ENVIRONMENT CANADA
CONSERVATION AND PROTECTION
ENVIRONMENTAL PROTECTION SERVICE
PACIFIC AND YUKON REGION

BABINE LAKE

DATA FROM CHEMICAL AND BIOLOGICAL SURVEYS MAY 83, MAY 84, JULY 84

Regional Program Report 85-14

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SEPTEMBER 1985

ABSTRACT

Water quality data were obtained in May 1983, May 1984 and July 1984 in Babine Lake, to determine if there was any impact from the Bell Copper Mine discharges. Physical and chemical water quality data were collected associated with taxonomic and metal tissue analysis in zooplankton and fish.

Hardness, conductivity, copper and zinc values were higher in Rum Bay and Hagan Arm. Concentrations of copper, zinc and iron in the liver were higher in Hagan Arm fish than in fish caught in the main arm of Babine Lake.

Water quality results indicate seepage of tailings water into the lake at the Granisle Mine.

RÉSUMÉ

Une étude de la qualité de l'eau du lac Babine, fut entreprise en mai 1983, mai 1984 et juillet 1984, en vue de déterminer les effets de la mine de cuivre Bell. L'étude comprend les données physico-chimiques de l'eau, les analyses taxonomiques et de métaux traces, dans le zooplancton et les poissons.

La dureté de l'eau, la conductivité, la teneur en cuivre et zinc étaient plus élévées dans la baie de Rum et le bras Hagan. Les concentrations de cuivre, zinc et fer furent plus élevées dans le foie des poissons du bras Hagan que ceux pêchés dans la partie centrale du lac Babine.

Certaines analyses de l'eau indiquent une exfiltration en eau profonde des résidus de dépôts stériles près de la mine Granisle.

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

LIST OF TABLES

ACKNOWLEDGEMENTS

The authors would like to thank the Westwater Research Centre the University of British Columbia for the sampling of fish for tissue analysis, Bryan Kelso for technical reviews and Pam Wakeman for word processing.

1 INTRODUCTION

Noranda Mines Limited started operating Bell mine on Newman Penninsula, Babine Lake in 1972 (Figure 1). The operation was closed circuit, no tailings or tailings supernatant from the copper mine was discharged into Babine Lake. When MacLaren Forest Products Inc, formerly Noranda, shut down in 1982 for an indefinite period, the company requested permission to discharge pit water and tailings ponds supernatant to Babine Lake. This measure was implemented to prevent dam overflow and breaking during the shutdown and to leave the open pit in a dry state.

Recent developments have allowed the company to reopen the mine and resumed production on September 25, 1985.

The present report addresses changes in water quality as a result of the company discharge into Babine Lake. The survey also includes receiving water data from around the closed Granisle Mine adjacent to Bell Mine which is also owned by McLaren Forest Product Inc.

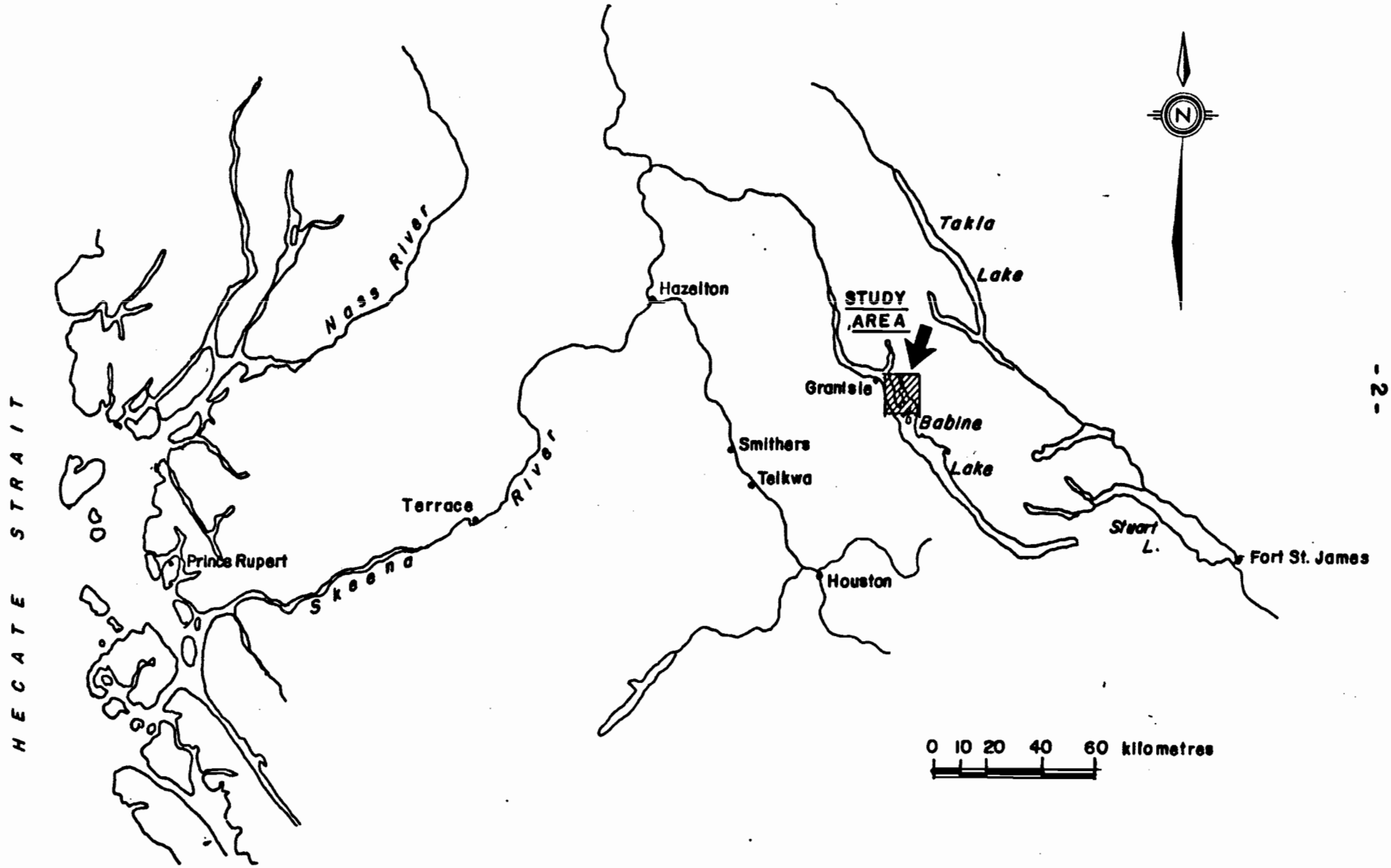

FIGURE 1 LOCATION OF STUDY AREA ON BABINE LAKE

2 MATERIAL AND METHODS

Three surveys were conducted on Babine Lake, from May 28 to June 1, 1983; May 12 to May 16, 1984, and July 4 to July 9, 1984. On May 28, 1983, station markers were placed on site with the aid of a Rangematic Mark 5 1200 range finder and Model FE-502 Furuno Echo Sounder. Conductivity and temperature profiles were recorded with a hydrolab digital 4041 indicator unit and 4021 sonde unit at thirty-six stations. Thirty- five of the stations were in Hagan Arm (Figure 2) and one on the main arm, Station 41 (Figure 3). The surveys in 1984 used the stations determined previously in May 1983 plus thirteen others nearer to the mine sites (Appendix I).

Water sampling sites and depths were determined from the temperature/conductivity profile results. Water samples for chemical analyses were taken with six litre Van Dorn water bottles at four depths; two above the thermocline, and two below the thermocline. The following chemical parameters were analysed: pH, conductivity, turbidity, residue, sulfates, hardness, total and dissolved metals. In 1984 total alkalinity, total organic carbon and nitrogen, as well as dissolved organic carbon and nitrogen, were analysed.

The pH of each sample was measured in the field with a metrohm pH meter, model E588.

The conductivity, turbidity, residues, sulfates, organic carbon and organic nitrogen were kept cool with ice until analysed. Organic nitrogen samples were analyzed by Inland Water Directorate, Water Quality Branch, Pacific and Yukon Region. Total metal samples of 250 ml each were preserved on site with 1 ml of nitric acid. Dissolved metal samples of 100 ml each were filtered on site through a 0.45 micron cellulose nitrate filter and then preserved with 0.5 ml nitric acid. All samples were delivered to the Environmental Protection Service Laboratory in West Vancouver. The Inductively Coupled Argon Plasma or ICAP scan, an automated atomic emissions spectrophotometer, was used for the total and dissolved metal analysis and gave a reading of twenty-six metals. When copper, lead or cadmium readings were below the ICAP detection limit, the samples were rerun on the graphite

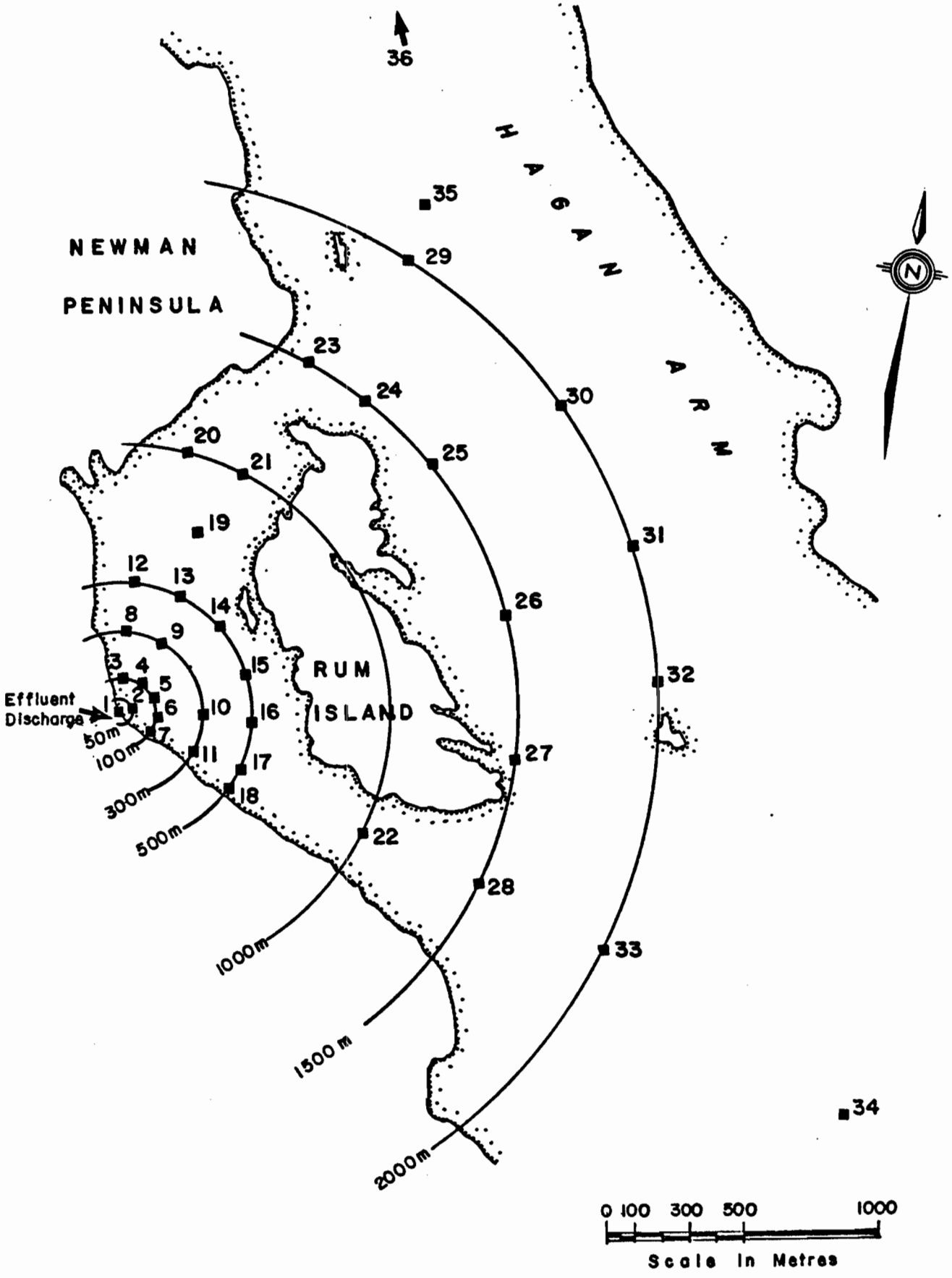

FIGURE 2 LOCATION OF SAMPLING STATIONS ON RUM BAY AND HAGAN ARM IN 1983-84

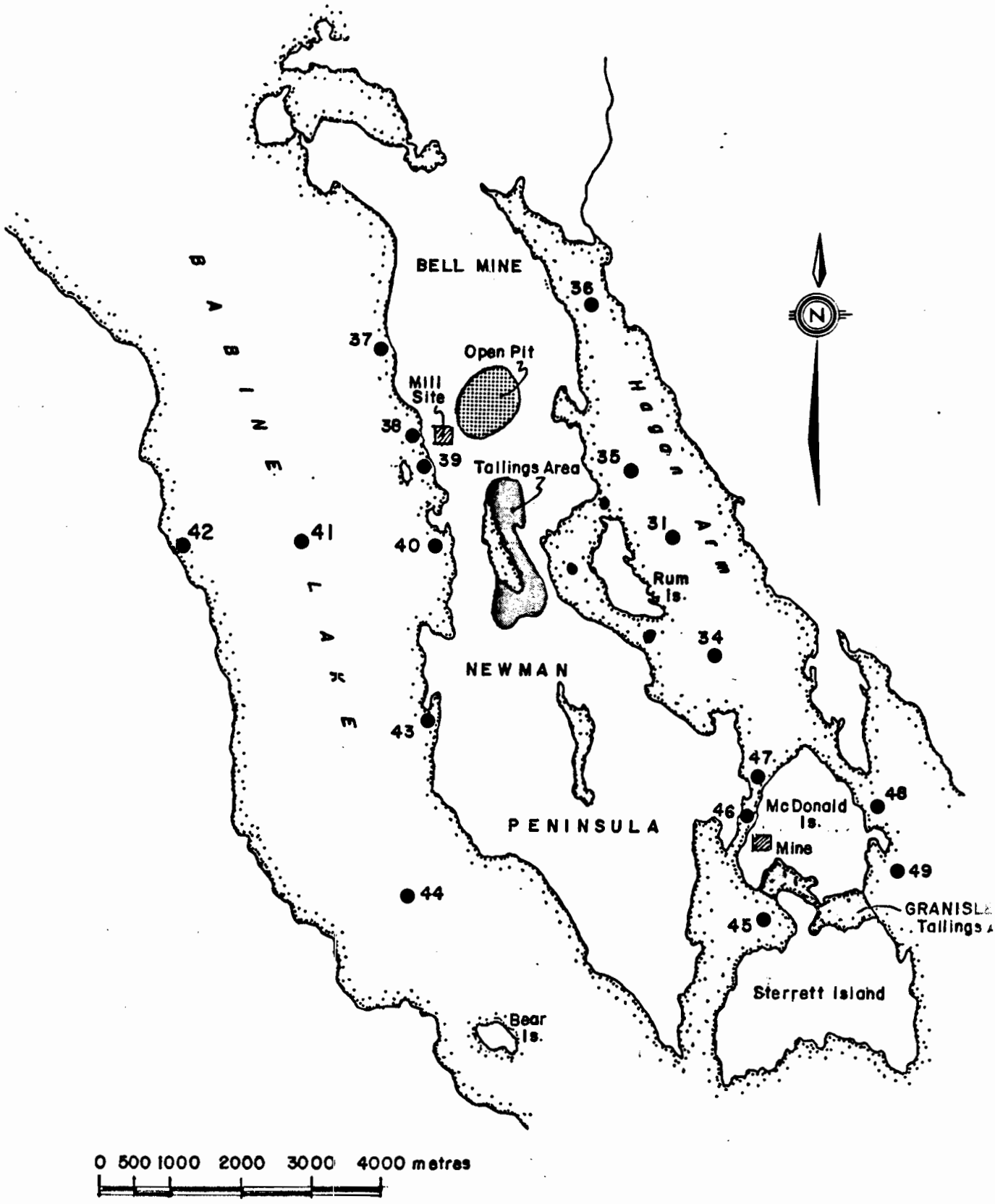

FIGURE 3 LOCATION OF SAMPLING STATIONS ON BABINE LAKE MAIN ARM AND HAGAN ARM IN 1983-84

furnace of the atomic absorption spectrophotometer to obtain a lower detection limit.

Triplicate zooplankton samples were taken with a 80 um mesh size plankton net at 4 stations in 1984. Vertical tows were used for collection starting at 30 m depth and the sample were preserved with isopropanol. Identification was carried out by J.R. Keays in Powell River, B.C. Heavy metal analysis was carried out at the West Vancouver EPS lab with the ICAP scan. Samples were kept cool.

Fish tissues for analysis were taken from fish caught by angling. Muscle and liver were taken and frozen in plastic vials. Disposable scalpels, gloves, and tweezers were used to avoid contamination. Tissues were analysed at the West Vancouver EPS lab with the ICAP scan for multi-element analysis.

Water samples from tailings pond discharges were provided by Peri Mehling (EPS). These samples were treated as mentioned above.

For analytical methods refer to Environment Canada Pacific Region, Laboratory Manual (1979).

3 RESULTS

3.1 Tailings Supernatant Discharge Quality

The effluent data (Tables 1 to 4) showed on sample out of compliance according to the Waste Management Branch permit #E-1505. On the morning of July 7, 1983 the dissolved copper was 0.112 mg/l, exceeding the 0.05 mg/l limit. The other copper values were ranging from 0.022 to 0.041 mg/l. The pH was maintained around 8.0, suspended solids were between detection limit and 12 mg/l, dissolved zinc were between 0.03 mg/l and 0.05 mg/l and dissolved iron between 0.01 mg/l and 0.046 mg/l. Sulphate values were high, ranging from 1350 mg/l to 1595 mg/l. Total hardness values ranged from 1240 to 1600 mg/l. The conductivity was oscillating between 1976 and 2400 umhos/cm, revealing a high sulfate content and hardness of the water.

3.2 Mine Site Runoff to Station 39

The mine site runoff sample taken near Station 39 reveals acidic seepage with a pH of 4.0 taken on July 4, 1984 (Table 5). No alkalinity could be detected. The dissolved metal levels were high: 21.1 mg/l, copper; 1.05 mg/l, zinc; 16.5 mg/l, aluminum; 12.6 mg/l, manganese; 0.22 mg/l, nickel; 0.16 mg/l, cobalt; 1.48 mg/l, strontium. The conductivity was 2500 umhos/cm, and sulfate concentrations was 1700 mg/l. This sample was taken close to the shore, in the lake, near a rusty surface discharge coming from the mill site. Elevated copper levels were found near at Stations 37, 38, and 39 (see Copper Section 3.3.7). This copper could come from acid mine generation from the stockpile and waste rock situated not far from the station.

3.3 Receiving Water Quality

3.3.1 Temperature and Conductivity. Surface temperatures were highest in May 1983, ranging from 12.9 to 20.8°C, compared to the May 1984 survey with a temperature range of 3.7 to 6.7°C and in July 1984 ranging from 10.5 to 14.6°C (Appendix II, Tables 1 to 3). The thermocline in July

TABLE 1 BELL COPPER TAILINGS SUPERNATANT DISCHARGE QUALITY - MAY 31, 1983*

PARAMETER**	TAILINGS SUPERNATANT			
	AM		PM	
Temperature (°C)	21.0		22.7	
pH (relative units)	8.0		8.1	
conductivity (umhos/cm @ 25°C)	2322		245.0	
turbidity	0.1		Nil	
filterable residue	2370		55.0	
non-filterable residue	8		< 5.0	
total residue	2380		2420	
sulphates	1581		1400	
	Total	Diss.	Total	Diss.
Copper	0.044	0.031	0.042	0.025
Zinc	0.045	0.044	0.041	0.039
Barium	0.017	0.018	0.017	0.018
Cobalt	0.013	0.014	0.015	0.012
Manganese	1.34	1.40	1.33	1.39
Molybdenum	0.016	0.021	0.019	0.022
Nickel	0.03	0.04	0.04	0.02
Phosphorus	0.15	0.16	0.16	0.14
Strontium	2.66	2.76	2.65	2.82
Aluminum	0.06	0.05	0.10	< 0.05
Iron	0.063	0.011	0.092	0.012
Silica	1.9	1.9	1.9	1.9
Calcium	442	454	442	458
Magnesium	69.5	67.8	70.1	69.5
Sodium	48	50	48	50.9
Hardness, Ca, Mg	-	1410	-	1430
Hardness, Total	-	1420	-	1440

The following metals were below the detection limit: As, B, Be, Cd, Cr, Pb, Sb, Se, Sn, Ti, V.

*Results from P. Mehling (EPS)
**All units in mg/l unless otherwise stated.

TABLE 2 BELL COPPER TAILINGS SUPERNATANT DISCHARGE QUALITY - JULY 7, 1983*

PARAMETER**	TAILINGS SUPERNATANT			
	AM		PM	
pH [1]	7.7		7.9	
conductivity [2]	2450		2450	
phenolphthalein alkalinity as $CaCO_3$ [3]	Nil		Nil	
total alkalinity as $CaCO_3$ [4]	52.0		52.0	
mineral acid acidity as $CaCO_3$	Nil		Nil	
total acidity as $CaCO_3$	3.0		3.0	
non-filterable residue	12		5.6	
total residue	2320		2340	
nitrite	0.016		0.017	
nitrate	0.33***		0.30***	
ammonia	0.555		0.490	
total PO_4	0.028		0.015	
dissolved PO_4	0.012		0.012	
sulphates	1595		1410	
	Total	Diss.	Total	Diss.
As	< 0.05	< 0.05	< 0.05	< 0.05
B	0.003	0.006	0.006	< 0.001
Ba	0.018	0.015	0.017	0.016
Be	< 0.001	< 0.001	< 0.001	< 0.001
Cd	< 0.002	< 0.002	< 0.002	< 0.002
Co	0.019	0.008	0.015	0.011
Cr	< 0.005	< 0.005	< 0.005	< 0.005
Cu	0.269	0.112	0.062	0.034
Mn	1.28	1.09	1.22	1.14
Mo	0.017	0.014	0.022	< 0.019
Ni	0.03	< 0.02	0.03	0.04
P	0.14	0.52	0.17	0.54
Pb	< 0.02	< 0.02	< 0.02	< 0.02
Sb	< 0.05	< 0.05	< 0.05	< 0.05
Se	< 0.05	< 0.05	< 0.05	< 0.05
Sn	< 0.01	< 0.01	< 0.01	< 0.01
Sr	2.87	2.50	2.92	2.74
Ti	< 0.002	< 0.002	< 0.002	< 0.002
V	< 0.01	< 0.01	< 0.01	< 0.01
Zn	0.044	0.034	0.033	0.030
Al	0.29	0.16	0.09	0.12
Fe	1.72	0.046	0.409	0.022
Si	1.2	1.0	1.1	1.0
Ca	460.0	387.	463.	432.
Mg	75.3	64.1	74.7	68.5
Na	50.2	44.6	51.0	48.1
Hardness, Ca, Mg	-	1230	-	1360
Hardness, Total	-	1240	-	1370

[1] relative units
[2] umhos/cm @ 25°C
[3] titrated to pH 4.5
[4] titrated to pH 8.3

* Results from P. Mehling (EPS)
** All units in mg/l unless otherwise stated.
*** An interference problem may have affected the accuracy of the nitrate results.

TABLE 3 BELL COPPER TAILINGS SUPERNATANT DISCHARGE QUALITY - MAY 15, 1984*

PARAMETER**	SAMPLE 1				SAMPLE 2			
	AM		PM		AM		PM	
pH [1]	8.1		8.0		8.0		8.0	
conductivity [2]	2400		2390		2400		2400	
phenolphthalein alkalinity [3]	Nil		Nil		Nil		Nil	
total alkalinity [4]	56.0		56.0		58.0		58.0	
non-filterable residue	7.0		< 5.0		6.0		< 5.0	
total residue	2200		2230		2280		2220	
sulphates	1200		1200		1300		1300	
hardness, Ca,Mg	1350		1340		1360		1350	
hardness, Total	1360		1350		1360		1350	
	Total	Diss	Total	Diss	Total	Diss	Total	Diss
As	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
B	0.016	0.012	0.022	0.008	0.011	0.010	0.022	0.010
Ba	0.014	0.013	0.013	0.013	0.014	0.012	0.013	0.011
Be	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cd	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Co	0.011	0.008	0.009	0.010	0.008	0.007	0.010	0.008
Cr	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cu	0.073	0.024	0.060	0.029	0.064	0.022	0.063	0.023
Mn	1.06	1.03	1.06	1.06	1.08	0.989	1.07	0.957
Mo	< 0.005	0.007	0.008	0.005	0.007	0.007	< 0.005	0.0C
Ni	0.03	0.02	0.03	0.03	0.02	0.02	0.02	0.02
P	0.18	0.19	0.18	0.21	0.14	0.18	0.13	0.18
Pb	0.001	0.001	0.001	0.001	0.002	0.001	< 0.001	0.001
Sb	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Se	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Sn	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sr	2.56	2.52	2.52	2.60	2.59	2.35	2.58	2.26
Ti	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
V	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Zn	0.034	0.023	0.033	0.028	0.034	0.026	0.035	0.025
Al	0.12	0.11	0.12	0.10	0.11	0.09	0.10	0.10
Fe	0.184	0.017	0.151	0.014	0.154	0.017	0.162	0.015
Si	0.9	0.9	0.8	0.9	0.8	0.8	0.8	0.8
Ca	417.0	417.0	416.0	425.0	419.0	391.0	417.0	379.0
Mg	74.9	77.8	82.1	80.8	75.4	72.0	74.7	69.4
Na	45.8	42.8	47.8	46.3	46.1	39.9	46.0	38.1
Cl	52.1	--	51.2	--	48.4	--	44.6	--
K	--	43.7	--	43.7	--	42.4	--	47.9

[1] relative units
[2] umhos/cm @ 25°C
[3] as $CaCO_3$, titrated to pH 4.5
[4] as $CaCO_3$, titrated to pH 8.3

* Results from P. Mehling (EPS)
** All units in mg/l unless otherwise indicated

TABLE 4 BELL COPPER TAILINGS SUPERNATANT DISCHARGE QUALITY - JULY 4, 1984*

PARAMETER**	SAMPLE 1		SAMPLE 2	
pH[1]	8.1		8.1	
specific conductivity[2]	243.0		245.0	
phenolphthalein alkalinity as $CaCO_3$[3]	Nil		Nil	
total alkalinity as $CaCO_3$[4]	55.0		55.0	
non-filterable residue	< 5.0		< 5.0	
total residue	2390		2420	
nitrite/nitrate	0.202		0.081	
ammonia	0.047		0.005	
sulphates	1400		1400	
hardness, Ca,Mg	1570		1590	
hardness, Total	1570		1600	
	Total	Diss.	Total	Diss.
As	< 0.05	< 0.05	< 0.05	< 0.05
B	0.027	0.024	0.029	0.029
Ba	0.013	0.013	0.014	0.013
Be	< 0.002	< 0.001	< 0.001	< 0.001
Cd	< 0.002	< 0.002	< 0.002	< 0.002
Co	0.012	0.013	0.015	0.013
Cr	< 0.005	< 0.005	< 0.005	< 0.005
Cu	0.060	0.041	0.048	0.037
Mn	1.05	1.08	1.06	1.02
Mo	0.005	< 0.005	0.009	< 0.005
Ni	0.13	0.03	0.04	0.03
P	0.17	0.18	0.10	0.18
Pb	< 0.02	< 0.02	< 0.02	< 0.02
Sb	< 0.05	< 0.05	< 0.05	< 0.05
Se	< 0.05	< 0.05	< 0.05	< 0.05
Sn	< 0.01	< 0.01	< 0.01	< 0.01
Sr	3.18	3.21	3.23	3.03
Ti	< 0.002	< 0.002	< 0.002	< 0.002
V	< 0.01	< 0.01	< 0.01	< 0.01
Zn	0.045	0.045	0.043	0.041
Al	0.13	0.09	0.10	0.10
Fe	0.084	0.028	0.045	0.020
Si	0.7	0.7	0.7	0.7
Ca	463.0	477.0	471.0	458.0
Mg	99.7	105.0	102.0	98.0
Na	49.8	53.8	51.2	49.4
Cl	50.7	--	52.1	--
K	40.1	--	40.5	--

[1]relative units
[2]umhos/cm @ 25°C
[3]titrated to pH 4.5
[4]titrated to pH 8.3
*Results from P. Mehling (EPS)
**All units in mg/l unless otherwise stated.

TABLE 5 MINE SITE RUNOFF TO STATION 39 - JULY 4, 1984

PARAMETER*		
pH[1]	4.0	
conductivity[2]	2500	
phenolphthalein alkalinity as $CaCO_3$[3]	Nil	
total alkalinity as $CaCO_3$[4]	Nil	
non-filterable residue	< 5.0	
total residue	2830	
sulphates	1700	
hardness, Ca,Mg	1690	
hardness, Total	1800	
	Total	Diss.
As	< 0.05	0.07
B	< 0.001	< 0.001
Ba	0.016	0.017
Be	0.003	0.003
Cd	0.006	0.009
Co	0.150	0.166
Cr	< 0.005	< 0.005
Cu	25.9	21.1
Mn	12.3	12.6
Mo	< 0.005	< 0.005
Ni	0.20	0.22
P	< 0.05	< 0.05
Pb	< 0.02	< 0.02
Sb	< 0.05	< 0.05
Se	< 0.05	< 0.05
Sn	< 0.01	< 0.01
Sr	1.38	1.48
Ti	< 0.002	< 0.002
V	< 0.01	< 0.01
Zn	1.01	1.05
Al	15.0	16.5
Fe	0.875	0.792
Si	8.9	10.1
Ca	336	358
Mg	208	235
Na	16.5	19.9
Cl	3.4	--
K	7.6	--

[1]relative units
[2]umhos/cm @ 25°C
[3]titrated to pH 4.5
[4]titrated to pH 8.3
*All units in mg/l unless otherwise stated.

1984 and May 1984 is situated around 10 m deep while in May 1983 it was only 3 m deep. The survey in May 1984 occurred shortly after the turn over in Rum Bay and Hagan Arm, for the Babine Lake main arm stations the temperatur at the surface had not risen enough to form a distinct thermocline.

The conductivity profile in May 1983, in Rum Bay consists generally of a small increase of the conductivity near the thermocline. The conductivity in the hypolimnion was stable but increased near the bottom. The conductivity profile through the south channel of Rum Bay (Figure 4) showed two water bodies with conductivity of 100 uS/cm. One was at the thermocline at Stations 28, 33 and 34; the other high conductivity was situated near the bottom. This could indicate different effluent dispersion since the effluent pipe had not always been 8 m deep (site inspection August 1985). The north channel transect (Figure 5) showed the same conductivity increase at the thermocline and at the bottom. A slight conductivity increase in the hypolimnion was noticeable at the stations 500 m from the effluent. At Station 30 in Hagan Arm, the rounded conductivities values were consistantly high.

In May 1984 the high conductivity water body was situated near the surface of the thermocline. Another water body with higher conductivity was found on the bottom of the south channel. The south channel transect (Figure 6) revealed a significantly elevated conductivity at Station 28, 150-155 uS/cm for the first 50 meters. Laboratory measurements did not confirm the reading from the field at that station, ranging from 93.3 to 112 us/cm. In situ values presented here may be erroneous. The north channel showed (Figure 7) an elevation of conductivity around Rum Island.

Poor correlation existed between dissolved copper and conductivity (Table 6) . This poor correlation of the divalent metal could be related to the complexation of copper.

Extremely high conductivity was found at Station 49, 29 m deep on May 1984 with 765 us/cm measured in the field and 582 us/cm measured in the laboratory. Such a level might indicate seepage through the tailings dam.

3.3.2 Ionic Balance. An attempt to check the correctness of analyses with the ionic balance was made accordingly to Standard Methods (1980).

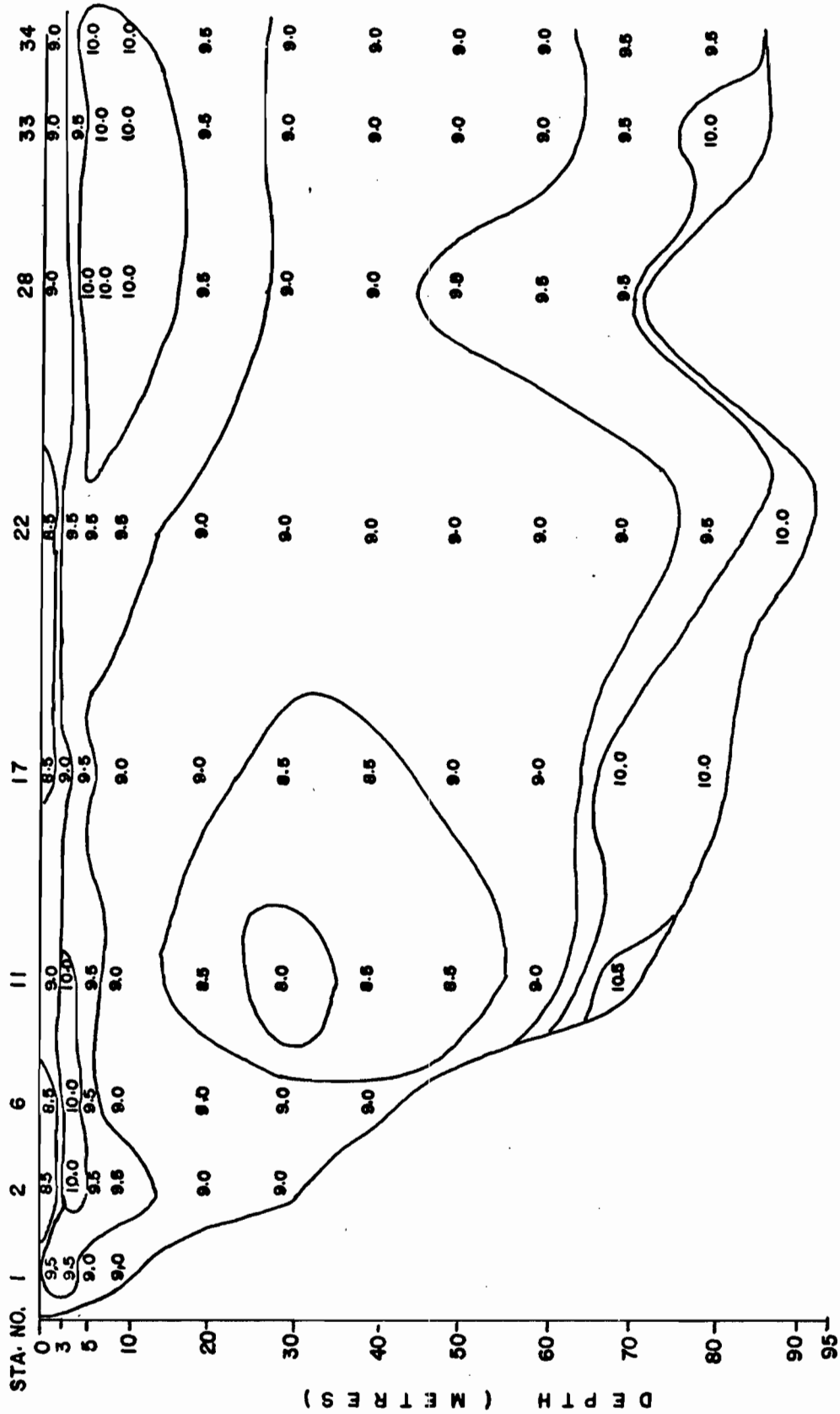

FIGURE 4 SOUTH CHANNEL CONDUCTIVITY PROFILE - May 1983
SPECIFIC CONDUCTIVITY (μS/cm) X 10 AT 25° C

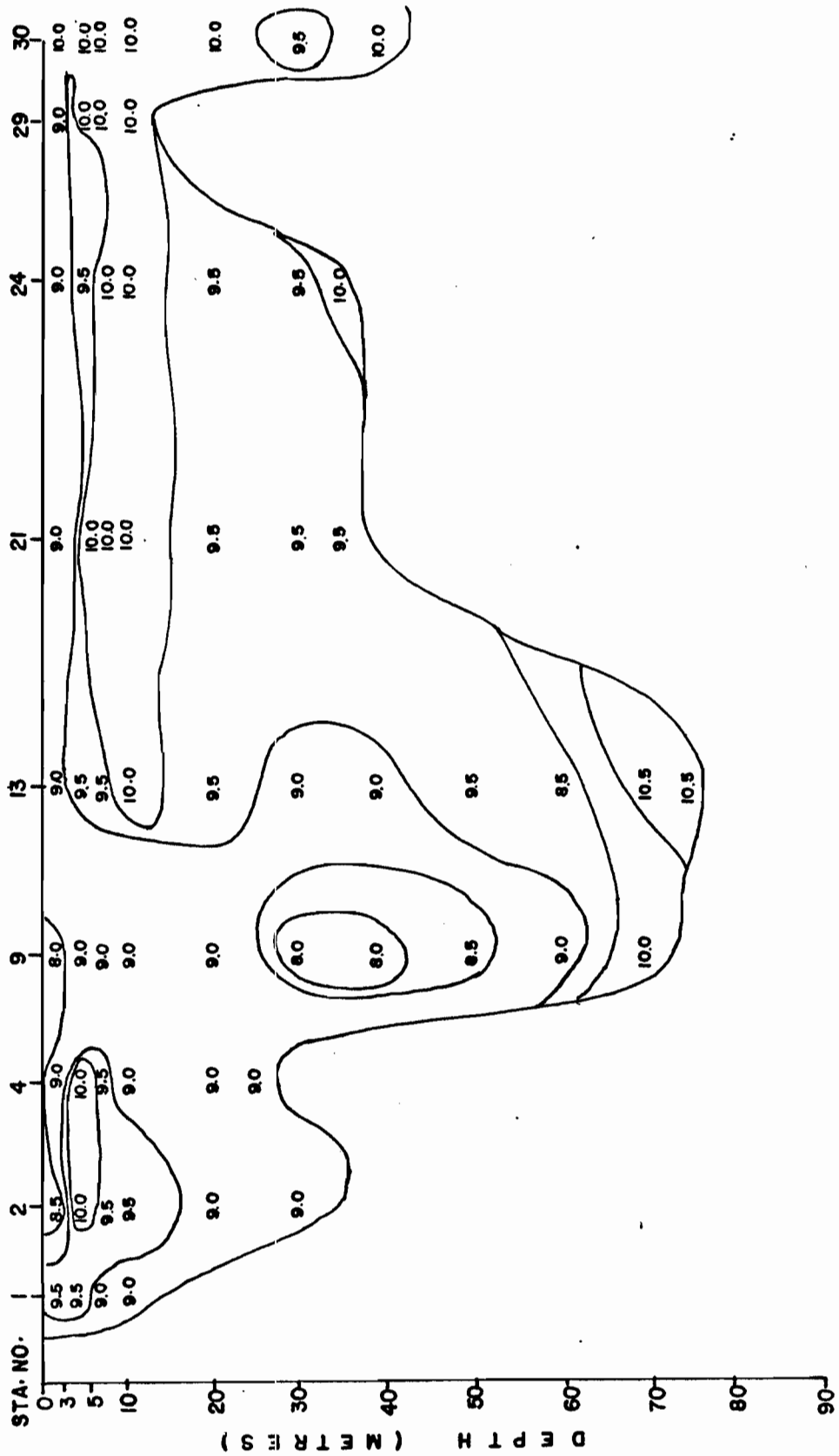

FIGURE 5 NORTH CHANNEL CONDUCTIVITY PROFILE - May 1983
SPECIFIC CONDUCTIVITY (μS/cm) X 10 AT 25° C

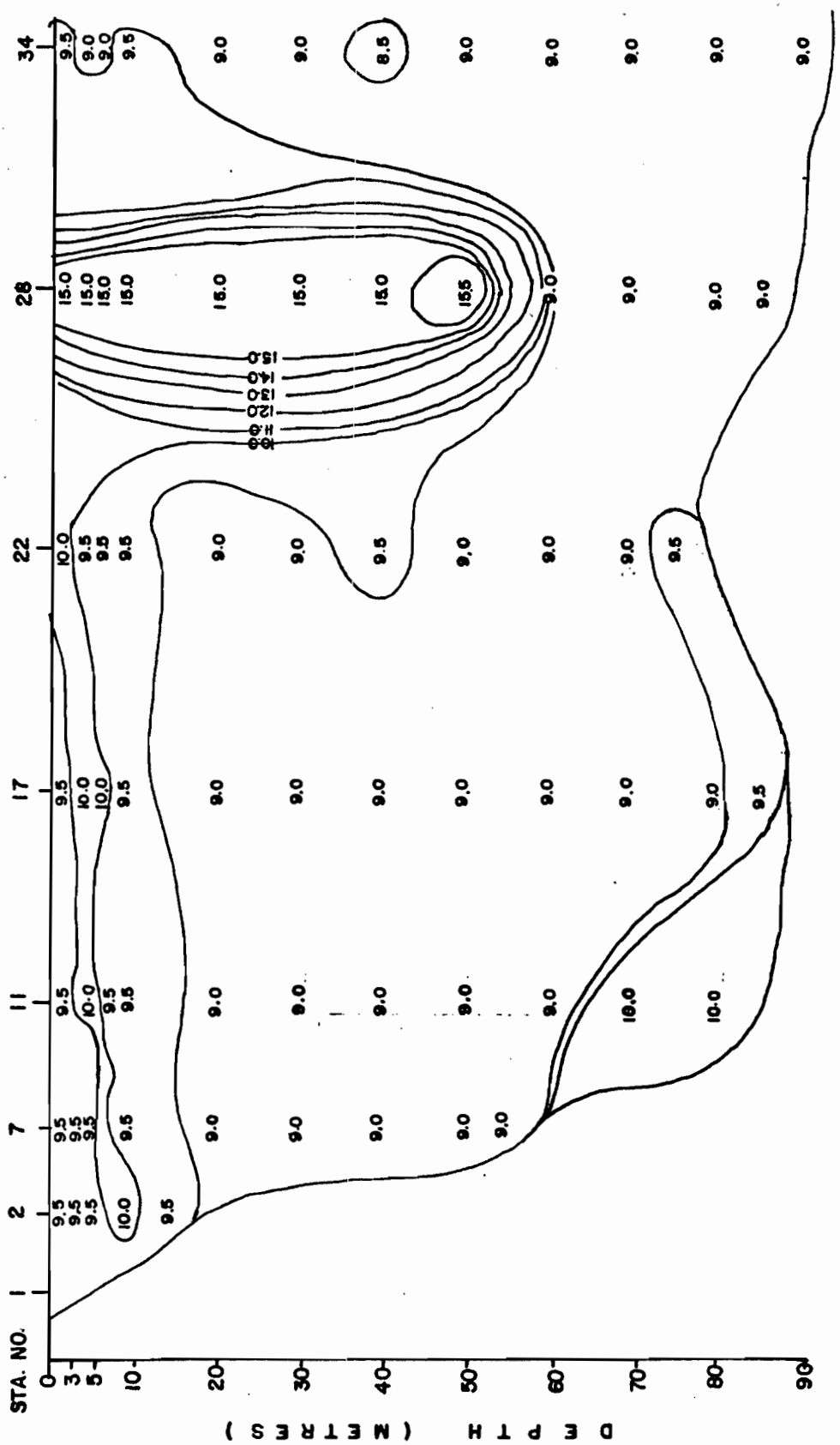

FIGURE 6 SOUTH CHANNEL CONDUCTIVITY PROFILE - May 1984
SPECIFIC CONDUCTIVITY (μS/cm) X 10 AT 25°C

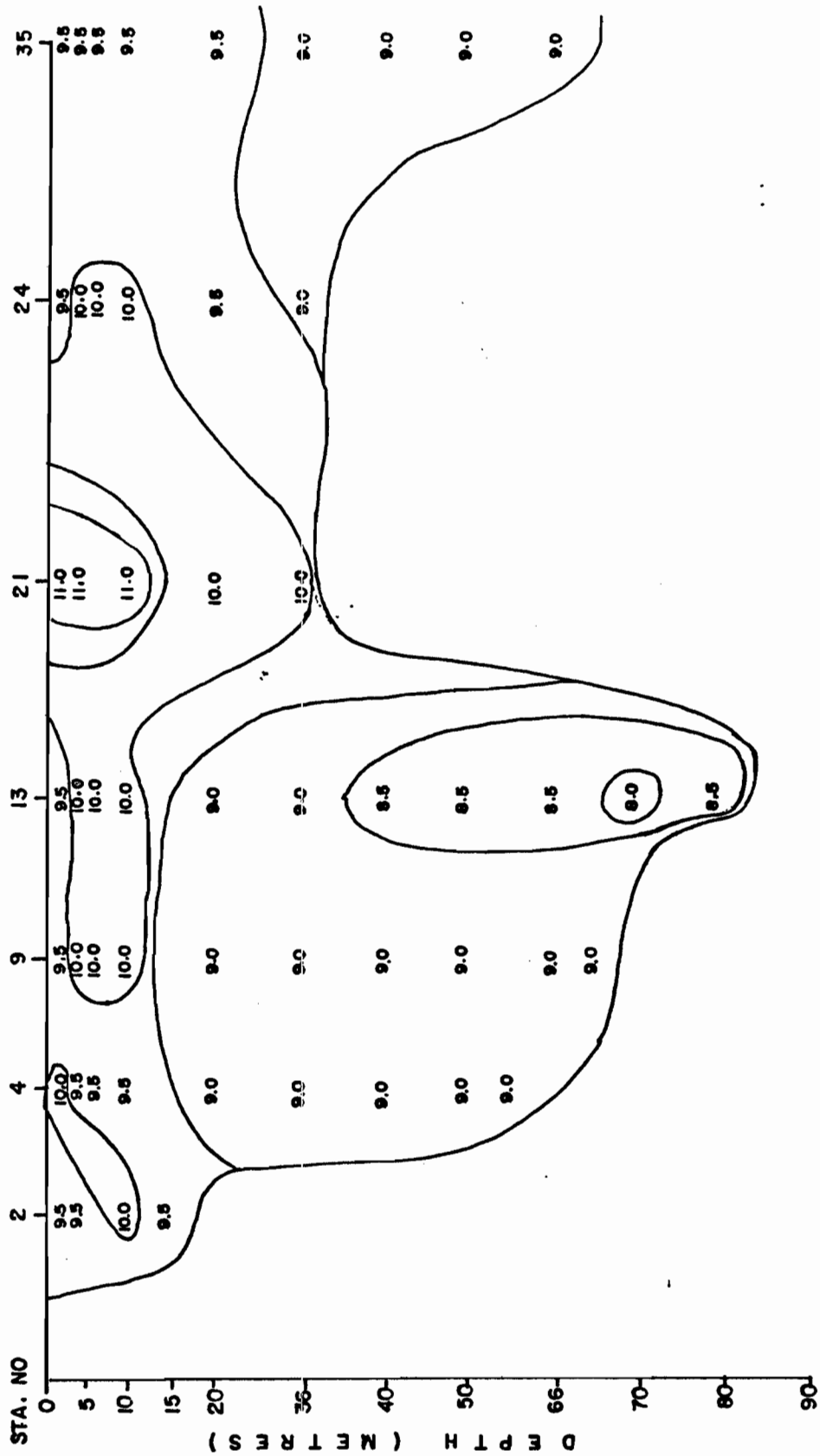

FIGURE 7 NORTH CHANNEL CONDUCTIVITY PROFILE - May 1984
SPECIFIC CONDUCTIVITY (μS/cm) X 10 AT 25° C

TABLE 6 CORRELATION BETWEEN DISSOLVED COPPER AND CONDUCTIVITY

AREA	MAY 1984		JULY 1984	
	n	r	n	r
Rum Bay	44	+ 0.2195	65	+ 0.6706
Hagan Arm	16	+ 0.3179	16	+ 0.3026
Granisle	22	+ 0.6358	20	- 0.7157
Babine Lake	10	+ 0.3935	9	+ 0.1925

According to Standards Methods the computed analysis should not be higher than 1.5% or lower than 2% of the measured value. Calculations differ with the laboratory conductivity with percentages varying from 1 to 10%. Few calculated conductivities were less than 2% of the measured conductivity. Errors could originate from measurements of conductivity, chemicals, or the innability to include in the calculation the ionic factor from strontium. The correlation between conductivity and the strontium was high r = .95, n = 81, for values in Rum Bay and Hagan Arm. This was in accordance with the findings of Roche (1950) on the minor constituents in lake waters.

3.3.3 Immediate and Major Ions. The sulfates, turbidity, residues and pH results can be found in Appendix III, Tables 1 to 3; silicon, calcium, magnesium, sodium, potassium and chloride data are shown in Appendix IV, Tables 1 to 3; and alkalinity, and hardness are presented in Appendix V, Tables 1 to 3.

Generally the range of the results was similar for the Rum Bay, Hagan Arm, Granisle and Babine Lake Main Arm. Rum Bay was slightly higher for the filterable residue, calcium, magnesium and hardness.

Station 49 at a depth of 29 m in May 1984, had elevated values for sulfate (71 mg/l), calcium (54.1 mg/l), magnesium (11.2 mg/l), hardness (182 mg/l), total residue (397 mg/l), sodium (36.6 mg/l), potassium (4.30 mg/l), and chloride (7.4 mg/l). Since the non-filterable residue level

was below detection limit, it is unlikely that the sampler water bottle touched the bottom of the lake and contaminated the sample.

3.3.4 Organic Carbon. The total and dissolved organic carbon values were similar in May 1984 [6.0 mg/l (Appendix V, Tables 2 and 3)]. No samples were taken in May 1983. Station 11 at 45 m and Station 49 at 29 m in May 1984 were the exception with 7.0 mg/l and 5.0 mg/l total organic carbon. In July 1984 the concentrations were between 7.0 mg/l and 9.0 mg/l. This increase in dissolved and total organic carbon can be related to the effect of biological activity of phytoplankton which are known to release a large number of organic compounds (Wetzel, 1978). The significance of the amount of organic carbon is related to the possibility of it forming complexes with heavy metals. If trace metal is toxic to a particular organism, its availability may be effectively reduced to a concentration below the toxicity threshold by excessive complexing of the metal ions by organic compounds (Wetzel, 1975). Experiments perfomed by Winner (1985) showed the reduction of toxicity of copper to Daphnia by the addition of humic acid. The introduction of ligands to the water also reduces the toxicity of copper to fish (NRC, 1979).

The stability of the bond with different heavy metal is variable; zinc generally forms weak complexes with ligands compared to copper and lead (Chau et al., 1974). Mantoura et al (1978) state that in freshwater more than 99% of copper and mercury was found to be complexed with humic material, while such interaction only binds 8% or less of the remaining trace metal and these metals occur predominantly (> 70%) as free ions. Chau and Wong (1975) deduced from calculation that Babine Lake water has ample capacity to complex ionic copper and other heavy metals. The high complexing capacity of Babine Lake was related to the high organic matter indicated by measurements of dissolved organic carbon and dissolved organic nitrogen. In 1974, their calculations gave a complexing capacity of 1.64 umoles Cu/l, which means that one litre of Babine Lake water would chelate around 104 ug Cu^{+2}. The dissolved organic carbon results in the present survey were not different from the values reported by Chau and Wong. The complexing capacity should therefore be the same.

3.3.5 Organic Nitrogen. Total organic nitrogen varied from 0.116 mg/l to 0.178 mg/l in May 1984 (Appendix V, Table 2) and from 0.111 mg/l to 0.330 mg/l in July 1984 (Appendix V, Table 3). No samples were taken in May 1983. A two-way Anova for paired comparisons showed no difference ($p < 0.05$) between the two sample treatments. Sampling error contribute for the majority of the variance. The differences between the two values were usually not very extensive which might be caused by small contamination or by the preservation technique.

The ratio dissolved carbon:dissolved nitrogen varied between 34 to 51 in May 1984 and 32 to 98 in July 1984. These high ratios indicate the importance of allochthonous material since humic acids, coming from terrestrial environment, have low nitrogen content (Wetzel 1975). The autochthonous material produced by plankton and to a certain extent macrophytes are usually higher in nitrogen content but more easily degradable. Organic nitrogen can also form complexes with heavy metal such as copper and iron.

3.3.6 Heavy Metals. Appendix VI shows those heavy metal parameters that were consistantly below the detection limit for the three surveys.

The results for barium, manganese and strontium are found in Appendix VII, Tables 1 to 3; and aluminum, boron, molybdenum, nickel, titanium and tin are presented in Appendix VIII, Tables 1 to 3.

Most values for boron, manganese, molybdenum, nickel, tin and titanium ranged close to the detection limit. Aluminum, barium and strontium value ranges did not lead to differences between the four major areas; Rum Bay, Hagan Arm, Granisle and the Main Arm of Babine Lake.

An exception was found in May 1984 at Station 49, at 29 m where high total and dissolved values were found respectively for boron (0.081 mg/l, 0.067 mg/l), barium (0.032 mg/l, 0.032 mg/l), manganese (0.190 mg/l, 0.184 mg/l), molybdenum (0.018 mg/l, 0.021 mg/l), and strontium (2.02 mg/l, 2.01 mg/l).

In July 1984 at Station 49, total nickel was elevated throughout the water column at 1 m (0.06 mg/l), 5 m (0.43 mg/l), 15 m (0.39 mg/l), and 25 m (0.19 mg/l). These levels are above the Inland Waters Directorate

freshwater quality objectives of 0.025 mg/l for the aquatic life (Reeder, 1979).

These elevated levels suggest seepage to Babine Lake from the west tailings dam No. 2 of Granisle Mine.

3.3.7 Copper. The copper concentrations on the four different zones of Babine Lake can be separated into two categories: the first includes Rum Bay and Hagan Arm and; the second includes the Main Arm and the surrounding of Granisle. The dissolved copper concentrations in Rum Bay and Hagan Arm are higher, ranging from 0.007 to 0.020 mg/l, while in the main arm and Granisle area it ranges from 0.001 to 0.009 mg/l for the three surveys except for Stations 37, 38, 39 and 46) (Appendix VII, Tables 1 to 3). In the main arm the surface level of dissolved copper near the mine on Newman Peninsula, levels are high with 0.063 mg/l and 0.027 mg/l at Stations 38 and 39 respectively in May 1984 and 0.018 and 0.038 mg/l at Stations 37 and 38 respectively in July 1984. The comparison with May 1983 was not possible since only Station 41 in the Main Arm has been sampled at that time. The surface sample at Station 46 in July 1984 was 0.020 mg/l dissolved copper. This Station was directly below the Granisle milling site.

The distribution of copper concentration in Rum Bay where the tailings pond supernatant is discharged varies with the period of time considered. In May, 1984 the level of copper seemed to decrease with the distance of the effluent. The depth profile did not give a consistent pattern. Sometimes the highest level was at the surface while other times it was at the bottom or both. In July 1984 the concentrations of copper generally increase with depth.

Generally, the total and dissolved copper concentrations were in agreement. A few discrepancies occur such as Station 11 in May, 1984 at 80 m depth where total copper was 0.026 mg/l and dissolved copper 0.012 mg/l. In July 1984 at Stations 22 (75 m depth) and 24 (25 m depth) 0.006 mg/l difference occurred between total and dissolved copper. Station 11 (5 m depth) had a total copper value of 0.016 mg/l and dissolved copper value of 0.008 mg/l.

The concentrations found in the Main Arm of Babine Lake and Granisle area were closer to the objective of the safe level for aquatic life with 0.002 mg/l (Demayo and Taylor, 1981), except for the station directly adjacent to the mining operations. On site acute toxicity test done with sockeye fry, fingerling and smolts of Babine Lake, showed 96 h LC_{50} from 0.21 to 0.22 $mgCu^{+2}/l$ for fry and 0.24 $mgCu^{+2}/l$ for smolts and fingerlings (David and Shand, 1978). The threshold for disruption of osmo-regulation capacity of the sockeye salmon was between 0.105 to 0.154 mg/l. These values took into consideration the complexing capacity of Babine Lake (see section on Organic Carbon 3.3.4).

Comparison with background studies (Beak Consultants 1972) was difficult because of the high detection limit (< 0.05 and < 0.01 mg/l). Chemical data taken by EPS and reported by Stockner and Shortreed (1978) during the summer 1976, near Noranda and Granisle mine, showed copper concentrations ranging from 0.002 to 0.006 mg/l. Nevertheless near Granisle at a Station that would correspond to our Station 47, a level of 0.29 mg/l was found near the bottom (18 metres). Core samples of sediments taken by Stockner and Smith (1974), 300 m from McDonald Island (approximately Station 48) showed a high level of copper (200 ug/g) at a core depth of 1.0 to 1.5 cm.

Very few intensive studies on Babine Lake had surveyed the interior of Hagan Arm near Noranda Bell Mine for baseline data. Studies had been conducted in Rum Bay and Hagan Arm by Bell Mine and the Waste Management Branch in the third week of January, second week of February and second week of May in 1983 to look at the impact of the discharge of supernatant since October 13, 1982. The dissolved copper results reported by Basu (1984) showed smaller concentrations and different profile patterns than what has been found with the present data, but the difference was not significantly different.

3.3.8 Lead. The dissolved lead concentration was always below the detection limit of 0.001 mg/l (Appendix VII, Tables 1 to 3). The total lead concentration even though almost always below the detection limit, showed some values of 0.002 and 0.003 mg/l at Station 29 in May 1983 and at Stations 42, 37 and 38 in May 1984 at all depths. In July 1984 at Station 15 at the

surface the total level of lead was 0.024 mg/l. This anomalous level might be caused by contamination.

3.3.9 Zinc. The zinc concentration throughout the surveys mostly range from below the detection limit (< 0.002 mg/l) to 0.005 mg/l (Appendix VII, Tables 1 to 3). However, at some sites the results were higher. In May 1983, Station 13, located on the north arm of Rum Bay, showed a high total concentration at 1 m depth (0.19 mg/l). At Station 36 (May 1983) the concentrations of dissolved zinc were all above the detection limit with a peak of 0.007 mg/l at 5 m depth. The total zinc values at the same location are much higher with 0.019 mg/l, 0.069 mg/l, 0.006 mg/l, and 0.070 mg/l at the 1 m, 5 m, 40 m, and 70 m depth, respectively. Probably some accumulation of zinc occurred at the north end of the Hagan Arm from the north end of Rum Bay. Surface water was 0.034 mg/l total zinc at Station 36 in May 1984.

The concentrations were low in May 1984 but in July 1984 Stations 2 and 7, close to the supernatant outfall, showed high values compared to the other stations in the same area. At Station 2 levels of dissolved zinc were 0.023 mg/l, 0.033 mg/l and 0.011 mg/l at 1 m, 6 m and 18 m depth respectively. The highest concentrations were found at 1 and 6 metres at Station 2 with 0.023 and 0.033 mg/l of dissolved zinc respectively.

In May 1984 at Station 42 on the main arm of Babine Lake, the dissolved zinc concentrations were high (0.016 mg/l, 0.039 mg/l, 0.012 mg/l and 0.009 mg/l) compared to levels near the mine site. Station 43 on the same date showed surface values of 0.024 mg/l and 0.012 mg/l of total and dissolved zinc respectively. Both stations were 4 km from the mine. In July 1984 the dissolved zinc result was the highest near the waste rock pile at Station 37 with 0.018 mg/l.

Surface water near Granisle at Station 49 was 0.023 mg/l and 0.012 mg/l for total and dissolved zinc on May 1984. No other high metal levels were found at this station depth in May 1984.

Freshwater quality objectives for aquatic life recommended by the Inland Waters Directorate (Reeder, 1979) is 0.05 mg/l total zinc for soft

water (0-120 mg/l as $CaCO_3$). Concentrations exceeding such levels were found only at Station 36 in May 1983 (0.069 mg/l @ 5 m).

3.3.10 Iron. The iron results varied greatly between dissolved and total concentrations. More consistent throughout the surveys was the dissolved iron which range from 0.007 mg/l to 0.024 mg/l (Appendix VIII, Tables 1 to 3). Total iron concentrations reached the highest level in May 1984 at Station 36 on the surface water with 6.42 mg/l. Station 35 on the same date near the bottom at 68 metres total iron is 0.635 mg/l. Near Granisle at Station 49, the bottom sample (29 m) showed results of 0.548 mg/l total iron. In July 1984, various stations (4, 7, 10, 13, 15, 22, and 24) in Rum Bay present concentrations ranging from 0.116 mg/l to 1.35 mg/l total iron, at different depths. Wetzel (1975) mentioned that typical total iron concentration range found in oxygenated surface waters of pH 5 to 8 is about 50 to 200 ug/l, almost none of which occurs in ionic form. Higher levels occur in certain alkaline, closed lakes rich in organic matter.

3.3.11 Zooplankton Tissue Analysis for Heavy Metal. The tissue analysis was performed on a mixed population of zooplankton. 74% to 89% of that population was composed of copepods (Appendix IX, Table 1). The assessment of densities is subject to caution since inadequate preservation procedures of some samples occurred, especially for Stations 4 and 31.

The heavy metals results show a high detection limit level (Appendix IX, Table 2). The low weight of the sample affect the analysis by diminishing the detection level. The coefficient of variation which are rather high showed the variability of metal content between replicated samples and therefore the mean values should be used with caution. Station 11 and Station 31 had the most homogenous replicate samples.

Metal content in tissue was higher at Station 4, closer to the discharge. Intermediate concentrations were found at Station 11 and 31, 300 m from the discharge and in Hagan Arm respectively, and the lowest metal content in zooplankton was sampled at Station 41.

3.3.12 Fish Tissue Analysis for Heavy Metal. The complete analysis of heavy metal is given in Appendix X, Table 2, supplemented by general information on Appendix X, Table 1. Unfortunately, Appendix X, Table 1 does not provide information on the age of the species and the sexual stage of the organism. Those data are known to influence the tissue composition of the fish. The few replications of analysis makes the interpretation subject to caution.

Normalized liver tissue data showed significant differences between hatchery reared rainbow trout and living trout in Hagan Arm for copper, zinc and iron, and significant difference with living trout in Babine Lake main arm for zinc and iron.

Average values with liver were definitely higher for zinc, copper, and iron in Hagan Arm and Main Arm and higher for copper in Main Arm in muscle tissue compared to hatchery raised trout.

The copper level was elevated in muscle tissues in the Main Arm compared to Hagan Arm.

Comparison of muscle tissue analysis from hatchery reared rainbow trout (Shearer, 1984) did not lead to significant differences.

Further tissue analysis on fish should be done in order to detect any bioaccumulation increase.

4 CONCLUSIONS

The tailings supernatant discharge has been found out of compliance on July 7, 1983 with 0.112 mg/l of dissolved copper while the Waste Management Permit limit is 0.05 mg/l. Mine site runoff to Babine Lake was acidic (pH 4.0) and high in dissolved metal in the only sample taken on July 4, 1984.

Receiving water quality showed unusually high conductivity near the thermocline and the bottom of Rum Bay. Hardness and copper were found to be higher in Rum Bay and Hagan Arm area. Total zinc values were found to be high in May 1983 in the North end of Hagan Arm. The high complexing capacity of Babine Lake reduces the potential of the toxic effect by the mine discharge.

Tissue analysis for heavy metals in liver showed higher average concentrations in Hagan Arm than the Main Arm of Babine Lake for copper, zinc, and iron. Muscle tissues were higher in copper for rainbow trout in the Main Arm than Hagan Arm.

Station 49 located near Granisle tailings dam showed in the deep sample a high conductivity level of 765 uS/cm which was associated with high sulfate, residues, hardness, and iron and various heavy metals. These results could indicate seepage of the tailings water into the lake at that area.

Routine monitoring of the facility should continue in order to detect changes which might have detrimental effect on the Babine Lake resources.

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APPENDIX I

DESCRIPTION OF SAMPLE SITES AND DATES OF SAMPLING

APPENDIX I DESCRIPTION OF SAMPLE SITE ON BABINE LAKE STUDY AREA

ZONE & STATION	LOCATION	DEPTH (m)	MAY 1983		MAY 1984		JULY 1984		
			C[1]	W[1]	C[1]	W[1]	W[1]	O[1]	Z[1]
Rum Bay									
1	Effluent bubble from tailings pond line to Hagan Arm on the west shore	9	1	-[2]	1	1	1	1	-
2	50 m radius, Bell Mine marker #6	35	1	-	1	1	1	1	-
3	100 m, north of Station 2	15	1	-	-	-	-	-	-
4	100 m, south east of Station 3	27	2	1	1	1	1	1	1
5	100 m, south of Station 4	56	1	-	1	-	1	-	-
6	100 m, south of Station 5	47	2	-	1	1	1	-	-
7	100 m, close to shore, south of Bell Mine marker #6	15	2	1	1	1	1	1	-
8	300 m, north of Station 3, north arm channel	75	2	-	-	-	1	1	-
9	300 m, south east of Station 8	70	1	1	1	1	1	-	-
10	300 m, south east of Station 9	80	1	-	1	1	1	-	-
11	300 m, south of Station 10	70	2	1	1	-	1	1	1
12	500 m, north of Station 8	45	1	-	-	-	-	-	-
13	500 m, south east of Station 12	75	1	1	1	1	1	1	-
14	500 m, south east of Station 13	55	1	-	-	-	-	-	-
15	500 m, south of Station 14	36	1	-	-	-	1	-	-
16	500 m, south of Station 15	72	1	-	-	-	-	-	-
17	500 m, south of Station 16	80	2	1	1	1	-	-	-

[1] C = Conductivity
W = Water Samples
O = Organic Carbon
Z = Zooplankton

[2] refer to numbers of sample set

CONTINUED...

APPENDIX I DESCRIPTION OF SAMPLE SITE ON BABINE LAKE STUDY AREA

(Continued)

ZONE & STATION	LOCATION	DEPTH (m)	MAY 1983		MAY 1984		JULY 1984		
			C[1]	W[1]	C[1]	W[1]	W[1]	O[1]	Z[1]
Rum Bay									
18	500 m, south east of Station 11	75	1	-	-	-	-	-	-
19	Between 300 and 500 m, north channel of Rum Bay, Bell mine marker #8	45	1	-	-	-	-	-	-
20	1000 m, north channel of Rum Bay	13	1	-	-	-	-	-	-
21	1000 m, north channel of Rum Bay south east of Station 20	36	1	1	1	1	1	1	-
22	1000 m, south channel of Rum Bay	90	2	1	1	1	1	1	-
23	1500 m, north channel of Hagan Arm, north east of Station 21	7	1	1	-	-	-	-	-
24	1500 m, north channel of Hagan Arm, south east of Station 23	36	1	-	1	1	1	-	-
25	1500 m, opposite of Rum Island on Hagan Arm, south east of Station 24	54	1	-	-	-	-	-	-
26	1500 m, opposite of Rum Island on Hagan Arm, south east of Station 25	40	1	-	-	-	-	-	-
27	1500 m, opposite of Rum Island on Hagan Arm	8	1	-	-	-	-	-	-
28	1500 m, south channel of Hagan Arm south east of Station 22	80	1	1	1	-	1	-	-
29	2000 m, Hagan Arm, north east of Station 23	8?	1	1	-	-	-	-	-
30	2000 m, Hagan Arm, south east of Station 29	40	1	-	-	-	-	-	-

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APPENDIX I DESCRIPTION OF SAMPLE SITE ON BABINE LAKE STUDY AREA

(Continued)

ZONE & STATION	LOCATION	DEPTH (m)	MAY 1983		MAY 1984		JULY 1984		
			C[1]	W[1]	C[1]	W[1]	W[1]	O[1]	Z[1]
Rum Bay									
31	2000 m, Hagan Arm, south east of Station 30	70	1	-	1	1	1	1	1
32	2000 m, Hagan Arm, south of Station 31	17	1	-	-	-	-	-	-
33	2000 m, Hagan Arm, south of Station 32	89	1	1	-	-	-	-	-
Hagan Arm									
34	Middle of Hagan Arm, south east of Station 33, Bell mine maker #26	89	2	1	1	1	1	-	-
35	Middle of Hagan Arm, north east of Station 29	70	-	-	1	1	1	-	-
36	Middle of Hagan Arm north end, Bell mine marker #23	70	2	1	1	1	1	1	-
Main Arm									
37	East shore of Babine Lake main arm below waste rock	12	-	-	1	1	1	-	-
38	East shore of Babine Lake main arm below mill site	-	-	-	-	1	1	-	-
39	East shore of Babine Lake main arm across mill site	24	-	-	-	1	-	-	-
40	East shore of Babine Lake, south of ferry docking	13	-	-	1	1	1	1	-
41	Middle of Babine Lake main arm, across from Bell mine	67	1	1	1	1	1	1	1

CONTINUED...

APPENDIX I DESCRIPTION OF SAMPLE SITE ON BABINE LAKE STUDY AREA

(Continued)

ZONE & STATION	LOCATION	DEPTH (m)	MAY 1983		MAY 1984		JULY 1984		
			C[1]	W[1]	C[1]	W[1]	W[1]	O[1]	Z[1]
Main Arm									
42	West shore of Babine Lake main arm across from Bell mine	50	-	-	1	1	1	1	-
43	East shore of Babine Lake main arm south of mine site	24	-	-	1	1	-	-	-
44	South of Babine Lake main arm south of Station 41	118	-	-	1	1	1	-	-
Granisle									
45	West shore of McDonald-Sterrett Island 60 m from tailings dams	29	-	-	1	1	1	1	-
46	West shore of McDonald Island, below Granisle milling site	-	-	-	-	1	1	-	-
47	West shore of McDonald Island waste rock near shore north of Station 46	18	-	-	-	1	-	-	-
48	North east of McDonald Island, 55 m from tailings	8	-	-	1	1	1	-	-
49	East shore of McDonald-Sterrett Island, 130 m from the dam south of Station 48	29	-	-	1	1	1	1	-

APPENDIX II

TEMPERATURE AND SEPCIFIC CONDUCTANCE

TABLE 1 MAY 29-31, 1983

TABLE 2 MAY 12-15, 1984

TABLE 3 JULY 4-9, 1984

APPENDIX II

TABLE 1 · SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 29, 1983 AT VARIOUS STATIONS

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 1		
0	13.1	93
1	12.2	89
2	12.1	94
3	8.9	94
4	8.5	93
5	8.1	92
6	7.9	93
7	7.6	95
8	7.2	93
9	6.7	90
Station 2		
0	14.6	87
1	13.0	89
2	12.1	96
3	9.1	103
4	8.6	102
5	8.0	95
6	7.7	97
7	7.4	95
8	7.1	95
9	6.6	93
10	6.4	93
11	6.1	94
12	6.0	94
13	5.9	94
14	5.7	93
15	5.4	93
16	5.2	92
17	5.1	92
18	5.0	91
19	5.0	91
20	4.9	91
25	4.4	90
30	3.8	88
35	3.7	88
Station 3		
0	14.6	88
1	12.8	90
2	11.7	95
3	9.2	103
4	8.8	98
5	8.4	97
6	7.5	96
7	7.1	95
8	6.7	94
9	6.3	95
10	6.2	94
11	6.1	94
Station 4		
0	14.1	88
1	12.5	90
2	11.8	94
3	9.4	101
4	9.0	102
5	8.2	96
6	7.6	97
7	7.1	95
8	6.7	94
9	6.3	95
10	6.1	94
11	6.0	94
12	5.8	93
13	5.6	93
14	5.4	93
15	5.3	92
16	5.2	92
17	5.1	92
18	5.0	91
19	4.9	91
20	4.9	91
25	4.4	88

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 29, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 5		
0	16.8	85
1	13.4	88
2	11.9	92
3	9.7	91
4	8.9	99
5	8.4	97
6	7.6	94
7	7.2	95
8	6.9	93
9	6.3	93
10	6.1	94
11	6.0	91
12	5.9	91
13	5.8	91
14	5.5	92
15	5.3	92
16	5.2	92
17	5.1	92
18	5.1	92
19	5.0	91
20	4.8	91
25	4.3	89
30	3.8	88
35	3.7	88
40	3.7	88
45	3.7	88
50	3.7	91
55	3.7	91
Station 6		
0	14.7	86
1	13.2	88
2	12.5	89
3	9.6	102
4	8.9	98
5	8.4	96
6	7.6	94
7	7.3	93
8	6.8	93
9	6.5	92
10	6.2	92
11	6.1	91
12	5.8	91
13	5.7	92
14	5.4	92
15	5.2	92
16	5.1	92
17	5.0	65
18	5.0	65
19	4.9	65
20	4.9	65
25	4.4	63
30	3.8	61
35	3.7	61
40	3.7	61
45	3.6	63
Station 7		
0	14.2	86
1	13.4	88
2	11.4	99
3	9.6	102
4	9.1	99
5	8.4	96
Station 8		
0	16.4	84
1	13.4	88
2	10.2	93
3	9.3	93
4	8.8	101
5	7.9	97

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 29, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 8		
6	7.5	93
7	7.1	94
8	6.9	93
9	6.5	93
10	6.3	93
11	6.1	92
12	5.8	93
13	5.7	93
14	5.6	92
15	5.5	92
16	5.3	91
17	5.1	91
18	5.1	91
19	4.9	90
20	4.7	90
25	4.1	89
30	4.0	88
35	3.8	87
40	3.7	88
45	3.7	88
50	3.7	88
55	3.7	91
60	3.7	91
70	3.8	91
75	4.0	102
Station 9		
0	17.3	80
1	12.2	87
2	10.9	86
3	9.2	90
4	8.5	90
5	7.9	90
6	7.6	89
7	7.3	89
8	6.9	90
9	6.6	89
Station 9		
10	6.4	89
11	6.0	89
12	5.8	90
13	5.6	89
14	5.5	89
15	5.4	89
16	5.3	89
17	5.2	88
18	5.1	87
19	4.9	88
20	4.7	87
25	4.1	84
30	3.8	81
35	3.8	81
40	3.7	81
45	3.7	86
50	3.7	86
60	3.8	88
70	3.9	97
Station 10		
0	18.0	79
1	12.2	88
2	11.1	89
3	9.2	95
4	8.3	89
5	7.8	89
6	7.4	89
7	7.1	90
8	6.8	89
9	6.5	89
10	6.2	89
11	6.0	90
12	5.8	90
13	5.6	89
14	5.5	89
15	5.3	89

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 29, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 10		
16	5.2	88
17	5.1	88
18	5.0	88
19	4.8	87
20	4.7	87
25	4.1	87
30	3.8	84
35	3.7	84
40	3.7	86
45	3.7	86
50	3.7	87
60	3.9	94
70	4.0	102
80	4.0	132
Station 11		
0	15.1	85
1	13.1	89
2	10.8	95
3	8.9	102
4	8.2	98
5	7.7	96
6	7.3	96
7	7.0	94
8	6.7	93
9	6.5	92
10	6.2	92
11	6.0	93
12	5.9	93
13	5.8	91
14	5.6	92
15	5.4	91
16	5.2	91
17	5.1	90
18	5.1	90
19	5.0	90
20	4.9	88

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 11		
25	4.4	88
30	3.8	85
35	3.8	85
40	3.7	87
45	3.7	87
50	3.8	88
60	3.9	92
70	4.0	104
Station 17		
0	16.1	85
1	12.4	90
2	10.4	94
3	8.9	91
4	8.3	92
5	7.8	93
6	7.4	93
7	7.2	95
8	7.0	95
9	6.5	93
10	6.2	94
11	6.1	94
12	6.0	93
13	5.8	93
14	5.6	93
15	5.4	92
16	5.3	92
17	5.2	91
18	5.1	91
19	5.0	91
20	4.9	90
25	4.4	89
30	3.9	87
35	3.8	85
40	3.7	87
45	3.7	88
50	3.8	90

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 29, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 17		
60	3.8	93
70	4.0	101
80	4.0	98
Station 22		
0	17.5	85
1	13.7	91
2	11.0	92
3	9.2	93
4	8.7	96
5	8.2	94
6	7.5	93
7	7.3	93
8	6.8	94
9	6.6	94
10	6.4	95
11	6.2	94
12	6.0	94
13	5.9	93
14	5.8	93
15	5.5	92
16	5.3	92
17	5.2	92
18	5.1	92
19	5.1	91
20	5.0	91
25	4.4	88
30	3.9	87
35	3.8	87
40	3.8	87
45	3.8	88
50	3.8	90
60	3.7	90
70	3.8	93

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 22		
80	4.0	98
90	4.0	98
Station 34		
0	13.3	74
1	12.2	77
2	10.5	79
3	8.8	70
4	8.5	79
5	8.3	79
6	7.9	78
7	7.6	80
8	7.3	80
9	7.2	87
10	6.6	88
11	6.2	85
12	6.1	87
13	5.9	88
14	5.5	88
15	5.2	87
16	4.8	87
17	4.6	87
18	4.5	86
19	4.4	86
20	4.2	86
25	3.9	85
30	3.7	84
35	3.7	83
40	3.7	84
45	3.6	87
50	3.9	90
60	3.6	90
70	3.6	91
80	3.6	94
85	3.6	134

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 30, 1983 AT 3 AT VARIOUS STATIONS

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 12		
0	14.5	93
1	14.1	94
2	10.4	97
3	9.0	98
4	8.4	107
5	7.9	101
6	7.6	100
7	7.5	100
8	7.1	101
9	7.0	99
10	6.8	100
11	6.6	99
12	6.5	99
13	6.0	99
14	5.9	98
15	5.6	99
16	5.3	99
17	5.1	98
18	5.0	98
19	4.8	97
20	4.7	97
25	4.2	96
30	3.9	94
35	3.7	93
40	3.7	94
45	3.7	96
Station 13		
0	14.5	91
1	11.7	95
2	10.1	95
3	8.9	95
4	8.0	97
5	7.8	97
6	7.6	97
7	7.5	97
8	7.4	96
9	7.1	98
10	7.0	97
11	6.1	97
12	6.0	97
13	5.8	97
14	5.7	96
15	5.5	96
16	5.5	96
17	5.1	95
18	5.0	94
19	4.9	94
20	4.7	94
25	4.4	92
30	4.0	92
35	3.7	90
40	3.6	91
45	3.6	93
50	3.6	93
60	3.7	94
70	3.9	104
75	3.9	105
Station 14		
0	13.7	92
1	11.2	94
2	10.2	95
3	8.9	97
4	8.1	96
5	7.7	97
6	7.5	97
7	7.3	98
8	6.9	98
9	6.8	98
10	6.5	97
11	6.2	99
12	6.0	98
13	5.9	98
14	5.6	99
15	5.4	97
16	5.3	96
17	5.2	96

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 30, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 14		
18	5.0	95
19	5.0	95
20	4.9	95
25	4.6	94
30	4.1	91
35	3.8	90
40	3.6	91
45	3.6	93
50	3.6	93
55	3.6	93
Station 15		
0	13.1	98
1	12.0	98
2	9.6	101
3	9.0	110
4	8.4	100
5	7.8	101
6	7.5	101
7	7.3	102
8	7.0	102
9	6.9	101
10	6.7	101
11	6.6	101
12	6.5	100
13	6.3	100
14	6.2	100
15	5.9	100
16	5.5	100
17	5.3	99
18	5.2	99
19	5.1	98
20	4.9	98
25	4.6	96
30	4.3	91
35	3.8	91

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 16		
0	15.4	92
1	10.7	98
2	10.0	99
3	9.1	99
4	8.4	100
5	8.0	99
6	7.6	100
7	7.4	100
8	7.2	100
9	7.1	101
10	6.9	101
11	6.6	100
12	6.4	100
13	6.1	99
14	5.9	100
15	5.7	98
16	5.6	99
17	5.5	99
18	5.4	97
19	5.2	98
20	4.9	98
25	4.5	96
30	4.1	95
35	3.8	94
40	3.7	94
45	3.7	96
50	3.6	99
60	3.6	99
70	3.8	101
Station 18		
0	15.5	94
1	11.9	105
2	10.3	102
3	8.8	106
4	8.1	106

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 30, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 18		
5	7.8	106
6	7.5	105
7	7.2	102
8	7.1	102
9	6.9	102
10	6.7	101
11	6.6	100
12	6.4	100
13	6.3	100
14	5.9	100
15	5.9	100
Station 19		
0	12.9	96
1	10.6	97
2	9.7	98
3	8.8	99
4	8.3	99
5	7.8	99
6	7.6	100
7	7.5	99
8	7.4	100
9	7.2	100
10	7.1	99
11	6.9	98
12	6.8	98
13	6.0	98
14	5.2	99
15	5.0	99
16	4.9	98
17	4.8	98
18	4.7	98
19	4.6	99
20	4.5	97
25	4.1	91
30	3.8	91
35	3.7	93
Station 19		
40	3.7	93
45	3.7	96
Station 20		
0	14.8	92
1	13.6	93
2	9.2	99
3	9.6	98
4	8.5	98
5	7.9	99
6	7.5	99
7	7.4	99
8	7.2	100
9	7.0	99
10	6.7	100
11	6.5	99
12	6.3	99
Station 21		
0	14.7	92
1	11.4	97
2	9.8	111
3	8.7	100
4	8.4	99
5	7.9	98
6	7.7	98
7	7.2	99
8	7.1	98
9	6.7	99
10	6.6	99
11	6.5	98
12	6.1	98
13	5.9	98
14	5.7	98
15	5.5	97

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 30, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 21		
16	5.3	98
17	5.2	98
18	5.0	97
19	4.8	97
20	4.7	96
25	4.0	94
30	3.8	94
35	3.7	96
Station 23		
0	15.8	91
1	13.0	94
2	10.8	96
3	10.5	97
4	9.0	99
5	7.6	100
6	7.2	99
7	7.1	99
Station 24		
0	14.8	92
1	11.8	95
2	9.2	97
3	8.6	97
4	7.8	98
5	7.5	97
6	7.3	98
7	7.3	98
8	7.2	96
9	7.1	96
10	6.8	97
11	6.4	97
12	6.2	96
13	6.2	96
14	5.8	97
Station 24		
15	5.5	96
16	5.5	96
17	5.4	96
18	5.2	95
19	5.0	95
20	4.8	95
25	4.3	95
30	4.1	93
35	4.0	101
Station 25		
0	15.9	90
1	13.5	94
2	9.8	98
3	8.8	98
4	8.1	99
5	7.8	98
6	7.6	98
7	7.2	99
8	6.8	98
9	6.7	98
10	6.6	97
11	6.4	97
12	6.1	98
13	5.7	97
14	5.6	97
15	5.5	97
16	5.4	96
17	5.2	98
18	5.0	97
19	4.9	97
20	4.8	97
25	4.5	92
30	4.1	95
35	4.0	95
40	3.8	95
45	3.8	93

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 30, 1983 AT 3 AT VARIOUS STATIONS

(Cont' ed)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 25		
50	3.8	93
60	3.8	93
Station 26		
0	18.9	88
1	13.0	96
2	10.1	97
3	8.5	98
4	8.2	99
5	7.7	100
6	7.3	100
7	7.1	99
8	6.9	99
9	6.8	98
10	6.5	99
11	6.2	99
12	6.0	98
13	5.7	98
14	5.6	99
15	5.5	97
16	5.3	97
17	5.1	96
18	5.0	97
19	4.9	97
20	4.8	97
25	4.3	95
30	4.1	96
35	4.0	95
40	3.9	95
Station 27		
0	15.9	90
1	13.9	92
2	10.7	95
3	9.1	98
Station 27		
4	8.1	98
5	7.9	98
6	7.5	97
7	7.2	98
8	6.9	98
Station 28		
0	19.4	88
1	13.0	97
2	10.6	99
3	9.4	98
4	8.3	99
5	8.0	99
6	7.7	98
7	7.5	97
8	7.3	98
9	7.3	98
10	7.1	98
11	6.6	99
12	6.4	97
13	6.2	98
14	6.0	98
15	5.8	97
16	5.7	97
17	5.5	96
18	5.3	95
19	5.2	95
20	5.2	94
25	4.6	92
30	4.0	91
35	3.8	91
40	3.8	91
45	3.8	94
50	3.7	96
60	3.7	96
70	3.8	98

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 30, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 29		
0	16.6	89
1	11.2	94
2	9.7	97
3	8.8	98
4	8.4	97
5	7.4	99
6	7.2	99
7	7.2	98
8	7.1	98
Station 30		
0	17.6	88
1	11.0	97
2	10.1	100
3	9.1	99
4	8.3	99
5	7.5	100
6	7.0	99
7	6.8	98
8	6.6	99
9	6.5	99
10	6.3	99
11	6.2	98
12	6.1	99
13	6.0	98
14	5.9	98
15	5.6	96
16	5.3	96
17	5.1	98
18	4.8	98
19	4.6	97
20	4.6	97
25	4.2	96
30	4.1	95
35	3.9	95
40	3.8	97
Station 31		
0	15.3	90
1	11.9	95
2	10.2	97
3	8.7	98
4	8.0	100
5	7.8	99
6	7.6	100
7	7.3	100
8	7.1	99
9	7.0	99
10	6.6	98
11	6.2	99
12	6.0	98
13	5.7	98
14	5.4	97
15	5.2	98
16	5.1	98
17	4.9	98
18	4.7	97
19	4.7	97
20	4.6	96
25	4.3	95
30	3.9	92
35	3.8	94
40	3.7	96
45	3.7	96
50	3.7	97
60	3.7	94
68	3.6	97
Station 32		
0	20.8	86
1	12.1	97
2	10.3	97
3	8.7	98
4	8.2	100

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 30, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 32		
5	7.9	99
6	7.8	99
7	7.5	99
8	7.1	99
9	6.7	98
10	6.4	99
11	6.1	98
12	5.9	98
13	5.6	98
14	5.4	99
15	5.2	98
16	5.2	98
Station 33		
0	18.3	89
1	11.7	95
2	10.8	96
3	9.5	94
4	8.4	97
5	8.1	98
6	7.8	98
7	7.5	99
8	7.3	98
9	7.1	98
10	6.9	98
11	6.6	97
12	6.4	97
13	6.2	98
14	5.8	97
15	5.7	97
16	5.6	96
17	5.5	96
18	5.3	95
19	5.3	95
20	5.0	95
25	4.3	92
Station 33		
30	4.0	91
35	4.0	90
40	3.8	89
45	3.8	90
50	3.8	90
60	3.7	91
70	3.8	95
80	3.9	101
85	4.0	102
Station 34		
0	16.4	90
1	12.2	94
2	10.6	97
3	9.2	99
4	8.4	99
5	8.0	101
6	7.7	98
7	7.4	99
8	7.1	96
9	6.8	97
10	6.3	99
11	5.9	100
12	5.8	100
13	5.6	99
14	5.5	97
15	5.2	98
16	5.0	98
17	4.9	97
18	4.9	97
19	4.7	97
20	4.6	96
25	4.2	94
30	3.9	91
35	3.8	90
40	3.8	90

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 30, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 34		
45	3.7	91
50	3.7	93
60	3.7	94
70	3.6	99
80	3.7	98
Station 36		
0	17.8	90
1	11.7	96
2	10.1	97
3	9.0	99
4	8.4	99
5	7.7	100
6	7.1	101
7	6.7	100
8	6.5	100
9	6.3	99
Station 36		
10	6.0	100
11	5.9	100
12	5.7	100
13	5.7	98
14	5.5	99
15	5.3	99
16	5.2	98
17	5.1	98
18	5.1	98
19	5.0	97
20	5.0	97
25	4.4	96
30	4.1	95
35	4.0	95
40	3.8	94
45	3.8	94
50	3.7	94
60	3.6	94
70	3.6	93
80	3.6	94

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 31, 1983 AT VARIOUS STATIONS

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 4		
0	14.7	93
1	14.1	95
2	12.3	104
3	9.3	104
4	8.2	99
5	8.0	98
6	7.6	100
7	7.4	100
8	6.7	98
9	6.4	99
10	6.0	98
11	5.7	98
12	5.6	100
13	5.5	99
14	5.4	99
15	5.3	98
16	5.2	98
17	5.1	98
18	4.9	97
19	4.7	97
20	4.5	96
25	4.1	95
Station 7		
0	14.7	94
1	14.5	94
2	12.6	99
3	11.7	105
4	8.7	103
5	7.8	101
6	7.4	101
Station 8		
0	14.1	91
1	13.5	92

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 8		
2	11.4	97
3	9.3	100
4	8.5	98
5	7.8	97
6	7.6	97
7	7.1	98
8	6.7	97
9	6.5	97
10	6.3	96
11	6.1	97
12	5.9	95
13	5.7	96
14	5.4	96
15	5.3	95
16	5.1	95
17	4.9	94
18	4.7	94
19	4.5	95
20	4.4	93
25	3.8	91
30	3.7	91
35	3.7	91
40	3.7	93
45	3.7	94
50	3.7	93
60	3.7	96
70	3.8	93
75	3.9	105
Station 11		
0	14.2	96
1	14.0	95
2	13.5	96
3	11.5	97
4	8.1	100
5	7.5	101
6	7.1	101

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 31, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 11		
7	6.8	100
8	6.4	100
9	6.5	99
10	6.0	99
11	5.8	98
12	5.6	99
13	5.4	99
14	5.4	97
15	5.3	98
16	5.1	97
17	5.0	97
18	4.9	97
19	4.7	96
20	4.6	96
25	4.1	95
30	3.8	94
35	3.8	93
40	3.7	93
45	3.7	94
50	3.7	94
60	3.8	98
70	3.9	105
Station 17		
0	14.3	96
1	14.0	93
2	13.5	92
3	12.4	96
4	11.1	93
5	8.3	99
6	6.7	101
7	6.5	100
8	6.4	100
9	6.2	100
10	5.8	100
11	5.5	100
12	5.4	99

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 17		
13	5.3	99
14	5.2	99
15	5.0	99
16	4.8	98
17	4.7	98
18	4.6	99
19	4.4	96
20	4.3	95
25	4.0	95
30	3.7	93
35	3.7	97
40	3.7	98
45	3.7	98
50	3.7	98
60	3.8	101
70	3.9	101
80	4.0	105
Station 22		
0	13.9	94
1	13.6	93
2	13.1	93
3	12.6	94
4	12.5	95
5	12.4	94
6	8.6	97
7	7.7	100
8	7.3	99
9	7.2	99
10	7.1	98
11	6.7	98
12	6.2	99
13	5.8	98
14	5.7	97
15	5.4	97
16	5.2	98
17	5.1	98

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 31, 1983 AT 3 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 22		
18	5.0	97
19	4.9	95
20	4.9	94
25	4.5	92
30	4.0	90
35	3.8	90
40	3.7	94
45	3.7	96
50	3.7	100
60	3.7	98
70	3.9	107
80	4.0	105
90	4.0	105
Station 34		
0	14.0	96
1	13.7	98
2	12.3	99
3	12.2	98
4	12.2	97
5	11.3	97
6	10.2	97
7	10.1	97
8	9.0	99
9	8.9	98
10	6.8	100
11	6.8	98
12	5.8	101
13	5.6	100
14	5.5	100
15	5.5	97
16	5.1	98
17	4.8	98
18	4.7	98
19	4.6	99
20	4.3	96
25	3.9	94

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 34		
30	3.7	93
35	3.7	96
40	3.7	98
45	3.6	101
50	3.7	106
60	3.6	108
70	3.6	103
80	3.6	107
Station 36		
0	14.5	94
1	13.4	96
2	8.8	102
3	7.7	102
4	7.5	103
5	7.3	102
6	6.9	102
7	6.4	104
8	5.7	103
9	5.6	103
10	5.5	102
11	5.5	102
12	5.4	102
13	5.2	101
14	5.0	99
15	4.8	100
16	4.6	100
17	4.5	100
18	4.4	99
19	4.3	99
20	4.2	99
25	4.0	98
30	3.8	98
35	3.7	100
40	3.6	99
45	3.6	100
50	3.6	97

CONTINUED...

APPENDIX II
TABLE 1 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 31, 1983 AT 3 AT VARIOUS STATIONS

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 36		
60	3.6	93
65	3.5	93
Station 41		
0	7.8	112
1	7.6	108
2	7.6	104
3	7.6	102
4	7.6	101
5	7.5	97
6	7.4	96
7	7.3	96
8	7.1	95
9	7.0	95
10	6.2	96

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 41		
11	5.8	97
12	5.5	96
13	5.4	96
14	5.3	95
15	5.1	95
16	4.9	94
17	4.5	95
18	4.4	93
19	4.2	94
20	4.2	92
25	3.9	90
30	3.8	87
35	3.7	84
40	3.6	81
45	3.6	79
50	3.6	77
60	3.5	73
65	3.5	72

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

TION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 2		
0	6.4	93
1	6.4	95
2	6.5	95
3	6.4	95
4	6.5	95
5	6.5	95
6	6.5	95
7	6.5	96
8	6.4	97
9	6.4	97
10	6.4	99
11	5.4	103
12	4.3	93
13	4.2	94
14	4.1	94
Station 4		
0	6.4	99
1	6.4	99
2	6.4	97
3	6.4	97
4	6.4	97
5	6.4	97
6	6.4	97
7	6.4	96
8	5.7	98
9	4.5	96
10	4.3	95
11	4.2	95
12	4.1	95
13	4.1	95
14	4.1	94
15	4.0	94
16	3.9	94
17	3.9	94
18	3.9	94
19	3.9	92

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 4		
20	3.9	92
21	3.8	94
22	3.9	92
23	3.9	92
24	3.9	92
25	3.9	92
26	3.9	92
27	3.8	93
28	3.8	93
29	3.8	91
30	3.8	91
31	3.8	91
32	3.8	91
33	3.8	91
34	3.8	90
35	3.8	91
40	3.8	90
45	3.8	90
50	3.8	88
55	3.8	88
Station 5		
0	6.4	96
1	6.4	97
2	6.5	99
3	6.4	97
4	6.4	99
5	6.4	97
6	6.4	97
7	6.4	97
8	6.4	96
9	5.9	97
10	4.8	98
11	4.5	96
12	4.2	95
13	4.1	95
14	4.1	95

CONTINUED...

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 5		
15	4.0	94
16	4.0	92
17	3.9	92
18	3.9	92
19	3.9	92
20	3.9	92
21	3.8	93
22	3.8	93
23	3.8	93
24	3.8	93
25	3.8	93
26	3.8	93
27	3.8	93
28	3.8	91
29	3.8	91
30	3.8	91
31	3.8	91
32	3.8	90
33	3.8	90
34	3.8	90
35	3.7	90
40	3.8	90
45	3.7	88
50	3.8	88
55	3.8	88
60	3.8	88
Station 7		
0	6.4	97
1	6.4	97
2	6.5	97
3	6.5	97
4	6.5	97
5	6.4	97
6	6.4	97
7	6.4	97
8	6.4	97
Station 7		
9	6.4	96
10	5.8	97
11	4.7	97
12	4.3	95
13	4.3	95
14	4.2	94
15	4.1	94
16	4.1	94
17	4.0	92
18	4.0	92
19	3.9	92
20	3.9	92
21	3.9	92
22	3.9	92
23	3.9	92
24	3.9	92
25	3.8	91
26	3.8	91
27	3.8	91
28	3.8	91
29	3.9	91
30	3.9	91
31	3.8	91
32	3.8	91
33	3.8	90
34	3.8	90
35	3.8	90
40	3.8	90
45	3.8	88
50	3.8	87
55	3.8	87
Station 9		
0	6.4	97
1	6.4	97
2	6.3	98
3	6.3	98

CONTINUED..

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)	STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 9			Station 10		
4	6.3	98	0	6.2	98
5	6.3	98	1	6.2	98
6	5.9	98	2	6.3	96
7	5.4	98	3	6.3	96
8	5.2	98	4	6.2	96
9	4.9	100	5	6.2	94
10	4.8	100	6	6.2	94
11	4.5	99	7	6.2	94
12	4.3	98	8	6.0	94
13	4.3	96	9	5.9	94
14	4.2	96	10	4.8	93
15	4.1	95	11	4.3	93
16	4.1	94	12	4.2	92
17	4.0	94	13	4.2	92
18	4.0	94	14	4.1	92
19	4.0	92	15	4.0	92
20	4.0	92	16	4.0	92
21	4.0	92	17	3.9	92
22	4.0	91	18	3.9	92
23	3.9	91	19	3.8	91
24	3.9	91	20	3.8	91
25	3.9	90	21	3.8	91
26	3.9	90	22	3.8	91
27	3.9	90	23	3.8	90
28	3.9	90	24	3.8	90
29	3.9	88	25	3.8	90
30	3.9	88	26	3.8	91
31	3.9	88	27	3.7	91
32	3.9	87	28	3.7	91
33	3.8	87	29	3.8	91
34	3.8	87	30	3.8	91
35	3.8	87	31	3.8	91
40	3.8	87	32	3.8	90
45	3.8	87	33	3.8	90
50	3.8	87	34	3.8	90
55	3.8	88	35	3.8	90
60	3.8	88	40	3.8	88
65	3.8	91	45	3.8	88

CONTINUED...

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 11		
50	3.9	90
55	3.9	90
60	3.9	92
65	4.0	98
70	4.0	99
75	4.0	97
80	4.0	98
Station 10		
0	6.4	97
1	6.4	99
2	6.4	99
3	6.4	99
4	6.4	97
5	6.4	97
6	6.4	97
7	6.3	98
8	6.2	98
9	6.0	97
10	4.5	97
11	4.3	96
12	4.2	96
13	4.1	94
14	4.1	94
15	4.0	94
16	4.0	94
17	4.0	94
18	3.9	92
19	3.9	92
20	3.9	92
21	3.8	93
22	3.8	93
23	3.8	93
24	3.8	93
25	3.8	91

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 13		
0	6.4	96
1	6.4	97
2	6.4	99
3	6.4	99
4	6.3	98
5	6.2	98
6	6.1	97
7	5.9	98
8	5.5	98
9	5.3	98
10	5.0	97
11	4.7	96
12	4.7	96
13	4.5	95
14	4.3	93
15	4.3	93
16	4.2	92
17	4.2	92
18	4.2	92
19	4.2	92
20	4.0	91
21	4.0	91
22	4.1	89
23	4.0	88
24	4.0	88
25	4.0	88
26	3.9	88
27	3.9	87
28	3.9	87
29	4.0	87
30	3.9	87
31	3.9	85
32	3.9	85
33	3.8	85
34	3.8	85
35	3.8	85
40	3.8	85
45	3.8	85
50	3.8	85

CONTINUED..

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 13		
55	3.8	84
60	3.8	83
65	3.8	81
70	3.8	81
75	3.9	83
Station 15		
0	6.2	96
1	6.2	96
2	6.3	98
3	6.3	98
4	6.3	98
5	6.2	98
6	6.2	98
7	6.2	98
8	6.2	96
9	5.5	96
10	4.5	97
11	4.3	96
12	4.2	95
13	4.1	94
14	4.1	94
15	4.0	94
16	4.0	94
17	3.9	92
18	3.9	92
19	3.9	92
20	3.9	92
21	3.9	91
22	3.9	91
23	3.9	90
24	3.9	90
25	3.8	90
26	3.8	90
27	3.8	90
28	3.8	90
29	3.8	90
Station 15		
30	3.8	90
31	3.8	90
32	3.8	90
33	3.8	90
34	3.8	88
35	3.8	88
40	3.8	88
45	3.8	88
50	3.8	87
55	3.8	87
60	3.8	87
65	3.9	91
70	3.9	90
80	3.9	90
85	3.9	94
Station 17		
0	6.2	96
1	6.3	98
2	6.3	98
3	6.3	98
4	6.3	98
5	6.2	98
6	6.2	98
7	6.2	98
8	6.2	98
9	5.5	96
10	4.5	97
11	4.3	96
12	4.2	95
13	4.1	94
14	4.1	94
15	4.0	94
16	4.0	94
17	3.9	92
18	3.9	92
19	3.9	92
20	3.9	92

CONTINUED...

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 17		
21	3.9	91
22	3.9	91
23	3.9	90
24	3.9	90
25	3.8	90
26	3.8	90
27	3.8	90
28	3.8	90
29	3.8	90
30	3.8	90
31	3.8	90
32	3.8	90
33	3.8	90
34	3.8	88
35	3.8	88
40	3.8	88
45	3.8	88
50	3.8	87
55	3.8	87
60	3.8	87
65	3.9	91
70	3.9	90
75	3.9	90
80	3.9	90
85	3.9	94
Station 21		
0	6.6	112
1	6.5	112
2	6.4	113
3	6.3	111
4	6.3	111
5	6.2	112
6	6.0	109
7	5.4	109
8	5.2	109
9	5.1	108

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 21		
10	5.0	108
11	5.0	106
12	4.7	105
13	4.6	104
14	4.4	104
15	4.3	100
16	4.3	100
17	4.2	100
18	4.1	99
19	4.0	99
20	4.0	99
21	4.0	98
22	4.0	98
23	4.0	98
24	4.0	97
25	4.0	97
26	4.0	97
27	3.9	97
28	3.9	95
29	3.9	95
30	4.0	97
31	3.9	98
Station 22		
0	6.3	98
1	6.3	96
2	6.3	96
3	6.3	96
4	6.3	98
5	6.3	96
6	6.3	96
7	6.3	96
8	6.1	95
9	6.1	95
10	6.0	95
11	5.4	95
12	5.2	95

CONTINUED.

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	EMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 22		
13	4.6	94
14	4.5	95
15	4.4	95
16	4.4	96
17	4.2	96
18	4.2	92
19	4.2	92
20	4.1	92
21	4.0	97
22	4.0	97
23	4.0	97
24	3.9	90
25	3.9	90
26	3.8	90
27	3.8	88
28	3.8	88
29	3.8	88
30	3.8	87
31	3.8	87
32	3.8	87
33	3.8	95
34	3.8	93
35	3.8	93
40	3.8	93
45	3.8	91
50	3.8	91
55	3.8	88
60	3.9	88
65	3.9	87
70	3.9	88
75	3.9	94
Station 24		
0	6.2	96
1	6.2	96
2	6.1	97
3	6.1	97

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 24		
4	6.0	98
5	5.4	97
6	5.4	97
7	5.1	98
8	4.8	97
9	4.8	97
10	4.5	97
11	4.4	96
12	4.4	96
13	4.4	96
14	4.4	96
15	4.3	95
16	4.1	95
17	4.1	94
18	4.1	94
19	4.1	94
20	4.1	94
21	4.1	92
22	4.0	92
23	4.0	91
24	4.0	91
25	3.9	91
26	3.9	91
27	3.9	91
Station 28		
0	6.3	150
1	6.3	148
2	6.3	148
3	6.3	148
4	6.3	148
5	6.3	148
6	6.4	148
7	6.4	148
8	6.4	148
9	6.4	148
10	6.4	148

CONTINUED...

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)	STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 28			Station 31		
11	6.3	147	0	6.7	98
12	6.3	147	1	6.4	97
13	5.2	148	2	6.4	97
14	4.6	149	3	6.3	96
15	4.3	149	4	6.3	96
16	4.2	150	5	6.3	96
17	4.2	150	6	6.2	95
18	4.2	150	7	6.2	95
19	4.2	150	8	6.2	95
20	4.1	150	9	6.1	95
21	4.1	150	10	6.0	95
22	4.0	148	11	5.8	96
23	4.0	148	12	5.1	96
24	4.0	147	13	4.8	97
25	3.9	148	14	4.7	96
26	3.9	148	15	4.6	96
27	4.0	148	16	4.2	94
28	4.0	148	17	4.2	95
29	3.9	149	18	4.1	94
30	3.9	149	19	4.1	94
31	3.9	149	20	4.1	94
32	3.9	148	21	4.1	94
33	3.8	148	22	4.1	94
34	3.8	147	23	4.1	92
35	3.8	148	24	4.1	92
40	3.8	150	25	4.1	91
45	3.8	148	26	4.1	91
50	3.8	154	27	4.1	91
55	3.8	88	28	4.0	91
60	3.8	88	29	4.0	91
65	3.8	91	30	4.0	90
70	3.8	91	31	4.0	90
75	3.8	91	32	4.0	90
80	3.9	92	33	3.9	90
85	3.9	92	34	3.9	90
			35	3.9	90
			36	3.8	90
			37	3.8	90

CONTINUED..

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 31		
38	3.8	90
39	3.8	90
40	3.8	90
45	3.8	90
50	3.8	90
60	3.8	90
70	3.8	91
75	3.8	90
Station 34		
0	6.6	93
1	6.6	92
2	6.6	92
3	6.5	92
4	6.4	92
5	6.3	92
6	6.1	94
7	6.1	94
8	6.1	95
9	5.9	95
10	5.5	95
11	4.9	96
12	4.7	94
13	4.5	94
14	4.3	95
15	4.2	93
16	4.2	94
17	4.2	94
18	4.2	92
19	4.1	92
20	4.1	92
21	4.0	91
22	4.0	91
23	4.1	91
24	4.1	89
25	4.0	90
26	4.0	90

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 34		
27	4.0	90
28	4.0	88
29	3.9	88
30	3.9	88
31	3.9	87
35	3.8	85
40	3.8	85
50	3.9	87
60	3.9	87
70	3.8	91
80	3.8	91
90	3.7	91
Station 35		
0	6.2	96
1	6.1	97
2	6.1	97
3	6.1	95
4	6.1	95
5	6.0	95
6	6.0	95
7	5.4	96
8	4.9	97
9	4.6	96
10	4.5	96
11	4.4	96
12	4.3	96
13	4.2	96
14	4.2	96
15	4.2	96
16	4.2	95
17	4.1	95
18	4.1	94
19	4.1	94
20	4.0	94
21	4.0	92
22	4.0	92

CONTINUED...

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 35		
23	4.0	92
24	4.0	92
25	4.0	91
26	4.0	91
27	4.0	91
28	4.0	91
29	4.0	90
30	4.0	90
31	4.0	90
32	4.0	90
33	4.0	90
34	4.0	88
35	3.9	88
40	3.8	88
45	3.8	88
50	3.8	87
60	3.8	87
68	3.8	87
Station 36		
0	6.5	96
1	6.5	95
2	6.5	93
3	6.4	93
4	6.3	93
5	6.2	95
6	5.9	94
7	5.6	96
8	5.2	95
9	5.1	95
10	5.0	95
11	4.9	94
12	4.7	94
13	4.6	94
14	4.6	93
15	4.5	93
16	4.5	92

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 36		
17	4.4	92
18	4.3	91
19	4.2	91
20	4.2	91
21	4.2	89
22	4.2	89
23	4.2	89
24	4.1	89
25	4.1	89
26	4.0	90
27	4.0	91
28	3.9	91
29	3.9	91
30	3.9	91
31	3.8	91
32	3.8	93
33	3.8	93
34	3.8	93
35	3.8	91
36	3.8	91
37	3.8	91
38	3.8	91
39	3.8	91
Station 37		
0	5.6	87
1	5.5	88
2	5.2	87
3	4.9	87
4	4.8	87
5	4.7	86
6	4.6	86
7	4.4	86
8	4.3	86
9	4.1	85
10	4.0	84
11	4.0	84
12	4.0	84

CONTINUED..

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 40		
0	5.5	89
1	5.4	88
2	5.4	88
3	5.4	88
4	5.4	86
5	5.4	86
6	5.3	86
7	4.6	87
8	4.4	86
9	4.3	85
10	4.3	85
11	4.1	84
12	4.1	84
13	4.0	84
Station 41		
0	4.3	85
1	4.3	85
2	4.2	85
3	4.2	85
4	4.2	85
5	4.2	84
6	4.2	84
7	4.2	84
8	4.1	82
9	4.2	82
10	4.1	82
11	4.1	81
12	4.1	82
13	4.1	81
14	4.1	81
15	4.1	79
16	4.1	79
17	4.1	79
18	4.1	78
19	4.0	77
20	4.1	77
Station 41		
21	4.0	75
22	4.1	77
23	4.0	75
24	4.0	75
25	4.0	74
26	4.0	74
27	4.0	72
28	4.0	72
29	4.0	71
30	4.0	71
31	4.0	71
32	4.0	70
33	4.0	70
34	4.0	70
35	4.0	68
40	3.9	67
45	3.9	64
50	3.9	63
55	3.9	61
60	3.8	58
65	3.8	57
Station 42		
0	4.5	87
1	4.4	86
2	4.3	86
3	4.2	86
4	4.2	86
5	4.1	85
6	4.1	85
7	4.0	84
Station 43		
0	5.0	88
1	4.9	87

CONTINUED...

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 43		
2	4.8	86
3	4.8	86
4	4.7	86
5	4.6	86
6	4.5	85
7	4.3	83
8	4.1	84
9	4.0	84
10	3.9	83
11	3.9	83
12	3.8	83
13	3.8	81
14	3.8	80
15	3.8	78
16	3.8	78
17	3.8	78
18	3.8	77
19	3.8	77
20	3.8	76
21	3.8	76
22	3.8	76
23	3.8	76
24	3.8	74
Station 44		
0	3.7	90
1	3.7	86
2	3.6	86
3	3.6	86
4	3.6	84
5	3.6	84
6	3.6	84
7	3.6	84
8	3.6	83
9	3.6	83
10	3.6	83
11	3.6	83
12	3.6	81

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 44		
13	3.6	81
14	3.6	81
15	3.6	80
16	3.6	80
17	3.6	80
18	3.6	79
19	3.6	79
20	3.6	77
21	3.6	77
22	3.6	77
23	3.6	76
24	3.6	76
25	3.6	76
26	3.6	74
27	3.6	74
28	3.6	73
29	3.6	73
30	3.6	73
35	3.6	70
40	3.6	67
50	3.6	63
60	3.6	59
70	3.5	56
80	3.5	53
Station 45		
0	5.0	85
1	5.0	87
2	4.8	87
3	4.7	87
4	4.4	86
5	4.3	88
6	4.3	86
7	4.3	85
8	4.3	85
9	4.2	85

CONTINUED...

APPENDIX II
TABLE 2 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM MAY 12-15, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)	STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 48			Station 49		
0	7.2	85	9	5.4	84
1	7.2	85	10	5.2	85
2	7.2	85	11	5.0	84
3	7.1	86	12	4.9	86
4	7.1	86	13	4.7	84
5	7.0	86	14	4.6	82
6	7.0	86	15	4.4	82
7	6.5	88	16	4.3	82
8	5.3	92	17	4.3	82
			18	4.3	82
			19	4.2	81
Station 49			20	4.2	81
			21	4.1	81
0	6.4	88	22	4.1	81
1	6.4	86	23	4.1	81
2	6.4	86	24	4.1	82
3	6.4	85	25	4.0	84
4	6.4	85	26	4.0	85
5	6.3	84	27	4.0	89
6	6.2	84	28	4.1	165
7	5.5	85	29	4.7	765
8	5.5	85			

APPENDIX II
TABLE 3 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM JULY 4-9, 1984 A
VARIOUS STATIONS

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 11		
0	13.8	99
1	13.8	97
2	13.4	97
3	13.2	95
4	13.2	94
5	13.2	95
6	13.1	93
7	11.3	92
8	10.1	95
9	8.4	89
10	8.1	90
Station 13		
0	13.4	102
1	13.3	99
2	13.2	99
3	13.1	97
4	13.1	95
5	13.0	98
6	11.8	96
7	9.6	87
8	8.6	87
9	8.0	71
Station 17		
0	13.8	104
1	13.8	98
2	13.8	98
3	13.7	98
4	13.7	99
5	13.7	93
6	13.6	93
7	13.1	92
8	10.3	93
Station 17		
9	9.7	94
10	7.7	92
Station 21		
0	13.2	105
1	13.3	105
2	13.3	103
3	13.2	100
4	13.2	99
5	13.1	99
6	12.1	97
7	11.2	98
8	9.5	97
9	8.6	96
Station 31		
0	13.4	101
1	13.4	101
2	13.4	100
3	13.3	96
4	13.2	96
5	13.2	92
6	13.1	92
7	13.1	92
8	9.4	88
Station 36		
0	12.3	107
1	12.3	104
2	12.3	104
3	12.3	99
4	12.3	98
5	12.3	97

CONTINUED..

APPENDIX II
TABLE 3 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM JULY 4-9, 1984 AT VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 36		
6	12.3	94
7	12.1	94
8	11.5	94
9	10.2	95
10	10.1	94
11	9.7	94
Station 41		
0	10.5	97
1	10.5	94
2	10.5	96
3	10.4	92
4	9.8	87
5	9.7	87
6	9.6	85
7	9.1	86
8	8.5	85
9	8.4	83
10	8.3	75
11	8.2	75
12	8.0	75
13	7.9	70
Station 45		
0	12.7	97
1	12.5	96
2	12.1	94
3	11.3	92
4	11.0	90
5	10.6	88
6	10.5	85
7	9.9	86
8	9.6	86
9	9.4	85
10	9.4	85

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 45		
11	9.0	84
12	8.3	84
13	7.6	84
Station 49		
0	13.6	98
1	13.6	97
2	13.4	96
3	12.4	91
4	11.8	89
5	10.8	86
6	10.5	88
7	10.3	83
8	9.4	84
9	9.1	79
10	9.0	79
Station 2		
0	13.4	106
1	13.4	105
2	13.4	104
3	13.3	102
4	13.2	101
5	13.0	100
6	13.0	97
7	12.7	98
8	9.9	96
9	9.6	97
10	8.3	92
11	7.7	93
12	7.2	77
13	7.0	86
14	6.8	86
15	6.6	82
16	6.5	82

CONTINUED...

APPENDIX II
TABLE 3 SPECIFIC CONDUCTIVITY (25°C) AND TEMPERATURE PROFILE FROM JULY 4-9, 1984 A
VARIOUS STATIONS

(Continued)

STATION AND DEPTH (m)	TEMPERATURE (°C)	CONDUCTIVITY (uS/cm)
Station 4		
0	13.3	106
1	13.3	105
2	13.2	104
3	13.2	103
4	12.8	103
5	12.7	102
6	12.6	102
7	10.7	102
8	9.9	96
9	8.5	98
10	7.6	94
11	7.3	95
12	7.0	93
Station 7		
0	12.9	107
1	12.9	104
2	12.9	103
3	12.8	103
4	12.8	98
5	12.8	101
6	11.8	99
7	10.2	99
8	9.1	95
9	8.0	92
10	7.8	93
11	7.6	93
12	7.5	89
13	7.3	87
Station 9		
0	14.6	102
1	13.9	101
2	13.4	101
3	13.3	101
4	13.3	100
5	13.1	89
6	12.5	94
7	10.5	94
8	10.1	71
9	8.7	103

APPENDIX III

SULPHATES, TURBIDITY, RESIDUALS, pH, AND LAB CONDUCTIVITY

TABLE 1 MAY 31, 1983

TABLE 2 MAY 1984

TABLE 3 JULY 1984

APPENDIX III
TABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - SULPHATE, TURBIDITY AND RESIDUE RESULTS

STATION	DEPTH (m)	SULPHATES (mg/l)	TURBIDITY (FTU)	RESIDUES (mg/l)			pH
				Filterable	Non-Filterable	Total	
(Rum Bay)							
4 (100 m from outfall)	1	8.1	0.1	69	< 5	69	7.3
	3	10.8	0.1	73	< 5	73	7.3
	18	8.0	0.1	67	< 5	67	7.2
	25	7.6	0.1	68	< 5	68	7.2
7 (100 m from outfall)	1	7.7	0.1	75	< 5	75	7.1
	6	10.5	0.1	75	< 5	75	7.2
8 (300 m from outfall)	1	7.8	0.1	58	5	63	7.3
	4	8.0	0.1	68	< 5	68	7.1
	40	11.5	0.1	74	< 5	74	7.1
	75	17.4	0.1	76	< 5	76	7.1
11 (300 m from outfall)	1	7.6	0.1	71	< 5	71	7.3
	4	9.2	0.1	71	< 5	71	7.5
	40	11.2	0.1	80	< 5	80	7.1
	70	19.0	0.1	92	< 5	92	7.1
13 (500 m from outfall)	1	8.2	0.1	56	5	61	7.4
	4	7.6	0.1	59	5	64	7.4
	40	15.1	0.1	73	5	78	7.3
	75	14.3	0.1	75	5	80	7.2
17 (500 m from outfall)	1	8.5	0.1	73	< 5	73	7.4
	3	8.5	0.1	76	< 5	76	7.1
	40	12.9	0.1	76	< 5	76	7.2
	80	19.0	0.1	87	< 5	87	7.2

CONTINUED...

APPENDIX III
TABLE 2 MAY 31, 1983 BABINE LAKE FIELD SURVEY - SULPHATE, TURBIDITY AND RESIDUE RESULTS

(Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	TURBIDITY (FTU)	RESIDUES (mg/l)			pH
				Filterable	Non-Filterable	Total	
(Rum Bay)							
21 (1000 m from outfall)	1	7.5	0.1	64	< 5	64	7.4
	2	7.7	0.1	58	7	65	7.4
	8	7.7	0.1	56	6	62	7.6
	35	11.3	0.1	65	6	71	7.2
22 (1000 m from outfall)	1	8.1	0.1	64	7	71	7.5
	4	13.0	0.1	68	6	74	7.5
	40	11.0	0.1	80	6	86	7.6
	90	18.9	0.1	84	5	89	7.5
23 (1500 m from outfall)	1	7.6	0.1	67	< 5	67	7.4
	3	7.6	0.1	68	< 5	68	7.4
	7	7.6	0.1	64	5	69	7.2
	25	9.1	0.1	68	< 5	68	7.2
28 (1500 m from outfall)	1	8.7	0.1	66	6	72	7.4
	4	7.9	0.1	66	6	72	7.5
	40	10.1	0.1	70	6	76	7.5
	75	17.3	0.1	80	6	86	7.3
29 (2000 m from outfall)	1	7.5	0.1	65	< 5	65	7.2
	3	7.5	0.1	67	< 5	67	7.3
	8	7.5	0.1	70	< 5	70	7.2
	18	8.2	0.1	70	< 5	70	7.2

CONTINUED...

APPENDIX III
TABLE 2 MAY 31, 1983 BABINE LAKE FIELD SURVEY - SULPHATE, TURBIDITY AND RESIDUE RESULTS

(Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	TURBIDITY (FTU)	RESIDUES (mg/l)			pH
				Filterable	Non-Filterable	Total	
(Rum Bay)							
33 (2000 m from outfall)	1	9.0	0.1	74	6	80	7.4
	4	7.1	0.1	69	5	74	7.3
	40	10.8	0.1	75	5	80	7.3
	75	17.0	0.1	90	< 5	90	7.5
(Hagan Arm)							
34	1	10.4	0.1	73	7	80	7.4
	4	9.6	0.1	68	6	74	7.6
	40	12.2	0.1	73	6	79	7.6
	70	16.6	0.1	83	6	89	7.6
36	1	8.0	0.1	74	< 5	74	7.4
	5	8.4	0.1	68	< 5	68	7.5
	40	10.3	0.1	72	< 5	72	7.3
	70	12.7	0.1	78	< 5	78	7.2
(Main Arm)							
41	1	4.9	0.1	64	7	71	7.4
	4	4.8	0.1	60	7	67	7.5
	40	5.0	0.1	63	6	69	7.4
	65	4.8	0.1	54	8	62	7.4

APPENDIX III

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results

STATION	DEPTH (m)	SULPHATES (mg/l)	SPECIFIC CONDUCTIVITY* (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
				Filterable	Non-Filterable	Total		
(Rum Bay)								
1 Effluent Bubble	1	15	115	88	< 5	88	7.5	6.3
2 (50 m from outfall)	1	8	95.5	74	< 5	74	7.4	6.4
	7	8	95.5	74	< 5	74	7.7	6.5
	11	13	110.0	85	< 5	85	7.6	5.4
	14	8	93.3	74	< 5	74	7.5	4.1
4 (100 m from outfall)	1	8	93.4	73	< 5	73	7.0	6.4
	10	8	92.9	70	5	75	7.0	4.3
	35	9	97.2	82	< 5	82	7.0	3.8
	55	11	102.0	76	< 5	76	7.1	3.8
7 (100 m from outfall)	1	8	91.8	73	< 5	73	7.5	6.4
	10	8	94.5	72	< 5	72	7.6	5.8
	30	9	96.1	70	< 5	70	7.4	3.9
	51	10	100.0	84	< 5	84	7.4	3.8
9 (300 m from outfall)	1	8	94.3	68	< 5	68	7.7	6.4
	10	8	93.3	68	< 5	68	7.7	4.8
	35	9	97.0	72	< 5	72	7.7	3.8
	65	13	108.0	79	< 5	79	7.6	3.8

*Conductivity of water samples measured in the lab

CONTINUED...

APPENDIX III

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	SPECIFIC CONDUCTIVITY* (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
				Filterable	Non-Filterable	Total		
(Rum Bay)								
11 (300 m from outfall)	1	8	92.9	75	< 5	75	7.6	6.2
	10	8	93.4	78	< 5	78	7.5	4.8
	45	10	101.0	80	< 5	80	7.5	3.8
	80	16	118.0	92	< 5	92	7.5	4.0
13 (500 m from outfall)	1	8	93.8	72	< 5	72	7.8	6.4
	10	8	94.3	73	< 5	73	7.6	5.0
	40	9	97.5	74	< 5	74	7.6	3.8
	70	11	104.0	76	< 5	76	7.5	3.8
17 (500 m from outfall)	1	8	93.8	75	< 5	75	7.7	6.2
	10	8	93.3	75	< 5	75	7.7	4.5
	45	10	99.6	75	< 5	75	7.6	3.8
	85	15	113.0	80	< 5	80	7.6	3.9
21 (1000 m from outfall)	1	8	93.3	71	< 5	71	7.8	6.6
	10	8	93.3	70	< 5	70	7.8	5.1
	20	8	93.3	69	< 5	69	7.7	4.0
	31	9	95.4	72	< 5	72	7.6	3.9

*Conductivity of water samples measured in the lab

CONTINUED...

APPENDIX III

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	SPECIFIC CONDUCTIVITY* (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
				Filterable	Non-Filterable	Total		
22 (1000 m from outfall)	1	8	93.3	70	< 5	70	7.7	6.3
	10	8	93.3	72	< 5	72	7.7	6.0
	33	8	94.3	74	< 5	74	7.6	3.8
	75	15	113.0	83	< 5	83	7.6	3.9
24 (1500 m from outfall)	1	8	92.2	68	< 5	68	7.7	6.2
	5	8	93.3	69	< 5	69	7.6	5.4
	15	8	93.3	69	5	69	7.7	4.3
	25	8	94.3	73	< 5	73	7.6	3.9
28 (1500 m from outfall)	1	8	93.3	76	< 5	76	7.3	6.3
	10	8	92.8	75	< 5	75	7.6	6.4
	45	9	97.5	71	< 5	71	7.5	3.8
	85	16	114.0	83	< 5	83	7.6	3.9
(Hagan Arm)								
31	1	8	95.0	87	< 5	87	7.6	6.7
	15	8	95.0	82	< 5	82	7.6	4.7
	45	8	96.1	83	< 5	83	7.5	3.8
	75	13	108.0	95	< 5	95	7.3	3.8

*Conductivity of water samples measured in the lab

CONTINUED...

APPENDIX III

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	SPECIFIC CONDUCTIVITY* (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
				Filterable	Non-Filterable	Total		
(Hagan Arm)								
34	1	7	90.0	83	< 5	83	7.7	6.6
	10	7	93.3	83	< 5	83	7.6	5.9
	40	8	97.7	81	< 5	81	7.4	3.8
	85	15	115.0	88	< 5	88	7.3	3.8
35	1	7	93.3	81	< 5	81	7.6	6.2
	15	8	94.4	83	< 5	83	7.5	4.2
	35	8	96.6	85	< 5	85	7.5	3.9
	68	12	108.0	90	< 5	90	7.4	3.8
36	1	8	95.5	82	< 5	82	7.6	6.5
	10	8	95.5	84	< 5	84	7.5	5.0
	25	8	96.6	81	< 5	81	7.5	4.1
	39	10	101	88	< 5	88	7.4	3.8
(Main Arm)								
37	1	4	85.5	73	< 5	73	7.8	5.6
	10	5	85.5	71	< 5	71	7.9	4.0
38	1	7	88.9	76	< 5	76	7.8	6.7

*Conductivity - water samples measured in the lab

CONTINUED...

APPENDIX III

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	SPECIFIC CONDUCTIVITY* (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
				Filterable	Non-Filterable	Total		
(Main Arm)								
39	1	7	91.1	75	< 5	75	7.8	6.9
40	1	5	84.5	67	< 5	67	7.9	5.5
	13	4	84.5	69	< 5	69	7.9	4.0
41	1	8	83.7	63	< 5	63	7.6	4.3
	20	4	83.2	62	< 5	62	7.6	4.1
	40	4	83.2	62	< 5	62	7.6	3.9
	67	4	83.2	66	< 5	66	7.6	3.7
42	1	5	85.5	74	< 5	74	.5	4.5
	15	4	85.5	67	7	67	7.7	3.9
	30	4	85.5	71	< 5	71	7.8	3.8
	55	4	85.5	71	< 5	71	7.8	3.8
43	1	4	84.5	72	< 5	72	7.9	5.0
	8	4	84.5	70	< 5	70	7.9	4.1
	16	4	84.5	72	< 5	72	7.8	3.8
	24	5	84.5	71	< 5	71	7.8	3.8

*Conductivity of water samples measured in the lab

CONTINUED...

'ENDIX III

)LE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	SPECIFIC CONDUCTIVITY* (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
				Filterable	Non-Filterable	Total		
(Main Arm)								
14	1	4	83.2	63	< 5	63	7.6	3.7
	30	4	83.2	59	< 5	59	7.5	3.6
	60	4	83.2	62	< 5	62	7.65	3.6
	95	4	83.2	61	< 5	61	7.6	3.5
(Granisle)								
15	1	5	84.8	68	< 5	68	7.6	5.0
	9	5	85.9	72	6	78	7.6	4.2
16	1	11	100.0	78	< 5	78	7.6	6.8
17	1	9	95.5	78	< 5	78	7.6	6.5
18	1	6	86.2	74	< 5	74	7.6	7.2
	7.5	6	87.8	73	< 5	73	7.6	5.9
19	1	5	84.5	72	< 5	72	7.4	6.4
	9	5	84.5	68	< 5	68	7.6	5.4
	20	5	95.0	72	< 5	72	7.6	4.2
	29	71	582.0	397	< 5	397	7.6	4.7

onductivity (ater samples measured in the lab

APPENDIX III

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results

STATION	DEPTH (m)	SULPHATES (mg/l)	TURBIDITY (FTU)	SPECIFIC CONDUCTIVITY (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
					Filterable	Non-Filterable	Total		
(Rum Bay)									
1 Effluent Bubble	1	15	0.7	107	83	< 5	83	7.8	
2 (50 m from outfall)	1	8	0.7	88.0	68	< 5	68	7.9	13.4
	6	9	0.7	91.5	72	< 5	72	7.8	-
	18	8	0.7	90.0	63	< 5	63	7.3	-
	29	10	0.7	95.0	75	< 5	75	7.3	-
4 (100 m from outfall)	1	8	0.7	88.0	62	< 5	62	7.9	13.3
	5	8	0.7	90.0	70	< 5	70	8.1	-
	25	9	0.7	94.0	84	< 5	84	7.9	-
	51	11	0.7	100	71	< 5	71	7.8	-
5 (100 m from outfall)	1	8	0.7	88.0	57	< 5	57	8.0	-
	5	8	0.7	89.0	62	< 5	62	8.1	-
	35	10	0.7	97.0	79	< 5	79	7.9	-
	75	16	< 0.1	108.0	73	< 5	73	7.9	-
6 (100 m from outfall)	1	8	0.7	88.0	65	< 5	65	8.0	-
	5	8	0.7	90.0	57	< 5	57	8.0	-
	25	10	0.7	93.0	64	< 5	64	8.0	-
	54	13	0.7	103.0	74	< 5	74	7.8	-

CONTINUED...

APPENDIX III

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	TURBIDITY (FTU)	SPECIFIC CONDUCTIVITY (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
					Filterable	Non-Filterable	Total		
(Rum Bay)									
7 (100 m from outfall)	1	8	0.7	88.5	64	< 5	64	8.0	12.98
	5	8	0.7	90.0	59	< 5	59	7.9	12.87
	15	7	0.7	90.0	59	< 5	59	7.5	6.66
	23	10	0.7	94.0	66	< 5	66	7.7	5.66
8 (300 m from outfall)	1	7	0.7	89.0	64	< 5	64	8.0	13.91
	9	7	< 0.1	92.2	70	< 5	70	8.0	8.71
	40	10	< 0.1	100.0	79	< 5	79	7.9	4.90
	78	18	0.7	115.0	84	< 5	84	7.7	4.98
9 (300 m from outfall)	1	8	0.7	90.0	64	< 5	64	8.1	-
	5	8	0.7	90.0	74	< 5	74	8.2	-
	35	10	0.7	97.0	84	< 5	84	7.9	-
	78	18	0.7	115.0	84	< 5	84	7.9	-
10 (300 m from outfall)	1	7	0.7	89.0	59	< 5	59	8.1	-
	5	8	< 0.1	93.2	77	< 5	77	8.1	-
	35	10	< 0.1	101.0	78	< 5	78	7.8	-
	80	18	0.7	107.0	81	< 5	81	7.7	-

CONTINUED...

APPENDIX III

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	TURBIDITY (FTU)	SPECIFIC CONDUCTIVITY (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
					Filterable	Non-Filterable	Total		
(Rum Bay)									
11 (300 m from outfall)	1	10	0.7	96.0	66	< 5	66	8.0	13.79
	5	8	< 0.1	93.3	68	< 5	68	8.1	13.16
	15	8	< 0.1	92.8	67	8	75	7.9	-
	30	7	0.7	88.0	59	< 5	59	7.6	-
13 (500 m from outfall)	1	8	0.7	88.5	63	< 5	63	8.1	13.29
	5	7	0.7	91.0	74	< 5	74	8.1	13.02
	35	10	0.7	97.0	77	< 5	77	7.9	4.88
	68	17	0.7	112.0	79	< 5	79	7.8	4.67
15 (500 m from outfall)	1	8	0.7	89.0	63	< 5	63	-	-
	5	7	< 0.1	92.2	73	< 5	80	8.1	-
	25	9	< 0.1	96.4	73	6	86	7.9	-
	51	11	0.7	100.0	66	< 5	66	-	-
17 (500 m from outfall)	1	7	< 0.1	92.2	72	< 5	72	8.1	13.75
	5	8	< 0.1	92.2	76	< 5	76	8.1	13.72
	45	12	< 0.1	103.0	81	6	87	7.8	-
	83	12	< 0.1	103.0	82	7	89	7.8	-

CONTINUED...

PENDIX III

BLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	TURBIDITY (FTU)	SPECIFIC CONDUCTIVITY (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
					Filterable	Non-Filterable	Total		
(Rum Bay)									
21 (1000 m from outfall)	1	7	< 0.1	91.7	73	6	79	8.1	13.25
	5	8	< 0.1	91.7	71	10	81	8.1	13.11
	15	8	< 0.1	93.3	76	< 5	76	7.7	6.48
	36	11	< 0.1	103.0	83	5	88	7.7	4.80
22 (1000 m from outfall)	1	7	< 0.1	92.7	69	< 5	69	8.2	-
	5	7	< 0.1	92.2	73	< 5	73	8.2	-
	35	11	< 0.1	103.0	81	< 5	81	7.9	-
	75	10	< 0.1	101.0	83	< 5	83	7.8	-
24 (1500 m from outfall)	1	8	< 0.1	92.8	72	5	77	8.2	-
	5	7	< 0.1	92.2	75	5	80	8.0	-
	15	8	< 0.1	93.2	79	6	85	7.9	-
	25	10	< 0.1	100.0	76	7	83	7.8	-
28 (1500 m from outfall)	1	7	< 0.1	92.2	72	< 5	72	8.2	-
	5	7	< 0.1	92.2	75	< 5	75	8.2	-
	45	11	< 0.1	104.0	80	< 5	80	7.9	-
	85	17	< 0.1	118.0	89	< 5	89	7.9	-

CONTINUED...

APPENDIX III

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	TURBIDITY (FTU)	SPECIFIC CONDUCTIVITY (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
					Filterable	Non-Filterable	Total		
(Hagan Arm)									
31	1	7	< 0.1	91.7	71	< 5	71	8.2	[illegible]
	5	7	< 0.1	92.7	69	< 5	69	8.2	
	40	11	< 0.1	104.0	78	< 5	78	7.9	4.92
	79	15	< 0.1	114.0	82	< 5	82	7.9	4.79
34	1	7	< 0.1	91.2	59	< 5	59	8.1	-
	5	7	< 0.1	91.2	64	< 5	64	8.2	-
	40	10	< 0.1	101.0	76	< 5	76	7.9	-
	81	8	< 0.1	93.2	71	< 5	71	7.9	-
35	1	7	< 0.1	92.2	72	< 5	72	8.2	-
	5	7	< 0.1	92.2	73	< 5	73	8.1	-
	35	11	< 0.1	103.0	74	< 5	74	7.8	-
	74	13	< 0.1	107.0	84	< 5	84	7.9	-
36	1	7	< 0.1	92.0	76	6	82	8.1	12.31
	5	7	< 0.1	103.0	75	< 5	75	8.1	12.25
	25	9	< 0.1	95.4	77	< 5	77	7.9	6.53
	38	11	< 0.1	102.0	78	< 5	78	7.9	5.03

CONTINUED...

APPENDIX III

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	TURBIDITY (FTU)	SPECIFIC CONDUCTIVITY (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
					Filterable	Non-Filterable	Total		
37	1	6	0.7	82.0	65	< 5	65	7.8	14
38	1	5	0.7	78.0	62	< 5	62	8.0	13
39	1	4	< 0.1	82.3	65	< 5	65	8.1	-
	5	4	< 0.1	82.3	58	< 5	58	8.1	-
	15	5	< 0.1	82.8	69	< 5	69	8.0	-
	24	5	< 0.1	82.3	64	< 5	64	8.0	-
40	1	5	< 0.1	82.8	61	< 5	61	8.3	-
	15	4	< 0.1	83.8	60	< 5	60	8.0	-
41	1	5	< 0.1	81.7	57	< 5	57	8.2	10.53
	5	4	< 0.1	81.7	61	< 5	61	8.0	9.69
	35	5	< 0.1	82.3	61	< 5	61	7.9	5.02
	75	4	< 0.1	82.3	60	< 5	60	8.0	4.50
42	1	5	< 0.1	81.7	59	< 5	59	8.2	-
	5	4	< 0.1	82.3	62	< 5	62	8.1	-
	25	4	< 0.1	82.8	62	< 5	62	8.1	-
	50	4	< 0.1	82.8	60	< 5	60	8.1	-

CONTINUED...

APPENDIX III

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Sulphate, Conductivity, Residue, pH, and Temperature Results (Continued)

STATION	DEPTH (m)	SULPHATES (mg/l)	TURBIDITY (FTU)	SPECIFIC CONDUCTIVITY (uS/cm) at 25°C	RESIDUE (mg/l)			pH	TEMPERATURE (°C)
					Filterable	Non-Filterable	Total		
(Main Arm)									
44	1	4	< 0.1	82.8	61	< 5	61	8.1	-
	5	4	< 0.1	82.3	63	< 5	63	8.1	-
	60	4	< 0.1	82.8	59	< 5	59	8.0	-
	118	4	< 0.1	82.8	63	< 5	63	8.0	-
(Granisle)									
45	1	5	< 0.1	85.4	59	< 5	59	8.1	12.54
	13	7	< 0.1	90.6	62	< 5	62	7.9	7.61
46	1	7	0.7	86.5	69	< 5	69	7.9	14
48	1	7	< 0.1	90.1	65	< 5	65	8.1	-
	8	6	< 0.1	85.9	63	< 5	63	8.0	-
49	1	7	< 0.1	89.0	66	< 5	66	8.1	13.57
	5	6	< 0.1	87.0	65	< 5	65	8.1	10.82
	15	9	< 0.1	83.8	64	< 5	64	8.0	7.60
	25	6	< 0.1	85.9	63	< 5	63	7.8	6.38

APPENDIX IV

TOTAL AND DISSOLVED SILICON, CALCIUM, MAGNESIUM, SODIUM, POTASSIUM, AND CHLORIDE

APPENDIX IV

TABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Si, Ca, Mg, Na

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM	
		T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)									
4 (100 m from outfall)	1	1.9	1.9	11.2	11.3	2.8	2.7	2.1	2.2
	3	1.9	1.9	12.4	12.3	3.0	2.9	2.3	2.3
	18	1.9	2.0	11.2	11.5	2.8	2.7	2.1	2.2
	25	1.9	2.0	11.1	11.7	2.8	2.8	2.1	2.3
7 (100 m from outfall)	1	1.9	2.0	11.1	11.9	2.8	2.8	2.1	2.3
	6	1.9	2.0	11.4	11.9	2.8	2.8	2.1	2.3
8 (300 m from outfall)	1	1.9	1.9	11.3	11.8	2.8	2.8	2.1	2.3
	4	1.9	2.0	11.3	12.0	2.8	2.8	2.1	2.3
	40	2.0	2.0	12.0	12.5	2.9	2.9	2.2	2.4
	75	2.0	2.0	13.4	13.5	3.1	3.0	2.4	2.4
11 (300 m from outfall)	1	1.9	1.9	11.2	11.7	2.8	2.8	2.1	2.3
	4	1.9	1.9	11.1	11.7	2.8	2.8	2.1	2.3
	40	2.0	2.0	11.6	11.8	2.9	2.8	2.2	2.3
	70	2.0	2.0	14.5	15.1	3.3	3.3	2.5	2.6
13 (500 m from outfall)	1	1.9	1.9	11.1	11.7	2.8	2.8	2.1	
	4	1.9	1.9	11.1	11.6	2.8	2.8	2.0	2.3
	40	2.0	2.0	11.8	12.5	2.9	2.9	2.2	2.4
	75	2.0	2.0	13.7	14.2	3.2	3.1	2.4	2.5

CONTINUED...

APPENDIX IV

TABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Si, Ca, Mg, Na

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM	
		T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)									
17 (500 m from outfall)	1	1.9	1.9	11.0	11.9	2.8	2.8	2.1	2.3
	3	1.9	1.9	11.2	11.5	2.8	2.7	2.1	2.2
	40	1.9	2.0	11.9	12.1	2.9	2.9	2.2	2.4
	80	1.9	2.0	13.7	14.6	3.2	3.1	2.4	2.6
21 (1000 m from outfall)	1	1.9	1.9	11.2	11.2	2.8	2.7	2.1	2.2
	2	1.9	1.9	11.3	11.1	2.8	2.6	2.1	2.2
	8	1.9	2.0	11.4	11.5	2.8	2.7	2.1	2.2
	35	2.0	2.0	12.5	12.9	3.0	2.9	2.2	2.4
22 (1000 m from outfall)	1	1.9	1.9	11.3	11.1	2.8	2.7	2.1	2.2
	4	1.9	1.9	11.2	11.1	2.8	2.6	2.0	2.2
	40	1.9	2.0	11.8	12.1	2.9	2.8	2.2	2.3
	90	1.9	2.0	14.4	15.1	3.3	3.3	2.5	2.6
23 (1500 m from outfall)	1	1.9	1.9	11.1	11.8	2.8	2.8	2.1	2.2
	3	1.9	1.9	11.1	11.6	2.8	2.8	2.1	2.2
	7	1.9	2.0	11.2	11.7	2.8	2.8	2.1	2.3
	25	1.9	2.0	11.5	11.8	2.8	2.8	2.1	2.3

CONTINUED...

APPENDIX IV

TABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Si, Ca, Mg, Na

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM	
		T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)									
28 (1500 m from outfall)	1	1.9	1.9	11.2	11.4	2.8	2.7	2.1	2.2
	4	1.9	2.0	10.9	11.7	2.7	2.8	2.0	2.3
	40	2.0	2.0	11.8	12.5	2.9	2.9	2.2	2.4
	75	1.9	2.0	13.7	14.5	3.1	3.2	2.4	2.6
29 (2000 m from outfall)	1	2.0	1.9	11.4	11.6	2.9	2.8	2.1	2.2
	3	2.0	2.0	11.3	11.7	2.8	2.8	2.1	?
	8	2.0	2.0	11.5	11.6	2.9	2.8	2.1	2.2
	18	2.0	2.0	11.7	11.9	2.9	2.8	2.2	2.3
33 (2000 m from outfall)	1	1.9	1.9	11.0	11.5	2.7	2.8	2.0	2.2
	4	1.9	1.9	10.9	11.3	2.7	2.7	2.1	2.2
	40	2.0	2.1	11.8	12.2	2.9	2.8	2.1	2.4
	75	2.0	2.0	13.6	13.3	3.1	2.9	2.4	2.4
(Hagan Arm)									
34	1	1.9	1.9	10.6	11.5	2.7	2.7	2.0	2.2
	4	1.9	1.9	10.4	11.6	2.6	2.7	2.0	2.2
	40	1.9	2.0	11.6	12.4	2.8	2.8	2.1	2.3
	70	1.9	2.0	12.9	14.1	3.0	3.1	2.3	2.5

CONTINUED...

APPENDIX IV

TABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Si, Ca, Mg, Na

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM	
		T.	D.	T.	D.	T.	D.	T.	D.
(Hagan Arm)									
36	1	2.0	2.0	11.6	11.7	2.9	2.8	2.2	2.2
	5	2.0	2.0	11.3	11.7	2.9	2.8	2.1	2.3
	40	2.0	2.0	12.5	12.7	3.0	2.9	2.3	2.4
	70	2.1	2.1	13.5	13.6	3.2	3.0	2.4	2.5
(Main Arm)									
31	1	1.9	2.0	9.7	10.5	2.5	2.5	1.9	2.0
	4	1.9	2.0	9.8	10.6	2.5	2.5	1.9	2.0
	40	1.9	2.0	9.9	10.8	2.5	2.6	1.9	2.1
	65	1.9	2.0	9.8	10.7	2.5	2.6	1.9	2.1

APPENDIX IV

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.*		T.	D.*
(Rum Bay)													
1 Effluent Bubble	1	2.0	2.1	14.3	14.8	3.0	3.4	2.7	2.8	-	1.00	1.1	-
2 (50 m from outfall)	1	1.9	2.1	11.9	12.3	2.6	3.0	2.3	2.7	-	0.69	0.8	-
	7	1.9	2.1	11.8	12.3	2.5	3.0	2.3	2.7	-	0.72	1.0	-
	11	2.0	2.1	13.6	14.0	2.9	3.3	2.5	2.8	-	0.93	1.2	-
	14	1.9	2.1	11.6	12.0	2.5	2.9	2.3	2.6	-	0.72	1.0	-
4 (100 m from outfall)	1	2.0	2.1	11.9	12.1	2.6	2.9	2.3	2.7	-	0.72	< 0.5	-
	10	2.0	2.1	11.9	12.1	2.6	2.9	2.3	2.7	-	0.73	< 0.5	-
	35	2.1	2.2	12.5	12.7	2.7	3.0	2.5	2.7	-	0.75	< 0.5	-
	55	2.1	2.3	12.9	13.2	2.7	3.1	2.7	2.8	-	0.80	< 0.5	-
7 (100 m from outfall)	1	2.0	2.1	12.1	12.2	2.6	2.9	2.4	2.5	-	0.70	0.9	-
	10	2.0	2.1	12.4	12.3	2.7	2.9	2.5	2.6	-	0.72	0.9	-
	30	2.0	2.2	12.4	12.6	2.7	3.0	2.5	2.6	-	0.72	0.9	-
	51	2.1	2.2	12.8	12.8	2.7	3.0	2.5	2.8	-	0.78	0.8	-
9 (300 m from outfall)	1	1.9	1.7	11.8	12.2	2.5	2.8	2.2	2.3	-	0.70	< 0.5	-
	10	1.9	1.8	11.8	12.2	2.5	2.8	2.3	2.3	-	0.67	< 0.5	-
	35	1.9	1.8	12.1	12.5	2.5	2.8	2.2	2.4	-	0.72	< 0.5	-
	65	2.0	1.9	13.3	13.7	2.7	3.1	2.5	2.6	-	0.84	< 0.5	-

*Not Measured

CONTINUED...

APPENDIX IV

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.*	D.	T.	D.*
(Rum Bay)													
11 (300 m from outfall)	1	2.0	2.1	12.0	12.0	2.6	2.9	2.3	2.7	-	0.69	< 0.5	-
	10	2.0	2.1	11.8	12.1	2.6	2.9	2.4	2.8	-	0.70	< 0.5	-
	45	2.1	2.3	12.6	12.8	2.7	3.1	2.4	2.8	-	0.80	< 0.5	-
	80	2.1	2.2	15.0	15.0	3.1	3.5	2.8	3.0	-	1.05	0.6	-
13 (500 m from outfall)	1	1.9	1.7	11.9	12.0	2.5	2.8	2.3	2.3	-	0.69	< 0.5	-
	10	2.0	1.7	12.1	12.2	2.5	2.8	2.3	2.3	-	0.69	0.5	-
	40	2.0	1.8	12.6	12.5	2.6	2.9	2.4	2.4	-	0.75	0.6	-
	70	2.1	1.8	13.4	13.2	2.8	3.0	2.5	2.4	-	0.83	0.6	-
17 (500 m from outfall)	1	1.9	1.8	11.7	12.4	2.5	2.9	2.3	2.4	-	0.67	< 0.5	-
	10	1.9	1.7	11.7	12.1	2.4	2.8	2.0	2.3	-	0.64	< 0.5	-
	45	2.0	1.9	12.5	13.0	2.6	3.0	2.3	2.4	-	0.74	< 0.5	-
	85	2.0	1.8	14.1	14.6	2.9	3.2	2.6	2.6	-	0.88	0.7	-
21 (1000 m from outfall)	1	2.0	1.7	12.3	11.8	2.6	2.7	2.4	2.3	-	0.68	< 0.5	-
	10	2.0	1.7	12.0	12.1	2.5	2.8	2.3	2.4	-	0.68	< 0.5	-
	20	2.0	1.7	12.1	11.9	2.6	2.8	2.4	2.3	-	0.68	< 0.5	-
	31	2.0	1.8	12.4	12.6	2.6	2.9	2.4	2.4	-	0.70	< 0.5	-

*Not Measured

CONTINUED...

APPENDIX IV

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.*	D.	T.	D.*
(Rum Bay)													
22 (1000 m from outfall)	1	2.0	2.1	11.9	12.0	2.6	2.9	2.4	2.5	-	0.62	< 0.5	-
	10	2.0	2.1	12.0	11.9	2.6	2.9	2.3	2.6	-	0.63	< 0.5	-
	33	2.0	2.2	12.2	12.2	2.7	2.9	2.5	2.7	-	0.67	< 0.5	-
	75	2.1	2.2	14.5	14.5	3.0	3.4	2.7	3.0	-	0.86	< 0.5	-
24 (1500 m from outfall)	1	1.9	1.7	11.9	12.0	2.5	2.8	2.5	2.3	-	0.69	< 0.5	-
	5	1.9	1.7	11.8	12.3	2.5	2.8	2.5	2.3	-	0.69	< 0.5	-
	15	2.0	1.7	12.1	12.0	2.5	2.8	2.4	2.3	-	0.69	< 0.5	-
	25	2.0	1.8	12.1	12.2	2.5	2.8	2.3	2.3	-	0.69	< 0.5	-
28 (1500 m from outfall)	1	2.0	2.1	11.9	12.1	2.6	2.9	2.3	2.5	-	0.64	< 0.5	-
	10	2.0	2.1	11.9	12.1	2.6	2.9	2.4	2.5	-	0.64	< 0.5	-
	45	2.1	2.2	12.5	12.7	2.7	3.0	2.5	2.5	-	0.72	< 0.5	-
	85	2.1	2.2	14.7	14.8	3.1	3.4	2.8	2.8	-	0.86	0.6	-
(Hagan Arm)													
31	1	1.9	2.1	12.0	12.1	2.7	2.9	2.5	2.5	-	0.67	< 0.5	-
	15	1.9	2.1	11.9	12.2	2.7	2.9	2.5	2.5	-	0.68	< 0.5	-
	45	2.0	2.1	12.5	12.3	2.8	2.9	2.7	2.5	-	0.68	< 0.5	-
	75	2.1	2.3	13.4	13.8	2.8	3.2	2.5	2.7	-	0.86	0.5	-

*Not Measured

CONTINUED...

APPENDIX IV

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.*	D.	T.	D.*
(Hagan Arm)													
34	1	1.9	2.1	11.1	11.7	2.5	2.9	2.4	2.5	-	0.64	< 0.5	-
	10	1.9	2.1	11.6	12.0	2.5	2.9	2.3	2.6	-	0.68	< 0.5	-
	40	2.0	2.2	12.0	12.4	2.6	3.0	2.3	2.7	-	0.72	< 0.5	-
	85	2.0	2.3	14.0	14.6	2.9	3.4	2.5	3.0	-	0.94	< 0.5	-
35	1	1.9	2.1	11.7	12.0	2.9	2.9	2.5	2.6	-	0.67	0.9	-
	15	1.9	2.2	12.0	12.4	3.0	3.0	2.5	2.7	-	0.72	0.9	-
	35	2.0	2.2	12.5	12.6	3.0	3.0	2.5	2.6	-	0.72	0.5	-
	68	2.1	2.4	13.6	13.6	3.2	3.2	2.8	2.8	-	0.83	< 0.5	-
36	1	2.0	2.2	12.2	12.2	3.0	3.0	2.5	2.8	-	0.67	1.0	-
	10	1.9	2.2	12.0	12.3	3.0	3.0	2.5	2.8	-	0.67	1.0	-
	25	1.9	2.2	12.0	12.4	3.0	3.0	2.6	2.8	-	0.69	1.0	-
	39	2.0	2.3	12.5	12.9	3.1	3.1	2.7	2.8	-	0.75	1.0	-
(Main Arm)													
37	1	1.8	2.1	10.7	11.1	2.7	2.7	2.3	2.4	-	0.57	0.8	-
	10	1.9	2.1	10.8	11.1	2.7	2.7	2.5	2.5	-	0.56	0.7	-

*Not Measured

CONTINUED...

APPENDIX IV

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.*	D.	T.	D.*
(Main Arm)													
38	1	1.9	2.1	11.5	11.6	3.1	3.1	2.4	2.6	-	0.57	0.8	-
39	1	2.0	2.1	11.9	11.8	3.1	3.1	2.3	2.5	-	0.57	0.7	-
40	1	1.9	2.1	11.1	11.0	2.8	2.8	2.3	2.6	-	0.55	0.7	-
	13	1.9	2.1	11.1	11.1	2.8	2.8	2.3	2.5	-	0.53	0.7	-
41	1	2.0	1.8	10.8	11.1	2.4	2.6	2.2	2.1	-	0.57	< 0.5	-
	20	2.0	1.7	10.8	11.1	2.4	2.6	2.1	2.2	-	0.58	< 0.5	-
	40	1.9	1.7	10.7	11.1	2.3	2.6	2.1	2.1	-	0.57	< 0.5	-
	67	1.9	1.7	10.7	11.0	2.3	2.6	2.1	2.1	-	0.56	< 0.5	-
42	1	1.9	1.9	11.1	10.7	2.5	2.5	2.4	2.1	-	0.62	< 0.5	-
	15	1.9	2.1	10.7	11.1	2.7	2.7	2.3	2.4	-	0.61	0.7	-
	30	1.9	2.1	10.8	11.1	2.7	2.7	2.3	2.4	-	0.64	0.7	-
	55	1.9	2.1	10.7	11.2	2.7	2.7	2.2	2.3	-	0.60	0.7	-
43	1	1.9	2.1	11.1	11.0	2.7	2.7	2.3	2.6	-	0.52	0.7	-
	8	1.9	2.1	11.1	11.1	2.7	2.7	2.4	2.5	-	0.52	0.7	-
	16	1.9	2.2	11.1	11.1	2.7	2.7	2.3	2.5	-	0.57	0.7	-
	24	2.0	2.2	11.3	11.1	2.8	2.8	2.4	2.5	-	0.57	0.7	-

*Not Measured

CONTINUED...

APPENDIX IV

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.*	D.	T.	D.*
(Main Arm)													
44	1	1.9	1.8	10.8	11.5	2.3	2.7	2.0	2.3	-	0.61	< 0.5	-
	30	2.0	1.7	10.7	11.0	2.3	2.6	2.1	2.2	-	0.57	< 0.5	-
	60	1.9	1.7	10.8	11.0	2.3	2.6	2.1	2.1	-	0.57	< 0.5	-
	95	2.0	1.7	11.1	11.1	2.4	2.6	2.3	2.1	-	0.57	< 0.5	-
(Granisle)													
45	1	1.9	2.0	11.0	11.0	2.4	2.7	2.2	2.5	-	0.62	< 0.5	-
	9	1.9	2.1	10.7	11.2	2.4	2.7	2.3	2.5	-	0.62	< 0.5	-
46	1	1.9	2.1	11.9	12.1	3.0	3.4	2.5	3.0	-	0.62	0.6	-
47	1	1.9	2.1	11.7	11.9	2.6	3.0	2.5	3.0	-	0.64	0.7	-
48	1	1.9	2.1	10.9	11.2	2.8	2.8	2.3	2.5	-	0.53	0.9	-
	7.5	1.9	2.1	11.1	11.3	2.8	2.8	2.4	2.5	-	0.60	0.9	-
49	1	1.9	2.1	10.9	11.1	2.8	2.8	2.4	2.5	-	0.60	0.8	-
	9	1.8	2.1	11.0	11.1	2.7	2.7	2.3	2.4	-	0.55	0.7	-
	20	1.9	2.1	11.0	11.2	2.7	2.7	2.3	2.3	-	0.57	0.7	-
	29	2.6	2.9	54.1	53.7	11.2	11.2	36.7	36.6	-	4.30	7.4	-

APPENDIX IV

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.*	T.	D.*
(Rum Bay)													
1 Effluent Bubble	1	1.9	1.9	14.2	14.2	3.3	3.2	2.6	2.7	0.79	-	0.7	-
2 (50 m from outfall)	1	1.8	1.9	12.1	11.9	2.8	2.7	2.3	2.3	0.59	-	0.5	-
	6	1.8	1.9	12.4	12.4	2.9	2.8	2.3	2.4	0.62	-	0.5	-
	18	1.9	2.0	12.0	12.2	2.8	2.8	2.4	2.3	0.60	-	0.6	-
	29	1.9	2.1	12.6	13.0	2.9	2.9	2.4	2.5	0.64	-	0.6	-
4 (100 m from outfall)	1	1.8	1.9	12.0	12.9	2.8	2.8	2.3	2.4	0.57	-	0.5	-
	5	1.9	2.0	12.1	12.1	2.8	2.8	2.4	2.5	0.59	-	< 0.5	-
	25	2.1	2.1	12.3	12.6	2.9	2.9	2.5	2.6	0.64	-	< 0.5	-
	51	2.1	2.1	13.4	13.2	3.1	3.0	2.5	2.5	0.70	-	0.6	-
5 (100 m from outfall)	1	1.9	1.9	12.2	11.8	2.9	2.7	2.4	2.4	0.56	-	< 0.5	-
	5	1.8	2.0	11.8	12.1	2.8	2.8	2.4	2.5	0.59	-	< 0.5	-
	35	2.1	2.1	12.9	13.0	3.0	3.0	2.5	2.6	0.64	-	< 0.5	-
	75	2.1	2.1	14.9	14.6	3.4	3.3	2.7	2.7	0.82	-	< 0.5	-
6 (100 m from outfall)	1	1.9	1.9	12.2	11.7	2.9	2.7	2.4	2.4	0.59	-	0.6	-
	5	1.8	2.0	11.8	12.2	2.8	2.8	2.4	2.4	0.59	-	< 0.5	-
	25	2.0	2.1	12.5	12.5	2.9	2.9	2.5	2.4	0.62	-	< 0.5	-
	54	2.1	2.1	14.1	13.7	3.2	3.1	2.7	2.6	0.76	-	0.7	-

*Not Measured

CONTINUED...

APPENDIX IV

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.*	T.	D.*
(Rum Bay)													
7 (100 m from outfall)	1	1.9	1.9	12.1	11.8	2.9	2.7	2.4	2.3	0.59	-	< 0.5	-
	5	1.9	2.0	11.8	12.3	2.8	2.9	2.3	2.6	0.59	-	< 0.5	-
	15	1.9	2.1	11.7	12.1	2.7	2.9	2.4	2.5	0.59	-	< 0.5	-
	23	2.0	2.0	12.9	12.4	3.0	2.8	2.5	2.5	0.64	-	0.6	-
8 (300 m from outfall)	1	1.8	1.9	12.0	11.8	2.8	2.8	2.4	2.4	0.59	-	< 0.5	-
	9	1.9	2.1	12.1	12.1	2.8	2.9	2.4	2.7	0.62	-	< 0.5	-
	40	2.0	2.2	12.9	13.1	2.9	3.0	2.4	3.1	0.67	-	0.6	-
	78	2.0	2.1	15.4	15.4	3.5	3.5	2.8	2.8	0.87	-	< 0.5	-
9 (300 m from outfall)	1	1.9	1.9	12.1	11.7	2.9	2.7	2.5	2.4	0.63	-	< 0.5	-
	5	1.9	2.0	11.9	12.2	2.8	2.9	2.4	2.4	0.59	-	< 0.5	-
	35	2.0	2.2	12.9	13.1	3.0	3.0	2.5	2.6	0.64	-	0.6	-
	78	2.1	2.1	15.4	14.8	3.5	3.4	2.8	2.8	0.86	-	< 0.5	-
10 (300 m from outfall)	1	1.9	1.9	12.2	12.0	2.9	2.7	2.4	2.4	0.59	-	< 0.5	-
	5	1.9	2.0	12.2	12.1	2.9	2.9	2.5	3.0	0.69	-	0.5	-
	35	2.0	2.2	12.9	13.0	3.0	3.0	2.5	2.5	0.60	-	< 0.5	-
	80	2.0	2.1	15.2	15.0	3.5	3.4	2.7	2.7	0.87	-	< 0.5	-

*Not Measured

CONTINUED...

APPENDIX IV

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR [illegible] (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.*	T.	D.*
(Rum Bay)													
11 (300 m from outfall)	1	2.0	2.1	12.8	12.8	3.0	2.9	2.6	2.4	0.67	-	< 0.5	-
	5	1.9	2.0	12.3	12.1	2.9	2.9	2.4	2.5	0.59	-	< 0.5	-
	15	2.0	2.1	12.1	12.0	2.8	2.8	2.5	2.4	0.59	-	< 0.5	-
	30	2.0	1.9	12.2	11.9	2.9	2.7	2.4	2.5	0.62	-	< 0.5	-
13 (500 m from outfall)	1	1.8	1.9	11.9	11.9	2.8	2.8	2.4	2.4	0.59	-	< 0.5	-
	5	1.8	2.0	12.0	12.1	2.8	2.9	2.5	2.5	-	-	-	-
	35	2.0	2.2	12.8	13.1	2.9	3.0	2.5	2.6	-	-	-	-
	68	2.0	2.1	14.8	14.8	3.4	3.3	2.7	2.6	0.84	-	< 0.5	-
15 (500 m from outfall)	1	1.9	1.9	11.7	11.9	2.8	2.7	2.4	2.3	0.56	-	< 0.5	-
	5	1.8	1.9	12.0	11.8	2.8	2.8	2.4	2.6	0.59	-	< 0.5	-
	25	2.0	2.1	12.4	12.7	2.9	3.0	2.4	2.5	0.64	-	< 0.5	-
	51	2.0	2.2	13.3	13.3	3.0	3.1	2.5	2.8	0.67	-	< 0.5	-
17 (500 m from outfall)	1	1.8	1.9	11.9	11.9	2.8	2.8	2.4	2.4	0.60	-	0.6	-
	5	1.9	2.0	12.3	12.1	2.9	2.8	2.5	2.3	0.62	-	0.5	-
	45	2.1	2.1	13.5	13.3	3.1	3.1	2.6	2.6	0.73	-	0.5	-
	83	2.1	2.2	13.4	13.4	3.1	3.1	2.6	2.7	0.73	-	0.5	-

*Not Measured

CONTINUED...

APPENDIX IV

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.*	T.	D.*
(Rum Bay)													
21 (1000 m from outfall)	1	1.9	2.0	12.0	12.0	2.9	2.8	2.4	2.6	0.60	-	< 0.5	-
	5	1.8	2.0	11.8	12.2	2.8	2.9	2.4	2.4	0.60	-	< 0.5	-
	15	1.9	2.1	12.0	12.3	2.8	2.9	2.4	2.4	0.62	-	< 0.5	-
	36	2.0	2.2	13.1	13.4	3.0	3.1	2.5	2.8	0.70	-	0.6	-
22 (1000 m from outfall)	1	1.9	2.0	11.9	12.0	2.9	2.8	2.6	2.4	0.59	-	0.6	-
	5	2.0	2.0	12.2	12.1	3.0	2.9	2.8	2.5	0.59	-	0.6	-
	35	2.0	2.2	13.1	13.3	3.0	3.1	2.6	2.7	0.71	-	0.7	-
	75	2.1	2.2	12.6	13.0	3.0	3.1	2.6	2.6	0.68	-	0.7	-
24 (1500 m from outfall)	1	1.9	2.0	12.1	12.3	2.9	2.9	2.4	2.4	0.62	-	< 0.5	-
	5	2.0	2.0	12.1	12.2	2.9	2.9	2.4	2.8	0.60	-	< 0.5	-
	15	1.9	2.1	12.0	12.3	2.8	2.9	2.4	2.5	0.62	-	0.5	-
	25	2.3	2.1	12.9	12.8	3.0	3.0	2.5	2.5	0.71	-	0.5	-
28 (1500 m from outfall)	1	1.9	2.0	12.2	12.1	2.9	2.9	2.4	2.4	0.62	-	0.6	-
	5	1.9	2.0	11.8	12.6	2.8	3.0	2.5	2.4	0.61	-	< 0.5	-
	45	2.1	2.2	13.5	13.6	3.1	3.2	2.6	2.7	0.74	-	0.6	-
	85	2.1	2.3	15.3	15.7	3.5	3.6	2.9	2.8	0.90	-	0.9	-

CONTINUED...

*Not Measured

APPENDIX IV

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.*	T.	D.*
(Hagan Arm)													
31	1	1.9	2.0	12.0	12.3	2.8	2.9	2.4	2.5	0.59	-	0.5	-
	5	1.8	2.0	11.8	12.1	2.8	2.9	2.3	2.5	0.59	-	0.5	-
	40	2.1	2.2	13.2	13.2	3.1	3.1	2.8	2.5	0.71	-	0.5	-
	79	2.1	2.2	14.5	14.6	3.4	3.4	2.9	2.8	0.81	-	0.7	-
34	1	1.9	2.0	11.8	12.0	2.6	2.8	2.3	2.3	0.59	-	< 0.5	-
	5	1.9	2.0	11.6	12.1	2.5	2.8	2.3	2.3	0.62	-	< 0.5	-
	40	2.1	2.2	12.8	13.2	2.7	3.0	2.4	2.6	0.74	-	0.6	-
	81	2.1	2.1	11.9	12.4	2.6	2.9	2.4	2.4	0.67	-	0.5	-
35	1	1.9	2.1	12.0	12.4	2.8	2.9	2.4	2.6	0.59	-	< 0.5	-
	5	1.9	2.0	12.2	12.2	2.9	2.9	2.4	2.5	0.59	-	< 0.5	-
	35	2.1	2.2	13.4	13.5	3.1	3.1	2.6	2.6	0.71	-	0.5	-
	74	2.1	2.2	13.8	13.6	3.2	3.2	2.6	2.8	0.75	-	0.7	-
36	1	1.8	2.0	11.9	12.0	2.8	2.8	2.4	2.5	0.59	-	0.5	-
	5	1.8	2.0	11.7	12.0	2.8	2.8	2.4	2.4	0.59		0.5	-
	25	2.1	2.1	12.6	12.4	2.9	2.9	2.5	2.5	0.65	-	< 0.5	-
	38	2.1	2.2	13.1	13.5	3.0	3.1	2.6	2.6	0.71	-	0.6	-

*Not Measured

CONTINUED...

APPENDIX IV

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.*	T.	D.*
(Main Arm)													
37	1	1.9	1.9	11.2	11.1	2.7	2.6	2.2	2.2	0.54	-	< 0.5	-
38	1	1.9	2.0	11.2	11.8	2.7	2.9	2.1	2.4	0.50	-	< 0.5	-
39	1	2.0	2.0	10.8	11.0	2.4	2.6	2.2	2.3	0.56	-	< 0.5	-
	5	2.0	2.0	10.9	11.0	2.4	2.6	2.2	2.2	0.56	-	< 0.5	-
	15	2.0	2.0	11.0	11.1	2.4	2.6	2.2	2.4	0.56	-	< 0.5	-
	24	2.0	2.0	11.0	11.0	2.4	2.6	2.3	2.6	0.56	-	< 0.5	-
40	1	1.9	2.0	10.7	11.0	2.3	2.6	2.1	2.2	0.56	-	< 0.5	-
	15	2.0	2.0	10.8	10.9	2.4	2.6	2.1	2.4	0.56	-	< 0.5	-
41	1	2.0	2.0	10.9	11.2	2.4	2.6	2.2	2.2	0.56	-	0.6	-
	5	2.0	2.0	10.9	11.0	2.4	2.6	2.0	2.2	0.55	-	0.6	-
	35	2.1	2.0	11.1	11.0	2.4	2.6	2.2	2.3	0.58	-	0.6	-
	75	2.1	2.1	10.9	11.0	2.4	2.6	2.2	2.2	0.56	-	0.6	-
42	1	1.9	1.9	10.8	10.8	2.3	2.5	2.0	2.2	0.54	-	0.6	-
	5	2.0	1.9	10.8	10.8	2.3	2.5	2.1	2.1	0.56	-	< 0.5	-
	25	2.0	2.0	10.8	10.8	2.3	2.6	2.1	2.1	0.56	-	< 0.5	-
	50	2.0	2.0	10.7	11.0	2.3	2.6	2.1	2.2	0.56	-	< 0.5	-

*Not Measured

CONTINUED...

APPENDIX IV

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) RESULTS FOR MAJOR IONS (mg/l) - Si, Ca, Mg, Na, K, Cl

(Continued)

STATION	DEPTH (m)	SILICON		CALCIUM		MAGNESIUM		SODIUM		POTASSIUM		CHLORIDE	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.*	T.	D.*
(Main Arm)													
44	1	2.0	1.9	11.1	10.9	2.5	2.6	2.2	3.9	0.56	-	< 0.5	-
	5	2.1	1.9	11.3	10.9	2.5	2.6	2.2	2.3	0.56	-	< 0.5	-
	60	2.1	2.0	11.0	10.9	2.4	2.6	2.2	2.2	0.56	-	< 0.5	-
	118	2.1	2.1	11.0	11.0	2.4	2.7	2.2	5.5	0.56	-	< 0.5	-
(Granisle)													
45	1	2.0	1.9	11.2	11.2	2.5	2.7	2.2	2.3	0.56	-	0.6	-
	13	2.0	2.0	11.7	11.8	2.5	2.8	2.5	2.7	0.59	-	0.5	-
46	1	1.8	1.9	12.0	11.7	2.8	2.7	2.3	2.3	0.59	-	0.5	-
48	1	1.9	2.0	11.6	12.2	2.5	2.9	2.4	3.0	0.62	-	0.5	-
	8	2.6	2.0	11.6	11.4	2.6	2.7	2.4	2.5	0.65	-	< 0.5	-
49	1	2.0	1.9	11.8	11.8	2.6	2.8	2.3	2.4	0.59	-	< 0.5	-
	5	2.0	1.9	11.6	11.5	2.5	2.7	2.3	2.2	0.59	-	< 0.5	-
	15	2.1	2.0	11.3	11.0	2.5	2.6	2.3	2.2	0.56	-	< 0.5	-
	25	2.1	2.0	11.5	11.3	2.5	2.7	2.3	2.2	0.56	-	< 0.5	-

*Not Measured

APPENDIX V

ALKALINITY, HARDNESS, AND ORGANICS RESULTS

PPENDIX V

ABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - Total (T.) and Calcium, Magnesium Hardness (mg/l)

STATION	DEPTH (m)	HARDNESS T.	HARDNESS Ca,Mg
(Rum Bay)			
4 (100 m from outfall)	1	39.5	39.4
	3	42.7	42.5
	18	40.1	39.9
	25	41.0	40.8
7 (100 m from outfall	1	41.5	41.3
	6	41.4	41.2
8 (300 m from outfall)	1	41.3	41.1
	4	41.7	41.5
	40	43.4	43.3
	75	46.1	45.9
11	1	41.0	40.8
	4	40.9	40.7
	40	41.1	40.9
	70	51.5	51.2
13 (500 m from outfall)	1	41.0	40.8
	4	40.7	40.4
	40	43.4	43.2
	75	48.4	48.2
(Rum Bay)			
17 (500 m from outfall)	1	41.5	41.2
	3	40.0	39.8
	40	43.4	43.2
	80	50.0	49.7
21 (1000 m from outfall)	1	39.2	39.1
	2	38.9	38.7
	8	40.1	39.9
	35	44.6	44.4
22 (1000 m from outfall)	1	38.9	38.7
	4	38.7	38.5
	40	42.0	41.8
	90	51.4	51.1
23 (1500 m from outfall)	1	41.0	40.8
	3	40.5	40.4
	7	40.9	40.6
	25	41.0	40.8
28 (1500 m from outfall)	1	39.8	39.7
	4	41.1	40.9
	40	43.3	43.1
	75	49.4	49.2
(Rum Bay)			
29 (2000 m from outfall)	1	40.6	40.4
	3	40.7	40.6
	8	40.6	40.4
	18	41.4	41.2
33 (2000 m from outfall)	1	40.2	40.0
	4	39.5	39.3
	40	42.5	42.2
	75	45.4	45.2
(Hagan Arm)			
34	1	40.1	40.1
	4	40.2	40.2
	40	42.7	42.6
	70	48.0	48.0
36	1	41.0	40.8
	5	40.6	40.5
	40	43.7	43.5
	70	46.4	46.2
(Main Arm)			
41	1	36.6	36.6
	4	37.0	37.0
	40	37.5	37.5
	65	37.3	37.3

APPENDIX V
TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Rum Bay)								
1 Effluent Bubble	1	35.0	48.0	48.2	6.0	6.0	0.140	0.136
2 (50 m from outfall)	1	34.0	40.0	40.3	6.0	6.0	0.151	0.141
	7	34.0	39.5	39.9	6.0	6.0	0.136	0.140
	11	35.0	45.4	45.7	6.0	6.0	0.144	0.138
	14	34.0	39.0	39.5	6.0	6.0	0.145	0.138
4 (100 m from outfall)	1	34.0	39.5	40.3	6.0	6.0	0.136	0.147
	10	34.0	39.3	40.2	6.0	6.0	0.142	0.138
	35	34.0	41.5	42.4	6.0	6.0	0.139	0.134
	55	34.0	42.6	43.3	6.0	6.0	0.152	0.134
7 (100 m from outfall)	1	35.0	40.9	41.1	6.0	6.0	0.146	0.144
	10	32.0	41.6	41.9	6.0	6.0	0.149	0.132
	30	34.0	41.4	41.9	6.0	6.0	0.149	0.140
	51	33.0	42.2	43.1	6.0	6.0	0.141	0.137
9 (300 m from outfall)	1	33.0	39.9	39.6	6.0	6.0	0.139	0.146
	10	33.0	39.9	39.6	6.0	6.0	0.140	0.134
	35	33.0	40.7	40.6	6.0	6.0	0.147	0.148
	65	34.0	44.7	44.5	6.0	6.0	0.147	0.132

CONTINUED...

APPENDIX V
TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Rum Bay)								
11 (300 m from outfall)	1	34.0	39.6	40.6	6.0	6.0	0.139	0.156
	10	35.0	38.9	40.1	6.0	6.0	0.147	0.143
	45	34.0	41.6	42.6	7.0	6.0	0.142	0.137
	80	34.0	49.5	50.4	6.0	6.0	0.144	0.141
13 (500 m from outfall)	1	32.0	40.3	40.1	6.0	6.0	0.141	0.140
	10	34.0	41.0	40.7	6.0	6.0	0.153	0.138
	40	34.0	42.5	42.2	6.0	6.0	0.156	0.134
	70	33.0	45.2	44.9	6.0	6.0	0.136	0.132
17 (500 m from outfall)	1	32.0	39.7	39.4	6.0	6.0	0.140	0.143
	10	34.0	39.4	39.1	6.0	6.0	0.143	0.134
	45	34.0	42.2	41.8	6.0	6.0	0.145	0.135
	85	35.0	47.3	47.1	6.0	6.0	0.149	0.132
21 (1000 m from outfall)	1	33.0	41.7	41.4	6.0	6.0	0.133	0.112
	10	33.0	40.5	40.2	6.0	6.0	0.140	0.131
	20	33.0	41.1	40.8	6.0	6.0	0.140	0.134
	31	33.0	41.9	41.7	6.0	6.0	0.143	0.132

CONTINUED...

APPENDIX V

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Rum Bay)								
22 (1000 m from outfall)	1	32.0	39.7	40.5	6.0	6.0	0.148	0.140
	10	33.0	39.7	40.5	6.0	6.0	0.144	0.140
	33	34.0	40.3	41.3	6.0	6.0	0.149	0.129
	75	33.0	47.8	48.7	6.0	6.0	0.146	0.135
24 (1500 m from outfall)	1	34.0	40.2	40.0	6.0	6.0	0.137	0.138
	5	33.0	40.1	39.9	6.0	6.0	0.143	0.132
	15	33.0	40.8	40.6	6.0	6.0	0.145	0.132
	25	33.0	40.8	40.6	6.0	6.0	0.149	0.136
28 (1500 m from outfall)	1	32.0	39.4	40.2	6.0	6.0	0.143	0.137
	10	33.0	39.4	40.4	6.0	6.0	0.142	0.140
	45	34.0	41.5	42.4	6.0	6.0	0.147	0.133
	85	34.0	48.4	49.3	6.0	6.0	0.147	0.133
(Hagan Arm)								
31	1	34.0	41.4	41.0	6.0	6.0	0.121	0.153
	15	33.0	40.8	40.7	6.0	6.0	0.119	0.141
	45	33.0	42.7	42.6	6.0	6.0	0.127	0.141
	75	34.0	45.4	45.0	6.0	6.0	0.122	0.138

CONTINUED...

APPENDIX V

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Hagan Arm)								
34	1	33.0	38.2	37.9	6.0	6.0	0.127	0.153
	10	34.0	39.8	39.4	6.0	6.0	0.116	0.145
	40	33.0	40.7	40.5	6.0	6.0	0.125	0.146
	85	35.0	47.2	47.0	6.0	6.0	0.142	0.152
35	1	34.0	40.2	40.0	6.0	6.0	0.122	0.146
	15	34.0	41.2	41.0	6.0	6.0	0.125	0.138
	35	33.0	43.0	42.5	6.0	6.0	0.128	0.142
	68	33.0	47.7	46.2	6.0	6.0	0.121	0.142
36	1	35.0	53.4	41.4	6.0	6.0	0.147	0.164
	10	33.0	41.2	41.0	6.0	6.0	0.151	0.148
	25	33.0	41.1	40.9	6.0	6.0	0.143	0.144
	39	34.0	42.7	42.5	6.0	6.0	0.123	0.140
(Main Arm)								
37	1	34.0	36.7	36.6	6.0	6.0	0.138	0.143
	10	33.0	36.8	36.9	6.0	6.0	0.143	0.136

CONTINUED...

APPENDIX V

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Main Arm)								
38	1	33.0	40.3	40.1	6.0	6.0	0.133	0.142
39	1	34.0	42.0	41.2	-	6.0	0.141	0.138
40	1	32.0	38.5	38.2	6.0	6.0	0.141	0.145
	13	34.0	38.4	38.0	6.0	6.0	0.146	0.141
41	1	32.0	36.8	36.8	6.0	6.0	0.141	0.150
	20	33.0	36.9	36.7	6.0	6.0	0.134	0.141
	40	33.0	36.4	36.3	6.0	6.0	0.137	0.141
	67	33.0	36.4	36.3	6.0	6.0	0.138	0.150
42	1	34.0	38.1	37.9	6.0	6.0	0.164	0.173
	15	34.0	36.5	36.5	6.0	6.0	0.148	0.163
	30	34.0	36.9	36.9	6.0	6.0	-	0.172
	55	34.0	36.7	36.5	6.0	6.0	-	0.161
43	1	34.0	38.6	38.1	6.0	6.0	0.154	0.160
	8	32.0	38.5	38.1	6.0	6.0	0.144	0.140
	16	33.0	38.7	38.2	6.0	6.0	0.116	0.141
	24	33.0	39.7	39.0	6.0	6.0	0.178	0.142

CONTINUED...

APPENDIX V

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Main Arm)								
44	1	33.0	36.6	36.5	6.0	6.0	0.129	0.135
	30	32.0	36.3	36.3	6.0	6.0	0.138	0.136
	60	32.0	36.7	36.5	6.0	6.0	0.139	0.142
	95	33.0	38.0	37.8	6.0	6.0	0.136	0.151
(Granisle)								
45	1	33.0	36.7	37.6	6.0	6.0	0.141	0.144
	9	33.0	35.4	36.5	6.0	6.0	0.146	0.136
46	1	34.0	41.9	42.1	6.0	6.0	0.134	0.156
47	1	35.0	39.7	39.9	6.0	6.0	0.141	0.153
48	1	32.0	38.0	37.4	6.0	6.0	0.167	0.147
	7.5	32.0	38.9	38.3	6.0	6.0	0.164	0.169
49	1	32.0	38.2	37.7	6.0	6.0	0.163	0.170
	9	32.0	38.2	37.7	6.0	6.0	0.150	0.147
	20	33.0	38.1	37.8	6.0	6.0	0.142	0.156
	29	97.0	182	178	5.0	4.0	0.119	0.145

APPENDIX V

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Rum Bay)								
1 Effluent Bubble	1	34.0	49.3	49.0	9.0	-	0.330	-
2 (50 m from outfall)	1	34.0	42.4	41.9	8.0	9.0	0.214	0.191
	6	33.0	43.4	42.8	8.0	9.0	0.163	0.154
	18	34.0	41.7	41.5	7.0	9.0	0.154	0.153
	29	33.0	43.5	43.3	7.0	8.0	0.143	0.081
4 (100 m from outfall)	1	34.0	41.6	41.3	7.0	8.0	0.151	0.155
	5	34.0	42.2	41.8	8.0	7.0	0.116	0.147
	25	32.0	43.2	42.5	8.0	7.0	0.123	0.132
	51	34.0	46.8	46.0	7.0	8.0	0.135	0.149
5 (100 m from outfall)	1	34.0	42.4	42.7	-	-	-	-
	5	34.0	41.0	40.9	-	-	-	-
	35	35.0	44.7	44.5	-	-	-	-
	75	35.0	51.3	51.0	-	-	-	-
6 (100 m from outfall)	1	34.0	42.5	42.2	-	-	-	-
	5	33.0	40.8	40.7	-	-	-	-
	25	34.0	43.4	43.1	-	-	-	-
	54	34.0	48.9	48.6	-	-	-	-

CONTINUED...

APPENDIX V
TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Rum Bay)								
7 (100 m from outfall)	1	34.0	42.3	42.0	7.0	8.0	0.153	0.151
	5	35.0	43.4	40.9	8.0	8.0	0.138	0.127
	15	33.0	40.6	40.5	8.0	7.0	0.139	0.144
	23	34.0	44.9	44.6	8.0	8.0	0.141	0.139
8 (300 m from outfall)	1	34.0	41.9	41.7	8.0	7.0	0.144	0.117
	9	33.0	42.0	41.7	9.0	7.0	0.134	0.116
	40	32.0	44.6	44.4	8.0	7.0	0.132	0.136
	78	34.0	53.1	52.8	8.0	8.0	0.131	0.138
9 (300 m from outfall)	1	34.0	42.3	42.0	-	-	-	-
	5	35.0	41.6	41.3	-	-	-	-
	35	33.0	44.5	44.4	-	-	-	-
	78	33.0	53.1	52.8	-	-	-	-
10 (300 m from outfall)	1	33.0	42.6	42.2	-	-	-	-
	5	34.0	42.8	42.3	-	-	-	-
	35	34.0	44.6	44.3	-	-	-	-
	80	34.0	52.8	52.4	-	-	-	-

CONTINUED..

APPENDIX V

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Rum Bay)								
11 (300 m from outfall)	1	34.0	44.7	44.4	8.0	8.0	0.125	0.142
	5	34.0	43.2	42.7	9.0	8.0	0.141	0.147
	15	33.0	42.4	41.9	8.0	7.0	0.122	0.169
	30	33.0	44.3	42.4	8.0	8.0	0.139	0.122
13 (500 m from outfall)	1	34.0	41.4	41.3	8.0	8.0	0.145	0.150
	5	33.0	41.5	41.5	8.0	8.0	0.142	0.132
	35	33.0	44.2	43.9	8.0	-	0.123	0.132
	68	34.0	51.2	51.0	8.0	8.0	0.132	0.130
15 (500 m from outfall)	1	33.0	41.0	40.6	-	-	-	-
	5	34.0	41.9	41.7	-	-	-	-
	25	33.0	43.0	42.8	-	-	-	-
	51	34.0	45.8	45.6	-	-	-	-
17 (500 m from outfall)	1	34.0	41.6	41.4	8.0	7.0	0.144	0.144
	5	34.0	43.0	42.7	9.0	7.0	0.106	0.148
	45	34.0	37.1	46.6	9.0	7.0	0.131	0.140
	83	34.0	46.7	46.2	9.0	7.0	0.133	0.134

CONTINUED..

APPENDIX V

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Rum Bay)								
21 (1000 m from outfall)	1	34.0	42.2	41.8	9.0	7.0	0.154	0.203
	5	33.0	41.2	41.0	9.0	7.0	0.150	0.215
	15	33.0	41.8	41.6	9.0	7.0	0.126	0.196
	36	34.0	45.5	45.1	9.0	8.0	0.131	0.131
22 (1000 m from outfall)	1	33.0	41.7	41.6	9.0	8.0	0.153	0.134
	5	34.0	43.1	42.7	9.0	8.0	0.147	0.135
	35	33.0	45.4	45.2	9.0	8.0	0.137	0.132
	75	34.0	44.7	43.8	9.0	8.0	0.142	0.146
24 (1500 m from outfall)	1	34.0	42.2	42.0	-	-	-	-
	5	33.0	42.8	42.0	-	-	-	-
	15	33.0	41.9	41.6	-	-	-	-
	25	34.0	47.1	44.6	-	-	-	-
28 (1500 m from outfall)	1	34.0	42.7	42.4	-	-	-	-
	5	33.0	41.4	41.2	-	-	-	-
	15	34.0	46.8	46.5	-	-	-	-
	85	33.0	53.1	52.7	-	-	-	-

CONTINUED..

APPENDIX V
TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Hagan Arm)								
31	1	33.0	41.8	41.6	9.0	8.0	0.145	0.139
	5	35.0	41.2	41.0	9.0	8.0	0.143	0.159
	40	35.0	46.5	46.0	9.0	8.0	0.137	0.099
	79	35.0	50.4	50.3	9.0	8.0	0.133	0.138
34	1	34.0	40.3	40.1	-	-	-	-
	5	35.0	39.4	39.3	-	-	-	-
	40	33.0	43.2	43.1	-	-	-	-
	81	34.0	40.6	40.3	-	-	-	-
35	1	35.0	41.8	41.5	-	-	-	-
	5	33.0	42.7	42.2	-	-	-	-
	35	33.0	46.5	46.2	-	-	-	-
	74	33.0	48.0	47.6	-	-	-	-
36	1	33.0	41.4	41.3	9.0	8.0	0.130	0.131
	5	33.0	40.7	40.7	9.0	8.0	0.139	0.153
	25	33.0	44.2	43.6	9.0	8.0	0.134	0.132
	38	32.0	45.5	45.3	9.0	8.0	0.128	0.130

CONTINUED..

APPENDIX V

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Main Arm)								
37	1	32.0	39.9	39.3	-	-	-	-
38	1	32.0	39.6	39.0	7.0	8.0	0.161	0.150
39	1	34.0	37.4	36.9	-	-	-	-
	5	32.0	37.2	37.0	-	-	-	-
	60	33.0	39.6	37.4	-	-	-	-
	118	34.0	37.5	37.4	-	-	-	-
40	1	35.0	36.9	36.5	-	-	-	-
	15	33.0	36.8	36.7	-	-	-	-
41	1	34.0	37.4	37.1	9.0	8.0	0.154	0.144
	5	33.0	37.2	36.9	9.0	8.0	0.150	0.159
	35	34.0	38.1	37.8	9.0	8.0	0.122	0.138
	75	34.0	37.2	37.1	7.0	8.0	0.145	0.125
42	1	33.0	36.8	36.6	7.0	8.0	0.158	0.139
	5	33.0	36.6	36.5	7.0	8.0	0.142	0.153
	25	34.0	36.5	36.5	7.0	7.0	0.125	0.138
	50	33.0	36.5	36.5	7.0	8.0	0.111	0.138

CONTINUED..

APPENDIX V
TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - Alkalinity, Hardness, and Organics Results (mg/l)

(Continued)

STATION	DEPTH (m)	TOTAL ALKALINITY (as $CaCO_3$)	HARDNESS		TOTAL ORGANIC C	DISSOLVED ORGANIC C	TOTAL ORGANIC N	DISSOLVED ORGANIC N
			T.	Ca,Mg				
(Main Arm)								
44	1	33.0	38.3	37.9	-	-	-	-
	5	33.0	39.0	38.7	-	-	-	-
	60	34.0	37.5	37.4	-	-	-	-
	118	32.0	37.5	37.4	-	-	-	-
(Granisle)								
45	1	34.0	38.5	38.1	7.0	8.0	0.138	0.148
	13	34.0	39.9	39.7	7.0	8.0	0.132	0.140
46	1	34.0	41.9	41.5	-	-	-	-
48	1	34.0	39.6	39.4	-	-	-	-
	8	33.0	40.6	39.5	-	-	-	-
49	1	34.0	40.5	40.2	7.0	8.0	0.143	0.143
	5	33.0	39.9	39.5	7.0	7.0	0.169	0.140
	15	33.0	38.7	38.6	7.0	7.0	0.151	0.132
	25	34.0	39.1	38.9	7.0	7.0	0.144	0.133

APPENDIX VI

HEAVY METALS THAT WERE BELOW THE DETECTION LIMIT

APPENDIX VI HEAVY METALS THAT WERE BELOW THE DETECTION LIMIT (mg/l)

METAL	DETECTION LIMIT
Aluminum (Al)	0.05
Arsenic (As)	0.05
Boron (B)	< 0.001
Beryllium (Be)	0.001
Cadmium (Cd)	T. 0.0006 D. 0.0005*
Cobalt (Co)	0.005
Chromium (Cr)	0.005
Molybdenum (Mo)	0.005
Nickel (Ni)	< 0.02
Phosphorus (P)	0.05
Antimony (Sb)	0.05
Selenium (Se)	0.05
Tin (Sn)	< 0.01
Titanium (Ti)	0.002
Vanadium (V)	0.01

EXCEPTIONS - MAY 1983

METAL	STATION	DEPTH (m)	CONCENTRATION (mg/l)
T. Sn	13	40	0.02
D. Sn	4	18	0.01
	7	6	0.01
T. Ti	11	40	0.002
		70	0.002
	28	3	0.002
		8	0.002
	17	3	0.003
T. Ti	29	18	0.003

*T. = Total
D. = Dissolved

CONTINUED...

APPENDIX VI HEAVY METALS THAT WERE BELOW THE DETECTION LIMIT (mg/l) (Continued)

EXCEPTIONS - MAY 1984

METAL	STATION	DEPTH (m)	CONCENTRATION (mg/l)
T. As	31	45	0.06
	36	1	0.05
D. As	2	1	0.06
T. Cd	28	85	0.003
	42	1	0.001
T. Co	37	10	0.007
T. Cr	34	10	0.005
T. P	7	1	0.05
	39	1	0.07
		16	0.07
	40	13	0.06
D. P	41	1	0.06
	49	29	0.06

EXCEPTIONS - JULY 1984

METAL	STATION	DEPTH (m)	CONCENTRATION (mg/l)
T. As	2	6	0.05
	4	51	0.11

*T. = Total
D. = Dissolved

CONTINUED...

APPENDIX VI HEAVY METALS THAT WERE BELOW THE DETECTION LIMIT (mg/l) (Continued)

EXCEPTIONS - JULY 1984

METAL	STATION	DEPTH (m)	CONCENTRATION (mg/l)
T. As	11	30	0.17
	15	1	0.06
	22	75	0.12
	31	40	0.06
T. Co	7	5	0.007
	39	15	0.009
T. P	35	5	0.06
D. P	6	5	0.07
T. Ti	4	25	0.003
	24	20	0.007
	48	8	0.020

*T. = Total
D. = Dissolved

APPENDIX VII

TOTAL AND DISSOLVED COPPER, LEAD, ZINC, BARIUM, MANGANESE, AND STRONTIUM

TABLE 1 MAY 31, 1983

TABLE 2 MAY 1984

TABLE 3 JULY 1984

APPENDIX VII

TABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

STATION	DEPTH (m)	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	Ca,Mg
(Rum Bay)													
4 (100 m from outfall)	1	0.008	0.011	< 0.001	< 0.001	0.002	0.002	0.017	0.018	0.002	0.001	0.076	0.080
	3	0.010	0.009	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.018	0.005	0.004	0.085	0.087
	18	0.010	0.013	< 0.001	< 0.001	0.003	< 0.002	0.018	0.019	< 0.001	< 0.001	0.077	0.081
	25	0.010	0.013	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	0.001	< 0.001	0.075	0.082
7 (100 m from outfall)	1	0.009	0.011	< 0.001	< 0.001	< 0.002	< 0.002	0.017	0.019	0.001	0.001	0.076	0.083
	6	0.010	0.010	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	0.002	< 0.001	0.077	0.083
8 (300 m from outfall)	1	0.011	0.010	< 0.001	< 0.001	0.005	< 0.002	0.018	0.019	0.002	0.001	0.076	0.083
	4	0.007	0.010	< 0.001	< 0.001	0.002	< 0.002	0.018	0.019	0.002	0.001	0.077	0.084
	40	0.013	0.009	< 0.001	< 0.001	0.005	0.005	0.018	0.019	0.002	< 0.001	0.082	0.088
	75	0.011	0.008	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	0.006	0.004	0.092	0.093
11 (300 m from outfall)	1	0.007	0.009	< 0.001	< 0.001	0.002	< 0.002	0.018	0.019	0.002	0.001	0.076	0.082
	4	0.009	0.009	0.001	< 0.001	0.002	0.003	0.017	0.019	0.001	< 0.001	0.076	0.082
	40	0.011	0.011	< 0.001	< 0.001	0.002	< 0.002	0.018	0.019	0.001	< 0.001	0.081	0.083
	70	0.011	0.008	0.001	< 0.001	0.003	< 0.002	0.018	0.019	0.010	0.009	0.098	0.104
13 (500 m from outfall)	1	0.010	0.009	0.002	< 0.001	0.019	0.003	0.018	0.019	0.002	0.001	0.076	0.082
	4	0.009	0.007	0.002	< 0.001	< 0.002	< 0.002	0.017	0.019	0.002	< 0.001	0.075	0.081
	40	0.011	0.008	0.002	< 0.001	0.004	< 0.002	0.018	0.019	0.002	< 0.001	0.081	0.087
	75	0.011	0.010	< 0.001	< 0.001	0.002	< 0.002	0.018	0.019	0.007	0.004	0.093	0.098

CONTINUED...

APPENDIX VII

TABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH (m)	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	Ca,Mg
(Rum Bay)													
17 (500 m from outfall)	1	0.009	0.009	< 0.001	< 0.001	< 0.002	< 0.002	0.017	0.019	0.002	0.002	0.076	0.083
	3	0.009	0.008	0.001	< 0.001	0.002	< 0.002	0.018	0.018	0.002	0.001	0.076	0.081
	40	0.011	0.010	< 0.001	< 0.001	0.003	< 0.002	0.018	0.019	0.004	0.001	0.082	0.086
	80	0.013	0.008	< 0.001	< 0.001	0.002	< 0.002	0.018	0.019	0.009	0.008	0.093	0.101
21 (1000 m from outfall)	1	0.008	0.010	< 0.001	< 0.001	0.004	< 0.002	0.018	0.018	0.002	< 0.001	0.077	0.078
	2	0.010	0.011	< 0.001	< 0.001	0.003	< 0.002	0.018	0.018	0.002	0.001	0.077	0.077
	8	0.007	0.011	< 0.001	< 0.001	0.009	< 0.002	0.018	0.018	0.002	< 0.001	0.078	0.081
	35	0.012	0.009	0.002	< 0.001	< 0.002	0.002	0.018	0.019	0.002	0.001	0.085	0.089
22 (1000 m from outfall)	1	0.009	0.009	< 0.001	< 0.001	0.002	< 0.002	0.017	0.018	0.002	0.001	0.077	0.078
	4	0.009	0.008	< 0.001	< 0.001	0.003	< 0.002	0.018	0.018	0.002	0.001	0.076	0.078
	40	0.013	0.013	< 0.001	< 0.001	0.003	< 0.002	0.018	0.018	0.002	< 0.001	0.081	0.084
	90	0.012	0.014	< 0.001	< 0.001	0.002	< 0.002	0.018	0.019	0.010	0.008	0.096	0.104
23 (1500 m from outfall)	1	0.009	0.008	< 0.001	< 0.001	0.002	< 0.002	0.018	0.019	< 0.001	0.001	0.077	0.082
	3	0.009	0.009	0.002	< 0.001	< 0.002	0.004	0.018	0.019	< 0.001	< 0.001	0.076	0.081
	7	0.009	0.012	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	0.001	< 0.001	0.076	0.081
	25	0.012	0.007	< 0.001	< 0.001	0.003	< 0.002	0.018	0.018	0.002	< 0.001	0.078	0.082

CONTINUED...

APPENDIX VII

TABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH (m)	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	Ca,Mg
(Rum Bay)													
28 (1500 m from outfall)	1	0.008	0.011	< 0.001	< 0.001	0.002	< 0.002	0.018	0.018	0.002	< 0.001	0.076	0.081
	4	0.009	0.011	0.001	< 0.001	0.002	< 0.002	0.017	0.019	0.001	0.001	0.074	0.082
	40	0.012	0.012	< 0.001	< 0.001	0.003	< 0.002	0.018	0.020	0.002	< 0.001	0.081	0.087
	75	0.011	0.010	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	0.008	0.006	0.093	0.101
29 (2000 m from outfall)	1	0.010	0.011	0.002	< 0.001	< 0.002	0.004	0.019	0.019	< 0.001	< 0.001	0.081	0.083
	3	0.007	0.012	0.003	< 0.001	< 0.002	0.005	0.019	0.019	< 0.001	< 0.001	0.081	0.083
	8	0.009	0.011	0.002	< 0.001	0.004	0.003	0.019	0.019	< 0.001	< 0.001	0.083	0.082
	18	0.013	0.007	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	0.001	< 0.001	0.084	0.082
33 (2000 m from outfall)	1	0.009	0.010	< 0.001	< 0.001	< 0.002	< 0.002	0.017	0.019	0.001	< 0.001	0.074	0.081
	4	0.008	0.011	< 0.001	< 0.001	0.002	< 0.002	0.017	0.018	0.001	< 0.001	0.075	0.079
	40	0.014	0.011	< 0.001	< 0.001	< 0.002	< 0.002	0.017	0.019	0.002	< 0.001	0.081	0.086
	75	0.010	0.010	< 0.001	< 0.001	0.002	< 0.002	0.018	0.018	0.007	0.003	0.092	0.091
(Hagan Arm)													
34	1	0.010	0.008	< 0.001	< 0.001	< 0.002	< 0.002	0.017	0.019	< 0.001	< 0.001	0.072	0.081
	4	0.008	0.011	< 0.001	< 0.001	< 0.002	< 0.002	0.017	0.019	< 0.001	< 0.001	0.072	0.082
	40	0.012	0.008	< 0.001	< 0.001	0.002	0.002	0.017	0.019	0.001	< 0.001	0.079	0.087
	70	0.011	0.013	< 0.001	< 0.001	0.002	< 0.002	0.017	0.019	0.004	0.002	0.087	0.099

CONTINUED...

APPENDIX VII

TABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH (m)	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	Ca,Mg
(Hagan Arm)													
36	1	0.010	0.011	< 0.001	< 0.001	0.019	0.002	0.019	0.019	0.001	< 0.001	0.083	0.082
	5	0.015	0.010	0.002	< 0.001	0.069	0.007	0.018	0.019	< 0.001	< 0.001	0.080	0.082
	40	0.013	0.010	< 0.001	< 0.001	0.006	0.005	0.019	0.019	0.001	0.001	0.089	0.088
	70	0.011	0.010	0.001	< 0.001	0.070	0.004	0.020	0.019	0.002	< 0.001	0.096	0.094
(Main Arm)													
41	1	0.003	0.005	< 0.001	< 0.001	< 0.002	< 0.002	0.017	0.018	< 0.001	< 0.001	0.062	0.069
	4	0.002	0.005	< 0.001	< 0.001	< 0.002	< 0.002	0.017	0.019	< 0.001	< 0.001	0.062	0.070
	40	0.005	0.005	0.001	< 0.001	< 0.002	0.003	0.017	0.019	< 0.001	< 0.001	0.065	0.072
	65	0.001	0.004	< 0.001	< 0.001	< 0.002	< 0.002	0.017	0.019	< 0.001	< 0.001	0.064	0.072

APPENDIX VII

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)													
1 Effluent Bubble	1	0.013	0.013	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.020	0.009	0.009	0.101	0.107
2 (50 m from outfall)	1	0.012	0.011	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.020	0.003	0.002	0.085	0.091
	7	0.015	0.013	< 0.001	< 0.001	0.008	0.003	0.019	0.020	0.002	0.002	0.084	0.091
	11	0.011	0.009	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.020	0.006	0.006	0.095	0.103
	14	0.009	0.010	< 0.001	< 0.001	< 0.002	0.003	0.019	0.020	< 0.001	< 0.001	0.085	0.090
4 (100 m from outfall)	1	0.013	0.012	< 0.001	< 0.001	0.007	< 0.002	0.019	0.020	0.002	0.001	0.084	0.089
	10	0.010	0.011	< 0.001	< 0.001	< 0.002	0.003	0.019	0.020	< 0.001	< 0.001	0.085	0.090
	35	0.011	0.011	< 0.001	< 0.001	0.003	0.002	0.019	0.020	< 0.001	< 0.001	0.091	0.094
	55	0.013	0.011	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.020	0.001	< 0.001	0.092	0.098
7 (100 m from outfall)	1	0.015	0.012	< 0.001	< 0.001	0.006	0.004	0.020	0.020	0.002	0.001	0.086	0.090
	10	0.012	0.012	< 0.001	< 0.001	< 0.002	< 0.002	0.020	0.020	0.002	< 0.001	0.089	0.091
	30	0.009	0.008	< 0.001	< 0.001	0.002	< 0.002	0.020	0.020	< 0.001	< 0.001	0.089	0.092
	51	0.012	0.013	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.020	0.001	< 0.001	0.092	0.096
9 (300 m from outfall)	1	0.012	0.02	< 0.001	< 0.001	0.002	< 0.002	0.019	0.019	0.002	< 0.001	0.086	0.084
	10	0.010	0.008	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	0.001	< 0.001	0.087	0.086
	35	0.010	0.010	< 0.001	< 0.001	0.003	< 0.002	0.019	0.019	< 0.001	< 0.001	0.091	0.088
	65	0.012	0.012	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	0.002	0.002	0.095	0.097

CONTINUED...

APPENDIX VII

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)													
11 (300 m from outfall)	1	0.012	0.010	< 0.001	< 0.001	0.006	0.005	0.019	0.020	0.001	< 0.001	0.085	0.089
	10	0.011	0.008	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.020	< 0.001	< 0.001	0.086	0.091
	45	0.014	0.014	< 0.001	< 0.001	0.002	< 0.002	0.019	0.020	0.002	< 0.001	0.091	0.096
	80	0.026	0.012	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.020	0.008	0.007	0.107	0.110
13 (500 m from outfall)	1	0.010	0.008	< 0.001	< 0.001	0.006	< 0.002	0.019	0.019	0.002	< 0.001	0.084	0.084
	10	0.010	0.009	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	< 0.001	< 0.001	0.082	0.086
	40	0.011	0.012	< 0.001	< 0.001	0.003	< 0.002	0.019	0.019	0.001	< 0.001	0.089	0.089
	70	0.011	0.009	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	0.006	< 0.001	0.100	0.093
17 (500 m from outfall)	1	0.011	0.012	< 0.001	< 0.001	0.006	< 0.002	0.019	0.020	0.002	< 0.001	0.084	0.088
	10	0.010	0.008	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	< 0.001	< 0.001	0.082	0.086
	45	0.012	0.012	< 0.001	< 0.001	0.003	< 0.002	0.019	0.019	0.001	< 0.001	0.089	0.090
	85	0.011	0.009	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	0.006	.005	0.100	0.100
21 (1000 m from outfall)	1	0.011	0.012	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	0.001	< 0.001	0.088	0.083
	10	0.009	0.008	< 0.002	< 0.001	0.002	< 0.002	0.019	0.019	0.001	< 0.001	0.086	0.086
	20	0.009	0.008	< 0.001	< 0.001	< 0.002	0.002	0.019	0.019	< 0.001	< 0.001	0.087	0.085
	31	0.010	0.009	< 0.001	< 0.001	0.003	0.003	0.019	0.019	0.001	< 0.001	0.089	0.089

CONTINUED...

APPENDIX VII

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)													
22 (1000 m from outfall)	1	0.012	.008	< 0.001	< 0.001	0.005	< .002	.018	.020	0.002	< 0.001	0.084	0.088
	10	0.009	.008	< 0.001	< 0.001	< 0.002	< .002	.019	.020	0.002	< 0.001	0.085	0.088
	33	0.009	.008	< 0.001	< 0.001	< 0.002	< .002	.019	.020	< 0.001	< 0.001	0.088	0.092
	75	0.011	.007	< 0.001	< 0.001	< 0.002	< .002	.019	.020	0.006	0.005	0.103	0.108
24 (1500 m from outfall)	1	0.011	.008	< 0.001	< 0.001	0.003	< .002	.020	.018	0.001	< 0.001	0.087	0.084
	5	0.010	.009	< 0.001	< 0.001	< 0.002	< .002	.019	.019	0.001	< 0.001	0.087	0.086
	15	0.010	.008	< 0.001	< 0.001	< 0.002	< .002	.019	.019	< 0.001	< 0.001	0.087	0.085
	25	0.009	.008	< 0.001	< 0.001	< 0.002	< .002	.019	.019	0.001	< 0.001	0.086	0.086
28 (1500 m from outfall)	1	0.010	0.008	< 0.001	< 0.001	0.005	0.002	0.018	0.020	0.001	< 0.001	0.085	0.089
	10	0.009	.008	< 0.001	< 0.001	0.003	.002	.019	.020	0.001	< 0.001	0.086	0.088
	45	0.011	.009	< 0.001	< 0.001	< 0.002	< .002	.019	.020	< 0.001	< 0.001	0.089	0.092
	85	0.010	.010	< 0.001	< 0.001	< 0.002	< .002	.019	.020	0.007	0.005	0.105	0.107
(Hagan Arm)													
31	1	0.013	0.012	< 0.001	< 0.001	0.005	0.003	.020	.020	0.002	0.001	0.087	0.089
	15	0.011	0.011	< 0.001	< 0.001	0.002	< 0.002	.019	.020	0.001	< 0.001	0.088	0.089
	45	0.012	0.010	< 0.001	< 0.001	< 0.002	< 0.002	.020	.020	< 0.001	< 0.001	0.093	0.090
	75	0.013	0.013	< 0.001	< 0.001	< 0.002	< 0.002	.019	.020	0.003	0.001	0.093	0.101

CONTINUED...

APPENDIX VII

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Hagan Arm)													
34	1	0.010	0.010	< 0.001	< 0.001	0.009	0.004	0.019	0.020	0.003	0.002	0.079	0.085
	10	0.008	0.008	< 0.001	< 0.001	0.002	< 0.002	0.019	0.020	0.001	< 0.001	0.082	0.088
	40	0.011	0.009	< 0.001	< 0.001	< 0.002	0.003	0.019	0.020	< 0.001	[illegible]01	0.086	0.092
	85	0.012	0.010	< 0.001	< 0.001	< 0.002	0.002	0.019	0.021	0.006	0.005	0.099	0.108
35	1	0.011	0.009	< 0.001	< 0.001	0.009	0.003	0.020	0.020	0.001	< 0.001	0.087	0.089
	15	0.012	0.013	0.003	< 0.001	< 0.002	< 0.002	0.020	0.020	0.002	< 0.001	0.089	0.092
	35	0.017	0.017	< 0.001	< 0.001	< 0.002	< 0.002	0.020	0.020	0.002	0.002	0.090	0.093
	68	0.017	0.017	< 0.001	< 0.001	0.003	< 0.002	0.020	0.021	0.004	0.002	0.099	0.101
36	1	0.013	0.010	0.002	< 0.001	0.034	0.003	0.020	0.021	0.045	< 0.001	0.087	0.091
	10	0.013	0.012	0.002	< 0.001	0.002	< 0.002	0.019	0.020	0.002	0.001	0.088	0.092
	25	0.016	0.014	0.002	< 0.001	0.004	< 0.002	0.020	0.020	0.002	0.001	0.088	0.093
	39	0.018	0.018	0.001	< 0.001	0.004	< 0.002	0.020	0.020	0.004	0.002	0.093	0.097
(Main Arm)													
37	1	0.006	0.006	0.003	< 0.001	0.006	0.003	0.019	0.020	0.001	0.001	0.075	0.077
	10	0.005	0.002	0.003	< 0.001	< 0.002	0.002	0.019	0.020	0.002	< 0.001	0.075	0.079

CONTINUED...

APPENDIX VII

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Main Arm)													
38	1	0.064	0.063	0.003	< 0.001	0.004	0.005	0.020	0.020	0.019	0.019	0.080	0.081
39	1	0.031	0.027	0.001	< 0.001	0.005	0.004	0.020	0.020	0.057	0.058	0.079	0.081
40	1	0.005	0.001	0.002	< 0.001	0.003	0.002	0.019	0.020	0.001	0.001	0.076	0.078
	13	0.004	0.001	0.003	< 0.001	0.003	< 0.002	0.019	0.020	0.001	< 0.001	0.076	0.079
41	1	0.006	0.005	< 0.001	< 0.001	0.002	< 0.002	0.019	0.018	< 0.001	< 0.001	0.074	0.074
	20	0.004	0.005	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	< 0.001	< 0.001	0.073	0.074
	40	0.004	0.005	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	< 0.001	< 0.001	0.073	0.074
	67	0.004	0.002	< 0.001	< 0.002	< 0.002	< 0.002	0.019	0.019	< 0.001	< 0.001	0.072	0.074
42	1	0.005	0.005	0.003	0.003	0.010	0.016	0.019	0.018	0.002	0.001	0.076	0.070
	15	0.005	0.005	0.003	< 0.001	0.034	0.039	0.019	0.020	0.001	< 0.001	0.080	0.078
	30	0.007	0.006	0.003	< 0.001	0.011	0.012	0.019	0.020	0.002	< 0.001	0.075	0.078
	55	0.005	0.001	0.003	< 0.001	0.003	0.009	0.019	0.020	0.001	< 0.001	0.073	0.077
43	1	0.004	0.001	< 0.001	< 0.001	0.024	0.012	0.019	0.020	< 0.001	< 0.001	0.076	0.079
	8	0.004	0.001	0.002	< 0.001	0.002	< 0.002	0.019	0.020	< 0.001	< 0.001	0.077	0.079
	16	0.005	0.001	0.002	< 0.001	0.003	0.002	0.019	0.020	0.001	< 0.001	0.075	0.079
	24	0.003	0.001	0.002	< 0.001	< 0.002	0.002	0.020	0.020	< 0.001	< 0.001	0.079	0.079

CONTINUED...

APPENDIX VII

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Main Arm)													
44	1	0.004	0.004	< 0.001	< 0.001	0.003	0.004	0.018	0.019	< 0.001	0.001	0.072	0.077
	30	0.004	0.003	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	< 0.001	< 0.001	0.073	0.075
	60	0.004	0.002	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	< 0.001	< 0.001	0.073	0.074
	95	0.004	0.001	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	< 0.001	< 0.001	0.077	0.075
(Granisle)													
45	1	0.005	0.003	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.020	< 0.001	< 0.001	0.078	0.082
	9	0.004	0.003	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.020	< 0.001	< 0.001	0.079	0.084
46	1	0.008	0.007	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.020	0.002	0.001	0.089	0.095
47	1	0.010	0.006	< 0.001	< 0.001	0.004	< 0.002	0.019	0.020	0.002	0.001	0.094	0.102
48	1	0.008	0.008	0.002	< 0.001	0.003	< 0.002	0.019	0.019	0.004	0.002	0.076	0.082
	7.5	0.009	0.009	0.002	< 0.001	0.004	0.002	0.019	0.019	0.004	0.002	0.080	0.083
49	1	0.007	0.001	0.002	< 0.001	0.023	0.012	0.020	0.020	0.002	< 0.001	0.079	0.081
	9	0.005	0.001	0.002	< 0.001	0.002	< 0.002	0.019	0.020	0.002	< 0.001	0.079	0.082
	20	0.004	0.004	0.002	< 0.001	0.002	< 0.002	0.019	0.019	0.002	< 0.001	0.081	0.082
	29	0.014	0.009	0.002	< 0.001	0.004	0.004	0.032	0.032	0.190	0.184	2.02	2.01

APPENDIX VII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)													
1 Over Effluent Bubble	1	0.009	0.009	< 0.001	< 0.001	0.002	0.003	0.020	0.019	0.007	0.007	0.103	0.101
2 (50 m from outfall)	1	0.010	0.009	< 0.001	< 0.001	0.027	0.023	0.020	0.019	0.002	0.001	0.087	0.082
	6	0.009	0.009	< 0.001	< 0.001	0.012	0.033	0.020	0.019	0.002	0.002	0.090	0.086
	18	0.011	0.009	< 0.001	< 0.001	0.007	0.011	0.020	0.019	0.001	< 0.001	0.089	0.085
	29	0.009	0.009	< 0.001	< 0.001	0.004	0.005	0.020	0.019	0.002	< 0.001	0.093	0.090
4 (100 m from outfall)	1	0.009	0.009	< 0.001	< 0.001	0.004	0.004	0.020	0.019	0.001	< 0.001	0.088	0.085
	5	0.009	0.008	0.001	< 0.001	< 0.002	< 0.002	0.020	0.019	< 0.001	< 0.001	0.089	0.086
	25	0.013	0.010	< 0.001	< 0.001	< 0.002	0.003	0.021	0.019	0.001	< 0.001	0.092	0.090
	51	0.015	0.013	< 0.001	< 0.001	0.006	0.003	0.020	0.019	0.002	< 0.001	0.098	0.091
5 (100 m from outfall)	1	0.008	0.008	< 0.001	< 0.001	0.003	< 0.002	0.020	0.019	0.001	0.001	0.090	0.083
	5	0.009	0.008	< 0.001	< 0.001	0.004	0.002	0.020	0.019	0.001	< 0.001	0.090	0.086
	35	0.013	0.013	0.001	< 0.001	< 0.002	< 0.002	0.021	0.020	0.002	< 0.001	0.096	0.092
	75	0.012	0.013	< 0.001	< 0.001	0.004	0.004	0.020	0.019	0.006	0.004	0.109	0.102
6 (100 m from outfall)	1	0.009	0.008	< 0.001	< 0.001	< 0.002	< 0.002	0.020	0.019	0.001	0.001	0.089	0.083
	5	0.009	0.008	< 0.001	< 0.001	< 0.002	< 0.002	0.020	0.019	0.001	0.001	0.089	0.085
	25	0.012	0.012	< 0.001	< 0.001	0.004	0.003	0.021	0.019	0.001	0.001	0.093	0.086
	54	0.013	0.012	< 0.001	< 0.001	0.003	0.004	0.021	0.019	0.004	0.002	0.104	0.096

CONTINUED...

APPENDIX VII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)													
7 (100 m from outfall)	1	0.009	0.008	< 0.001	< 0.001	0.004	0.003	0.020	0.018	0.001	< 0.001	0.090	0.083
	5	0.009	0.008	0.002	< 0.001	< 0.002	0.003	0.020	0.019	0.002	0.002	0.089	0.088
	15	0.010	0.008	0.001	< 0.001	0.006	0.005	0.020	0.019	< 0.001	< 0.001	0.089	0.087
	23	0.010	0.010	< 0.001	< 0.001	0.010	0.013	0.020	0.019	0.002	< 0.001	0.095	0.087
8 (300 m from outfall)	1	0.012	0.009	< 0.001	< 0.001	0.003	0.003	0.020	0.019	0.001	< 0.001	0.088	0.083
	9	0.014	0.015	0.001	< 0.001	0.003	0.002	0.020	0.019	0.001	< 0.001	0.091	0.086
	40	0.012	0.012	< 0.001	< 0.001	< 0.002	0.003	0.020	0.019	0.002	< 0.001	0.094	0.091
	78	0.015	0.014	0.002	< 0.001	0.013	0.005	0.021	0.019	0.008	0.004	0.113	0.107
9 (300 m from outfall)	1	0.013	0.008	< 0.001	< 0.001	0.011	0.003	0.020	0.019	0.001	< 0.001	0.089	0.082
	5	0.009	0.010	< 0.001	< 0.001	< 0.002	< 0.002	0.020	0.020	0.002	< 0.001	0.089	0.087
	35	0.013	0.014	< 0.001	< 0.001	< 0.002	< 0.002	0.021	0.020	0.002	< 0.001	0.096	0.093
	78	0.015	0.015	< 0.001	< 0.001	0.004	0.003	0.020	0.019	0.007	0.004	0.113	0.104
10 (300 m from oufall)	1	0.009	0.008	< 0.001	< 0.001	< 0.002	0.002	0.020	0.019	0.001	0.001	0.090	0.083
	5	0.007	0.009	0.001	< 0.001	< 0.002	0.003	0.020	0.019	0.001	< 0.001	0.091	0.086
	35	0.011	0.011	< 0.001	< 0.001	< 0.002	< 0.002	0.020	0.020	0.002	< 0.001	0.096	0.093
	80	0.012	0.013	< 0.001	< 0.001	0.004	0.004	0.020	0.019	0.008	0.004	0.112	0.105

CONTINUED...

APPENDIX VII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)													
11 (300 m from outfall)	1	0.014	0.013	< 0.001	< 0.001	< 0.002	0.002	0.020	0.019	0.002	< 0.001	0.096	0.089
	5	0.016	0.008	< 0.001	< 0.001	< 0.002	0.004	0.020	0.019	0.001	< 0.001	0.091	0.087
	15	0.012	0.008	< 0.001	< 0.001	< 0.002	< 0.002	0.020	0.020	0.002	< 0.001	0.091	0.087
	30	0.010	0.009	< 0.001	< 0.001	< 0.002	0.003	0.021	0.019	0.001	0.001	0.090	0.083
13 (500 m from outfall)	1	0.011	0.013	< 0.001	< 0.001	< 0.002	0.003	0.020	0.019	0.001	< 0.001	0.089	0.084
	5	0.009	0.008	< 0.001	< 0.001	< 0.002	0.003	0.020	0.019	0.001	< 0.001	0.091	0.086
	35	0.012	0.013	< 0.001	< 0.001	0.003	0.004	0.020	0.020	0.002	< 0.001	0.096	0.092
	68	0.012	0.012	< 0.001	< 0.001	< 0.002	0.006	0.020	0.019	0.007	0.002	0.110	0.103
15 (500 m from outfall)	1	0.008	0.008	0.024	< 0.001	< 0.002	0.004	0.020	0.019	< 0.001	< 0.001	0.089	0.082
	5	0.009	0.008	0.001	< 0.001	< 0.002	0.002	0.020	0.019	< 0.001	< 0.001	0.089	0.085
	25	0.011	0.010	< 0.001	< 0.001	< 0.002	0.003	0.020	0.020	< 0.001	< 0.001	0.093	0.090
	51	0.014	0.014	0.003	0.001	< 0.002	< 0.002	0.020	0.020	0.002	< 0.001	0.096	0.096
17 (500 m from outfall)	1	0.011	0.008	< 0.001	< 0.001	0.006	0.007	0.020	0.019	0.001	< 0.001	0.089	0.083
	5	0.008	0.007	0.003	< 0.001	< 0.002	< 0.002	0.021	0.019	< 0.001	< 0.001	0.091	0.086
	45	0.011	0.011	< 0.001	< 0.001	< 0.002	0.003	0.020	0.019	0.003	0.001	0.099	0.095
	83	0.011	0.011	< 0.001	< 0.001	0.004	0.006	0.020	0.020	0.003	< 0.001	0.099	0.096

CONTINUED...

APPENDIX VII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)													
21 (1000 m from outfall)	1	0.008	0.007	< 0.001	< 0.001	0.003	0.004	0.020	0.019	0.001	< 0.001	0.088	0.085
	5	0.008	0.007	0.001	< 0.001	< 0.002	0.002	0.020	0.019	0.001	< 0.001	0.088	0.086
	15	0.010	0.011	< 0.001	< 0.001	0.003	0.005	0.020	0.019	0.001	< 0.001	0.091	0.088
	36	0.011	0.011	< 0.001	< 0.001	< 0.002	0.003	0.020	0.019	0.002	< 0.001	0.096	0.094
22 (1000 m from outfall)	1	0.012	0.009	< 0.001	< 0.001	< 0.002	< 0.002	0.021	0.020	0.001	< 0.001	0.092	0.087
	5	0.009	0.009	< 0.001	< 0.001	0.003	0.002	0.021	0.020	< 0.001	< 0.001	0.093	0.088
	35	0.014	0.013	< 0.001	< 0.001	0.003	0.003	0.021	0.020	0.002		0.097	0.097
	75	0.018	0.012	< 0.001	< 0.001	0.004	< 0.002	0.021	0.020	0.002	< 0.001	0.095	0.093
24 (1500 m from outfall)	1	0.008	0.008	< 0.001	< 0.001	< 0.002	0.002	0.020	0.019	0.001	< 0.001	0.091	0.086
	5	0.008	0.008	< 0.001	< 0.001	< 0.002	0.003	0.021	0.019	0.001	< 0.001	0.090	0.086
	15	0.008	0.009	< 0.001	< 0.001	< 0.002	0.002	0.020	0.020	0.001	< 0.001	0.091	0.089
	25	0.016	0.010	< 0.001	< 0.001	< 0.002	0.002	0.021	0.019	0.002	< 0.001	0.095	0.092
28 (1500 m from outfall)	1	0.010	0.010	< 0.001	< 0.001	0.004	0.003	0.020	0.020	0.001	< 0.001	0.090	0.085
	5	0.009	0.008	< 0.001	< 0.001	0.004	0.003	0.020	0.020	0.001	< 0.001	0.089	0.089
	45	0.014	0.012	0.001	< 0.001	0.004	< 0.002	0.021	0.020	0.002	< 0.001	0.099	0.098
	85	0.014	0.013	< 0.001	< 0.001	0.003	< 0.002	0.021	0.020	0.007	< 0.001	0.113	0.110

CONTINUED...

APPENDIX VII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Hagan Arm)													
31	1	0.009	0.003	< 0.001	0.001	< 0.002	0.003	0.020	0.020	0.001	< 0.001	0.090	0.089
	5	0.010	0.006	0.001	< 0.001	< 0.002	< 0.002	0.020	0.020	0.001	< 0.001	0.088	0.087
	40	0.015	0.006	< 0.001	< 0.001	0.003	< 0.002	0.022	0.020	0.002	< 0.001	0.102	0.094
	79	0.014	0.009	0.001	< 0.001	0.004	0.002	0.021	0.020	0.005	< 0.001	0.111	0.106
34	1	0.010	0.009	< 0.001	< 0.001	0.004	< 0.002	0.019	0.019	< 0.001	< 0.001	0.084	0.084
	5	0.008	0.008	< 0.001	< 0.001	0.003	< 0.002	0.019	0.019	< 0.001	< 0.001	0.082	0.084
	40	0.014	0.014	< 0.001	< 0.001	0.003	0.003	0.019	0.020	0.002	0.001	0.090	0.093
	81	0.012	0.009	< 0.001	< 0.001	0.003	0.002	0.020	0.019	0.008	< 0.001	0.087	0.088
35	1	0.008	0.007	< 0.001	< 0.001	< 0.002	0.003	0.020	0.020	0.001	< 0.001	0.089	0.089
	5	0.010	0.010	< 0.001	< 0.001	0.003	< 0.002	0.020	0.020	0.001	< 0.001	0.089	0.089
	35	0.012	0.006	< 0.001	< 0.001	< 0.002	0.002	0.021	0.020	0.003	< 0.001	0.098	0.097
	74	0.015	0.015	0.001	< 0.001	0.003	0.003	0.021	0.020	0.003	< 0.001	0.100	0.098
36	1	0.008	0.009	< 0.001	< 0.001	< 0.002	< 0.002	0.020	0.019	0.001	< 0.001	0.089	0.086
	5	0.010	0.009	< 0.001	< 0.001	< 0.002	< 0.002	0.020	0.019	0.001	< 0.001	0.089	0.085
	25	0.010	0.010	< 0.001	< 0.001	< 0.002	0.002	0.021	0.019	0.001	< 0.001	0.095	0.089
	38	0.013	0.007	< 0.001	< 0.001	< 0.002	< 0.002	0.020	0.020	0.002	< 0.001	0.098	0.096

CONTINUED...

APPENDIX VII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Main Arm)													
37	1	0.017	0.018	< 0.001	< 0.001	0.020	0.018	0.019	0.018	0.007	0.006	0.075	0.072
38	1	0.022	0.038	0.001	< 0.001	0.005	0.008	0.019	0.020	0.009	0.020	0.075	0.072
39	1	0.006	0.004	0.001	< 0.001	0.003	< 0.002	0.019	0.019	0.002	< 0.001	0.073	0.074
	5	0.005	0.005	< 0.001	< 0.001	0.005	< 0.002	0.019	0.019	0.002	< 0.001	0.072	0.074
	15	0.005	0.004	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	0.001	< 0.001	0.074	0.075
	24	0.005	0.004	< 0.001	< 0.001	< 0.002	0.002	0.020	0.019	0.001	< 0.001	0.075	0.075
40	1	0.006	0.006	0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	0.002	< 0.001	0.072	0.075
	15	0.005	0.006	< 0.001	< 0.001	0.003	< 0.002	0.019	0.019	0.002	< 0.001	0.073	0.076
41	1	0.004	0.004	< 0.001	< 0.001	0.003	0.002	0.018	0.019	0.001	< 0.001	0.071	0.074
	5	0.004	0.004	< 0.001	< 0.001	0.004	< 0.002	0.018	0.019	0.001	< 0.001	0.069	0.073
	35	0.004	0.004	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	0.001	< 0.001	0.073	0.075
	75	0.007	0.004	< 0.001	< 0.001	0.002	< 0.002	0.018	0.019	0.001	< 0.001	0.073	0.074
42	1	0.008	0.004	< 0.001	< 0.001	0.006	< 0.002	0.018	0.019	0.001	< 0.001	0.070	0.073
	5	0.005	0.005	< 0.001	< 0.001	0.002	< 0.002	0.019	0.019	0.001	< 0.001	0.069	0.073
	25	0.005	0.004	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	0.001	< 0.001	0.072	0.074
	50	0.004	0.004	< 0.001	< 0.001	< 0.002	< 0.002	0.018	0.019	0.001	< 0.001	0.072	0.074

CONTINUED...

APPENDIX VII

TABLE 3 JULY 1984 RABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Cu, Pb, Zn, Ba, Mn, Sr

(Continued)

STATION	DEPTH	COPPER		LEAD		ZINC		BARIUM		MANGANESE		STRONTIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Main Arm)													
44	1	0.005	0.006	< 0.001	< 0.001	0.003	< 0.002	0.019	0.019	0.001	< 0.001	0.072	0.073
	5	0.005	0.005	< 0.001	< 0.001	0.003	< 0.002	0.019	0.019	0.001	< 0.001	0.075	0.074
	60	0.005	0.005	< 0.001	< 0.001	0.003	< 0.002	0.019	0.019	< 0.001	< 0.001	0.074	0.074
	118	0.004	0.004	< 0.001	< 0.001	0.005	0.003	0.019	0.019	< 0.001	< 0.001	0.073	0.075
(Granisle)													
45	1	0.008	0.008	< 0.001	< 0.001	0.002	< 0.002	0.019	0.019	0.001	< 0.001	0.076	0.078
	13	0.006	0.006	0.003	< 0.001	0.006	< 0.002	0.019	0.019	0.002	< 0.001	0.092	0.096
46	1	0.010	0.020	< 0.001	< 0.001	0.004	0.003	0.020	0.018	0.002	0.005	0.086	0.082
48	1	0.012	0.009	< 0.001	< 0.001	0.005	0.003	0.019	0.020	0.002	0.002	0.083	0.086
	8	0.006	0.005	0.002	< 0.001	< 0.002	< 0.002	0.022	0.019	0.002	< 0.001	0.085	0.082
49	1	0.011	0.008	< 0.001	< 0.001	0.003	0.004	0.019	0.019	0.001	< 0.001	0.084	0.083
	5	0.006	0.006	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.019	< 0.001	< 0.001	0.081	0.080
	15	0.008	0.005	< 0.001	< 0.001	0.003	< 0.002	0.019	0.018	< 0.001	< 0.001	0.080	0.079
	25	0.006	0.005	< 0.001	< 0.001	< 0.002	< 0.002	0.019	0.020	0.001	< 0.001	0.086	0.089

APPENDIX VIII

TOTAL AND DISSOLVED ALUMINUM, IRON, BORON, MOLYBDENUM, TITANIUM, NICKEL, AND TIN

TABLE 1 MAY 31, 1983
TABLE 2 MAY 1984
TABLE 3 JULY 1984

APPENDIX VIII

TABLE 1 MAY 31, 1983 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED HEAVY METAL RESULTS (mg/l)- Fe

STATION	DEPTH (m)	IRON T.	IRON D.
(Rum Bay)			
4 (100 m from outfall)	1	0.018	0.010
	3	0.017	0.010
	18	0.019	0.019
	25	0.015	0.010
7 (100 m from outfall	1	0.017	0.011
	6	0.020	0.011
8 (300 m from outfall)	1	0.020	0.011
	4	0.019	0.011
	40	0.019	0.011
	75	0.016	0.010
11	1	0.016	0.011
	4	0.017	0.011
	40	0.014	0.012
	70	0.010	0.010
13 (500 m from outfall)	1	0.019	0.011
	4	0.019	0.011
	40	0.015	0.010
	75	0.016	0.010
(Rum Bay)			
17 (500 m from outfall)	1	0.019	0.012
	3	0.017	0.011
	40	0.041	0.008
	80	0.015	0.011
21 (1000 m from outfall)	1	0.017	0.010
	2	0.016	0.010
	8	0.019	0.011
	35	0.016	0.011
22 (1000 m from outfall)	1	0.016	0.011
	4	0.017	0.010
	40	0.017	0.012
	90	0.015	0.011
23 (1500 m from outfall)	1	0.017	0.010
	3	0.019	0.010
	7	0.017	0.011
	25	0.018	0.011
28 (1500 m from outfall)	1	0.016	0.011
	4	0.017	0.011
	40	0.016	0.011
	75	0.012	0.008
(Rum Bay)			
29 (2000 m from outfall)	1	0.014	0.010
	3	0.015	0.010
	8	0.015	0.009
	18	0.016	0.011
33 (2000 m from outfall)	1	0.017	0.010
	4	0.019	0.011
	40	0.016	0.011
	75	0.014	0.009
(Hagan Arm)			
34	1	0.015	0.009
	4	0.016	0.008
	40	0.013	0.008
	70	0.011	0.007
36	1	0.016	0.011
	5	0.029	0.011
	40	0.015	0.011
	70	0.018	0.011
(Main Arm)			
41	1	0.024	0.014
	4	0.023	0.012
	40	0.012	0.007
	65	0.011	0.007

PENDIX VIII

ABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Mo, Ti

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		MOLYBDENUM		TITANIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)													
1 Effluent Bubble	1	< 0.05	< 0.05	< 0.005	0.012	< 0.01	< 0.01	< 0.001	0.002	0.005	0.006	< 0.002	< 0.002
2 (50 m from outfall)	1	< 0.05	< 0.05	< 0.005	0.012	< 0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002
	7	< 0.05	< 0.05	< 0.005	0.012	< 0.01	0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002
	11	< 0.05	< 0.05	< 0.005	0.010	< 0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	0.003	< 0.002
	14	< 0.05	< 0.05	< 0.005	0.010	< 0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002
4 (100 m from outfall)	1	< 0.05	< 0.05	0.019	0.012	< 0.01	0.02	0.009	0.009	< 0.005	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	< 0.005	0.011	< 0.01	< 0.01	< 0.001	0.017	< 0.005	< 0.005	0.002	< 0.002
	35	< 0.05	< 0.05	< 0.005	0.009	< 0.01	< 0.01	< 0.001	0.003	< 0.005	< 0.005	< 0.002	< 0.002
	55	< 0.05	< 0.05	< 0.005	0.009	< 0.01	< 0.01	< 0.001	0.003	< 0.005	< 0.005	< 0.002	< 0.002
7 (100 m from outfall)	1	< 0.05	< 0.05	< 0.005	0.013	< 0.01	0.01	< 0.001	0.016	0.007	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	< 0.005	0.010	0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002
	30	< 0.05	< 0.05	< 0.005	0.009	< 0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	0.002	< 0.002
	51	< 0.05	< 0.05	< 0.005	0.009	< 0.01	< 0.01	< 0.001	0.003	< 0.005	< 0.005	< 0.002	< 0.002
9 (300 m from outfall)	1	< 0.05	< 0.05	0.019	0.012	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	0.047	0.012	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	35	< 0.05	< 0.05	0.010	0.010	0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	65	< 0.05	< 0.05	0.010	0.007	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002

CONTINUED...

APPENDIX VIII

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Mo, Ti

(Continued)

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		MOLYBDENUM		TITANIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)													
11 (300 m from outfall)	1	< 0.05	< 0.05	< 0.005	0.011	< 0.01	< 0.01	0.004	0.017	< 0.005	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	< 0.005	0.009	< 0.01	< 0.01	< 0.001	0.017	< 0.005	< 0.005	< 0.002	< 0.002
	45	< 0.05	< 0.05	< 0.005	0.009	< 0.01	< 0.01	< 0.001	0.003	< 0.005	< 0.005	0.003	< 0.002
	80	< 0.05	< 0.05	< 0.005	0.008	< 0.01	< 0.01	< 0.001	0.010	< 0.005	< 0.005	< 0.002	< 0.002
13 (500 m from outfall)	1	< 0.05	< 0.05	0.019	0.011	< 0.01	< 0.01	0.004	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	0.021	0.009	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	40	< 0.05	< 0.05	0.016	0.008	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	70	< 0.05	< 0.05	0.016	0.007	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
17 (500 m from outfall)	1	< 0.05	< 0.05	0.019	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	0.016	0.008	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	45	< 0.05	< 0.05	0.015	0.009	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	85	< 0.05	< 0.05	0.011	0.009	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
21 (1000 m from outfall)	1	< 0.05	< 0.05	0.021	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	0.017	0.009	< 0.01	< 0.01	< 0.001	0.006	< 0.005	< 0.005	< 0.002	< 0.002
	20	< 0.05	< 0.05	0.012	0.006	< 0.01	< 0.01	< 0.001	< 0.001	0.005	< 0.005	< 0.002	< 0.002
	31	< 0.05	< 0.05	0.015	0.008	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002

CONTINUED...

APPENDIX VIII

TABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Mo, Ti

(Continued)

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		MOLYBDENUM		TITANIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)													
22 (1000 m from outfall)	1	< 0.05	< 0.05	< 0.005	0.012	< 0.01	< 0.01	< 0.001	0.008	< 0.005	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	< 0.005	0.011	< 0.01	< 0.01	< 0.001	0.002	< 0.005	< 0.005	0.002	< 0.002
	33	< 0.05	< 0.05	< 0.005	0.007	< 0.01	< 0.01	0.009	0.009	< 0.005	< 0.005	< 0.002	< 0.002
	75	< 0.05	< 0.05	< 0.005	0.009	0.03	< 0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002
24 (1500 m from outfall)	1	< 0.05	< 0.05	0.015	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	5	< 0.05	< 0.05	0.014	0.009	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	15	< 0.05	< 0.05	0.016	0.010	< 0.01	0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	25	< 0.05	< 0.05	0.014	0.008	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
28 (1500 m from outfall)	1	< 0.05	< 0.05	< 0.005	0.013	< 0.01	< 0.01	0.009	0.002	< 0.005	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	< 0.005	0.012	< 0.01	< 0.01	< 0.001	0.016	< 0.005	< 0.005	< 0.002	< 0.002
	45	< 0.05	< 0.05	< 0.005	0.009	< 0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002
	85	< 0.05	< 0.05	< 0.005	0.010	< 0.01	< 0.01	< 0.001	0.001	< 0.005	< 0.005	< 0.002	< 0.002
(Hagan Arm)													
31	1	< 0.05	< 0.05	0.021	0.012	< 0.01	< 0.01	< 0.001	0.006	< 0.005	< 0.005	0.002	< 0.002
	15	< 0.05	< 0.05	0.012	0.011	< 0.01	< 0.01	< 0.001	0.013	< 0.005	< 0.005	0.002	< 0.002
	45	< 0.05	< 0.05	0.014	0.010	< 0.01	< 0.01	< 0.001	0.006	< 0.005	< 0.005	0.002	< 0.002
	75	< 0.05	< 0.05	0.017	0.011	< 0.01	0.01	< 0.001	0.006	0.005	< 0.005	0.002	< 0.002

CONTINUED...

NDIX VIII

LE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Mo, Ti

.(Continued)

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		MOLYBDENUM		TITANIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
Hagan Arm)													
4	1	< 0.05	< 0.05	0.036	0.020	0.01	< 0.01	0.009	0.020	0.05	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	0.036	0.011	0.03	< 0.01	< 0.001	0.006	0.006	< 0.005	< 0.002	< 0.002
	40	< 0.05	< 0.05	0.011	0.009	0.01	< 0.01	< 0.001	0.006	0.005	< 0.005	< 0.002	< 0.002
	85	< 0.05	< 0.05	0.014	0.010	0.01	0.03	< 0.001	0.012	< 0.005	< 0.005	0.002	< 0.002
5	1	< 0.05	< 0.05	0.020	0.011	< 0.01	< 0.01	< 0.001	0.003	< 0.005	< 0.005	0.003	< 0.002
	15	< 0.05	< 0.05	0.016	0.010	< 0.01	< 0.01	0.008	0.008	< 0.005	< 0.005	0.002	< 0.002
	35	< 0.05	< 0.05	0.026	0.013	< 0.01	< 0.01	< 0.001	0.020	< 0.005	< 0.005	0.002	< 0.002
	68	< 0.05	< 0.05	0.635	0.012	< 0.01	0.01	< 0.001	0.015	< 0.005	< 0.005	0.002	< 0.002
6	1	< 0.05	< 0.05	6.42	0.013	0.01	< 0.01	< 0.001	0.001	< 0.005	< 0.005	0.002	< 0.002
	10	< 0.05	< 0.05	0.025	0.011	< 0.01	< 0.01	< 0.001	0.015	< 0.005	< 0.005	0.002	< 0.002
	25	< 0.05	< 0.05	0.025	0.011	< 0.01	< 0.01	< 0.001	0.008	< 0.005	< 0.005	0.002	< 0.002
	39	< 0.05	< 0.05	0.023	0.013	< 0.01	< 0.01	0.008	0.008	< 0.005	< 0.005	< 0.002	< 0.002
Main Arm)													
7	1	< 0.05	< 0.05	0.014	0.015	< 0.01	< 0.01	0.002	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	10	< 0.05	< 0.05	0.012	0.006	< 0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002

CONTINUED...

PENDIX VIII

ABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Mo, Ti

(Continued)

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		MOLYBDENUM		TITANIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Main Arm)													
38	1	< 0.05	< 0.05	0.036	0.013	< 0.01	< 0.01	< 0.001	0.002	< 0.005	< 0.005	0.002	< 0.002
39	1	0.07	< 0.05	0.077	0.015	0.01	0.02	< 0.001	0.002	< 0.005	< 0.005	0.003	< 0.002
40	1	< 0.05	< 0.05	0.022	0.009	< 0.01	< 0.01	< 0.001	0.002	< 0.005	< 0.005	< 0.002	< 0.002
	13	< 0.05	< 0.05	0.017	0.009	< 0.01	< 0.01	< 0.001	0.002	< 0.005	< 0.005	< 0.002	< 0.002
41	1	< 0.05	< 0.05	0.014	0.011	< 0.01	0.02	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	20	< 0.05	< 0.05	0.026	0.010	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	40	< 0.05	< 0.05	0.015	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	67	< 0.05	< 0.05	0.022	0.009	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
42	1	< 0.05	< 0.05	0.026	0.013	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	15	< 0.05	< 0.05	0.027	0.010	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	30	< 0.05	< 0.05	0.027	0.009	< 0.01	< 0.01	< 0.001	0.002	< 0.005	< 0.005	0.002	< 0.002
	55	< 0.05	< 0.05	0.018	0.010	0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
43	1	0.05	< 0.05	0.020	0.010	< 0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002
	8	< 0.05	< 0.05	0.022	0.008	< 0.01	< 0.01	< 0.001	0.002	< 0.005	< 0.005	0.002	< 0.002
	16	0.06	< 0.05	0.019	0.009	< 0.01	< 0.01	< 0.001	0.005	< 0.005	< 0.005	< 0.002	< 0.002
	24	0.10	< 0.05	0.044	0.007	0.02	< 0.01	< 0.001	0.002	< 0.005	< 0.005	0.003	< 0.002

PENDIX VIII

ABLE 2 MAY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Mo, Ti

(Continued)

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		MOLYBDENUM		TITANIUM	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Main Arm)													
44	1	< 0.05	< 0.05	0.017	0.010	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	30	< 0.05	< 0.05	0.014	0.009	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	60	< 0.05	< 0.05	0.019	0.009	< 0.01	0.02	< 0.001	0.003	< 0.005	< 0.005	< 0.002	< 0.002
	95	< 0.05	< 0.05	0.018	0.010	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
(Granisle)													
45	1	< 0.05	< 0.05	< 0.005	0.009	< 0.01	< 0.01	< 0.001	0.010	< 0.005	< 0.005	< 0.002	< 0.002
	9	< 0.05	< 0.05	< 0.005	0.010	< 0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002
46	1	< 0.05	< 0.05	< 0.005	0.011	< 0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002
47	1	< 0.05	< 0.05	< 0.005	0.012	< 0.01	< 0.01	< 0.001	0.009	< 0.005	< 0.005	< 0.002	< 0.002
48	1	0.08	< 0.05	0.075	0.032	< 0.01	< 0.01	< 0.001	0.008	< 0.005	< 0.005	0.003	< 0.002
	7.5	0.06	< 0.05	0.064	0.025	< 0.01	< 0.01	< 0.001	0.008	< 0.005	< 0.005	0.002	< 0.002
49	1	0.05	< 0.05	0.040	0.015	< 0.01	< 0.01	0.004	< 0.001	< 0.005	< 0.005	0.004	< 0.002
	9	0.06	< 0.05	0.062	0.014	< 0.01	< 0.01	< 0.001	< 0.001	< 0.005	< 0.005	< 0.002	< 0.002
	20	< 0.05	< 0.05	0.028	0.014	< 0.01	< 0.01	< 0.001	0.008	< 0.005	< 0.005	< 0.002	< 0.002
	29	< 0.05	< 0.05	0.548	0.086	< 0.01	< 0.01	0.081	0.067	0.018	0.021	< 0.002	< 0.002

APPENDIX VIII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Ni

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		NICKEL	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)											
1 Effluent Bubble	1	< 0.05	< 0.05	0.015	0.008	< 0.01	< 0.01	< 0.003	< 0.002	< 0.02	< 0.02
2 (50 m from outfall)	1	0.05	< 0.05	0.016	0.012	< 0.01	0.01	0.003	0.002	< 0.02	< 0.02
	6	< 0.05	< 0.05	0.037	0.011	< 0.01	< 0.01	0.006	0.002	< 0.02	< 0.02
	18	< 0.05	< 0.05	0.031	0.011	< 0.01	0.02	0.004	< 0.001	< 0.02	< 0.02
	29	< 0.05	< 0.05	0.013	0.010	< 0.01	< 0.01	0.004	< 0.001	< 0.02	< 0.02
4 (100 m from outfall)	1	< 0.05	< 0.05	0.014	0.012	< 0.01	< 0.01	0.003	< 0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.030	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	25	< 0.07	< 0.05	0.148	0.009	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	51	< 0.05	< 0.05	0.344	0.010	< 0.01	< 0.01	0.005	< 0.001	< 0.02	< 0.02
5 (100 m from outfall)	1	< 0.05	< 0.05	0.056	0.010	0.01	< 0.01	0.008	0.006	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.013	0.013	< 0.01	0.02	0.002	< 0.001	< 0.02	< 0.02
	35	< 0.05	< 0.05	0.022	0.011	< 0.01	< 0.01	< 0.001	0.002	< 0.02	< 0.02
	75	< 0.05	< 0.05	0.018	0.007	< 0.01	0.02	0.011	< 0.001	< 0.02	< 0.02
6 (100 m from outfall)	1	< 0.05	< 0.05	0.019	0.008	0.01	< 0.02	0.008	0.003	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.015	0.015	< 0.01	< 0.01	< 0.001	0.002	< 0.02	< 0.02
	25	< 0.05	< 0.05	0.021	0.010	< 0.01	< 0.01	0.006	< 0.001	< 0.02	< 0.02
	54	< 0.05	< 0.05	0.013	0.009	< 0.01	< 0.01	0.002	0.003	< 0.02	< 0.02

CONTINUED...

APPENDIX VIII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Ni

(Continued)

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		NICKEL	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)											
7 (100 m from outfall)	1	< 0.05	< 0.05	0.016	0.011	< 0.01	< 0.01	0.005	< 0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	1.35	0.011	< 0.01	< 0.01	0.003	< 0.001	< 0.02	< 0.02
	15	< 0.05	< 0.05	0.017	0.012	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	23	< 0.05	< 0.05	0.019	0.009	< 0.01	< 0.01	0.005	< 0.001	< 0.02	< 0.02
8 (300 m from outfall)	1	< 0.05	< 0.05	0.017	0.012	< 0.01	< 0.01	0.004	0.001	< 0.02	< 0.02
	9	< 0.05	< 0.05	0.075	0.016	< 0.01	0.02	< 0.001	< 0.001	< 0.02	< 0.02
	40	< 0.05	< 0.05	0.019	0.009	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	78	< 0.05	< 0.05	0.026	0.012	< 0.01	< 0.01	< 0.001	0.001	< 0.02	< 0.02
9 (300 m from outfall)	1	< 0.05	< 0.05	0.025	0.012	< 0.01	< 0.01	0.001	0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.075	0.008	< 0.01	0.02	< 0.001	< 0.001	< 0.02	< 0.02
	35	< 0.05	< 0.05	0.014	0.008	< 0.01	0.01	< 0.001	< 0.001	< 0.02	< 0.02
	78	< 0.05	< 0.05	0.018	0.011	< 0.01	< 0.01	0.001	0.002	< 0.02	< 0.02
10 (300 m from outfall)	1	< 0.05	< 0.05	0.116	0.010	< 0.01	< 0.01	0.008	< 0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.162	0.014	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	35	< 0.05	< 0.05	0.021	0.007	< 0.01	0.02	< 0.001	< 0.001	< 0.02	< 0.02
	80	< 0.05	< 0.05	0.018	0.009	< 0.01	< 0.01	0.008	< 0.001	< 0.02	< 0.02

CONTINUED...

APPENDIX VIII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Ni

(Continued)

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		NICKEL	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)											
11 (300 m from outfall)	1	< 0.05	< 0.05	0.045	0.014	< 0.01	0.02	0.009	< 0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.130	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	15	< 0.05	< 0.05	0.116	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	30	0.07	< 0.05	0.804	0.012	< 0.01	0.01	0.005	< 0.001	< 0.02	< 0.02
13 (500 m from outfall)	1	< 0.05	< 0.05	0.013	0.014	< 0.01	< 0.01	0.001	0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.015	0.008	< 0.01	0.01	0.002	0.006	< 0.02	< 0.02
	35	< 0.05	< 0.05	0.124	0.006	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	0.02
	68	< 0.05	< 0.05	0.022	0.010	< 0.01	< 0.01	0.001	0.001	< 0.02	< 0.02
15 (500 m from outfall)	1	< 0.05	< 0.05	0.127	0.014	< 0.01	< 0.01	0.001	0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.025	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	25	< 0.05	< 0.05	0.023	0.011	< 0.01	< 0.01	< 0.001	0.003	< 0.02	< 0.02
	51	< 0.05	< 0.05	0.016	0.008	< 0.01	< 0.01	0.002	0.003	< 0.02	< 0.02
17 (500 m from outfall)	1	< 0.05	< 0.05	0.021	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.016	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	45	0.07	< 0.05	0.025	0.008	< 0.01	< 0.01	< 0.001	0.001	< 0.02	< 0.02
	83	0.05	< 0.05	0.048	0.007	< 0.01	0.01	< 0.001	< 0.001	< 0.02	< 0.02

CONTINUED...

APPENDIX VIII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Ni

(Continued)

STATION	DEPTH (m)	ALUMINUM		IRON		TIN		BORON		NICKEL	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Rum Bay)											
21 (1000 m from outfall)	1	< 0.05	< 0.05	0.017	0.010	< 0.01	0.02	< 0.001	0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.013	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	15	< 0.05	< 0.05	0.033	0.010	< 0.01	0.01	< 0.001	< 0.001	< 0.02	< 0.02
	36	< 0.05	< 0.05	0.015	0.011	< 0.01	0.02	< 0.001	< 0.001	< 0.02	< 0.02
22 (1000 m from outfall)	1	< 0.05	< 0.05	0.013	0.009	< 0.01	< 0.01	< 0.001	0.005	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.080	0.009	< 0.01	< 0.01	< 0.001	0.007	< 0.02	< 0.02
	35	< 0.05	< 0.05	0.014	0.009	< 0.01	0.03	0.003	0.001	< 0.02	< 0.02
	75	0.06	< 0.05	0.268	0.008	< 0.01	< 0.01	0.002	0.001	< 0.02	< 0.02
24 (1500 m from outfall)	1	< 0.05	< 0.05	0.019	0.012	< 0.01	0.01	< 0.001	< 0.001	< 0.02	< 0.02
	5	0.11	< 0.05	0.048	0.012	< 0.01	0.03	< 0.001	< 0.001	< 0.02	< 0.02
	15	< 0.05	< 0.05	0.018	0.009	< 0.01	0.02	< 0.001	< 0.001	< 0.02	< 0.02
	25	0.11	< 0.05	1.01	0.008	< 0.01	0.01	< 0.001	< 0.001	< 0.02	< 0.02
28 (1500 m from outfall)	1	< 0.05	< 0.05	0.018	0.013	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.018	0.016	< 0.01	< 0.01	0.003	0.001	< 0.02	< 0.02
	45	< 0.05	< 0.05	0.015	0.010	< 0.01	0.02	< 0.001	0.001	< 0.02	< 0.02
	85	< 0.05	< 0.05	0.024	0.010	< 0.01	< 0.01	0.004	< 0.001	< 0.02	< 0.02

CONTINUED...

APPENDIX VIII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Ni

(Continued)

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		NICKEL	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Hagan Arm)											
36	1	< 0.05	< 0.05	0.016	0.010	< 0.01	0.02	< 0.001	< 0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.018	0.012	< 0.01	0.03	< 0.001	< 0.001	< 0.02	< 0.02
	25	< 0.05	< 0.05	0.133	0.010	< 0.01	0.01	< 0.001	< 0.001	< 0.02	< 0.02
	38	< 0.05	< 0.05	0.019	0.008	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
31	1	< 0.05	< 0.05	0.015	0.011	< 0.01	0.01	< 0.001	0.003	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.021	0.009	< 0.01	< 0.01	0.005	0.003	< 0.02	< 0.02
	40	< 0.05	< 0.05	0.249	0.007	< 0.01	0.02	< 0.001	0.002	< 0.02	< 0.02
	79	< 0.05	< 0.05	0.016	0.006	< 0.01	< 0.01	< 0.001	0.005	< 0.02	< 0.02
34	1	< 0.05	< 0.05	0.019	0.011	0.01	0.01	< 0.001	< 0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.022	0.010	< 0.01	0.03	< 0.001	< 0.001	< 0.02	< 0.02
	40	< 0.05	< 0.05	0.018	0.024	0.02	< 0.01	0.003	< 0.001	< 0.02	< 0.02
	81	< 0.05	< 0.05	0.101	0.010	< 0.01	0.01	< 0.001	< 0.001	0.22	< 0.02
35	1	< 0.05	< 0.05	0.026	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	5	0.06	< 0.05	0.027	0.014	< 0.01	0.02	< 0.001	< 0.001	< 0.02	< 0.02
	35	< 0.05	< 0.05	0.031	0.007	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	74	< 0.05	< 0.05	0.023	0.012	< 0.01	0.02	< 0.001	< 0.001	< 0.02	< 0.02

CONTINUED...

APPENDIX VIII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Ni

(Continued)

STATION	DEPTH (m)	ALUMINUM		IRON		TIN		BORON		NICKEL	
		T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Main Arm)											
37	1	0.05	< 0.05	0.081	0.028	< 0.01	< 0.01	0.003	0.002	< 0.02	< 0.02
38	1	0.08	< 0.05	0.041	0.014	< 0.01	< 0.01	0.003	0.002	< 0.02	< 0.02
39	1	0.05	< 0.05	0.088	0.011	< 0.01	0.01	0.003	< 0.001	0.03	< 0.02
	5	< 0.05	< 0.05	0.025	0.013	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	15	< 0.05	< 0.05	1.14	0.012	< 0.01	< 0.01	< 0.001	< 0.001	0.51	< 0.02
	24	< 0.05	< 0.05	0.017	0.011	< 0.01	< 0.01	< 0.001	< 0.001	0.04	< 0.02
40	1	< 0.05	< 0.05	0.227	0.012	< 0.01	< 0.01	< 0.001	0.007	0.27	< 0.02
	15	< 0.05	< 0.05	0.017	0.009	< 0.01	< 0.01	< 0.001	0.001	< 0.02	< 0.02
41	1	< 0.05	< 0.05	0.022	0.014	< 0.01	< 0.01	< 0.001	0.004	0.07	< 0.02
	5	< 0.05	< 0.05	0.023	0.012	< 0.01	< 0.01	< 0.001	0.004	< 0.02	< 0.02
	35	< 0.05	< 0.05	0.019	0.009	< 0.01	< 0.01	< 0.001	0.001	0.32	< 0.02
	75	< 0.05	< 0.05	0.015	0.010	< 0.01	< 0.01	< 0.001	< 0.001	0.07	< 0.02
42	1	< 0.05	< 0.05	0.024	0.011	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.061	0.014	< 0.01	< 0.01	< 0.001	0.001	0.36	< 0.02
	25	< 0.05	< 0.05	0.025	0.008	< 0.01	< 0.01	< 0.001	0.001	0.32	< 0.02
	50	< 0.05	< 0.05	0.027	0.008	< 0.01	< 0.01	< 0.001	0.001	< 0.02	< 0.02

CONTINUED...

APPENDIX VIII

TABLE 3 JULY 1984 BABINE LAKE FIELD SURVEY - TOTAL (T.) AND DISSOLVED (D.) HEAVY METAL RESULTS (mg/l) - Al, Fe, Sn, B, Ni

(Continued)

STATION	DEPTH	ALUMINUM		IRON		TIN		BORON		NICKEL	
	(m)	T.	D.	T.	D.	T.	D.	T.	D.	T.	D.
(Main Arm)											
44	1	< 0.05	< 0.05	0.025	0.020	< 0.01	< 0.01	< 0.001	0.003	< 0.02	< 0.02
	5	< 0.05	< 0.05	0.025	0.012	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	60	< 0.05	< 0.05	0.015	0.008	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
	118	< 0.05	< 0.05	0.015	0.009	< 0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
(Granisle)											
45	1	< 0.05	< 0.05	0.022	0.018	0.01	0.01	< 0.001	< 0.001	< 0.02	< 0.02
	13	< 0.05	< 0.05	0.021	0.011	0.01	< 0.01	< 0.001	< 0.001	< 0.02	< 0.02
46	1	0.05	< 0.05	0.02	0.010	< 0.01	0.02	0.003	0.002	< 0.02	< 0.02
48	1	< 0.05	< 0.05	0.025	0.014	< 0.01	< 0.01	< 0.001	0.002	0.36	< 0.02
	8	0.16	< 0.05	0.099	0.011	< 0.01	0.01	< 0.001	< 0.001	< 0.02	< 0.02
49	1	< 0.05	< 0.05	0.023	0.014	< 0.01	0.01	< 0.001	< 0.001	0.06	< 0.02
	5	< 0.05	< 0.05	0.088	0.010	0.01	0.02	< 0.001	0.003	0.43	< 0.02
	15	< 0.05	< 0.05	0.026	0.009	< 0.01	0.01	< 0.001	< 0.001	0.39	< 0.02
	25	< 0.05	< 0.05	0.022	0.009	< 0.01	< 0.01	< 0.001	0.003	0.19	< 0.02

APPENDIX IX

ZOOPLANKTON

APPENDIX IX
TABLE 1 TAXONOMIC TABLE OF THE ZOOPLANKTON SAMPLE - JULY 4 AND 8, 1984 ON BABINE LAKE

TAXONOMIC GROUP	STATION 4			STATION 11			STATION 31		STATION 41		
	1	2	3	1	2	3	1	2	1	2	3
Copepoda	0	-	3	-	-	-	0	-	-	-	-
Temoridae	-	4	-	2	1	4	-	1	2	2	3
Epischura lacustris	-	9	-	11	16	11	-	5	13	11	11
Heterocope septentrionalis											
Diaptomidae	23	553	168	212	465	518	52	478	295	317	215
Diaptomus sp.											
Cyclopidae											
Cyclops sp.											
juvenile	23	256	340	336	345	349	226	286	223	256	237
adult	19	113	166	133	111	147	84	110	75	84	71
Nauplii (Cyclops & Diaptomus)	2	3	14	4	0	38	0	4	135	190	182
Cladocera											
Daphnidae											
Daphnia sp.	0	13	17	7	10	10	0	16	7	0	3
Holopedidae											
Holopedium sp.	0	0	0	0	0	0	0	5	2	3	5
Bosminidae	38	94	123	110	120	77	129	230	61	77	57
Rotifera											
Kellicottia sp.	0	10	7	98	5	42	11	14	20	16	19
Insecta											
Chironomidae	0	0	0	0	0	0	0	0	2	1	0
Simulidae	0	0	0	0	0	0	0	0	0	0	1
TOTAL NUMBER	105	1055	838	913	1073	1196	502	1149	835	957	804
MEAN NUMBER		666			1060			826		865	

*preservation inadequate for Station 4-1, 4-3, 31-2. No sample for 31-3.

APPENDIX IX
TABLE 2 HEAVY METAL LEVELS IN ZOOPLANKTON FROM BABINE LAKE*
- July 4 and 8, 1984

METAL	STATION 4			STATION 11			STATION 31			STATION 41		
(ug/g)	$\bar{x}$**	S	V	$\bar{x}$	S	V	$\bar{x}$	S	V	$\bar{x}$	S	V
As	< 70	-	-	< 6	-	-	< 6	-	-	< 20	-	-
Ba	76.3	78.6	103	16.4	6.0	35	32.9	10.7	33	22.3	22.7	102
Be	< 1.0	-	-	< 0.1	-	-	< 0.1	-	-	< 0.3	-	-
Cd	6.2	5.0	80	2.8	1.0	36	3.2	0.5	17	1.6	1.2	75
Co	5.6	2.8	50	1.8	0.2	11	1.4	0.3	21	< 2.0	-	-
Cr	35.3	30.1	85	16.7	5.4	32	18.7	7.2	39	9.3	8.0	86
Mn	50.3	23.3	47	31.3	10.5	34	28.1	3.6	13	13.7	10.3	75
Mo	< 7.0	-	-	0.6	0.1	17	0.6	0.1	17	< 2	-	-
Ni	118	170	144	13.3	2.5	19	8	1	13	5.3	3.8	72
Pb	76.3	81.2	106	21.7	8.1	37	28	7	24	24.6	21.1	85
Sb	< 70	-	-	< 6	-	-	< 6	-	-	< 20	-	-
Sn	16	21	130	< 2	-	-	3.4	1.0	30	4.6	3.7	80
Sr	44.5	32.4	73	15.0	5.3	35	18.7	1.5	8	9.8	7.5	77
Ti	35.2	34.5	97	12.9	7.6	59	12.0	2.9	24	5.0	3.1	62
V	< 10	-	-	1.3	0.6	46	1.7	0.4	24	< 3.0	-	-
Al	1045	706	68	501	147	29	560	64	11	377	275	73
Si	3527	3356	95	1456	644	44	1723	341	20	938	719	77
Cu	484	362	75	221	88	40	226	19	8	71.5	53.0	74
Zn	498	278	56	226	37	16	245	53	22	92.9	71.5	77
Fe	1661	1395	84	768	166	22	864	66	8	385	291	76
P	21867	12989	59	11400	2078	18	11167	252	2	5667	4207	74
Ca	13367	4565	34	5307	1149	22	5803	991	17	2844	2204	78
Mg	2650	1655	63	1350	327	24	1360	123	9	778	579	74
Na	1100	1395	127	513	377	74	750	200	27	383	284	74

*Based on dry weight
**Mean, standard deviation and coefficient of variation (%) based on three samples

APPENDIX X

FISH TISSUE

TABLE 1 GENERAL INFORMATION

TABLE 2 HEAVY METAL TISSUE ANALYSIS

APPENDIX X

TABLE 1 GENERAL INFORMATION ON FISH SUBJECT TO HEAVY METAL ANALYSIS - JULY 1984

FISH NUMBER	LOCATION	SPECIES	LENGTH (cm)	NET WEIGHT (g)	MUSCLE Wet Weight (g)	LIVER Wet Weight (g)
1	Hagan Arm	Rainbow trout	39.4	553.8	24.17	15.31
2	Hagan Arm	Rainbow trout	29.2	243.3	24.92	12.54
3	Hagan Arm	Rainbow trout	30.3	293.7	25.38	13.21
4	Hagan Arm	Largescale sucker	37.4	716.6	27.43	14.26
5	Hagan Arm	Largescale sucker	44.8	1351.3	26.48	16.34
6	Hagan Arm	Northern squawfish	20.8	99.1	20.17	11.44
7	Hagan Arm	Northern squawfish	18.9	72.2	15.93	10.95
8	Main Arm	Rainbow trout	26.6	203.1	25.97	11.00
9	Main Arm	Rainbow trout	25.5	173.5	23.18	10.77
10	Main Arm	Rainbow trout	26.4	205.4	23.09	11.63
11	Main Arm	Rainbow trout	27.0	196.2	21.30	11.20
12	Main Arm	Largescale sucker	50.5	1489.0	32.04	14.33
13	Main Arm	Largescale sucker	24.1	154.1	18.08	11.61
14	Main Arm	Northern squawfish	22.4	127.0	20.00	10.90

APPENDIX X

TABLE 2 HEAVY METAL LEVELS IN FISH TISSUES FROM BABINE LAKE - JULY 1984

METAL	FISH # 1*				FISH # 2*			
	MUSCLE		LIVER		MUSCLE		LIVER	
	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)
As	< 0.9	< 4.0	< 1.0	< 4.0	< 0.8	< 4.0	< 1.0	< 4.0
Ba	< 0.02	< 0.08	< 0.02	< 0.08	0.02	0.11	0.02	0.09
Be	< 0.02	< 0.08	< 0.02	< 0.08	< 0.02	< 0.08	< 0.02	< 0.08
Cd	< 0.04	< 0.2	0.16	0.6	< 0.03	< 0.2	< 0.04	< 0.2
Co	< 0.09	< 0.4	< 0.1	< 0.4	< 0.08	< 0.4	< 0.1	< 0.4
Cr	< 0.09	< 0.4	0.1	0.5	0.1	0.5	0.1	0.6
Mn	0.08	0.34	1.32	5.38	0.1	0.48	1.57	6.02
Mo	< 0.09	< 0.4	< 0.1	< 0.4	< 0.08	< 0.4	< 0.1	< 0.4
Ni	< 0.4	< 2.0	< 0.4	< 2.0	< 0.3	< 2.0	< 0.4	< 2.0
Pb	< 0.4	< 2.0	< 0.4	< 2.0	< 0.3	< 2.0	< 0.4	< 2.0
Sb	< 0.9	< 4.0	< 1.0	< 4.0	< 0.8	< 4.0	< 1.0	< 4.0
Sn	0.2	< 0.8	< 0.2	< 0.8	< 0.2	< 0.8	< 0.2	< 0.8
Sr	0.13	0.57	0.09	0.37	0.32	1.56	0.21	0.81
Ti	2.02	8.7	1.88	7.6	1.48	7.3	3.19	12.3
V	< 0.09	< 0.4	< 0.1	< 0.4	< 0.08	< 0.4	< 0.1	< 0.4
Al	< 0.9	< 4.0	2.0	7.0	< 0.8	< 4.0	7.0	28.0
Si	< 2.0	< 8.0	4.0	15.0	< 2.0	< 8.0	< 2.0	< 8.0
Cu	0.31	1.3	191	777	0.35	1.7	38.5	148
Zn	4.3	18.5	34.3	139	3.13	15.5	37.2	143
Fe	4.44	19.1	322	1310	3.68	18.2	208	799
P	2660	11500	3140	12800	2210	10900	3900	15000
Ca	143	616	65	264	213	1050	138	531
Mg	303	1310	174	707	274	1360	215	827
Na	345	1490	1240	5040	250	1240	1500	5750
Hg	0.0306	0.132	0.0057	0.023	0.02	0.1	0.0075	0.029
Moisture	76.8%		75.4%		79.8%		74%	

*Refer to fish number on Table 1 (Appendix X)

APPENDIX X

TABLE 2 HEAVY METAL LEVELS IN FISH TISSUES FROM BABINE LAKE - JULY 1984

METAL	FISH # 3*				FISH # 4*			
	MUSCLE		LIVER		MUSCLE		LIVER	
	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)
As	< 0.9	< 4.0	< 0.9	< 4.0	< 0.6	< 4.0	< 1.0	< 4.0
Ba	0.05	0.23	< 0.02	< 0.08	0.5	0.28	0.05	0.18
Be	< 0.02	< 0.08	< 0.02	< 0.08	< 0.01	< 0.08	< 0.02	< 0.08
Cd	< 0.04	< 0.2	0.21	0.9	< 0.03	< 0.2	0.12	0.4
Co	< 0.09	< 0.4	< 0.09	< 0.4	< 0.06	< 0.4	< 0.1	< 0.4
Cr	0.15	0.7	0.14	0.6	0.08	0.5	0.1	0.5
Mn	0.18	0.8	1.4	6.2	0.19	1.16	1.88	7.22
Mo	< 0.09	< 0.4	0.1	0.4	< 0.06	< 0.4	0.1	0.5
Ni	< 0.4	< 2.0	< 0.4	< 2.0	< 0.3	< 2.0	< 0.4	< 2.0
Pb	< 0.4	< 2.0	< 0.4	< 2.0	< 0.3	< 2.0	< 0.4	< 2.0
Sb	< 0.9	< 4.0	< 0.9	< 4.0	< 0.6	< 4.0	< 1.0	< 4.0
Sn	< 0.2	< 0.8	< 0.2	< 0.8	< 0.1	< 0.8	< 0.2	< 0.8
Sr	0.34	1.5	0.09	0.41	0.24	1.45	0.54	2.08
Ti	2.2	9.7	1.81	8.0	1.25	7.4	2.35	9.0
V	< 0.09	< 0.4	< 0.09	< 0.4	< 0.06	< 0.4	< 0.1	< 0.4
Al	< 0.9	< 4.0	2.4	11.0	< 0.6	< 4.0	5.0	21.0
Si	< 2.0	< 8.0	3.0	12.0	< 1.0	< 8.0	< 2.0	< 8.0
Cu	1.16	5.1	348	1540	0.27	1.6	14.7	56.7
Zn	4.72	20.9	35.4	157	5.28	31.4	37.7	145
Fe	4.7	20.8	231	1030	2.31	13.7	49.7	191
P	2700	11900	3060	13600	1840	10900	2450	9430
Ca	323	1430	56	246	215	1280	87	335
Mg	302	1330	171	758	249	1480	179	690
Na	311	1370	1430	6350	281	1670	1090	4190
Hg	0.009	0.04	0.001	0.006	0.011	0.065	0.0034	0.013
Moisture	77.4%		77.5%		83.2%		74%	

*Refer to fish number on Table 1 (Appendix X)

APPENDIX X

TABLE 2 HEAVY METAL LEVELS IN FISH TISSUES FROM BABINE LAKE - JULY 1984

METAL	FISH # 5*				FISH # 6*			
	MUSCLE		LIVER		MUSCLE		LIVER	
	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)
As	< 0.8	< 4.0	< 0.9	< 4.0	< 0.8	< 4.0	< 0.9	< 4.0
Ba	0.07	0.35	0.03	0.16	0.12	0.61	0.08	0.41
Be	< 0.02	< 0.08	< 0.02	< 0.08	< 0.02	< 0.08	< 0.02	< 0.09
Cd	< 0.03	< 0.2	0.15	0.7	< 0.03	< 0.2	0.06	0.3
Co	< 0.08	< 0.4	< 0.09	< 0.4	< 0.08	< 0.4	< 0.09	< 0.4
Cr	0.1	0.5	0.09	0.4	0.1	0.5	0.3	1.5
Mn	0.22	1.17	1.79	8.29	0.29	1.49	1.23	6.09
Mo	< 0.08	< 0.4	< 0.09	< 0.4	< 0.08	< 0.4	0.19	0.9
Ni	< 0.3	< 2.0	< 0.3	< 2.0	< 0.3	< 2.0	< 0.3	< 2.0
Pb	< 0.3	< 2.0	< 0.3	< 2.0	< 0.3	< 2.0	< 0.3	< 2.0
Sb	< 0.8	< 4.0	< 0.9	< 4.0	< 0.8	< 4.0	< 0.9	< 4.0
Sn	< 0.2	< 0.8	< 0.2	< 0.8	< 0.2	< 0.8	< 0.2	< 0.9
Sr	0.13	0.71	0.12	0.54	0.45	2.33	0.17	0.85
Ti	1.68	9.1	1.46	6.8	1.78	9.2	0.39	1.9
V	< 0.08	< 0.4	< 0.09	< 0.4	< 0.08	< 0.4	< 0.09	< 0.4
Al	< 0.8	< 4.0	4.4	20	< 0.8	< 4.0	2.6	13.0
Si	< 2.0	< 8.0	3.0	12	< 2.0	< 8.0	2.0	11.0
Cu	0.34	1.8	31.6	146	0.62	3.2	6.01	29.7
Zn	4.37	23.6	38.4	178	6.35	33.0	17.3	85.6
Fe	4.98	26.9	350	1620	3.33	17.3	91.4	452
P	2040	11000	2490	11500	2140	11100	1960	9700
Ca	161	872	62	285	393	2040	98	485
Mg	255	1380	154	710	302	1578	127	627
Na	216	1170	1180	5470	273	1420	997	4930
Hg	0.0373	0.402	0.01	0.048	0.015	0.079	0.0032	0.016
Moisture	81.5%		78.4%		80.7%		79.8%	

*Refer to fish number on Table 1 (Appendix X)

APPENDIX X

TABLE 2 HEAVY METAL LEVELS IN FISH TISSUES FROM BABINE LAKE - JULY 1984

METAL	FISH #7*				FISH #8*			
	MUSCLE		LIVER		MUSCLE		LIVER	
	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)
As	< 0.9	< 4.0	< 1.0	< 7.0	< 0.9	< 4.0	< 1.0	< 5.0
Ba	0.14	0.67	0.1	0.5	0.04	0.18	< 0.03	< 0.1
Be	< 0.02	< 0.08	< 0.03	< 0.1	< 0.02	< 0.08	< 0.03	< 0.1
Cd	< 0.03	< 0.2	0.1	0.5	< 0.04	< 0.2	0.1	0.4
Co	< 0.09	< 0.4	< 0.01	< 0.7	< 0.09	< 0.4	< 0.1	< 0.5
Cr	0.33	1.6	0.2	0.8	0.29	1.3	0.2	0.7
Mn	0.39	1.9	1.66	8.7	0.14	0.64	1.42	5.3
Mo	< 0.09	< 0.4	< 0.1	< 0.7	< 0.09	< 0.4	0.2	0.7
Ni	< 0.6	3.0	< 0.5	< 3.0	< 0.4	< 2.0	1.2	5.0
Pb	< 0.3	< 2.0	< 0.5	< 3.0	< 0.4	< 2.0	< 0.5	< 2.0
Sb	< 0.9	< 4.0	< 1.0	< 7.0	< 0.9	< 4.0	< 1.0	< 5.0
Sn	< 0.2	< 0.8	< 0.3	< 1.0	< 0.2	< 0.8	< 0.3	< 1.0
Sr	0.4	1.96	0.41	2.2	0.26	1.2	0.09	0.3
Ti	1.96	9.6	0.61	3.2	1.37	6.3	1.29	4.8
V	< 0.09	< 0.4	< 0.1	< 0.7	< 0.09	< 0.4	< 0.1	< 0.5
Al	< 0.9	< 4.0	3.0	18.0	< 0.9	< 4.0	3.0	9.0
Si	< 2.0	< 8.0	2.0	10.0	< 2.0	< 8.0	< 3.0	< 10.0
Cu	5.01	24.5	7.4	39.1	2.26	10.3	84	313
Zn	8.34	40.8	17.1	90.1	3.3	15.1	29.9	112
Fe	6.36	31.1	115	603	3.65	16.7	109	405
P	2260	11100	1910	10000	2280	10500	3610	13500
Ca	374	1830	206	1080	221	1010	58	220
Mg	306	1500	134	710	260	1190	194	720
Na	326	1590	1110	5850	229	1050	1140	4260
Hg	0.019	0.094	--	--	0.0038	0.017	0.002	0.006
Moisture	79.6%		81.0%		78.2%		73.2%	

*Refer to fish number on Table 1 (Appendix X)

APPENDIX X

TABLE 2 HEAVY METAL LEVELS IN FISH TISSUES FROM BABINE LAKE - JULY 1984

METAL	FISH # 9*				FISH # 10*			
	MUSCLE		LIVER		MUSCLE		LIVER	
	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)
As	< 0.9	< 4.0	< 1.0	< 4.0	< 0.9	< 4.0	< 1.0	< 5.0
Ba	0.08	0.36	0.09	0.32	0.02	0.1	< 0.02	< 0.1
Be	< 0.02	< 0.08	< 0.02	< 0.08	< 0.02	< 0.08	< 0.02	< 0.1
Cd	< 0.03	< 0.2	0.3	1.1	< 0.04	< 0.2	0.07	0.3
Co	< 0.09	< 0.4	< 0.1	< 0.4	< 0.09	< 0.4	< 0.1	< 0.5
Cr	0.13	0.6	0.2	0.7	0.1	0.5	0.2	0.6
Mn	0.17	0.78	1.63	6.0	0.12	0.54	1.21	4.9
Mo	< 0.09	< 0.4	< 0.1	< 0.4	< 0.09	< 0.4	< 0.1	< 0.5
Ni	< 0.3	< 2.0	< 0.4	< 2.0	< 0.4	< 2.0	< 0.5	< 2.0
Pb	< 0.3	< 2.0	< 0.4	< 2.0	< 0.4	< 2.0	< 0.5	< 2.0
Sb	< 0.9	< 4.0	< 1.0	< 4.0	< 0.9	< 4.0	< 1.0	< 4.0
Sn	< 0.2	< 0.8	< 0.2	< 0.8	< 0.2	< 0.8	< 0.2	< 0.8
Sr	0.44	2.01	0.24	0.9	0.23	1.02	0.07	0.3
Ti	1.88	8.7	1.25	4.6	1.9	8.6	0.94	3.8
V	< 0.09	< 0.4	< 0.1	< 0.4	< 0.09	< 0.4	< 0.1	< 0.5
Al	< 0.9	< 4.0	< 1.0	< 4.0	< 0.9	< 4.0	2.0	10.0
Si	< 2.0	< 8.0	3.0	10.0	< 2.0	< 8.0	< 2.0	< 10.0
Cu	0.38	1.7	226	832	0.28	1.3	58.9	238
Zn	4.19	19.3	47.2	174	3.8	17.2	25	105
Fe	2.98	13.7	277	1020	3.77	17.0	208	839
P	2760	12700	3700	13600	2600	11700	3330	13400
Ca	395	1820	125	459	209	943	52	210
Mg	318	1460	213	783	298	1340	180	720
Na	261	1200	1580	5820	178	805	1160	4670
Hg	0.0069	0.032	---	---	0.0041	0.018	0.0042	0.017
Moisture	78.3%		72.8%		77.8%		75.2%	

*Refer to fish number on Table 1 (Appendix X)

APPENDIX X

TABLE 2 HEAVY METAL LEVELS IN FISH TISSUES FROM BABINE LAKE - JULY 1984

METAL	FISH #11*				FISH #12*			
	MUSCLE		LIVER		MUSCLE		LIVER	
	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)
As	< 0.9	< 4.0	< 1.0	< 4.0	< 0.7	< 4.0	< 9.0	< 4.0
Ba	0.04	0.16	< 0.02	< 0.09	0.22	1.24	0.02	0.11
Be	< 0.02	< 0.08	< 0.02	< 0.09	< 0.01	< 0.08	< 0.02	< 0.08
Cd	< 0.04	< 0.2	0.19	0.7	< 0.03	< 0.2	0.82	3.7
Co	< 0.09	< 0.4	< 0.1	< 0.4	< 0.07	< 0.4	< 0.09	< 0.4
Cr	0.54	2.4	0.1	0.5	0.51	2.8	0.14	0.7
Mn	0.18	0.78	1.17	4.41	0.88	4.91	0.98	4.48
Mo	< 0.09	< 0.4	< 0.1	< 0.4	< 0.07	< 0.4	< 0.09	< 0.4
Ni	< 0.4	< 2.0	< 0.5	< 2.0	< 0.3	< 2.0	< 0.4	< 2.0
Pb	< 0.4	< 2.0	< 0.5	< 2.0	< 0.3	< 2.0	< 0.4	< 2.0
Sb	< 0.9	< 4.0	< 1.0	< 4.0	< 0.7	< 4.0	< 0.9	< 4.0
Sn	< 0.2	< 0.8	< 0.2	< 0.9	< 0.1	< 0.8	< 0.2	< 0.8
Sr	0.51	2.27	0.13	0.5	0.85	4.74	0.14	0.62
Ti	2.12	9.5	3.91	14.7	1.65	9.2	0.57	2.6
V	< 0.09	< 0.4	< 0.1	< 0.4	< 0.07	< 0.4	0.09	0.4
Al	< 0.9	< 4.0	2.0	8.0	< 0.7	< 4.0	9.6	40
Si	< 2.0	< 8.0	3.0	13.0	< 1.0	< 8.0	4.0	20
Cu	4.83	21.5	140	526	4.55	25.5	48.6	222
Zn	4.13	18.4	31.5	118	4.05	22.7	46.7	214
Fe	5.94	26.5	285	1070	8.11	45.4	700	3210
P	2870	12800	3520	13200	2460	13800	2220	10200
Ca	470	2090	77	288	681	3810	60	273
Mg	322	1440	182	685	270	1510	139	634
Na	145	648	1240	4650	275	1540	1240	5660
Hg	0.0047	0.021	< 0.001	< 0.004	0.0275	0.308	0.009	0.041
Moisture	77.6%		73.4%		82.1%		78.2%	

*Refer to fish number on Table 1 (Appendix X)

APPENDIX X

TABLE 2 HEAVY METAL LEVELS IN FISH TISSUES FROM BABINE LAKE - JULY 1984

METAL	FISH #13*				FISH #14*			
	MUSCLE		LIVER		MUSCLE		LIVER	
	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)	Wet (mg/kg)	Dry (mg/kg)
As	< 0.7	< 4.0	< 1.0	< 5.0	< 0.7	< 4.0	< 2.0	< 4.0
Ba	0.07	0.36	0.05	0.2	0.06	0.34	< 0.04	< 0.09
Be	< 0.01	< 0.08	< 0.02	< 0.1	< 0.01	< 0.08	< 0.04	< 0.09
Cd	0.1	0.5	0.1	0.4	< 0.03	< 0.2	0.11	0.2
Co	< 0.07	< 0.4	< 0.1	< 0.5	< 0.07	< 0.4	< 0.2	< 0.4
Cr	0.15	0.8	< 0.1	< 0.5	0.11	0.6	0.5	1.0
Mn	0.31	1.63	1.91	8.5	0.19	1.03	1.64	3.53
Mo	< 0.07	< 0.4	0.1	0.6	< 0.07	< 0.4	< 0.2	< 0.4
Ni	< 0.3	< 2.0	< 0.4	< 2.0	< 0.3	< 2.0	< 0.8	< 2.0
Pb	< 0.3	< 2.0	< 0.4	< 2.0	< 0.3	< 2.0	< 0.8	< 2.0
Sb	< 0.7	< 4.0	< 1.0	< 5.0	< 0.7	< 4.0	< 2.0	< 4.0
Sn	< 0.1	< 0.8	< 0.2	< 1.0	< 0.1	< 0.8	< 0.4	< 0.9
Sr	0.28	1.46	0.17	0.8	0.33	1.75	0.11	0.23
Ti	1.39	7.4	1.45	6.5	1.57	8.3	0.68	1.5
V	< 0.07	< 0.4	< 0.1	< 0.5	< 0.07	< 0.4	< 0.2	< 0.4
Al	< 0.7	< 4.0	2.0	8.0	< 0.7	< 4.0	< 2.0	< 4.0
Si	2.0	9.0	< 2.0	< 10.0	< 1.0	< 8.0	< 4.0	< 9.0
Cu	0.85	4.5	14.5	64.4	0.33	1.8	10.8	23.2
Zn	4.37	23.2	20.7	91.9	4.55	24.2	32	68.9
Fe	2.49	13.2	66.4	295	2.91	15.5	116	249
P	2190	11600	2840	12700	1980	10500	3250	6980
Ca	277	1470	72	320	326	1730	71	154
Mg	293	1550	175	780	281	1490	216	464
Na	268	1420	1100	4910	353	1870	1140	2440
Hg	0.013	0.07	0.0069	0.016	0.0228	0.121	0.0087	0.019
Moisture	81.1%		77.5%		81.2%		53.5%	

*Refer to fish number on Table 1 (Appendix X)