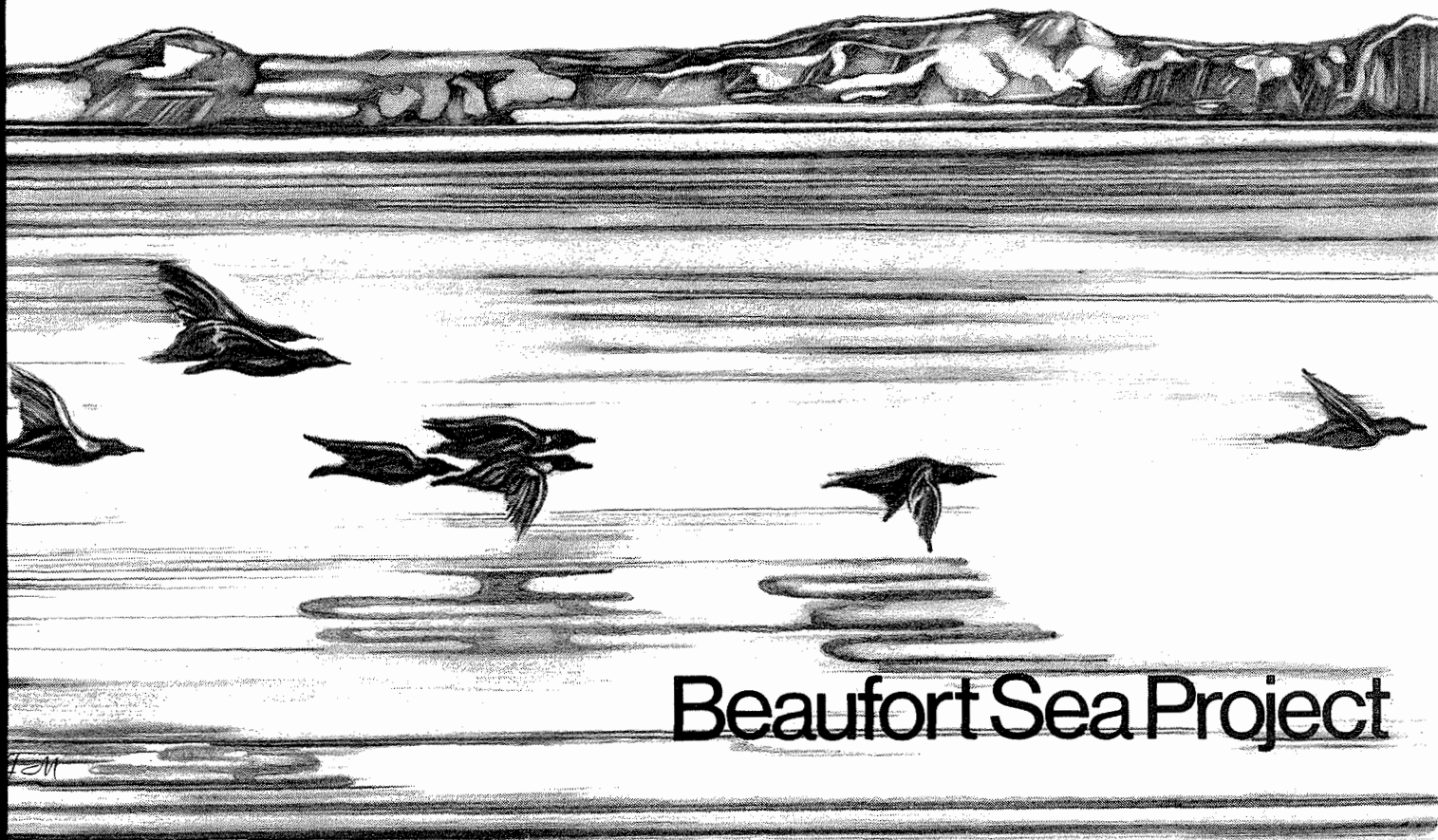


# Mackenzie River Input to the Beaufort Sea

K.F. DAVIES

Technical Report No. 15



## Beaufort Sea Project

MACKENZIE RIVER INPUT TO  
THE BEAUFORT SEA

K.F. Davies  
Water Survey of Canada  
Department of the Environment  
Clennan Square  
110 - 11 Avenue S.W.  
Calgary, Alberta  
T2R 0B8

Beaufort Sea Technical Report #15

Beaufort Sea Project  
Dept. of the Environment  
512 Federal Building  
1230 Government St.  
Victoria, B.C. V8W 1Y4

December, 1975

## SUMMARY

This report contains a summary of the findings under the study, "Mackenzie River Input to the Beaufort Sea," one of a series of studies comprising the Beaufort Sea Project.

Comprehensive descriptions of the gauging sites and methods used are included in the report. Distribution of flow in the main channels as a percentage of total flow has been determined on a month-by-month basis for the period July 1974 to June 1975.

Suspended sediment transport, ice thickness, and water temperature in the Delta are also discussed and the results shown.

All data contained in the report are provisional, subject to correction, pending publication in the Annual Departmental Reports.

## TABLE OF CONTENTS

	<u>Page</u>
SUMMARY . . . . .	<i>i</i>
TABLE OF CONTENTS . . . . .	<i>ii</i>
INTRODUCTION . . . . .	1
Figure 1 .....	2
STUDY AREAS . . . . .	3
Figure 2 .....	5
Figure 3 .....	6
RESUME OF CURRENT STATE OF KNOWLEDGE . . . . .	7
METHODS OF DATA COLLECTION . . . . .	8
Field Techniques .....	8
Water Level Recording .....	8
Flow Measuring .....	9
Sediment Measuring .....	9
Measuring Equipment .....	11
Ancillary Data .....	12
RESULTS . . . . .	13
Flow Distribution .....	13
Table 1 .....	13
Richards Island Area Measurements .....	14
Figure 4 .....	15
Sediment Data .....	16
Observed Water Temperatures .....	17
Ice Thickness .....	18
CONCLUSIONS . . . . .	19
NEEDS FOR FURTHER STUDY . . . . .	20
REFERENCES . . . . .	21
APPENDIX . . . . .	22
Discharge Hydrographs, July 1, 1974 to June 30, 1975 .....	23
Suspended Sediment Data, 1974 .....	33
Particle Size Analysis of Suspended Sediment, 1974 .....	52
Particle Size Analysis of Bed Material, 1974 .....	58
Suspended Sediment Data, 1975 .....	62
Particle Size Analysis of Suspended Sediment, 1975 .....	68

## INTRODUCTION

### MACKENZIE RIVER DRAINAGE BASIN

The Mackenzie River basin is one of the largest on the North American Continent, embracing an area of approximately 700,000 square miles (Figure 1). Its headwaters, covering parts of British Columbia, Alberta, Saskatchewan and the Northwest Territories, are collected by a vast system of rivers which flow into Great Slave Lake, from which the Mackenzie River proper flows in a northwesterly direction for about 1,000 miles before discharging through the Mackenzie Delta into the Beaufort Sea. The physical features of the basin vary widely from the rugged and mountainous country of the Rocky Mountain system to the flat, mainly treeless wastes of the barren lands which lie to the east of Lake Athabasca. The major lakes in the system, Lake Athabasca (3,100 square miles), Great Slave Lake (11,000 square miles), and Great Bear Lake (12,000 square miles) provide natural regulation to the system.

Mean annual flow exceeds 300,000 c.f.s. (or 200,000,000 acre-feet per year) which is equal to about seven inches of runoff over the basin (Morris<sup>1</sup>, 1969). Peak flows of over one million c.f.s. have been recorded.

Mean daily suspended sediment loads of over one million tons per day are common during June to September. Peak loads of over 20 million tons per day of suspended sediment have been recorded.

### MACKENZIE DELTA

The Mackenzie Delta is made up of a myriad of channels interwoven with each other, flooded and dry at different times of the year, and all used to transport Mackenzie River water to its final destination, the Beaufort Sea.

It is assumed that all the water entering the delta from the Mackenzie, Peel, and Arctic Red Rivers will eventually reach the Beaufort Sea. What is not known, however, is how the water moves, i.e., which channels carry how much water. Does all the water pass through the Middle Channel? How much goes out the East Channel? How much to Shallow Bay? These are some of the questions that prompted the establishment of the delta flow distribution study.



FIGURE 1

### STUDY AREAS

The main study area was limited to the Mackenzie Delta as far downstream as the line between Aklavik and Inuvik. Flow and sediment distribution were monitored along this line at the following sites (see Figure 2):

1) Peel Channel above Aklavik	68°11'30"	135°06'50"
2) West Channel below Aklavik Channel	68°15'50"	135°04'30"
3) Aklavik Channel above Schooner Channel	68°15'50"	134°48'00"
4) Middle Channel above Napoiak Channel	68°26'00"	134°06'50"
5) Kalinek Channel above Oniak Channel	68°23'50"	133°59'00"
6) East Channel at Inuvik	68°20'37"	133°44'40"

Inflow to the delta was monitored at the following sites:

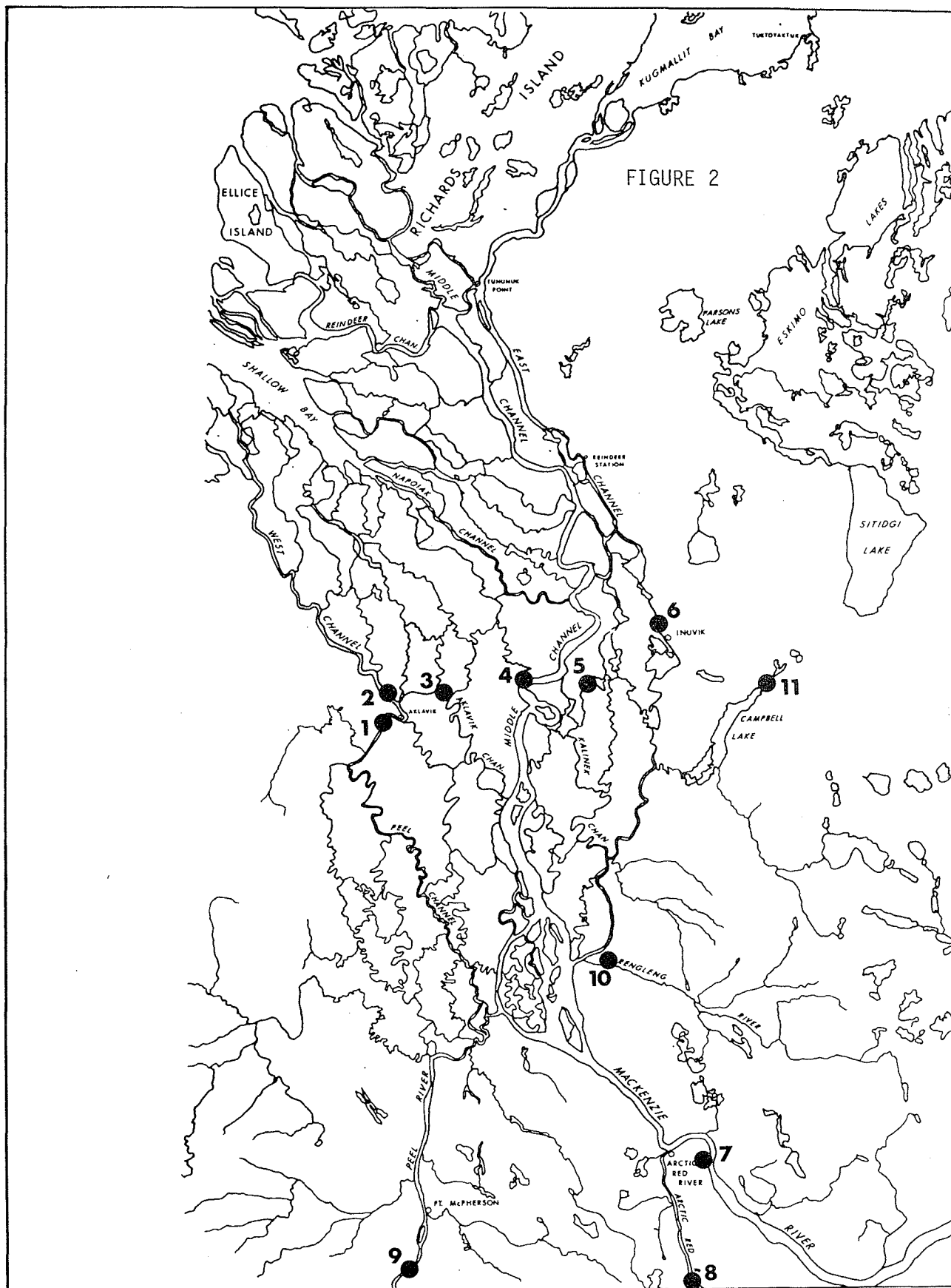
7) Mackenzie River above Arctic Red River	67°21'30"	133°33'30"
8) Arctic Red River near the Mouth	66°47'10"	133°06'00"
9) Peel River above Fort McPherson	67°13'15"	134°56'45"
10) Rengleng River near Dempster Highway	67°45'05"	133°53'00"
11) Campbell Creek near Inuvik	68°16'04"	133°15'47"

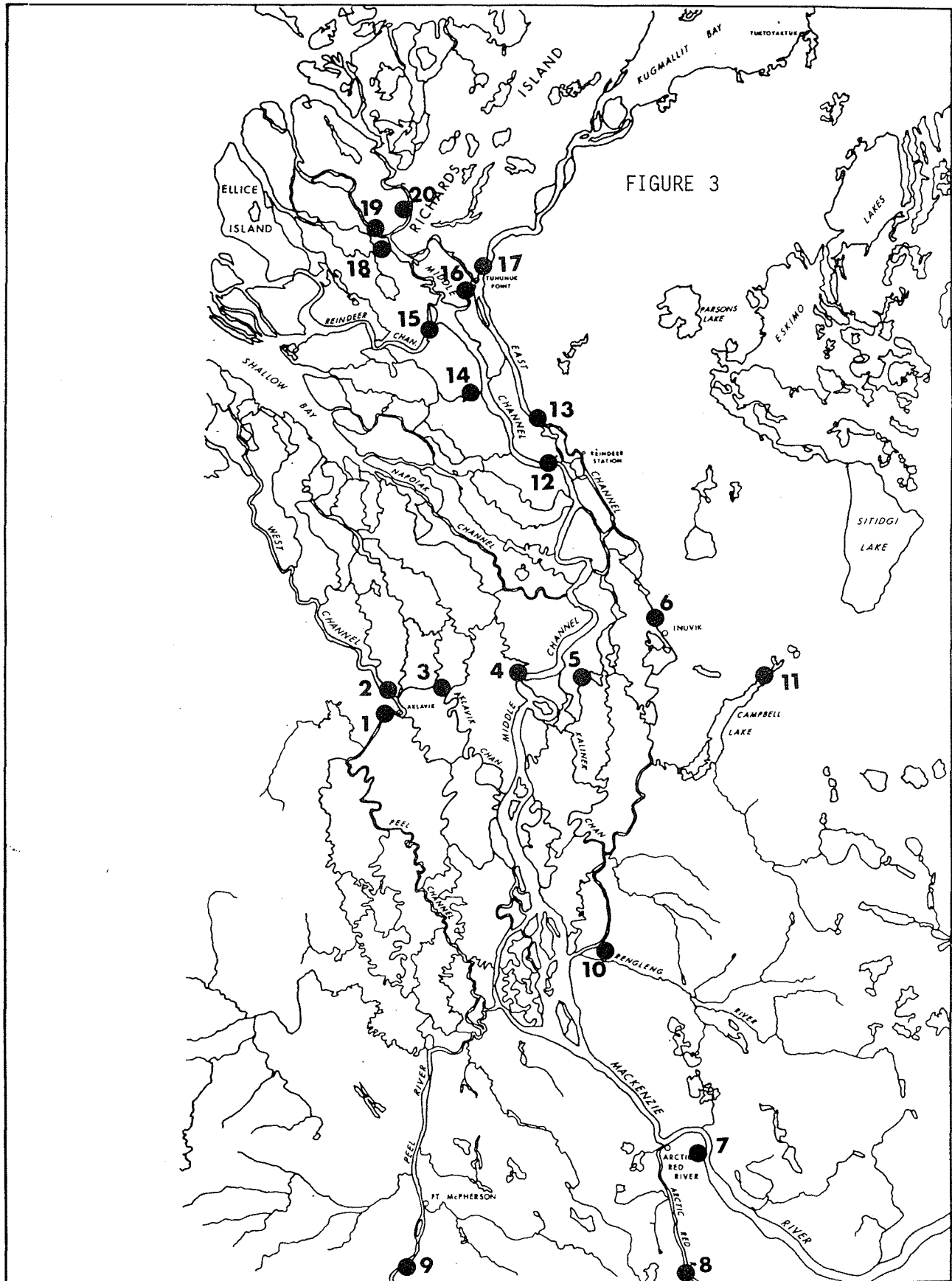
In March 1975, a small study was initiated to determine the distribution of flow in the Richards Island area.

A series of discharge measurements were made at the following sites (see Figure 3):

12) Middle Channel West of Williams Island	68°42'30"N	134°29'30"W
13) East Channel below Williams Island	68°45'00"N	134°20'00"W
14) Marcus Channel	68°48'00"N	134°40'00"W
15) Reindeer Channel	68°54'00"N	134°55'00"W
16) Neklek Channel West of Tununuk Point	68°58'00"N	134°44'00"W
17) East Channel below Tununuk Point	69°02'00"N	134°38'00"W
18) Channel West of Richards Island	69°03'30"N	135°07'00"W
19) Channel West of Richards Island	69°05'00"N	135°07'00"W
20) Channel West of Richards Island	69°05'30"N	135°00'00"W







## RESUME OF CURRENT STATE OF KNOWLEDGE

The availability of hydrometric data in the Mackenzie Basin in the early days is very limited. As of 1955, there were only nine hydrometric stations operating north of the 60th parallel, and of these only two provided daily streamflow data (Clark<sup>2</sup>, 1958). Sediment data were not collected at all.

In the early 1960's, a number of water level gauges were located along the Mackenzie River to aid in forecasting water levels for navigation purposes on the Mackenzie waterway. Water transportation was then, and still is, the major method of transporting goods and services to the Mackenzie areas. Gauging stations were also located on some of the Mackenzie tributaries, the Liard, Nahanni, Redstone, Peel, and Arctic Red Rivers, for example.

By the end of 1970, 36 stations had been established in the Mackenzie drainage basin north of the 60th parallel, 27 of these providing daily streamflow data. Of these 36 stations, five were on the Mackenzie River itself, with two of these providing streamflow data.

Hydrometric data within the Mackenzie Delta proper are almost non-existent. Water levels, but not flows, were monitored at two sites in the early 1960's, near Reindeer Depot and at Aklavik.

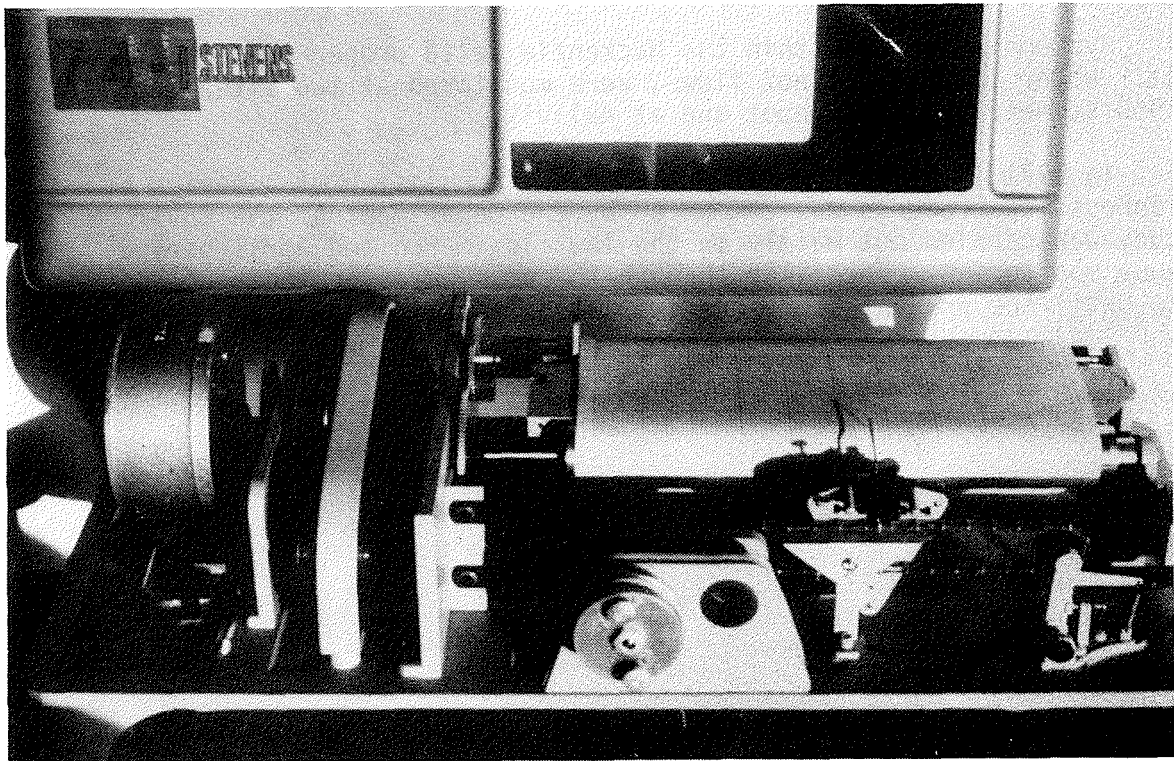
In 1971, a limited distribution study consisting of a series of miscellaneous measurements was commenced by the Department of the Environment.<sup>3</sup> This study was carried out mainly in the low flow March and April period. Continuous monitoring, especially through the open water periods, did not commence until the present study was initiated in 1974.

## METHODS OF DATA COLLECTION

### 1. FIELD TECHNIQUES

#### 1.1 Water Level Recording

Most stream gauging stations are located at remote sites, necessitating the use of reliable equipment that can operate for several months without servicing. The piece of equipment normally used to collect stage or water level data is the Leupold-Stevens A-71 Analog Recorder. This recorder is driven by a servo manometer or pressure sensing device which senses the changes in river level and up-dates the recorder. Photograph No. 1 below shows the standard Leupold-Stevens A-71 Analog Recorder.



## 1.2 Flow Measuring

Discharge or flow measurements are made at monthly intervals at each stream gauge location. It is known that the velocity of the water varies from surface to stream bed, and from one side of the river to the other. The stream bed is also constantly shifting or changing in cross-sectional configuration. To get an accurate measurement of the total discharge through the cross-section, the section is first arbitrarily divided into a minimum of twenty sections. Measurements of width, depth and mean velocity are obtained for each section. Mean velocity may be derived from one position within the vertical section, usually at six-tenths of the depth, or from the average of the velocities at two points, usually two-tenths depth and eight-tenths depth.

The area "a" for each segment is obtained by multiplying the width "w" by the depth "d". The discharge "q" for the segment is then obtained by multiplying area "a" by mean velocity "v".

The total discharge for the river, at that particular time, is then obtained by summing the discharges from all the individual segments.

$$\begin{aligned} Q &= q_1 + q_2 + \dots + q_n \\ &= a_1 v_1 + a_2 v_2 + \dots + a_n v_n \end{aligned}$$

## 1.3 Sediment Measuring

Measurements are usually made by the depth-integrating method to determine the amount of suspended sediment load carried in the entire cross-section of the stream and to determine the average suspended sediment concentration in the cross-section. It is known that the concentration of suspended sediments tends to increase from the surface of the water in the stream to the stream bed, and to vary from side to side. When making depth-integrated sediment discharge measurements, the stream cross-section is divided into at least five equal-flow portions. A representative suspended sediment sample is taken in each portion by sampling from top to bottom at a constant rate. For each part of the cross-section, the suspended sediment discharge "r" may be computed by multiplying the flow "q" by the suspended sediment concentration "c".

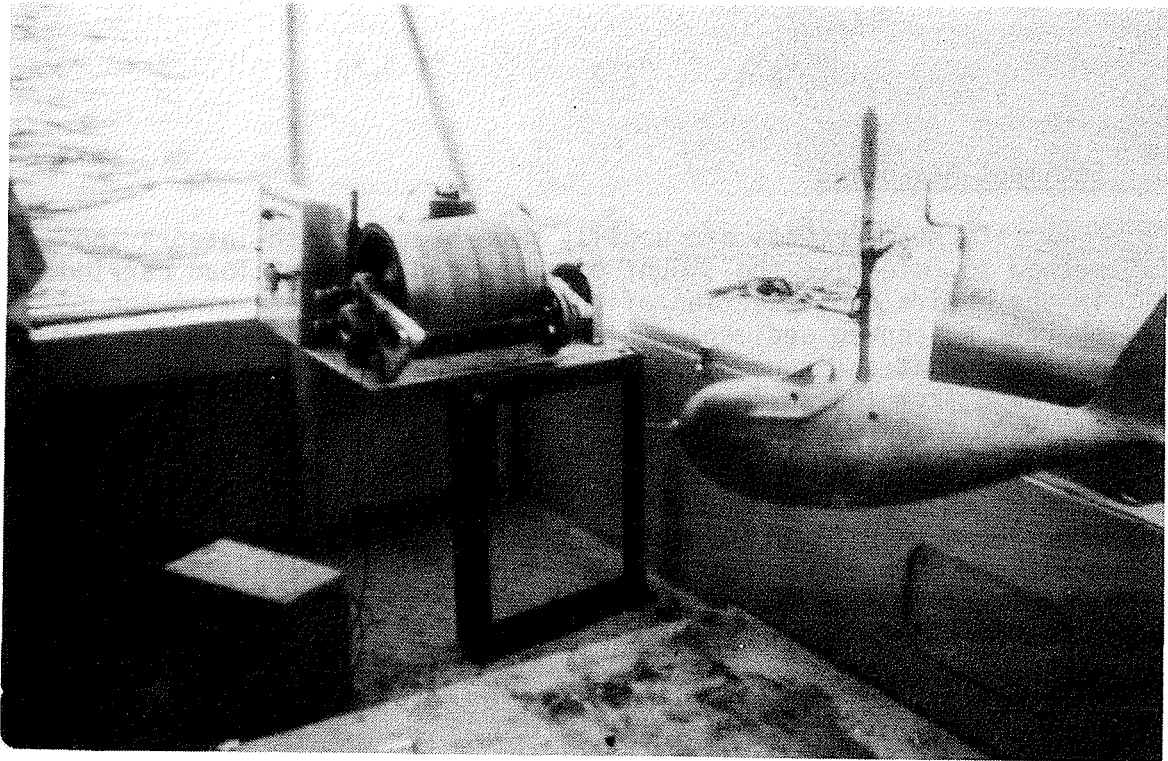
$$r = qc$$

For the whole cross-section, the suspended sediment discharge "R" may be computed by adding the suspended sediment discharges for the separate areas.

$$R = q_1 c_1 + q_2 c_2 + \dots + q_n c_n$$

Individual or "daily" suspended sediment samples, taken at a specific location in a cross-section, are collected daily during periods with average or high sediment concentration. In the periods with very heavy sediment concentration, two or three sediment samplings are taken per day, while in periods with low concentration, one individual sediment observation every few days is felt to be sufficient. The relationship between the suspended sediment concentration of the individual samples and the average concentration in the cross-section determined from the suspended sediment discharge is established for every station. Using this relationship, the sediment concentrations of the individual observations are adjusted to reflect the average suspended sediment concentration in the cross-section. The daily suspended sediment loads, in tons per day, are computed on the basis of stream discharges and the adjusted suspended sediment concentrations.

Photograph No. 2 below shows a sampler and powered reel assembly used in suspended sediment measurements.



#### 1.4 Measuring Equipment

Heavy sediment samplers and sounding weights, ranging in weight to three hundred pounds, are required to properly sample flow rates and sediment loads in the large channels encountered in the Mackenzie Delta. To handle these loads, large, stable boats are required. Two of the standard Water Survey catamarans were used for this job. These units are twin-hulled, 33-foot vessels with a 14-foot beam. Powered winches are available fore and aft on the boats, allowing simultaneous sediment and flow measurements to be made. Limited accommodation for a crew of three is available on board. The boats are equipped with all the necessary radios, lights, etc., to comply with the communications and navigation regulations of the waterway.

Photograph No. 3 below shows the two Water Survey of Canada catamarans at the dock in the East Channel at Inuvik.



## 2. ANCILLARY DATA

During the course of a flow measurement, a number of vital parameters are recorded. River cross-sections at the measuring site are obtained at the time of each measurement. These cross-sections can be compared and changes in stream bed configuration can be detected. Velocity profiles can also be measured and plotted.

Ice thicknesses and rates of ice formation can be computed from the discharge measurements taken during the winter months.

Water temperatures taken at the time of each discharge measurement and sediment measurement are also available and can be used to determine seasonal changes in temperature.



## RESULTS

### 1. FLOW DISTRIBUTION

The distribution of flow through the main channels varied with the season of the year.

Table 1 shows the variations on a monthly basis, expressed as a percentage of the total flow.

The largest percentage of the flow goes down the middle channel, varying from 85 percent in the summer to 94 percent of total flow in the winter. The higher percentage in the winter can be attributed to the fact that many of the smaller channels freeze to the bottom or are blocked by slush ice restricting flow through them and diverting the water into the main channel.

Daily flow data are available for 1974 in Departmental publications and for 1975 upon application to the Calgary district office of the Water Survey of Canada. Pictorial hydrographs for July 1974 to June 1975 have been included in the appendix to this report.

TABLE 1

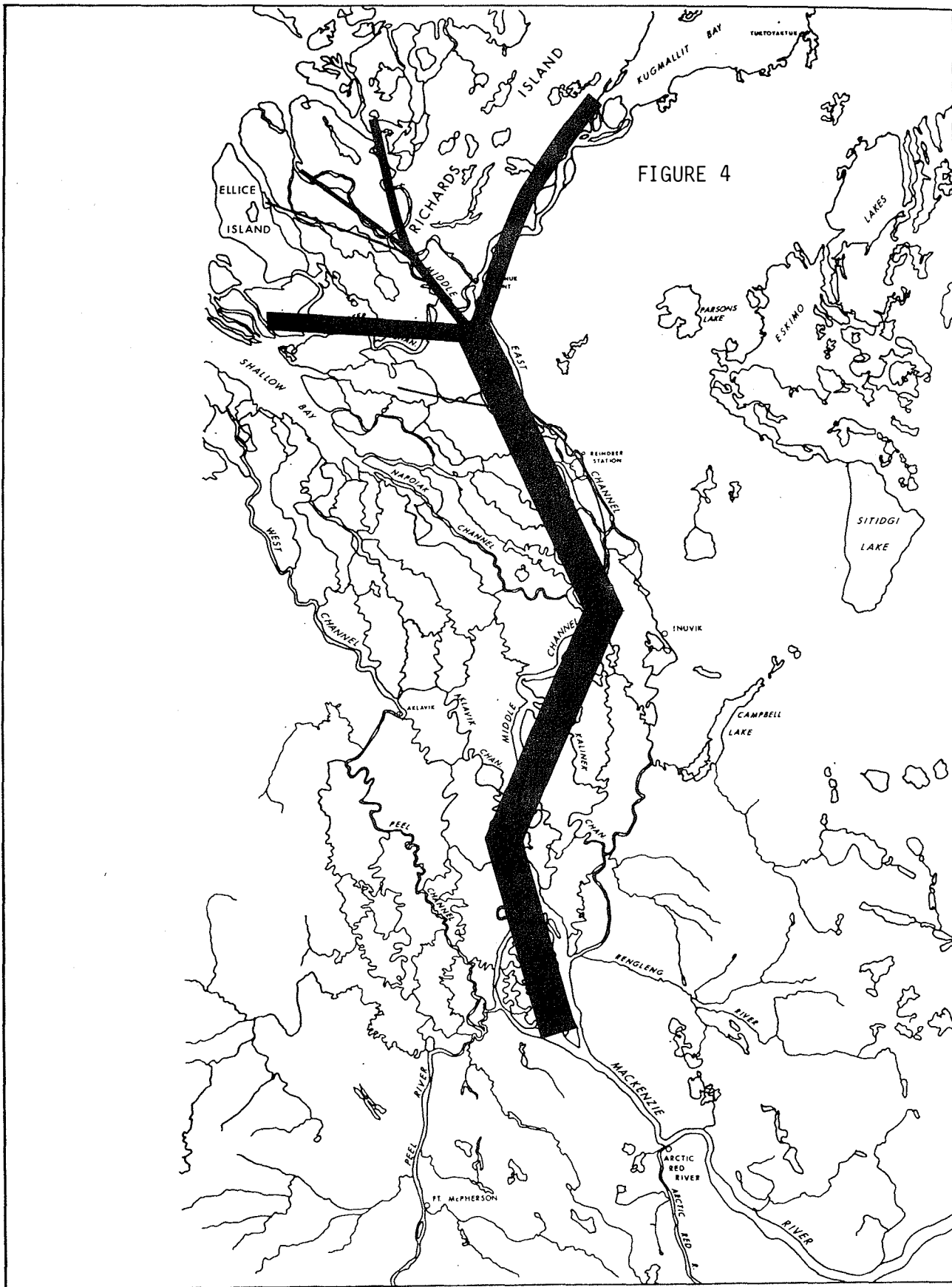
Distribution of flow through the delta channels on a monthly basis, expressed as a percentage of the total flow.

		Middle	East	Kalineke	Aklavik	Peel
1974	July	87	2	3	3	5
	Aug.	85	2	4	3.5	5.5
	Sept.	89	1	3	3	4
	Oct.	92	1	2	2	3
	Nov.	93	1	1.5	2	2.5
	Dec.	93	1	1	2.5	2.5
	Jan.	94	0.5	0.5	3	2
	Feb.	94	0.5	0.5	3	2
	Mar.	94	0.5	0.5	3	2
	Apr.	92	1	1.5	2.5	3
	May	86	2	2.5	2.5	7
1975	June	84	2	4	3	6

## 2. RICHARDS ISLAND AREA MEASUREMENTS

Figure 4 shows the results of the March 1975 series of measurements in the Richards Island area.

33.5 percent of the water went down the East Channel towards Kugmallit Bay. 37.5 percent went down the Reindeer Channel towards Shallow Bay. 28 percent of the flow went down the west side of Richards Island, with 20 percent staying in the middle channel through to Mackenzie Bay.



### 3. SEDIMENT DATA

Suspended sediment data collection was carried out at the six main delta stations, as well as the main inflow sites. Data were collected only during the open water periods, as the amount of sediment transported during the ice-covered period is a very small percentage of the total annual sediment load. Suspended sediment transport into the delta averaged over one million tons per day for the June to September 1974 period with a peak of 26 million tons per day recorded on August 12, 1974.

The suspended sediment consisted mainly of clay and silt particles with some small sand-sized particles. Clay-sized particles, those less than 0.004 mm. in size, constitute approximately 30 percent of the material found. Silt-sized particles, those from 0.004 mm. to 0.062 mm., constitute approximately 60 percent of the material. The balance of the material consists of sand-sized particles in sizes ranging from 0.062 mm. to 1.0 mm. in diameter.

Suspended sediment data in tons per day and particle size analysis results are included in the appendix at the back of this report.

#### 4. OBSERVED WATER TEMPERATURES

Water temperatures are taken at the time of the sediment sampling and during the discharge measurements.

Figure 5 below shows the variation in water temperatures observed during the 1974 open water season. Similar temperatures were encountered during the 1975 open water season.

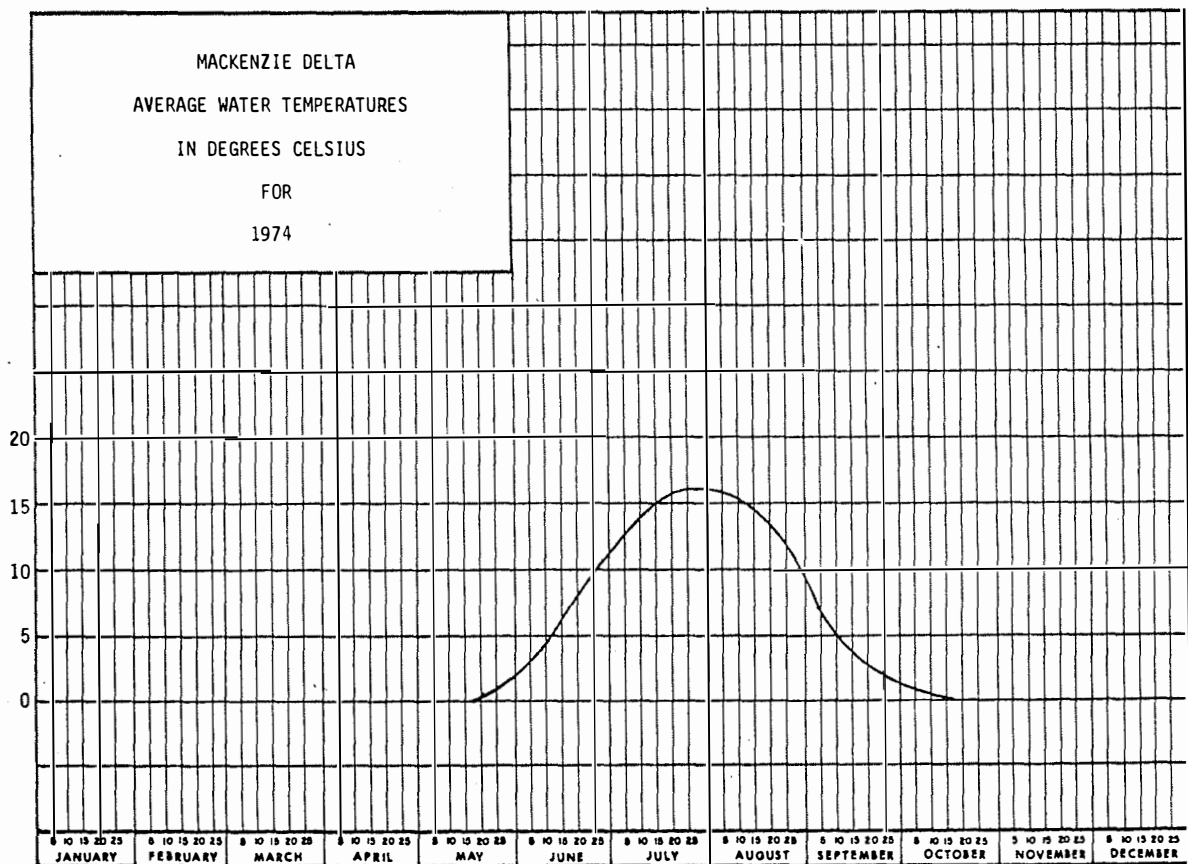


Figure 5.

## 5. ICE THICKNESS

Observations of ice thickness are made during the winter, as the ice cover is penetrated to give access to the water during flow measurements. Approximately twenty measurements of thickness are made at locations across the entire width of the channel. These observations are averaged and the one value used as the average for that date.

Figure 6 below shows the average ice thicknesses for the delta channels for 1972 to 1975. Little or no snow cover during the freeze-up period, October to early December, results in thick ice cover as represented by the High Year curve, while heavy snow cover during this period results in lesser ice build-up represented by the Low Year curve.

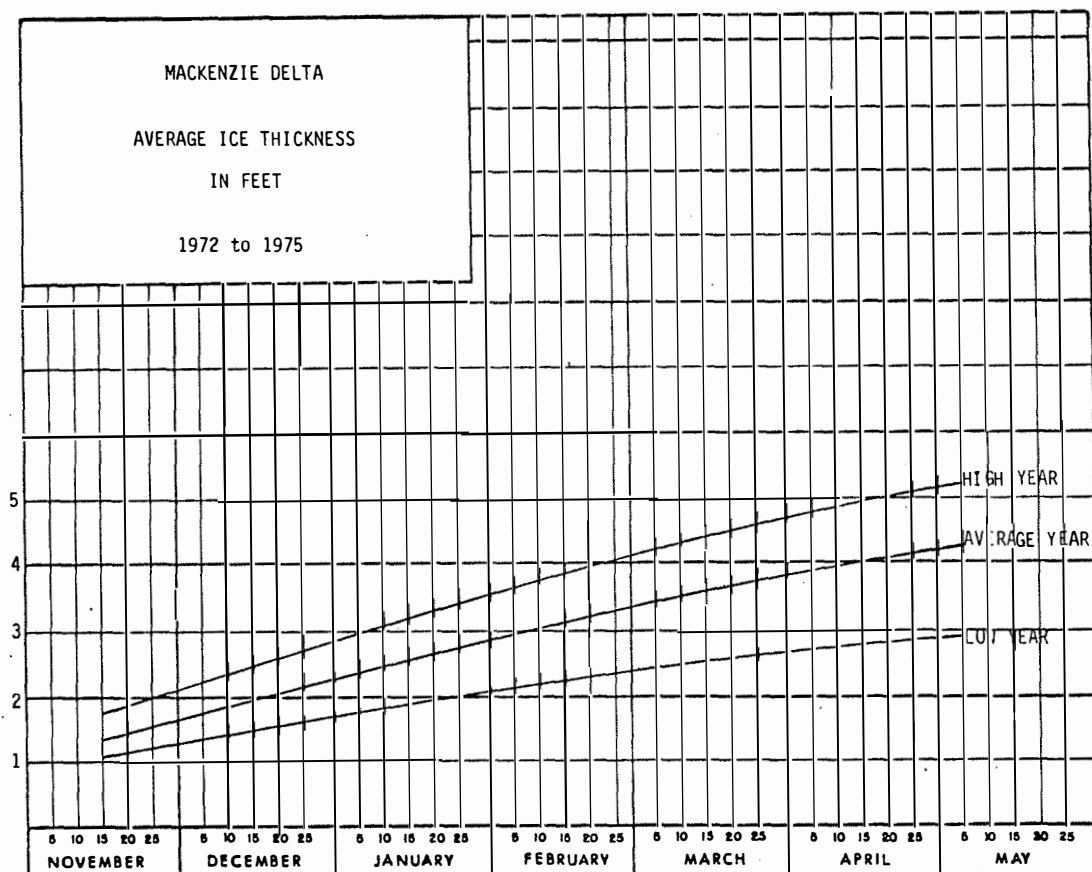


Figure 6.

### CONCLUSIONS

Inflows to the delta from eastern tributaries, specifically Rengleng River and Campbell Creek, are insignificant compared to inflow from the three main rivers.

85 to 95 percent of the water flowing through the delta is carried by the main channel.

35 percent of the main channel water will go down the east side of Richards Island into Kugmallit Bay. The balance of the water ends up in Shallow Bay and Mackenzie Bay, transversing through the myriad of westerly flowing channels.

### NEEDS FOR FURTHER STUDY

The data available to June 1975 gives us the distribution of flow for two winter periods and one open water period. This is sufficient to give a general overall idea of the flow distribution, but may not show the variation that can exist in some of the smaller channels.

The study determines distribution only as far down river as the Aklavik-Inuvik Line. Flow beyond this line can be generalized but cannot be studied in the specific without additional monitoring within the lower reaches.

An Index of eastern drainage to the delta is available with data from Rengleng River and Campbell Creek. No index of western drainage exists at this time, although it probably is also insignificant.

In general, the availability of hydrometric data within the Northwest Territories and Yukon Territory is still sparse.



## REFERENCES

1. Morris, W. V., 1969: *Water*. Inland Waters Branch, Department of Energy, Mines and Resources, Ottawa.
2. Clark, R. H. *Notes on the Water Resources of the Mackenzie River Basin*. Water Resources Branch, Department NA & NR, Ottawa.
3. Anderson, R. J., and MacKay, D. K. *Seasonal Distribution of Flow in the Mackenzie Delta, N.W.T.* Technical Report 3 to Glaciology Division, Water Resources Branch, Department of the Environment, under the Environmental-Social Program. Northern Pipelines.

## A P P E N D I X

DISCHARGE HYDROGRAPHS

1, 1974 to June 30, 1975

MACKENZIE RIVER ABOVE ARCTIC RED RIVER

DAILY DISCHARGE IN CFS.

FOR

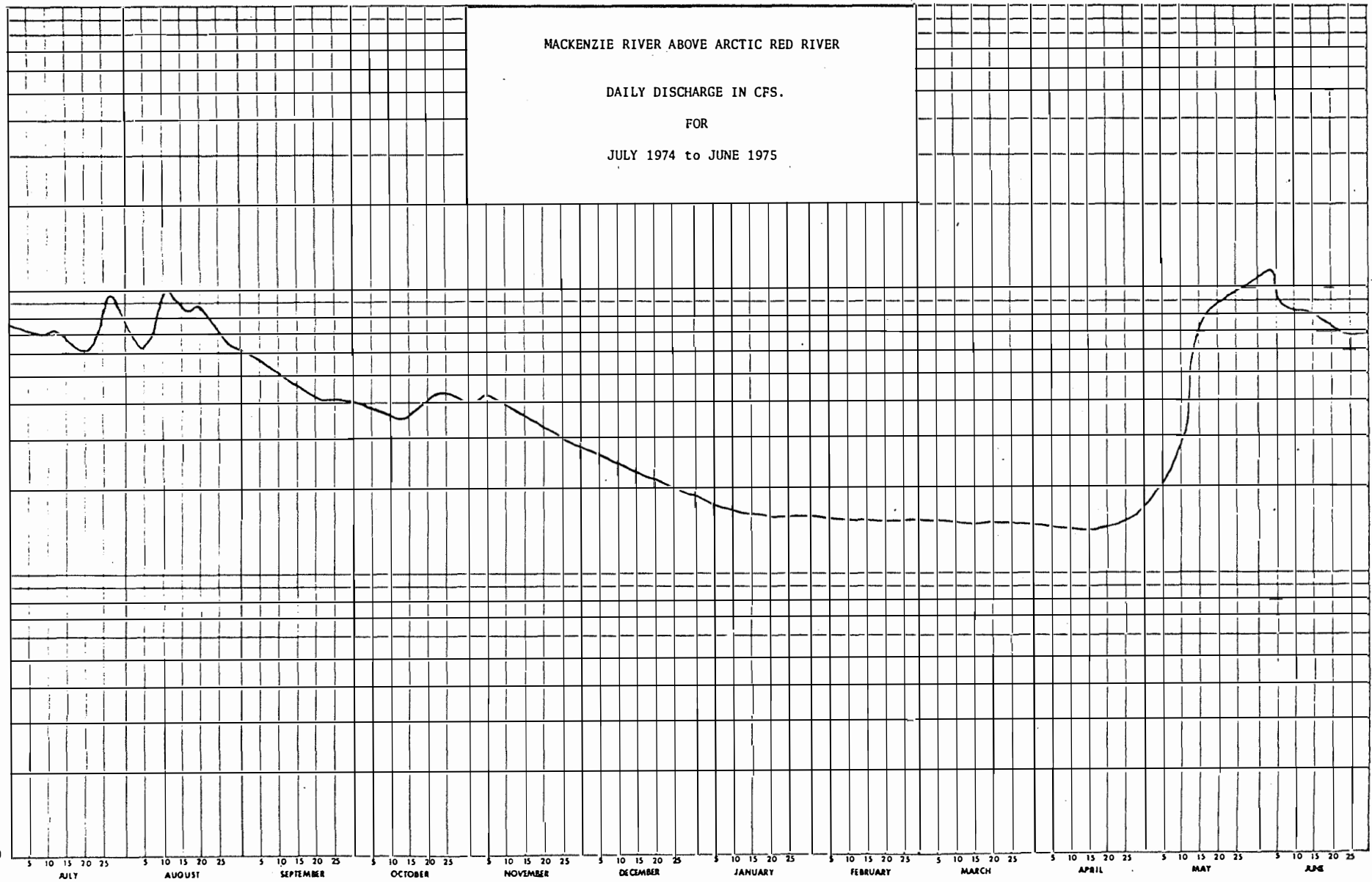
JULY 1974 to JUNE 1975

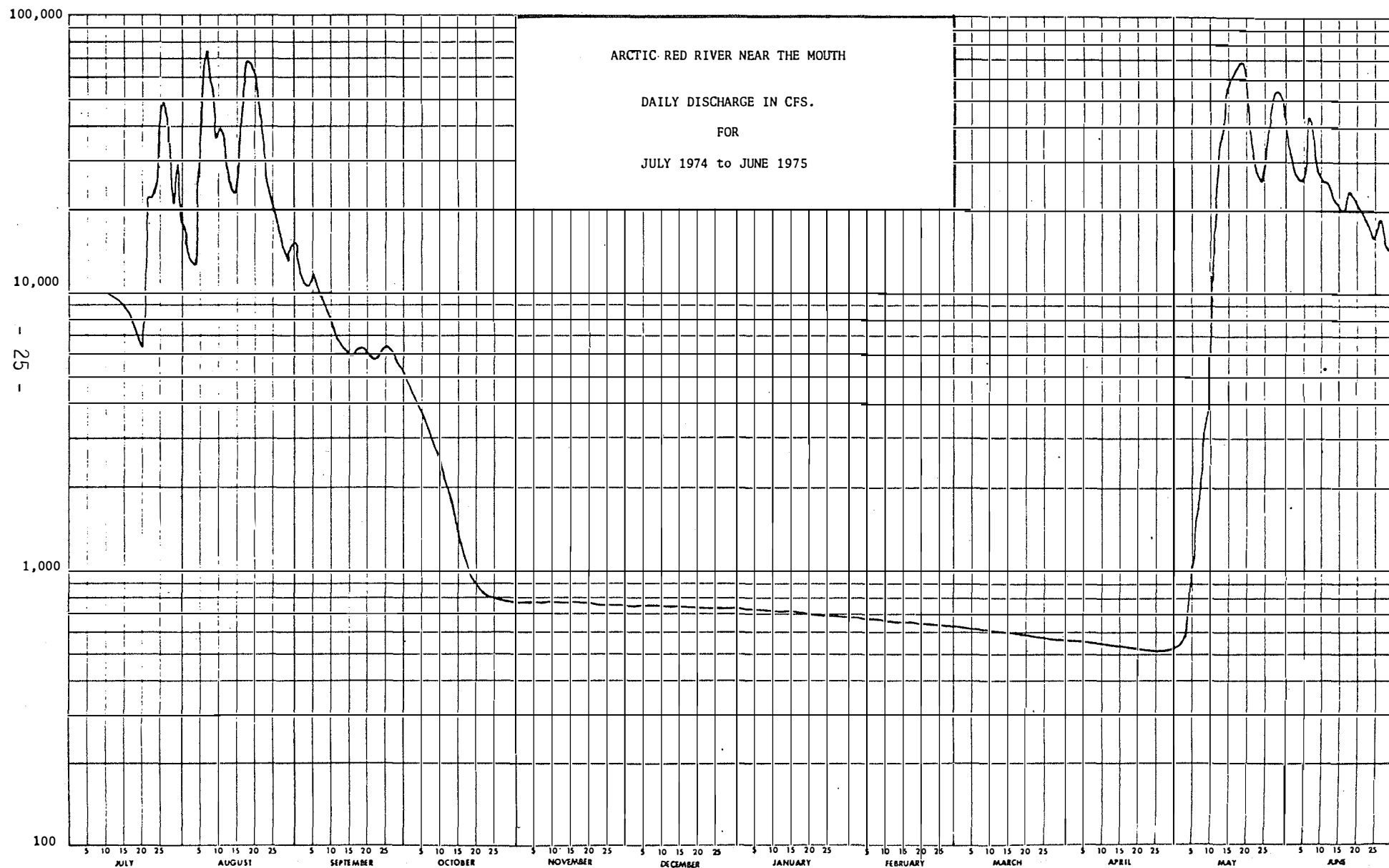
1,000,000

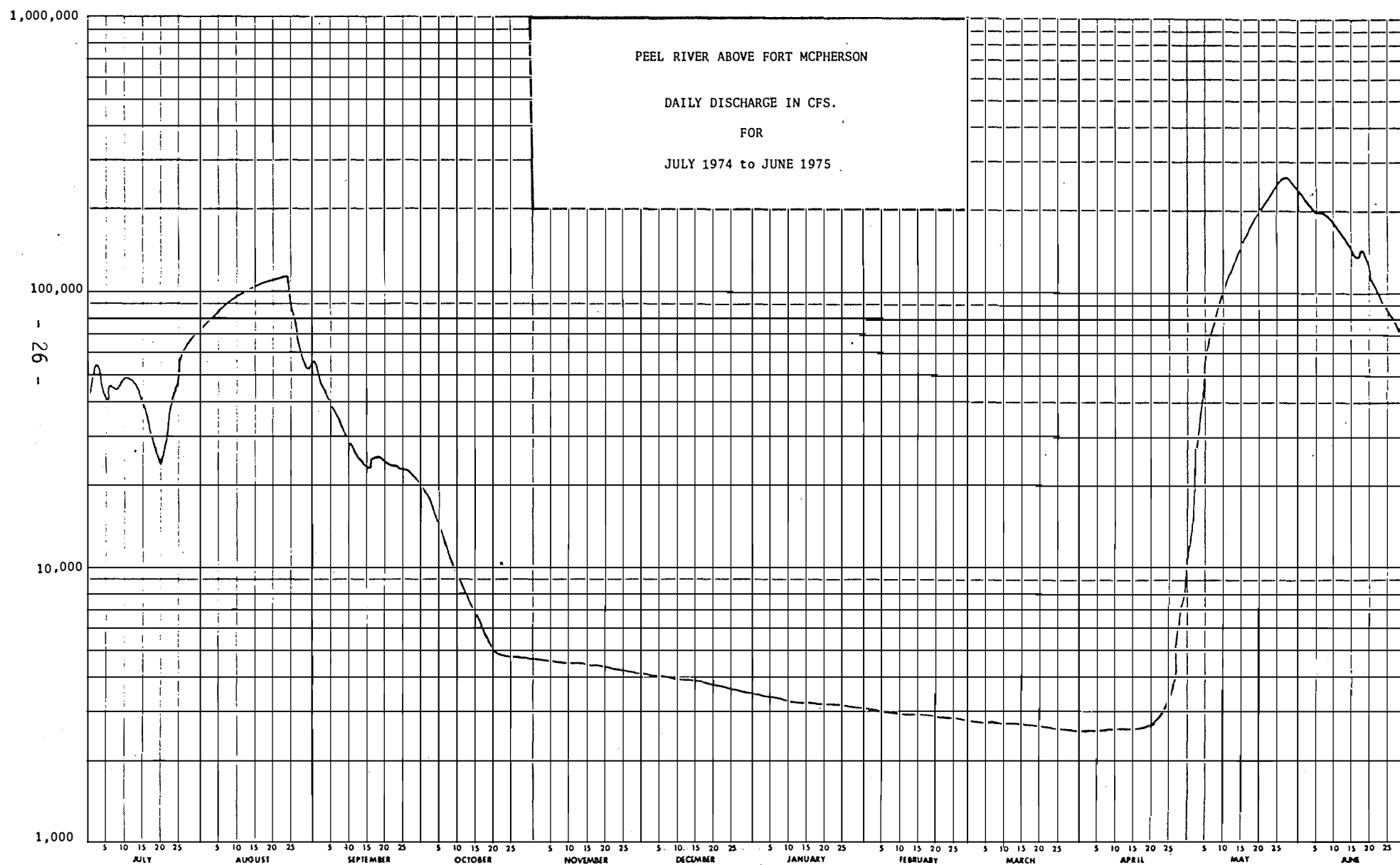
- 24 -

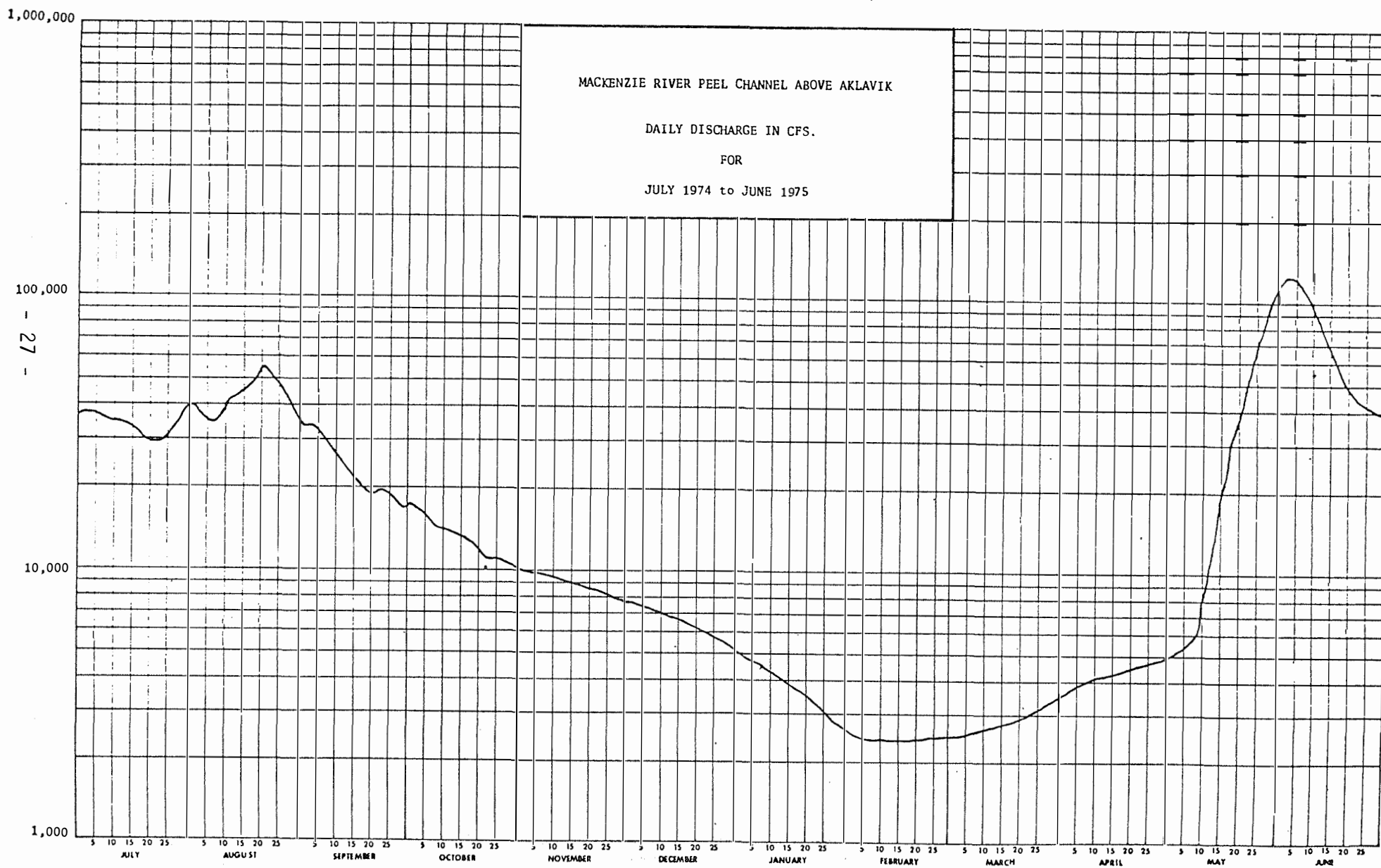
100,000

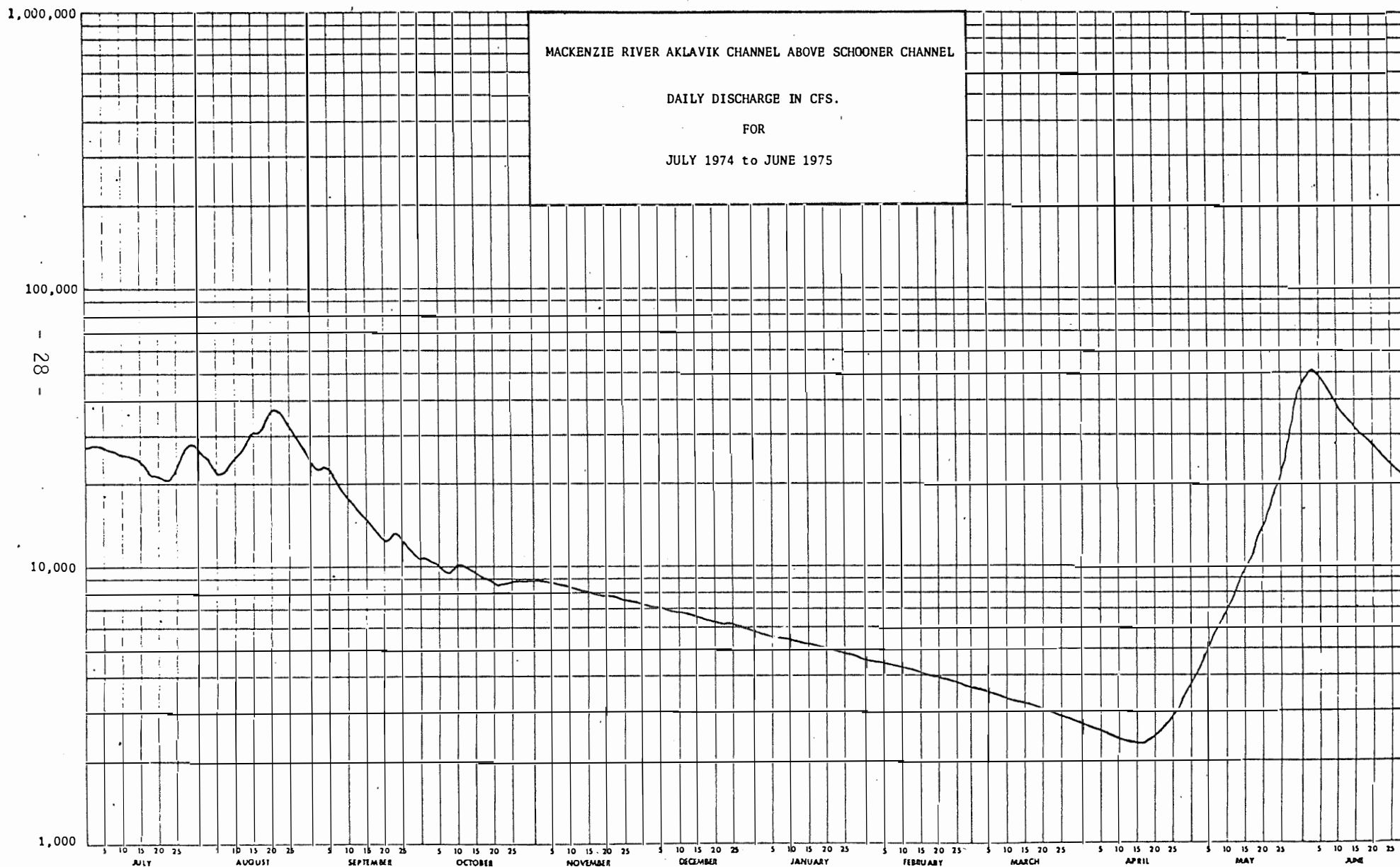
10,000













1,000,000

MACKENZIE RIVER WEST CHANNEL BELOW AKLAVIK CHANNEL

DAILY DISCHARGE IN CFS.

FOR

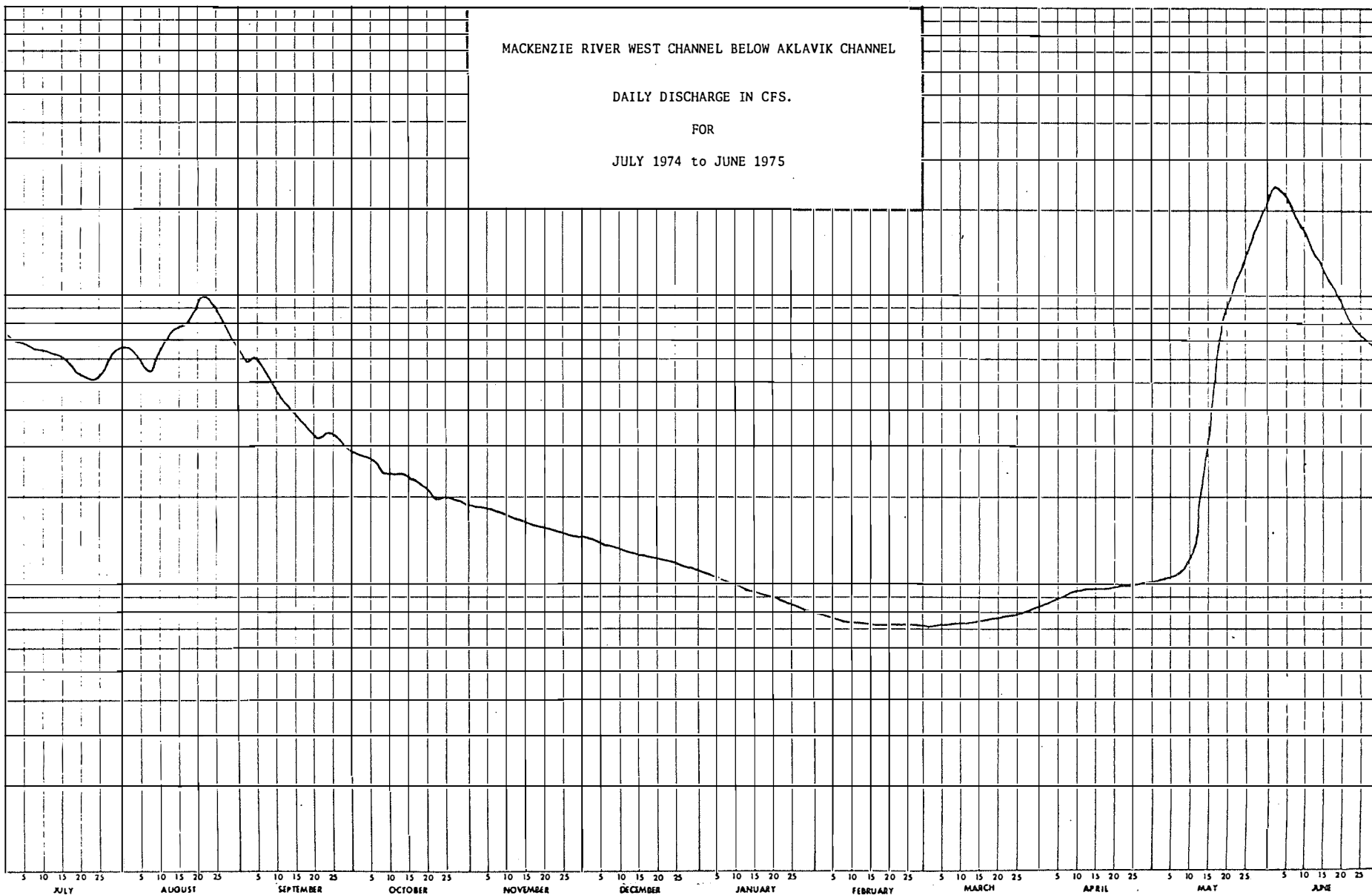
JULY 1974 to JUNE 1975

100,000

- 29 -

10,000

1,000



MACKENZIE RIVER MIDDLE CHANNEL ABOVE NAPOIK CHANNEL

DAILY DISCHARGE IN CFS.

FOR

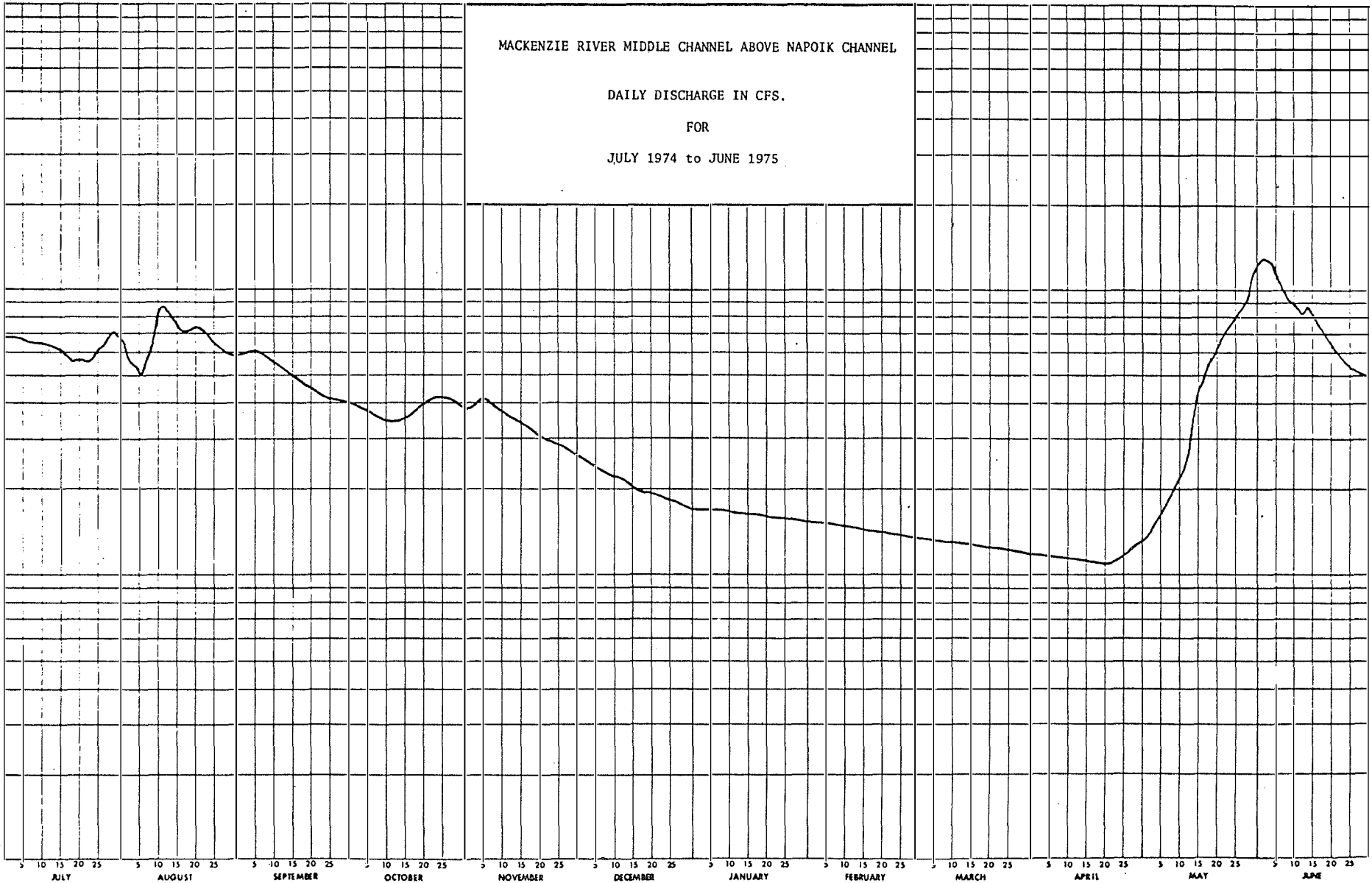
JULY 1974 to JUNE 1975

1,000,000

- 30 -

100,000

10,000



1,000,000

MACKENZIE RIVER KALINEK CHANNEL  
ABOVE ONIAK CHANNEL

DAILY DISCHARGE IN CPS.

FOR

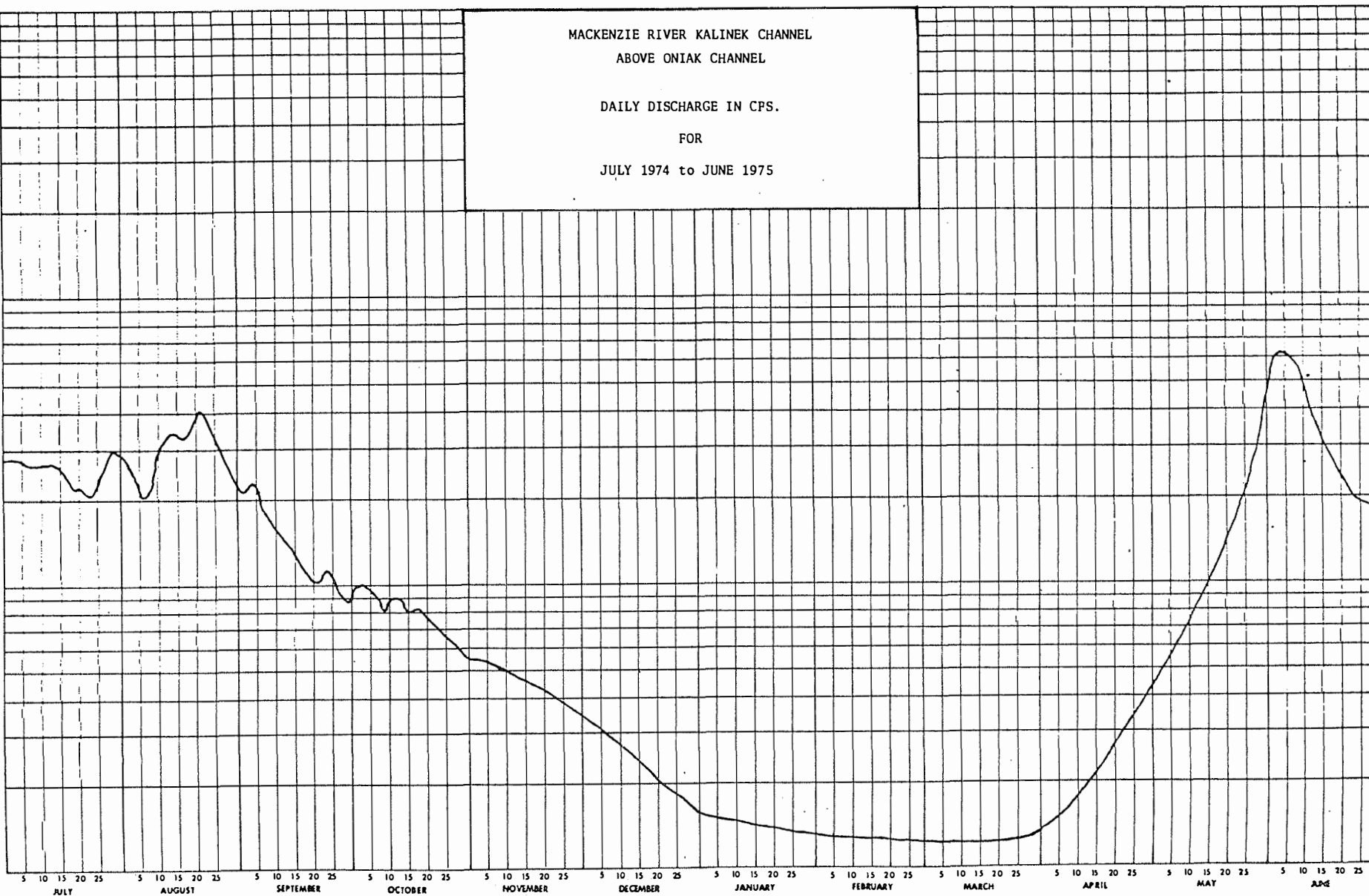
JULY 1974 to JUNE 1975

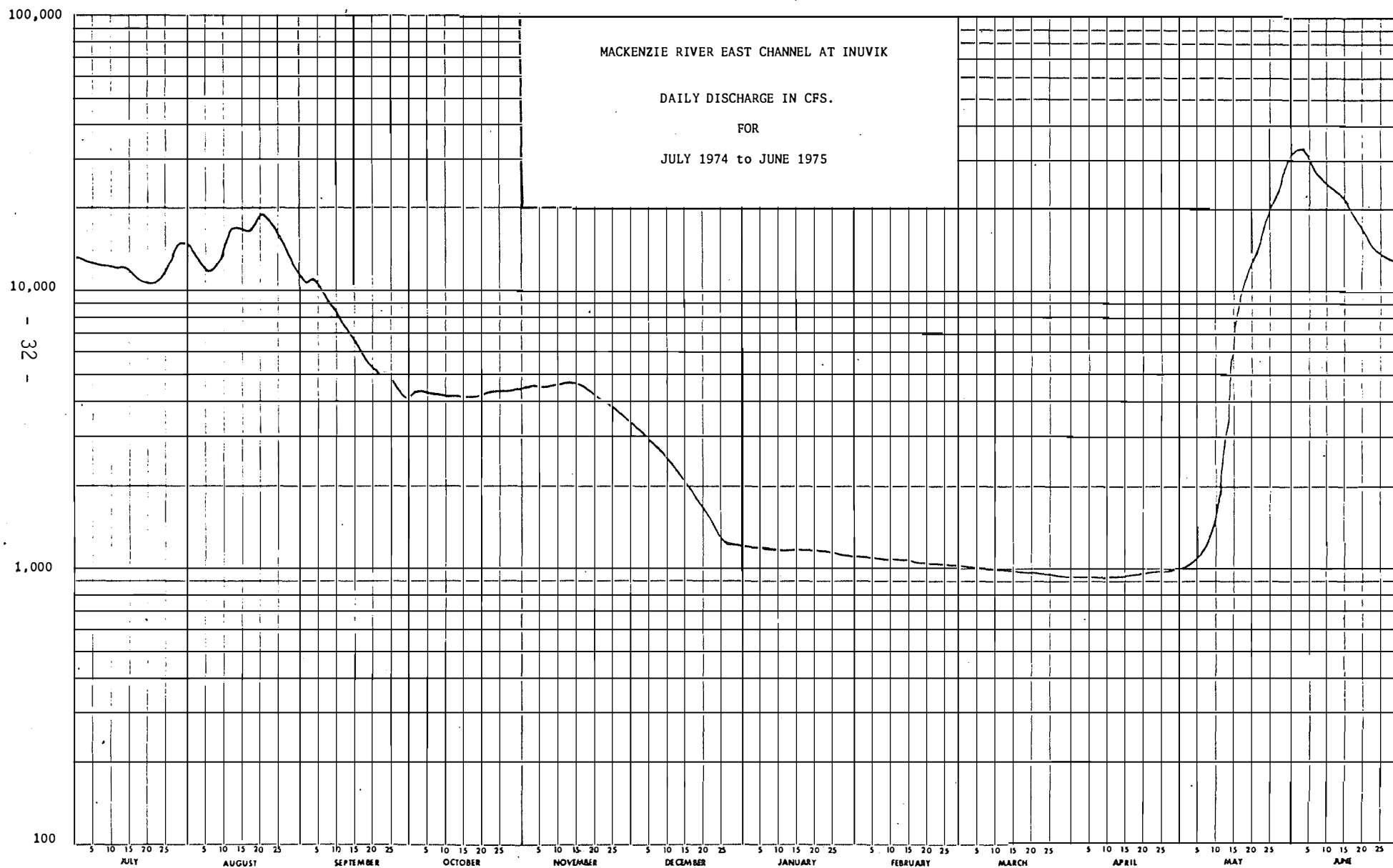
100,000

- 31 -

10,000

1,000





SUSPENDED SEDIMENT DATA

1974

PACKEN7TE RIVER ABOVE ARCTIC RED RIVER - STATION NO. 10LA003

SUSPENDED SEDIMENT FOR 1974

APR					MAY					JUN				
DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	DAY	
(C)		(CFS)	(MG/L)		(C)	(CFS)	(MG/L)		(C)	(CFS)	(MG/L)			
1		100000 B				162000 B				835000 E			1	
2		100000 B				170000 B				730000 E			2	
3		100000 B				178000 B				705000 E			3	
4		100000 B				184000 B				710000 E			4	
5		100000 B				192000 B				705000 E			5	
6		100000 B				200000 B				690000 E			6	
7		100000 B				210000 B				685000 E			7	
8		100000 B				220000 B				680000 E			8	
9		100000 B				230000 B				685000 E			9	
10		101000 B				242000 B				690000 E			10	
11		103000 B				254000 B				700000 E			11	
12		105000 B				270000 B				705000 E			12	
13		107000 B				285000 B				710000 E			13	
14		109000 B				305000 B				700000 E			14	
15		111000 B				322000 B				680000 E			15	
16		113000 B				350000 B				675000 E			16	
17		115000 B				375000 B				690000 E			17	
18		118000 B				400000 B				705000 E			18	
19		121000 B				432000 B				737000 A			19	
20		124000 B				465000 B			13.3	729000	319 S	628000	20	
21		126000 B				505000 B				747000	409	825000	21	
22		129000 B				550000 B				760000	695	1440000	22	
23		132000 B				600000 B				811000	1200	2630000	23	
24		135000 B				660000 B				841000	1800	4090000	24	
25		138000 B				720000 A				840000	1880	4260000	25	
26		142000 B				800000 E				816000	1390	3060000	26	
27		147000 B				890000 E				791000	941	2010000	27	
28		152000 B				965000 E				779000	651	1370000	28	
29		157000 B				102000 E				764000	495	1020000	29	
30		161000 B				107000 E				753000	365	742000	30	
31						102000 E							31	
TOTAL		3546000				11447000				22057000			TOTAL	
MEAN		118000				369000				735000			MEAN	

MACKENZIE RIVER ABOVE ARCTIC RIVER - STATION NO. 10LA003

SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	DAY	
1		745000	323	650000		735000	813	1610000		601000	348	565000	1	
2		743000	308	618000		699000	768	1450000		597000	338	545000	2	
3		744000	293	589000		663000	745	1330000		590000	325	518000	3	
4	10.0	736000	272 S	541000		636000	722	1240000		578000	312	487000	4	
5		725000	264	517000		623000	709 S	1190000		566000	299	457000	5	
6		716000	258	495000		641000	848	1470000		553000	283 S	423000	6	
7		713000	252	485000		673000	1160	2110000		541000	239	349000	7	
8		713000	246	474000		736000	1730	3440000		532000	186 S	267000	8	
9	13.9	715000	240 S	463000		849000	2790	6390000		524000	160	226000	9	
10		716000	237	458000		945000	4720	12000000		515000	139	193000	10	
11		725000	349	683000		989000	8460	22600000		502000	118	160000	11	
12		725000	380	744000		989000	9640 S	25700000		491000	111	147000	12	
13		713000	317	610000		953000	6010	15500000		479000	107	138000	13	
14		695000	295	554000		907000	3420	8380000		468000	104	131000	14	
15		674000	284	517000		870000	2060	4840000		459000	100	124000	15	
16		654000	276	487000		841000	1290	2930000		450000	97	118000	16	
17		637000	270	464000		837000	1000 S	2260000		440000	93	110000	17	
18		626000	253	428000		851000	914	2100000		432000	90	105000	18	
19	13.9	617000	244 S	406000		862000	831	1930000		426000	86	98500	19	
20		611000	243	401000		865000	748	1750000		420000	83	94100	20	
21		610000	243	400000		850000	665	1570000		416000	81	91000	21	
22		623000	245	412000		819000	583	1290000		414000 E	78	87200	22	
23		667000	296	533000		784000	507	1070000		412000 E	76	84500	23	
24		730000	372	733000		751000	472	957000		410000 A	73 S	80800	24	
25		816000	543 S	1200000		717000	444	860000	6.7	410000	70	77500	25	
26		907000	1200	2940000		687000	419	777000		409000	66	72900	26	
27		958000	2510	6490000		660000	400	713000		410000	63	69700	27	
28	14.4	950000	3180 S	8160000		639000	384	663000		409000	59	65200	28	
29	14.4	894000	2480 S	5990000		624000	365	615000		406000	55	60300	29	
30		833000	1590	3580000		611000	353	582000		407000	52	57100	30	
31		782000	1040	2200000		603000	352	573000					31	
TOTAL		22713000		43226000		23909000		129850000		14267000		6002200	TOTAL	
MEAN		733000		1390000		771000		4190000		476000		200000	MEAN	

## ARCTIC RED RIVER NEAR THE MOUTH - STATION NO. 10LA002

## SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	DAY	
(C)	(CFS)	(MG/L)			(C)	(CFS)	(MG/L)		(C)	(CFS)	(MG/L)			
1						16800	1510	68500		13300	502	18000	1	
2						13900	1240	46500		11900	424	13600	2	
3						12400	1060	35500		10900	366	10800	3	
4						12300	854	28400		10800	338	9800	4	
5						36300	2360 S	231000		12000	374	12100	5	
6						64700	8360	1460000		11100	321 S	9620	6	
7						74400	9630 E	1930000		10100	276	7530	7	
8						57500	4370	678000		9250	260 S	6490	8	
9		16000 A				40900	2140	236000		8450	240	5480	9	
10						36300	1610	158000		7750	216	4520	10	
11						39900	2900	312000		7270	188	3690	11	
12						36900	2710 S	270000		6840 A	160	2950	12	
13						28500	1850	142000		6500	134	2350	13	
14						23300	1320	83000		6300	114	1940	14	
15						23100 A	957	59700		6100	94	1550	15	
16	13.3	8590 A	170 S	3940		33900	1030	94300		6010	78	1270	16	
17	15.0	8190	149 S	3290		60500	2160 S	353000		5980	69	1110	17	
18		7410	138	2760		70800	3410	652000		6080	74	1210	18	
19		6740	118	2150		65600	2800	503000		6330	88	1500	19	
20		6250	104	1760		61300	2100	348000		6200	91	1520	20	
21		8450	665	15200		48600	1340	176000		5980	77	1240	21	
22		21700	3130	183000		35900	1140	111000		5740	64	992	22	
23		21600	2250	131000		28600	1060	81900		5690	50	768	23	
24	11.1	22700	1750 S	107000		24100	984	64000		5910	54 S	862	24	
25		42300	5680	649000		21100	842	48000		6280	89	1510	25	
26	11.1	48000	6850 S	888000		18800	772	39200		6530	117	2060	26	
27		43200	3970	463000	10.0	16600	676 S	30300	0.6	6310	95 S	1620	27	
28		35700	2460 S	237000		14600	600	23700		5810	70	1100	28	
29	13.3	20500	1820 S	101000		18000	559	19600		5610 B	60	909	29	
30		28200	1500	114000		14500	592	23200		5310 B	50	717	30	
31		17800	1590	76400		15500	603	25200					31	
TOTAL						1061600		8331000		228330		128868	TOTAL	
MEAN						34200		269000		7610		4300	MEAN	



PEEL RIVER ABOVE FORT MCPHERSON - STATION NO. 10MC002

SUSPENDED SEDIMENT FOR 1974

APR					MAY					JUN				
DAY	TEMP.	DAILY DISCHARGE	MEAN CONCENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CONCENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CONCENTRATION	TONS PER DAY		
(C)		(CFS)	(MG/L)		(C)	(CFS)	(MG/L)		(C)	(CFS)	(MG/L)			
1		1870 B				2260 B				126000		1		
2		1880 B				2300 B				127000		2		
3		1880 B				2350 B				129000		3		
4		1880 B				2400 B				146000		4		
5		1880 B				2450 B				152000		5		
6		1890 B				2500 B				129000		6		
7		1890 B				2550 B				85900		7		
8		1890 B				2610 B				81600		8		
9		1890 B				2700 B				73200		9		
10		1900 B				2800 B				71600		10		
11		1900 B				2900 B				63500		11		
12		1900 B				3050 B				52400		12		
13		1910 B				3200 B				45900		13		
14		1910 B				3500 B				45000		14		
15		1920 B				3700 B				46000		15		
16		1920 B				4600 B				45600		16		
17		1930 B				5700 B				45700		17		
18		1940 B				7200 B				48300		18		
19		1950 B				9000 B				52600		19		
20		1960 B				11000 B				59500		20		
21		1990 B				13000 B				58900		21		
22		2000 B				15000 B				51000		22		
23		2010 B				20000 B				43500		23		
24		2030 B				24000 B				39800		24		
25		2050 B				30000 B			13.3	37800	85 S	8680 25		
26		2100 B				37000 B				35800		26		
27		2130 B				46000 B				33600		27		
28		2160 B				57000 B				32300		28		
29		2200 B				70000 B			12.2	31500	78 S	6630 29		
30		2220 B				83000 B				33500		30		
31						100000 B						31		
TOTAL		58980				574770				2023500		TOTAL		
MEAN		1970				18500				67500		MEAN		

## PEEL RIVER ABOVE FORT MCPHERSON - STATION NO. 10MC002

## SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	DAY	
1		42800				72400				55800			1	
2		52600				74800 E				49800			2	
3	10.0	52800	3340 S	476000		77200 E				44800	209 S	25300	3	
4	7.8	47500	428 S	54900		79600 F				41500			4	
5		41000				82000 E				39200			5	
6		39600				84300 E				37800			6	
7		45100				86700 E				35800			7	
8		44300				89100 E				33600			8	
9		43200				91500 E				31600			9	
10		46400				93900 E				29800			10	
11		48400				96200 E				27900			11	
12		47800				98600 E				26300			12	
13		47100				101000 A				25100			13	
14		45300				102000 E				24000			14	
15		41400				103000 E				23200			15	
16		36900				104000 E				22800			16	
17	15.6	32300	166 S	14500		105000 E				24200			17	
18		28700				105000 E				25300			18	
19		26100				107000 E				25200			19	
20		24600				108000 E				24800			20	
21		23600				109000 E				23900			21	
22		25100				110000 E				23300			22	
23		34300				111000 E				23300			23	
24		40300			4.4	113000	739 S	225000		22900			24	
25		41900				93500			6.7	22800	87 S	5360	25	
26		51400				80300				22800			26	
27		60500 A				70000	210 S	39700		22600			27	
28		62900 E				62100				22000			28	
29		65300 E				55600	221 S	33200		20900			29	
30		67700 E				51400				19600			30	
31		70000 E				55300	219 S	32700					31	
TOTAL		1376800				2773500				872500			TOTAL	
MEAN		44400				89500				29100			MEAN	

## RENGLENG RIVER NEAR DEMPSTER HIGHWAY - STATION NO. 101C003

## SUSPENDED SEDIMENT FOR 1974

APR					*	MAY				*	JUN			
DAY	TEMP.	DAILY	MEAN CON-	TONS PER	*	TEMP.	DAILY	MEAN CON-	TONS PER	*	TEMP.	DAILY	MEAN CON-	TONS PER
(C)		DISCHARGE	CENTRATION	DAY	*	(C)	DISCHARGE	CENTRATION	DAY	*	(C)	DISCHARGE	CENTRATION	DAY
		(CFS)	(MG/L)		*		(CFS)	(MG/L)		*		(CFS)	(MG/L)	
1		0	8		*		20.2	8		*		130		1
2		0	8		*		21.0	8		*		135		2
3		0	8		*		22.0	8		*		138		3
4		0	8		*		23.0	8		*		140		4
5		10.0	8		*		24.1	8		*		148		5
6		10.1	8		*		25.2	8		*		150		6
7		10.2	8		*		26.5	8		*		153		7
8		10.5	8		*		28.1	8		*		150		8
9		10.7	8		*		29.8	8		*		148		9
10		10.9	8		*		31.4	8		*		145		10
11		11.1	8		*		33.3	8		*		148		11
12		11.4	8		*		35.5	8		*		150		12
13		11.6	8		*		38.0	8		*		150		13
14		11.9	8		*		40.8	8		*		143		14
15		12.1	8		*		43.8	8		*		130		15
16		12.4	8		*		47.5	8		*		125		16
17		12.7	8		*		51.7	8		*		115		17
18		13.1	8		*		56.0	8		*		113		18
19		13.5	8		*		61.0	8		*		115		19
20		13.9	8		*	1.1	67.5	8	107 S	19.5	*	115		20
21		14.3	8		*		75.0	8		*		113		21
22		14.7	8		*		85.0	8		*		108		22
23		15.1	8		*		97.0	8		*		100		23
24		15.6	8		*		113	8		*		96		24
25		16.1	8		*		131	8		*		94		25
26		16.7	8		*		155	8		*		90		26
27		17.2	8		*		197	8		*		88.7		27
28		17.9	8		*		242	8		*		86.1		28
29		18.6	8		*		251	8		*		82.2		29
30		19.3	8		*	1.7	248	8	99 S	66.3	*	80.9		30
31					*		184	8		*				31
TOTAL		351.6			*		2504.4			*		3679.9		TOTAL
MEAN		11.7			*		80.8			*		123		MEAN

RENGLENG RIVER NEAR DEMPSTER HIGHWAY - STATION NO. 10LC003

SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP.	DAILY	MEAN CON-	TONS PER	TEMP.	DAILY	MEAN CON-	TONS PER	TEMP.	DAILY	MEAN CON-	TONS PER		
(C)		DISCHARGE	CENTRATION	DAY	(C)	DISCHARGE	CENTRATION	DAY	(C)	DISCHARGE	CENTRATION	DAY		
		(CFS)	(MG/L)			(CFS)	(MG/L)			(CFS)	(MG/L)			
1		82.2				67.6 E				25.4		1		
2		83.5				61.6 E				25.4		2		
3	6.7	88.7	5 S	1.2		55.6 E				25.2		3		
4		99.0				49.6 E				25.2		4		
5		108				43.5 E				25.2		5		
6		115				37.5 E				25.1		6		
7		118	A			31.5 A				25.1		7		
8		148	E			30.9	7 S	0.58		24.9		8		
9		172	E			30.5				24.8		9		
10	9.4	208	A	32 S	18.0	29.8				24.7		10		
11		208				29.3				24.7		11		
12		188	A			28.8				24.7		12		
13		182	E			28.3				24.6		13		
14		176	E			27.6				24.6		14		
15		170	E			27.2				24.3		15		
16		164	E		11.1	26.3	10 S	0.71		24.3		16		
17		158	E			26.1				24.2		17		
18		152	E			25.9				24.2		18		
19		146	E			25.9				24.2		19		
20		140	E			25.9				24.1		20		
21		134	E			25.9				24.2		21		
22		128	E			26.0				24.1		22		
23		122	E			25.9				24.1		23		
24		116	E			25.9				24.0		24		
25		110	E			25.8				24.0		25		
26		104	E			25.8				24.0		26		
27		97.7	E			25.7				23.9		27		
28		91.7	E			25.7				24.3 B		28		
29		85.7	E			25.7				24.7 B		29		
30		79.7	E			25.6			0.6	25.2 B	9 S	0.61		
31		73.6	E			25.6						31		
TOTAL		4053.8				993.0				737.4		TOTAL		
MEAN		131				32.0				24.6		MEAN		

CAMPRELL CREEK NEAR INUVIK - STATION NO. 10LC004

SUSPENDED SEDIMENT FOR 1974

APR				MAY				JUN				
DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY
1		0.8				0.8	0	0		73.9	9	1.8
2		0.8				0.8	0	0		72.7	9	1.8
3		0.8				0.8	0	0		71.5	9	1.7
4		0.8				0.8	0	0		70.3	8	1.5
5		0.8				0.8	0	0		69.1	8	1.5
6		0.8				0.8	0	0		67.9	8	1.5
7		0.8				0.8	0	0		66.7	8	1.4
8		0.8				0.8	0	0		65.5	8	1.4
9		0.8				0.8	0	0		64.3	7	1.2
10		0.8				0.8	0	0		63.1	7	1.2
11		0.8				0.8	0	0		62.0	7	1.2
12		0.8				0.8	0	0		60.8	6	0.98
13		0.8				0.8	0	0		59.6	6	0.97
14		0.8				0.8	0	0		58.4	6	0.95
15		0.8				0.8	0	0		57.2	6	0.93
16		0.8				0.8	0	0		56.0	5	0.76
17		0.8				0.8	0	0		54.8	5	0.74
18		0.8				0.8	0	0	12.2	53.6	5 S	0.72
19		0.8				0.8	0	0		52.4	5	0.71
20		0.8				0.8	0	0		51.2	5	0.69
21		0.8				0.8	0	0		50.0	5	0.68
22		0.8				0.8	0	0		48.9	4	0.53
23		0.8				84.6 B	10	2.3		47.7	3	0.39
24		0.8				83.4	10	2.3	12.8	46.5	3 S	0.38
25		0.8				82.2	10	2.2		45.3	4	0.49
26		0.8				81.0	10	2.2	12.8	44.1	7 S	0.83
27		0.8				79.8	10	2.2		42.9 A	7	0.81
28		0.8				78.6	10	2.1		41.7	7	0.79
29		0.8				77.4	9	1.9		40.5	7	0.77
30		0.8				76.2	9	1.9		39.3	7	0.74
31						75.1	9	1.8				
TOTAL		0				718.3		18.9		1697.9		30.06
MEAN		0				23.2		0.6		56.6		1.0
TOTAL MEAN												

CAMPBELL CREEK NEAR INUVIK - STATION NO. 10LC004

SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	TEMP. (C)	DAILY DISCHARGE (CFS)	MEAN CON- CENTRATION (MG/L)	TONS PER DAY	DAY	
1		38.1	7	0.72	15.6	95.0 E	11 S	2.8		23.8	11	0.71	1	
2		36.9	7	0.70		91.4 E	10	2.5		22.4	11	0.67	2	
3		35.8	7	0.68		87.7 E	9	2.1		21.3	12	0.69	3	
4		34.6	6	0.56		84.1 E	7	1.6	10.0	20.2	12 S	0.65	4	
5	6.7	33.4	6 S	0.54		80.4 E	5	1.1		19.1	11	0.57	5	
6		32.2	5	0.43	13.9	76.8 E	4 S	0.83	6.1	18.0	10 S	0.49	6	
7		31.0	4	0.33		73.1 E	5	0.99		17.2	7	0.33	7	
8	11.1	29.8	4 S	0.32		69.5 E	7	1.3		16.4	6	0.27	8	
9		48.0	7	0.91	16.1	65.8 A	8 S	1.4		15.5	6	0.25	9	
10	12.2	66.1	16 S	2.9		62.2	9	1.5		14.2	6	0.23	10	
11		84.3	16	3.6		58.5	9	1.4	8.9	13.0	6 S	0.21	11	
12		102	14	3.9		54.9	9	1.3		12.3	7	0.23	12	
13		121	13	4.2		51.2	9	1.2		11.7	7	0.22	13	
14		139	12	4.5		47.6	9	1.2		11.1	8	0.24	14	
15	15.0	157	11 S	4.7		43.9	9	1.1		10.6	9	0.26	15	
16		153	13	5.4	16.7	40.3	9 S	0.98	15.6	10.0	10 S	0.27	16	
17		150	23	9.3		39.3	9	0.95		10.2	10	0.28	17	
18	15.6	146	35 S	13.8		38.3	9	0.93		10.4	10	0.28	18	
19		142	31	11.9		37.2	9	0.90		10.6	10	0.29	19	
20		139	24	9.0		36.2	10	0.98		10.8	10	0.29	20	
21		135	19	6.9	9.4	35.1	10 S	0.95		11.0	10	0.30	21	
22		131	15	5.3		34.3	9	0.83		11.2	10	0.30	22	
23		128	12	4.1	9.4	33.2	7 S	0.63		11.4	11	0.34	23	
24	14.4	124	10 S	3.3		32.4	7	0.61		11.6	11	0.34	24	
25		121	10	3.3		31.6	7	0.60		11.8	11	0.35	25	
26		117	10	3.2		30.5	7	0.58		12.0	11	0.36	26	
27		113	10	3.1		29.4	8	0.64		12.2	11	0.36	27	
28		110	11	3.3		28.3	8	0.61		12.4 E	12	0.40	28	
29		106	11	3.1		27.1	9	0.66		12.7 E	12	0.41	29	
30		102	11	3.0		26.0	10	0.70	0.6	13.1 E	12 S	0.42	30	
31		98.7	11	2.9		24.9	11	0.74					31	
TOTAL		3004.9		119.89		1566.2		34.61		418.2		11.01	TOTAL	
MEAN		96.9		3.9		50.5		1.1		13.9		0.37	MEAN	

MACKENZIE RIVER (PFEL CHANNEL) ABOVE AKLAVIK - STATION NO. 10MC003

SUSPENDED SEDIMENT FOR 1974

APR				MAY				JUN					
DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	
(C)	(CFS)	(MG/L)			(C)	(CFS)	(MG/L)		(C)	(CFS)	(MG/L)		
1										83600	329	74300	1
2										87200	402	94600	2
3										91600	488	121000	3
4										96900	579	151000	4
5										104000	665	187000	5
6										104000	677	190000	6
7										99300	574	152000	7
8										91100	479	118000	8
9										84400	395	90000	9
10										79000	326	68700	10
11										71900	269	52200	11
12									6.1	66500	222 S	39900	12
13										61500	188	31200	13
14										57200	177	27300	14
15										53400	184	26500	15
16										50600	205	28000	16
17										47900	245	31700	17
18										45600	300	36900	18
19										43400	350	41000	19
20										41700	405	45600	20
21										40600	457	50100	21
22										39600	504	53900	22
23										38900	547	57500	23
24										38300	578	59800	24
25										37900	603	61700	25
26										37400	611	61700	26
27										37000	607	60600	27
28										37100	601	60200	28
29										36600	594	58700	29
30										36500	589	58000	30
31													31
TOTAL										1838700		2189100	TOTAL
MEAN										61300		73000	MEAN

# MACKENZIE RIVER (PEEL CHANNEL) ABOVE AKLAVIK - STATION NO. 10MC003

## SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY		
(C)	(CFS)	(MG/L)	(C)	(CFS)	(MG/L)	(C)	(CFS)	(MG/L)	(C)	(CFS)	(MG/L)	(C)		
1		37300	589	59300	15.6	39400 A	349 S	37100		33600	161	14600		
2		36900	584	58200		38000 E	246	25200		33000	164	14600		
3		36900	579	57700		36500 E	180	17700		33900	185	16900		
4		36800	575	57100		35500 E	132	12700		33600	166	15100		
5		36100	570	55600		34300 E	104	9630		32300	137	11900		
6		35400	565	54000		34000 E	85	7800		30800	119	9900		
7		35000	559	52800		34800 E	82	7700		29400	112	8890		
8		34600	554	51800	16.1	35300 A	107 S	10200		28000	106	8010		
9		34700	549	51400		37800	179	18300	7.2	27000	99 S	7220		
10		34400	545	50600		40000	281	30300		25900	91	6360		
11		34000	540	49600		41200	394	43800		24700	83	5540		
12	13.3	33600	536 S	48600		42300 A	510	58200		23800	75	4820		
13		33400	521	47000		43500 E	624	73300		23200	67	4200		
14		33500	477	43100		44500 E	719	86400		22400	60	3630		
15		32700	368	32500	13.3	45500 E	749 S	92000		21600	52	3030		
16		31500	214	18200		46000 E	693	86100		20900	44	2480		
17		30400	110	9030		47000 E	681	86400		20000	37	2080		
18	18.9	29400	71 S	5640		50000 E	759	102000	6.1	19500 A	33 S	1740		
19		29200	65	5120		52000 E	866	122000		19400 B	33	1730		
20		29700	63	5050		54000 E	904	132000		19100 B	34	1750		
21		29700	62	4970		54000 E	815	119000		18900 B	32	1890		
22		29300	61	4830		52000 E	707	99300		19900 B	53	2850		
23		29300	60	4750		50000 E	599	80900		19900 B	44	2360		
24		29900	64	5170		48500 E	500	65500		19400 B	41	2150		
25		31000	110	9210		47000 E	413	52400		18700 B	39	1970		
26		32700	205	18100		45000 E	332	40300		18100 B	37	1810		
27		34900	316	29800		42500 E	270	31000		17500 B	34	1610		
28		37100	425	42600		40000 E	232	25100		17000 B	32	1470		
29		38600	531	55300	10.0	37600 A	193 S	19600		16800 B	30	1360		
30		39400	584	62100		36400	173	17000		17800 B	38	1830		
31		39600	487	52100		34800	169	15900						
TOTAL		1047000		1101270		1319400		1624830		706100		163700		
MEAN		33800		35500		42600		52400		23500		5460		
												TOTAL MEAN		



MACKENZIE RIVER (AKLAVIK CHANNEL) ABOVE SCHOONER CHANNEL - STATION NO. 10MC005

SUSPENDED SEDIMENT FOR 1974

APR					MAY					JUN				
DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TCNS PER DAY		
(C)	(CFS)	(MG/L)			(C)	(CFS)	(MG/L)		(C)	(CFS)	(MG/L)			
1										32000 E	250	21600		
2										34000 E	300	27500		
3										37500 E	350	35400		
4										40000 E	390	42100		
5										44000 E	484	57500		
6										46000 E	608	75500		
7										47000 E	700	88800		
8										44200	584	69700		
9										40600	443	48600		
10										36900	293	29200		
11										34300	195	18100		
12									4.4	30900	182 S	15200		
13										30800	166	12800		
14										30700	173	14300		
15										30600	197	16300		
16										30500	255	21000		
17										30400	304	25000		
18										30300	344	28100		
19										30200	388	31600		
20										30000	435	35200		
21										29200	476	37500		
22										28400	514	39400		
23										28100	569	43200		
24										28000	593	44800		
25										28000	595	45000		
26										27800	584	43800		
27										27000	572	41700		
28										26800	564	40800		
29										26900	555	40300		
30										26900	541	39300		
31														
TOTAL										988000		1130300		
MEAN										32900		37700		
												TOTAL		
												MEAN		

MACKENZIE RIVER (AKLAVIK CHANNEL) ABOVE SCHOONER CHANNEL - STATION NO. 10MC005

SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP.	DAILY	MEAN CON-	TONS PER	TEMP.	DAILY	MEAN CON-	TONS PER	TEMP.	DAILY	MEAN CON-	TONS PER	DAY	
(C)	(C)	DISCHARGE	CENTRATION	DAY	(C)	DISCHARGE	CENTRATION	DAY	(C)	DISCHARGE	CENTRATION	DAY		
		(CFS)	(MG/L)			(CFS)	(MG/L)			(CFS)	(MG/L)			
1		27000	533	38900	*	26300	1450	103000	*	22700	205	12600	1	
2		27000	524	38200	*	25600	1310 S	90500	*	22400	201	12200	2	
3		27100	506	37000	*	24500	1120	74100	*	22900	227	14000	3	
4		27100	494	36100	*	23300	896	56400	*	23200	242	15200	4	
5		26900	482	35000	*	22200	642	38500	*	22200	192	11500	5	
6		26400	470	33500	*	21700	403	23600	*	21100	159	9060	6	
7		26200	458	32400	*	21900	292	17300	*	19900	143	7680	7	
8		25900	445	31100	*	22600 A	416 S	25400	*	19000	131	6720	8	
9		25800	433	30200	*	23500 E	517	32800	*	18100	120 S	5860	9	
10		25700	421	29200	*	24200 E	585	38200	*	17300	113	5280	10	
11		25400	409	28000	*	25100 E	652	44200	*	16700	105	4730	11	
12	13.9	25100	395 S	26800	*	26100 E	715	50400	*	16300	96	4220	12	
13		24900	384	25800	*	27500 E	793	58900	*	15700	88	3730	13	
14		24800	365	24400	*	29000 E	893	69900	*	15200	79	3240	14	
15		24200	297	19400	*	30600 A	887 S	73300	*	14700	71	2820	15	
16		23400	209	13200	*	30300	748	61200	*	14200	62	2380	16	
17		22400	156	9430	*	30200	681	55500	*	13600	54	1980	17	
18	17.8	21600	136 S	7930	*	31600	832	71000	*	13100	46 S	1630	18	
19		21100	128	7290	*	33800	1130	103000	*	12900	43	1500	19	
20		21300	126	7250	*	36600	1350	133000	*	12600	42	1430	20	
21		21100	120	6940	*	37100	1200	120000	*	12400	40	1340	21	
22		20700	114	6370	*	35900	1050	102000	*	13100	71	2510	22	
23		20500	117	6480	*	34600	909	84900	*	13700	76	2730	23	
24		21000	215	12200	*	33300	738	66400	*	12900	70	2440	24	
25		22100	428	25500	*	31600	590	50300	*	12400	64	2140	25	
26		23500	712	45200	*	30200	485	39500	*	11800	59	1890	26	
27		25300	1080	73800	*	28500	392	30200	*	11400	53	1630	27	
28		26500	1420	102000	*	27200	295	21700	*	11000	47	1400	28	
29		27200	1680	123000	*	26000	234 S	16400	*	19700	41	1180	29	
30		27400	1690	125000	*	24800	220	14700	*	10800 E	55	1600	30	
31		27000	1580	115000	*	23500	213	13500	*				31	
TOTAL		761600		1152490	*	869300		1779800	*	473600		146610	TOTAL	
MEAN		24600		37200	*	28000		57400	*	15800		4890	MEAN	

WACKENZIE RIVER (WEST CHANNEL) BELCH AKLAVIK CHANNEL - STATION NO. 10MC004

SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY		
(C)	(CFS)	(MG/L)			(C)	(CFS)	(MG/L)		(C)	(CFS)	(MG/L)			
1		71000	292	56000	15.6	65000	691 S	121000		58400	198	31200		
2		69400	288	54000		63600	603	104000		57600	187	29100		
3		69100	291	54300		61000	533	87800		60600	232	38000		
4		68900	290	53900		59300	443	69700		59800	216	34900		
5		67200	278	50400		55500	347	52000		57100	176	27100		
6		65700	265	47000		53800	268	38900		54000	141	20600		
7		65100	257	45200		53500	207	29900		50800	103	14100		
8		64200	249	43200	16.1	56200	238 S	36100		48100	88	11400		
9		64300	230	39900		63500	356	61000	7.2	46000	81 S	10100		
10		63700	218	37500		67300	428	77800		44000	78	9270		
11		62700	209	35400		69800	443	83500		42400	72	8240		
12	14.4	61800	209 S	34900		72200	518	101000		41500	63	7060		
13		61900	208	34700		75400	614	125000		41200 A	56	6230		
14		62000	202	33800		76700	720	149000		39000 E	53	5580		
15		60500	197	32200	13.3	77100	831 S	173000		37000 E	52	5190		
16		58400	188	29600		76500	831	172000		36000 E	47	4570		
17		55900	184	27800		76800	789	164000		35000 E	40	3780		
18		53600	179	25900		81900	825	190000	6.1	33100 A	34 S	3040		
19		52600	162	23000		89000	940	226000		33000	25	2230		
20		53400	154	22200		99000	974	260000		32300	22	1920		
21		52700	132	18800		98400	871	231000		31900	25	2150		
22		51200	123	17000		95900	758	196000		34200	30	2770		
23		50400	133	18100		92400	661	165000		34400	28	2600		
24		50900	186	25600		88300	577	138000		33300	26	2340		
25		52600	268	38100		83800	490 S	111000		31900	26	2240		
26		55500	367	55000		79100	413	88200		30800	25	2080		
27		59300	461	73800		74500	353	71000		29900	24	1940		
28		62800	555	94100		70900	302	57800		29000	20	1570		
29		65300	640	112000	10.0	67000	250	45200		28500	16	1230		
30		65900	713	127000		63500	215	36900		28400 E	18	1380		
31		65600	752	133600		60400	205	33400						
TOTAL		1883500		1494400		2265400		3485200		1219200		293910		
MEAN		60800		48200		73100		112000		40600		9800		
												TOTAL MEAN		

MACKENZIE RIVER (MIDDLE CHANNEL) ABOVE NAPOIAK CHANNEL - STATION NO. 10MC006

SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY		
(C)	(CFS)	(MG/L)			(C)	(CFS)	(MG/L)		(C)	(CFS)	(MG/L)			
1		677000	793	1450000		605000 E	1910	3120000		590000 E	357	569000		
2		665000	772	1400000		570000 E	1560	2400000		590000 E	357	569000		
3		666000	764	1370000		533000 E	1240	1780000		600000 E	400	648000		
4		666000	750	1350000		536000 E	996	1440000		606000 E	338	553000		
5		654000	736	1200000		495000 E	887	1190000		606000 A	280	458000		
6		646000	722	1260000		511000 E	838	1160000		590000 E	250	398000		
7		646000	702	1230000		543000 E	908	1330000		580000 E	230	360000		
8		633000	692	1180000	16.1	594000 A	1100 S	1760000		570000 E	211	325000		
9		642000	673	1170000		720000 E	1520	2950000	7.2	555000 A	192 S	288000		
10		634000	655	1130000		810000 E	2110	4610000		540000 E	178	260000		
11	14.4	634000	638 S	1090000		850000 E	2600	5970000		530000 E	177	253000		
12		626000	647	1090000		850000 E	2260	5190000		520000 E	164	230000		
13		620000	642	1070000		820000 E	1760	3900000		510000 E	149	205000		
14		618000	599	995000	13.9	765000 A	1390 S	2870000		500000 E	135	182000		
15		602000	532	865000		735000 E	1170	2320000		490000 E	121	160000		
16		583000	383	603000		705000 E	1040	1980000		480000 E	108	140000		
17		569000	312	475000		700000 E	1040	1970000		470000 E	95	121000		
18		557000	265	399000		710000 E	1240	2380000		460000 E	84	104000		
19		558000	249 S	375000		720000 E	1510	2940000	7.8	446000 A	81 S	97500		
20		567000	220	337000		725000 E	1840	3600000		440000 A	79	93900		
21		557000	190	286000		720000 E	1800	3500000		430000 E	77	89400		
22		548000	222	328000		700000 E	1500	2840000		425000 E	76	87200		
23		552000	290	432000		680000 E	1180	2170000		420000 E	74	83900		
24		573000	569	880000		650000 E	909	1600000		415000 E	72	80700		
25		594000	911	1460000		630000 E	725	1230000		415000 E	70	78400		
26		632000	1360	2320000		615000 E	597	991000		410000 E	68	75300		
27		663000	1850	3310000		600000 E	515	834000		410000 E	67	74200		
28		685000	2350	4350000		590000 E	441	703000		405000 E	65	71100		
29		708000	2780	5310000	11.7	588000 A	387 S	614000		405000 E	63	68500		
30		689000	2730	5080000		585000 E	376	594000		400000 E	61	65900		
31	15.6	670000 A	2320 S	4200000		585000 E	367	580000						
TOTAL		19338000		48103000		20440000		70516000		14808000		6789400		
MEAN		624000		1550000		659000		2270000		494000		226000		

# MACKENZIE RIVER (KALINEK CHANNEL) ABOVE ONIAK CHANNEL - STATION NO. 10LC006

## SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY		
(C)	(CFS)	(MG/L)			(C)	(CFS)	(MG/L)		(C)	(CFS)	(MG/L)			
1		27500 E	1050	78000		27400	905	67000		21100	105	5980		
2		27800 E	1040	78100		26400	733	52200		21300	117	6730		
3		27400 E	1030	76200		24400	580	38200		22900	165	10200		
4		27000 E	1030	75100		22700	409	25100		22900	168	10400		
5		26700 E	1020	73500		21100	278	15800		21000	111	6290		
6		26200 E	1010	71400		20400	190	10500		19200	75	3890		
7		26200 E	1000	70700		20900	171	9650		17700	60	2870		
8		26100 E	995	70100	16.1	22200	219 S	13100		16800	54	2450		
9		26100 E	985	69400		25700	305	21200	7.2	16000	51 S	2200		
10		26300 E	975	69200		28700	404	31300		15200	49	2010		
11	14.4	26900 A	965 S	70100		30800	507	42200		14700	47	1870		
12		26800	920	66600		32500	608	53400		14400	44	1710		
13		26500	777	55600		33700	707	64300		13700	44	1630		
14		26500	570	40800	13.9	34300	741 S	68600		13100	42	1450		
15		25500	370	25500		33700	611	55600		12600	41	1390		
16		24300	209	13700		32900	481	42700		11900	39	1250		
17	15.0	23100	95 S	5930		32300	489	42600		11300	38	1160		
18		22100	72	4300		33900	712	65200		10900	36	1060		
19		21600	71	4140		36900	1120	112000		10600	35	1000		
20		22200	69	4140		40600	1550	170000	8.3	10400	33 S	927		
21		21600	68	3970		40500	1530	167000		10300	31	862		
22		20800	72	4040		38200	1100	113000		11100	34	1020		
23		20400	152	3370		35900	784	76000		11400	29	893		
24		21300	308	17700		33500	566	51200		10800	24	700		
25		22600	503	30700		31300	407	34400		9920	21	562		
26		24600	673	44700		29200	304	24000		9450	21	536		
27		27000	872	63600		27100	231	16900		9150	20	494		
28		28700	1110	66000		25700	191	13300		8910	18	433		
29		30300	1310	107000	12.8	24600	171 S	11400		8790	16	380		
30		29700	1290	103000		22800	155	9540		10100	18	491		
31		28600	1110 S	85700		21800	129	7590						
TOTAL		788400		1577250		912100		1524980		417620		72878		
MEAN		25400		50900		29400		49200		13900		2430		
												TOTAL MEAN		

# MACKENZIE RIVER (EAST CHANNEL) AT INUVIK - STATION NO. 10LC002

## SUSPENDED SEDIMENT FOR 1974

APR					MAY					JUN				
DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	DAY	
(C)	(CFS)	(MG/L)			(C)	(CFS)	(MG/L)		(C)	(CFS)	(MG/L)			
1		280 B				340 B				25700	273	18900	1	
2		282 B				342 B				25800	242	16900	2	
3		284 B				344 B				26400	264	18800	3	
4		286 B				468 B				27400	336	24900	4	
5		288 B				593 B				29200	457	36000	5	
6		290 B				717 B				31400	619	52500	6	
7		292 B				841 B				30800	610	50700	7	
8		294 B				966 B				28100	449	34100	8	
9		296 B				1090 B				25500	329	22700	9	
10		298 B				1210 B			3.9	23800	244 S	15700	10	
11		300 B				1340 B				22200	212	12700	11	
12		302 B				1460 B				20600	201	11200	12	
13		304 B				1590 B				19000	200	10300	13	
14		306 B				1710 B				17500	201	9500	14	
15		308 B				1840 B				16300	201	8850	15	
16		310 B				1950 B				15300	208	8590	16	
17		312 B				2830 B				14500	218	8530	17	
18		314 B				3180 B				13900	226	8480	18	
19		316 B				3620 B				13300	243	8730	19	
20		318 B				4370 B				12900	267	9300	20	
21		320 B				5770 B				12700 A	291	9980	21	
22		322 B				8110 B				12800 E	308	10600	22	
23		324 B				10700 B				12800 E	336	11600	23	
24		326 B				12900 B				12900 E	375	13100	24	
25		328 B				15000 B			7.8	12900 E	404 S	14100	25	
26		330 B				16500 B				13000 E	395	13900	26	
27		332 B				19100 B				12900 E	382	13300	27	
28		334 B				21900 B				12900 A	375	13100	28	
29		336 B				24400 B				12800	371	12800	29	
30		338 B				25200 B				12800	363	12500	30	
31						25500 B							31	
TOTAL		9270				215881				568100		512360	TOTAL	
MEAN		309				6960				18900		17100	MEAN	

## MACKENZIE RIVER (EAST CHANNEL) AT INUVIK - STATION NO. 10LC002

## SUSPENDED SEDIMENT FOR 1974

JUL					AUG					SEP				
DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TONS PER DAY	TEMP.	DAILY DISCHARGE	MEAN CON- CENTRATION	TCNS PER DAY	DAY	
(C)	(CFS)	(MG/L)			(C)	(CFS)	(MG/L)		(C)	(CFS)	(MG/L)			
1		13100	351	12400		14100	1540	58600		10500	130	3690	1	
2		12900	332	11600		13700	1170	43300		10400	112	3140	2	
3		12900	317	11000		13000	899	31600		10800	134	3910	3	
4		12800	307	10600		12300	715	23700		10800	144	4200	4	
5		12600	293	9970		11600	563	17600		10200	121	3330	5	
6		12300	277	9200		11300	450	13700		9540	112	2880	6	
7		12300	262	8700		11200	415	12500		8940	102	2450	7	
8		12100	255	8330		11600	473	14800		8440	88	2010	8	
9		12300	245	8140	15.0	12800	633 S	21900		8040	85	1850	9	
10		12300	238	7900		13900	845	31700	6.7	7690	64 S	1330	10	
11		12100	228	7450		14800	1060	42400		7380	56	1120	11	
12		12000	214	6930	13.9	15800	1350 S	57600		7160	54	1040	12	
13		12000	204	6610		16300	1410	62100		6890	50	930	13	
14		12100	191	6240	13.9	15500	1130 S	50300		6560	48	850	14	
15		11800	173	5510		16300	956	42100		6260	47	794	15	
16		11200	155	4810		16000	892 S	38500	5.6	5950	44 S	707	16	
17		11000	142	4220		15700	795	33700		5670	39	597	17	
18		10600	123	3520		15900	723	31000		5390	38	553	18	
19		10500	112 S	3180		17100	852	39300		5210	37	520	19	
20		10700	108	3120		18400	1120	55600		4990	36	485	20	
21		10600	104	2980		18500	1050	52400		4870	38	500	21	
22		10400	107	3000	10.0	17800	791 S	38000		5090	40	550	22	
23		10400	85	2390		17000	646	29700		5120	38	525	23	
24		10700	85	2460		16000	537	23200		4890	26	343	24	
25		11300	122	3720		15100	467	19000		4570	34	420	25	
26	16.1	12100	209 S	6830		14200	410	15700		4380	36	426	26	
27	16.1	13200	540 S	19200		13300	337	12100		4200	35	397	27	
28	15.6	14000	871	32900		12600	267	9080		4090	33	364	28	
29	16.7	14800	1110	44400	11.1	12000	222 S	7190		3980	29	312	29	
30	16.7	15000	1500 S	60800		11300	178	5430		4340	24	281	30	
31	15.6	14700	1940 S	77000		10800	151	4400					31	
TOTAL		376800		405110		446900		938200		202340		40514	TOTAL	
MEAN		12200		13100		14400		30300		6740		1350	MEAN	

PARTICLE SIZE ANALYSIS  
OF SUSPENDED SEDIMENT

1974





Particle-size analyses of suspended sediment of Peel River above Fort McPherson Station No. 104002 for year 1974  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visual accumulation tube)

[illegible]

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH—WATER SURVEY OF CANADA

Particle-size analyses of suspended sediment of Mackenzie River, Peel Channel above Aklavik Station No. 10MC003 for year 19 74  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visual accumulation tube)

[illegible]

Particle-size analyses of suspended sediment of above Schooner Channel Station No. 10-MC05 for year 1974  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visual accumulation tube)

INLAND WATERS BRANCH-WATER SURVEY OF CANADA  
Mackenzie River, West Channel

Particle-size analyses of suspended sediment of below Aklavik Channel Station No 10VC004 for year 1974  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed; M, mechanically dispersed; V, visual accumulation tube)

- 55 -

Mackenzie River, Middle Channel above  
Particle-size analyses of suspended sediment of Napiak Channel Station No. 10MC006 for year 19 74  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in natural water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visual accumulation tube)

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH—WATER SURVEY OF CANADA

Particle-size analyses of suspended sediment of Mackenzie River Kalinek Channel above Oniak-Ch. Station No 101R006 for year 1974  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visual accumulation tube)

- 56 -

Particle-size analyses of suspended sediment of Mackenzie River East Channel at Inuvik, Station No 10LC002 for year 1974  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visual accumulation tube)

- 57 -

PARTICLE SIZE ANALYSIS  
OF BED MATERIAL

1974

Particle size analyses of fine material of Mackenzie River above Arctic Red River Station No. 10LA003 for year 19 74  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, native water; W, undistilled water;  
C, chemically dispersed; M, mechanically dispersed; V, visual accumulation tube; H, hydrometer)

[illegible]

Particle size analyses of bed material of Peel River above Fort McPherson Station No. 10MC002 for year 1974  
(Methods of analysis: B. Bottom withdrawal tube; P. Pitler's S. sieve; N. in native water; W. in distilled water;  
C. Chemically dispersed; M. mechanically dispersed; V. visual accumulation tube; H. hydrometer)

DEPARTMENT OF ENERGY, MINES AND RESOURCES  
INLAND WATERS BRANCH - WATER SURVEY OF CANADA

Particle-size analysis of bed load material of Mackenzie River Aklavik Channel above Schooner Channel Station No. 10MC005 for year 19 74  
(Methods of analysis: B. bottom withdrawal tube; P. pipette; S. sieve; N. in native water; W. in distilled water;  
C. chemically dispersed; M. mechanically dispersed; V. visual accumulation tube; M. hydrometer)

- 60 -



Particle size analysis of bed <sup>bed</sup> material of Mackenzie River, Middle Channel above Napoiak Channel Station No. 10MC006 for year 1974  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water;  
C, chemically dispersed; M, mechanically dispersed; V, visual accumulation tube; H, hydrometer)

DEPARTMENT OF ENERGY, MINES AND RESOURCES  
INLAND WATERS BRANCH - WATER SURVEY OF CANADA

Particle size analyses of bed <sup>load</sup> material of Mackenzie River East Channel at Inuvik Station No. 10LC002 for year 1974  
(Methods of analysis: B. bottom withdrawal tube; P. pipette; S. sieve; N. in native water; W. in distilled water;  
C. chemically dispersed; M. mechanically dispersed; V. visual accumulation tube; H. hydrometer)

- 61 -

SUSPENDED SEDIMENT DATA

1975

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH WATER SURVEY OF CANADA

SUMMARY OF SUSPENDED SEDIMENT ANALYSIS RESULTS FOR YEAR 1975

Stream Peel River Location above Fort McPherson

Date	Time	Water Level	Temperature	Sample Location	River Depth	Sample Depth	Type of Sample	Sample Number	Volume Sample (cc)	Total Sample Dry Weight (gr)	Total Concentration (mg/l)	Total Sample D <sub>50</sub> (mm)	% Sand 05 to 4.75 mm	% Silt 005 to 05 mm	% Clay 005 mm	Dissolved Solids (mg/l)	Method of Analysis
June			°C														
7	2330			M/S	15.0		D.I.	7001	704	1.0717	1522					123	Filt.
8	1210	30.68	8.0	103	11.6		"	02	625	.8102	1296					118	"
8				178	17.0		"	03	642	.8146	1209					120	"
8				253	24.3		"	04	780	1.0780	1382					116	"
8				328	27.0		"	05	765	1.2097	1581					120	"
8				403	39.0		"	06	797	1.2478	1566					127	"
8	1315	30.68	8.0	M/S	21.0		D.I.	7007	747	.9392	1257	.0090	11	53	36	125	B.N.W.

Computed by \_\_\_\_\_ Date \_\_\_\_\_

Checked By \_\_\_\_\_ Date \_\_\_\_\_

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH WATER SURVEY OF CANADA

SUMMARY OF SUSPENDED SEDIMENT ANALYSIS RESULTS FOR YEAR 1975

Stream Arctic Red River Location near the Mouth

Date	Time	Water Level	Temperature	Sample Location	River Depth	Sample Depth	Type of Sample	Sample Number	Volume Sample (cc)	Total Sample Dry Weight (gr)	Total Concentration (mg/l)	Total Sample D <sub>50</sub> (mm)	% Sand 05 to 4.75 mm	% Silt 005 to 05 mm	% Clay 005 mm	Dissolved Solids (mg/l)	Method of Analysis
June			°C														
7	1750			M/S	22.0		D.I.	AR1	702	3.0692	4372	.0119	7	63	30	185	BNW
20	1205		12.5	"	8.0		"	2AB	713	1.0531	1477					176	Filt.
24	1415		16.0	"	13.3		"	3AB	442	.2794	632	.0039	1	41	58	195	BNW

Computed by \_\_\_\_\_ Date \_\_\_\_\_

Checked By \_\_\_\_\_ Date \_\_\_\_\_

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH - WATER SURVEY OF CANADA

SUMMARY OF SUSPENDED SEDIMENT ANALYSIS RESULTS FOR YEAR 19 75

Stream Mackenzie River

Location above Arctic Red River

Date	Time	Water Level	Temperature	Sample Location	River Depth	Sample Depth	Type of Sample	Sample Number	Volume Sample (cc l)	Total Sample Dry Weight (g/l)	Total Concentration (mg/l)	Total Sample 0.50 (mm)	% Sand 0.5 to 4.7 mm	% Silt 0.05 to 0.5 mm	% Clay 0.05 mm	Dissolved Solids (mg/l)	Method of Analysis
June								MA									
7	1410	19.36		258	75.2		D.I.	2001	764	.3488	457					158	Filt.
7		"		438	62.0		"	2	701	.2796	329					151	"
7		"		618	41.0		"	3	620	.2060	332					169	"
7		"		798	30.0		"	4	478	.1527	319					152	"
7	1520	"		978	31.0		"	5	466	.1264	271					153	"
7	1800	19.36			32.0		"	6	783	.2812	359	.0102	13	52	35	153	BNW
24	1300		16.0		28.0		D.I.	2007AB	439	.0933	213					167	Filt.

Computed by \_\_\_\_\_ Date \_\_\_\_\_

Checked By \_\_\_\_\_ Date \_\_\_\_\_

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH - WATER SURVEY OF CANADA

SUMMARY OF SUSPENDED SEDIMENT ANALYSIS RESULTS FOR YEAR 19 75

Stream Mackenzie River Peel Channel

Location above Aklavik

Date	Time	Water Level	Temperature	Sample Location	River Depth	Sample Depth	Type of Sample	Sample Number	Volume Sample (cc l)	Total Sample Dry Weight (g/l)	Total Concentration (mg/l)	Total Sample 0.50 (mm)	% Sand 0.5 to 4.7 mm	% Silt 0.05 to 0.5 mm	% Clay 0.05 mm	Dissolved Solids (mg/l)	Method of Analysis
June			°C					MA									
17	1640		11.0		37.0		D.I.	3001AB	855	.5052	597	.0077	3	57	40	128	BNW
23	1400		16.0		38.0		"	3002AB	623	.1950	317	.0067	3	55	42	154	BNW
July								MA									
17	1950		20.5	275	9.3		D.I.	5003AB	469	.0379	81					185	Evap.
17			"	224	13.8		"	04	408	.0367	90					193	"
17			"	156	22.8		"	05	647	.0606	91					181	"
17			"	105	41.0		"	06	801	.1591	199					181	"
17	2005		20.5	57	28.9		"	07	632	.1910	302					173	"

Computed by \_\_\_\_\_ Date \_\_\_\_\_

Checked By \_\_\_\_\_ Date \_\_\_\_\_

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH - WATER SURVEY OF CANADA

SUMMARY OF SUSPENDED SEDIMENT ANALYSIS RESULTS FOR YEAR 19 75

Stream Mackenzie River Aklavik Channel

Location above Schooner Channel

Date	Time	Water Level	Temperature °C	Sample Location	River Depth	Sample Depth	Type of Sample	Sample Number	Volume Sample (cc)	Total Sample Dry Weight (g)	Total Concentration (mg/l)	Total Sample D <sub>50</sub> (mm)	% Sand 05 to 4.7 mm	% Silt 005 to 005 mm	% Clay 005 mm	Dissolved Solids (mg/l)	Method of Analysis
June								MA									
17	1915		11.0		30.0		D. I.	5001AB	621	.2348	378	.0031	1	37	62	152	BNW
23	1120		16.0		31.0		D. I.	5002AB	618	.1626	263	.0048	8	41	51	146	BNW
July								MA									
17	1550		20.5	205	5.0		D. I.	5003AB	456	.2149	471					172	Evap.
17			"	163	12.2		"	04	451	.2182	484					166	"
17			"	121	23.2		"	05	709	.3405	480					159	"
17			"	79	29.1		"	06	651	.3086	474					159	"
17	1610		20.5	37	28.7		"	07	791	.3653	462					167	"

Computed by \_\_\_\_\_ Date \_\_\_\_\_

Checked By \_\_\_\_\_ Date \_\_\_\_\_

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH - WATER SURVEY OF CANADA

SUMMARY OF SUSPENDED SEDIMENT ANALYSIS RESULTS FOR YEAR 19 75

Stream Mackenzie River West Channel

Location below Aklavik Channel

Date	Time	Water Level	Temperature °C	Sample Location	River Depth	Sample Depth	Type of Sample	Sample Number	Volume Sample (cc)	Total Sample Dry Weight (g)	Total Concentration (mg/l)	Total Sample D <sub>50</sub> (mm)	% Sand 05 to 4.7 mm	% Silt 005 to 005 mm	% Clay 005 mm	Dissolved Solids (mg/l)	Method of Analysis
June								MA									
17	1740		11.0		20.5		D. I.	4001AB	545	.2527	460	.0043	2	45	53	136	BNW
23	1500		16.0		8.7		D. I.	4002AB	513	.1206	235					144	Evap.

Computed by \_\_\_\_\_ Date \_\_\_\_\_

Checked By \_\_\_\_\_ Date \_\_\_\_\_

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH WATER SURVEY OF CANADA

SUMMARY OF SUSPENDED SEDIMENT ANALYSIS RESULTS FOR YEAR 19 75

Stream Mackenzie River Middle Channel

Location above Napoiak Channel

Date	Time	Water Level	Temperature °C	Sample Location	River Depth	Sample Depth	Type of Sample	Sample Number	Volume Sample (cc)	Total Sample Dry Weight (gr)	Total Concentration (mg/l)	Total Sample 0.50 (mm)	% Sand 0.5 to 4.75 mm	% Silt 0.05 to 0.075 mm	% Clay 0.075 mm	Dissolved Solids (mg/l)	Method of Analysis
June								MA									
13	1145			689	90.0		D.I.	6001	811	.7811	963					148	Evap.
13				1180	70.0		D.I.	02	762	.7455	978					153	"
13				1670	64.0		"	03	813	.7523	925	.0123	26	40	34	159	BNW
13				2170	58.0		"	04	810	.6621	817					143	Evap.
13	1245			2820	34.0		"	05	427	.3572	837					140	"
17	1150				32.0		"	06AB	735	.5450	741					149	"
23	0940		16.0		30.0		D.I.	6007AB	484	.1769	365	.0102	16	47	37	147	BNW
July								MA									
18	1245				38.0		D.I.	6008AB	733	.3604	492					154	Evap.

Computed by \_\_\_\_\_ Date \_\_\_\_\_

Checked By \_\_\_\_\_ Date \_\_\_\_\_

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH WATER SURVEY OF CANADA

SUMMARY OF SUSPENDED SEDIMENT ANALYSIS RESULTS FOR YEAR 19 75

Stream Mackenzie River Kalinek Channel

Location above Oniak Channel

Date	Time	Water Level	Temperature °C	Sample Location	River Depth	Sample Depth	Type of Sample	Sample Number	Volume Sample (cc)	Total Sample Dry Weight (gr)	Total Concentration (mg/l)	Total Sample 0.50 (mm)	% Sand 0.5 to 4.75 mm	% Silt 0.05 to 0.075 mm	% Clay 0.075 mm	Dissolved Solids (mg/l)	Method of Analysis
June								MA									
12	1430			269	18.0		D.I.	7001AB	726	.1643	226					151	Evap.
12				515	20.0		"	02	705	.1605	228					148	"
12				761	14.5		"	03	639	.1332	208					155	"
12				1007	14.9		"	04	718	.2072	289					150	"
12	1530			1253	17.8		"	05	601	.1784	297					153	"
23	0845		16.0		9.7		D.I.	7006AB	646	.0753	117					138	"

Computed by \_\_\_\_\_ Date \_\_\_\_\_

Checked By \_\_\_\_\_ Date \_\_\_\_\_

SUMMARY OF SUSPENDED SEDIMENT ANALYSIS RESULTS FOR YEAR 19 75

Location at Inuvik

Checked By \_\_\_\_\_ Date \_\_\_\_\_

PARTICLE SIZE ANALYSIS  
OF SUSPENDED SEDIMENT

1975





Particle-size analyses of suspended sediment of Peel River above Fort McPherson Station No. 10XK002 for year 1975  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, slurs; M, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visual accumulation tube)

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH—WATER SURVEY OF CANADA

Particle-size analyses of suspended sediment of Mackenzie River Peel Channel above Aklayik Station No. 10MC003 for year 1975  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, viscous accumulation tube)

- 70 -

Particle-size analyses of suspended sediment of Mackenzie River-Aklavik Channel above Schooner Ch. Station No. 10MC005 for year 19 75  
(Methods of analysis: D, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visual accumulation tube)

[illegible]

Particle-size analyses of suspended sediment of Aklavik Channel Station No. 10MC004 for year 1975  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visible accumulation tube)

[illegible]

Particle-size analyses of suspended sediment of Napoliak Channel Station No 10SK006 for year 1975  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visual accumulation tube)

DEPARTMENT OF THE ENVIRONMENT  
INLAND WATERS BRANCH—WATER SURVEY OF CANADA

Particle-size analyses of suspended sediment of Mackenzie River East Channel at Inuvik, Station No. 10LC002 for year 1975  
(Methods of analysis: B, bottom withdrawal tube; P, pipette; S, sieve; N, in native water; W, in distilled water; C, chemically dispersed;  
M, mechanically dispersed; V, visual accumulation tube)

- 72 -