	n.d.	
	4-6	1.34±0.04	5.8±0.4	1.75±0.03	n.d.	
	6-9	1.47±0.05	5.8±0.4	1.74±0.03	n.d.	
Remarks	ref. 156					

Table 34. Natural and artificial radionuclides in sand.

Sampling station	Depth (cm)	U (mg/kg)	Th (mg/kg)	K (%)	^{137}Cs (Bq/kg)
Ross Island					
Cape Royds	0-5	4.34±0.09	14.9±0.3	2.46±0.01	2.2±0.4
Victorial Valley					
Lake Vida	0-5	0.82±0.04	4.0±0.2	1.25±0.04	n.d.
Victoria Upper Lake	0-5	0.97±0.04	6.2±0.2	1.61±0.04	n.d.
Wright Valley					
Lake Vanda	0-5	0.64±0.04	3.9±0.2	1.09±0.05	n.d.
Onyx River	0-5	0.69±0.04	2.9±0.2	0.91±0.04	n.d.
Lake Bull	0-5	0.80±0.04	4.5±0.2	0.97±0.04	n.d.
Lake Bull	0-5	1.74±0.07	6.9±0.2	1.68±0.03	n.d.
with evaporite					
Lake Canopus					
Morain sand	0-3	0.93±0.05	5.5±0.3	1.43±0.03	n.d.
near Lake Canopus	3-6	1.02±0.05	7.5±0.4	1.43±0.03	n.d.
	6-10	1.06±0.04	5.6±0.5	1.45±0.05	n.d.
	10-15	1.17±0.04	6.4±0.4	1.64±0.04	n.d.
	15-20	1.40±0.07	7.6±0.4	1.97±0.04	n.d.
Taylor Valley					
Lake Bonney, west lobe	0-5	1.02±0.04	5.6±0.2	1.22±0.04	n.d.
Lake Bonney, west lobe	0-5	1.01±0.04	4.3±0.1	1.41±0.03	n.d.
with evaporite					
Lake Bonney, west lobe	0-5	0.94±0.05	4.6±0.2	1.26±0.06	n.d.
with evaporite					
Lake Bonney, west lobe	0-5	0.63±0.02	4.0±0.1	1.07±0.02	n.d.
with evaporite					
Remarks	sampled in October - December, 1979				
	ref. 156				

Table 35. Natural and artificial radionuclides in rocks, sand and evaporites.

Sample	Sampling station	U (mg/kg)	Th (mg/kg)	K (%)	^{137}Cs (Bq/kg)
Ross Island					
grey rock	Mt. Erebus	5.75±0.18	16.60±0.50	3.39±0.09	n.d.
grey rock	Mt. Erebus	7.03±0.14	19.68±0.59	3.86±0.06	n.d.
black sand	side of TESL	4.43±0.18	14.66±0.59	2.22±0.07	24.8±1.8
black sand	side of TESL	3.76±0.11	13.56±0.54	2.43±0.07	43.9±1.3
black sand	Arrival Ht.	1.81±0.09	5.16±0.26	1.56±0.04	0.88±0.20
black sand	Arrival Ht.	1.85±0.06	6.32±0.20	1.34±0.03	1.7±0.2
black sand	Cape Bird-1	3.08±0.09	11.88±0.37	2.07±0.05	0.15±0.04
black sand	Cape Bird-1	3.12±0.09	11.23±0.35	2.02±0.06	n.d.
black sand	Cape Bird-2	3.14±0.10	10.71±0.32	2.12±0.06	4.88±0.30
black sand	Cape Bird-2	6.44±0.19	18.58±0.57	3.49±0.07	n.d.
black sand	Cape Royds-1	2.91±0.09	8.69±0.26	1.84±0.05	n.d.
black sand	Cape Royds-2	6.27±0.19	17.96±0.55	3.38±0.08	n.d.
black sand	Turtle rock	0.77±0.04	2.40±0.10	0.78±0.03	n.d.
Taylor Valley					
sand	Lake Fryxell	0.85±0.05	5.62±0.22	1.67±0.05	8.6±0.2
sand	Lake Fryxell	1.12±0.06	6.65±0.27	2.01±0.05	n.d.
sand	Lake Fryxell	0.86±0.08	4.41±0.26	2.00±0.05	2.6±0.4
sand + lichen	Lake Fryxell	1.48±0.07	7.56±0.30	1.81±0.06	16.1±0.8
sand + lichen	Lake Fryxell	1.28±0.19	5.26±0.76	1.46±0.07	15.5±1.2
sand + lichen	Lake Fryxell	0.72±0.11	4.23±0.64	0.94±0.04	14.7±0.8
Remarks	sampled in October - December, 1984 Annual Progress Reports of Low Level Radioactivity Laboratory, Kanazawa University, LLRL-AR-12 (1988)				

Table 35. Natural and artificial radionuclides in rocks, sand and evaporites (continued).

Sample	Station	U (mg/kg)	Th (mg/kg)	K (%)	^{137}Cs (Bq/kg)
Wright Valley					
Lake Vanda					
sand	delta area	0.94±0.07	5.40±0.22	0.98±0.03	1.9±0.1
sand	delta area	0.66±0.08	4.28±0.17	0.39±0.01	1.1±0.1
sand	delta area	1.60±0.08	13.56±0.70	2.03±0.07	0.67±0.19
fine sand	delta area	1.37±0.07	12.84±0.39	2.01±0.05	0.96±0.30
sand	shore	0.87±0.07	4.66±0.23	0.89±0.03	0.41±0.20
sand	shore	0.79±0.05	3.79±0.19	1.04±0.04	1.7±0.3
sand	shore	0.84±0.06	4.94±0.25	1.11±0.03	2.6±0.3
pinc granite	Lake Bull	1.04±0.06	16.90±0.51	4.52±0.10	n.d.
South Fork and Don Juan Pond					
sand	Dais1	1.61±0.08	9.12±0.36	1.90±0.06	n.d.
sand	Dais2	0.84±0.05	4.00±0.16	0.99±0.04	n.d.
sand	Dais3	0.79±0.04	4.58±0.18	1.06±0.03	n.d.
grey sand	130 m east from Don Juan Pond	0.87±0.07	4.86±0.19	1.17±0.95	n.d.
sand	VXE-6pond (SF-3)	0.79±0.05	2.91±0.15	1.02±0.04	1.6±0.3
sand	VXE-6 pond (SF-3)	0.79±0.07	5.39±0.32	1.03±0.04	n.d.
evaporite (0~2 cm)	unnamed pond (SF-1)	0.94±0.05	4.47±0.13	1.14±0.03	1.0±0.2
evaporite (2~5 cm)	unnamed pond (SF-1)	1.31±0.07	5.94±0.17	0.95±0.04	n.d.
evaporite (5~10 cm)	unnamed pond (SF-1)	1.17±0.06	5.25±0.21	1.17±0.03	n.d.
evaporite (10~15 cm)	unnamed pond (SF-1)	0.98±0.15	5.00±0.51	1.29±0.06	n.d.
Remarks	sampled in October - December, 1984 Annual Progress Reports of Low Level Radioactivity Laboratory, Kanazawa University, LLRL-AR-12 (1988)				

Table 35. Natural and artificial radionuclides in rocks, sand and evaporites (continued).

Sample	Station	U (mg/kg)	Th (mg/kg)	K (%)	^{137}Cs (Bq/kg)
granite	Don Juan Pond	0.67±0.05	6.90±0.26	2.25±0.06	n.d.
evaporite (0~2 cm)	Don Juan Pond 1	1.01±0.07	3.19±0.16	0.98±0.03	n.d.
evaporite (2~5 cm)	Don Juan Pond 1	1.18±0.08	4.11±0.33	0.88±0.04	n.d.
evaporite (5~10 cm)	Don Juan Pond 1	1.14±0.08	3.54±0.18	0.89±0.04	n.d.
evaporite (10~15 cm)	Don Juan Pond 1	1.22±0.07	3.33±0.17	0.87±0.04	n.d.
evaporite (0~2 cm)	Don Juan Pond 2	6.11±0.18	7.86±0.32	1.54±0.06	n.d.
evaporite (2~5 cm)	Don Juan Pond 2	8.20±0.25	9.05±0.24	1.71±0.05	n.d.
evaporite (5~10 cm)	Don Juan Pond 2	4.68±0.14	5.57±0.28	1.24±0.05	n.d.
evaporite (10~15 cm)	Don Juan Pond 2	3.81±0.19	5.22±0.26	1.27±0.04	n.d.
sand	Don Juan Pond	1.39±0.07	2.95±0.18	1.20±0.03	n.d.
sand + evaporite	east end	1.13±0.07	6.19±0.25	1.28±0.04	0.81±0.20
sand	east (mummy)	0.93±0.05	6.08±0.24	1.06±0.04	n.d.
sand	north-west	1.52±0.09	8.98±0.27	1.74±0.05	n.d.
sand	campsite	1.20±0.07	7.56±0.30	1.59±0.04	n.d.
sand	north of campsite	1.17±0.06	6.64±0.27	1.22±0.04	n.d.
sand	east of campsite	0.97±0.08	3.86±0.19	0.92±0.04	n.d.
sand	east-100 m of campsite	5.71±0.17	12.26±0.37	1.46±0.07	n.d.
sand	east-150 m of campsite	0.93±0.05	6.08±0.24	1.06±0.04	1.11±0.1
sand	west of campsite	3.24±0.10	10.24±0.31	1.78±0.06	n.d.
sand	west-300 m of campsite	0.83±0.03	3.34±0.17	0.86±0.03	1.5±0.1
sand	west-515 m of campsite	1.57±0.06	7.04±0.21	1.15±0.04	0.56±0.20
sand	SF-2 pond	0.79±0.04	3.54±0.14	0.79±0.03	n.d.
Remarks	sampled in October - December, 1984 Annual Progress Reports of Low Level Radioactivity Laboratory, Kanazawa University, LLRL-AR-12 (1988)				

Table 35. Natural and artificial radionuclides in rocks, sand and evaporites (continued).

Sample	Station	U (mg/kg)	Th (mg/kg)	K (%)	^{137}Cs (Bq/kg)
North Fork and Don Quixote Pond					
sand	campsite	1.24±0.07	4.98±0.25	1.22±0.04	n.d.
sand	east of campsite	0.71±0.04	2.51±0.15	0.53±0.02	1.2±0.2
sand	north of campsite	0.78±0.05	3.01±0.18	0.70±0.03	n.d.
sand	west-368 m of campsite	0.51±0.04	1.98±0.12	0.43±0.02	2.1±0.3
sand + evaporite	No.1 and No.2 ponds	0.47±0.05	2.38±0.23	0.65±0.03	2.7±0.4
sand + evaporite	N0.1 and No.2 ponds	0.82±0.04	3.62±0.14	1.14±0.03	n.d.
sand + evaporite	No.5 pond	0.56±0.06	2.15±0.22	0.62±0.02	2.7±0.4
sand (0~7 cm)	Don Quixote Pond E	1.31±0.08	9.78±0.49	1.99±0.05	n.d.
evaporite (0~2 cm)	Don Quixote Pond 1	0.61±0.06	2.13±0.30	0.51±0.03	1.9±0.2
evaporite (2~5 cm)	Don Quixote Pond 1	0.59±0.05	1.99±0.10	0.54±0.02	n.d.
evaporite (5~10 cm)	Don Quixote Pond 1	0.72±0.03	2.58±0.13	0.59±0.02	n.d.
evaporite (10~15 cm)	Don Quixote Pond 1	0.71±0.07	2.86±0.15	0.65±0.04	n.d.
evaporite (0~2 cm)	Don Quixote Pond 2	0.70±0.06	2.43±0.12	0.64±0.04	1.4±0.2
evaporite (2~5 cm)	Don Quixote Pond 2	0.65±0.05	2.43±0.12	0.67±0.03	1.0±0.2
evaporite (5~10 cm)	Don Quixote Pond 2	0.26±0.04	0.73±0.15	0.26±0.02	n.d.
evaporite (10~15 cm)	Don Quixote Pond 2	0.42±0.08	1.56±0.31	0.36±0.02	n.d.
evaporite (0~2 cm)	Don Quixote Pond 3	0.67±0.03	2.40±0.12	0.70±0.02	0.89±0.30
evaporite (2~5 cm)	Don Quixote Pond 3	0.76±0.15	2.52±0.13	0.63±0.05	n.d.
evaporite (5~10 cm)	Don Quixote Pond 3	0.79±0.08	2.69±0.27	0.63±0.03	n.d.
evaporite (10~15 cm)	Don Quixote Pond 3	0.72±0.06	2.71±0.21	0.64±0.03	n.d.
Remarks	sampled in October - December, 1984 Annual Progress Reports of Low Level Radioactivity Laboratory, Kanazawa University, LLRL-AR-12 (1988)				

Table 35. Natural and artificial radionuclides in rocks, sand and evaporites (continued).

Sample	Station	U (mg/kg)	Th (mg/kg)	K (%)	^{137}Cs (Bq/kg)
Labyrinth					
sand	campsite	0.86±0.05	3.18±0.16	0.61±0.02	7.8±0.4
evaporite	L-1 pond	0.78±0.05	2.63±0.16	0.45±0.02	4.8±0.3
evaporite	L-3 pond	0.77±0.05	3.12±0.19	0.58±0.03	16.4±1.1
evaporite (0~3 cm)	L-4 pond	0.74±0.06	2.23±0.11	0.51±0.03	1.2±0.2
evaporite (3~6 cm)	L-4 pond	0.66±0.04	2.28±0.11	0.50±0.03	n.d.
evaporite	L-17 pond	0.77±0.03	2.51±0.10	0.55±0.02	n.d.
evaporite	L-19 pond	0.68±0.04	2.42±0.14	0.50±0.02	1.1±0.2
evaporite	E-2 pond	0.55±0.04	2.12±0.13	0.46±0.02	n.d.
evaporite	E-4 pond	0.81±0.03	2.85±0.11	0.80±0.02	2.5±0.2
evaporite	E-5 pond (dried up)	0.49±0.04	1.75±0.12	0.37±0.02	2.6±0.3
Remarks	sampled in October - December, 1984 Annual Progress Reports of Low Level Radioactivity Laboratory, Kanazawa University, LLRL-AR-12 (1988)				

Table 36. Natural radionuclides in waters in Dry Valleys area.

Sample	Sampling date	Depth (m)	U (μg/ℓ)	$^{234}U/^{238}U$	^{226}Ra (μBq/ℓ)
Taylor Valley					
Canada Glacier meltwater	26 Nov. 1984	0	0.0103±0.001	1.33±0.46	
Wright Valley					
Lake Canopus	26 Dec. 1984	0	0.031±0.004	1.39±0.16	
Onyx River	27 Dec. 1984	0	0.0057±0.0015	1.20±0.42	
Lake Vanda	22 Dec. 1984	5	0.28±0.03	2.31±0.24	0.022±0.003
	22 Dec. 1984	10	0.54±0.05	2.16±0.20	0.021±0.002
	22 Dec. 1984	15	0.56±0.03	2.49±0.18	0.034±0.003
	22 Dec. 1984	20	0.50±0.04	2.67±0.23	0.033±0.003
	22 Dec. 1984	30	0.60±0.04	2.56±0.17	0.050±0.009
	22 Dec. 1984	40	0.46±0.03	2.89±0.16	0.057±0.009
	22 Dec. 1984	45	0.84±0.05	2.28±0.16	0.089±0.010
	22 Dec. 1984	50	1.05±0.05	3.52±0.18	0.15±0.03
	22 Dec. 1984	52.5	2.75±0.13	3.70±0.16	1.07±0.07
	22 Dec. 1984	55	9.11±0.46	4.12±0.15	2.96±0.22
	22 Dec. 1984	57.5	15.64±0.48	4.18±0.17	6.81±0.85
	22 Dec. 1984	62.5	5.08±0.36	4.00±0.28	7.47±0.74
	22 Dec. 1984	68	0.26±0.02	4.04±0.30	8.55±0.93
	22 Dec. 1984	bottom	9.78±0.27	4.29±0.11	9.25±1.00
South Fork					
SF-2 pond	9 Dec. 1984	0	0.59±0.03	1.12±0.07	
Labyrinth					
L-0 pond	13 Dec. 1984	0	52.6±1.7	1.58±0.03	1.60±0.17
L-15 pond	14 Dec. 1984	0	63.8±4.1	1.39±0.05	1.62±0.19
Remarks	sampled in October - December, 1984 Annual Progress Reports of Low Level Radioactivity Laboratory, Kanazawa University, LLRL-AR-12 (1988)				

Table 37. Natural and artificial radionuclides in algae in Dry Valleys area.

Sampling station	U (mg/kg)	Th (mg/kg)	K (%)	^{137}Cs (Bq/kg)
Wright Valley				
SF-2 pond	0.94±0.13	5.48±0.55	0.34±0.01	3.92±0.63
No.1 and No.2 ponds (North Fork)	0.72±0.07	5.07±0.51	1.18±0.07	10.8±0.85
Lake Vanda	0.81±0.16	2.94±0.59	0.51±0.06	n.d.
Lake Canopus	1.71±0.06	12.64±0.63	0.54±0.02	25.8±1.00
E-5 pond (Labyrinth)	0.50±0.07	2.78±0.28	0.68±0.02	5.77±0.26
L-7 pond (Labyrinth)	0.50±0.10	2.52±0.50	0.54±0.04	4.74±0.70
L-17 pond (Labyrinth)	1.33±0.13	5.04±0.50	1.32±0.09	85.8±2.6
Remarks	sampled in October - December, 1984 Annual Progress Reports of Low Level Radioactivity Laboratory, Kanazawa University, LLRL-AR-12 (1988)			

Table 38. Natural radionuclides in airborne dust.

Sampling station	Sampling period	Air volume (m^3)	^{7}Be (mBq/m^3)	^{210}Pb (mBq/m^3)
CIROS drill site (Marble Point)	27 Oct. 1984	840	4.56±0.37	0.094±0.019
	28～29 Oct. 1984	860	3.77±0.30	
	30 Oct. 1984	510	3.81±0.89	n.d.
Scott Base	5～6 Nov. 1984	1650	3.70±0.30	0.066±0.017
	13～15 Nov. 1984	3950	6.73±0.22	0.105±0.011
	17～18 Nov. 1984	1760	6.62±0.37	0.148±0.015
	18～20 Nov. 1984	4580	5.81±0.22	0.192±0.015
Remarks	Samples were collected by high volume air sampler at the flow rate of c.a. 1500 ℓ /min. Annual Progress Reports of Low Level Radioactivity Laboratory, Kanazawa University, LLRL-AR-12 (1988)			

Table 39. Radionuclides in water filters used at Scott Base.

Date	30 Nov.1979	Jan.1980	18 Feb.1980	28 Mar.1980	6 May 1980	11 July 1980	Sept. 1980	Oct.1980	Dec. 1980
^{7}Be	81.7±1.7								
^{54}Mn	0.033±0.005					0.11±0.02*			
^{60}Co	0.047±0.007					0.11±0.01*			
^{103}Ru	1.1±0.1				0.57±0.20	0.40±0.20			
^{125}Sb	0.78±0.05	0.17±0.02	0.27±0.03	0.17±0.05	0.23±0.05	0.48±0.05	0.13±0.03	0.008±0.002	0.067±0.017
^{134}Cs	0.018±0.003								
^{137}Cs	17.7±0.8	6.48±0.10	5.62±0.10	6.15±0.10	12.1±0.1	7.73±0.03	3.12±0.05	2.12±0.05	1.93±0.03
^{144}Ce	3.17±0.17			0.27±0.10	1.95±0.38	2.78±0.25	1.00±0.25	0.53±0.18	0.40±0.15
^{155}Eu	0.25±0.03	0.085±0.013	0.18±0.02	0.090±0.013	0.20±0.02	0.27±0.02	0.11±0.01	0.070±0.012	0.055±0.008
^{207}Bi	0.042±0.005	0.030±0.010	0.040±0.013	0.073±0.007	0.098±0.010	0.068±0.008	0.028±0.005		0.007±0.003
^{210}Pb	14.7±0.3	6.90±0.17	9.35±0.17	8.45±0.17	13.6±0.2	19.9±0.3	8.05±0.12	4.20±0.12	3.85±0.10
$^{239+240}Pu$	0.28±0.02	0.19±0.01	0.14±0.01	0.14±0.01	0.027±0.007	0.22±0.01	0.072±0.005	0.040±0.003	0.030±0.003
^{241}Am	0.083±0.008	0.060±0.008	0.047±0.003	0.055±0.003	0.087±0.007	0.090±0.007	0.030±0.005	0.020±0.003	0.017±0.003
(Bq / filter)									
Remarks	* composited samples from Jan. 1980 to July 1980 2-3 tons of snow meltwater was filtered by each filter ref. 156								

Table 40. Tritium contents in ice and waters.

Sampling station	Sample	Depth	Sampling date	^{3}H (Bq/kg)
Lake Vanda	lake ice	0.00 - 0.50 (m)	9 Nov. 1979	0.051±0.009
		0.50 - 1.10		0.049±0.008
		1.10 - 1.50		0.049±0.008
		1.50 - 1.80		0.040±0.006
		1.80 - 2.50		0.032±0.008
		2.50 - 3.00		0.040±0.008
		3.00 - 3.50		0.049±0.009
Lake Vanda	lake water	3.5 (m)	30 Nov. 1979	0.047±0.008
Station: J		5		0.038±0.007
		10		0.040±0.007
		15		0.030±0.007
		30		0.013±0.007
		50		0.056±0.052
Canada Glacier	glacier ice	0 - 5 (cm)	11 Dec. 1979	-0.030±0.048
		5 - 10		-0.015±0.059
		10 - 15		-0.048±0.052
		15 - 20		-0.085±0.048
		20 - 25		-0.015±0.052
		25 - 30		0.078±0.048
		30 - 35		0.093±0.056
		35 - 40		-0.093±0.044
		40 - 45		-0.041±0.044

Table 41. Artificial radionuclides in environmental samples.

Sample	Sampling station	Sampling date	^{90}Sr	^{137}Cs	$^{239+240}Pu$	^{238}Pu	Remarks
Seawater	Ross Sea near Scott Base	17 Dec.1986	0.3±0.1	0.07±0.01	0.0020±0.0004	0.0003±0.0002	unit: mBq/ℓ
Land water	Crater Pond, McMurdo St.	19 Dec.1986		0.08±0.02	0.0015±0.0004	0.0007±0.0003	
	Lake Vanda, Vanda St.	6 Jan.1987		0.08±0.02	0.0059±0.0008	0.0016±0.0004	ref. 183
Soil	South Fork (SF-1 pond)	9 Dec.1984	0.34±0.08	0.22±0.06	0.006±0.005	n.d.	unit: Bq/kg-dry
	South Fork (VXE-6 pond)	9 Dec.1984	0.10±0.06	1.4±0.1	0.018±0.006	n.d.	
	Labyrinth (L-4 pond)	14 Dec.1984	0.18±0.06	1.2±0.1	0.013±0.006	n.d.	
	Don Juan Pond (0~2 cm)	9 Dec.1984	n.d.	n.d.	n.d.	n.d.	
	Don Juan Pond (2~5 cm)	9 Dec.1984	n.d.	n.d.	n.d.	n.d.	
	Don Quixote Pond (0~2 cm)	18 Dec.1984	0.20±0.07	1.4±0.6	0.028±0.007	n.d.	
	Don Quixote Pond (2~5 cm)	18 Dec.1984	0.06±0.05	0.07±0.04	n.d.	n.d.	
	Lake Fryxell	11 Dec.1985	0.18±0.05	n.d.	0.003±0.003	n.d.	
	Labyrinth (E-3 Pond)	24 Dec.1985	3.7±0.1	6.3±0.5	0.18±0.02	0.016±0.007	
	Labyrinth (near Mt. Electra)	28 Dec.1985	0.56±0.07	1.4±0.4	0.03±0.01	0.006±0.004	
	Crater Pond (near McMurdo St.)	19 Dec.1986	0.14±0.06	n.d.	n.d.	n.d.	
	Don Juan Pond (east side)	29 Dec.1986	0.17±0.05	n.d.	n.d.	n.d.	
	Don Juan Pond (basin)	29 Dec.1986	n.d.	n.d.	0.007±0.004	n.d.	
	Taylor Vallry (near terminus of Taylor Gl.)	1 Jan.1987	0.52±0.06	n.d.	n.d.	n.d.	
	Wright Valley (near Bull Pass)	9 Jan.1987	0.14±0.05	n.d.	0.003±0.003	n.d.	
	Wright Valley (near Lake Bull)	9 Jan.1987	1.9±0.1	4.4±0.8	0.16±0.02	0.033±0.009	
	Lake Vanda (east side)	10 Jan.1987	0.32±0.06	1.2±0.3	0.013±0.006	n.d.	
	Lake Vida (west side)	10 Jan.1987	0.48±0.08	1.3±0.4	0.015±0.006	n.d.	
	Cape Bird	18 Dec.1984	0.7±0.1	0.26±0.06	n.d.	n.d.	
	Cape Bird	12 Jan.1987	0.35±0.07	1.6±0.6	0.016±0.006	n.d.	
	Cape Bird (near rookery)	12 Jan.1987	2.1±0.2	2.2±0.7	0.07±0.01	0.013±0.005	ref. 183

Table 41. Artificial radionuclides in environmental samples (continued).

Sample	Sampling station	Sampling date	^{90}Sr	^{137}Cs	$^{239+240}Pu$	^{238}Pu	Remarks
Algae	South Fork (SF-1 pond)	8 Dec.1984	1.4±0.2		0.09±0.02	0.01±0.01	unit: Bq/kg-dry weight
	North Fork (1-2 pond)	19 Dec.1984	1.1±0.1		0.23±0.03	0.03±0.01	
	Labyrinth (E-5 pond)	17 Dec.1984	0.4±0.2	6.7±0.7	0.14±0.02	0.03±0.01	
	Lake Vanda (west side)	20 Dec.1984	0.4±0.3		0.009±0.006	n.d.	
	Lake Canopus	26 Dec.1984	1.3±0.2	24±1	0.52±0.05	0.011±0.02	
	Lake Fryxell	11 Dec.1985	4.4±0.2	14.4±0.6	0.31±0.03	0.07±0.01	
	Lake Canopus	5 Jan.1986	1.0±0.1	21.5±0.7	0.48±0.03	0.13±0.02	
	South Fork (near SF-1 pond)	28 Dec.1986	1.8±0.2	5.9±0.6	0.15±0.02	0.041±0.009	
	South Fork (east side of SF-1 pond)	28 Dec.1986	1.5±0.2	4.8±0.6	0.13±0.01	0.023±0.006	
	Lake Canopus (in the water)	7 Jan.1987	0.5±0.2	23.3±0.6	0.48±0.03	0.08±0.01	
	Lake Canopus (near shore line)	7 Jan.1987	1.0±0.2	24.1±0.7	0.48±0.04	0.11±0.01	
Lichen	Lake Fryxell	26 Nov.1984	5.6±0.3	12.6±0.6	0.21±0.03	0.03±0.01	
	Cape Bird (near hut)	12 Jan.1987	2.1±0.3	5.9±0.4	0.10±0.02	n.d.	ref. 183
Excreta of penguin	Cape Bird (at penguin rookery)	12 Jan.1987	5.9±0.3	4.4±0.5	0.21±0.02	0.036±0.009	unit: Bq/kg-fresh weight
Viscera of mawsonii	Ross Sea (near McMurdo St.)	5 Jan.1986		0.07±0.02			
	Ross Sea (near McMurdo St.)	14 Jan.1987	0.007±0.004	0.05±0.01	n.d.	n.d.	
Krill	Southern Ocean	16 Feb.1987		1.7±0.8			ref. 183

Table 42. ^{14}C dates on remains of algae collected from old strand lines of Lake Vanda.

Height from lake level (m)	age, B. P. (year before 1950)
0.3	1990±130*3
2	2760±100*1
5	1280±90*3
11	1930±110*1
11	1810±90*3
18	2210±90*1
22	2000±100*2
24	2590±120*1
25	2130±90*2
29	2920±120*1
34	2430±100*1
41	2080±90*3
Remarks	sampling date: *1) 26 Dec. 1968 *2) 27 Dec. 1968 *3) 2 Dec. 1970 ^{14}C method ref. 75

Table 43. Age of mummified seal.

Sampling station	west site from Don Juan Pond
Sampling date	30 Dec. 1963
Age, B. P. (year from 1950)	1210 ± 120
Remarks	^{14}C method ref. 9

Table 44. Mirabilite analysis from Cape Barne.

Sampling station		Cape Barne, Ross Island
Elevation		24 m a. s. l.
Sampling date		20 Nov. 1979
Uranium	(μg/kg)	3.53±0.20
Estimated age	(y)	4700±900
Mean upheaval rate	(mm/y)	5±1
[Isotope data]		
^{238}U	(Bq/kg)	0.044±0.002
^{234}U	(Bq/kg)	0.054±0.003
^{230}Th	(Bq/kg)	0.0023±0.0004
[Activity ratios]		
$^{234}U / ^{238}U$		1.23±0.07
$^{230}Th / ^{234}U$		0.052±0.10
Remarks		ref. 156

Table 45. Distribution of $\delta^{15}N$ in various nitrogen - bearing substances from Dry Valleys area.

Sample	epibenthic algae	epibenthic algae	epibenthic algae	nitrate in water	nitrate in water	nitrate in water	nitrate in water
Sampling station	Labyrinth L-7	Labyrinth L-4	Labyrinth L-8	L. Vanda 52 m	L. Vanda 54 m	L. Vanda 56 m	L. Bonney east lobe 20 m
Sampling date	20 Dec. 1979	20 Dec. 1979	21 Dec. 1979	30 Nov. 1979	30 Nov. 1979	30 Nov. 1979	4 Dec. 1979
$\delta^{15}N$ (‰)	-45.2	-42.6	-44.0	10.3	10.9	13.4	4.9
Water temperature (℃)	1.2	-1.8	2.0	14.8	17.3	19.7	5.3
pH	7.0	7.0	6.0				
Specific gravity (at 25℃)	1.003	1.038	1.021				
Cl (g/kg)	2.75	17.4	11.2	4.94	15.9	24.6	106.7
NO_2-N (μg-at/g dry)				84.5	179	209	670
NO_3-N (μg-at/g dry)				0.39	1.03	1.63	12.2
NH_4-N (μg-at/g dry)				1.0	1.0	2.3	1.73
Remarks	evaporation residue at 180 ℃ : 6.41 g/kg ref. 164	evaporation residue at 180 ℃ : 51.9 g/kg ref. 164	evaporation residue at 180 ℃ : 27.8 g/kg ref. 164	ref. 164	ref. 164	ref. 164	ref. 164

Table 45. Distribution of $\delta^{15}N$ in various nitrogen - bearing substances from Dry Valleys area (continued).

Sample	nitrate in water	nitrate in water	nitrate in water	bottom sediment	bottom sediment	bottom sediment
Sampling station	L.Bonney east lobe 25 m	L.Bonney east lobe 30 m	Don Quixote Pond	L.Bonney west lobe	L.Vanda 68.3 m	L.Fryxell 15 m
Sampling date	4 Dec.1979	4 Dec.1979	5 Dec.1979	26 Dec.1980	17 Dec.1980	22 Dec.1980
$\delta^{15}N$ (‰)	25.1	32.2	-7.0	7.3	-4.6	6.2
Water temp. (℃)	2.3	-0.5				
pH						
Specific gravity						
Cl (g/kg)	134.8	140.4	57.94			
NO_2-N (μg-at/g dry)	260	240				0.0
NO_3-N (μg-at/g dry)	45.5	42.7	21.5			0.02
NH_4-N (μg-at/g dry)	0.57	1.92	11.3			200
Remarks				under anaerobic condition	under anaerobic condition	under anaerobic condition
	ref. 164	ref. 164	ref. 164	ref. 164	ref. 164	ref. 164

Table 46. Vertical profiles of the N_2/Ar ratios and $\delta^{15}N$ of dissolved N_2 gas.

Sample	water	water	water	water	water	water
Sampling station	L.Bonney west lobe 5 m	L.Bonney west lobe 10 m	L.Bonney west lobe 15 m	L.Bonney west lobe 20 m	L.Bonney west lobe 25 m	L.Bonney west lobe 30 m
Sampling date	26 Dec.1980	26 Dec.1980	26 Dec.1980	26 Dec.1980	26 Dec.1980	26 Dec.1980
N_2/Ar	25.25	21.29	26.49		35.66	35.17
$\delta^{15}N$ (‰)	1.9	2.1	2.5		2.1	1.5
Water temperature (℃)	0.2	2.6	0.1	-2.6	-3.7	
pH	8.40	7.46	6.13	5.85	5.65	5.72
Specific gravity (at25℃)	1.001	1.003	1.066	1.071	1.094	1.100
Cl (g/kg)	0.14	3.01	45.40	60.09	72.11	76.25
NO_2-N (μg-at/g dry)	14.3	12.1	12.7	13.1	11.0	1.7
NO_3-N (μg-at/g dry)	0.34	0.26	0.09	0.06	0.30	0.05
NH_4-N (μg-at/g dry)	7.4	3.5	1.1	173	57	192
Remarks	ref. 164	ref. 164	ref. 164	ref. 164	ref. 164	ref. 164

Table 47. Distribution of chemical components and $\delta^{15}N$ of nitrate for soil materials from Wright Valley.

Sample	silty clayey loam	sandy loam	loam	silty loam	sand	loam	sandy loam	sandy loam	loam
Sampling station	L.Vanda northern side 175 m a.s.l.	L.Vanda northern side 175 m a.s.l.	L.Vanda northern side 175 m a.s.l.	near Bull Pass	near Bull Pass	L.Vanda southern side 175 m a.s.l.	L.Vanda southern side 175 m a.s.l.	L.Vanda southern side	L.Vanda southern side
Sampling date	5 Jan.1979	5 Jan.1979	5 Jan.1979	9 Jan.1979	9 Jan.1979	6 Jan.1979	6 Jan.1979	6 Jan.1979	6 Jan.1979
$\delta^{15}N$ (‰)	-23.4	-22.2	-20.6	-18.3	-18.6	-11.5	-16.1	-14.8	-14.1
pH (H_2O)	6.28	7.58	7.28	7.89	8.10	8.59	8.51	8.02	7.46
Cl (meq./g)	2.06	0.999	0.681	0.479	0.191	0.346	0.095	0.100	0.994
NO_2-N (µg-at/g dry)	63.6	22.9	19.3	37.9	58.6	10.0	10.0	53.6	179
NO_3-N (µg-at/g dry)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NH_4-N (µg-at/g dry)	0.08	0.01	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Remarks	slope of a U-shaped Valley	in the delta	in the delta, containing white evaporites	above pecten fossil layer	below pecten fossil layer				
	ref. 142	ref. 142	ref. 142	ref. 142	ref. 142	ref. 142	ref. 142	ref. 142	ref. 142

Table 48. Distribution of $\delta^{15}N$ in various nitrogenous substances from Wright Valley.

Sample	epibenthic algae	epibenthic algae	epibenthic algae	epibenthic algae	epibenthic algae	epibenthic algae	algae felt	soil, organic nitrogen	bottom sediment
Sampling station	L.Vanda southern shore	Labyrinth L - 1 pond	Labyrinth L - 1 pond	L.Canopus eastern shore	L.Bull	L.Bull	Cape Bird northern penguin rookery	Cape Bird northern penguin rookery	L.Vanda bottom 67.5 m
Sampling date	6 Jan.1979	16 Jan.1979	16 Jan.1979	9 Jan.1979	11 Jan.1979	11 Jan.1979	18 Jan.1979	18 Jan.1979	7 Jan.1979
$\delta^{15}N$ (‰)	-9.0	-47.8	-49.0	+4.8	-9.1	-9.3	+30.7	+28.9	-7.3
pH (H_2O)								7.6	
Cl (meq./g)								0.032	
NO_2-N (µg-at/g dry)									
NO_3-N (µg-at/g dry)									
NH_4-N (µg-at/g dry)									
Remarks	saline and meromictic lake	saline pond	saline pond	freshwater pond	freshwater pond				
	ref. 142	ref. 142	ref. 142	ref. 142	ref. 142	ref. 142	ref. 142	ref. 142	ref. 142

Table 49. Trace elements of waters in the Dry Valleys area by neutron activation analysis.

Sampling station		Wright Lower Glacier	Onyx River	L. Vanda J	L. Vanda J	L. Vanda J	L. Vanda J	L. Vanda J
Depth	(m)	surface	surface	4	10	20	30	40
Date		Jan. 1979	7 Jan. 1979	7 Jan. 1979	7 Jan. 1979	7 Jan. 1979	7 Jan. 1979	7 Jan. 1979
Al	(μg/kg)		540±30	6.4±0.5	7.8±0.5	9.8±0.5	6.0±0.5	8.1±0.5
Sc	(μg/kg)	0.27±0.01	0.13±0.01	0.05±0.02	0.0026±0.0006	0.003±0.002	<0.002	<0.002
Cr	(μg/kg)	6.4±0.4	0.82±0.08	0.7±0.2	0.33±0.09	<0.3	<0.3	0.5±0.3
Mn	(μg/kg)	18.3±0.8	10±1	2.9±0.3	2.7±0.3	4.4±0.3	2.5±0.3	2.4±0.3
Fe	(μg/kg)	1240±70	500±30	16.4±0.8	15.6±0.8	19.2±0.8	11.2±0.8	18.0±0.8
Co	(μg/kg)	0.66±0.06	0.30±0.02	0.30±0.02	0.13±0.02	0.12±0.04	0.13±0.03	0.16±0.03
Ni	(μg/kg)		23.2±1.0	20.0±1.0	8.9±0.5	8.9±0.5	6.7±0.5	6.7±0.5
Zn	(μg/kg)	71±4	28±4	39±3	14±1	23±3	44±4	36±3
Cu	(μg/kg)		31.3±1.5	37.4±1.5	10.6±0.5	16.9±1.0	24.4±1.5	29.1±1.5
Rb	(μg/kg)	<0.8	2.3±0.6	3.0±0.7	3.2±0.8	4±2	4±2	6±3
Sr	(μg/kg)		22±4	280±20	210±20	340±30	540±30	590±30
Sb	(μg/kg)	0.045±0.030	0.05±0.02	0.07±0.03	0.03±0.02	<0.05	<0.05	0.14±0.05
Cs	(μg/kg)	<0.013	0.05±0.02	0.04±0.02	0.007±0.006	<0.03	<0.03	<0.02
Ce	(μg/kg)	2.1±0.1						
Eu	(μg/kg)	0.040±0.009						
Hf	(μg/kg)	0.073±0.020						
Th	(μg/kg)	0.020±0.02	0.090±0.008	<0.01	0.016±0.008	0.03±0.03	<0.03	<0.03
Remarks		ref. 157	ref. 144	ref. 144	ref. 144	ref. 144	ref. 144	ref. 144

Table 49. Trace elements of waters in the Dry Valleys area by neutron activation analysis (continued).

Sampling station		L. Vanda J	L. Vanda J	L. Vanda J	L. Vanda J	L. Vanda J	L. Canopus
Depth	(m)	45	50	55	60	64	surface
Date		7 Jan. 1979	7 Jan. 1979	7-9 Jan. 1979	7-9 Jan. 1979	7-9 Jan. 1979	Jan. 1979
Al	(μg/kg)	9.9±0.5	11.2±0.5	8.1±0.5	12.7±0.5	8.1±0.5	
Sc	(μg/kg)	0.002±0.002	0.006±0.002	0.018±0.009	0.34±0.02	0.19±0.03	0.026±0.002
Cr	(μg/kg)	0.30±0.08	0.6±0.5	<2	<4	<6	<0.7
Mn	(μg/kg)	34±1	19±1	350±10	2100±100	2900±100	4.43±0.30
Fe	(μg/kg)	32.0±2.0	22.0±2.0	14.0±0.8	180±10	500±30	50±20
Co	(μg/kg)	0.33±0.02	0.12±0.02	0.68±0.09	2.0±0.2	1.7±0.3	0.10±0.02
Ni	(μg/kg)	13.3±0.7	11.1±0.7	37.7±2.0	70±4	175±10	
Zn	(μg/kg)	60±4	100±10	320±20	480±20	700±30	4.8±0.7
Cu	(μg/kg)	30.1±1.5	75±5	650±30	970±50	830±50	
Rb	(μg/kg)	8±2	15±3	60±20	160±40	190±40	<4
Sr	(μg/kg)	970±30	2800±200	18000±1000	36000±2000	60000±3000	0.019±0.002
Sb	(μg/kg)	0.05±0.03	0.05±0.02	0.22±0.09	10±2	3.1±0.5	0.04±0.04
Cs	(μg/kg)	0.04±0.02	0.03±0.02	<0.1	1.2±0.2	1.3±0.3	0.35±0.02
Ce	(μg/kg)						0.7±0.3
Eu	(μg/kg)						0.017±0.007
Hf	(μg/kg)						<0.03
Th	(μg/kg)	<0.01	0.04±0.004	<0.2	1.7±0.4	1.0±0.5	<0.06
Remarks		ref. 144	ref. 144	ref. 144	ref. 144	ref. 144	ref. 157

Table 49. Trace elements of waters in the Dry Valleys area by neutron activation analysis (continued).

Sampling station		Don Juan Pond	Labyrinth	L. Fryxell
		main pond	L-4 pond	
Depth	(m)	surface	surface	surface
Date		Jan. 1979	Jan. 1979	Jan. 1979
Al	(μg/kg)			
Sc	(μg/kg)	0.11±0.05	0.025±0.006	0.018±0.002
Cr	(μg/kg)	<40	<2	2.3±0.2
Mn	(μg/kg)	800±40	0.80±0.04	3.93±0.41
Fe	(μg/kg)	800±500	<50	90±20
Co	(μg/kg)	1.2±0.5	0.16±0.07	0.24±0.03
Ni	(μg/kg)			
Zn	(μg/kg)	270±30	3±2	7.5±0.9
Cu	(μg/kg)			
Rb	(μg/kg)	700±500	<20	<0.5
Sr	(μg/kg)	1600±100	0.017±0.002	<6
Sb	(μg/kg)	4±2	0.5±0.2	<0.03
Cs	(μg/kg)	46±2	0.64±0.07	0.02±0.02
Ce	(μg/kg)	<30	2.4±0.9	0.09±0.04
Eu	(μg/kg)	<0.3	0.05±0.04	0.010±0.008
Hf	(μg/kg)	<2	0.10±0.08	<0.008
Th	(μg/kg)	<3	<0.2	0.011±0.006
Remarks		ref. 157	ref. 157	ref. 157

Table 50. Identified secondary minerals including evaporites around saline lakes and ponds.

Sampling location	Evaporites	Remarks
Victoria Valley		
B-1 pond	halite	
B-2 pond	calcite	
Lake Vida	calcite, gypsum, chlorite, thenardite, halite, soda niter, prehnite,laumontite	ref. 91
Wright Valley		
Lake Vanda	calcite, thenardite, gypsum, halite, soda niter epsomite, chlorite, diopside	ref. 1, 9
Don Juan Pond	halite, gypsum, thenardite, calcite, antarcticite	ref. 39, 57
Labyrinth, L-9 pond	calcite, gypsum, halite, epsomite	ref. 63
Taylor Valley		
Lake Fryxell	calcite, trona, thenardite, gypsum, halite, sylvite	
Lake Bonney		
around the lake	calcite, aragonite, thenardite, gypsum, halite	
bottom sediments in the east lobe	halite	
bottom sediments in the west lobe	gypsum	ref. 9, 63
Miers Valley		
near the outlet stream from Lake Miers	gypsum	
flat surface of a leveled moraine, east from Lake Miers	gypsum, calcite	
ridge of a moraine in the above area	gypsum, calcite	
a seam of evaporites on the flank of the valley wall	thenardite, mirabilite	ref. 4

antarcticite	$CaCl_2 \cdot 6H_2O$	laumontite	$Ca(Al_2Si_4O_{12}) \cdot 4H_2O$
aragonite	$CaCO_3$	mirabilite	$Na_2SO_4 \cdot 10H_2O$
calcite	$CaCO_3$	prehnite	$Ca_2Al_2Si_3O_{10}(OH)_2$
chlorite	$(Mg,Al,Fe)_3[(Si,Al)_2O_5](OH)_4$	soda niter	$NaNO_3$
diopside	$Ca(Mg,Fe)Si_2O_6$	sylvite	KCl
epsomite	$MgSO_4 \cdot 7H_2O$	thenardite	Na_2SO_4
gypsum	$CaSO_4 \cdot 2H_2O$	trona	$Na_3H(CO_3)_2 \cdot 2H_2O$
halite	NaCl		

Table 51. X-ray powder diffraction data for antarcticite ($CaCl_2 \cdot 6H_2O$) from Don Juan Pond.

antarcticite		$CaCl_2 \cdot 6H_2O$ (A. S. T. M.)		
d (Å)	Intensity	d (Å)	Intensity	Indices
6.92	9	6.90	15	100
3.98	18	3.93	75	110
3.44	24	3.41	31	011
2.80	23	2.78	63	111
2.60	22	2.58	50	021
2.28	13	2.27	50	300
2.16	23	2.16	100	121
1.98	8	1.97	50	220
1.90	7	1.90	15	310
1.77	4	1.76	13	112
1.71	5	1.70	38	
1.57	2	1.57	10	
1.50	3	1.49	38	
1.46	2	1.45	20	
1.40	1	1.39	15	
1.37	2	1.37	5	
Remarks	ref. 1			

Table 52. Chemical composition of antarcticite.

Component	Weight (%)	Mole (%)	Molar ratio
Ca	17.5	0.437	1.000
Mg	0.41	0.017	0.039
Na	0.34	0.015	0.034
K	0.008	0.002	0.000
Cl	32.7	0.923	2.11
H_2O	49.2	2.730	6.25
	Total 100.1		
Remarks	ref. 1		

Table 53. Maximum water temperature in Lake Vanda.

Date	Temperature (℃)	Depth (m)	Remarks
Dec. 1961	25.7	66.5	Wilson and Wellman (1962)*1
20 Dec. 1962	25.52	66	Ragotzkie and Likens (1964)*2
31 Dec. 1964	25.1	66.8	ref. 4
4 Dec. 1965	24.9	65	ref. 4
1 Jan. 1971	25.0	62.12	ref. 14
18 Dec. 1971	24.8	66.3	ref. 21
9 Dec. 1972	24.6	68	ref. 27
1973 - 1974	24.8	65	ref. 36
31 Dec. 1974	24.2	68.6	ref. 83
13 Dec. 1976	23.8	66	ref. 146
2 Jan. 1978	23.6	69.9	
6 Jan. 1979	24.1	65	
18 Dec. 1981	23.8	68.64	
3 Dec. 1983	23.8	68.9	ref. 166
16 Dec. 1984	23.8	68.0	
4 Jan. 1987	23.7	69.55	

Table 54. Maximum water temperature in the east lobe of Lake Bonney.

Date	Temperature (℃)	Depth (m)	Remarks
26 Nov. 1962	7.79	13	Ragotzkie and Likens (1964)*2
8 Jan. 1965	7.3	14	ref. 4
15 Dec. 1965	7.0	13 - 14	ref. 4
Dec. 1968	7.05	13.7	Hoare *et al.* (1964)*3
30 Jan. 1971	6.4	13.5 - 15.5	ref. 14
8 Dec. 1971	6.0	13.5 - 14.5	
8 Jan. 1973	6.0	13.0 - 15.5	ref. 27
19 Dec. 1974	6.2	13 - 14	ref. 83
24 Dec. 1976	5.9	14	ref. 146
26 Dec. 1981	6.3	12.5 - 16.5	
10 Dec. 1983	6.2	14.5 - 17.0	
29 Dec. 1986	6.0	15.0 - 18.0	
29 Dec. 1987	6.0	15.0 - 18.0	

Table 55. Water temperature in the central convecting layer in Lake Vanda.

Date	Temperature (℃)	Depth range (m)	Thickness (m)	Remarks
Dec. 1961	7.8	16.8 - 36.6	19.8	Wilson and Wellman (1962)*1
20 Dec. 1962	8.22	17 - 37	20	Ragotzkie and Likens (1964)*2
Jan. 1964	7.65	14.3 - 37.5	23.2	Hoare *et al.* (1965)*4
Jan. 1965	8.0	15 - 38	23	ref. 4
Dec. 1965	7.7	15 - 37	22	ref. 4
Nov. 1967	7.60	13.4 - 37.8	24.4	Shirtcliffe and Calhaem (1968)*5
Jan. 1971	7.5	14.1 - 39	24.9	ref. 14
Feb. 1971	7.4	15.4 - 40	24.6	ref. 14
Nov. 1971	7.4	16 - 39	23	ref. 21
Dec. 1971	7.5 - 7.6	16 - 39	23	ref. 21
Jan. 1972	7.5 - 7.6	16 - 39	23	ref. 21
Dec. 1972	7.6 - 7.7	15.8 - 40.2	24.4	ref. 27
Jan. 1973	7.7	15.9 - 40.2	24.3	ref. 27
1973 - 1974	7.5			ref. 36
Dec. 1974	7.4 - 7.5	17.4 - 40	22.6	ref. 83
13 Dec. 1976	7.3	16 - 40	24	ref. 146
2 Jan. 1978	7.1 - 7.2	23.9 - 41.9	18	
6 Jan. 1979	7.2	16 - 41	25	ref. 146
18 Dec. 1981	7.1	15.5 - 40.0	24.5	
16 Dec. 1983	7.4 - 7.5	20.0 - 40.0	20.0	
16 Dec. 1984	7.5 - 7.6	21.6 - 40.0	19.0	
4 Jan. 1987	6.8 - 6.9	25.0 - 42.0	17.6	

*1) Wilson, A. T. and Wellman, H. W. (1962): Lake Vanda: An Antarctic lake. Nature, **196**, 1171-1173.

*2) Ragotzkie, R. A. and Likens, G. E. (1964): The heat balance of two Antarctic lakes. Limnol. Oceanogr., **9**, 412-425.

*3) Hoare, R. A., Popplewell, K. B., House, D. A., Henderson, R. A., Prebble, W. M. and Wilson, A. T.(1964): Lake Bonney, Taylor Valley, Antarctica: A natural solar energy trap, Nature, **202**, 886-888.

*4) Hoare, R. A., Popplewell, K. B., House, D. A., Henderson, R. A., Prebble, W. M. and Wilson, A. T. (1965): Solar heating of Lake Fryxell, A permanently ice-covered Antarctic lake. J. Geophys. Res., **70**, 1555-1558.

*5) Shirtcliffe, T. G. L. and Calhaem, I. M.(1968): Measurements of temperature and electrical conductivity in Lake Vanda, Victoria Land, Antarctica. J. Geol. Geophys. N. Z., **11**, 976-981.

Table 56. Ice sublimation from Lake Vanda between February 1970 and January 1971.

Month	Sublimation rate as the height of water column	
	(mm / month)	(mm / day)
February, 1970	57.5	2.05
March	21.1	0.68
April	3.5	0.12
May	26.0	0.84
June	26.6	0.89
July	5.0	0.16
August	9.0	0.29
September	21.2	0.71
October	65.0	2.10
November	62.7	2.09
December	99.2	3.20
January, 1971	69.1	2.23
Remarks	1) average daily rate 1.28 mm/day 2) This data was calculated from an aerodynamical method using meteorological data at Vanda Station	

Table 57. Evaporation rate at Don Juan Pond.

Amount in 14 days	25.0 mm
Estimated daily value	1.79 mm/day
Estimated yearly value	400 mm/year

This was estimated by the lowering of pond water level at Don Juan Pond based on measurements for 14 days.

Table 58. Stable istopes of water in Lake Vanda.

Water depth (m)	Temp. (℃)	pH	$\delta^{18}O$ of H_2O (‰)	SO_4^{2-}			H_2S	
				(mg/ℓ)	$\delta^{18}O$ (‰)	$\delta^{34}S$ (‰)	(mg/ℓ)	$\delta^{34}S$ (‰)
4	3.0	7.80	-30.7	8.7		+15.0	0.0	
8	5.0	7.98	-31.0	12.6		+15.9	0.0	
12	6.0	8.02	-30.9	12.4		+15.5	0.0	
16	7.5	7.78	-31.4	18.9		+15.8	0.0	
20	7.5	7.75	-31.4	20.2		+16.0	0.0	
40	8.2	7.60	-31.7	23.5		+16.6	0.0	
45	10.2	7.55	-31.8	27.2		+17.5	0.0	
50	15.0	6.82	-31.9	55.3		+18.7	0.0	
55	20.9	5.98	-31.6	235	-10.0	+22.0	0.0	
60	24.7	5.95	-31.1	237	-9.9	+22.5	0.0	
65	24.8	5.65	-30.4	606	+6.0	+42.1	53.4	+7.7
68		5.60	-30.3	611	+6.2	+46.0	78.6	+10.5
72*	8.0	6.30	-28.5	573		+48.8	0.5	
75*	12.2	6.30	-27.7	345		+39.1	0.5	
Remarks	* groundwater in DVDP#4 drilling ref. 70							