Interim Compilation of 1977 Suspended Sediment Data for the AOSERP Study Area

Project WS I.I

December 1979

Sponsored jointly by

Alberta ENVIRONMENT

Environment Canada

Environnement Canada

15th Floor, Oxbridge Place
9820 - 106 Street
Edmonton, Alberta, Canada
T5K 2J6

ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

RESEARCH PROGRAM

These research reports descrive the results of investigations funded under the Alberta Oil Sands Environmental Research Program, which was established by agreement between the Governments of Alberta and Canada in February 1975 (amended September 1977). This 10-year program is designed to direct and co-ordinate research projects concerned with the environmental effects of development of the Athabasca Oil Sands in Alberta.

A list of research reports published to date is included at the end of this report.

Enquiries pertaining to the Canada-Alberta Agreement or other reports in the series should be directed to:

Alberta Oil Sands Environmental Research Program
15th Floor, Oxbridge Place
9820 106 Street
Edmonton, Alberta
T5K 2J6
(403) 427-3943

Interim Compilation of 1977
Suspended Sediment Data
for the AOSERP Study Area

Project WS 1.1

This report may be cited as:

Warner, L.A. 1979. Interim compilation of 1977 suspended sediment data for the AOSERP study area. Prep. for the Alberta Oil Sands Environmental Research Program by Water Survey of Canada, Environment Canada. AOSERP Project WS 1.1. 47 pp.

The Hon. J.W. (Jack) Cookson
Minister of the Environment
222 Legislative Building
Edmonton, Alberta

and

The Hon. John Fraser
Minister of the Environment
Environment Canada
Ottawa, Ontario

Sirs:

Enclosed is the report "Interim Compilation of 1977 Suspended Sediment Data for the AOSERP Study Area".

This report was prepared for the Alberta Oil Sands Environmental Research Program, through its Water System, under the Canada-Alberta Agreement of February 1975 (amended September 1977).

Respectfully,

W. Solodzuk, P.Eng.
Chairman, Steering Committee, AOSERP
Deputy Minister, Alberta Environment

A.H. Macpherson, Ph.D
Member, Steering Committee, AOSERP
Regional Director-General
Environment Canada
Western and Northern Region

INTERIM COMPILATION OF 1977 SUSPENDED SEDIMENT DATA FOR THE AOSERP STUDY AREA

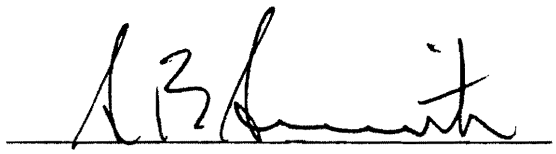
DESCRIPTIVE SUMMARY

BACKGROUND AND PERSPECTIVE

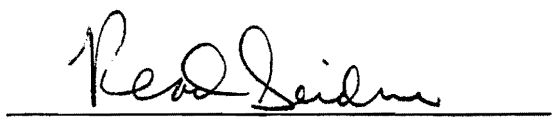
Both hydrometric and suspended sediment information from the AOSERP study area continue to be gathered and compiled by Water Survey of Canada. For background information regarding the inception of the hydrometric program, the reader is referred to AOSERP Reports 18 and 51. The current report covers only suspended sediment information for 1977. It is anticipated that further updates in data will become available in future years.

ASSESSMENT

The quality of the data in the report is consistent with the high standards of Water Survey of Canada and it is anticipated that this report will be of value to researchers within AOSERP and the oil sands industry. The Alberta Oil Sands Environmental Research Program accepts the report "Interim Compilation of 1977 Suspended Sediment Data for the AOSERP Study Area" as a useful contribution and thanks Water Survey of Canada and the author for their efforts.



S.B. Smith, Ph.D
Program Director
Alberta Oil Sands Environmental
Research Program



R.T. Seidner, Ph.D
Research Manager
Water System

INTERIM COMPILATION OF 1977 SUSPENDED SEDIMENT DATA FOR THE AOSERP STUDY AREA

by

L.A. WARNER
Water Survey of Canada
Environment Canada

for

ALBERTA OIL SANDS ENVIRONMENTAL
RESEARCH PROGRAM

WS 1.1

December 1979

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ABSTRACT

This compilation report contains all the available 1977 suspended sediment concentration and particle size data collected in the Alberta Oil Sands Environmental Research Program study area.

ACKNOWLEDGEMENTS

This research project WS 1.1 was funded by the Alberta Oil Sands Environmental Research Program, a joint Alberta-Canada research program established to fund, direct, and co-ordinate environmental research in the Athabasca Oil Sands area of northeastern Alberta.

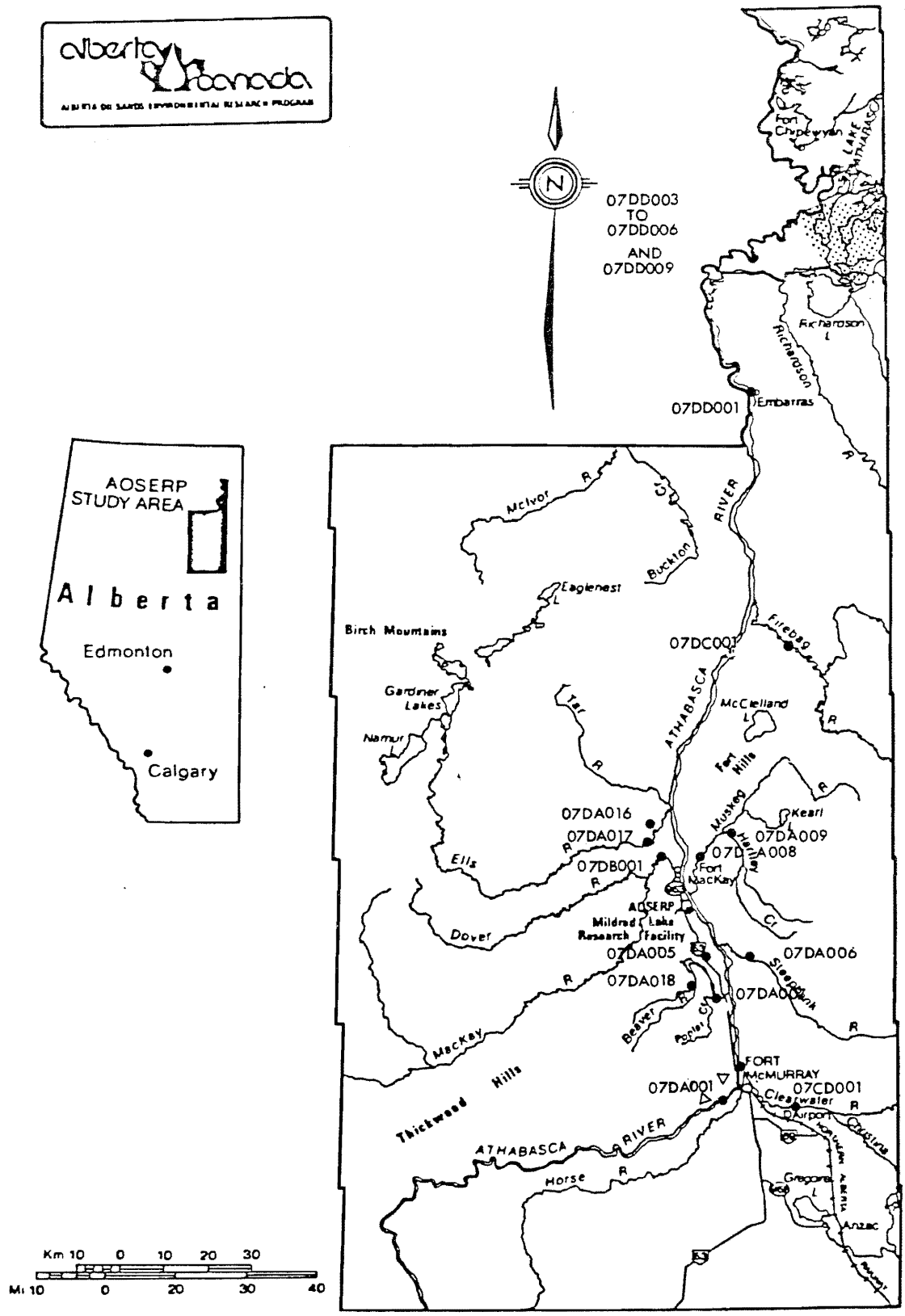
1. INTRODUCTION

This report contains all the available suspended sediment discharge information for 1977 that was collected by Water Survey of Canada within the Alberta Oil Sands Environmental Research Program (AOSERP) study boundaries. Information on suspended sediment concentration at fourteen stream gauging station locations are contained within the Appendix. Suspended sediment discharge information is given along with any available particle size data.

The data have been collected and analyzed according to prescribed Water Survey of Canada standards. No details on procedures are contained herein but this information may be obtained by referring to the Annual Sediment Data for Canadian Rivers publications.

The availability of sediment data in the study area prior to 1977 is indicated in the "Interim Compilation of 1976 Suspended Sediment Data in the AOSERP Study Area" (Warner 1978), obtainable from the AOSERP office.

Sampling locations for stream gauging stations are indicated in Figure 1 by gauging station number.



1. The AOSERP study area with sediment sampling gauging station indicated.

2. REFERENCES CITED

Environment Canada. Annually. Sediment Data Canadian Rivers. Ottawa, Ontario.

Warner, L.A. 1978. Interim compilation of 1976 suspended sediment data for the AOSERP study area. Prep. for the Alberta Oil Sands Environmental Research Program by Water Survey of Canada, Environment Canada. AOSERP Report 51. 59 pp.

3. APPENDIX

This Appendix contains suspended sediment information for 14 stream gauging locations. Data that are listed include temperature, concentration, daily streamflow, and suspended sediment discharge. In addition, particle size information is included for three of the locations.

SEDIMENT SURVEY
APR 4 1979 PAGE 307
CALGARY, ALTA.

ATHABASCA RIVER AT EMBARRAS AIRPORT - STATION NO. 07DD001

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1													1
2													2
3													3
4													4
5													5
6													6
7													7
8													8
9													9
10													10
11													11
12													12
13													13
14													14
15													15
16													16
17													17
18													18
19													19
20													20
21													21
22										8400	B		22
23										8400	B		23
24										8400	B		24
25										8400	B		25
26										8400	B		26
27										8400	B		27
28										8400	B		28
29										8400	B		29
30										8400	B		30
31										8400	B		31
TOTAL MEAN													TOTAL MEAN

SEDIMENT SURVEY
APR 4 1979 PAGE 308
CALGARY, ALTA.

ATHABASCA RIVER AT EMBARRAS AIRPORT - STATION NO. 07DD001

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		8400 B			9.0	28100	264 S	15500		63300	342	58500	1
2		8600 B				27300	185	13600		68200	385	70900	2
3		8800 B			10.0	27700	179 S	13400		88700	735	176000	3
4		9800 B				29100	240	18900		100000	1150	311000	4
5		10200 B			10.0	30300	154 S	12600		101000	1180	322000	5
6		10900 B				38400	100	3210		95400	1060	273000	6
7		11300 B			11.0	29700	126 S	10100		92400	891	222000	7
8		11800 B				28700	167	12900		89400	731 S	176000	8
9		12500 B			12.0	27800	213 S	16000	10.0	83800	597 S	135000	9
10		14800 B				27400	233	17200		76700	466	96500	10
11		16800 B			13.0	39900	683 S	73600	19.0	69900	346 S	65300	11
12		18800 B				63700	807	139000		64700	274	47900	12
13		21000 B			13.0	68800 E	604 S	111000	19.0	65400	257 S	45400	13
14		24000 B				63000 E	784	128000		78900	304	58200	14
15		26000 B			13.0	60000 E	871 S	141000	20.0	64000 E	318 S	55000	15
16		29000 B				59000 E	770	123000		59000 E	340	54200	16
17		31000 B			11.0	58000 E	604 S	94600	20.0	55000 E	374 S	55500	17
18		33400 B				64300	590	102000		52000 E	398	55900	18
19		36000 B			12.0	63900	403 S	69500	20.0	54000 E	437 S	63700	19
20		39800 B				60900	387	58500		56000 E	359	54300	20
21		42000 B			12.0	59400	480 S	77800	20.0	57100	192 S	29600	21
22		44000 B				62800	634	108000		55800	138	20800	22
23		46000 B			12.0	64600	478 S	83400	20.0	53700	125 S	18100	23
24		46000 B				63800	334	57500		52200	121	17100	24
25		42800 B			14.0	62500	274 S	46200	20.0	51400	138 S	19200	25
26		37900				60600	259	42400		51600	171	23800	26
27	7.0	35000	348 S	32100	16.0	56900	255 S	40600	19.0	52100	194 S	27300	27
28		31500	275	23400		57700	253	39400		51400	217	30100	28
29	8.0	29200	235 S	18500		57300	250	38700	18.0	49700	249 S	33400	29
30		26600	227	17500		58400	292	45700		47300	264	33700	30
31						61500	359	59600					31
TOTAL MEAN		761500 25400				1554300 50100		1081110 36100		1992100 66400		2649400 88300	TOTAL MEAN

ATHABASCA RIVER AT EMBARRAS AIRPORT - STATION NO. 07DD001

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1	17.0	44100	243 S	28900		45200	86	10500	12.8	39700	243 S	26000	1
2		42100	233	26500	18.0	44300	89 S	10600		38800	146	15300	2
3	15.8	42000	245 S	27800		44600	92	11100	13.0	36900	106 S	10600	3
4		40700	284	31200	17.8	46600	112 S	14100		35600	91	8750	4
5	15.8	39700	387 S	32900		53800	188	27300	13.0	36200	86 S	8410	5
6		39900	278	29900	17.0	56900	203 S	31200		38700	116	12100	6
7	16.8	39900	193 S	20800		53800	156	22700	13.0	41900	188 S	12200	7
8		40300	157	17100	17.0	49900	257 S	34600		42700	91	10500	8
9	16.8	44300	163 S	19400		47100	211	26800	13.0	40900	83 S	9170	9
10		47200	181	23100	16.8	46300	124 S	15500		39700	71	7610	10
11	17.8	47800	166 S	21400		45500	109	13400	12.0	39500	57 S	6080	11
12		53400	161	23000	15.8	43700	87 S	10300		39800	56	6020	12
13	19.0	61800	195 S	32100		41700	74	7880	12.8	39900	52 S	5600	13
14	18.0	62800	252 S	42700	16.0	40300	71 S	7730		38800	51	5340	14
15		63000	275	46800		39700	76	8150	12.8	36900	49 S	4880	15
16	16.8	64700	258 S	43700	16.0	40200	125 S	13600		35200	49	4660	16
17		68100	274	50400		41000	158	17500	11.0	33400	48 S	4330	17
18	16.8	70300	287 S	54500	17.8	40300	108 S	11800		31800	47	4040	18
19		68700	264	49000		39600	81	8660	11.0	30600	48 S	3970	19
20	17.8	68700	268 S	49700	17.0	40100	91 S	9850		29500	51	4060	20
21		78000	251	47400		40700	116	12700	12.0	28900	79 S	6160	21
22	18.0	70000	167 S	31600	16.8	39800	93 S	9990		30100	105	8530	22
23	20.8	68000	149 S	27400		37700	64	6510	11.0	32300	47 S	4100	23
24		66200	169	30200	14.6	35800	89 S	8600		33100	42	3750	24
25	19.8	63200	149 S	25400		35000	140	13200	12.8	33300	46 S	4140	25
26		58700	115	18200	14.0	35400	167 S	15800		33200	62	5560	26
27	19.0	54200	98 S	14300		35200	154	14600	12.0	32400	79 S	6910	27
28		50700	91	12500	14.8	35500	140 S	13400		31600	76	6530	28
29	19.8	49400	90 S	11900		35800	162	15700	12.0	31500	63 S	5360	29
30		48200	90	11700	12.0	37800	266 S	26600		30900	49	4090	30
31	20.8	46700	83 S	10500		38900	333	35000					31
TOTAL		1692900		912000		1307000		685370		1064000		224750	TOTAL
MEAN		54600		29400		42200		15700		35500		7490	MEAN

ATHABASCA RIVER AT EMBARRAS AIRPORT - STATION NO. 07DD001

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1	11.0	38200	37 S	3820		22300							1
2		38000	30	2430		22800							2
3	8.8	31200	32 S	2700		21800							3
4		34200	42	3880		21700							4
5	7.0	35900	36 S	3490		21000							5
6		35800	31	2930		19700							6
7	6.0	33500	32 S	2890		21000 B							7
8		32200	35	3040		21000 B							8
9	4.8	31600	35 S	2990		21000 B							9
10		30900	34	2840		20400 B							10
11		30800	33	2670		19200 B							11
12		29100	32	2510		18600 B							12
13		28600	31	2390		17300 B							13
14		27900	31	2340		15700 B							14
15		27700	30	2240		14400 B							15
16		27400	29	2150		13000 B							16
17		26900	28	2030		11800 B							17
18		26600	26	1870		10600 B							18
19		26400	25	1780		9600 B							19
20		26300	25	1780		8800 B							20
21		26000	23	1620		8200 B							21
22		25800	23	1600		7680 B							22
23		25300	21	1430		7000 B							23
24		25100	21	1420		6400 B							24
25		24500	20	1320		6000 B							25
26		24200	20	1310		5800 B							26
27		23800	19	1220		5600 B							27
28		23500	18	1140		5600 B							28
29		23100	18	1120		5600 B							29
30		22700	17	1040		5500 B							30
31		22500	16	972									31
TOTAL		868100		66152		414200							TOTAL
MEAN		28000		2130		13800							MEAN

SUMMARY FOR THE YEAR 1977

SUSPENDED SEDIMENT CONCENTRATION

MAXIMUM DAILY 1160 MG/L ON JUN 05

SUSPENDED SEDIMENT LOAD

MAXIMUM DAILY 322000 TONS/DAY ON JUN 05

TYPE OF GAUGE - RECORDING
LOCATION - LAT 58 12 18 N
LONG 111 23 24 W
DRAINAGE AREA 598.0 SQ MILES
NATURAL FLOW

B - ICE CONDITIONS E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

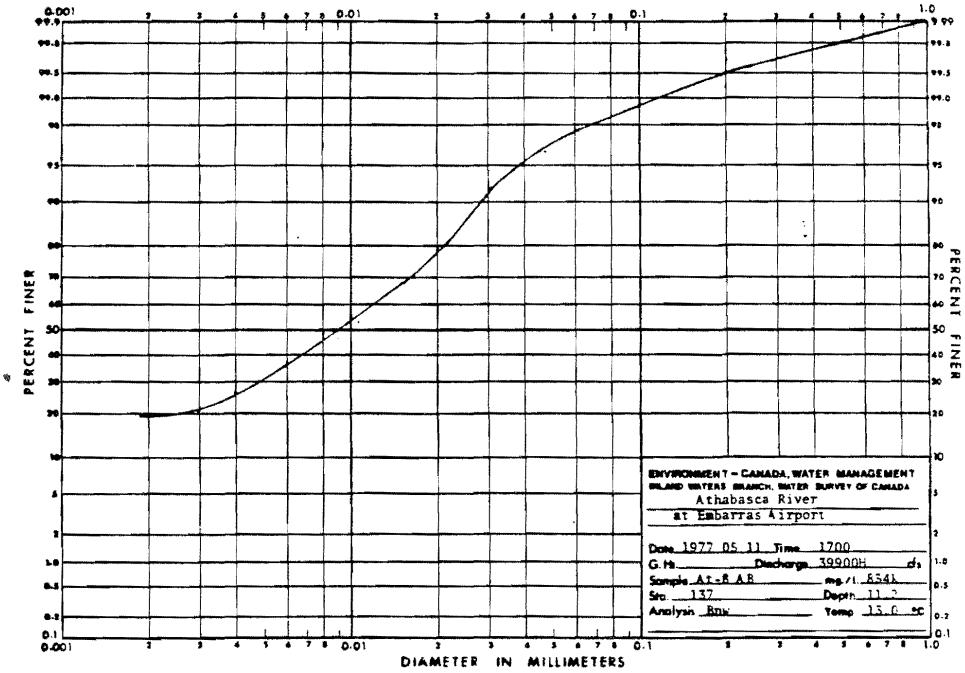
ATHABASCA RIVER AT EMBARRAS AIRPORT STATION NO. 07DD001

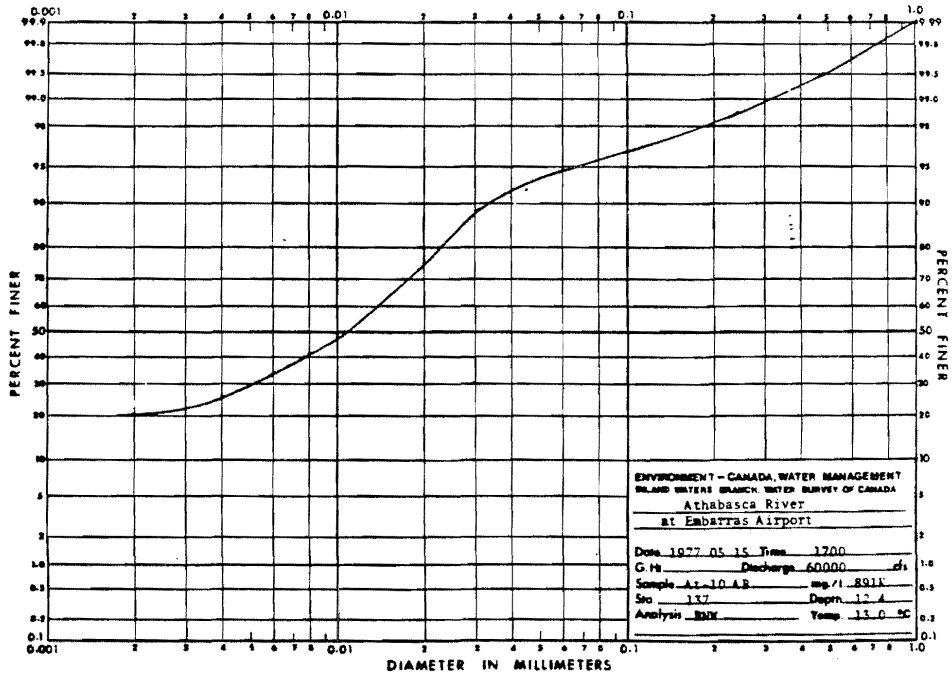
DEPTH INTEGRATING PARTICLE-SIZE ANALYSIS OF SUSPENDED SEDIMENT FOR 1977

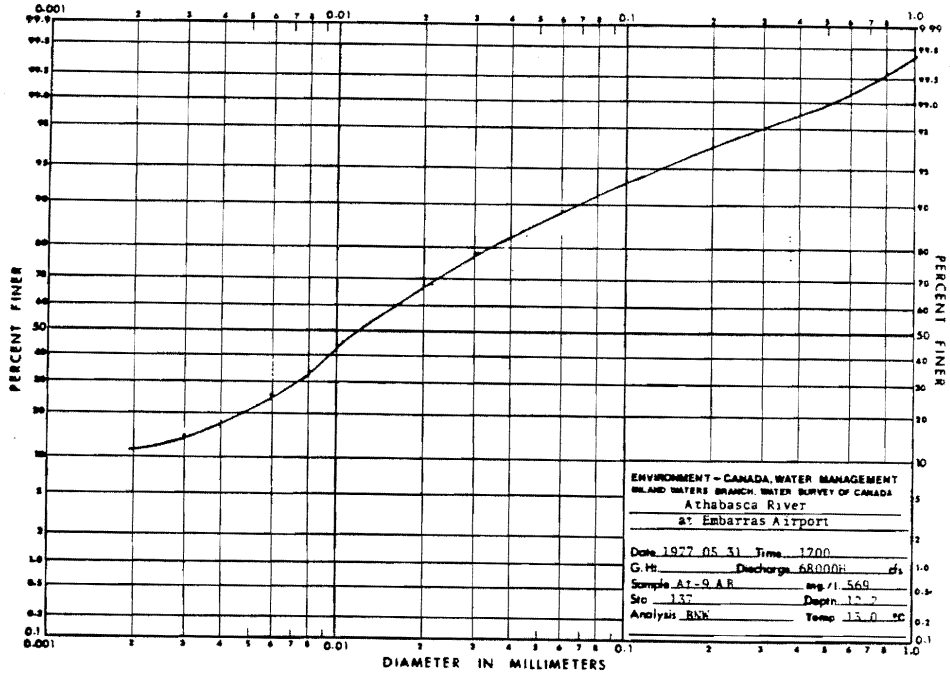
(METHOD OF ANALYSIS: B = BOTTOM WITHDRAWAL TUBE; C = CHEMICALLY DISPERSED; F = SONIC SIFTER; H = HYDROMETER; M = MECHANICALLY DISPERSED; N = IN NATIVE WATER; P = PIPETTE; S = SIEVE; V = VISUAL ACCUMULATION TUBE; W = IN DISTILLED WATER)

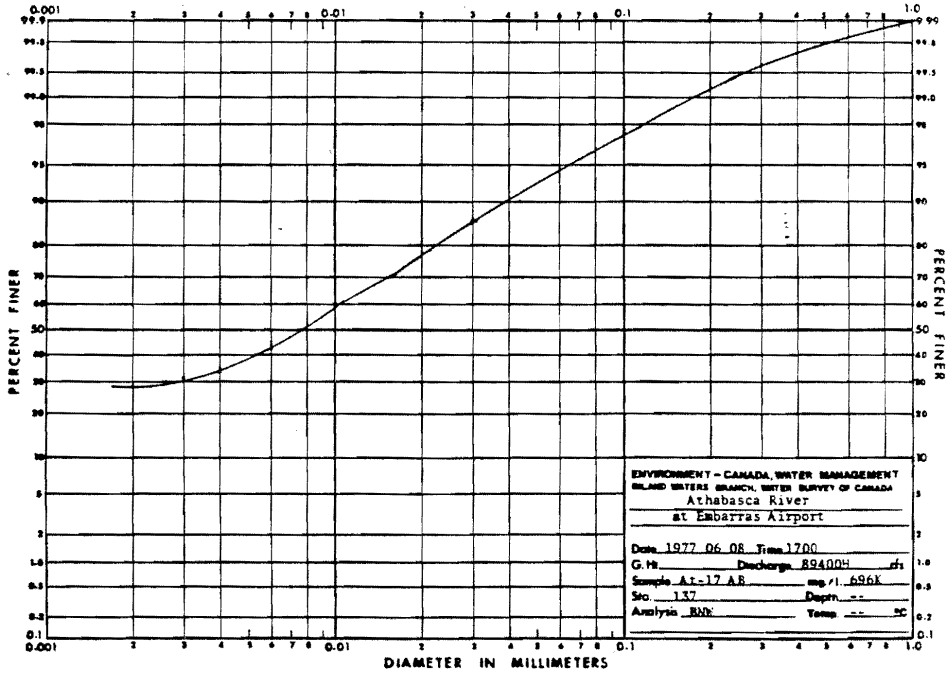
DATE	TIME	DISCHARGE MEASUREMENT (CFS)	WATER TEMP. (C)	CONCENTRATION OF SAMPLE(S) (MG/L)	PERCENT FINER THAN INDICATED SIZE: IN MILLIMETRES									METHOD OF ANALYSIS
					0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
MAY 11	1700	39900 H	13.0	854 K	18	26	45	71	92	98	99	100				BNW
MAY 13	1700	68000 H	13.0	569 K	12	18	33	61	78	88	94	97	99	100		BNW
MAY 15	1700	60000 H	13.0	891 K	19	27	42	65	89	95	97	99	100			BNW
JUN 08	1700	89400 H		646 K	24	34	51	70	86	94	98	99	100			BNW
JUN 09	1800	83800 H	18.0	564 K	20	25	42	60	75	88	94	98	100			BNW

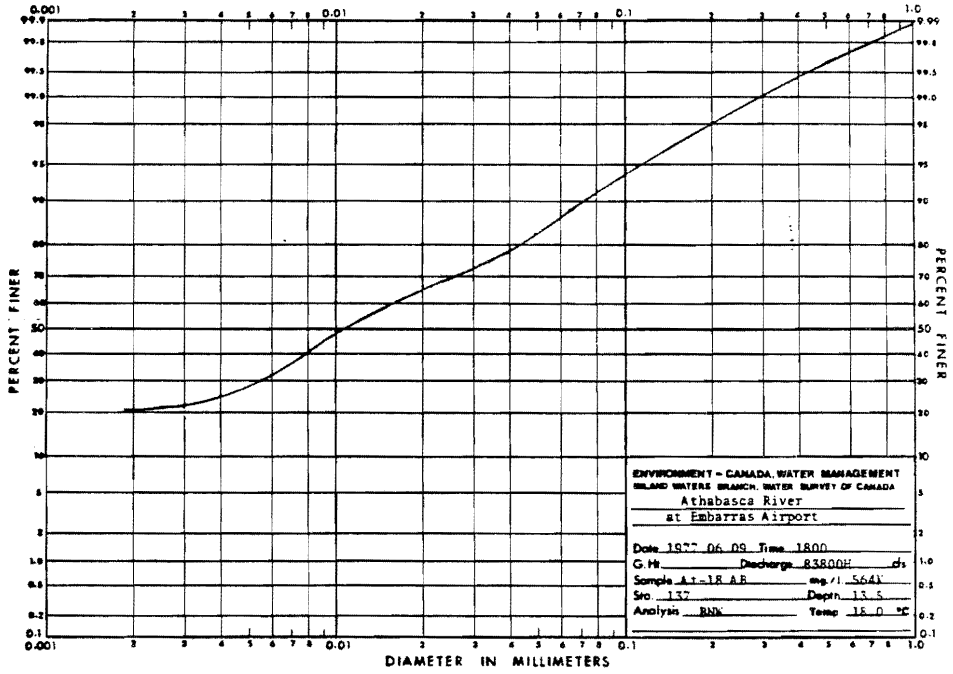
H = DAILY MEAN DISCHARGE K = SAMPLE(S) COLLECTED IN SINGLE VERTICAL


PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at Embarras Airport
Date 1977 05 11 Time 1700
G.H. Discharge 39900H cfs
Sample At-8 AB mg/l 8541
Sta 137 Depth 11.2
Analysis BMW Temp 13.0 °C


PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at Embarras Airport
Date 1977 05 15 Time 1700
G.H. Discharge 60000 cfs
Sample At-10 AB mg/l 8911
Sta 137 Depth 12.4
Analysis BMW Temp 13.0 °C


PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at Embarras Airport
Date 1977 05 31 Time 1700
G. Ht Discharge 68000H cfs
Sample At-9 AR mg/l 569
Sta 137 Depth 12.2
Analysis BNK Temp 13.0 °C


PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at Embarras Airport
Date 1977 06 08 Time 1700
G. Ht Discharge 89400H cfs
Sample At-17 AR mg/l 696K
Sta 137 Depth --
Analysis BNK Temp -- °C


PERCENT FINER
PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT - CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at Embarras Airport
Date 1977 06 09 Time 1800
G. Ht Discharge 83800H cfs
Sample A1-18 AB mg./l 5641
Sto. 132 Depth 13.5
Analysis RNK Temp 16.0 °C

ATHABASCA RIVER AT MCMURRAY - STATION NO. 07CC002

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1			34		12.0		138 S		15.0		591 S		1
2			39		14.0		164 S		14.0		1760 S		2
3			47		13.0		183 S		11.0		1920 S		3
4			50		14.0		242 S		14.0		1450 S		4
5			59		14.0		229 S		15.0		1250 S		5
6			70		14.0		190 S		16.0		1170 S		6
7			81		15.0		168 S		17.0		933 S		7
8			94		15.0		150 S		17.0		678 S		8
9			120		14.0		218 S				612		9
10			151		15.0		1060 S		15.0		489 S		10
11			179				1590		17.0		395 S		11
12			221		14.0		1480 S		18.0		434 S		12
13			275		13.0		1130 S				834		13
14			342		14.0		796 S				714		14
15			425		12.0		689 S				544		15
16			523				872		17.0		429 S		16
17			617				842		18.0		335 S		17
18			709		10.0		691 S		18.0		250 S		18
19			803				571		20.0		240 S		19
20			864		11.0		509 S		21.0		206 S		20
21			829		12.0		531 S				188		21
22			734		13.0		479 S				177		22
23			593				442		24.0		172 S		23
24	1.0		396 S				383 S		20.0		169 S		24
25	2.0		230 S		15.0		308 S		20.0		165 S		25
26			187		14.0		322 S				158		26
27			169				257				152		27
28	12.0		155 S				255		11.0		153 S		28
29			136				358				144		29
30	11.0		125 S		15.0		346 S		18.0		130 S		30
31							295						31
TOTAL MEAN													TOTAL MEAN

ATHABASCA RIVER AT MCMURRAY - STATION NO. 07CC002

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1			122		19.0		73 S				68		1
2			109		20.0		85 S		13.0		63 S		2
3			94				113				60		3
4			84		18.0		218 S				59		4
5	16.0		78 S		17.0		338 S		13.0		69 S		5
6			75		17.0		311 S		13.0		90 S		6
7			91				421				96		7
8			151		17.0		151 S				82		8
9			141				121				75		9
10			139		16.0		105 S				75		10
11	19.0		269 S		17.0		86 S				74		11
12			456		16.0		78 S				69		12
13			439		16.0		73 S				65		13
14	17.0		405 S				78				59		14
15	18.0		391 S		17.0		70 S				52		15
16	18.0		419 S		17.0		70 S				49		16
17	17.0		336 S				63				45		17
18	17.0		345 S		18.0		60 S				43		18
19	17.0		315 S		18.0		66 S				42		19
20	17.0		387 S				71				48		20
21	18.0		281 S				68				60		21
22	18.0		236 S		16.0		65 S				61		22
23			197		15.0		65 S				56		23
24			164				64				52		24
25	19.0		141 S				59				47		25
26	28.0		125 S		13.0		54 S				46		26
27			114		16.0		48 S				42		27
28	28.0		102 S				48				39		28
29	28.0		94 S				58		9.0		36 S		29
30	20.0		81 S		15.0		69 S				37		30
31	28.0		72 S				71						31
TOTAL MEAN													TOTAL MEAN

ATHABASCA RIVER AT MCMURRAY - STATION NO. 07CC002

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1			44										1
2			61										2
3			61										3
4	8.0		49 S										4
5			43										5
6			38										6
7	7.0		35 S										7
8			35										8
9			36										9
10			34										10
11			33										11
12			31										12
13			29										13
14			29										14
15			28										15
16			27										16
17	6.0		27 S										17
18			25										18
19			26										19
20			25										20
21			24										21
22			23										22
23			22										23
24	5.0		20 S										24
25			19										25
26			18										26
27			18										27
28			17										28
29			17										29
30			16										30
31			16										31
TOTAL MEAN													TOTAL MEAN

SUMMARY FOR THE YEAR 1977

SUSPENDED SEDIMENT CONCENTRATION

MAXIMUM DAILY 1920 MG/L ON JUN 03

TYPE OF GAUGE - MANUAL
LOCATION - LAT 56 44 00 N
LONG 111 22 30 W

S - SAMPLE(S) COLLECTED THIS DAY

REMARKS - RECORDS PRIOR TO 1973 PUBLISHED UNDER 07AD001

ATHABASCA RIVER AT MCMURRAY

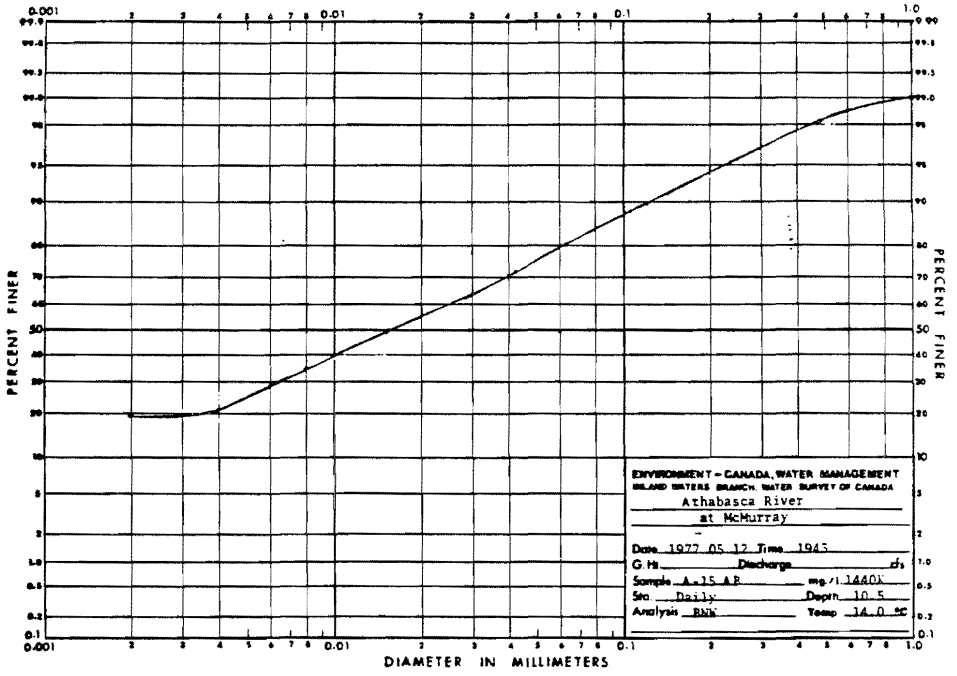
STATION NO. 07CC002

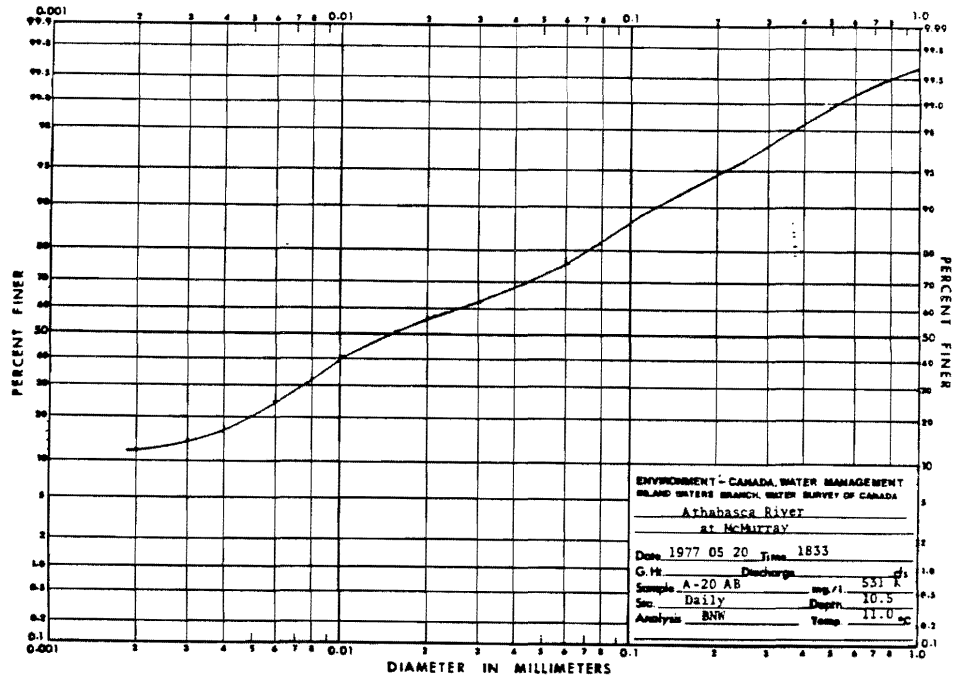
DEPTH INTEGRATING PARTICLE-SIZE ANALYSIS OF SUSPENDED SEDIMENT FOR 1977

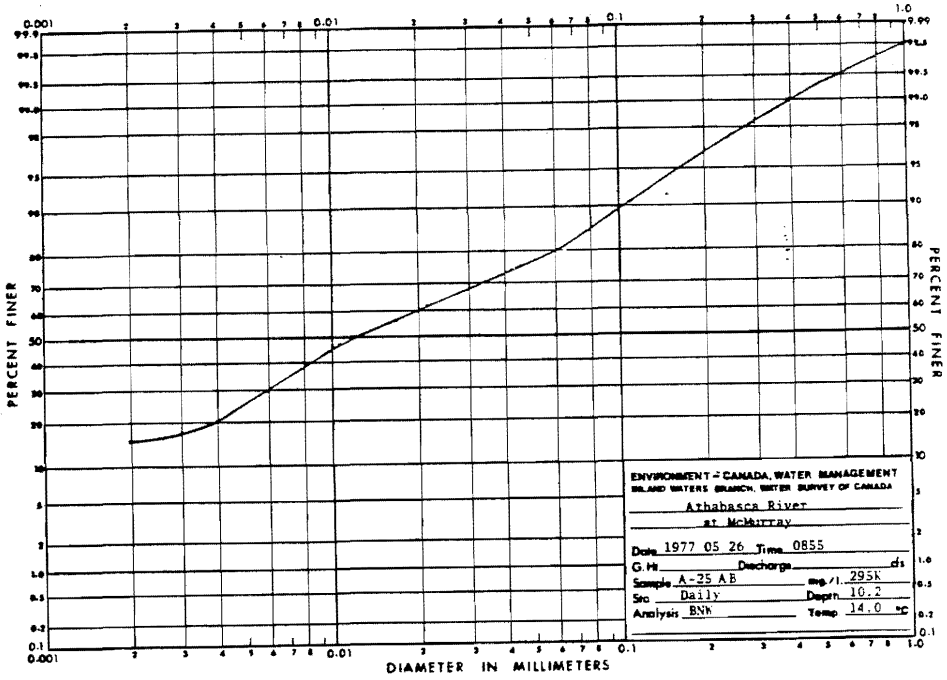
(METHOD OF ANALYSIS: B = BOTTOM WITHDRAWAL TUBE; C = CHEMICALLY DISPERSED; F = SONIC SIFTER; H = HYDROMETER; K = MECHANICALLY DISPERSED; N = IN NATIVE WATER; P = PIPETTE; S = SIEVE; V = VISUAL ACCUMULATION TUBE; W = IN DISTILLED WATER)

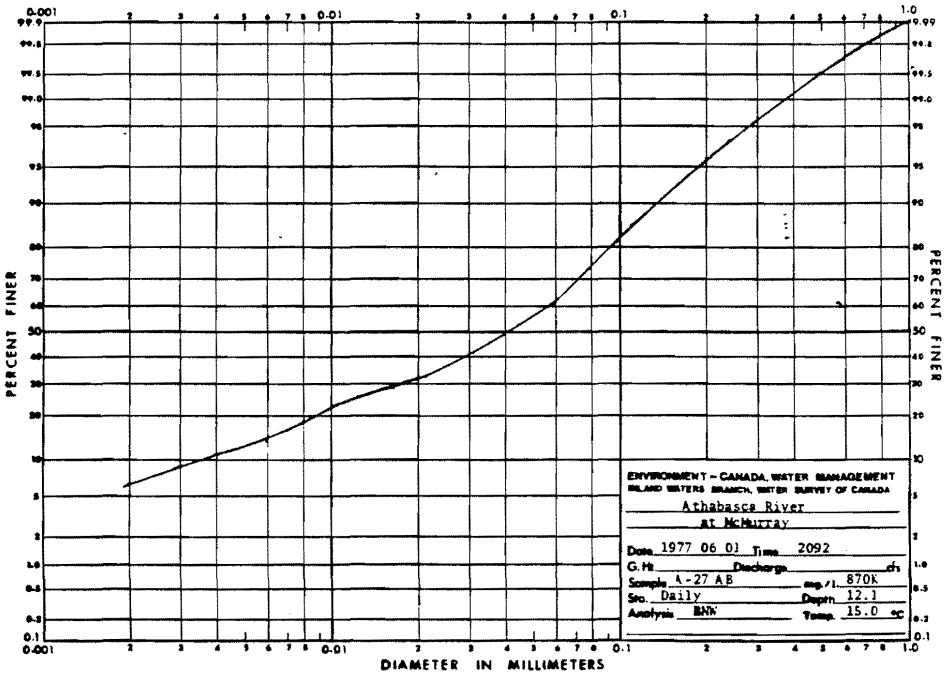
DATE	TIME	DISCHARGE MEASUREMENT (CFS)	WATER TEMP. (C)	CONCENTRATION OF SAMPLE(S) (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES										METHOD OF ANALYSIS
					0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
MAY 12	1943		14.0	1440 K	19	20	35	50	64	80	90	95	98	99		BNW
MAY 20	1833		11.0	531 K	13	17	33	50	62	76	89	96	99	100		BNW
MAY 26	0855		14.0	295 K	16	20	40	56	68	80	90	97	99	100		BNW
JUN 01	2032		15.0	870 K	7	10	19	29	41	62	85	97	100			BNW
JUN 02	1745		14.0	2090 K	5	10	17	23	36	56	77	90	96	99		BNW
JUN 03	1900		11.0	1650 K	13	19	29	42	60	76	88	96	99	100		BNW
JUN 04	2155		14.0	1380 K	19	23	36	52	62	74	78	84	92	97		BNW
JUN 05	2116		15.0	1190 K	16	22	35	48	62	77	88	96	98	99		BNW

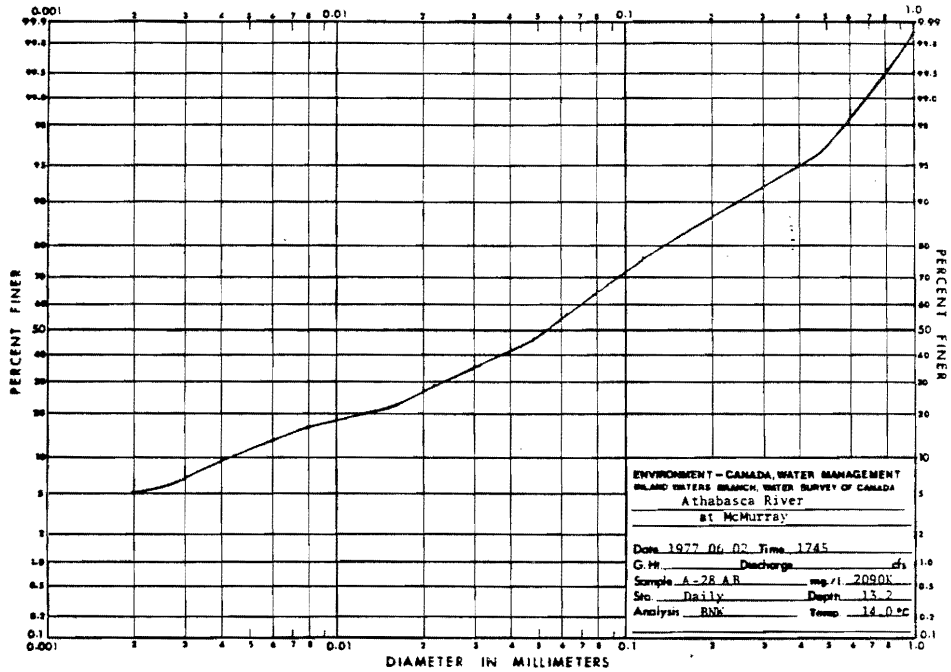
K = SAMPLE(S) COLLECTED IN SINGLE VERTICAL

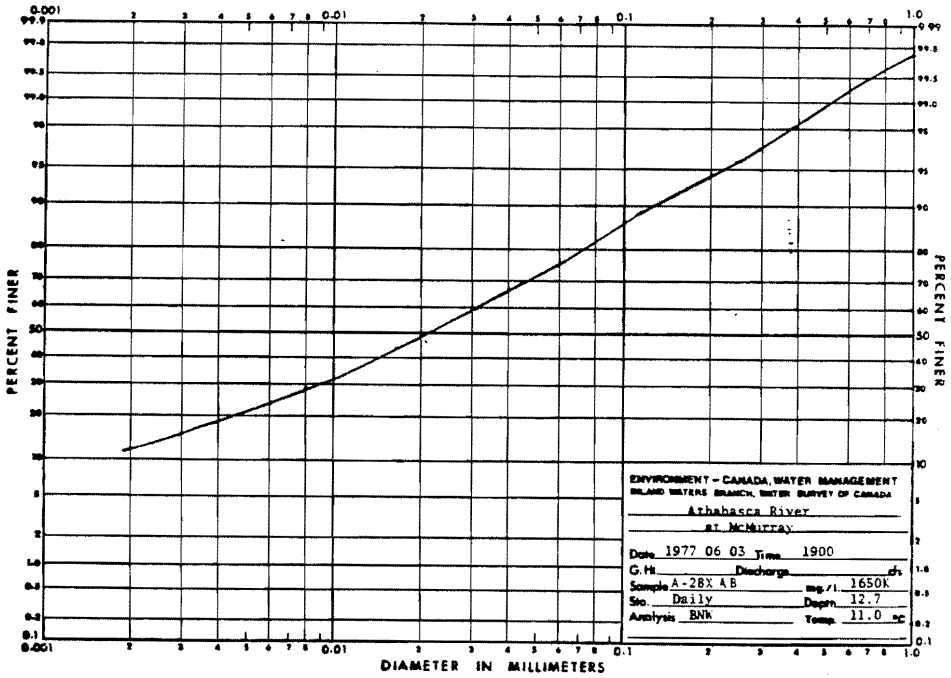

PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT - CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at McMurray
Date 1977 05 12 Time 1945
G Ht Discharge cfs
Sample A-15 AB mg/l 1440X
Sta Daily Depth 10.5
Analysis BNW Temp 14.0 °C

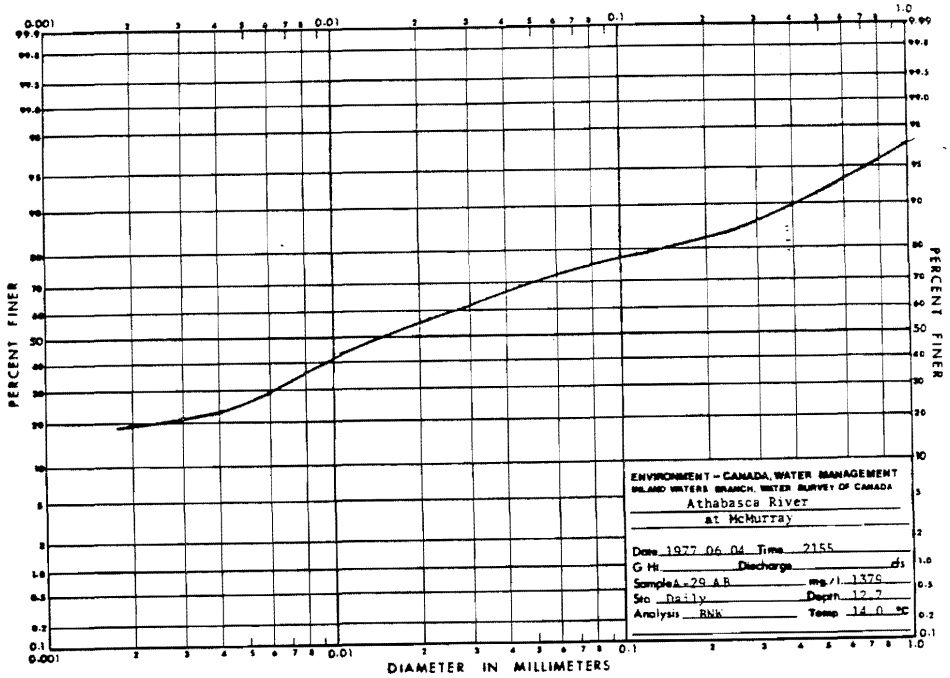

PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT - CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at McMurray
Date 1977 05 20 Time 1833
G Ht Discharge cfs
Sample A-20 AB mg/l 531 X
Sta Daily Depth 10.5
Analysis BNW Temp 11.0 °C

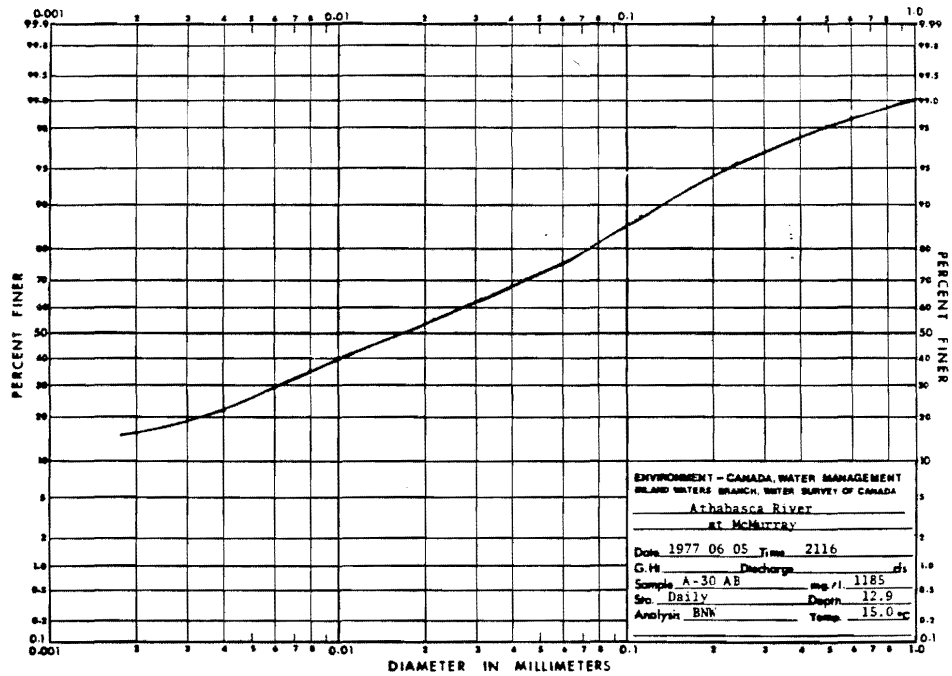

PERCENT FINER
PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at McMurray
Date 1977 05 26 Time 0855
G.Ht Discharge cfs
Sample A-25 AB mg/l 295K
Src Daily Depth 10.2
Analysis BNk Temp 14.0 °C


PERCENT FINER
PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at McMurray
Date 1977 06 01 Time 2092
G.Ht Discharge cfs
Sample A-27 AB mg/l 870K
Src Daily Depth 12.1
Analysis BNK Temp 15.0 °C


PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
Athabasca River
at McMurray
Date 1977 06 02 Time 1745
G. Ht. Discharge cfs
Sample A-28 AB mg/l 2090X
Sta. Daily Depth 13.2
Analysis BNK Temp 14.0 °C


PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
Athabasca River
at McMurray
Date 1977 06 03 Time 1900
G. Ht. Discharge cfs
Sample A-28X AB mg/l 1650X
Sta. Daily Depth 12.7
Analysis BNK Temp 11.0 °C


PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at McMurray
Date 1977 06 04 Time 2155
G Ht Discharge cfs
Sample A-29 AB mg/l 1376
Sta Daily Deptn 12.7
Analysis BNK Temp 14.0 °C


PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Athabasca River
at McMurray
Date 1977 06 05 Time 2116
G Ht Discharge cfs
Sample A-30 AB mg/l 1185
Sta Daily Deptn 12.9
Analysis BNK Temp 15.0 °C

SEDIMENT SURVEY
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BEAVER RIVER ABOVE SYNCRUDE - STATION NO. 07DAU18

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		0 B				0 B				0.10 B			1
2		0 B				0 B				0.10 B			2
3		0 B				0 B				0.10 B			3
4		0 B				0 B				0.10 B			4
5		0 B				0 B				0.10 B			5
6		0 B				0 B				0.10 B			6
7		0 B				0 B				0.10 B			7
8		0 B				0 B				0.10 B			8
9		0 B				0 B				0.10 B			9
10		0 B				0 B				0.10 B			10
11		0 B				0 B				0.10 B			11
12		0 B				0 B				0.10 B			12
13		0 B				0 B				0.10 B			13
14		0 B				0 B				0.10 B			14
15		0 B				0 B				0.20 B			15
16		0 B				0 B				0.20 B			16
17		0 B				0 B				0.20 B			17
18		0 B				0 B				0.20 B			18
19		0 B				0 B				0.20 B			19
20		0 B				0 B				0.20 B			20
21		0 B				0 B				0.20 B			21
22		0 B				0 B				0.20 B			22
23		0 B				0 B				0.25 B			23
24		0 B				0 B				0.30 B			24
25		0 B				0 B				0.35 B			25
26		0 B				0 B				0.45 B			26
27		0 B				0 B				0.55 B			27
28		0 B				0 B				0.65 B			28
29		0 B								0.80 B			29
30		0 B								0.95 B			30
31		0 B								1.1 B			31
TOTAL		0				0				8.40			TOTAL
MEAN		0				0				0.27			MEAN

SEDIMENT SURVEY
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CALGARY, ALTA.

BEAVER RIVER ABOVE SYNCRUDE - STATION NO. 07DAU18

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		1.4 B				37.3				60.5			1
2		1.8 B				33.6				60.5			2
3		2.1 B				28.5				62.1			3
4		2.4 B			6.8	26.1	25 S	1.8	10.0	59.6	52 S	8.4	4
5		2.8 B				26.1				54.7			5
6		3.2 B			8.0	24.4	17 S	1.1		48.0			6
7		3.7 B				22.2				42.1			7
8		4.4 B				21.5				37.4			8
9		5.5 B				32.8				34.3			9
10	1.0	7.7 B	19 S	0.40		22.8				30.5			10
11		12.0 B				28.8				30.5			11
12		19.4 B				34.9				26.5			12
13	1.8	27.6 B	36 S	2.7		41.2				23.1			13
14		37.0 B				33.1				29.9			14
15	1.0	55.6 B	76 S	11.4		35.4				48.3			15
16		76.8 B				24.7				52.8			16
17		86.0 B				35.2				45.9			17
18	1.8	180 B	198 S	53.5		53.4				39.8			18
19		74.2 B				63.6				33.5			19
20	1.8	53.1 B	72 S	10.3		71.6				28.5			20
21		58.0 B				76.8			14.0	23.1	12 S	0.75	21
22	8.1	46.8 B	60 S	7.5		57.8				20.1			22
23		41.8 B				48.9				18.3			23
24		46.4				45.8				13.7			24
25		45.4				46.5				18.4			25
26		42.2				42.1				11.4			26
27		36.4				43.0				18.2			27
28		35.4				35.0				11.8			28
29		31.6				56.8				15.4			29
30		33.3				74.2				20.7			30
31						64.4							31
TOTAL		977.2				1267.3				1006.6			TOTAL
MEAN		32.6				40.9				33.6			MEAN

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BEAVER RIVER ABOVE SYNCRUDE - STATION NO. 07DA018

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		18.2				21.5				6.1			1
2		18.9				24.3				6.0			2
3		28.0				26.1				5.7			3
4		37.5				31.1				5.2			4
5		48.9				29.3				5.2			5
6		46.7				32.7				5.3			6
7		49.4				31.8				5.2			7
8		43.2				32.7				5.4			8
9		34.0				32.5				6.5			9
10		26.8				28.3				6.5			10
11		16.0				27.6				6.4			11
12		13.5				24.6				6.4			12
13		9.7				21.2				6.9			13
14		16.2				19.9				9.1			14
15		9.6				19.4				9.1			15
16		7.8				20.1				12.0			16
17		9.2				19.4				9.0			17
18		20.1				15.9				8.5			18
19		19.6				14.1				8.9			19
20		17.9				16.4				8.3			20
21		13.5				17.1				8.1			21
22		8.9				12.0			11.8	8.1	6 S	0.13	22
23		6.8				9.1				8.6			23
24		6.4				8.9				9.0			24
25		5.9				12.7	39 S	1.3		9.8			25
26		6.8				14.1				8.3			26
27		7.1				11.8				8.4			27
28		9.0	9 S	0.22		8.8				8.3			28
29		23.3				6.9				8.4			29
30		19.6				6.7				8.7			30
31		20.8				6.3							31
TOTAL		604.9				644.5				227.4			TOTAL
MEAN		19.5				19.5				7.6			MEAN

SEDIMENT SURVEY
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CALGARY, ALTA.

BEAVER RIVER ABOVE SYNCRUDE - STATION NO. 07DA018

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		8.7				9.3 B				2.7 B			1
2		9.7				9.8 B				2.6 B			2
3		13.6				8.0 B				2.5 B			3
4		16.9				6.6 B				2.4 B			4
5		17.4				6.4 B				2.3 B			5
6		16.6				7.3 B				2.2 B			6
7		14.8				7.2 B				2.2 B			7
8		13.9				6.8 B				2.1 B			8
9		15.5				6.3 B				2.1 B			9
10		14.3				6.1 B				2.1 B			10
11		13.1				6.1 B				2.0 B			11
12		13.7				6.1 B				2.0 B			12
13		14.5				6.2 B				2.0 B			13
14		14.6				6.4 B				1.9 B			14
15		14.4				6.3 B				1.9 B			15
16		14.2				6.1 B				1.9 B			16
17		12.3				5.9 B				1.8 B			17
18	4.8	11.7	6 S	0.19		5.7 B				1.8 B			18
19		10.7				5.5 B				1.8 B			19
20		9.2				4.9 B				1.7 B			20
21		8.7				4.6 B				1.7 B			21
22		8.5				4.1 B				1.7 B			22
23		8.3				3.7 B				1.7 B			23
24		8.5				4.8 B				1.6 B			24
25		9.0				3.7 B				1.6 B			25
26		8.3				3.4 B				1.6 B			26
27		8.3				3.2 B				1.6 B			27
28		8.9 B				3.0 B				1.5 B			28
29		8.6 B				2.9 B				1.5 B			29
30		9.1 B				2.8 B				1.5 B			30
31		8.7 B								1.5 B			31
TOTAL		364.7				167.6				59.5			TOTAL
MEAN		11.8				5.6				1.9			MEAN

TYPE OF GAUGE - RECORDING
LOCATION - LAT 56 56 29 N
LONG 111 33 54 W
DRAINAGE AREA 63.5 SQ MILES
NATURAL FLOW

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

CLEARWATER RIVER AT DRAPER - STATION NO. 07CD001

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		2560 B				2300 B				2250 B			1
2		2610 B				2380 B				2250 B			2
3		2620 B				2360 B				2230 B			3
4		2620 B				2300 B				2210 B			4
5		2610 B				2300 B				2240 B			5
6		2670 B				2300 B				2200 B			6
7		2690 B				2300 B				2200 B			7
8		2700 B				2300 B				2240 B			8
9		2700 B				2300 B				2220 B			9
10		2720 B				2300 B				2240 B			10
11		2720 B				2300 B				2250 B			11
12		2700 B				2320 B				2250 B			12
13		2660 B				2350 B				2280 B			13
14		2620 B				2350 B				2310 B			14
15		2570 B				2350 B				2280 B			15
16		2480 B				2360 B				2260 B			16
17		2480 B				2360 B				2250 B			17
18		2420 B				2360 B				2250 B			18
19		2410 B				2350 B				2250 B			19
20		2450 B				2350 B				2250 B			20
21		2450 B				2330 B				2240 B			21
22		2440 B				2330 B				2200 B			22
23		2430 B				2340 B				2180 B			23
24		2460 B				2320 B				2040 B			24
25		2450 B				2310 B				2440 B			25
26		2450 B				2340 B				2040 B			26
27		2450 B				2280 B				2450 B			27
28		2410 B				2260 B				2050 B			28
29		2380 B								2060 B			29
30		2350 B								2070 B			30
31		2300 B								2080 B			31
TOTAL		78580				64920				67800			TOTAL
MEAN		2530				2320				2190			MEAN

CLEARWATER RIVER AT DRAPER - STATION NO. 07CD001

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		2090 B	16	90.3		6460	115	2010		11600	540	16900	1
2		2090 B	16	90.3		6280	107	1810		12400	384	12400	2
3		2100 B	17	96.4		6230	100	1680		12100	286 S	9340	3
4		2110 B	17	96.8		6220	94	1580		11900	231	7420	4
5		2130 B	18	104		6090	87	1430		11600	192	6010	5
6		2150 B	20	116		5960	80	1290	13.0	11200	169 S	5110	6
7		2180 B	23	135	18.0	5770	75 S	1170		10700	156	4510	7
8	8.1	2220 B	27 S	162	13.0	5650	72 S	1100		10300	144	4000	8
9		2400 B	34	220	14.0	5580	75 S	1130	14.0	9960	137 S	3680	9
10		2560 B	40	276	15.0	5530	61 S	911		9680	133	3480	10
11		2750 B	44	327		5520	61	909		9560	130	3360	11
12		2960 B	48	384		5570	93	1400		9360	126	3180	12
13	8.1	3000 B	51 S	413	14.0	5520	103 S	1540		9080	125	3060	13
14		4000 B	52	562	14.0	5580	76 S	1130		8790	126	2990	14
15		4700 B	54	685	12.0	5460	68 S	1000		8510	145	3030	15
16		5660 B	56	847		5510	97	1440		8260	167	3720	16
17	8.1	6400 B	60 S	1040	8.0	5890	179 S	2850		8110	147 S	3220	17
18		6900 B	73	1360		6270	414	7810	18.0	8030	115 S	2490	18
19		7400 B	119	2380		6870	764	14200		7930	103	2210	19
20		7900 B	162	3460	18.0	7370	852 S	17000	19.0	7770	118 S	2480	20
21		8500 B	234	5370	18.0	7740	592 S	12400		7480	131	2650	21
22		9100 B	362	8890		7980	447	9530		7170	111	2150	22
23		9800 B	364	8850		7940	348	7420	19.0	6870	103 S	1910	23
24		8980 B	389	7490		7950	292	6270	20.0	6560	179 S	3170	24
25	2.0	8950 B	256 S	6190	15.0	7990	257 S	5540	19.0	6310	122 S	2080	25
26		8680 B	214	6850		7910	237	5060		6070	81	1330	26
27		7700 B	181	3760		7980	232	5000		5680	69	1140	27
28		7180 B	152	2910		8340	237	5340	11.0	5700	66 S	1020	28
29	7.0	6830	134 S	2470		9550	208	7940		5530	69	1030	29
30	9.0	6640	124 S	2220		10500	458 S	13000	17.0	5360	69 S	1000	30
31						11300	635	19400					31
TOTAL		154860		65844.8		214310		159490		259390		120230	TOTAL
MEAN		5160		2198		6910		5140		8650		4010	MEAN

CLEARWATER RIVER AT DRAPER - STATION NO. 07CD001

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		5310	71	1020	19.0	6940	117 S	2190		5310	48	686	1
2		5310	71	1020	19.0	6820	147 S	2710	12.0	5240	38 S	538	2
3		5490	71	1050	19.0	6590	96 S	1710		5120	30	415	3
4		5750	77	1200	17.0	6350	92 S	1580		5000	25	338	4
5	15.0	6240	88 S	1480	16.0	6260	129 S	2180	12.0	4860	24 S	315	5
6		6760	103	1880	16.0	6130	215 S	3560	12.0	4800	25 S	324	6
7		7240	115	2250		6070	209	3430		4780	25	323	7
8		7490	124	2510	16.0	6040	160 S	2590		4720	26	331	8
9		7760	127	2660		5860	124	1960		4660	26	327	9
10		7860	125	2650	14.0	5780	182 S	1590		4660	25	315	10
11		7770	112	2350	16.0	5730	112 S	1730		4630	25	313	11
12	16.0	7620	111 S	2280	15.0	5670	110 S	1680		4580	25	309	12
13		7650	154	3180	14.0	5540	124 S	1850		4660	25	315	13
14	17.0	7840	174 S	3680		5430	124	1820		4640	25	313	14
15	17.0	8160	162 S	3570	15.0	5320	95 S	1360		4570	25	308	15
16	17.0	8220	143 S	3170	14.0	5180	81 S	1130		4560	24	295	16
17	17.0	8260	133 S	2970	15.0	5050	60 S	818		4550	25	307	17
18	16.0	8310	139 S	3120	16.0	4940	47 S	627		4600	27	335	18
19		8460	146	3330	17.0	4830	87 S	1130		4680	29	366	19
20	16.0	8730	159 S	3750		4730	109	1390		4610	29	361	20
21	13.0	8830	184 S	2480		4710	84	1070		4580	29	359	21
22	18.0	8760	111 S	2630	14.0	4740	58 S	742		4590	29	359	22
23		8570	168	3890	13.0	4710	42 S	534		4560	28	345	23
24		8410	251	5700		4750	35	449		4570	27	333	24
25	19.0	8140	217 S	4750		5080	47	635		4550	27	332	25
26	20.0	7850	137 S	2900		5170	68	949		4520	28	342	26
27		7720	105	2190	11.0	5360	86 S	1250		4490	27	327	27
28	20.0	7710	145 S	3020		5470	86	1270		4460	27	325	28
29	20.0	7610	317 S	6510		5490	79	1170	10.0	4460	27 S	325	29
30	20.0	7370	244 S	4860		5410	68	993		4430	25	299	30
31	20.0	7160	154 S	2980		5370	57	826					31
TOTAL		234320		91830		171420		46923		140440		10482	TOTAL
MEAN		7560		2940		5538		1510		4680		349	MEAN

CLEARWATER RIVER AT DRAPER - STATION NO. 07CD001

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		4400	23	273		4270				2350 B			1
2		4410	23	274		4230				2420 B			2
3		4410	20	238		4180				2460 B			3
4		4400	19	226		3900				2480 B			4
5		4380	18	213		3590				2520 B			5
6		4360	17	200		3500 B				2550 B			6
7	6.0	4350	18 S	211		3480 B				2580 B			7
8		4390	18	213		3480 B				2600 B			8
9		4460	20	241		3480 B				2620 B			9
10		4510	22	268		3450 B				2620 B			10
11		4590	23	285		3440 B				2620 B			11
12		4590	24	297		3380 B				2620 B			12
13		4670	25	315		3350 B				2630 B			13
14		4670	27	340		3280 B				2630 B			14
15		4740	29	371		3280 B				2630 B			15
16		4810	30	398		3150 B				2630 B			16
17	4.0	4848	30 S	392		2950 B				2780 B			17
18		4860	29	381		2880 B				2740 B			18
19		4870	29	381		2650 B				2720 B			19
20		4830	28	365		2450 B				2650 B			20
21		4760	27	347		2280 B				2610 B			21
22		4690	25	317		2050 B				2600 B			22
23		4670	23	290		1950 B				2590 B			23
24		4630	20	250		1950 B				2540 B			24
25		4550	18	221		1950 B				2500 B			25
26	3.0	4560	15 S	185		2000 B				2470 B			26
27		4550	14	172		2050 B				2440 B			27
28		4460	14	169		2150 B				2440 B			28
29		4410	13	155		2200 B				2450 B			29
30		4370	13	153		2388 B				2430 B			30
31		4340	13	152						2390 B			31
TOTAL		141530		8285		89810				79230			TOTAL
MEAN		4570		267		2978				2560			MEAN

SUMMARY FOR THE YEAR 1977

SUSPENDED SEDIMENT CONCENTRATION

MAXIMUM DAILY 852 MG/L ON MAY 20

SUSPENDED SEDIMENT LOAD

MAXIMUM DAILY 19480 TONS/DAY ON MAY 31

TYPE OF GAUGE - RECORDING
LOCATION - LAT 56 40 50 N
LONG 111 15 00 W
DRAINAGE AREA 11800 SQ MILES
NATURAL FLOW

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

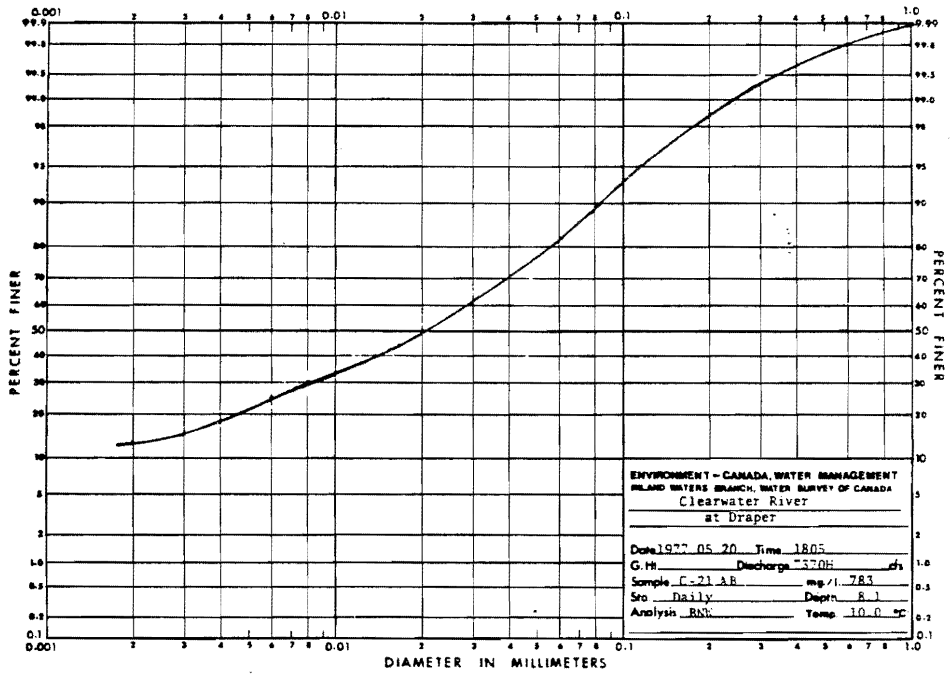
CLEARWATER RIVER AT DRAPER STATION NO. 07CD001

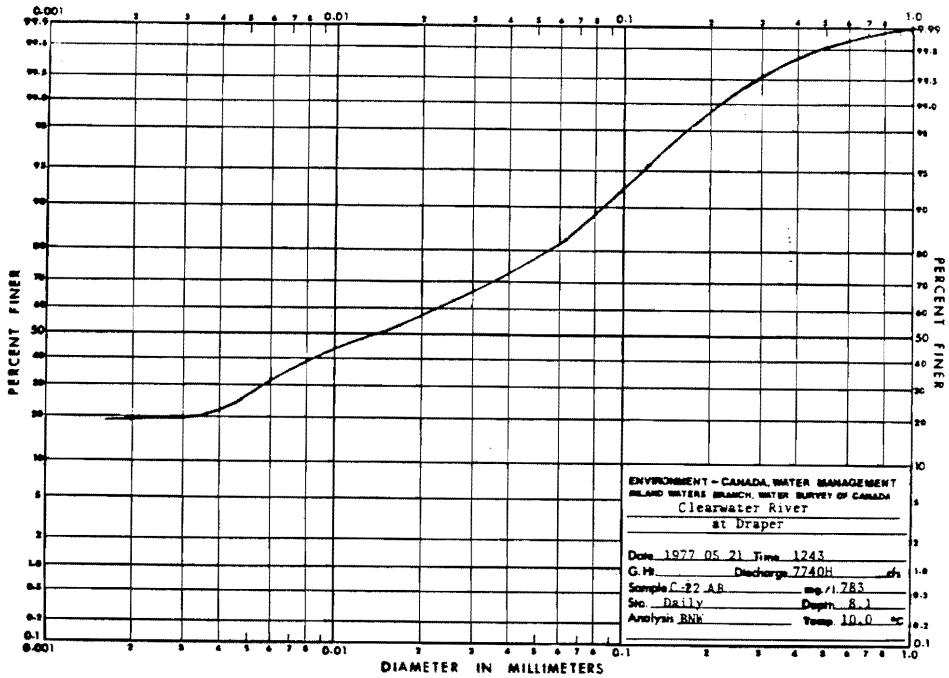
DEPTH INTEGRATING PARTICLE-SIZE ANALYSIS OF SUSPENDED SEDIMENT FOR 1977

(METHOD OF ANALYSIS: B = BOTTOM WITHDRAWAL TUBE; C = CHEMICALLY DISPERSED; F = SONIC SIFTER; H = HYDROMETER; M = MECHANICALLY DISPERSED; N = IN NATIVE WATER; P = PIPETTE; S = SIEVE; V = VISUAL ACCUMULATION TUBE; W = IN DISTILLED WATER)

DATE	TIME	DISCHARGE MEASUREMENT (CFS)	WATER TEMP. (C)	CONCENTRATION OF SAMPLE(S) (MG/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES 0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	METHOD OF ANALYSIS
MAY 20	1805	7370 M	10.0	783 K	13	19	30	44	64	83	95	99	100			BNW
MAY 21	1243	7740 M	10.0	578 K	14	20	39	53	67	83	95	99	100			BNW

M = DAILY MEAN DISCHARGE K = SAMPLE(S) COLLECTED IN SINGLE VERTICAL


PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Clearwater River
at Draper
Date 1977 05 20 Time 1805
G. Ht Discharge 7370H cfs
Sample C-21 AB mg/l 783
Sta Daily Depth 8.1
Analysis BNW Temp 10.0 °C


PERCENT FINER
DIAMETER IN MILLIMETERS
ENVIRONMENT – CANADA, WATER MANAGEMENT
INLAND WATERS BRANCH, WATER SURVEY OF CANADA
Clearwater River
at Draper
Date 1977 05 21 Time 1243
G. Ht Discharge 7740H cfs
Sample C-22 AB mg/l 783
Sta Daily Depth 8.1
Analysis BNW Temp 10.0 °C

DOVER RIVER NEAR THE MOUTH - STATION NO. 07DB002

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		3.0 B				1.8 B				1.1 B			1
2		3.0 B				1.8 B				1.1 B			2
3		2.9 B				1.7 B				1.0 B			3
4		2.9 B				1.7 B				1.0 B			4
5		2.9 B				1.7 B				1.0 B			5
6		2.9 B				1.7 B				1.0 B			6
7		2.9 B				1.6 B				1.0 B			7
8		2.8 B				1.6 B				1.0 B			8
9		2.8 B				1.6 B				1.0 B			9
10		2.8 B				1.6 B				1.0 B			10
11		2.8 B				1.5 B				1.0 B			11
12		2.8 B				1.5 B				1.0 B			12
13		2.7 B				1.5 B				1.0 B			13
14		2.7 B				1.5 B				1.0 B			14
15		2.7 B				1.4 B				1.0 B			15
16		2.7 B				1.4 B				1.0 B			16
17		2.7 B				1.4 B				1.0 B			17
18		2.6 B				1.4 B				1.0 B			18
19		2.6 B				1.3 B				1.0 B			19
20		2.6 B				1.3 B				1.0 B			20
21		2.5 B				1.3 B				1.0 B			21
22		2.4 B				1.3 B				1.0 B			22
23		2.4 B				1.2 B				1.0 B			23
24		2.3 B				1.2 B				1.0 B			24
25		2.2 B				1.2 B				1.0 B			25
26		2.2 B				1.1 B				1.0 B			26
27		2.1 B				1.1 B				1.0 B			27
28		2.1 B				1.1 B				1.0 B			28
29		2.0 B								1.0 B			29
30		1.9 B								1.0 B			30
31		1.9 B								1.0 B			31
TOTAL		79.8				48.5				31.4			TOTAL
MEAN		2.6				1.4				1.0			MEAN

DOVER RIVER NEAR THE MOUTH - STATION NO. 07DB002

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		1.6 B				38.5				43.7			1
2		2.2 B				38.1				43.9			2
3		3.8 B				26.3				42.5			3
4		4.5 B				29.2				45.5			4
5		6.5 B				23.4				46.4			5
6		12.0 B				22.2				41.0			6
7		19.0 B				27.2				36.1			7
8		25.0 B				26.6				33.3			8
9		32.0 B				23.7				30.6			9
10		44.0 B				28.1				28.1			10
11		63.3 B				19.0				28.1			11
12		70.0 B				16.8				25.8			12
13		78.8 B				20.9				23.7			13
14		86.7 B				20.8				22.3			14
15		105 B				21.1				25.7			15
16		125 B				23.0				35.3			16
17		100 B				25.5				39.1			17
18		84.0 B				25.8				42.4			18
19		72.6 B				29.0				47.4			19
20		64.0 B				36.8				41.1			20
21		55.1 B				37.6				35.6			21
22		51.0 B				38.2				38.8			22
23		49.0 B				36.8				24.9			23
24		47.0 B				37.3				22.7			24
25		46.0 B				35.5				28.0			25
26		44.3 B				35.6				17.6			26
27		43.0 B				36.5			14.0	14.9	8 S	0.32	27
28		2.0 B				34.4				14.3			28
29		40.5 B				34.3				13.3			29
30		39.8 B				35.7				14.5			30
31						39.9							31
TOTAL		1415.3				987.8				938.6			TOTAL
MEAN		47.2				29.3				31.0			MEAN

DOVER RIVER NEAR THE MOUTH - STATION NO. 07DB002

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		17.5				20.6				7.2			1
2		18.1				17.6				7.3			2
3		24.6				15.8				7.7			3
4		44.5				12.2				7.6			4
5		68.2				9.2				7.4			5
6		83.2				8.2				6.8			6
7		79.9				8.5				6.8			7
8		78.4				7.9				6.3			8
9		68.7				7.2				6.6			9
10		54.2				6.1				5.8			10
11		53.3				5.0				5.5			11
12		50.6				5.8				5.4			12
13		45.5				5.2				5.3			13
14		48.9				4.8				4.5			14
15		48.0				4.5			12.0	4.4	6 S	0.07	15
16		33.8				4.5				4.6			16
17		33.7				4.4				5.2			17
18		32.1				4.2				7.0			18
19		32.9				4.2				8.7			19
20		34.5				4.5				12.3			20
21		34.7				4.5				13.8			21
22		33.6			14.0	4.6	6 S	0.07		13.6			22
23		33.4				3.8				21.1			23
24		31.9				3.5				20.8			24
25	22.8	28.6	8 S	0.62		5.5				22.6			25
26		26.8				5.6				22.9			26
27		23.6				5.1				23.9			27
28		18.5				6.3				24.5			28
29		22.5				6.1				26.4			29
30		19.9				7.3				26.9			30
31		19.0				7.8							31
TOTAL		1226.3				219.7				348.9			TOTAL
MEAN		39.6				7.1				11.6			MEAN

DOVER RIVER NEAR THE MOUTH - STATION NO. 07DB002

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		29.4				22.9 B				7.2 B			1
2		32.3				22.4 B				8.1 B			2
3		32.8				19.5 B				8.5 B			3
4		33.5				13.5 B				8.5 B			4
5		42.7				16.8 B				8.5 B			5
6		43.3				16.8 B				8.0 B			6
7		43.6				16.5 B				8.0 B			7
8		43.8				14.7 B				8.0 B			8
9		41.3				13.8 B				8.0 B			9
10		34.8				15.4 B				8.0 B			10
11		36.4				14.5 B				8.0 B			11
12		35.3				13.5 B				7.5 B			12
13		33.0				12.4 B				7.5 B			13
14		32.9				11.3 B				7.5 B			14
15		32.4				10.7 B				7.5 B			15
16		32.5				9.2 B				7.5 B			16
17	4.8	30.4	8 S	0.66		8.0 B				7.0 B			17
18		28.8				7.5 B				7.0 B			18
19		27.3				7.0 B				7.0 B			19
20		29.0				6.2 B				7.0 B			20
21		32.7				5.6 B				7.0 B			21
22		28.8				5.3 B				6.5 B			22
23		22.7				4.7 B				6.5 B			23
24		23.8				3.8 B				6.5 B			24
25		24.5				3.5 B				6.5 B			25
26		24.0				4.8 B				6.5 B			26
27		25.0				4.7 B				6.5 B			27
28		24.7				4.6 B				6.0 B			28
29		24.5				4.9 B				6.0 B			29
30		23.6				6.2 B				6.0 B			30
31		22.6 B								6.0 B			31
TOTAL		971.6				321.9				224.3			TOTAL
MEAN		31.4				10.7				7.2			MEAN

TYPE OF GAUGE - RECORDING
LOCATION - LAT 57 16 12 N
LONG 114 47 38 W
DRAINAGE AREA 369 SQ MILES
NATURAL FLOW

B - ICE CONDITIONS

'S - SAMPLE(S) COLLECTED THIS DAY

SEDIMENT SURVEY
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DUNKIRK RIVER NEAR FORT MACKAY - STATION NO. 07DB003

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		6.5 B				5.5 B				4.1 B			1
2		6.5 B				5.4 B				4.0 B			2
3		6.5 B				5.3 B				4.0 B			3
4		6.5 B				5.2 B				4.0 B			4
5		6.5 B				5.1 B				4.0 B			5
6		6.5 B				5.1 B				4.0 B			6
7		6.5 B				5.0 B				3.9 B			7
8		6.5 B				4.9 B				3.9 B			8
9		6.5 B				4.9 B				3.9 B			9
10		6.5 B				4.8 B				3.9 B			10
11		6.5 B				4.8 B				3.9 B			11
12		6.5 B				4.7 B				3.8 B			12
13		6.5 B				4.7 B				3.8 B			13
14		6.6 B				4.6 B				3.8 B			14
15		6.6 B				4.6 B				3.8 B			15
16		6.6 B				4.5 B				3.8 B			16
17		6.6 B				4.5 B				3.7 B			17
18		6.6 B				4.4 B				3.7 B			18
19		6.6 B				4.4 B				3.7 B			19
20		6.5 B				4.3 B				3.7 B			20
21		6.4 B				4.3 B				3.7 B			21
22		6.3 B				4.2 B				4.0 B			22
23		6.2 B				4.2 B				5.0 B			23
24		6.1 B				4.2 B				6.6 B			24
25		6.1 B				4.1 B				7.0 B			25
26		6.0 B				4.1 B				8.0 B			26
27		6.0 B				4.1 B				9.5 B			27
28		5.9 B				4.1 B				10.5 B			28
29		5.8 B								12.0 B			29
30		5.7 B								14.0 B			30
31		5.6 B								16.0 B			31
TOTAL		196.7				130.0				173.1			TOTAL
MEAN		6.3				4.6				5.6			MEAN

SEDIMENT SURVEY
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DUNKIRK RIVER NEAR FORT MACKAY - STATION NO. 07DB003

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		18.0 B				165				251			1
2		21.0 B				148				248			2
3		22.5 B				149				240			3
4		24.0 B				149				246			4
5		26.5 B				147				264			5
6		29.5 B				157				285			6
7		33.5 B				186				288			7
8		39.0 B				195				274			8
9		46.0 B				184				243			9
10		53.5 B				172				212			10
11		62.0 B				160				191			11
12		70.0 B				151				181			12
13		88.0 B				147				178			13
14		90.0 B				146				179			14
15		101 B				152				180			15
16		110 B				164				181			16
17		125 B				168				183			17
18		140 B				161				186			18
19		165 B				154				183			19
20		188 B				147				166			20
21		189 B				142				152			21
22		190 B				137				134			22
23		190 B				129				122			23
24		190 B				122				106			24
25		190 B				115				97.2			25
26		190 B				185				84.4			26
27		191				153				75.3			27
28		187				233			18.0	64.5	6 S	1.0	28
29		188				267				68.4			29
30		174				277				59.8			30
31						264							31
TOTAL		3323.5				5146				5316.6			TOTAL
MEAN		111				166				177			MEAN

DUNKIRK RIVER NEAR FORT MACKAY - STATION NO. 07DB003

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		81.2				185				28.4			1
2		67.1				168				25.5			2
3		87.0				154				23.2			3
4		127				139				22.2			4
5		213				131				22.0			5
6		385				123				22.7			6
7		358				116				22.3			7
8		389				111				21.2			8
9		488				188				21.6			9
10		415				182				22.4			10
11		396 A				97.4				19.9			11
12		380 E				88.5				21.4			12
13		365 E				82.9				24.5			13
14		350 E				80.8				30.2			14
15		330 E				77.2				29.2			15
16		315 E				71.7				29.7			16
17		305 E				66.5				35.1			17
18		300 E				61.8				36.6			18
19		300 E				56.2				40.5			19
20		380 E				53.1				43.5			20
21		295 E				47.9			11.0	45.3	3 S	0.37	21
22		290 E				42.8				47.7			22
23		280 E			12.0	37.7	4 S	0.41		48.2			23
24		270 E				35.0				47.2			24
25		265 E				34.6				46.6			25
26	13.0	249 A	10 S	6.7		33.9				46.1			26
27		237				31.3				46.1			27
28		229				29.4				46.0			28
29		214				31.7				47.0			29
30		206				32.5				46.6			30
31		197				31.8							31
TOTAL		8503.3				2401.7				1809.1			TOTAL
MEAN		274				79.4				33.6			MEAN

DUNKIRK RIVER NEAR FORT MACKAY - STATION NO. 07DB003

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		44.8				27.5 B				9.5 B			1
2		49.1				26.0 B				9.5 B			2
3		55.0				24.0 B				9.1 B			3
4		62.9				22.5 B				9.0 B			4
5		74.6				21.0 B				9.0 B			5
6		88.2				20.0 B				9.0 B			6
7		86.2				19.0 B				8.5 B			7
8		87.2				17.5 B				8.5 B			8
9		86.7				16.0 B				8.0 B			9
10		83.0				15.5 B				8.0 B			10
11		76.7				15.0 B				7.5 B			11
12		72.5				14.0 B				7.0 B			12
13		87.6				13.5 B				7.0 B			13
14		90.8				13.0 B				6.5 B			14
15		86.9				12.5 B				6.5 B			15
16		82.5				12.0 B				6.5 B			16
17		83.3				11.5 B				6.0 B			17
18	3.0	85.0	3 S	0.69		11.5 B				6.0 B			18
19		84.0				11.0 B				6.0 B			19
20		82.0				11.0 B				5.5 B			20
21		84.6				10.5 B				5.5 B			21
22		80.0				10.5 B				5.5 B			22
23		52.0				10.5 B				5.0 B			23
24		53.2				10.0 B				5.0 B			24
25		52.5				10.0 B				5.0 B			25
26		48.9				10.0 B				4.5 B			26
27		39.4				10.0 B				4.5 B			27
28		34.5 B				9.5 B				4.5 B			28
29		33.0 B				9.5 B				4.5 B			29
30		31.0 B				9.5 B				4.5 B			30
31		29.8 B								4.0 B			31
TOTAL		2079.1				436.0				205.1			TOTAL
MEAN		67.1				14.5				6.6			MEAN

TYPE OF GAUGE - RECORDING
LOCATION - LAT 56 51 20 N
LONG 112 42 40 W
DRAINAGE AREA 6.1 SQ MILES
NATURAL FLOW

A - MANUAL GAUGE B - ICE CONDITIONS E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

SEDIMENT SURVEY
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ELLS RIVER NEAR THE MOUTH - STATION NO. 07DA017

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		31.5 B				19.5 B				29.0 B			1
2		30.5 B				19.5 B				29.0 B			2
3		29.5 B				19.5 B				29.0 B			3
4		29.0 B				20.0 B				28.5 B			4
5		28.5 B				20.0 B				28.5 B			5
6		27.5 B				20.5 B				28.5 B			6
7		27.0 B				21.0 B				28.5 B			7
8		26.5 B				21.5 B				28.5 B			8
9		25.5 B				22.0 B				28.0 B			9
10		25.0 B				22.5 B				28.0 B			10
11		24.5 B				23.0 B				28.0 B			11
12		24.0 B				23.5 B				28.0 B			12
13		23.5 B				24.0 B				28.0 B			13
14		23.0 B				24.5 B				27.5 B			14
15		22.5 B				25.0 B				27.0 B			15
16		22.0 B				25.5 B				26.0 B			16
17		21.5 B				26.0 B				25.0 B			17
18		21.0 B				26.5 B				24.0 B			18
19		20.5 B				27.0 B				22.0 B			19
20		20.0 B				27.5 B				20.0 B			20
21		20.0 B				27.5 B				18.0 B			21
22		19.5 B				28.0 B				16.5 B			22
23		19.5 B				28.5 B				15.0 B			23
24		19.0 B				28.5 B				14.5 B			24
25		19.0 B				28.5 B				14.2 B			25
26		19.0 B				28.5 B				14.0 B			26
27		19.0 B				29.0 B				14.0 B			27
28		19.0 B				29.0 B				14.0 B			28
29		19.0 B								14.5 B			29
30		19.0 B								14.5 B			30
31		19.0 B								15.0 B			31
TOTAL		714.4				686.0				705.2			TOTAL
MEAN		23.0				24.5				22.7			MEAN

SEDIMENT SURVEY
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CALGARY, ALTA.

ELLS RIVER NEAR THE MOUTH - STATION NO. 07DA017

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		15.5 B				182				211			1
2		16.0 B				164				219			2
3		16.5 B				154				225			3
4		17.6 B			15.0	158	17 S	6.9		226			4
5		19.0 B				154				228			5
6		20.5 B				156				229			6
7		23.0 B				169				218			7
8		25.0 B				165				214			8
9		27.0 B				167				232			9
10		29.0 B				174				236			10
11	8.1	32.2 B	17 S	1.5		176				224			11
12		40.0 B				187				222			12
13		70.0 B				189				222			13
14	8.1	146 B	55 S	21.7		213				223			14
15		190 B				229				225			15
16	1.0	219 B	62 S	36.7		228				220			16
17		250 B				232				230			17
18		270 B				230				229			18
19	8.1	286 B	51 S	39.4		228				216			19
20		250 B				228				199			20
21	1.0	216 B	81 S	47.2		223				191			21
22		230 B				222				182			22
23		245 B				222				177			23
24		258				219				183			24
25		287				219				178			25
26	2.0	269	144 S	105		216				176			26
27		273				210			10.0	172	4 S	1.9	27
28		283				211				171			28
29		223				218				188			29
30		189				218	16 S	9.4		193			30
31						214							31
TOTAL		4435.3				6165				6251			TOTAL
MEAN		148				199				208			MEAN

ELLS RIVER NEAR THE MOUTH - STATION NO. 07DA017

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		197				350				211			1
2		218				343				205			2
3		252				344				197			3
4		304				335				192			4
5		387				341				189			5
6		472				340				188			6
7		512				347				188			7
8		482				349				187			8
9		430				343				194			9
10		392				331				192			10
11		377				326				185			11
12		357				315				183			12
13		349				301				182			13
14		337				293				181			14
15		328				288				179			15
16		327				287				179			16
17		327				285				178			17
18		351				272				174			18
19		426				267			12.8	173	4 S	1.9	19
20		449				262				173			20
21		460				259				171			21
22		437			15.0	259	5 S	3.5		170			22
23		409				254				167			23
24		391				252				163			24
25	17.0	388	25 S	25.7		272				163			25
26		378				256				167			26
27		365				244				167			27
28		374				236				162			28
29		372				230				158			29
30		395				219				152			30
31		351				215							31
TOTAL		11546				9015				5365			TOTAL
MEAN		372				291				179			MEAN

ELLS RIVER NEAR THE MOUTH - STATION NO. 07DA017

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		151				121 B				105 B			1
2		151				129 B				105 B			2
3		154				122 B				106 B			3
4		159				117 B				106 B			4
5		161				115 B				104 B			5
6		167				115 B				102 B			6
7		166				115 B				99.0 B			7
8		157				114 B				94.0 B			8
9		165				110 B				89.0 B			9
10		162				107 B				81.0 B			10
11		152				104 B				77.0 B			11
12		160				102 B				74.0 B			12
13		199				101 B				72.0 B			13
14		184				100 B				71.5 B			14
15		185				100 B				70.0 B			15
16		186				99.0 B				69.0 B			16
17	5.0	182	6 S	2.9		99.0 B				68.0 B			17
18		181				98.0 B				67.0 B			18
19		177				97.0 B				66.0 B			19
20		175				97.0 B				65.0 B			20
21		168 B				97.0 B				64.0 B			21
22		162 B				98.0 B				64.0 B			22
23		157 B				98.0 B				63.0 B			23
24		285				99.0 B				62.0 B			24
25		187				99.0 B				62.0 B			25
26		171				100 B				61.0 B			26
27		173				101 B				61.0 B			27
28		149 B				102 B				60.0 B			28
29		139 B				103 B				60.0 B			29
30		148 B				104 B				59.0 B			30
31		136 B								59.0 B			31
TOTAL		5163				3163.0				2365.5			TOTAL
MEAN		167				105				76.3			MEAN

TYPE OF GAUGE - RECORDING
LOCATION - LAT 57 16 04 N
LONG 111 42 51 W
DRAINAGE AREA 956 SQ MILES
NATURAL FLOW

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

FIREBAG RIVER NEAR THE MOUTH - STATION NO. 07DC001

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		380 B				350 B				380 B			1
2		380 B				350 B				380 B			2
3		295 B				350 B				380 B			3
4		380 B				350 B				380 B			4
5		380 B				355 B				380 B			5
6		385 B				355 B				380 B			6
7		305 B				355 B				380 B			7
8		310 B				355 B				380 B			8
9		310 B				355 B				380 B			9
10		315 B				355 B				380 B			10
11		320 B				355 B				380 B			11
12		320 B				355 B				380 B			12
13		325 B				360 B				380 B			13
14		330 B				360 B				380 B			14
15		340 B				360 B				380 B			15
16		335 B				360 B				380 B			16
17		340 B				360 B				380 B			17
18		343 B				360 B				380 B			18
19		345 B				360 B				380 B			19
20		345 B				360 B				380 B			20
21		345 B				364 B				380 B			21
22		345 B				365 B				381 B			22
23		345 B				370 B				380 B			23
24		345 B				370 B				380 B			24
25		350 B				370 B				380 B			25
26		350 B				375 B				380 B			26
27		350 B				375 B				390 B			27
28		350 B				375 B				390 B			28
29		350 B								392 B			29
30		350 B								392 B			30
31		350 B								394 B			31
TOTAL		10203				10084				11847			TOTAL
MEAN		329				360				382			MEAN

FIREBAG RIVER NEAR THE MOUTH - STATION NO. 07DC001

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		393 B				1720				1720			1
2		391 B				1660				1720			2
3		394 B				1610				1720			3
4		404 B				1550				1670			4
5		403 B				1490				1590			5
6		425 B				1420				1470			6
7		449 B				1350				1380			7
8		473 B				1300			14.0	1290	18 S	62.7	8
9		508 B				1250				1230			9
10		520 B			12.0	1210	26 S	84.9		1210			10
11		543 B				1170				1210			11
12	8.1	600 B	27 S	43.7		1120				1240			12
13		740 B				1110				1150			13
14		900 B				1090				1170			14
15		1150 B				1060				1250			15
16		1480 B				1010				1290			16
17	4.1	1700 B	45 S	207		1080				1310			17
18		2180 B				1810				1260			18
19	1.0	2610 B	35 S	247		1080				1180			19
20		2550 B				1150				1110			20
21		2450 E				1180				1030			21
22		2350 E				1200				968			22
23		2280 E				1190				913			23
24		2280 E				1180				865			24
25		2180 E				1180				820			25
26		2030 E				1260				790			26
27	5.8	1950 A	71 S	374		1290				765			27
28		1890				1360				757			28
29		1840				1460				751			29
30		1790				1620				748			30
31						1720							31
TOTAL		39525				39940				35528			TOTAL
MEAN		1320				1290				1180			MEAN

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FIREBAG RIVER NEAR THE MOUTH - STATION NO. 07DC001

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		718				842				872			1
2		723				880				844			2
3		838				758				812			3
4		1120			16.0	745	5 S	10.1		791			4
5		1590				744				771			5
6		1880				784				753			6
7	18.0	1960	48 S	212		808				729			7
8		1968				834				720			8
9		1910				828				740			9
10		1850				816				684			10
11		1740				799				683			11
12		1620				772				689			12
13		1540				759				699			13
14		1440				747				727			14
15		1280				716				765			15
16		1190				688				810			16
17		1160				647				845			17
18		1160				633				863			18
19		1160				607				860			19
20		1200				588				864			20
21		1230				581				857			21
22		1230				570			11.0	851	4 S	9.2	22
23		1220				560				847			23
24		1210			12.0	567	9 S	13.8		821			24
25		1160				627				798			25
26		1110				685				789			26
27		1070				782				790			27
28		1040				862				776			28
29		982				898				757			29
30		929				947				739			30
31		885				982							31
TOTAL		48015				22856				23506			TOTAL
MEAN		1290				737				784			MEAN

FIREBAG RIVER NEAR THE MOUTH - STATION NO. 07DC001

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		782				731				435 B			1
2		735				717				430 B			2
3		734				696				425 B			3
4		766				598				420 B			4
5		784				363				414 B			5
6		801				345 B				395 B			6
7		805				335 B				385 B			7
8		823				335 B				375 B			8
9		868				340 B				370 B			9
10		856				358 B				364 B			10
11		855				365 B				355 B			11
12		860				380 B				350 B			12
13		869				395 B				344 B			13
14		895				405 B				340 B			14
15		931				418 B				344 B			15
16		929				420 B				335 B			16
17		927				425 B				335 B			17
18		928				430 B				335 B			18
19		933				435 B				335 B			19
20		931				440 B				335 B			20
21	1.0	989	5 S	12.3		440 B				335 B			21
22		875				440 B				335 B			22
23		843				440 B				335 B			23
24		815				440 B				335 B			24
25		814				440 B				335 B			25
26		818				440 B				335 B			26
27		811				440 B				335 B			27
28		785				440 B				335 B			28
29		751				440 B				335 B			29
30		742				441 B				335 B			30
31		732								335 B			31
TOTAL		25849				13316				11094			TOTAL
MEAN		834				444				358			MEAN

TYPE OF GAUGE - RECORDING
LOCATION - LAT 57 38 30 N
LONG 111 10 30 W
DRAINAGE AREA 2330 SQ MILES
NATURAL FLOW

A - MANUAL GAUGE B - ICE CONDITIONS E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

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HARTLEY CREEK NEAR FORT MACKAY - STATION NO. 07DA009

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		8.38 B				8.22 B				8.36 B			1
2		8.36 B				8.22 B				8.38 B			2
3		8.38 B				8.22 B				8.38 B			3
4		8.28 B				8.22 B				8.38 B			4
5		8.28 B				8.24 B				8.38 B			5
6		8.28 B				8.24 B				8.38 B			6
7		8.28 B				8.24 B				8.38 B			7
8		8.26 B				8.26 B				8.38 B			8
9		8.26 B				8.26 B				8.38 B			9
10		8.26 B				8.26 B				8.36 B			10
11		8.26 B				8.26 B				8.36 B			11
12		8.24 B				8.28 B				8.36 B			12
13		8.24 B				8.28 B				8.36 B			13
14		8.24 B				8.28 B				8.36 B			14
15		8.24 B				8.28 B				8.34 B			15
16		8.22 B				8.30 B				8.34 B			16
17		8.22 B				8.38 B				8.34 B			17
18		8.22 B				8.30 B				8.32 B			18
19		8.22 B				8.38 B				8.32 B			19
20		8.21 B				8.32 B				8.30 B			20
21		8.21 B				8.32 B				8.30 B			21
22		8.21 B				8.32 B				8.28 B			22
23		8.21 B				8.34 B				8.28 B			23
24		8.20 B				8.36 B				8.26 B			24
25		8.20 B				8.36 B				8.26 B			25
26		8.20 B				8.36 B				8.24 B			26
27		8.20 B				8.36 B				8.24 B			27
28		8.20 B				8.38 B				8.23 B			28
29		8.21 B								8.24 B			29
30		8.21 B								8.26 B			30
31		8.21 B								8.28 B			31
TOTAL		7.37				8.88				10.05			TOTAL
MEAN		8.24				8.29				8.32			MEAN

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HARTLEY CREEK NEAR FORT MACKAY - STATION NO. 07DA009

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		8.30 B				50.1				49.8			1
2		8.32 B			8.8	47.6	8 S	1.0		49.1			2
3		8.36 B				46.0				56.0			3
4		8.42 B				44.3			10.0	55.2	6 S	0.89	4
5		8.68 B				43.2				49.2			5
6		2.0 B				39.3				44.8			6
7		3.8 B				37.7				46.4			7
8		5.0 B				36.6				46.0			8
9		8.0 B				33.8				48.0			9
10		12.5 B				31.5				41.9			10
11		28.0 B				29.8				39.7			11
12	8.1	34.3 B	10 S	8.93		32.1				37.6			12
13		48.0 B				33.8				36.9			13
14	1.8	73.5 B	12 S	2.4		38.7				46.5			14
15		78.0 B				28.6				53.0			15
16	1.8	84.6 B	12 S	2.7		26.6				53.6			16
17		92.8 B				28.6				50.1			17
18		110 B				35.4				46.8			18
19	1.8	133 B	32 S	11.5		37.8				43.0			19
20		132 B				35.5				38.8			20
21	1.8	131 B	39 S	13.8		39.9				35.3			21
22		110 B				38.8				33.4			22
23		96.0 B				35.6				36.6			23
24		84.8 B				38.9				26.9			24
25		79.2				48.9				23.8			25
26		73.8				41.6				21.7			26
27		68.2				44.6			13.0	19.1	6 S	0.31	27
28		64.9				45.9				17.5			28
29		59.4				50.9				17.2			29
30		53.6				55.4				20.3			30
31						54.5							31
TOTAL		1658.88				1218.4				1157.4			TOTAL
MEAN		55.3				39.3				38.6			MEAN

MARTLEY CREEK NEAR FORT MACKAY - STATION NO. 07DA009

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		22.8				16.3				15.9			1
2		25.2				15.1				15.4			2
3		50.6				15.1				14.6			3
4		89.0				15.3				13.7			4
5		106				17.6				12.6			5
6		106				28.0				14.1			6
7		106				18.8				14.0			7
8		101				18.7				14.4			8
9		89.9				18.3				14.6			9
10		81.3				17.1				15.5			10
11		72.0				16.8				17.1			11
12		62.8				15.7				15.4			12
13		55.6				14.1				15.6			13
14		52.6				11.7				19.9			14
15		50.1				11.1				22.2			15
16		45.2				9.9				21.9			16
17		46.4				9.6				21.1			17
18		57.2				8.5				20.3			18
19		59.2				8.2				20.4			19
20		63.3				9.0				19.8			20
21		60.2				9.5				19.1			21
22		54.6			12.8	8.9	5 S	0.12	10.8	17.9	2 S	0.10	22
23		48.5				7.5				17.9			23
24		42.8				8.1				21.4			24
25		37.8				16.9				21.8			25
26	19.8	34.1	6 S	0.55		24.4				21.3			26
27		29.3				23.2				20.5			27
28		26.5				21.0				19.4			28
29		24.3				20.0				18.3			29
30		21.0				19.4				18.2			30
31		18.5				17.2							31
TOTAL		1739.0				463.8				534.3			TOTAL
MEAN		56.1				14.9				17.8			MEAN

MARTLEY CREEK NEAR FORT MACKAY - STATION NO. 07DA009

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		17.5				23.4 B				2.2 B			1
2		19.2				22.5 B				2.0 B			2
3		26.1				22.0 B				1.6 B			3
4		31.4				21.0 B				1.4 B			4
5		35.3				20.8 B				1.2 B			5
6		35.3				19.5 B				1.1 B			6
7		34.2				17.9 B				0.90 B			7
8		35.2				17.8 B				0.80 B			8
9		42.1				15.8 B				0.80 B			9
10		43.5				14.5 B				0.70 B			10
11		42.2				13.1 B				0.70 B			11
12		42.3				11.5 B				0.63 B			12
13		43.7				10.5 B				0.60 B			13
14		43.2				9.7 B				0.60 B			14
15		41.0				8.9 B				0.55 B			15
16		41.6				8.1 B				0.55 B			16
17		40.7				7.5 B				0.50 B			17
18		39.2				6.9 B				0.50 B			18
19		38.8				6.3 B				0.50 B			19
20	3.0	36.8	2 S	0.20		5.7 B				0.45 B			20
21		34.2				5.3 B				0.45 B			21
22		33.2				4.8 B				0.45 B			22
23		33.3				4.4 B				0.48 B			23
24		33.5				4.0 B				0.40 B			24
25		32.5				3.7 B				0.40 B			25
26		30.1				3.4 B				0.40 B			26
27		27.5				3.1 B				0.35 B			27
28		26.4 B				2.9 B				0.35 B			28
29		27.6 B				2.7 B				0.35 B			29
30		24.5 B				2.4 B				0.35 B			30
31		24.1 B								0.34 B			31
TOTAL		1056.4				318.5				22.48			TOTAL
MEAN		34.1				10.6				0.73			MEAN

TYPE OF GAUGE - RECORDING
LOCATION - LAT 57 15 34 N
LONG 111 27 53 W
DRAINAGE AREA 138 SQ MILES
NATURAL FLOW

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

JOSLYN CREEK NEAR FORT MACKAY - STATION NO. 07DA016

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		8.30 B				8.65 B				8.95 B			1
2		8.30 B				8.65 B				8.95 B			2
3		8.30 B				8.70 B				8.95 B			3
4		8.30 B				8.70 B				8.95 B			4
5		8.30 B				8.70 B				8.90 B			5
6		8.30 B				8.75 B				8.90 B			6
7		8.35 B				8.75 B				8.90 B			7
8		8.35 B				8.75 B				8.90 B			8
9		8.35 B				8.80 B				8.90 B			9
10		8.35 B				8.80 B				8.85 B			10
11		8.35 B				8.80 B				8.85 B			11
12		8.35 B				8.85 B				8.85 B			12
13		8.40 B				8.85 B				8.85 B			13
14		8.40 B				8.90 B				8.85 B			14
15		8.40 B				8.90 B				8.80 B			15
16		8.40 B				8.90 B				8.80 B			16
17		8.40 B				8.95 B				8.80 B			17
18		8.40 B				8.95 B				8.80 B			18
19		8.43 B				8.95 B				8.75 B			19
20		8.45 B				1.0 B				8.75 B			20
21		8.45 B				1.0 B				8.70 B			21
22		8.50 B				1.0 B				8.70 B			22
23		8.50 B				1.0 B				8.65 B			23
24		8.55 B				1.0 B				8.65 B			24
25		8.55 B				1.0 B				8.63 B			25
26		8.55 B				1.0 B				8.60 B			26
27		8.60 B				1.0 B				8.55 B			27
28		8.60 B				1.0 B				8.50 B			28
29		8.60 B								8.45 B			29
30		8.65 B								8.40 B			30
31		8.65 B								8.35 B			31
TOTAL		13.38				24.30				23.43			TOTAL
MEAN		8.43				8.87				8.76			MEAN

JOSLYN CREEK NEAR FORT MACKAY - STATION NO. 07DA016

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		8.30 B				21.1				17.7			1
2		8.30 B				14.9				16.9			2
3		8.25 B				14.1				18.8			3
4		8.24 B			8.8	16.4	142 S	6.3		24.6			4
5		8.25 B				14.3				26.0			5
6		8.38 B				17.3				21.9			6
7		8.88 B				19.4				15.2			7
8		1.6 B				18.3				12.9			8
9		2.4 B				15.8				12.5			9
10		3.2 B				16.0				11.6			10
11	8.1	4.4 B	20 S	0.24		17.3				8.9			11
12		5.6 B				19.8				7.7			12
13		7.6 B				18.3				6.3			13
14	8.1	11.0 B	35 S	1.0		17.4				6.2			14
15		20.0 B				16.8				8.5			15
16	8.1	34.8 B	74 S	6.8		15.9				6.1			16
17		35.5 B				15.1				8.3			17
18		37.5 B				14.3				8.3			18
19	1.8	39.0 B	60 S	6.3		14.2				6.7			19
20		42.8 B				15.0				5.8			20
21	1.8	46.5 B	61 S	7.7		17.7				4.1			21
22		41.8 B				18.1				5.5			22
23		37.6 B				17.7				5.4			23
24		33.8 B				17.3				4.9			24
25		38.8 B				16.1				4.7			25
26	1.8	26.2 B	93 S	6.6		14.5				5.1			26
27		29.8 B				13.7			16.8	5.1	25 S	0.34	27
28		32.8 B				13.8				5.7			28
29		35.5				16.9				7.1			29
30		24.6				13.5	69 S	2.5		8.5			30
31						14.3							31
TOTAL		581.04				533.7				386.2			TOTAL
MEAN		19.4				16.2				10.2			MEAN

JOSLYN CREEK NEAR FORT MACKAY - STATION NO. 07DA016

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		18.7				15.9				10.6			1
2		23.3				12.6				8.4			2
3		34.7				10.4				7.3			3
4		63.5				10.7				6.2			4
5		64.6				10.9				5.8			5
6		58.9				11.1				5.4			6
7		47.5				12.2				5.5			7
8		36.9				11.6				4.5			8
9		30.1				9.7				4.5			9
10		23.9				8.7				5.8			10
11		20.8				7.8				5.9			11
12		19.5				7.1				7.6			12
13		16.6				5.9				7.6			13
14		14.8				6.6				7.3			14
15		13.6				9.1				7.7			15
16		13.9				7.8				7.8			16
17		13.3				7.4				10.6			17
18		15.8				6.1				7.5			18
19		39.9				6.2			12.0	7.0	11 S	0.21	19
20		43.3				5.5				7.8			20
21		38.4				4.8				8.0			21
22		28.6			12.0	4.3	28 S	0.33		8.2			22
23		24.3				3.7				8.4			23
24		20.8				3.7				8.9			24
25	13.8	16.7	186 S	4.8		5.1				10.3			25
26		14.7				5.4				12.8			26
27		12.8				12.5				13.7			27
28		16.9				13.3				12.8			28
29		15.3				14.2				12.3			29
30		19.4				12.8				11.8			30
31		16.3				11.8							31
TOTAL		837.8				274.9				248.0			TOTAL
MEAN		27.0				8.9				8.3			MEAN

JOSLYN CREEK NEAR FORT MACKAY - STATION NO. 07DA016

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		12.0				5.1 B				1.0 B			1
2		12.9				4.8 B				1.0 B			2
3		12.9				4.6 B				1.0 B			3
4		14.1				4.4 B				0.95 B			4
5		17.3				4.2 B				0.95 B			5
6		16.4				4.0 B				0.95 B			6
7		15.3				3.8 B				0.95 B			7
8		14.6				3.7 B				0.95 B			8
9		14.6				3.6 B				0.95 B			9
10		15.2				3.5 B				0.95 B			10
11		14.4				3.4 B				0.90 B			11
12		12.6				3.3 B				0.90 B			12
13		15.5				3.2 B				0.88 B			13
14		14.8				3.1 B				0.85 B			14
15		16.5				3.0 B				0.85 B			15
16		15.9				2.9 B				0.85 B			16
17	3.0	18.8	22 S	1.1		2.8 B				0.85 B			17
18		17.8				2.7 B				0.85 B			18
19		17.3				2.6 B				0.85 B			19
20		16.8				2.5 B				0.88 B			20
21		16.1				2.3 B				0.80 B			21
22		14.1 A				2.1 B				0.80 B			22
23		13.0 E				1.8 B				0.80 B			23
24		12.0 E				1.5 B				0.80 B			24
25		10.5 E				1.3 B				0.75 B			25
26		9.0 E				1.2 B				0.75 B			26
27		8.8 E				1.2 B				0.75 B			27
28		7.0 E				1.1 B				0.75 B			28
29		6.5 E				1.1 B				0.70 B			29
30		6.8 E				1.8 B				0.70 B			30
31		5.5 B								0.70 B			31
TOTAL		417.4				85.8				26.53			TOTAL
MEAN		13.5				2.9				0.86			MEAN

TYPE OF GAUGE - RECORDING
LOCATION - LAT 57 16 27 N
LONG 111 44 30 W
DRAINAGE AREA 95.7 SQ MILES
NATURAL FLOW

A - MANUAL GAUGE B - ICE CONDITIONS E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

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MACKAY RIVER NEAR FORT MACKAY - STATION NO. 07DB001

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		13.0 B				15.0 B				13.5 B			1
2		13.0 B				14.5 B				13.5 B			2
3		13.0 B				14.0 B				13.5 B			3
4		13.0 B				14.0 B				13.0 B			4
5		13.0 B				14.0 B				13.0 B			5
6		13.5 B				14.0 B				13.0 B			6
7		13.5 B				13.5 B				12.5 B			7
8		13.5 B				13.5 B				12.5 B			8
9		13.5 B				13.5 B				12.0 B			9
10		14.0 B				13.0 B				12.0 B			10
11		14.0 B				13.0 B				12.0 B			11
12		14.0 B				13.0 B				12.0 B			12
13		14.4 B				13.0 B				11.5 B			13
14		14.5 B				13.0 B				11.5 B			14
15		15.0 B				13.0 B				11.0 B			15
16		15.5 B				13.0 B				10.5 B			16
17		15.5 B				13.0 B				10.0 B			17
18		16.0 B				13.0 B				10.0 B			18
19		16.0 B				13.3 B				10.0 B			19
20		16.0 B				13.5 B				10.0 B			20
21		16.0 B				13.5 B				10.0 B			21
22		16.0 B				13.5 B				9.5 B			22
23		16.0 B				13.5 B				9.5 B			23
24		16.0 B				13.5 B				9.5 B			24
25		16.0 B				13.5 B				9.0 B			25
26		16.0 B				13.5 B				8.5 B			26
27		16.0 B				13.5 B				8.5 B			27
28		16.0 B				13.5 B				8.0 B			28
29		15.5 B								8.0 B			29
30		15.5 B								8.0 B			30
31		15.0 B								8.0 B			31
TOTAL		457.9				377.8				343.5			TOTAL
MEAN		14.8				13.5				10.8			MEAN

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MACKAY RIVER NEAR FORT MACKAY - STATION NO. 07DB001

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		7.5 B				428				601			1
2		7.5 B			18.0	483	26 S	28.3		599			2
3		7.0 B				387				628			3
4		7.5 B				375			11.0	622	45 S	75.6	4
5		7.9 B				390				591			5
6		8.0 B				411				575			6
7		9.0 B				418				545			7
8		28.0 B				413				536			8
9		128 B				432				585			9
10		380 B				432				559			10
11	8.1	400 B	88 S	95.8		421				504			11
12		405 B				421				455			12
13		415 B				434				417			13
14	8.1	427 B	80 S	92.2		429				429			14
15		438 B				413				566			15
16		468 B				397				641			16
17	8.1	540 B	125 S	182		431				643			17
18		660 B				464				646			18
19	1.8	749 B	153 S	309		514				633			19
20		720 B				919				578			20
21	1.8	708 B	157 S	297		588				513			21
22		668 B				496				457			22
23		618 B				453				419			23
24		560 B				426				383			24
25		528 B				422				348			25
26		470 B				404				320			26
27		492				380			14.8	303	11 S	9.0	27
28		481				360				285			28
29		495				464				281			29
30		473				611				269			30
31						618							31
TOTAL		11161.4				13656				14941			TOTAL
MEAN		372				441				498			MEAN

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MACKAY RIVER NEAR FORT MACKAY - STATION NO. 07DB001

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		263				319				116			1
2		261				389				106			2
3		302				292				101			3
4		409				274				93.6			4
5		515				268				85.8			5
6		612				259				81.7			6
7		735				259				79.4			7
8		802				247				74.1			8
9		801				230				70.4			9
10		758				219				74.5			10
11		726				211				69.7			11
12		693				203				69.8			12
13		645				197				72.4			13
14		649				182				82.0			14
15		562				171				82.9			15
16		584				165				84.2			16
17		493				156				92.0			17
18		504				146				106			18
19		504				135			12.0	124	4 S	1.3	19
20		498				129				133			20
21		499				116				133			21
22		502			15.0	112	4 S	1.2		129			22
23		495				104				135			23
24		492				99.7				140			24
25	17.0	486	15 S	19.7		114				140			25
26		445				125				138			26
27		403				148				137			27
28		394				141				138			28
29		370				137				141			29
30		351				130				147			30
31		330				121							31
TOTAL		15963				5710.7				3167.7			TOTAL
MEAN		515				184				106			MEAN

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MACKAY RIVER NEAR FORT MACKAY - STATION NO. 07DB001

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		148				176 B				23.0 B			1
2		162				146 B				22.0 B			2
3		181				129 B				21.3 B			3
4		224				96.7 B				21.0 B			4
5		263				89.3 B				24.0 B			5
6		277				105 B				19.0 B			6
7		279				96.8 B				17.0 B			7
8		291				87.8 B				16.0 B			8
9		301				88.0 B				15.0 B			9
10		310				73.0 B				14.0 B			10
11		308				68.0 B				13.0 B			11
12		306				62.8 B				12.8 B			12
13		300				58.0 B				11.0 B			13
14		299				54.0 B				10.7 B			14
15		301				51.0 B				10.5 B			15
16		300				48.0 B				10.5 B			16
17	5.0	295	7 S	5.6		45.0 B				10.5 B			17
18		284				42.0 B				10.5 B			18
19		278				40.0 B				10.5 B			19
20		277				39.0 B				12.0 B			20
21		264				37.0 B				11.0 B			21
22		250				35.0 B				11.0 B			22
23		239				33.0 B				11.5 B			23
24		229				32.0 B				11.5 B			24
25		230				30.0 B				11.5 B			25
26		213				29.0 B				12.0 B			26
27		209				28.0 B				12.0 B			27
28		203 B				27.0 B				12.5 B			28
29		192 B				25.0 B				12.5 B			29
30		180 B				24.0 B				13.0 B			30
31		158 B								13.0 B			31
TOTAL		7751				1885.8				436.0			TOTAL
MEAN		250				62.8				13.9			MEAN

TYPE OF GAUGE - RECORDING
LOCATION - LAT 57 12 38 N
LONG 111 41 36 W
DRAINAGE AREA 2021 SQ MILES
NATURAL FLOW

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

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MUSKEG RIVER NEAR FORT MACKAY - STATION NO. 07DA008

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		6.8 B				10.9 B				13.0 B			1
2		6.2 B				11.0 B				13.0 B			2
3		6.5 B				11.1 B				13.0 B			3
4		6.7 B				11.2 B				13.0 B			4
5		6.9 B				11.3 B				13.0 B			5
6		7.2 B				11.5 B				12.9 B			6
7		7.4 B				11.6 B				12.8 B			7
8		7.6 B				11.7 B				12.7 B			8
9		7.8 B				11.9 B				12.6 B			9
10		8.0 B				12.0 B				12.5 B			10
11		8.2 B				12.1 B				12.4 B			11
12		8.3 B				12.2 B				12.3 B			12
13		8.5 B				12.3 B				12.2 B			13
14		8.6 B				12.4 B				12.1 B			14
15		8.8 B				12.5 B				12.0 B			15
16		9.0 B				12.6 B				11.9 B			16
17		9.2 B				12.7 B				11.8 B			17
18		9.3 B				12.8 B				11.7 B			18
19		9.5 B				12.9 B				11.6 B			19
20		9.6 B				13.0 B				11.5 B			20
21		9.7 B				13.0 B				11.4 B			21
22		9.9 B				13.0 B				11.3 B			22
23		10.1 B				13.0 B				11.2 B			23
24		10.2 B				13.1 B				11.1 B			24
25		10.3 B				13.0 B				11.0 B			25
26		10.4 B				13.0 B				10.8 B			26
27		10.5 B				13.0 B				10.6 B			27
28		10.5 B				13.0 B				10.4 B			28
29		10.6 B								10.3 B			29
30		10.7 B								10.2 B			30
31		10.8 B								10.0 B			31
TOTAL		273.0				343.8				366.3			TOTAL
MEAN		8.8				12.3				11.8			MEAN

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MUSKEG RIVER NEAR FORT MACKAY - STATION NO. 07DA008

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		9.8 B				169				169			1
2		9.7 B			6.0	188	6 S	2.9		169			2
3		9.6 B				171				173			3
4		9.5 B				163			18.0	172	7 S	3.3	4
5		9.4 B				156				162			5
6		10.2 B				147				154			6
7		24.0 B				141				140			7
8		39.9 B				135				133			8
9		43.0 B				125				133			9
10		68.8 B				115				136			10
11		86.8 B				114				139			11
12	8.1	90.0 B	14 S	3.4		114				128			12
13		126 B				112				119			13
14	8.1	164 B	15 S	6.6		188				126			14
15		187 B				183				140			15
16	1.8	213 B	13 S	7.5		92.2				141			16
17		254 B				85.6				134			17
18		434 B				95.6				125			18
19		475 B				106				122			19
20	1.8	365 B	28 S	27.6		118				114			20
21		338 B				110				104			21
22	1.0	311 B	19 S	16.8		110				99.8			22
23		294				108				92.9			23
24		281				110				86.0			24
25		267				125				74.2			25
26		255				114				67.1			26
27		239				118				62.8			27
28		228				142				58.0			28
29		216				152			15.0	57.3	5 S	0.77	29
30		287				172				53.9			30
31						176							31
TOTAL		5241.1				3999.4				3577.0			TOTAL
MEAN		175				129				119			MEAN

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MUSKEG RIVER NEAR FORT MACKAY - STATION NO. 07DA008

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		52.1				98.3				57.1			1
2		49.5				91.5				59.3			2
3		82.1				85.8				57.0			3
4		162				85.1				55.9			4
5		220				84.9				54.7			5
6		242				85.4				55.1			6
7		245				86.9				53.4			7
8		232				88.4				47.6			8
9		222				88.4				45.8			9
10		218				82.8				48.0			10
11		214				77.2				59.9			11
12		198				72.6				54.9			12
13		178				69.7				54.1			13
14		162				64.8				75.0			14
15		160				61.9				85.7			15
16		147				58.3				90.2			16
17		140				52.0				92.2			17
18		163				48.5				89.0			18
19		183				43.1				91.8			19
20		201				42.1				92.9			20
21		210				41.6				77.9			21
22		198				40.1			11.0	69.5	3 S	0.56	22
23		186				37.7				66.9			23
24		173				35.5				85.5			24
25		159			12.0	42.1	3 S	0.34		98.3			25
26		145				78.4				92.4			26
27		139				79.8				81.3			27
28	16.0	134	6 S	2.2		75.8				82.9			28
29		128				73.7				74.8			29
30		116				66.5				71.0			30
31		106				57.4							31
TOTAL		5164.7				2865.9				2116.1			TOTAL
MEAN		167				67.3				70.5			MEAN

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MUSKEG RIVER NEAR FORT MACKAY - STATION NO. 07DA008

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		69.9				126				24.0 B			1
2		72.6				123				23.0 B			2
3		92.8				121				23.0 B			3
4		136				117 B				22.0 B			4
5		148				112 B				22.0 B			5
6		146				107 B				22.0 B			6
7		143				101 B				21.0 B			7
8		141				92.3 B				21.0 B			8
9		154				83.0 B				20.0 B			9
10		167				75.3 B				20.0 B			10
11		156				64.7 B				19.0 B			11
12		157				59.7 B				18.5 B			12
13		162				53.1 B				18.0 B			13
14		165				45.2 B				17.5 B			14
15		164				39.8 B				17.0 B			15
16		162				32.8 B				16.5 B			16
17		164				31.0 B				16.5 B			17
18		161				30.8 B				16.0 B			18
19		158				30.0 B				15.5 B			19
20	3.0	157	5 S	2.1		29.8 B				15.5 B			20
21		154				29.0 B				15.0 B			21
22		147				28.8 B				15.0 B			22
23		144				28.8 B				14.5 B			23
24		147				27.8 B				14.5 B			24
25		147				27.8 B				14.0 B			25
26		143				26.8 B				14.0 B			26
27		139				25.0 B				13.5 B			27
28		136				25.8 B				13.5 B			28
29		130				24.8 B				13.0 B			29
30		138				24.8 B				13.0 B			30
31		129								14.0 B			31
TOTAL		4428.3				1741.1				541.0			TOTAL
MEAN		143				57.7				17.5			MEAN

TYPE OF GAUGE - RECORDING
LOCATION - LAT 57 11 30 N
LONG 111 34 05 W
DRAINAGE AREA 562 SQ MILES
NATURAL FLOW

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

POPLAR CREEK NEAR FORT MCMURRAY - STATION NO. 07DA007

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		8.25 B				8.82 B				4.0 B			1
2		8.25 B				8.82 B				5.5 B			2
3		8.20 B				8.82 B				7.0 B			3
4		8.20 B				8.83 B				9.0 B			4
5		8.18 B				8.83 B				12.0 B			5
6		8.18 B				8.83 B				16.0 B			6
7		8.16 B				8.83 B				22.0 B			7
8		8.16 B				8.84 B				30.0 B			8
9		8.14 B				8.84 B				30.5 B			9
10		8.14 B				8.85 B				30.5 B			10
11		8.12 B				8.85 B				30.8 B			11
12		8.12 B				8.86 B				30.5 B			12
13		8.10 B				8.86 B				38.0 B			13
14		8.10 B				8.88 B				29.0 B			14
15		8.08 B				8.88 B				27.0 B			15
16		8.08 B				8.88 B				25.0 B			16
17		8.06 B				8.88 B				23.0 B			17
18		8.06 B				8.88 B				20.0 B			18
19		8.05 B				8.10 B				17.0 B			19
20		8.05 B				8.20 B				14.0 B			20
21		8.04 B				8.25 B				12.5 B			21
22		8.04 B				8.30 B				11.0 B			22
23		8.04 B				8.40 B				10.5 B			23
24		8.04 B				8.50 B				9.8 B			24
25		8.04 B				8.75 B				9.4 B			25
26		8.03 B				1.1 B				9.1 B			26
27		8.03 B				1.9 B				9.0 B			27
28		8.03 B				2.5 B				8.9 B			28
29		8.03 B								8.8 B			29
30		8.02 B								8.9 B			30
31		8.02 B								9.1 B			31
TOTAL		3.04				8.88				519.8			TOTAL
MEAN		8.10				8.32				16.8			MEAN

POPLAR CREEK NEAR FORT MCMURRAY - STATION NO. 07DA007

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		9.6 B	20	0.52		92.2	20	5.0		114 A	39	12.0	1
2		10.4 B	23	0.62		87.6	21	5.0	12.0	122 A	39 S	12.8	2
3		11.5 B	26	0.81		86.7	23	5.4		128	35	12.1	3
4		13.0 B	29	1.0	12.0	82.3	35 S	7.8		126	28	9.5	4
5		15.0 B	33	1.3		77.9	29	6.1	17.0	124	22 S	7.4	5
6		18.0 B	37	1.8	9.0	68.2	18 S	3.3		119	18	5.8	6
7		23.0 B	42	2.6		63.2	17	2.9	19.0	116	16 S	5.0	7
8		27.0 B	47	3.4		68.5	16	2.6		128	19	6.6	8
9		33.0 B	52	4.6		56.6	16	2.4		127	19	6.5	9
10		46.0 B	56	6.0		67.4	17	3.1	15.0	127	19 S	6.5	10
11		58.0 B	60	8.1		68.3	20	3.7		127	18	6.2	11
12		64.0 B	64	11.1	13.0	49.8	19 S	2.6		125	16	5.4	12
13	4.0	75.5 A	65 S	13.3		49.9	19	2.6		119	15	4.8	13
14		73.9	65	13.0		58.6	20	2.7		123	14	4.6	14
15		79.4	65	13.9		49.5	20	2.7		119	13	4.2	15
16		130	64	22.5		51.8	21	2.9		116	12	3.8	16
17		147	63	25.0	10.0	72.2	27 S	5.3	18.0	107	11 S	3.2	17
18	4.0	144	62 S	24.1		78.0	24	5.1		101	10	2.7	18
19		155	65	27.2		86.5	22	5.1		89.9	8	1.9	19
20	4.0	164	71 S	31.4	11.0	96.6	21 S	5.5	21.0	83.1	7 S	1.6	20
21		163	51	22.4		98.6	21	5.6		80.9	7	1.5	21
22	4.0	154	34 S	14.1		101	21	5.7		80.7	7	1.5	22
23		143	34	13.1		102	21	5.8	20.0	71.8	7 S	1.4	23
24		135	37	13.5		104	22	6.1		63.5	7	1.2	24
25		128	39	13.5	17.0	102	24 S	6.6		59.8	7	1.1	25
26	5.0	127	43 S	14.7		98.0 A	24	6.4		57.6	7	1.1	26
27		113	39	11.9		100 E	27	7.3		52.4	7	0.99	27
28		112	30	9.1		103 E	38	8.3		48.8	7	0.92	28
29	5.0	107	22 S	6.4		106 E	34	9.7	15.0	54.9	8 S	1.2	29
30		103	19	5.3	16.0	109 A	38 S	11.2	14.0	50.7	10 S	1.4	30
31						114 A	39	12.0					31
TOTAL		2567.9		336.25		2531.6		166.5		2962.1		135.01	TOTAL
MEAN		85.6		11.2		81.7		5.4		98.7		4.5	MEAN

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POPLAR CREEK NEAR FORT MCMURRAY - STATION NO. 07DA007

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		43.3	10	1.2		36.1	7	0.68		13.8	9	0.34	1
2		48.3	10	1.3	20.0	36.8	7 S	0.68		13.7	9	0.33	2
3		62.9	15	2.5		34.0	8	0.73		13.6	9	0.33	3
4		67.6	17	3.1		32.7	9	0.79		12.3	9	0.30	4
5	14.0	69.2	16 S	3.0		43.8	10	0.89		12.8	9	0.31	5
6		88.4	17	3.7		38.8	10	0.83		12.9	9	0.31	6
7		77.2	15	3.1		28.9	10	0.78		14.0	9	0.34	7
8		78.8	14	3.0		29.3	10	0.79		13.0	9	0.32	8
9		76.7	14	2.9	17.0	28.2	10 S	0.76		7.1	8	0.15	9
10		74.5	13	2.6		23.6	10	0.64		1.6	7	0.03	10
11	17.0	78.4	12 S	2.3		25.7	9	0.62		1.5	7	0.03	11
12		66.6	12	2.2		21.9	9	0.53		1.6	7	0.03	12
13		63.8	12	2.0		24.1	9	0.49		2.4	7	0.05	13
14		66.1	11	2.0		19.8	8	0.43		3.4	6	0.06	14
15		68.9	11	1.8	16.0	19.5	8 S	0.42		4.2	6	0.07	15
16		54.1	11	1.6		17.9	8	0.39		6.5	6	0.11	16
17		61.8	13	2.2		17.1	7	0.32		6.1	5	0.08	17
18	14.0	65.9	14 S	2.5		16.8	7	0.32		6.1	5	0.08	18
19		71.8	14	2.7		15.7	7	0.38	11.0	6.7	5 S	0.09	19
20		71.7	12	2.3		15.1	6	0.24		5.2	6	0.08	20
21	15.0	66.6	11 S	2.0		14.2	6	0.23		4.5	7	0.09	21
22		62.0	11	1.8		12.2	6	0.20		3.7	8	0.08	22
23		62.7	11	1.9		14.8	6	0.17	11.0	4.3	11 S	0.13	23
24		66.8	9	1.6		14.0	7	0.26		7.0	13	0.25	24
25	20.0	58.6	8 S	1.3		23.0	10	0.62		7.5	12	0.24	25
26		52.4	8	1.1	12.0	19.8	9 S	0.48		7.3	11	0.22	26
27		51.2	8	1.1		17.4	10	0.47		8.0	10	0.22	27
28		48.1	8	1.0		15.5	10	0.42		7.4	9	0.18	28
29		43.2	8	0.93		16.5	10	0.45		7.5	8	0.16	29
30		41.1	8	0.89		15.1	10	0.41		7.4	8	0.16	30
31		39.4	7	0.74		13.9	10	0.38					31
TOTAL		1922.4		62.36		674.6		15.72		223.1		5.17	TOTAL
MEAN		62.0		2.0		21.8		0.51		7.4		0.17	MEAN

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POPLAR CREEK NEAR FORT MCMURRAY - STATION NO. 07DA007

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		6.2	7	0.12		20.5 B				2.3 B			1
2		9.1	7	0.17		19.0 B				2.2 B			2
3		15.5	9	0.38		18.5 B				2.1 B			3
4		17.3	8	0.37		17.5 B				2.0 B			4
5	6.0	17.8	6 S	0.29		16.5 B				1.9 B			5
6		17.6	6	0.29		16.0 B				1.6 B			6
7		17.3	6	0.28		15.8 B				1.4 B			7
8		17.0	5	0.23		15.3 B				1.3 B			8
9		18.7	5	0.25		15.0 B				1.2 B			9
10		18.2	5	0.25		14.6 B				1.1 B			10
11		17.9	5	0.24		14.2 B				1.0 B			11
12		91.3	21	5.2		14.8 B				0.90 B			12
13		198	49	26.2		13.7 B				0.80 B			13
14		84.5	33	7.5		13.2 B				0.70 B			14
15		48.0	19	2.1		14.8 B				0.68 B			15
16		31.3	10	0.85		12.8 B				0.60 B			16
17	5.0	27.8	7 S	0.53		12.5 B				0.50 B			17
18		26.2	7	0.58		12.8 B				0.40 B			18
19		25.7	7	0.49		11.3 B				0.34 B			19
20	4.0	28.2	11 S	0.84		10.3 B				0.30 B			20
21		23.0	9	0.56		9.3 B				0.25 B			21
22		22.5	9	0.55		8.3 B				0.20 B			22
23		22.6	8	0.49		7.3 B				0.15 B			23
24		23.5	8	0.51		6.8 B				0.15 B			24
25	4.0	21.9	8 S	0.47		5.2 B				0.10 B			25
26		22.1	8	0.48		4.0 B				0.10 B			26
27		21.7	7	0.41		3.4 B				0.85 B			27
28		21.0	7	0.40		2.8 B				0.85 B			28
29		21.0	7	0.40		2.6 B				0.85 B			29
30		21.3	7	0.40		2.4 B				8 B			30
31		21.3	7	0.40						8 B			31
TOTAL		967.8		52.15		367.8				24.34			TOTAL
MEAN		31.2		1.7		11.6				0.79			MEAN

SUMMARY FOR THE YEAR 1977

SUSPENDED SEDIMENT CONCENTRATION		SUSPENDED SEDIMENT LOAD	
MAXIMUM DAILY	71 MG/L ON APR 28	MAXIMUM DAILY	31.4 TONS/DAY ON APR 28

TYPE OF GAUGE - RECORDING
LOCATION - LAT 56 54 50 N
LONG 111 27 35 W
DRAINAGE AREA 58.3 SQ MILES

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STEEPBANK RIVER NEAR FORT MCMURRAY - STATION NO. 07DA006

SUSPENDED SEDIMENT FOR 1977

DAY	JAN TEMP. (C)	JAN DAILY DISCHARGE (CFS)	JAN MEAN CONCENTRATION (MG/L)	JAN TONS PER DAY	FEB TEMP. (C)	FEB DAILY DISCHARGE (CFS)	FEB MEAN CONCENTRATION (MG/L)	FEB TONS PER DAY	MAR TEMP. (C)	MAR DAILY DISCHARGE (CFS)	MAR MEAN CONCENTRATION (MG/L)	MAR TONS PER DAY	DAY
1		13.5 B				12.0 B				14.0 B			1
2		13.5 B				12.0 B				14.0 B			2
3		13.5 B				12.0 B				14.5 B			3
4		13.5 B				12.0 B				14.5 B			4
5		13.0 B				12.0 B				14.5 B			5
6		13.0 B				12.0 B				14.5 B			6
7		13.0 B				12.0 B				15.0 B			7
8		13.0 B				12.0 B				15.0 B			8
9		13.0 B				12.0 B				15.0 B			9
10		12.5 B				12.0 B				15.0 B			10
11		12.5 B				12.0 B				15.5 B			11
12		12.5 B				12.0 B				15.5 B			12
13		12.5 B				12.0 B				15.5 B			13
14		12.5 B				12.0 B				15.5 B			14
15		12.5 B				12.0 B				15.5 B			15
16		12.5 B				12.5 B				15.5 B			16
17		12.5 B				12.5 B				15.5 B			17
18		12.5 B				12.5 B				15.5 B			18
19		12.5 B				12.5 B				15.5 B			19
20		12.4 B				12.5 B				15.5 B			20
21		12.0 B				12.5 B				15.5 B			21
22		12.0 B				13.0 B				15.5 B			22
23		12.0 B				13.5 B				15.5 B			23
24		12.0 B				13.6 B				15.5 B			24
25		12.0 B				14.0 B				15.5 B			25
26		12.0 B				14.0 B				15.5 B			26
27		12.0 B				14.0 B				15.5 B			27
28		12.0 B				14.0 B				15.6 B			28
29		12.0 B								15.5 B			29
30		12.0 B								15.5 B			30
31		12.0 B								15.5 B			31
TOTAL		388.4				351.1				471.6			TOTAL
MEAN		12.5				12.5				15.2			MEAN

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STEEPBANK RIVER NEAR FORT MCMURRAY - STATION NO. 07DA006

SUSPENDED SEDIMENT FOR 1977

DAY	APR TEMP. (C)	APR DAILY DISCHARGE (CFS)	APR MEAN CONCENTRATION (MG/L)	APR TONS PER DAY	MAY TEMP. (C)	MAY DAILY DISCHARGE (CFS)	MAY MEAN CONCENTRATION (MG/L)	MAY TONS PER DAY	JUN TEMP. (C)	JUN DAILY DISCHARGE (CFS)	JUN MEAN CONCENTRATION (MG/L)	JUN TONS PER DAY	DAY
1		15.5 B				256				445			1
2		15.5 B			1.0	234	53 S	33.5		443			2
3		15.5 B				224				444			3
4		15.5 B				225			10.0	431	67 S	78.0	4
5		14.5 B				218				396			5
6		15.0 B				211				351			6
7		16.0 B				202				319			7
8		19.0 B				193				292			8
9		23.0 B				193				274			9
10		29.0 B				178				263			10
11		41.1 B				179				256			11
12		136 B				199				244			12
13		210 B				212				237			13
14	8.1	336 B	199 S	181		198				262			14
15		390 B				184				293			15
16	8.1	488 B	431 S	475		172				295			16
17		374 B				198				286			17
18		345 B				242				265			18
19	1.0	322 B	294 S	256		266				238			19
20		418 B				277				214			20
21	2.0	644	415 S	498		258				193			21
22		451				261				184			22
23		375				256				163			23
24		386				256				146			24
25		369				276				132			25
26		368				306				120			26
27		311				333				110			27
28		303				360				105			28
29		284				410			14.0	118	12 S	3.6	29
30		278				468				113			30
31						459							31
TOTAL		6695.6				7903				7624			TOTAL
MEAN		223				255				254			MEAN

STEEPBANK RIVER NEAR FORT MCMURRAY - STATION NO. 07DA006

SUSPENDED SEDIMENT FOR 1977

DAY	JUL TEMP. (C)	JUL DAILY DISCHARGE (CFS)	JUL MEAN CONCENTRATION (MG/L)	JUL TONS PER DAY	AUG TEMP. (C)	AUG DAILY DISCHARGE (CFS)	AUG MEAN CONCENTRATION (MG/L)	AUG TONS PER DAY	SEP TEMP. (C)	SEP DAILY DISCHARGE (CFS)	SEP MEAN CONCENTRATION (MG/L)	SEP TONS PER DAY	DAY
1		119				138				101			1
2		122				125				96.7			2
3		152				119				87.8			3
4		198				119				83.9			4
5		242				120				81.2			5
6		273				129				78.5			6
7		275				135				76.6			7
8		253				137				73.4			8
9		231				136				72.3			9
10		210				121				73.6			10
11		189				118				71.8			11
12		181				110				71.5			12
13		169				105				73.2			13
14		168				99.8				76.9			14
15		167				94.8				81.9			15
16		155				89.9				86.0			16
17		158				83.3				86.5			17
18		177				77.1				85.6			18
19		213				71.9				85.5			19
20		236				67.8				85.1			20
21		254				63.2				86.1			21
22		249				60.6			11.8	84.0	3 S	0.68	22
23		226				58.7				85.0			23
24		216				59.3				83.0			24
25		201			12.8	84.4	8 S	1.8		83.2			25
26		185				109				84.3			26
27		171				131				82.9			27
28	16.8	160	6 S	2.6		129				81.7			28
29		150				120				80.9			29
30		143				113				79.5			30
31		138				107							31
TOTAL		5984				3217.8				2457.6			TOTAL
MEAN		193				104				81.9			MEAN

STEEPBANK RIVER NEAR FORT MCMURRAY - STATION NO. 07DA006

SUSPENDED SEDIMENT FOR 1977

DAY	OCT TEMP. (C)	OCT DAILY DISCHARGE (CFS)	OCT MEAN CONCENTRATION (MG/L)	OCT TONS PER DAY	NOV TEMP. (C)	NOV DAILY DISCHARGE (CFS)	NOV MEAN CONCENTRATION (MG/L)	NOV TONS PER DAY	DEC TEMP. (C)	DEC DAILY DISCHARGE (CFS)	DEC MEAN CONCENTRATION (MG/L)	DEC TONS PER DAY	DAY
1		76.2				50.8 B				16.0 B			1
2		78.8				46.4 B				15.0 B			2
3		81.4				41.4 B				15.0 B			3
4		86.7				40.0 B				14.0 B			4
5		93.1				39.0 B				13.0 B			5
6		96.8				38.0 B				13.0 B			6
7		97.7				37.0 B				12.0 B			7
8		98.4				35.8 B				12.0 B			8
9		102				33.8 B				11.5 B			9
10		105				32.8 B				11.0 B			10
11		108				31.8 B				11.0 B			11
12		107				30.0 B				10.6 B			12
13		107				29.8 B				10.0 B			13
14		108				28.8 B				10.0 B			14
15		113				27.8 B				9.5 B			15
16		114				26.8 B				9.5 B			16
17		114				25.8 B				9.5 B			17
18	3.8	114	18 S	3.1		25.0 B				9.0 B			18
19		112				24.0 B				9.0 B			19
20		107				23.8 B				9.0 B			20
21		96.5 B				23.0 B				9.0 B			21
22		95.8 B				22.8 B				9.0 B			22
23		91.6 B				21.0 B				9.0 B			23
24		85.2 B				21.0 B				9.0 B			24
25		88.7 B				28.8 B				9.0 B			25
26		75.8 B				20.8 B				9.5 B			26
27		68.1 B				19.0 B				9.5 B			27
28		58.1 B				18.8 B				9.5 B			28
29		67.6 B				17.5 B				9.5 B			29
30		65.8 B				17.8 B				18.8 B			30
31		52.8 B								10.6 B			31
TOTAL		2859.3				856.7				332.6			TOTAL
MEAN		92.2				28.6				10.7			MEAN

TYPE OF GAUGE - RECORDING
LOCATION - LAT 57 00 17 N
LONG 111 24 53 W
DRAINAGE AREA 530 SQ MILES
NATURAL FLOW

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

4. AOSERP RESEARCH REPORTS

1.		AOSERP First Annual Report, 1975
2.	AF 4.1.1	Walleye and Goldeye Fisheries Investigations in the Peace-Athabasca Delta--1975
3.	HE 1.1.1	Structure of a Traditional Baseline Data System
4.	VE 2.2	A Preliminary Vegetation Survey of the Alberta Oil Sands Environmental Research Program Study Area
5.	HY 3.1	The Evaluation of Wastewaters from an Oil Sand Extraction Plant
6.		Housing for the North--The Stackwall System
7.	AF 3.1.1	A Synopsis of the Physical and Biological Limnology and Fisheries Programs whithin the Alberta Oil Sands Area
8.	AF 1.2.1	The Impact of Saline Waters upon Freshwater Biota (A Literature Review and Bibliography)
9.	ME 3.3	Preliminary Investigations into the Magnitude of Fog Occurrence and Associated Problems in the Oil Sands Area
10.	HE 2.1	Development of a Research Design Related to Archaeological Studies in the Athabasca Oil Sands Area
11.	AF 2.2.1	Life Cycles of Some Common Aquatic Insects of the Athabasca River, Alberta
12.	ME 1.7	Very High Resolution Meteorological Satellite Study of Oil Sands Weather: "A Feasibility Study"
13.	ME 2.3.1	Plume Dispersion Measurements from an Oil Sands Extraction Plant, March 1976
14.		
15.	ME 3.4	A Climatology of Low Level Air Trajectories in the Alberta Oil Sands Area
16.	ME 1.6	The Feasibility of a Weather Radar near Fort McMurray, Alberta
17.	AF 2.1.1	A Survey of Baseline Levels of Contaminants in Aquatic Biota of the AOSERP Study Area
18.	HY 1.1	Interim Compilation of Stream Gauging Data to December 1976 for the Alberta Oil Sands Environmental Research Program
19.	ME 4.1	Calculations of Annual Averaged Sulphur Dioxide Concentrations at Ground Level in the AOSERP Study Area
20.	HY 3.1.1	Characterization of Organic Constituents in Waters and Wastewaters of the Athabasca Oil Sands Mining Area
21.		AOSERP Second Annual Report, 1976-77
22.		Alberta Oil Sands Environmental Research Program Interim Report to 1978 covering the period April 1975 to November 1978
23.	AF 1.1.2	Acute Lethality of Mine Depressurization Water on Trout Perch and Rainbow Trout
24.	ME 1.5.2	Air System Winter Field Study in the AOSERP Study Area, February 1977.
25.	ME 3.5.1	Review of Pollutant Transformation Processes Relevant to the Alberta Oil Sands Area

26.	AF 4.5.1	Interim Report on an Intensive Study of the Fish Fauna of the Muskeg River Watershed of Northeastern Alberta
27.	ME 1.5.1	Meteorology and Air Quality Winter Field Study in the AOSERP Study Area, March 1976
28.	VE 2.1	Interim Report on a Soils Inventory in the Athabasca Oil Sands Area
29.	ME 2.2	An Inventory System for Atmospheric Emissions in the AOSERP Study Area
30.	ME 2.1	Ambient Air Quality in the AOSERP Study Area, 1977
31.	VE 2.3	Ecological Habitat Mapping of the AOSERP Study Area: Phase I
32.		AOSERP Third Annual Report, 1977-78
33.	TF 1.2	Relationships Between Habitats, Forages, and Carrying Capacity of Moose Range in northern Alberta. Part I: Moose Preferences for Habitat Strata and Forages.
34.	HY 2.4	Heavy Metals in Bottom Sediments of the Mainstem Athabasca River System in the AOSERP Study Area
35.	AF 4.9.1	The Effects of Sedimentation on the Aquatic Biota
36.	AF 4.8.1	Fall Fisheries Investigations in the Athabasca and Clearwater Rivers Upstream of Fort McMurray: Volume I
37.	HE 2.2.2	Community Studies: Fort McMurray, Anzac, Fort MacKay
38.	VE 7.1.1	Techniques for the Control of Small Mammals: A Review
39.	ME 1.0	The Climatology of the Alberta Oil Sands Environmental Research Program Study Area
40.	WS 3.3	Mixing Characteristics of the Athabasca River below Fort McMurray - Winter Conditions
41.	AF 3.5.1	Acute and Chronic Toxicity of Vanadium to Fish
42.	TF 1.1.4	Analysis of Fur Production Records for Registered Traplines in the AOSERP Study Area, 1970-75
43.	TF 6.1	A Socioeconomic Evaluation of the Recreational Fish and Wildlife Resources in Alberta, with Particular Reference to the AOSERP Study Area. Volume I: Summary and Conclusions
44.	VE 3.1	Interim Report on Symptomology and Threshold Levels of Air Pollutant Injury to Vegetation, 1975 to 1978
45.	VE 3.3	Interim Report on Physiology and Mechanisms of Air-Borne Pollutant Injury to Vegetation, 1975 to 1978
46.	VE 3.4	Interim Report on Ecological Benchmarking and Biomonitoring for Detection of Air-Borne Pollutant Effects on Vegetation and Soils, 1975 to 1978.
47.	TF 1.1.1	A Visibility Bias Model for Aerial Surveys for Moose on the AOSERP Study Area
48.	HG 1.1	Interim Report on a Hydrogeological Investigation of the Muskeg River Basin, Alberta
49.	WS 1.3.3	The Ecology of Macrobenthic Invertebrate Communities in Hartley Creek, Northeastern Alberta
50.	ME 3.6	Literature Review on Pollution Deposition Processes
51.	HY 1.3	Interim Compilation of 1976 Suspended Sediment Date in the AOSERP Study Area
52.	ME 2.3.2	Plume Dispersion Measurements from an Oil Sands Extraction Plan, June 1977

53.	HY 3.1.2	Baseline States of Organic Constituents in the Athabasca River System Upstream of Fort McMurray
54.	WS 2.3	A Preliminary Study of Chemical and Microbial Characteristics of the Athabasca River in the Athabasca Oil Sands Area of Northeastern Alberta
55.	HY 2.6	Microbial Populations in the Athabasca River
56.	AF 3.2.1	The Acute Toxicity of Saline Groundwater and of Vanadium to Fish and Aquatic Invertebrates
57.	LS 2.3.1	Ecological Habitat Mapping of the AOSERP Study Area (Supplement): Phase I
58.	AF 2.0.2	Interim Report on Ecological Studies on the Lower Trophic Levels of Muskeg Rivers Within the Alberta Oil Sands Environmental Research Program Study Area
59.	TF 3.1	Semi-Aquatic Mammals: Annotated Bibliography
60.	WS 1.1.1	Synthesis of Surface Water Hydrology
61.	AF 4.5.2	An Intensive Study of the Fish Fauna of the Steepbank River Watershed of Northeastern Alberta
62.	TF 5.1	Amphibians and Reptiles in the AOSERP Study Area
63.	ME 3.8.3	Analysis of AOSERP Plume Sigma Data
64.	LS 21.6.1	A Review of the Baseline Data Relevant to the Impacts of Oil Sands Development on Large Mammals in the AOSERP Study Area
65.	LS 21.6.2	A Review of the Baseline Data Relevant to the Impacts of Oil Sands Development on Black Bears in the AOSERP Study Area
66.	AS 4.3.2	An Assessment of the Models LIRAQ and ADPIC for Application to the Athabasca Oil Sands Area
67.	WS 1.3.2	Aquatic Biological Investigations of the Muskeg River Watershed
68.	AS 1.5.3 AS 3.5.2	Air System Summer Field Study in the AOSERP Study Area, June 1977
69.	HS 40.1	Native Employment Patterns in Alberta's Athabasca Oil Sands Region
70.	LS 28.1.2	An Interim Report on the Insectivorous Animals in the AOSERP Study Area
71.	HY 2.2	Lake Acidification Potential in the Alberta Oil Sands Environmental Research Program Study Area
72.	LS 7.1.2	The Ecology of Five Major Species of Small Mammals in the AOSERP Study Area: A Review
73.	LS 23.2	Distribution, Abundance and Habitat Associations of Beavers, Muskrats, Mink and River Otters in the AOSERP Study Area, Northeastern Alberta
-	--	Interim Report to 1978
74.	AS 4.5	Air Quality Modelling and User Needs
75.	WS 1.3.4	Interim report on a comparative study of benthic algal primary productivity in the AOSERP study area

76.	AF 4.5.1	An Intensive Study of the Fish Fauna of the Muskeg River Watershed of Northeastern Alberta
77.	HS 20.1	Overview of Local Economic Development in the Athabasca Oil Sands Region Since 1961.
78.	LS 22.1.1	Habitat Relationships and Management of Terrestrial Birds in Northeastern Alberta.
79.	AF 3.6.1	The Multiple Toxicity of Vanadium, Nickel, and Phenol to Fish.
80.	LS 22.3.1	Biology and Management of Peregrin Falcons (*Falco peregrinus anatum*) in Northeastern Alberta.
81.	LS 22.1.2	Species Distribution and Habitat Relationships of Waterfowl in Northeastern Alberta.
82.	LS 22.2	Breeding Distribution and Behaviour of the White Pelican in the Athabasca Oil Sands Area.
83.	LS 22.2	The Distribution, Foraging Behaviour, and Allied Activities of the White Pelican in the Athabasca Oil Sands Area.

These reports are not available upon request. For further information about availability and location of depositories, please contact:

Alberta Oil Sands Environmental Research Program
15th Floor, Oxbridge Place
9820 - 106 Street
Edmonton, Alberta
T5K 2J6